

MAINE STATE LEGISLATURE

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THE LEGISLATURE,

OF THE

STATE OF MAINE,

DURING ITS SESSION

A. D. 1837.

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1837.

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SEVENTEENTH LEGISLATURE.

No. 21.

SENATE.

STATE OF MAINE.



IN BOARD OF INTERNAL IMPROVEMENTS, }
FEBRUARY 9, 1837. }

To the President of the Senate and

Speaker of the House of Representatives:

By the direction of this Board, I have the honor to lay before the two branches of the Legislature, the Report of WILLIAM ANSON, Engineer, appointed to make an Exploration Survey of the two Branches of the River St. Croix and the adjacent Lakes.

I am, Gentlemen,

Very respectfully,

Your Obedient Servant,

A. R. NICHOLS, *Secretary.*

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REPORT
OF AN
EXPLORATION SURVEY
OF THE
TWO BRANCHES OF THE RIVER ST. CROIX
AND
ADJACENT LAKES.

BY
WILLIAM ANSON, Civil Engineer.

1836.

*To the Honorable the Board of
Internal Improvement of the State of Maine.*

THE undersigned, an Engineer employed to make an exploration survey of the two branches of the river St. Croix and adjacent lakes, under the general superintendence of the Hon. Timothy Pilsbury, a Member of the Board, appointed for that duty, respectfully submits the following

REPORT.

IN the synopsis of the survey, and observations made on the route, a view is presented, of which the plan will be a Key or Index of the general features of the river with the elevations of all the principal Falls, accurately measured, and the proper allowances for elevation where no quick water is found,

which will come as near mathematical accuracy as will be required for all useful reference.

Calais Bridge is the point at which the survey commences and from which all the distances are reckoned,—thence to *Union Mills*, 220 rods up the river, is the head of tide water. Here the rise of water at spring tides, is about 8 feet. At a distance of a little more than $1\frac{1}{4}$ miles from the Bridge is *Salmon Falls*, where is a water power by a fall of 14 feet, over a base distance of 3 rods, equal to any now under improvement, and which lies in a natural state. The water at these falls forces through a narrow channel bounded by rocks, which are high on the American side. From the head of these falls $1\frac{1}{2}$ miles and 46 rods, is the lower Dam at Milltown, between which and *Salmon Falls*, is another excellent water power, connected with another fall, making in all 11 feet 8 inches,—the former part unimproved, and the latter improved. The water-power at Milltown, a part of Calais, is excellent, and the village so called, is rapidly increasing in population and business. To the upper Dam at Milltown from nearly low water mark at Calais Bridge, there is an elevation of 72 feet 7 inches. From Milltown is dead water, or nearly so, $3\frac{1}{4}$ miles to a small fall of water of 6 feet 11 inches, running over a surface of 50 rods from the foot of the Dam at Baring. There is a further elevation of 7 feet to the water in the Baring Dam, making 86 feet 6 inches from the level at Calais Bridge. The improvements from Calais Bridge to Baring and intermediate places, consist of 23 saws, besides lath-machines and grist-mills on the American side—and 33 saws, beside lath-machines and grist-mills on the English side. Baring Bridge is $5\frac{1}{4}$ miles and 40 rods from Calais Bridge. From Baring Dam, through nearly still water $2\frac{3}{4}$ miles, is the foot of *Bailey's Rips* at which place are many small Islands overflowed during the spring freshet. From Baring Bridge $1\frac{3}{4}$ miles is *Stoney Brook*, which enters the St. Croix with rapidity. A hasty view of the stream, which want of time only prevented exploring, at the head of which is *Maddavemps Lake*, convinced me, (confirmed as it

was by the testimony of many respectable persons residing in that quarter) that this spot offered great facilities for a cheap and profitable improvement by a canal to the aforesaid lake, which is said to be surrounded with good timber lands. Here the land is in general level and susceptible of easy cultivation. Bailey's Rips, give an elevation of 3 feet 1 inch, in the length of 120 rods, where again is nearly still water, which continues $1\frac{1}{4}$ miles and 72 rods to the foot of the Rips below Sprague's Falls. These Rips in 148 rods give an elevation of 3 feet $7\frac{1}{4}$ inches to this lower end of Sprague's Falls. Wapsaconhagen Stream enters the river here. Sprague's Falls extend 114 rods and have an elevation of 25 feet, $5\frac{1}{4}$ inches, in that distance. This is a beautiful fall, and the water power is adequate to carry on the most extensive operations. It is an excellent privilege, and nature has done much to lessen the cost of erecting any kind of machinery. The land on each side of the river is good for cultivation, and connected as it is, with a fine water power, its present unimproved condition must soon be exchanged by works of art, into a place of business. Whole distance to Sprague's Falls is $10\frac{3}{4}$ miles, 14 rods; total elevation is 118 feet, $7\frac{1}{2}$ inches. Follow the same course 102 rods in still water to Enoch's Rips, and continuing 119 rods and 17 links, gives an elevation of 9 feet 4 inches, which is also a good mill privilege, and the land is good for cultivation. From the head of these Rips, in still water $1\frac{1}{2}$ miles and 26 rods, is Ryan's Rips, which continue 148 rods, and an elevation of 2 feet $9\frac{1}{4}$ inches; at a distance of about $\frac{1}{2}$ a mile is Sprague's Meadow Brook which runs through a meadow of the same name. Continuing in a magnetic north direction $1\frac{1}{2}$ miles is Weatherby's Brook, entering the river on the English side, at the head of some small rips:—at $\frac{1}{2}$ a mile farther are some small rippings of short extent, and at 40 rods more is the entrance of the Mill Race, so called, which mingles with the Main River in quick water at this point. Proceeding 140 rods to the head of the Mill Race, which is a passage made through low wilderness lands during the freshets, and forms a small

Island with slight elevation. Continuing in nearly still water from Ryan's Rips $4\frac{1}{2}$ miles, 44 rods, is found the foot of *Long-look-'em*, and the aggregate of elevation is 7 feet 3 inches, thrown into one projection on the profile. The whole channel distance being $17\frac{1}{4}$ miles and 54 rods, and elevation 138 feet $2\frac{1}{4}$ inches from the starting point. Proceeding in nearly still water the length of *Long-look-'em*, and about 1 mile to some small rips of quick water, and $\frac{3}{4}$ of a mile in still water, is the foot of Lower Falls, together $1\frac{3}{4}$ miles, and an elevation of 7 feet 9 inches. The length of the Lower Falls is 76 rods, and elevation 6 feet 4 inches, making a light water power. From the head of these Falls, 56 rods in dead water, is the foot of Upper Falls, and 48 rods more to the head of these Falls, and an elevation of 13 feet 4 inches; but the chief elevation is within 20 rods of its head. The local position of these Falls is of the first kind—here is slate of a fine texture, dipping at an angle of 75 degrees with the earth's surface,—it appears in abundance, particularly at the Lower Falls. Whole distance, $19\frac{3}{4}$ miles, and 73 rods; elevation 165 feet, $11\frac{1}{4}$ inches. For the last 13 miles, or from Stoney Brook, the river ranges generally a little to the west of magnetic north, making about $3\frac{1}{4}$ miles westing in that distance. Continuing 40 rods from the head of Upper Falls is the outlet of the Western Branch Lakes, called Schoodick Lakes, which are passed over now to be hereafter reported in order. Smooth water for $\frac{1}{2}$ a mile to Tea Kettle Rips, very quick water 2 rods, giving an elevation of one foot. Following the winding of the river $1\frac{1}{2}$ miles, in nearly still water, and passing other small ripples and an elevation of 2 feet $5\frac{1}{2}$ inches, is the foot of Chepelnacook Grand Falls. Continuing through a channel of slight elevation and quick water 98 rods, and giving an elevation of 4 feet $9\frac{3}{4}$ inches, to the principal Dam, and then taking the western channel 72 rods to an old wing Dam, gives an elevation of 15 feet $6\frac{1}{4}$ inches. These falls nearly deserve as much attention for the beauty of their location as was applied to Sprague's Falls, and with the addition, that, the water power is greater—

the banks more uniform and bold, particularly on the American side; and on the whole, are compact and well adapted for extensive operative machinery—now entirely unimproved. The whole distance $22\frac{3}{4}$ miles 3 rods, elevation 189 feet $11\frac{3}{4}$ inches. Proceeding on a dead water 1 mile, are two small rips of 1 foot 3 inches elevation, and at $1\frac{1}{4}$ miles and 40 rods more in still water, Enoch's Brook falls into the St. Croix. In still water and three miles from Grand Falls, is Clark's point, at which place Mulberry Brook enters the River. Logs are driven 10 miles on this stream. At Clark's point, and in the vicinity, the land is excellent,—the current of the river is gentle, and the breadth at the point 250 feet. There is a good carriage road on the English side, 12 miles to Calais, Milltown, &c. The depth of water here is 4 to 10 feet, in summer. The cost of a Bridge would be small and would connect the western interior by the nearest and best route with Calais. The whole distance is about $25\frac{3}{4}$ miles and 4 rods, and the elevation 191 feet $2\frac{3}{4}$ inches. Following the line of survey 2 miles and 40 rods, in dead water, to Robinson's Hay Farm, where are small rips of short distance, and elevation 10 inches, to which add $4\frac{1}{2}$ inches for allowed elevation in other places, gives 1 foot $2\frac{1}{2}$ inches elevation. King's Brook enters the river here on the English side,—in 1 mile and 40 rods more quick water, is an elevation of 2 feet 3 inches,—and $\frac{1}{4}$ of a mile farther is the entrance of Hound Brook on the American side,— $\frac{1}{4}$ of a mile and 40 rods farther, is the N. E. corner of Fowler and Ely Township No. 1, and the S. E. corner of Dyer No. 1, also, at Dog Island. At this point, there is a small compact mill privilege. On $1\frac{1}{2}$ miles and 6 rods, passing several small rips of 3 feet elevation, is Canoose rips. Total of these distances is $4\frac{3}{4}$ miles and 20 rods from Clark's point. Here Canoose stream enters on the east side. The length of Canoose Rips is $\frac{1}{2}$ a mile and 20 rods, and elevation 11 feet 3 inches. The channel is rocky and shoul with bold and uniform banks. Here is a good mill privilege.

We now come to the outlet of Loon Bay, and $2\frac{1}{2}$ miles and 40 rods in dead water to the head of the Bay. In about $1\frac{1}{2}$ miles of the distance, the breadth varies from 10 to 25 rods, and then widens successively to about 140 rods for $\frac{1}{2}$ a mile and then again narrows to the head, where is the foot of Haycock's rips. Considerable hay is cut on the margin of Loon Bay, and the small Islands scattered in it. Heath and meadow land adjoin it. Depth of water from 6 to 20 and 30 feet. In all the still water in the different sections, the depth ranges from 6 to 12 and 30 feet, and the land is low through which the river passes. The Rips, on the contrary, are very shoal and channel rocky, so that a skiff can scarcely pass. Allowance however, should be made for the remarkably dry summer, and consequently, uncommonly low water, being 7 feet 9 inches below the freshet high water mark at different points.

At the head of Loon Bay on Dyer Township, so called, resides Mr. Todd, an industrious farmer, who has a neat cottage, a good barn, and a fine family. The land here, although said to be a good timber township, has a light soil and is poor for cultivation, at least it is so on the borders of the river. The prospect from this spot is very fine. Farther on, 120 rods, is the head of Haycock's Rips, elevation 6 feet,—and 280 rods farther, in dead water, the river interspersed with small islands, upon which considerable hay is cut, is the lower end of Meeting House Rips. The length of these rips is 1 mile and 20 rods,—elevation 7 feet 9 inches. The channel is full of large rocks. Sunsquash Brook falls into the river here. Farther, 200 rods, in a moderate current and 1 foot elevation, is the foot of Rocky Rips, and 3 miles on, in quick water, is the entrance of Big Sunsquash Brook,—and at a quarter of a mile and 242 rods farther, is the head of these rips, at an elevation of 24 feet $8\frac{3}{4}$ inches. The channel here is rocky—banks of small altitude, but uniform, with various qualities of land. A distance of $\frac{1}{2}$ a mile more, is an elevation of 1 foot 3 inches. Up to this station the river has ranged generally near a magnetic

north. Whole distance $38\frac{3}{4}$ miles, 64 rods, and elevation 253 feet $3\frac{3}{4}$ inches.

Note. The last named 1 foot 3 inches are in Profile, Section 3.

Proceeding now in almost an east direction, $1\frac{1}{4}$ miles and 60 rods, rips are found of 12 feet $5\frac{1}{2}$ inches; and 114 more, the elevation is 6 feet 8 inches; and then through smooth water to a small brook entering the river on the American side—then to rips which extend 30 rods to still water, and again 30 rods to rips and an Island 30 rods long. The whole distance $2\frac{1}{2}$ miles and 120 rods, and total elevation 21 feet 11 $1\text{--}2$ inches. [Profile, Section 3d.] The direction here becomes again nearly north. Continuing 3-4 of a mile, and passing several rippings, is an elevation of 12 feet 3 inches. [Section 4th.] The Banks here are low and irregular. At 1-2 a mile easterly, a brook enters the river on the American side, and 16 rods more pass some rippings, elevation 5 feet 11 inches, in those distances, [Profile, Section 5.] Here the river bends nearly south; and for eight rods are rapids; and at 12 rods farther, is Little Falls, rocky and short—at 15 rods farther, is a small Island and a Dam, extending from the English side. Continuing 25 rods farther, in all 60 rods, is an elevation 9 feet 4 $1\text{--}2$ inches. At 3-4 of a mile more, are some easy rips of 1 ft. 9 inches elevation—making the whole elevation for Section 6, 11 feet 1 $1\text{--}2$ inches, in the distance of 3-4 of a mile and 60 rods. A northerly direction again, 60 rods, brings us to Hall's Meadow Brook, which enters on the English side through low land; 3-4 of a mile and 40 rods farther, and passing some rips, is an elevation of 9 feet 6 inches. East, nearly 6 rods, are narrows—44 rods farther, makes a total distance of 1 mile and 16 rods, and gives an elevation 11 feet 8 $3\text{--}4$ inches, as seen in Section 7. Winding southerly and easterly 1-2 a mile and 56 rods over rips, is an elevation of 8 feet and 7 inches; and 1-2 a mile and 24 rods farther, the elevation is 2 feet 11 inches; and 48 rods more gives an elevation of 2 feet 6 $1\text{--}2$ inches;

aggregate distance 1 1-2 miles 48 rods, and elevation 14 feet and 1-2 inch, included, Profile Section 8. The river now winds nearly north, and at 8 rods is Township marked I. P. and I. A. S.—40 rods more, 120 in all, is an elevation of 4 feet. Here is low land, heath and meadow. 10 rods farther is a Brook, entering from low land to the N. W. 30 rods more, and the river takes a South Easterly direction 104 rods in slow water—then east 40 rods, in all 1-2 a mile and 24 rods. It now winds to the north again, half a mile to Front Brook, on the English shore. Here is Porter's Meadow. 1-4 of a mile farther is the south part of an Island, 140 rods long. A 1-4 of a mile and 40 rods farther is Porter's Hay Farm on the American side. A great range of meadow lies on the English side. The distance to Porter's Farm is 1 mile and 40 rods; and 1-4 of a mile farther is the foot of One Mile Rips, and an elevation of 1 foot allowed. A 1-2 a mile and 60 rods, over a rocky channel, the elevation is 15 feet 1 inch to the foot of the Falls—2 rods more, elevation is 1 foot 8 1-2 inches, and continuing 1-4 of a mile and 20 rods to head of Mile Rips, elevation is 7 feet 9 1-2 inches, including the Falls. The land is here good, with 7 feet Banks. These rips and falls give a fine water power of 22 feet 10 1-2 inches elevation. Continuing in nearly dead water 3-4 of a mile and 64 rods, the elevation is 1 foot 6 inches. Here is an Island. The direction is now east 100 rods, through rocky channel and rips,—thence a north direction 72 rods, and passing Elbow Rips,—in all, the distance is 1-2 a mile, and 12 rods,—elevation 10 feet 1 3-4 inches. Still water 1-4 of a mile and there is an Island, from which dams are attached to the main land,—24 rods farther and there is an elevation of 6 inches from head of Elbow Rips—whole distance 1-4 mile and 24 rods. 40 rods farther is an elevation of 1 foot 11 1-4 inches, and 1 mile and 32 rods farther, is allowed 6 inches elevation, through level low land, up to Kill-me-quick Rips. Bank here, 20 feet high, length about 28 rods. Here is a clearing. A 1-4 of a mile and 60 rods northerly, and 60 rods easterly, is the head of these rips, and an

elevation 9 feet 9 inches. Here is a carrying place 130 rods long on the English side—a broken dam, and a small Island lies here, giving a small channel on the American side. Still water North Easterly 40 rods, then northerly 1-2 a mile and 32 rods farther are the Narrows and entrance of Chepetnacook Lake. Whole distance 54 1-2 miles 40 rods, and total elevation 382 feet 7 1-2 inches. The narrows are 12 rods wide,—on farther 3-4 of a mile, is an Island on the English side. The breadth of the lake here is a 1-2 a mile,—at a 1-2 a mile and 40 rods farther, the lake is 50 rods wide. Here is an Indian, (*Lacote*,) settlement:—a few rods farther, and the Lake expands into an irregular form, with bays and Coves on each side, interspersed with Islands—that, a reference to the plan only can show. N. W. a 1-2 a mile is a small island,—1 mile farther in same direction, you pass Big Island, nearly one mile long. Depth of water 8 to 20 feet. To north from this point lies Palfrey Lake, into which Palfrey stream enters, and at the head of which are Islands. West of this lake lies Silas' Cove; also, a deep cove with a number of Islands at the entrance, and in a N. W. direction, is Turtle Cove, all on the English side. West 1 1-4 miles, is a passage made by Islands, extending 3-4 of a mile in a south easterly and south westerly direction to narrows rocky, and shoal; and 120 rods to middle of the lake, here opening broad, being 3-4 of a mile wide, and widening as you proceed up. One mile farther, N. W. course, lies Musquash, a deep cove on English side, and on American side, Sandy, Vance's and Meadow coves. Bread thof Lake here 1 3-4 of a mile,—a 1-2 a mile further the lake narrows to 3-4 of a mile;—1 1-4 miles farther, are two deep coves on the English side, with a number of large Islands; and Lambert's and Pike's Cove on the American side. Nearly 200 rods, is Sandy Point on the English side. The lake here is 1-2 a mile wide. N. W. 1 1-2 miles, are some Islands on each side, and 1-2 a mile farther, the lake is 120 rods wide; and at 1-2 a mile farther, the lake is 1-2 mile and 60 rods wide,—at 1 1-2 a mile farther, is a point on the American side, and an Island,

called Beech Island, on the English side. At a 1-2 a mile N. W. nearly, Pike's Brook Cove lies to the S. E. on the American side, which is 1 1-4 miles deep,—and on the English side, nearly north, is McAllaster's, which is also a very deep cove, with one long, and one small Island, lying in same north direction. More northerly the lake narrows to 120 rods width, and there are small Islands at mouth of Spruce Cove, on the American side. A mile N. W. brings Spruce Cove open lying to southward. The entrance of this cove is narrow, and widens as you go in. It lies at the foot of Spruce Mountain. A north course nearly of 2 miles, and there is a small Island, and 1 1-2 farther, is the *carrying place* into Mud-lake. Average breadth of this part of the lake, 1-2 a mile or more. A northerly course, 1 mile farther, brings us to the stream entering from Mud-lake; about 1 mile farther, and same course, is the head of this lake, making the length 20 miles. Following up through heath and meadow land, winding southerly, westerly, and northerly, 1 mile, to quick water, and continued nearly north 100 rods, gives an elevation 6 feet 4 inches, and 96 rods more, elevation 14 feet 10 inches, [Profile A.] The river now turns to nearly west, 24 rods, and elevation of 5 feet 8 inches; and 12 rods more, an elevation of 17 feet 5 inches, [Profile B.] Whole length of this stream 1 1-2 miles 72 rods, and elevation 44 feet 3 inches. We now enter Mud Lake. The banks on the American shore rocky and irregular,—on the English side more uniform: depth of water from 2 1-2 to 10 feet. The lake lies nearly N. and S.—is 4 miles long and 1-8 of a mile wide, on an average. From the entrance of the lake, and to the carrying place, is about 3 3-4 miles, and continuing to westward 1-4 of a mile, is an Indian settlement and cleared land—and lies at foot of rips, which form the outlet of Grand Lake. S. W. and N. W. 120 rods, elevation is 5 feet 5 1-4 inches,—80 rods farther, the elevation is 9 feet 2 inches,—west 13 rods more and elevation 2 feet 10 inches, making 1 1-4 miles and 16 rods from Mud to Grand Chepetnacook Lake, and whole elevation up the stream 17 feet 5 1-4 inches. The

channel is shoal and rocky. Whole distance 81 3-4 miles 32 rods, elevation 444 feet 3 3-4 inches.

At the entrance of Grand Lake, are two Islands on the American side, the larger, Long Island, 3-4 of a mile long. A North Westerly course, 3-4 of a mile farther, is the narrows, a passage about 12 rods wide, with 10 feet water in the channel. Farther a 1-2 a mile, lies a large Cove, extending nearly 4 1-2 miles southerly, and the head of which is about *one mile* from Spruce Mountain Cove in the Chepetnacook: a stream enters here, where considerable logging is carried on. The average breadth of the Cove is about 1-2 mile, and several Islands lie scattered in it. Continuing up the lake 1 mile, in same direction, the water deep, and banks rocky, there is an Island on American side. The lake here is 2 1-4 miles wide. Farther 3-4 of a mile, are two small Islands on the English side, and at a farther distance of 3-4 of a mile Greenwood Cove bears nearly south on the American side—and another S. E. on the English side. Up from this, 1 mile, the same N. W. course, the lake is 2 3-4 miles wide,—1-2 a mile farther are three points of main land, lying E. and W.—one on the American side and two on the English side, called Norway Points. A westerly direction 2 1-2 miles into a cove, is a landing place with a road which leads (3-4 of a mile distance) into the Baring and Houlton road, in the town of Weston, where Messrs. Butterfield and Gilpatrick reside. Here are fine farms, and an industrious, hardy, enterprizing and virtuous population; and it bids fair, to be as fine a farming town as can be found in the State. North Easterly 1-4 of a mile, the lake is 3-4 of a mile wide,—the lake is 3-4 of a mile wide *between* the Norway points, but directly east, past these points, the lake expands to 2 miles. Depth of water 10 to 30 feet, and shores rocky. Two deep coves lie to the westward. At a 1-4 of a mile farther, and same direction, North Easterly, is shoal water, and some Islands on the English side, and many rocks around them. Continuing nearly north a 1-2 a mile, are

two points of main land on the American and English sides, and a cove lies west on the American, and another east on the English side. A 1-4 of a mile farther, is Burnt Island on the American side. Lake here 1 3-4 miles wide. A 1-4 of a mile farther, is the lower end of an irregular Island, about 1 mile long, on the English side. Breadth of Lake here 1 mile and 40 rods. Winding to the east a 1-2 a mile, is a small Island, and a 1-4 of a mile farther, is another about 120 rods long. A half a mile farther, is another, nearly 1-2 a mile long, beside some small Islands, all on the American side. Depth of water 10 to 40 feet in channel way. More easterly a half a mile, is a long narrow point of main land; and 200 rods west, nearly, is widow Deering's farm on the American side, bounded on the east by a cove. Here is an extensive clearing and the land good. At a 1-2 a mile from this place the lake is 130 rods wide. Farther 3-4 of a mile, are three clearings on the American side; on two of which, are Trask's and Bramin's farms. The land here is excellent. To the S. E. is an irregular cove, extending to one mile to the English shore. 3-4 of a mile farther is the entrance of the thoroughfare into the North Lake. The collected distances on the Grand Lake make 12 3-4 miles. Through the thoroughfare in a north easterly direction, 1 mile and 56 rods, through heath, meadow, and still water, is the North Lake. Nearly north 1-4 of a mile, the lake is 1 1-4 miles wide. 40 rods farther, is the outlet of Monument Brook, which is nearly still water. Total distance from our starting point, channel route, 96 1-4 miles and 48 rods. The actual measured distance round the shores American side, 166 miles and 35 rods. Allowing the elevation the same at Monument Brook as at the entrance of Grand Lake, it cannot vary much, and the whole elevation from Calais Bridge is 444 feet 3 3-4 inches. The shores on the American side of the Grand Lake, are generally rough and rocky, and broken poor land, until we pass Norway Points,—after which, the land becomes better, to the head of the lake. Av-

erage channel depth of the water, about 15 feet, and navigable for boats of considerable burthen, through this long and capacious lake.

In returning to the Western branch, we took the route of the channel which divides the United States from the British Provinces, sounding occasionally, and the line of our course will be traced on the plan.

WESTERN BRANCH.

This Branch enters the Eastern or Main Branch, at the head of Upper Falls, about 20 1-4 miles from Calais Bridge. The elevation here is 165 feet 11 1-2 inches from that point. Proceeding N. W. 48 rods, in nearly still water, and S. E. 24 rods farther, are Islands on the American side. Continuing magnetic south 120 rods, then S. W. 24 rods, is the head or upper part of another Island. The river now bends nearly north 1-2 a mile, passing Bailey's Mistake, and then turns to S. W. again at 1-4 of a mile to Tomer Stream Rips. Whole distance 1 1-4 miles and 56 rods and elevation 1 ft. Continuing Westerly 40 rods to head of rips, elevation is 2 ft., 40 rods more over two small rips is an elevation of 1 ft. 6 inches, southerly and westerly 1 mile and 40 rods and over some small rips the elevation is 1 ft. 9 inches. The banks of the river here are low. Pursuing the same course 1 mile and 24 rods, is the entrance of Tomer Stream. This is an important stream, whose source is a small lake, near the Chepetnacook Lake. Much lumber is driven on this stream. The land is good, and considerable quantities of hay are cut on the low land upon this beautiful stream. The water at the outlet of this stream is very deep, in other parts from 2 to 8 feet. At a 1-4 of a mile farther, are some small rips, elevation 6 inches. Continuing one mile farther, in nearly still water, of the average depth of 8 ft. and low land, where is cut quantities of hay. Northwesterly a 1-4 of a mile is the town lines of Princetown and Baileyville, and 1 1-2 miles farther is the foot of Black Cat Rips, and 1 foot elevation. Nearly north a 1-4 of a mile, and the river turns again to nearly

west, and 60 rods farther, is the head of those rips and an elevation of 4 ft. 4 3-4 inches. Distance on this branch 6 3-4 miles and 20 rods and elevation 11 ft. 10 3-4 inches. At 40 rods farther, is a small island; and at 40 rods farther, is the outlet of George's Brook, which falls into the river on the southern side. Hay is cut in considerable quantities here. The course is now southerly and distance from Black Cat Rips 1 3-4 miles through heath and meadow land, to the foot of Louie's Rips, and 6 inches elevation. Nearly west 20 rods is the lower end of Louie's Island. A 1-4 of a mile and 12 rods farther, with bad banks and rocky channel, is the head of Louie's Island, and 1-2 a mile and 20 rods to Houlton Road Bridge and Louie's outlet, an elevation of 7 ft. 3 inches. Whole distance 9 miles and 40 rods, and elevation 19 ft. 7 3-4 inches. Here is a village in the town of Princetown, rapidly settling, and rising into importance. The water-power is excellent but not heavy, and improvements are in contemplation, that must, when erected, make Princetown of considerable importance. The improvements in roads and agricultural employment, have been rapid and great within a few years. Here on the north side is the Indian Township, where Louie resides, an Indian, who lives comfortably by his own industry, and who is one of the few examples of an Indian abandoning hunting and fishing, for a farm.

Here is the entrance of Louie's Lake one mile extent North and South and about 200 rods East and West, and 3 3-4 miles in circumference. In a S. W. direction from the Bridge 3-4 of a mile and 40 rods to the Narrows, and farther 1-4 of a mile, rocky channel and shoal, to a Pond, elevation 2 ft. 5 inches. There is a small island in the channel. In a S. W. direction again, 136 rods, is a passage 8 rods wide and 10 long, which leads into Long Lake. The circumference of this Pond is 1 1-2 miles and 6 inches elevation. The land here is of inferior quality. A westerly course up Long Lake 1 mile, is Greenland Cove to the south, 1-2 a mile long, and narrow. Continuing 1 1-4 miles and 46 rods farther, is another narrow passage, into the Basin. Distance from Louie's channel route 2 3-4

miles and 56 rods—from main St. Croix 12 miles 16 rods, and elevation 22 ft. 6 3-4 inches. The circumference of Long Lake, 8 miles. At the entrance of the Basin is a small island, and 140 rods West, including 8 rods of the narrows, 12 rods wide, is the entrance of Big Lake, where is a larger island. Shoal water, and gravelly channels. The land is level, and in many places good, from the entrance of Long Lake. Westerly 1 mile, is Pope-shrine Cove, to the south, 2 miles deep. Stone's Island, on which is a clearing, lies at the entrance, and many Islands within the cove. Stone's Island 3-4 of a mile, and average about 100 rods wide. To the north is another large cove, into which Big Musquash Stream enters, which is nearly still water 8 to 10 feet deep. Considerable hay is cut here. The lake is 3 1-4 miles broad at this place. Continuing westerly 1 mile more, are narrows in which is a small island. Here are clearings on each side, on which reside Cass, and Yates, and Smith. Proceeding S. E. 1 1-2 miles, is the South point of White's Island, 1 mile long, on which are Indian settlements. This island extends into Dyer's Cove, which is very large, with many islands in it. To the south lies Gordon's Island. The passage here is 120 rods wide, water from 4 to 15 ft. deep. At 3-4 of a mile to the south lies Clifford's Cove or Bay, which is 2 1-2 miles deep, very irregular, with many islands within. At the entrance lies a long island, leaving a passage at each end into the cove. The lake here in a north and south direction, is 6 1-4 miles broad, say from the south part of Clifford's to the north part of Dyer's Cove. Westerly 3-4 of a mile, we pass a point of land 1-2 a mile to the south. To the north 3-4 of a mile, is Hard Wood Island, and many small islands lay to the north. Proceeding west nearly 1-2 a mile, and south 130 rods, Little River enters, where logs are driven 20 miles. At 3-4 of a mile northwesterly, is the head of Big Lake, or entrance of Grand Lake Stream, which runs through heath and low land. Depth of water in channel of Big Lake, 4 to 18 ft. The length of this lake is 6 1-4 miles, and circumference 48 1-2 miles and 40 rods. There is much good land in the vicinity of this lake.

The shores are level, and the whole appearance indicate it as a favorable spot for settlements. Slate is found, particularly in Clifford's Cove. At the outlet of the stream, is an island, and N. W. a 1-2 a mile and 40 rods, is the head of nearly still water which is 2 to 6 feet deep. Distance from Louie's, 10 miles and 40 rods, and from the main river 20, elevation 23 feet, 1 inch. Proceeding nearly north 40 rods is a noted Elm, and 40 rods farther the course is westerly, and 1-4 of a mile farther, is an elevation of 15 ft. on the last distance of 1-2 a mile. Continuing southerly 32 rods N. W. and N. 1-4 of a mile and 72 rods, is Little Falls, and nearly west 100 rods more, in all 3-4 of a mile and 20 rods, the elevation is 10 ft. 4 inches. At a 1-4 of a mile and 12 rods N. W. is an elevation of 24 ft. 4 inches, and nearly west 12 rods, is the foot of Big Falls, and 49 rods more to the head of the same, and an elevation of 11 ft. 1 inch. Continuing nearly north 3-4 of a mile is the Grand Lake stream, and an elevation 15 ft. 8 inches. Length of the stream from the beginning of quick water to the dam 2 3-4 miles and 37 rods, and whole elevation of 82 ft. 5 inches. This stream is rocky and shoal, but the water power great. Both Little and Big Falls are very compact and extensive water privileges. The banks are bold, the soil light and rocky. Extensive works may be erected at small expense. Whole distance from Calais Bridge 42 1-2 miles and 67 rods, channel route, and elevation 271 ft. 5 1-4 inches. Continuing up the lake 28 rods, is a small island—and 92 rods farther, is the carrying place to the Big Lake—a 1-2 a mile and 40 rods more, is another small island, making one mile from the dam before mentioned. The Lake is 80 rods wide, and water 3 to 10 feet deep. Proceeding nearly north a 1-4 of a mile, and 100 rods East, is an island 60 rods long, situated near the main land. A cove lies near, from which a small stream runs into the Big Lake, at Bonny Brook, during the freshets. This stream was made by cutting through a piece of light upland 2 feet deep, and 150 rods long. This opens easy communication between Grand and Big Lakes by a S. E. course,

4 miles, being only about half the distance of the present route. The elevation must be overcome, but it is nearly an inclined plane, of 20 feet to the mile. At a 1-2 a mile in a N. W. direction, Burnt Island lies to the westward, and two other Islands 100 rods easterly, one of which is 70 rods long. A 1-2 a mile farther is Birch Island—and 1-2 a mile farther, Half Moon Island. Proceeding a short distance, is Coal Kiln Island, which lies near the western shore; and 1-2 a mile farther, is Sloop Island. Sprague's Cove lies a 1-2 a mile to the westward. Breadth of the Lake 2 1-2 miles. The same course 1 1-4 miles, near Caraboo Rock, is a small Island, and 100 rods to the W. is a point of land. On the E. is Mark's Island, about 3-4 of a mile long, and to the S. E. Dyer's Cove opens, which is large,—irregular, and rocky shores. N. W. 1 1-4 miles, and Whitney's Farm Cove lies to the south, is 2 miles long, and in which is a crowd of Islands. At the head is a run of water during the freshets, which empties into Little River, distant about 3 miles. Depth of water in this cove 8 to 17 feet. In a north direction lies Whitney's Cove 2 3-4 miles long, average breadth 3-4 of a mile, and depth of water 10 to 50 feet. Breadth of lake, including coves, 7 miles—the shore of which is rocky. To the N. E. lies Columbus Island, Big Island, and several small Islands. Proceeding N. W. 1 1-2 miles, pass a point of land to the north 1 mile distant. Breadth of lake 1 1-2 miles. At a 1-2 a mile farther a cove lies to the N., and farther 1-2 a mile, is the narrows, it being 8 miles from the Dam. The breadth of the lake here 1-2 a mile, and depth of water 10 to 15 feet. At 1 mile farther the lake is 3-4 of a mile wide, and to the south is a point of land, beyond which is the thoroughfare into Compass, Sysled-opses Lakes. To the N. there is a channel which leads to Mink Carrying Place. On the W. side is a long Island, and on the E. the main land. A number of Islands lay at the head of the channel, or cove, after passing the carrying place. At a 1-4 of a mile, nearly N. W. is the lower end of a large Island, and to the N. 100 rods, several small ones. From this

station, the thoroughfare leads due S. and 2 miles up to narrows 20 rods long, and 4 wide, into Compass, and Sysledopses Lakes. This thoroughfare is the outlet of several lakes, some of which are large, particularly the Sysledopses Lakes. In shore, is a continuation of this branch, which extends westerly towards the Penobscot river. The opening of a communication, through the wilderness lands in this quarter, to the western waters, is an object of vast importance to the State. The cost of uniting these waters would be very small in comparison with the almost incalculable benefit to these unsettled parts of the State. The land for the most part is excellent, and affords the greatest encouragement for new settlers.—Farming is decidedly the most profitable in these, yet unsettled parts of the State of Maine, owing to the great demand for hay and provisions of every kind, than is, probably, in any other part of the United States. Internal communication opened here, would bring into cultivation much good land,—the surplus productions would go to increase trade and commerce. At a 1-4 of a mile and 40 rods, nearly north, parallel with a large Island, is a point of land 40 rods to the W. above which is a cove a 1-2 a mile long, and near to the head of it, a brook enters on the west side. Heath and meadow land join it. Northerly 40 rods the lake is a 1-2 a mile wide, and 1-4 of a mile farther 80 rods wide. At a farther distance of a 1-2 a mile, is the upper end of a large Island; west of it is the cove, and Islands lying about Mink carrying place. The passage at the carrying place is about 4 rods wide, and the cove and shore is very rocky. Continuing 40 rods, and making in all 10 1-2 miles and 40 rods from the Dam first mentioned, is the outlet of Junier Stream which is narrow, and nearly still water. This stream, like the outlet of Compass Lake, is very important to lumbermen, as 9 or 10 lakes of various sizes empty their waters through it, thence through the two outlets described 20 lakes are emptied. Tomer's Stream leads towards Whitney's famed Hay Farm, which fronts Scraggly and Junier Lakes. Continuing a 1-2 a mile and 40 rods northerly,

is the head of Grand Lake, into which Pug Stream enters. Length of this lake 11 3-4 miles, and the circumference 55 miles and 40 rods, and contains an area of 13,240 acres. The natural boundaries of this lake are for the most part, rough and rocky, and the land sterile. There is, however, a ridge of good land on the western side of the lake, 2 1-2 to 3 miles in extent. General depth of water in the channel from 6 to 25 feet, and in some places more. Here the survey closed—there having been measured on this Branch 130 1-2 miles, and on the Eastern Branch, 161 miles and 40 rods—aggregate 291 1-2 miles and 40 rods.

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TABLE, shewing the distance, and elevation of various sections of the St. Croix River, commencing at Calais Bridge, and the levels from nearly low water.

EASTERN BRANCH.

	From Station to Station.		Whole distance from Calais.		From Station to Station.		Whole Elevation from Calais.		REMARKS.
	Miles.	Rods.	M.	R.	Feet.	Inches.	F.	I.	
Upper Bridge, Milltown,	1 $\frac{3}{4}$	8			72	7			
Baring Bridge,	3 $\frac{1}{2}$	32	5 $\frac{1}{4}$	40	13	11	86	6	Land good. Banks uniform, in general.
Foot of Sprague's Falls,	5	20	10 $\frac{1}{4}$	60	6	8 $\frac{1}{4}$	93	2 $\frac{1}{2}$	Do. do.
Head, &c.	$\frac{1}{4}$	34	10 $\frac{3}{4}$	14	25	5 $\frac{1}{4}$	118	7 $\frac{1}{2}$	Do. An excellent water power.
Head of Enoch's Rips,	$\frac{1}{2}$	61	11 $\frac{1}{4}$	75	9	6 $\frac{3}{4}$	128	2 $\frac{1}{2}$	Do. Another good mill privilege.
Pitch of Lower Falls,	7 $\frac{1}{2}$	58	19 $\frac{1}{4}$	53	17	9 $\frac{1}{4}$	145	11 $\frac{1}{2}$	Land variable. Banks upon the whole, low.
Head of Upper Falls,	$\frac{1}{2}$	20	19 $\frac{3}{4}$	73	20	0	165	11 $\frac{1}{2}$	Western Branch enters St. C. few rods up.
Foot of Grand Chepetnacook Falls,	2 $\frac{1}{4}$	0	22	73	3	11 $\frac{1}{2}$	169	11	Land low and for the most part light.
Head of do.	$\frac{1}{2}$	10	22 $\frac{3}{4}$	3	20	1	190	0	Another excellent water power.
Foot of Canoose Rips,	7 $\frac{1}{4}$	16	30	19	10	8 $\frac{1}{4}$	200	8 $\frac{1}{4}$	Land good.
Head of do.	$\frac{1}{4}$	20	30 $\frac{1}{2}$	39	11	3	211	11 $\frac{1}{4}$	Rocky channel,—water shoal.
Foot of Haycock Rips,	2 $\frac{3}{4}$	40	33 $\frac{1}{4}$	79	0	6 $\frac{1}{2}$	212	5 $\frac{3}{4}$	Head of Loon Bay.—Settler lives here,—Todd.
Head of do.	$\frac{1}{4}$	45	33 $\frac{3}{4}$	44	6	0	218	5 $\frac{3}{4}$	Channel very rocky—land light and gravelly.
Foot of Meeting House Rips,	1	0	34 $\frac{3}{4}$	44	0	2 $\frac{1}{2}$	218	8 $\frac{1}{2}$	Good land, with small exceptions.
Head of do.	1	20	35 $\frac{3}{4}$	64	7	9	226	5 $\frac{1}{2}$	Channel very rocky—banks rough.
Foot of Rocky Rips,	$\frac{1}{2}$	40	36 $\frac{1}{2}$	24	1	0	227	5 $\frac{1}{4}$	Land low, and burnt over.
Head of do.	3 $\frac{1}{4}$	40	39 $\frac{1}{4}$	64	24	8 $\frac{3}{4}$	252	2	Extremely rocky channel, shores rough 253 ft. 3 $\frac{1}{4}$ in.
Foot of Mile Rips,	10	24	50	8	83	3 $\frac{1}{4}$	335	5 $\frac{1}{4}$	Past much good land, banks rather regular.
Head of do.	1	0	51	8	22	10 $\frac{1}{2}$	358	3 $\frac{3}{4}$	Water shoal—channel a little rocky.
Foot of Kill-me-quick Rips,	3	12	54	20	14	7	372	10 $\frac{3}{4}$	Low meadow Land.
Head of do.	$\frac{1}{2}$	20	54 $\frac{1}{2}$	40	9	8 $\frac{1}{4}$	382	7 $\frac{1}{4}$	Entrance of Chepetnacook Lake. (Narrows.)

Head of Chepetnacook Lake,	20	0	74½	40	0	0	382	7½	The shores of this Lake are for the most part rocky.
Stream into Mud Lake,	1½	72	76½	32	44	3	426	10½	Meadow land at the entrance—then rocky.
Head of Mud Lake,	4	64	80½	16	0	0	426	10½	Channel rocky—water from 2½ to 10 feet.
Stream into Grand Lake,	1¼	16	81¾	32	17	5¼	444	3¾	Very irregular, and also rocky—land good.
Length of do.	12¾	0	94½	32	0	0	444	3¾	The depth of the water is good up the channel.
Do. Thoroughfare,	1	56	95¾	8	0	0	444	3¾	Narrow confined dead water stream.
Up North Lake	½	40	96¼	48	0	0	444	3¾	Land excellent on the American side. Lake irregular.
to Monmouth Brook, }			96¼	48	0	0	444	3¾	Brook at the entrance, nearly still water.

TABLE, shewing the distance and elevation of various sections, to the head of Grand Lake,—commencing at St. Croix River.

WESTERN BRANCH.

	From Station to Station		Whole Distance.		From Station to Station.		Whole Elevation.		REMARKS.
	Miles.	Rods.	M.	R.	Feet.	Inches.	F.	I.	
Foot of Louie's Rips,	8½	24			12½	4¼			Land low—considerable hay is cut near the stream.
Head, or brigde on Houlton road,	½	16	9	40	7	3	19	7¼	Good mill privilege—capacity not large.
Foot of Grand Lake Stream,	10	76	20	36	3	5¾	23	1	Channel route from 3½ to 25 and 30 feet.
Head of do.	2¾	37	22¾	73	82	5	105	6	Very rough channel—good mill privilege—land light.
Head of Grand Lake,	11¾	0	34½	73	82	5	105	6	Water about the same as Big Lake, up channel.

The undersigned in closing this brief Report of the exploration survey, acknowledges the unremitting, and prompt attention of the Honorable Timothy Pilsbury, to whom he is indebted for aid throughout,—and also, Lieutenant Bradbury, Assistant, as well as all the men employed, whose cheerful and ready obedience, enabled him to go over a large extent of rough shore, and through woods, when great labor and perseverance were required, to make a proper despatch of the survey.

WILLIAM ANSON,

Surveyor and Civil Engineer.

Portland, February 6th, 1837.

STATE OF MAINE.

IN SENATE, FEBRUARY 10, 1837.

Ordered, That 1000 copies of the foregoing Report be printed for the use of the Legislature.

(Extract from the Journal.)

Attest, WILLIAM TRAFTON, *Secretary*.