

## THE SUEZ CANAL.

The following notice to mariners has been issued from the Hydrographic Office, Admiralty, respecting the Suez Canal, from the report of Commander Nares, of H.M.S. *Newport*, 5 screw steam surveying vessel, November, 1869:—

**"Approaching Port Said.**—The coast in the neighborhood of Port Said is unusually low, being out of sight at three miles distance. The lighthouse, town and shipping are the only objects seen from the offing. At present there are two tall obelisks, one on each side of the canal entrance, but as they are merely built of boarding, they can only be temporary. At six miles to the west the coast is marked by Gemileti Tower a low, square building, standing by itself on a low, sandy coast; but to the eastward of the port there is nothing to mark the low shore.

**"Current.**—The current of the coast is very uncertain. It generally runs with the wind, from half to a knot and a half an hour. The general set is to the eastward.

**"Owing to the current and the low shore more than usual caution is necessary in approaching the harbour.**

**"Port Said Harbour.**—The harbour is formed by two concrete breakwaters running off from the sandy shore. Inside the piers the harbour is at present constantly silting up, in consequence of the current, heavily laden with sand, running through the numerous openings in the piers, and depositing the sand in the quieter water inside. A good straight channel of 26ft. of water has been dredged, leading into the inner basins, about 100 yards inside, and parallel to the west pier. It is marked by black buoys on the east side, and red ones on the west side, and it may be presumed that the authorities will be careful to keep it clear. The basins inside the harbour have a depth of 26ft. of water; they are sufficiently large for the trade which may be expected. If not, there is ample space for enlarging them.

**Light.**—On the outer end of each breakwater there is a low lighted on the west pier and green on the east one. The Port Said Light-house is a tall white stone tower, 180 ft. high, standing close to the inshore end of the west breakwater. It shows a flashing white limelight, visible eighteen miles.

**"Pilot Signal.**—The pilot boats carry a blue peter flag.

**"Outer Anchorage.**—The best anchorage in six fathoms is with the low red light on with the high lighthouse; or the west pier-head a little open of the lighthouse on either side. The bottom is mud, and very good holding ground. A bank with 12 ft. of water has been formed to the eastward of the harbour. The east pier-head light (green) on with the high lighthouse leads over the west edge of the bank; therefore, these marks must be kept well open. In approaching, allowance must be made for a bank which is forming outside the west pier-end. In November, 1869, there was six fathoms at half a mile from the pier end, with the anchorage marks in one.

**"Entrance to Canal.**—The entrance to the canal is conveniently situated at the inner end of the basins.

**"From Port Said to Kantara,** 24 1-6 miles the usual depth of water is from 26ft. to 29ft. Immediately south of the Campement de Cap is a short bank of 24ft.; and one mile north of Kantara, opposite the 43rd kilometre mark, is a bank of 23ft. The

whole of this distance, 24 1-6 miles, with the exception of one-sixth miles at the Campement, which is higher. The canal runs through a wet sandy plain—scarcely higher than the level of the water on the east side, and a little below it on the west side, which, with a 'high Nile,' is completely overflowed, and the sand rendered firm by the deposit of mud from the river. In this part of the canal there is no sand-drift, and it may be considered as completed. The debris thrown up on the banks is firm, black, sandy mud, protecting the canal from the water in Lake Menzaleh, without any opening in the whole distance.

**"Kantara to the North end of Lake Ballah,** two miles and one-third.—The canal passes through sand-hills from 20ft. to 30ft. high, and has a depth of from 26ft. to 28ft. This part of the canal is completed, but it is subject to a severe sand drift in high winds.

**"Lake Ballah, Seven Miles.**—The canal here passes through a lagoon, with a depth varying from 19 to 23ft., but the dredges are still at work. There is constant trouble in this part of the canal, in consequence of the banks on each side, which are composed of fine sand debris, not being firm enough to resist the constant ebb and flow of the water between the lake and the canal; which, carrying large quantities of sand with it, is constantly altering the depth of water.

**"Lake Ballah to Lake Timsha, Eight Miles.**—In this cutting the sand hills are 40ft. high. The depth of the canal varies from 22ft. to 24ft. but there is work still going on in the shallow parts. All this part is subject to heavy sand-drift. For about four miles in the neighborhood of El Guisr the Canal is cut through a strata of soft lime or sandstone. The sharp turns between El Guisr and Lake Timsha are probably owing to the engineers having followed the softest part of the rock. Ships can pass round the curves without trouble.

**"Ismailia, Lake Timsah.**—The central station in the canal is well situated for a stopping place. There is at present only 22ft. in the middle of the lake, but the dredges will soon give deeper water.

**"Through Lake Timsah to Toussoum.**—The depths varies from 22ft. to 27ft. except one bank of 20ft. in the lagoon. The debris banks here, of pure sand, like those in Lake Ballah, are not adhesive enough to form a barrier between the canal and the lagoons to keep the silt from running into the channel, but the canal is sufficiently wide to allow dredges to work without stopping the traffic.

**"Toussoum to North Entrance of Bitter Lakes.** In this cutting the canal is carried through a strata of sandstone with depths from 22ft. to 24ft., except in one place one mile south of Sérapéum, where for about 30 yards there is a narrow ridge with only 18ft. of water over hard rock. A strong party of men are at work, and the obstruction will soon be reduced. At the south end of the cutting the deep channel is narrow and incomplete. This cutting is subject to a very heavy sand-drift. From the debris on the bank it would appear that the narrow ridge of stone running across the canal had only lately been discovered.

**"The North Bitter Lake to the South Lighthouse, Nine Miles and a Half.**—The margin of the deep water in the lake, a mile and a half from the entrance, is marked on the east side by a red iron pillar lighthouse 40ft. high, showing a fixed white light visible 10 or 12 miles. The excavated channel leading into the deep water has a depth from 24ft. to 29ft. It is conspicuously marked on each side by iron beacons 15ft. high, with a

black ball three feet in diameter on the top. As we passed each beacon was lighted, but whether the lamps are to remain could not be ascertained. The margin of the deep water at the south end of the lake is conspicuously marked on the east side by a lighthouse similar to the north one, and by a buoy on the west side. A straight run may be made between the lighthouses (a distance of eight miles), with not less than 22ft. depth of water; 26ft. may be obtained by passing nearer to the west shore of the lake.

**"From the South Lighthouse to South End of Bitter Lakes, Ten Miles and a Third.**—The water in this part of the lake being shallower, a cutting has been made giving from 26ft. to 27ft. depth. The channel is well marked by numerous iron beacons on each side (from four to six to a mile) similar to those at the north end of the lake.

**"Bitter Lakes to Suez Lagoon.**—This part is quite complete with hard banks, and depths of water to 26ft. to 30ft. at low water. It is subject to sand drifts. At Chalouf the cutting is carried through sandstone; the debris is hard and lumpy. South latitude 30 deg. 6 N., the canal passes through sand-hills, it increases in width, and the debris on the banks is more than usually large. At Madama the banks are of firm marl or soft clay.

**"Suez Lagoon to Two Red Lights at Entrance.**—This part of the canal is incomplete; the debris banks are sand. The soundings were irregular, the depth varying from 21ft. to 26ft. at low water. A large number of men are still at work here. At the entrance a good stone wall is built on the west bank, but it requires to be raised and extended. Another is much wanted on the east side, where the curve already shows the usual signs of scouring out of the outer and depositing on the inner side.

**"From the Red Lights to the Gulf of Suez a Mile and Three quarters.**—The south end of the canal may be said to extend a mile and three-quarters beyond the two red lights, passing the Suez Creek and the new dock and harbor works into the Gulf of Suez with not less than 27ft. at low water. With a flood tide a great quantity of silt pour into the canal from the sand bank on the east side of the entrance, but doubtless means will be taken to prevent it. A breakwater has already been carried across the sea face of the bank. The mouth of the canal is marked by a red light on the west side at the extreme end of the new harbor works, and by a green light on the opposite side on the nearest end of the breakwater. Both lights are at present only hoisted on temporary poles. Outside these marks the channel is only shown by a line of buoys, white on the east side, and red on the west side.

**"Suez Dock.**—The dry dock is 430ft. long. 83 broad, and can dock a ship drawing 23ft. when the channel outside is completed.

**"Current in the Canal at North End.**—The current depends on any variation in the height of the water in the Mediterranean. The banks show that the canal here is subject to a rise and fall of one foot, the current and height lessening as the distance from the entrance increases. There is no tide or current in Lake Timsha or the Upper Bitter Lake.

**"Tide at Suez end of Canal.**—The tidal influence extends from Suez to four miles north of the southern end of the Bitter Lake. The stream commences to flow from two to three hours after low water at Suez. A spring tide rises six feet at Suez, two feet at Madama, a foot and a half at Chalouf, and half a foot at the south entrance of the Bitter Lakes. At Kabiet there is no rise