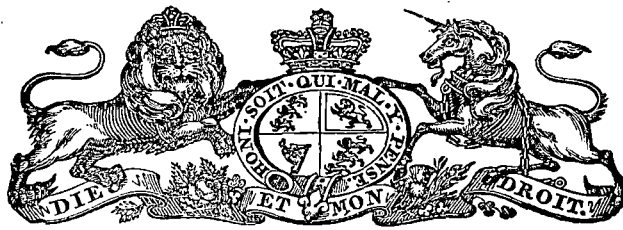


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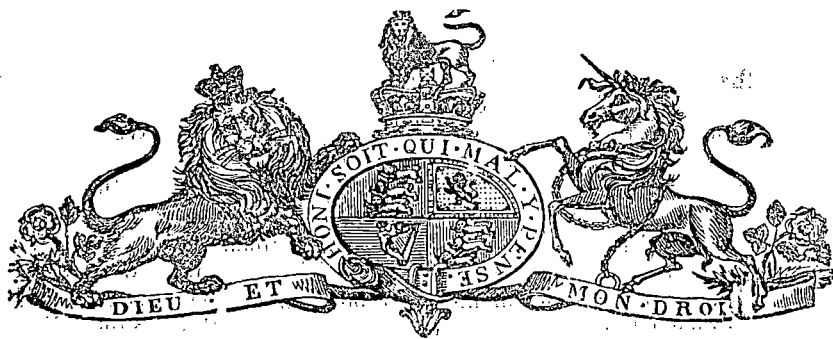
T A S M A N I A.

LEGISLATIVE COUNCIL.

**MACQUARIE HARBOUR AND TRIAL
BOAT HARBOUR:**

REPORTS BY MR. C. P. SPRENT.

Laid upon the Table by Mr. Moore, and ordered by the Council to be printed,
October 14, 1881.



REPORT by Mr. C. P. Sprent upon the Capabilities of Macquarie Harbour and Trial Boat Harbour as Shipping-places for Mount Heemskirk Tin Mines.

Mount Heemskirk, 18th September, 1881.

IN accordance with instructions from the Hon. the Minister of Lands and Works, I proceeded to Macquarie Harbour on the 12th September, to make a survey of portion of Macquarie Harbour, making use of the steamer *Pearl* for the purpose of taking soundings. I arrived at Mr. Purdy's house the same evening, and on the following morning that gentleman accompanied me in his boat to the Heads, where the *Pearl* was at anchor. On the way down I examined the coast line and the channels, and made a number of soundings. I soon came to the conclusion that the present Admiralty chart of Macquarie Harbour is a very good one indeed, and that no important alterations have taken place in the position and depths of the channels, and this view was confirmed by conversations with seamen who are well acquainted with the harbour; and I am now quite sure that no further survey is necessary. The cost of survey can be better expended in providing buoys and marks. I made scores of soundings from the boat and from the steamer, and observed the position of shoals from the tops of hills, but could not obtain much fresh information. In all cases my soundings agree with those on the chart so nearly that they may be assumed as identical.

I will endeavour to give an idea of the navigation, as well as the nature of improvements required.

Tides.

The tides are very irregular. The ordinary rise and fall is about three feet; the highest tides rise about five feet. The tide seems to ebb for about eight hours. When the rivers are flooded with fresh water the flow of the tide is scarcely perceptible. The ebb tide runs very strong at the entrance, and unless a sailing vessel has a good wind the tide will bring her up near Entrance Island; and the inconvenience is, that the time of tide cannot be rightly guessed by a vessel in the offing. If the trade at Macquarie increases to any extent, it would be necessary to provide a semaphore at Pilot's Bay, so that the depth of water may be signalled to approaching vessels. To small steamers the matter is not of much importance; but to sailing vessels the great tide-rush and the narrow entrance are great troubles, unless there is a fair strong breeze.

Bar.

Macquarie Bar is at the north end of Pilot's Bay. The bottom is hard sand: no shifting can be detected. The channels now are the same as they were 40 years ago. The lowest depth of water at low tide is nine feet in the channel. When there is a roll on the bar it would be safer to assume the depth at eight feet; and if there is a heavy break on the bar, I doubt if it would be safe over six feet. There is generally a swell on the bar, occasioned by the fresh meeting the sea. Just at the Heads there is a small island called Entrance Island, and a couple of miles or less up the harbour there are two little islands together called the Cap and Bonnet. The guide for keeping the channel over the bar is to keep the Cap and Bonnet just in sight clear of Entrance Island and between Entrance Island and the south point of Pilot's Bay. This course will take the vessel to the west side of Entrance Island and into deep water.

Navigation.

After passing Entrance Island the course is close to the Cap and Bonnet, leaving them on the west side, then keeping close under the high land there is deep water to Wellington Head; from this point the navigation is intricate, beset with shoals, and, in the absence of marks, vessels are constantly grounding and losing time. From Wellington Head to Round Head there are two channels, one passing round the shore of Mosquito Bay, and the other straight across from head to head. The inside channel is the deepest, but both are very narrow and ought to be well buoyed. I do not think any stranger could get through them without a pilot. The inside channel is two fathoms deep, but sandspits run out from the shore and leave only a narrow passage between them and the shoal. The outside channel is straight, but narrow, and not more than nine feet of water in the channel: it is the best channel for sailing vessels if the wind is baffling, as the course is straight

and shorter than the other. This channel also requires buoing. Close to Round Head the water is deep, as much as four fathoms. The course is close up to the Head, then steering east, with the Head right astern, the course is up Kelly Channel. A good guide is to have Round Head astern, and the highest point of Mount Sorell ahead, course about east. Kelly's Channel comes in very narrow at the middle, and is very awkward to pass without buoys; the depth of water is about 10 feet the shallowest part of the channel. When a vessel has passed a line connecting Table Head and River Point she has cleared the narrow portion of the Channel, and may bear up a little north, and will get deep water. The course is E.N.E. to give River Point a wide berth, as there is a sandspit there extending out for two miles or more: a buoy should be placed to mark the end of this spit. A line from Betsy Island to the dead trees near the mouth of King River about clears the spit. On passing the spit, by keeping Liberty Point right astern, and the houses at Smith's Cove ahead, the course is over deep water, no bottom at 16 fathoms. There is plenty of deep water to beat about in, the soundings going from 18 to 8 fathoms. About 500 yards off the Police Station there is 8 fathoms of water. Two reefs run off the points of Smith Cove and require buoys to mark the Channel; there is two fathoms of water between. There is a staff erected at the head of the Cove,—by keeping it just clear of the east bank the vessel can come through the Channel. Inside Smith Cove there is twelve feet of water, and plenty of room. The water deepens suddenly from the shore, and vessels now moor close to the bank and connect with a plank to discharge cargo. The two reefs running out give protection from a southerly swell, and the place is like a natural dock.

Buoys, &c.

To properly define the various channels, the following buoys are required:—

1. Buoy on west side of Bar Channel
2. Buoy on east side of Bar Channel
- 3, 4. Buoys to mark outside channel, Mosquito Bay.
- 5, 6. Buoys to mark inside channel, Mosquito Bay.
- 7, 8. Buoys on north side Kelly Channel.
- 9, 10. Buoys on south side Kelly Channel.
11. Buoy on Spit off River Point.

I would strongly advise that these buoys be laid down at once. I can recommend Captain Carver as having good knowledge of the harbour; and if he were sent down by the *Amy* he could put them down at once. They need not be large affairs, except the two at the Heads; and, instead of anchors, I would advise large stones with a hole drilled in and an eye-bolt inserted. These stones would get buried in the sand and never shift. They could be sent down ready prepared. I tried to mark the channels with spars, but the sand is too firm, and they will not stand.

Conspicuous marks should be erected upon the Cap and Bonnet and upon Round Head, and two leading poles put in at Smith Cove.

Wharves.

There is no good place near the Heads on the north shore. There is a small channel close to the beach, where small vessels can discharge; but the place is a waste of sand-hills, quite unfit for a settlement. On the south side, at Mosquito Bay, there is a capital harbour, deep water close to shore, and protection from any wind. If Trial Harbour is to be the basis from which Mount Heemskirk is to be supplied, then a jetty would be required at Mosquito Bay under Wellington Head. Vessels could discharge there, and in fine weather the goods could be transhipped to Trial Harbour. A good jetty could be erected at this place for £300.

Smith's Cove, at the head of Swan Basin, seems to me the best place for a settlement. A jetty 80 feet long would give eleven feet of water at the end in the lowest tides. The beach end is shingle, and twenty feet out the water deepens suddenly to 11 feet; the floor of the jetty could be raised five feet above water-mark, so that the height from the floor to the bottom at the end would be about 16 feet. Piles could be driven at the end, but I doubt whether they could in the middle. The teredo seems very bad at Macquarie, so I am of opinion that a jetty of concrete blocks would be best. There is plenty of shingle about, but no large stone. Piles could be had at King River, and stone in quantity up the Harbour; there is a lot already squared on Settlement Island,—in fact there is sufficient stone in the ruins there to build the jetty, and bricks enough to build houses. Any number of jetties can be built at Smith Cove: there is as much room as in Constitution Dock at Hobart.

General Remarks.

I am firmly convinced that Smith Cove will be the future shipping port of Mount Heemskirk and the surrounding country; and no matter what is done at Trial Harbour the trade will eventually come to Macquarie. The immense advantage of Macquarie is apparent: for, supposing the mines are up to expectations, roads can be made from Hamilton, the Huon, Mount Bischoff, and other places, and facilities of communication afforded with all parts of the Colony. From Birch's Inlet communication can be opened with the country towards Port Davey; from the Gordon, roads can connect to the Huon and Hamilton; and other roads will some day branch off towards Lake

St. Clair and the head waters of the Pieman. In those ranges are great wealth of timber yet untouched, and minerals will be discovered, and lands taken up. To the whole of this country Macquarie Harbour is the natural outlet. So long as Mount Heemskirk has to depend upon Trial Harbour, so long will the progress of the mines be delayed. A line connecting the mines with Macquarie would have to pass some three or four miles inland from the beach to avoid the shifting sand-hills. From passing observations I should say it would open up some fair land; it would give access to a lot of timber both for the mines and for export. The distance would be about 20 miles. I do not anticipate any engineering difficulties; the gradients might be made fit for a railway, and the line laid with iron rails.

I believe it is contemplated to erect bridges over the Henty and Little River, and construct a telegraph to Macquarie; if so, the line for a tramway should be set out, and the various works constructed on that line, so as to save expense.

It is important that Macquarie Harbour be declared a Port of Entry: it is great delay for vessels to call at Circular Head; and on this coast, where the weather is so uncertain, delays are extra dangerous. Whilst I was at Macquarie there were two steamers and two sailing vessels in the port.

I enclose a sketch of positions where buoys are required; also sketch of Smith Cove. No new map of Macquarie is required,—the Admiralty map cannot be improved upon without a detailed survey.

MACQUARIE HARBOUR.

TEMPORARY SAILING DIRECTIONS.

Tide.

Very irregular: depends greatly upon the amount of fresh coming down King River and the Gordon, as well as upon the prevailing winds. Average rise and fall three feet: seldom exceeds five feet. No dependence upon tide.

Bar.

Depth of water at low tide, 8 feet 6 inches: not safe at that when there is a roll on: may be taken as 8 feet. Sands appear to shift a little.

Entrance.

Entrance Island is the guide. The channel is between the island and the south shore. In approaching, a small rocky island is observed further up the course. This island, the Cap and Bonnet, must be kept in view. As long as it is not shut in by Entrance Island or by the south shore the vessel is fair in the channel. The deepest water then continued up the south shore as far as Round Head beyond Wellington Bay (or Mosquito Bay).

A line from Round Head towards the highest peak of Mount Sorell, passing just above Sophia Point, will give a course through Kelly's Channel. After passing through Kelly's Channel, when the buildings at Smith's Cove, Swan Basin, are seen clear of any points on the west shore, a course must be shaped up the middle of the inlet, and all the points to the westward kept well on the port bow; there is deep water then up to Smith's Cove, where the houses stand. Two reefs run out on each side of the entrance to Smith's Cove: deep water fair in the middle of the entrance.

Buoys are required to mark out Kelly's Channel, and a staff on Round Head.

16th September, 1881.

TRIAL BOAT HARBOUR.

Mount Heemskirk, 1st September, 1881.

YESTERDAY I made an inspection of the Trial Boat Harbour, with a view of reporting to you on the proposal to erect a jetty there.

The day was fine and calm, but a heavy sea was rolling in from the south west, the result of high winds the day or two before.

The harbour is a small cove situated under high cliffs; it is fully exposed to the westward; in moderate weather it is protected from the south west by a low fringing reef. The entrance from the sea is between low rocks; the course is not straight. The channel is reported to have five feet of water at low tide; the rise and fall of the tide is very small, not more than eighteen inches at ordinary tides. In very fine weather a small vessel not more than 20 tons might enter in safety, but in any

ordinary wind I consider the place is unsafe; and, besides, if a vessel was inside the reefs and bad weather came on she would infallibly be smashed to pieces, unless there was some means of taking her out of the water. The morning I was there, although not a breath of wind was stirring, a heavy surf was rolling in; certainly the sea was not breaking so heavily across the channel, but it was my opinion, and the opinion of Mr. Howard Wright, a practical sailor, that it would be highly dangerous to attempt an entrance. Inside the reef the space is so small that there is barely room to turn a small vessel: it might be done by help of ring-bolts fixed in the reefs on either side. The force of the sea rolling in is somewhat lessened by quantities of bull-kelp seaweed about the reefs. Inside the basin the water shoals to a sandy beach, where a small rivulet runs into the sea. When the harbour is safe, boats can land goods on the beach or on the rocks.

It is the general opinion that no jetty is required, and some go so far as to say that it would be a positive injury to the place to erect one, the room being so small. In my opinion, any jetty strong enough to resist a gale of wind would have to be of tremendous strength, something far beyond anything yet attempted in this colony. On the south-west side a stone work might be built, but in heavy weather a furious sea would dash over it. No pile jetty could be built on the sandy beach—there is not sufficient hold to resist the westerly gales. My candid opinion is that the place is unfit for harbour works.

The opinion of seamen who have inspected the place is, that it can only be used by seizing favourable occasions and making the most of them. In this I quite agree.

In the absence of any land carriage between Mount Heemskirk and Macquarie Harbour, this Boat Harbour is the only shipping port available, and as a temporary port it is very valuable.

It is impossible to supply the mines by means of pack-horses from Macquarie Harbour, and unless the Boat Harbour can be utilised the mines must be closed. The mines cannot be worked without heavy pumping machinery, and such things cannot be carried on horses over heavy sand beaches. On this account the Mining Managers are anxious to get proper means of communication, and if they can get a vessel to make occasional visits to the Boat Harbour they can make progress, but this is only a temporary expedient.

Macquarie Harbour is the natural outlet to these mines, and there must be some means of communication. Supposing the mines to be turning out ore, it is certain that it must be carried to Macquarie Harbour for shipment,—it could never be got away from the Trial Harbour; therefore, in the event of the Government making a tramroad to Boat Harbour, in less than two years they will be called upon to make a road or railway to Macquarie, and then the line to the Boat Harbour would never be used again.

The Companies here are willing to make the tramroad and all other improvements required to Boat Harbour at their own expense: they must have it as a temporary means of accommodation.

In my opinion it would be simply throwing public money away to do such a temporary work. I would respectfully suggest that the undertaking be left to private enterprise, and that the Government should at once commence to connect Mount Heemskirk with Macquarie Harbour, either by a macadamised road or a light railway. Such will have to be done in the end, and any expenditure in providing an outlet in any other direction is simply lost money.

With respect to a tramway to Boat Harbour, I estimate the distance at four miles; it will be necessary to make a long detour to obtain a suitable gradient; the whole distance will be in side-cutting. The total ascent will be nearly 500 feet. I cannot estimate the cost, as I do not know the price of the rails proposed to be put down, but I am certain that it will be a long way over the £3000 proposed. The Managers here want to make the gradients fit for a locomotive, but I think that is expecting too much for a temporary affair.

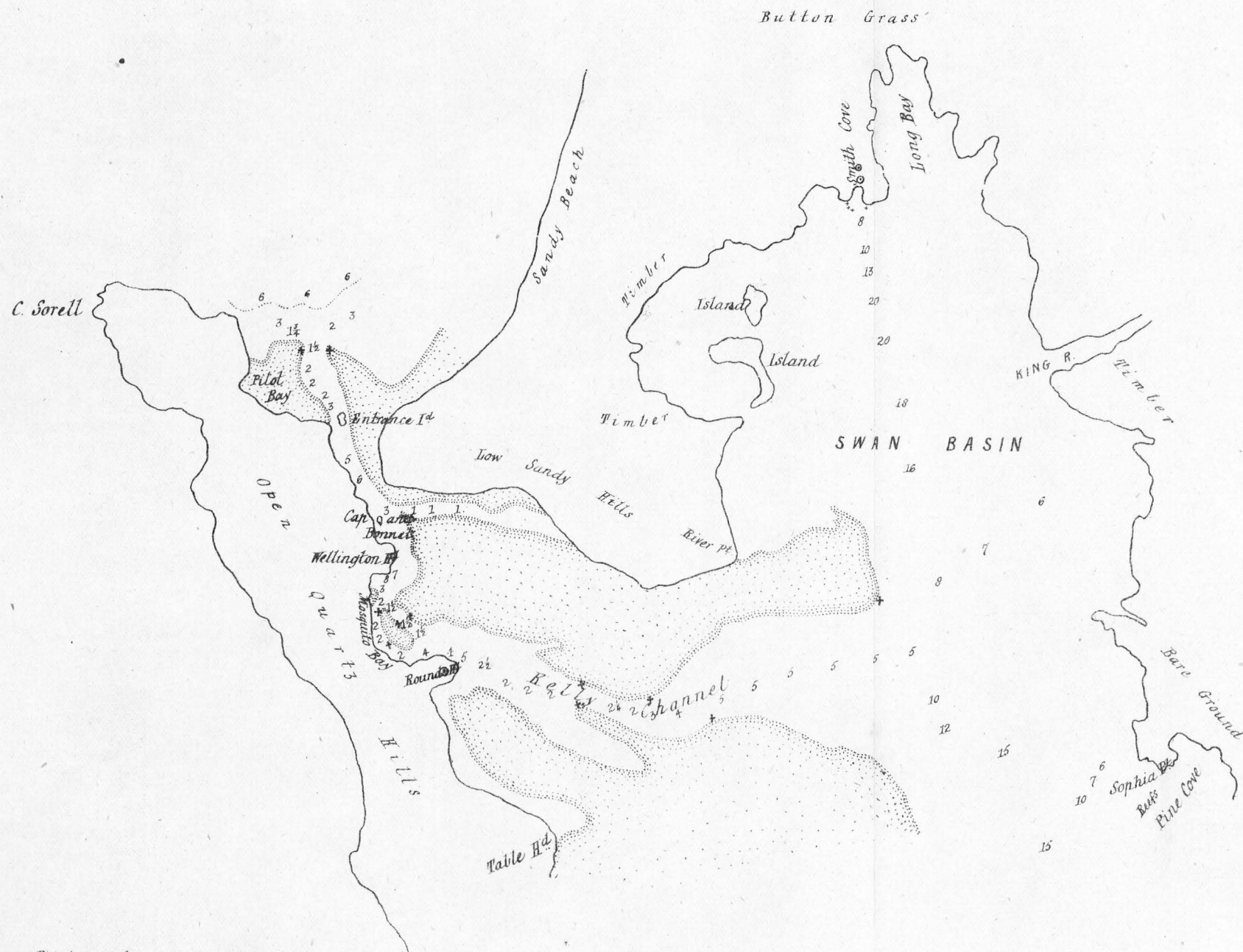
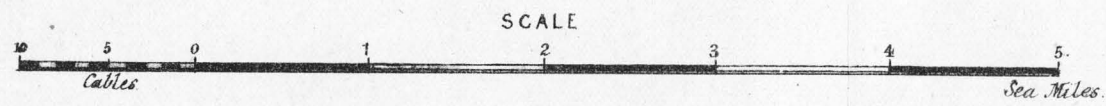
I feel very much perplexed in this matter, and should be thankful if you would favour me with your opinion. I do not like to go on with the work, for I am sure the case has not been put fairly before the Government, and I shrink from doing anything to induce the belief that Trial Boat Harbour is a fit shipping-place; and I am certain that if it is much used, there will soon be death and disaster to record.

The circumstances of this place are peculiar: there is no alluvial tin to help to pay the working expenses, and the mining will all be underground, necessitating heavy machinery, and at present there is no possible way of getting machinery upon the ground.

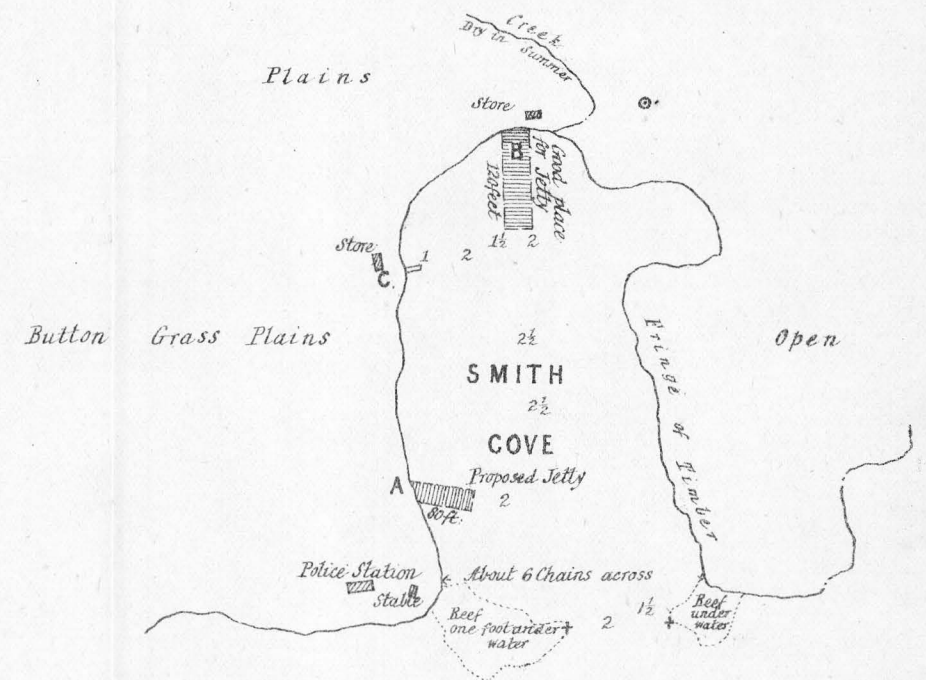
Please favour me with some advice on the matter as soon as possible, as I am unwilling to push on the survey of the tramroad without your opinion, and the place is so isolated that communications are far between.

SKETCH BY C. P. SPRENT
OF
PORTION OF MACQUARIE HARBOUR

NOTE. + DENOTES WHERE BUOYS ARE REQUIRED

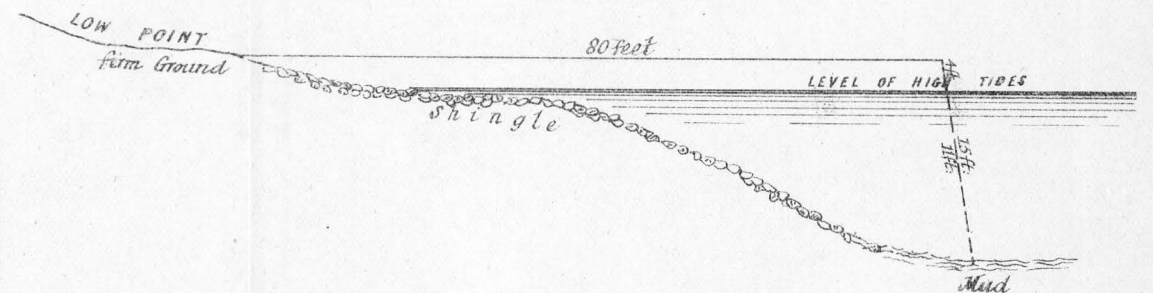


SKETCH ONLY



NOTE. Small figures⁸ denote depth in Fathoms at Low Water.

+	"	Position where Buoys are required.
A.	"	Site recommended for a Jetty
B.	"	Another good site for Jetty.
C.	"	Place where a Vessel was unloading close up to Bank.



Sketch of sort of Jetty required