

(1) Number of pages _____

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	691	(K)	Press
B.P. No.			Mis.
Dated	17.3.		1876.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
17th March 1876.*

Read the following papers:—

No. 261. Proceedings of the Board of Revenue, dated 19th February 1876.

From R. J. MELVILLE, Esq., Acting Collector of the Chingleput District, to C. A. GALTON, Esq., Acting Secretary to the Board of Revenue, dated Poodoo-vail, 15th February 1876, No. 98.

THE Ennore bar having lately closed, I addressed the Superintending Engineer on the subject of its being opened, and enclose for the Board's information copy of his letter, dated 27th ultimo, No. 4,295½, reporting that he has succeeded in opening the bar.

2. I beg to draw the special attention of the Board to the remarks of Colonel Moberly at paragraphs 14—23, and request that sanction of Government may be obtained for carrying out the works suggested in paragraphs 23 and 24, to prevent the reclosing of the bar. The survey of the bar, received with Colonel Moberly's letter, is herewith enclosed, to be returned when no longer required.

From Colonel F. J. MOBERLY, R.E., Superintending Engineer, Chingleput, to R. J. MELVILLE, Esq., Acting Collector of Chingleput, dated Mount, 27th January 1876, No. 4,295½.

I HAVE the honor to inform you that, agreeably to the request in your No. 20, of 12th January 1876, I sent instructions (copy enclosed*) to the

1 Copy of letter to the Assistant Engineer, Sirroolloor Range.
1 Plan.
1 Sketch.
* No. A., dated 14th January 1876.

Assistant Engineer, Sirroolloor Range.

2. On reaching Ennore, 24th instant, I found that Lieutenant Smither had excavated

a channel through the bank at the point selected by Government to about low water-mark; it would have been better 3 feet deeper if it could be done.

3. He had also arranged stakes and bags full of sand to enclose the beach as far as low water-mark. I would suggest that on another occasion we should do this much further out seaward, as the beach has a very small slope.

4. As the tide fell on the 25th, the bank was run out on both sides, and the enclosure within the stakes was completed by noon, and strengthened through the evening; a very boisterous flood tried it severely in the night, but the gang of coolies whom I had kept succeeded, under Lieutenant Smither's orders, in keeping out the water.

5. As the tide of the 26th fell, I commenced to open the bank from the north side. I had desired that the south enclosing bank should be

New Moon, 26th.

left to protect the cut from the surf, and

Lieutenant Smither suggested that we should prolong it seaward by shifting the sand bags from the north side, and so make a groyne; our material enabled us to secure about 30 feet more protection in this manner.

6. The bank to north and east was entirely cleared away a little before 1 P.M., the tide had fallen very nearly, if not quite, to its lowest, and the water in the river was 1.4 feet above it, as nearly as possible at M.S.L.; the surf was very low, and there was a light west wind blowing.

7. The coolies were then sent in to cut away the beach out for 30 feet to seawards, and with the head we had a fair scour was effected, and the current was still running fairly strong at 5 P.M., though a flood-tide was making.

8. At high water this was very rough, and part of the groyne near its root gave way, but the sea had not succeeded this morning in closing the outlet, and we shall have the sea water of two floods.

9. I have desired Lieutenant Smither to close the gap in the groyne as the tide recedes to-day, and to keep coolies to stir the sand and help the scour during each ebb-tide; by this means

*Proceedings of the Madras Government, Public Works Department,
17th March 1876.*

we may keep the mouth open for a few days, and may repeat the operation at each change of the moon, with better prospects in the way of head.

10. The bar is, I believe, invariably closed nearly at high water; so that if we do this at low water springs we may count on 2½ feet or 3 feet instead of 1½ feet head.

11. I must acknowledge that sand bags have answered much better than I expected. They lost nearly half their contents as they were dragged through the water to the groyne, but have lost very little since, and may last, diminishing gradually, for a week; as long as they keep the surf out we may keep the mouth open.

12. Lieutenant Smither, the East Coast Canal Superintendent, Chellaperumall Pillay, and the Contractor on the canal, S. Streenivassa Moodelliar, were all day and a great part of each night on the work.

13. The site at which in G.O., No. 3,416, of 1st December 1875, I have been ordered to open the bar is, in my humble opinion, most unfavorable; possibly, Captain Taylor's survey may have misled His Excellency the Governor in Council.

14. If it was correct when Captain Taylor made it, the river is very much altered since. The whole bay north of the proper channel of the river is silted up, possibly by sand blown in during the prevalence of the north-east winds; this is specially to be observed in the long spit of sand running south-west from the point where the bar closed. The shoal has increased very much above water, and new banks are appearing as marked in pencil.

15. I have worked a line of soundings which I took roughly in, what I have always held to be, the proper channel of the river, and found 18 feet depth within a very short distance of the bank. I cannot account for Captain Taylor's remark on the plan, which would lead one to suppose that the stream had left the south channel.

16. The north-east monsoon may have, I feel sure it has, silted up what is marked as the "present channel," but it could not have deepened the other. I have not had any time to examine the survey, but I think it is incorrectly drawn, and that the river banks above "ruined temple" and "Nabob's bungalow" are more as shown in pencil lines.

17. I believe it will cost Rupees 1,000 to open and keep this mouth open for a short time; I hope long enough to saturate with salt the basin inshore of it from which the pans are supplied.

18. I would however urge that, in my opinion, there would be no difficulty in doing this permanently with a stone groyne.

19. In heavy floods the whole of the sand between the trees north and south is carried away, and in such seasons it is of little or no importance where we make the first opening by which the swollen river is to reach the sea. It will speedily cut its way north and south, and if Messrs. Binny's out-houses are not better protected they will shortly follow the bungalow.

20. I would here point out that a pile of bricks is too light in water to afford any protection as a groyne, in the manner in which Messrs. Binny and Co. have placed the materials of their bungalow.

21. I presume that after the experience of 1872 and 1874 nobody will deny the probability of the whole bar being removed; we cannot therefore place any work in the middle of this space without running the risk of seeing its destruction in the first considerable fresh. The north end of this bar I cannot but consider quite out of the question.

22. I would therefore urge that the new cut be made as near as possible to the south side, where a considerable quantity of clay is mixed with the sand, and affords means of growing casuarinas and other plants, all which I would encourage as they would serve to keep out blown sand.

23. I would raise a bank on the south side of clay and sand as far as the sea would allow on the beach, revetted on the channel side with stone, and continue this by a stone groyne to sea as far as 3 feet below low water work. A small groyne at the river end would secure this from being turned by a high fresh.

24. I believe that for Rupees 5,000 all this might be done and a permanent outlet secured. A similar revetment on the north side, at a distance equal to the section required for floods, might be an improvement by preventing the water wasting its power in width instead of depth. I may

*Proceedings of the Madras Government, Public Works Department,
17th March 1876.*

observe that I made this suggestion to Mr. Clark regarding the Cooum, and that he proposed the jetty or revetment at the north side.

25. If the Government approved of the crude plan, I would propose surveys and estimates immediately.

SUBMITTED for the orders of Government.

2. The Collector of Chingleput forwards a letter from the Superintending Engineer reporting the opening of the bar at Ennore, and expressing a hope that it may be kept open long enough to supply a sufficiency of salt water for the manufacture of salt in the neighbouring pans during the current season.

3. Colonel Moberly proposes to construct a stone groyne at the mouth of the river with a view to keeping the bar open permanently, and so insuring the influx of the sea into the backwater in all seasons. He roughly estimates the costs of this operation at Rupees 5,000, and expresses himself confident of its success.

4. The Board can give no opinion as to the soundness or otherwise of Colonel Moberly's proposition from an engineering point of view, but there can be no doubt that it is a matter of very great importance to secure, by any means, a certain supply of salt water in the backwater at Ennore. The salt stores at Madras are supplied exclusively from the pans located at Ennore and between that place and Pulicat; and the greater proportion of those pans depend for their supply of brine entirely on the sea water which enters the backwater by the Ennore bar. A failure in that supply might result in entire dearth of salt at the Madras stores, which it would be almost impossible to remedy by supplies drawn from elsewhere, except at an enormous cost. The prospect of making any large quantity of salt at the pans near Ennore during the current season is very small; but owing to the manufacture last year having been unprecedentedly large there is no present fear of the stores being exhausted. A second year's failure would be most disastrous.

5. Under these circumstances the Board consider that every effort should be made to keep open during the next three months the temporary cutting made by Colonel Moberly, and resolve to recommend that a careful survey of the river and estimate of the cost of constructing works for maintaining a permanent opening in the bar be made with as little delay as possible.

(True Copies and Extract.)

(Signed) C. A. GALTON,
Acting Secretary.

TRANSFERRED to the Public Works Department.

(Signed) D. F. CARMICHAEL,
Secretary to Govt., R.D.

24th February 1876.

No. 261-A. Proceedings of the Board of Revenue, dated 2nd March 1876.
From R. J. MELVILLE, Esq., Acting Collector of the Chingleput District, to C. A. GALTON, Esq., Acting Secretary to the Board of Revenue, dated Saidapet, 25th February 1876, No. 120.

With reference to my letter, No. 98, dated 15th instant, I have the honor to report that the steps recently taken by the Superintending Engineer to open the bar at Ennore have been successful. On the 23rd, when I visited it shortly after high-tide, a considerable body of water was flowing into the backwater.

*Proceedings of the Madras Government, Public Works Department,
17th March 1876.*

SUBMITTED to Government in continuation of Board's Proceedings, dated 19th February 1876, No. 503.

(A true Copy and Extract.)

(Signed) C. A. GALTON,
Acting Secretary.

TRANSFERRED to the Public Works Department.
4th March 1876.

(Signed) D. F. CARMICHAEL,
Secretary to Govt., R.D.

MEMORANDUM.

THE Chief Engineer does not consider it advisable to attempt to keep the Ennore bar open permanently as it will involve certain heavy outlay, with great uncertainty of result; nor does it appear advisable to incur an indefinitely great expense when there is no object in keeping the bar open longer than during the season for manufacture of salt. It has already been shown that in all but most exceptional years the bar opens itself. Also that in such exceptional years it can be easily and cheaply opened at will. It remains to be seen at what cost it can be kept open as long as desired. Colonel Moberly seems to think Rupees 1,000 will suffice.

2. This will be a very moderate charge on the Salt Revenue, in the interest of which the work will be undertaken; and an annual provision may be made accordingly in the Salt Budget. It is desirable also that a careful survey of the backwater at Ennore, with soundings between fixed points, or on known bearings from fixed points, be carried out with funds provided from the same source.

(Signed) G. W. WALKER, Major-General, R.E.,
Chief Engineer, Public Works Dept.
9th March 1876.

No. 262.

ORDER THEREON, 17th March 1876, No. 691.

CIVIL WORKS, No. 26-A.

HIS GRACE the Governor in Council approves of the appropriation of a sum (not exceeding Rupees 1,000 in all, with-

out submission of regular estimate) from savings in the salt Budgets of 1875-76 and 1876-77 for opening the Ennore bar and keeping it open as long as may be required for the manufacture of salt, in such proportions as may be determined by the actual expenditure of the current year.

2. The District Engineer, Chingleput, will submit an estimate of the cost of an accurate survey, with soundings, of the Ennore backwater.

(True Extract.)

Major-General, R.E.,
Secretary to Government.

To the Superintending Engineer, Chingleput.
,, Revenue Department.

Exd. S. T. Austin.
Spare Copies

Revenue Department.

PROCEEDINGS OF THE BOARD OF REVENUE,

Dated 2nd March — 1876.

Read the following

N^o 120

From, R. J. McNeill Esq.,

By Collector of the Chingleput Dist.

To, B. A. Galton Esq.,

Secretary to the Board of Revenue

Madras

Sir, With reference to my letter N^o 298 dated 15th Instant, I have the honor to report that the steps recently taken by the Superintending Engineer to open the bar at Ennore have been successful. On the 23rd, when I visited it shortly after high tide, a considerable body of water

water was flowing into the back-
-water.

Chingliput District
Collectors Office,
Saidapet, 25th February
1876. } I have &c
(Signed) R. J. Melville
By Collector -

Submitted to Government
in continuation of Board's Pro-
ceedings dated 19th February 1876
No 503.

(True Copy & Extract)

W. L. Allen
By Secretary

To,

The Secretary to Government
Revenue Department

W. L. Allen
By Secretary

11/3

10

9/8

Transferred to the
Public Works Department
L. J. Jamieson
Secy to Govt.
4. March 76

Rev. 1896 Sept.
No 924
Proceedings of the
Board of Revenue
Dated 22 March 76.
Page 32

Referring to the
-ment, letter from the
Collector of Chongchong &
reporting that the work
taken by the Engineer
-taining Engineer of
open the Engineer has
have been successful
Transferred

FORMER CASES.

Current No. of 187
 " " " " " "

M. WORKS FORM No. 3.

Current No. 1642.

From The Revenue Dept

No.
 Dated 4 March 1876.
 Recd. 6

Subject:—Transferring Pres. of
 the Board of Rev. Relations
 to the success in the opening
 of the minor bar

LATER CASES.

Current No. of 187
 " " " " " "

ENCLOSURES.

From to
 " " " "
 " " " "

Orders and Proceedings in file.

			ENDORSEMENTS.		
Depart- ment.	No.	Date.	Depart- ment.	No.	Dated.

NK

Revenue Department

Proceedings of the Board of Revenue
 dated 19 February 1876
 Read the following

No. 48:

From R. J. Melville Esqr.
 Agt collector of the
 Chingleput District
 To C. A. Galtton Esqr.
 Agt Secretary to the
 Board of Revenue
 Madras.

Sir
 The Minor Bar having lately
 closed, I addressed the Super-
 intending Engineer on the
 subject of its being opened and
 enclosed for the Board's infor-
 mation copy of his letter, dated
 27 ultimo, No. 4,295 ¹/₂, reporting

Can 10-3-76

that he has succeeded in opening the bar.

2. They to draw the special attention of the Boards to the remarks of Col. Moberly

at paras 14-23, and re-

-quest that & actions of Government may be ob-

-tained for carrying out the works suggested in paras 23

and 24, to prevent the re-

-closing of the bar. The journey of the bar received with Col. Moberly

letter is herewith enclosed also returned when no longer required.

Chingleput District
Collector's Office
Circular No. 100
15th January 1876

Have so.
(150) K. J. MacArthur
Collector

N. 4295 1/2

Supp Engrs Office, S.P.
Mount 27 January 1876.

From

The Superintending Engineer
Chingleput

To The Collector of Chingleput District.

Sir,

Enclosures
1 Copy of Letter
to the Affairs of
Engrs District
Range.
1 Plan.
1 Sketch.
* N.A. dated 14th
January 1876.

I have the honor to inform you that, agreeably to the request in your N. 20 of 12th January 1876, I sent instructions / copy enclosed to the Affairs of Engrs District Range.

2. On reaching Cannore 34th inst. I found that Lieut. Smith had excavated a channel through the bank at the point selected by Government to about Low water mark, it would have been better 3 feet deeper if it could be done.

3. He had also arranged stakes and bags full of sand to enclose the beach as far as low water mark. I would suggest that on another occasion we should do this work further out seaward, as the beach has a very small slope.

As

4 As the tide fell on the 25th, the bank was run out on both sides, and the enclosure within the stakes was completed by noon, and strengthened through the evening - a very boisterous flood tried it severely in the night, but the gang of coolies whom I had kept succeeded under Lieut Smith's orders in keeping out the water.

5 As the tide of the 26th fell, I commenced to open the bank from the north side. I had desired that the southern closing bank should be left to protect the cut from the surf, and Lieut Smith suggested that we should prolong it seaward by shifting the sand bags from the north side, and so make a proye. Our material enabled us to secure about 30 feet more protection in this manner.

6 The bank to north and east was entirely cleared away a little before 10 P.M. the tide had fallen very nearly, if not quite, to its lowest, and the water in the river was 1.4 feet above it - as nearly as possible at M.S.L.; the surf was very low, and there was a light west wind blowing.

7 The coolies were then sent in to cut away the beach out for 30 feet to seawards

seawards, and with the head we had a fair scour was effected, and the current was still running fairly strong at 5 P.M. though a flood tide was making.

8 At high water this was very rough, and part of the proye near its root gave way, but the sea had not succeeded this morning in closing the outlet, and we shall have the sea water of two floods.

I have desired Lieut Smith to close the gap in the proye as the tide recedes today, and to keep coolies to stir the sand and help the scour during each ebb tide. by this means we may keep the mouth open for a few days - and may repeat the operation at each change of the moon, with better prospects in the way of head.

10 The bar is I believe invariably closed nearly at high water, so that if we do this at low water springs we may count on 2 1/2 feet - or 3 feet instead of 1.4 feet head.

11 I must acknowledge that sand bags have answered much better than I expected. They lost nearly half their contents

contents as they were dragged through the water to the jugs, but have lost very little since, and may last, diminishing gradually, for a week, as long as they keep the surf out and may keep the mouth open.

12 Licent Smith, the East Coast Canal Superintendent, Chellaperumall Pillay, and the Contractor on the Canal, P. Sreenivasan Mudaliar were all day and a great part of each night on the works.

13 The vote at which in G.O. No. 34/16 of 1st December 1875 I have been ordered to open the bar, is in my humble opinion most unfavorable. Possibly Captain Taylor's survey may have misled His Excellency the Governor in Council.

14 If it was correct when Capt. Taylor made it, the river is very much altered since. The whole bay north of the proper channel of the river is silted up, possibly by sand blown in during the prevalence of the north east winds - this is specially to be observed in the long spit of sand running south west from the point where the bar closed.

The

1984
The shoal has increased very much above water, and new banks are appearing as marked in pencil.

15 I have marked a line of soundings which I took roughly in what I have always held to be the proper channel, always held to be the proper channel, of the river, and found 18 ft. depth with in a very short distance of the bank. I cannot account for Capt. Taylor's remarks in the plan, which would lead one to suppose that the stream had left the south channel.

16 The north east monsoon may have, I feel sure it has, silted up what is marked as the "present channel," but it could not have deepened the other.

I have not had any time to examine the survey but I think it is incorrectly drawn, and that the river banks above named temple and "Nabob's bungalow" are more as shown in pencil lines.

17 I believe it will cost Rs. 1000 to open and keep this mouth open for a short time; I hope long enough to start water with salt the basin in hand of it from which the pans are supplied.

18 I would however urge that in my opinion there would be no difficulty in doing

Doing this permanently with a stone
groynes.

19 In heavy floods the whole
of the sand between the trees north &
south is carried away - and in such
seasons it is of little or no importance
where we make the first opening by
which the swollen river is to reach
the sea. It will speedily cut its way
north & south, and if Messrs Binny's
outhouses are not better protected
they will shortly follow the bungalow.

20 I would here point out that
a pile of bricks is too light in water
to afford any protection as a groyne,
in the manner in which Messrs Binny
& Co. have placed the materials of their
bungalow.

21 I presume that after the expe-
rience of 1872 and 1874 no body will deny
the probability of the whole bar being
removed; we cannot therefore place any
work in the middle of this space, with-
out running the risk of seeing its
destruction in the first considerable
fresh. The north end of this bar I cannot

cut

22 But consider quite out of the question.
I would therefore urge that
the new cut be made as near as possi-
ble to the south side where a con-
siderable quantity of clay is mixed
with the sand, and affords means of
growing to Casuarina and other plants
all which I would encourage as they
would serve to keep out blown sand.

23 I would raise a bank on the
south side of clay and sand as far as the
sea would allow on the beach, revetted
on the channel side with stone, and
continued this by a stone groyne to sea
as far as 3 ft below low water mark.
A small groyne at the river end -
would serve this from being turned
by a high fresh.

24 I believe that for Rs. 5000 all
this might be done and a permanent outlet
secured. a similar reclamation on the north
side at a distance equal to the section
required for floods might be an improve-
ment by preventing the water wasting
its power in width instead of depth. I
may observe that I made this suggestion
to Mr. Clark regarding the Kream &
I think he said that he got that
his idea from Mr. Maitland -

that he proposed the jetty on re-
-ments at the north side.

25. If the Government approved
of the creeks plan I would propose
surveys and estimates immediately.

I have &c

Signed F. J. Moberly Esq. R.E.

Subj. Engr. Chingaput.

(True Copy)

Minister
of Colonies

1441/76

Subj. Moberly Esq. R.E.

in a letter from

the collector of

Chingaput

15th February 1876

1876

1876

17 March 76 B.D. 201

296

Submitted for the orders of Govern-
-ment.

2. The Collector of Chingaput
forwards a letter from the
Superintending Engineer reporting
the opening of the bar at
Ennore and expressing a
hope that it may be kept
open long enough to supply
a sufficiency of salt water
for the manufacture of Salt
in the neighbouring place
during the current season.

2. Colonel Moberly proposes

to construct a stone groyne
at the mouth of the river with
a view to keeping the bar
open permanently and so
insuring the influx of the sea
into the back water in all seasons.

He roughly estimates the cost
of this operation at Rupees 5000.
and expresses himself confident
of its success.

4. The Board can give no
opinion as to the soundness
or otherwise of Colonel Moberly's
proposition from an engineering

25/5
point of view but there can be
no doubt that it is a matter of
very great importance to secure,
by any means, a certain supply
of salt water in the back water
at Ennore. The salt stores at
Madras are supplied exclusively
from the Paces located at Ennore
and between that place and
Pulicat; and the greater pro-
-portion of these Paces depend
for their supply of brine entirely
on the sea water which enters
the back water by the Ennore bar.
A.

A failure in that supply might
result in an entire dearth of
salt at the Madras stores, which
it would be almost impossible
to remedy by supplies drawn
from elsewhere. Except at an
enormous cost. The prospect of
making any large quantity of
salt at the Pains near Surur
during the current season is
very small; but owing to the
manufacture ~~to~~ last year
having been unprecedentedly
large there is no present fear
of the stores being exhausted.

278
it second year's failure would be
most disastrous

5. Under these circumstances the
Board considers that every effort
should be made to keep open
during the next three months
the temporary cutting made by
Colonel Moberly & resolve to recom-
mend that a careful survey
of the river and estimate of the
cost of constructing works for
maintaining a permanent opening
in the Bar be made with as
little delay as possible.

(Enclosed)

To
The Secretary to Government
Secy. Dept. with 2 encs. One returned.

Emergency
Transferred to the P.W. Department
24 February 1976
See report 2008/2009

See report below

To our friend
Samuel May in New-
 - Bedford.

Dated 19th Aug 1890
 Recd 19th —
 Recd 21st —
 Recd 25th —

Free charge of the
Board of Education

28771

177108

Ms. A. 9. 2. 18 v. 66 p. 206
Revised 1896 before

13
The Chief Engineer does
not consider it advisable
to attempt to keep the
Innere Barr open per-
manently, as it will
involve certain heavy
cutting with great un-
certainty of result. Nor
does it appear advisable
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Recd 17 March 76 B N 261

10-3-26.

what cost it can be kept
open as long as desired.
Colonel Moberly seems to
think Rs 1000 will suffice.

This will be a very moderate change in the Salt Revenue, in the interest of which the work will be undertaken; and an annual provision may be made accordingly in the Salt Budget. It is desirable also that a careful survey of the Backwaters at Inmore, with connections between fixed points or on ~~known~~ ^{known} bearings from fixed points, be carried out with funds provided from the same source.

Lt. Col. Major Genl.
Chief Eng. D.P.W.

9.3.96.

Shall as a temporary measure. But as
call for a plan ~~stationary~~ of the permanent
work suggested. It seems that for ever.

14/3 1766

Shall this order rather
whistantly and on the
assurance that the operations
of this year can always
when necessary be successfully
carried out, or that Salt
Manufacture is secure - otherwise
if a permanent opening
could be made for 6000
As I should have thought
the better plan All

No. 691 of 14th March 1876 (3)
1876

This since the Gov.
council
approves of the
appropriation of
Rs 1000
in all without
interference of re-
sults & estimate)
from savings in
the Salt Budgets
of 1875-76 & 76-77
for opening the
Inmore Barr &
keeping it open
as long as may
be required for
the manufacture
of salt; in each
proportion as
may be deter-
mined by the
actual & periodi-
cal of the cor-
rect year -

S. E. Chung left
Reed depth with survey
dist. 1/2 mile. 76.

1542
1442



Govt. of Madras.

PUBLIC WORKS.

The Lt Engineer
Chengelpet

1542

1542

17 March 1891

261-262

Ennore River - Small
- dotted for opening the
- keeping it open as far as it
- necessary for the main
- structure of Sull: the Brit
- to submit an estimate
- of the cost of an accurate
- survey of the Ennore
- river.