

According to the soundings taken, the depth available at extreme low water for vessels ascending the Bay of Fundy to Cumberland Basin, towards the Tintamarre and Au Lac is 16 feet at 31.20 above datum.

Thence the channel leading to Sharp's Creek becomes very shallow and circuitous, and is obstructed by cross current shifting quicksands, mud deposits, boulders and ledges of rock ; it ceases to be navigable at low water except for small craft, part of the way.

The only terminus therefore for a canal accessible at low water to vessels of fifteen feet draught, is near the mouth of the River Au Lac.

The terminus for a canal accessible to vessels of the same draught at about half tide, or when the surface of the water in Cumberland Basin has attained an elevation of sixty-six feet, above datum, can be located between Au Lac Point and Sharp's Creek ; the best entrance in such case would be between the outlet of the La Planche and Sharp's Creek.

In Baie Verte the tide recedes from one half to three-fourths mile from the west shore sea-wards, at extreme low water, which is at an elevation of 65.57 above datum.

Any channel below this level must be obtained by dredging, and the sides of the cut must be protected by crib-work from the shore eastward. In order to obtain such a channel with a navigable depth of fifteen feet at extreme low water, at the shortest distance from the western shore, the eastern terminus of the canal should be located near Tidnish Head, whence the distance is 9,200 feet to sixteen feet depth of water.

At the eastern terminus of Lac line *viâ* Baie Verte Village, near Dank's Point, the length of artificial channel to be dredged to the same depth, and to be protected by crib-work, would be 19,000 feet.

The most favorable route with respect to access at low water, elevation of the ground, water supply and drainage of adjoining lands, is the Au Lac line, *viâ* Tidnish.

The levels best adapted for insuring an uninterrupted and sufficient and reservoir &c. supply of clear water are as follows, viz :—

	Above Datum.
Water surface, upper reach of canal and reservoirs,—minimum elevation .....	85.00
Water surface of tide water retained in upper reach of canal and reservoirs, maximum elevation .....	88.00
Canal bottom, upper reach .....	69.00
Top of embankment and towing path two feet higher than highest known tides, minimum elevation .....	102.00
Top of dykes along river Au Lac from which the tide is now shut out by the Etter Aboideau .....	98.00

If this river is converted into a reservoir, the aboideau will have to be removed for the passage of the water, and a bridge constructed for the post road and railway across the same ; new dykes will also have to be constructed in the place of the old ones, which are now in a dilapidated condition, for a total length of 19,000 lineal yards by about eight feet in height.

The total number of locks required is four at the western and two at the eastern terminus ; their respective elevations and lifts from one level to the other, are as follows :—

At Cumberland Basin :—	Elevation above Datum.	Lift.—Feet.
1st lift from extreme low water in lock .....	No. 1 at 47.20	} 15.13
To water surface in lock .....	No. 2 at 62.33	
2nd lift from water surface of lock .....	No. 2 at 62.33	} 12.33
To surface of lock .....	No. 3 at 74.66	
3rd lift from water surface of lock .....	No. 3 at 74.66	} 13.33
To water surface of lock No. 4 when this surface is at .....	88.00	

40.80