

State of Madras
Initials of Receiver

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M.R.O. 1-82,400-22-11-80

MADRAS RECORD OFFICE.

Government of Madras.

Public

DEPARTMENT.

G.O. No.	3336	Press Mis.
Dated	15-3-	1871

Not to be folded or roughly handled

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Read the following paper :—

No. 84.

“CONCLUSIONS.”

1st.—If the specimens collected from the Kistna District are compared with the Indian coal-bearing rocks, I think it will be generally admitted that there is a resemblance, and that a few of the rocks, especially the lower ones, are absolutely identical.

2nd.—Some of these specimens have never before been found or seen in the Kistna District, as they have been excavated from pits varying from 40 feet to 70 feet deep; but the lower coal rocks at Juggiapettah (Talcheers of Bengal) being on the surface have been seen and known for some years, and their identity partially acknowledged. It appears to me not very unreasonable to suppose that, if there was any similarity in the lower rocks of the Indian coal series to those of Juggiapettah, the other rocks with coal, and those above it, would also be found at no great distance from the same locality.

3rd.—Amongst the specimens there are four different kinds of new red-sandstone, *i.e.*, the white, the yellow, the pink or crimson, and the variegated; the first and second of these often contain fossils, and I wish to point out that the first and last of these rocks formed the principal strata in the most successful coal-pit in the Chandah District.—See Geological Survey Records, Volume 2, Part 4, page 97, where, after boring 74 feet, coal was first met with and eventually turned out to be 34 feet in thickness. In fact, I believe that the strata we have passed through near Juggiapettah, so far as it has reached, is almost, if not absolutely, identical with that of the Chandah coal fields.

4th.—With regard to the fossils and fossil markings on the Kistna specimens, it requires a professional eye to decide on their merits; but I have good reasons for believing that some of them are true coal fossils; moreover there is a tangible proof of our very near proximity to coal itself in the “coal smut” excavated from the pit at Noonconda, six miles south-east of Juggiapettah.

5th.—The black shales of the Pallair river extend for some considerable distance along its banks, and will be found valuable for burning lime and bricks, and I further believe that, when the district is thoroughly explored, coal will also be found in the black shales of the Pallair river, two-and-a-half miles south-east of the town of Juggiapettah.

6th.—So far as I have been able to judge there are about twenty square miles of country with promising indications in it; this applies only to the northern bank of the Kistna river; the southern side, I know, does contain rocks of the same kind, but it has not yet been fully explored.

7th.—It is desirable that I should afford information why I selected the foot of the Noonconda hill for the vertical pits; in the first place, the ground all around the west and south sides is of a dark colour nearly black (sooty), there is also a great profusion of ironstones, and these I considered indications of coal (most probably a burnt-out crop), so I at once determined to open two pits, one twenty-five feet lower level than the other, and the result I believe is that the sandstones, ironstones, and black “coal smut” excavated are exactly similar to the rocks met with in the Chandah borings. Specimens of these sandstones and other rocks,

*Proceedings of the Madras Government, Public Department,
15th March 1871.*

&c., have been collected and forwarded to Madras by the Steamer leaving Masulipatam on 16th February 1871.

CAMP BEZWADA, (Signed) FRANCIS APPLEGATH, Lieut.-Colonel,
16th February 1871. 33rd Regt., M. N. I., on special duty.

DESCRIPTION of the specimens of rocks, shales, and ores collected by order of Government during the months of November, December 1870, and January 1871, from the immediate neighbourhood of the village of Juggiapettah, Kistna District.

- | Number or letter on specimen. | Description of rock and locality whence obtained. |
|-------------------------------|--|
| A..... | Black limestone plentiful about the south and south-east of Juggiapettah town. The black colour has been proved to be owing to the carbon in it. |
| B..... | The lower rocks below coal very similar to most of the lower coal rocks of Bengal and elsewhere in India. This B is very plentiful all round the town of Juggiapettah; especially on the west and south-west and south of Juggiapettah, where this rock dips at a uniform low angle 8° or 9° in a southerly direction. This rock is also found on the north-west side of Juggiapettah, where it has been much disturbed in its dip and strike by trap-dykes. |
| C..... | Quartzose conglomerate one of the upper rocks found about two-and-a-half miles south-east of Juggiapettah on the banks of the Pallair river. |
| D..... | Ironstones connected with the upper and lower rocks, and in fact generally considered to be intermediate between the upper and lower beds of coal. |
| E..... | Carbonaceous shale found in the east bank of the Pallair river, two-and-a-half miles south-east of Juggiapettah, and at various other localities on the banks of the Pallair and Kistna rivers. |
| F..... | A grey slaty rock, something like an English flagstone. It appears to contain fossil markings; a great quantity of water is invariably met with in working in this rock. It bears some resemblance to the shales of the Damoodah series of the Ranigunj coal fields. |
| G..... | The specimens marked G resemble the rocks which accompany coal in India.
Specimens marked with numbers are from pits, 31st January 1871, Pit No. 1.
The surface is covered with a kind of stiff clay or moorum, two or three feet thick, immediately beneath which comes No. 1.
1.—Yellow whitish sandstone.
2.—Pinkish white do.
3.—Variegated do.
4.—Grey sandstone sometimes hard, at others very soft and friable, resembles the rock covering coal in the Chandah and Oomneet coal fields.
5.—Blackish sandstone (coal smut) excavated from the pit about seventy feet deep from the surface now being made south of Noonconda (oily hill) near the village of Vedadry, Kistna District, six miles south-east of Juggiapettah.
10 & 11.—Rocks excavated from the No. 2 Pit east of Noonconda hill, forty feet deep.
10.—Grey coloured shale with yellow fossil markings. It also bears a strong resemblance to the Damoodah shale of Ranigunj coal fields.
11.—Conglomerate resembling the rock of the Barakar group of Bengal, which is found with beds of coal in the Bakaro and Ramgurih coal fields.
20. Brownish red shale full of impressions of leaves more or less distinct from horizontal borings, west side of red shale hillocks, Pallair river, 2½ miles due south of the town of Juggiapettah. |
| H..... | Pink sandstone like the new red sandstone (England) from No. 1 Pit. |

*Proceedings of the Madras Government, Public Department,
15th March 1871.*

- | Number or letter on specimen. | Description of rock and locality whence obtained. |
|-------------------------------|---|
| J..... | White micaceous sandstone from the bank of Pallair river resembles micaceous sandstone (Yorkshire). |
| K..... | Pebbles from bed of Kistna river. |
| L..... | Ironstone from large hill, two miles north of Juggiapettah, near village of Sharemahomedpetta. The supply of this very fine ironstone is unlimited. The iron obtained by natives from this locality is famous in the Kistna and adjacent districts. |
| M & C... | Conglomerate banks of Pallair river (above coal). |
| N..... | Trap rock north and north-west of the town of Juggiapettah; this trap has much disturbed the dip of the rocks below the coal in its neighbourhood, i.e., north-west of the town of Juggiapettah. |
| O..... | Variegated shales with fossils, six miles south-east of Juggiapettah (supposed to be a fossil immediately above Indian coal). |
| P..... | Cristalline limestone. |
| Q..... | Burnt shale from the Pallair river, i.e., E when burnt. |
| R..... | Jasperstone. |
| S..... | No. 5 black micaceous sandstone (in India), English term (coal smut), when burnt becomes a cinder. |
| T..... | White aluminous shale from the bank of Pallair river. |
| U..... | White hard pebbles excavated at 65 feet, Noonconda Pit No. 1. |
| V..... | Ironstone (shells) fossils obtained out of the blank smut, Noonconda Hill, No. 1 Pit. |
- CAMP BEZWADA, (Signed) FRANCIS APPLEGATH, Lieut.-Colonel,
13th February 1871. 33rd Regt., M. N. I., on special duty.

No. 85. ORDER THEREON, 15th March 1871, No. 336.

In the paper above recorded, Lieutenant-Colonel Applegath submits his final report on his search for coal in the village of Juggiapettah, in the Kistna District, together with specimens of the rocks, shales, and ores collected by him.

2. His Excellency the Governor in Council resolves that a complete set of the specimens, with copies of the Report and of the Proceedings of Government noted in the margin, be referred to the Geological Department of the Government of India for an expression of opinion as to the probability of coal being found in the places indicated by Colonel Applegath. On the receipt of this information, the Government will determine whether the work commenced by Colonel Applegath should be resumed. In the meantime, His Excellency the Governor in Council desires to offer to Colonel Applegath his thanks for the energy with which he has carried out the enterprise undertaken by him under the sanction of Government.

(Signed) R. S. ELLIS,
Chief Secretary.

No. 86. To the Secretary to the Government of India, Home Department, dated Fort Saint George, 15th March 1870, No. 337.

I am directed to forward, for the information of the Government of India, the Proceedings of this Government, relative to the despatch of Colonel Applegath with a small party of Sappers to search for coal in the neighbourhood of the village of Juggiapettah in the Kistna District.

15th Aug. 1870, No. 1024.
9th Sept. " " 1144.
11th Jan. 1871, " 42.
15th March " " 336.

Proceedings of the Madras Government, Public Department,

15th March 1871.

2. Colonel Applegath has long devoted his attention to exploration for coal in this Presidency, and is, in many respects, well-qualified for this important work.

3. In the enclosed report, Colonel Applegath submits the result of his recent exploration in the neighbourhood of Juggiapettah, with a complete duplicate set of the specimens of rocks, shales, and ores collected by him. Owing to the unhealthiness of Juggiapettah at this time of the year, it has not been considered advisable to continue the search, nor will it be resumed until a scientific opinion has been obtained on the results of Colonel Applegath's labours.

4. With this object in view, I am directed to forward a complete set of the specimens, and to request that they may be submitted to the Geological Department for the expression of their opinion as to the probability of coal being found extensively in the place indicated by Colonel Applegath, and as to its being desirable that that Officer should resume the work of boring for coal as soon as the season will permit of his doing so, or that this duty should be undertaken by the Geological Department.

(Signed) R. S. ELLIS,
Chief Secretary.

Obbt. of 1871 ~~34~~ ³⁴ ~~Adress~~ ^{Adress}.

PUBLIC.

To
LIEUT.-COLONEL F. APPIEGATH,
Esq., &c., &c.

Dated March, 1871.

Recd.

G. O., 15th March 1871, No. 331.

MARCH.

Nos. 84—86.

Directing that the report of Colonel Applegath on his search for coal in Juggiapettah, together with a complete set of specimens of rocks, shales, and ores collected by him, and copies of the Proceedings of Government on the subject, be sent to the Government of India to be submitted to the Geological Department, for their opinion on the probability of coal being found extensively in the places indicated by Colonel Applegath.

" " " "

Conclusions

1st If the specimens collected from the Kistna District are compared with the Indian Coal bearing rocks I think it will be generally admitted that there is a resemblance, and that a few of the rocks especially the lower ones are absolutely identical.

2nd Some of these specimens have never before been found or seen in the Kistna District as they have been excavated from Pits varying from 20 feet to 70 feet deep; but the lower coal rocks at Jaggipetta (Talcherrs of Bengal) being on the surface have been seen and known for some years; and their identity partially acknowledged. It appears to me not very unreasonable to suppose that if there was any similarity in the lower rocks of the Indian Coal series, to those of Jaggipetta, the other rocks with coal, and those above it would also be found at no great distance from the same locality.

3rd Amongst the specimens there are four different kinds of new red sandstone i.e. the white, the yellow, the pink or crimson and the variegated; the first and second of these often contain fossils, and I wish to point out that the first and last of these rocks formed the principal strata in the most successful coal Pit in the Chanda District see Geological Survey

Records Volume 2 Part 4 Page 97 where after boring 74 feet coal was first met with, and eventually turned out to be 34 feet in thickness. In fact I believe that the strata we have passed through near Juggiapetta so far as it has reached, is almost if not absolutely identical with that of the Chandah Coal fields.

4th With regard to the fossils and fossil markings on the Kistna specimens, It requires a professional eye to decide on their merits; but I have good reasons for believing that some of them are true coal fossils. moreover there is a tangible proof of our very near proximity to coal itself in the "Coal seam" excavated from the Pit at Noonconda six miles south east of Juggiapetta.

5th The black shales of the Pallair River extend for some considerable distance along its banks and will be found valuable for burning lime and bricks and I further believe that when the District is thoroughly explored that coal will also be found in the black shales of the Pallair River 2½ miles south east of the town of Juggiapetta.

6th So far as I have been able to judge there are about 20 square miles of country with promising indications in it, this applies only to the northern Bank of the Kistna River, the southern side I know does contain rocks of the same kind, but it has not yet been fully explored.

7th It is desirable that I should afford information why I selected the foot of the Noonconda

Hill

Hill for the vertical Pit. in the first place the ground all around the west and south sides is of a dark color nearly black (sooty) there is also a great profusion of Iron stones and these I considered indications of coal (most probably a burnt out crop) so I at once determined to open 2 pits, one 25 feet lower level than the other, and the result I believe is that the sandstones Iron stones and black coal seam excavated are exactly similar to the rocks met with in the Chandah workings specimens of these sandstones and other rocks we have been collected and forwarded to Madras by the Steamer leaving Masulipatam on 16th February 1871.

Camp Bozmada } Francis Applegate Lieut. Col.
6 February 1871

33rd Regiment M. A. I.
On special duty.

Description of the specimens of Rocks, Shales
and Cores collected by order of Government during
the months of November, December 1870 and
January 1871 from the immediate neighbourhood
of the village of Juggiapetta Krishna District.

Number (Description of Rock and locality
letter on whence obtained.
specimen

A Black limestone plentiful about the south
and south east of Juggiapetta Town. The
black color has been proved to be owing to
the carbon in it.

B The lower rocks below coal very similar to
most of the lower coal rocks of Bengal
and elsewhere in India. This B is very plenti-
ful all round the town of Juggiapetta ;
especially on the west and south west and
south of Juggiapetta, where this rock dips
at a uniform low angle 80° or 70° in a southerly
direction. This rock is also found on the north
west side of Juggiapetta where it has been
much disturbed in its dip &c. &c. by

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Trap dykes.

C Quartzose conglomerate one of the upper rocks found about 2 1/2 miles south east of Juggiapetta on the banks of the Pallair river

D Iron stones connected with the upper and lower rocks and in fact generally considered to be intermediate between the upper and lower beds of coal

E Carbonaceous shale found in the east bank of the Pallair river 2 1/2 miles south east of Juggiapetta and at various other localities on the banks of the Pallair and Kistna rivers.

F A grey slaty rock something like an English flagstone. It appears to contain fossil and markings; a great quantity of water is invariably met with in working in this rock. It bears some resemblance to the shales of the Damoodah Series of the Ranigum coal fields

G The specimens marked G resemble the rocks which accompany coal in India.

Specimens marked with numbers are from 3 pits.
31st January 1871 Pit No. 1

The surface is covered with a kind of stiff clay or moorum 2 or 3 feet thick immediately beneath which comes a to 1

1 Off yellow whitish sandstone

2 Pinkish white ditto

3 Variegated ditto

4 Grey sandstone - sometimes hard at others very soft and friable resembles the rock covering coal in the Chaudah and Commet coal fields

5 Blackish sandstone (coal smut) excavated from the pit about 70 feet deep from the surface now being made south of Boonconda (city hill) near the village of Vedadry Kistna District 6 miles south east of Juggiapetta.

10 & 11 Rocks excavated from the No. 2 pit east of Boonconda hill 40 feet deep

10

Grey colored shale with yellow fossil markings. It also bears a strong resemblance to the Damoodah shale of Raniganj coal fields.

11

Conglomerate resembling the rock of the Barakar group of Bengal which is found with beds of coal in the Bakaro and Raniganj coal fields.

20

Brownish red shale full of impressions of leaves more or less distinct from Horizontal Borings west side of red shale hills. Palla river 2 1/2 miles due south of the Town of Juggiapetta.

H

Pink sandstone like the new red sandstone (England) from 10 ft.

J

White micaceous sandstone from the Bank of Palla river. Resembles micaceous sandstone (Yorkshire)

K

Pebbles from bed of Kistna river

L

154
Ironstone from large Hill 2 miles north of Juggiapetta near Village of Sharemahomet - petta. The supply of this very fine Iron stone is unlimited. The Iron obtained by natives from this locality is famous in the Kistna and adjacent Districts.

M & C

Conglomerate Banks of Palla river (abandoned)

N

Trap rock North, & Northwest of the town of Juggiapetta, this trap has much disturbed the dip of the rocks below the coal in its neighbourhood i.e. Northwest of the Town of Juggiapetta.

O

Variegated shales with fossils 6 miles Southeast of Juggiapetta (supposed to be a fossil immediately above Indian coal.)

P

Crystalline limestone

Q

Burnt shale from the Palla River i.e. E. when burnt

R

Jasperstone.

S No 5 Black micaceous sandstone (in India)
English term (Coal Suet) when burnt
becomes a Cinder.

T' White aluminous shale from the bank
of Pallair river.

U White hard pebbles excavated at 65
feet - Toonconda Pit No 1

V Iron stone (shells) fossils obtained out
of the Black suet - Toonconda Hill
No 1 Pit.

Camp Beguada } Francis Wyllie, Lieut. Col.
13th February 1871 } 33rd Regiment U. S. A.
on special duty

N^o 187

SEA CUSTOM HOUSE,

Madras, 23rd February 1871.
24th Feb^ry.

OFFICIAL MEMORANDUM.

The Collector of Sea Customs has the honor to forward
to the Chief Secretary to Govt.
1 Case to his address. *containing documents*
arrived by Steamer "Oriental" *from Rangoon*
from Rangoon and to request he will be pleased to
acknowledge its receipt.

J. H. Hunter

To
The Chief Secretary to Govt. Collector of Sea Customs.
to Government
For S. George

H. H. M.

Recd. 27th March 1871
Genl. Secy. 1871
In file N^o 324 of 1871.

Supplication
to the Sec^y of the
1870

My dear Sir

Here we are
preparing, and
have
collected specimens
of Rocks & earth
similar to the
Rocks, Shales &
sandstones &
other Coal fields
1. ~~India~~ ~~India~~
We have found
2 Beds of ~~India~~

Shale; and are
rocking through
them: when
lighted is a
candle, the
throws out shoots
of flame: we
must walk before
it here!

Now as regards
fossils we have
5 distinct and
different rocks
that contain
them: and
some of the fossils

are just black
shale in a ^{very} ²³
favorable posi-
tion of Coal
beneath!!!

I am sorry
to see that the
good folks up
& left are redi-
culing the shale
proceeding, But
the fossils are
direct evidence
of Coal!!
So quote the
good surveyor
DANMORRIS

The Bengal coal
bearing rocks
on the Kutch.
As yet I think
take upon myself
the responsibility
of naming the
fossils, that can
be done presently.

We have also
the Chandah Coal
bearing rocks
complete; and
ask if one of our
Dits be have dug
specimens identical
the same as those
X

X Sent me by 25
- Hign. L. Smith
from Chandah.
The dispatch
of Barings to
Madras W. may
Princa Dr. Smith
can convey the
made idea of
the rocks. He has
met with. But
the "Sandy" shales
that contain the
best fossils were
but traced by
Barings. H. may
be supposed to take

these kinds of
rocks cover coal
& Bengal especially the main
gully. Fields!!
The good money
Lop with Condensation
the Kirthi Coal
Inquirer because
they found no
fossils; did they
expect to find
them without the
trouble of digging
for them!! & ca=
Each we have
seen several

distinct fossils
in the following
rocks!!
1. a grey shaly
sandstone with
fossils in numerous
and many perfect
distinct!! Fossil
River Bank!!!
2. We have also
a brown sandstone
& white fossils
are abundant
& some (a few)
are in black
3. a t. in limestone
shale with
like fossils this

Comes back in the
Pumping fields.

All the above
have been obtained
from our Dits &
are not on the
surface!!!

Now tell me
do me the favor
to explain to
me for what I
may require a
little more time
I am over charge
of my living 20
October expecting
to catch the XX

25th October then
at Bompuluan
but had weather
followed up by
the 4th November
delayed my coming
here till the 14
November!! So
that we have only
been 19 days at
home. Sunday
are not included
of course!
We don't do
give more money
but my services
only the con.

continued until
further orders
of government.

Some order
will be required
or those Finance
Fellows will be
putting a spoke
in my pay wheel
which I can't afford
to force to run the
risk of, especially
when away from
33- Road Linc. to

If I did
not consider that

as I have been
sufficiently recorded
with "Coal" I
raised not ask
this favor, and
I can see this
apiece for but
that for the pro-
mise of Coal
residence at
Peppackpetah
has no sort of
attraction for
any of us for my
wife and the

Children are in
the Camp; and
We are very anxious
to carry out the
wishes of Govt. &
as soon as com-
plete success
with the system
at Pannagun
Bengal
My dear
Hon. Secy
P.S. To say I des-
patch the 4th
Bunch to D. Hunter
& for him to see.

My dear Dr Hunter

Medical College
October 5th 1870.

The lot of Coal you sent me yielded
only 15 inches (225 c.f.) of gas, whereas two Charges of the
Canal coal we use (100 lbs) gives about 28 inches.

We tried the gas by itself; it gave
a very feeble, quite useless light, & we had then to mix
it with the other. I did not take the sp. gr. but I
should think it would be very low.

Yours sincerely
Henry King

P.S.

I kept the Coke or what ought to be Coke for you
to see, it is only burnt stones.

Report upon the Coal received from Dr Hunter for trial.

2 lbs of the Coal were tried to be coked, the remains were of a
whitish color & not coke.

6 lbs of this Coal were tried on a bar of Iron $1\frac{1}{2}$ inch square,
the whole quantity was consumed in 10 minutes without
producing a welding heat, the Cinders weighed $1\frac{1}{2}$ lbs & were of
a whitish color.

Another trial was made with 15 lbs of this
Coal on a bar of iron $1\frac{1}{2}$ square, the whole quantity was
consumed in 17 minutes without producing a welding heat,
the Cinders weighed 5 lbs & were of a whitish color.

A similar trial was made with 11 lbs of English coal,
it was consumed in 21 minutes leaving a small
quantity of Coke, it gave 4 welding heats, the first was
taken in 9 minutes & the other three in 12 minutes.

James Farquhar
Madras 27th September 1870

Signed J. McKeuzie
Mechanical Engineer

Signed L. H. Campbell

Medical College Sept 26-70

N^o 734

School of Arts
Madras 6th October 1870

My dear Dr Hunter,

I heated 10 grains pulverized of the inferior part of the Coal to white heat in a Platinum Crucible in a charcoal fire, first openly & afterward with a loose lid on & covered up with burning Charcoal. The residue was black & weighed 6.712. 67.12. percent. some Carbon may have escaped oxidation. I send you the result of burning some pieces in the Charcoal fire. The surface only has been converted into white ash. The heat was very great.

I heated 5 grains pulverized of the vein of better Coal running through the other, in the same way, but for a longer time & the result was a residue of 52.76. percent. I put this residue in a still stronger blast furnace & reduced its weight to 2.390 or 47.8 percent. This residue I also enclose.

I know no other way of getting at the incombustible residue. To determine the amount of Carbon would require the tedious process of organic analysis.

Yours sincerely
Signed, Henry Sneyd

My dear Col Paig,

I received the box of coal which you sent me from 12 miles above Dummagoodim on the Godavary, & have had it tried & chemically tested for you in a variety of ways. I heated it first in a porcelain Crucible covered up lightly with a lid, but found that it gave out very little gas & that in a few minutes all the Combustible matter was driven off leaving a very bulky grey ash, when the heat was urged to whiteness. & kept at this for 10 minutes, the proportion of ash varied in different pieces of the Coal from 33 to 40 percent, it did not produce Coke in any of the experiments & one sample left as much as 65½ grains of ash out of 100 grains. When tried in larger quantities in a Black's portable furnace, & in a Chinese furnace, in both of which there was considerable draught & more thorough Combustion than in a covered Crucible, the proportion of ash from 5 lbs of Coal was 22¾ ounces. & in the Chinese furnace the ash from 3 lbs of Coal of the best picked pieces 16¼ ounces or very nearly 1/3, a large percentage of ash. The coal did not light easily & requires a blast heat for its Consumption. I afterward tried it in the Blacksmith's forge & found that it did not give a sufficient heat for welding iron. It may be used for heating water.

Chemical solutions, it answered for this purpose
& kept up a slow dull red heat, 5 lbs of the
Coal burnt for 10 hours in a Black's portable
furnace & evaporated 2 gallons of water from
a solution of acetate of Soda, but the evolution
was very feeble & could only be kept up
by a blast; from the results of these experiments
which I tried for my own satisfaction, I fear
that the Coal will only answer for the slow
parts of firing our Battery furnaces, or for
evaporating Chemical solutions; it requires
a thorough draught on a blast heat for its
consumption, & if the Coal could be procured
at Madras at a cheaper rate it might be
used along with wood fuel for some of the
above purposes, the probability is, that better
seams of coal will be found by boring to greater
depths. It resembles in appearance some of
the poor coals of Scotland, but leaves a harder
heavier & more bulky ash, it also resembles
some Coal which I have just found in thin
strata near Coaty, but it is not equal to the
best samples which I lately obtained from
Chanda, & which I believe are from the 5th or
6th seams which vary from 8 to 10 feet in
thickness; before applying to Government for
sanction to order any larger quantity of your
Coal it would be necessary for me to ascertain
at what price for it could be delivered
at Madras. I have also ordered large quantities

31
of the Coal to Dr. King the Professor of Chemistry
& Col. L. H. Campbell Superint. Gun Carriage
Manufactory & here are their replies. From
the above reports I fear the Coal from the
seam you are now working would not be
worth sending to Madras. The probability
however is that better seams of coal will
be reached by boring. I am much obliged
for your sending a sufficient supply of the
Coal to enable us to test it practically
as well as chemically. It is not suited
for making gas. If you reach seams of
a better quality of Coal, I shall be
much obliged if you will send me a similar
quantity for trial. It is more convenient
for landing when put into smaller boxes or
gunny bags. The box you sent got broken
as there was a heavy surf when it was
landing. Have you found any fossil
shells or impressions of plants along with
the Coal? or in the dark blue limestones
which I tested for you? I shall be much
obliged if you can send me samples of any
thing of this kind, & especially of the strata
which occur in the vicinity.

(True Copy)

Believe me
Yours sincerely

Genl. H. H. H.

N: 743

School of Industrial Arts
Madras 11th October 1870.

From

Alex^r Hunter Esq^r M.D. & B. L. S. C.
Superintendent School of Industrial Arts

I

C. B. Parnell Esq^r M. A. B. L. S. C.
Director of Public Instruction.

Sir,

I have the honor to request you will do me the favor to forward to His Excellency the Governor in Council, the accompanying Report of experiments tried upon the coal found by Col F. L. Haig B. C. about Dummagoodim on the banks of the Godavary.

2

About 5 tons of the coal was received for trial and report; the specimens sent, were from a surface seam of 5 feet thick; but, as usual in such cases, the coal is not equal in quality to what will probably be found by boring to a greater depth.

3.

The coal of this quality is hardly worth shipping to Madras, but I have requested Col Haig to forward specimens, if they are found to improve in quality at greater depths. The coal is not equal to the last samples which I received from Chanda. The fifth seam from a stratum of coal 8 feet in thickness.

I have the honor to be

Yours most obed^t servant,

Alex^r Hunter M.D. & B. L. S. C.

Ms. A. 11. 25/70

Ms. A. 11. 25/70

No. 1700.

OFFICE OF THE DIRECTOR OF
PUBLIC INSTRUCTION,
MADRAS, 11th Oct. 1870.

From
THE DIRECTOR OF PUBLIC INSTRUCTION,
Madras,

To
THE CHIEF SECRETARY TO GOVERNMENT,
Fort Saint George.

SIR,

I have the honor to submit for
the information of Government a letter
from the Superintendent of the School
of Arts, dated the 11th instant, to-
gether with the enclosures thereto.

I have the honor to be,
Sir,
Your most obed^t serv^t,
J. B. Smith
Director of Public Instruction.

12/23/70

Received
the Superintendent's
School of Arts

11th Oct. 1870.

12 Enclosures

Requesting
the Government
to be informed
of the
in case for a
Bureau of
the

With a Case
deposited

5-43

Public Department

PROCEEDINGS of the MADRAS GOVERNMENT.

Read the following letter from

Lieut Col. F. Applegath
dated 16th February 1871
Order thereon. 15th March 1871 No. 336.

This should be
circulated. J.S.

In the paper
above recorded, Lieut Col
Applegath submits his
final report on search for
Coal in the village of
-gipettah, in the Kistna
District, together with
specimens of the Rocks,
Shales and Ores collected
by him.

J.S.

2. His Excellency the
Governor in Council
resolves that a com-
plete set of the Specimens,
with copies of the Report
and

1046/336/37
Public Dept. 1870.
From The Director of Public Instruction,
Madras.
To The Chief Secretary to Government,
Fort Saint George.

Dated 11.2.71 } 1870.
Received 14.2.71

No. 1046/336/37
Enclosure
1046/336/37

Standing with the
from the Director of
Public Instruction
made on Coal found
a large accumulation
on the banks of the
river every

and of the Proceedings of
 Government noted in the 15th August/70 N^o 1024.
 margin, be referred to the 9th Sept. /70 N^o 1144.
 Geological Department- 11th Jan^y /71 N^o 42.
 of the Government of India
 for an expression of opi-
 - nion as to the probability
 of Coal being found (in
 large quantities) in the
 places indicated by Col.
 Applegath. On the re-
 - ceipt of this information
~~the Government will de-~~
 - termine whether the work
 commenced by Col. Ap-
 - plegath should be re-
 - sumed. In the mean-
 time, His Excellency the
 Governor in Council de-
 - sires to offer to Col. Ap-
 - plegath his thanks
 for the public spirit shown
 by him, and for the
 energy—

James Colman

enterprise undertaken
 by him under the
 sanction of the Govt.

energy with which he has
 carried out the work, and
 - ~~desires to offer his thanks~~
 - ~~for the public spirit shown~~
 - ~~by him, and for the~~
 - ~~energy—~~

%
 Vicar Col. H. Applegath. } despatch
 Revenue Department

4.3.7
213

3 In the enclosed re-
port Col. Applegath sub-
mits the result of his
recent exploration in the
neighbourhood of Juggia-
pettah, with a complete
duplicate set of the spe-
cimens of Rocks, Shales
and Ores collected by
him. Owing to the un-
healthiness of Juggia-
pettah at this time
of the year, it has not
been considered advisable
to continue the search,
now will it be resumed
until a scientific opinion
has been obtained on the
results of Col. Applegath's
labors.

With this object
in view, I am directed
to forward a complete

Complete set of the specimens
and to request that they
may be submitted to the
Geological Department
for the expression of
their opinion as to the pro-
-bability of Coal being
found extensively in the
place indicated by Col.
Applegath, and to its
being desirable that
that Officers should re-
-sume the Work of boring
for Coal as soon as the
season will permit of
his doing so - and that
this duty should be
undertaken by the
Geological Department.

Forth, 15 March 1871

J.W.

18 , Department

No.

To
The Secretary to the
Government of
Department

Dated 187

Home 187. Dept.

Mar. 15

337

No. 84. 86.

123
1151

Forwarding Report of the Capt.
Leath on his search for
Lagerpettes together with
a complete list of the specimens
of Rocks Shales & ores collected
by him, & copies of the prospect
on the subject, with a request
that the specimens may be sub-
mitted to the Geological Dept.
for their opinion on certain
points.