

U. S. COAST AND GEODETIC SURVEY.

H. M. Thomas, Superintendent.

State: *Maine.*

DESCRIPTIVE REPORT.

Topographic Sheet No. *1805.*

LOCALITY:

*South Shore of
Cobscook Bay.*

1887.

CHIEF OF PARTY:

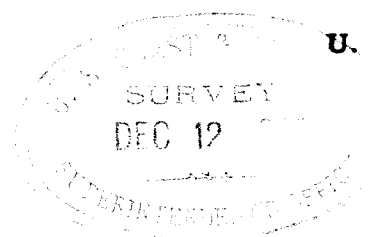
Eugene Elliott.

Descriptive Report

5261.

Give here full address to which reply should be sent:

ack 2/12
C



U. S. Coast and Geodetic Survey,

Machias, Me.

Dec. 5th, 1887.

J. M. Thoms, Esq.

Supt. U. S. Coast & Geodetic Survey
Washington, D. C.

Sir:

I have the honor to submit the following report to accompany topographical sheet No. 1805.

Work was begun on sheet May 1st and closed Nov. 14th 87.

I. The conspicuous geological feature of this country covered by topographical sheet is the metamorphic rock. Evidence of action producing this character of rock is seen frequently in outcroppings of slate (of no commercial value owing to amount of sand intermixed) and vitrified sandstone.

In many places evidence of glacial action can be seen - the scars being generally North & South, though variations from this line are noticeable, as in other localities where the action has been observed.

The percentage of surface covered by rock, or rocky surface compared to alluvial is probably fifty.

per centum.

- II. The shores of that part of Cohasset Bay covered by my survey embracing seventy five miles are not particularly bold, though generally rock bound. There is no sand and but little shingle. Low water line is generally measured with same accuracy as high water. My object was to do the low water work at low water. It can be easily understood how difficult, indeed impracticable the delineation of low water line would be.

At all events, I have conceived the idea that on a rock bound coast the correct determination of low water line is only second in point of importance and value to high water line.

- III. Question of "stranded ship" in Cohasset Bay is not worthy of discussion.

- IV. The shingle on beaches is of every possible size.

Generally they are of local origin, though many of granite, basalt, porphyries etc. from the northward are to be seen.

- V. Any report made on part of subject under this head should be by a geologist, or else studied closely, by a man who does not profess

to being well used in geological study.

One or two of the concluding questions can be safely applied to hardware. The fresh and salt water-generally the latter-marshes, are very limited in extent, and are covered at high tide.

VIII. Character of vegetation. The trees are of forest growth. All of the timber fit for the mill has either been removed or destroyed by fire. The present, or "second growth" is used for fuel, and quite a lot is shipped to the Lime Kilns, at Rockland, Me. The last mentioned is known by the people of this section as "kilm wood", i.e. any wood, whether in the forest or in piles, worth cutting, is denominated as above.

Spruce is the prominent tree of that part of Maine covered by my topographical sheet. Inter mixed with the spruce, is Pine, Birch - red - grey and white, and a scattering of maple.

IX. The proportions of arable land, are

	0.5
Graded	85.5
Grass	5
Shale rock	6
Heath	3
	100

IX con. Along the Machias-Lubec stage road, beginning at about western extremity of sheet and running thence easterly for a distance of two and a half ($2\frac{1}{2}$) miles, ^{there is} a struggling settlement known by the U. S. Dept. as West Lubec. The original name for this settlement was South Bay. The proximity of an arm of Cobscook Bay locally known as South Bay is manifestly the cause of old name for the village. The settlers evince a disposition to adopt the U. S. Dept. designation, and I have no doubt but that the name will become popular. The settlement of West Lubec began in about 1812. The town of Lubec (named for German city Lubek) was, and still is the entrepot for this section, is distant about five miles. W. Lubec was originally agricultural. Wheat Barley and oats having been profitably cultivated. The culture of the two first mentioned cereals has entirely ceased, cheap transportation from the West being the cause. The people now raise, for market, a few potatoes - the remainder of their land is a mere "home lot"

The corn upon which hay for domestic use is raised, wood chopped, and pasturage for a few sheep afforded. The major part of income is derived from employment afforded by "sardine" factories at Lunenburg and Eastport. I am informed that from about 1830 to 1855 there was a profitable business done by the farmers in shipment of compressed hay, potatoes, etc., to Portland and Boston. It may be out of place to speculate in a report of this sort, but it is safe to say that the uncertain and desultory employment afforded by the fish business - "sardines" and herring, etc., developed within thirty years, has gotten the people into a state of shiftlessness which forbids the hope that they will ever be as well off as their agricultural progenitors were.

The small bit of country upon which I am now reporting once had five or six "tide saw mills" - that is to say: mills run by tidal water, two or three carding mills, a plaster mill, brick yard and other little means of making the people independent of the outside world. The saw mills

Con. naturally disappeared with the timber.

The other industries have been absorbed, in common with those of all this down East country, by the great factories to the westward. Transportation over my oft referred to topographical sheet, is almost exclusively by horse and wagon. The main stage road is in good condition - indeed remarkably good. The by-roads are generally good. Trails are not bad - and but few of them. Bridges are not especially well built, though good enough for the traffic.

Fences are generally of wood. The "No fence law" of this section is operating to remove field-line & along road fences. There will soon only be left pasture enclosures. There are no health or pleasure resorts on the sheet. In the strip of territory covered by the sheet there are probably five hundred people.

In general terms it can be said that the section in question is not very prosperous - indeed there is an air of decay to be seen in all directions.

Ten or fifteen years ago, during what is now known as the "mining excitement," quite

a lot of prospecting was done on the sheet under discussion. New York and Boston capitalists invested liberally, and as the result showed, unwisely. There are veins of silver and lead ores, easily traced. Shafts to extent - in one instance at least - of 200 feet were sunk, but the failure to strike paying ore caused a general collapse. Competent mineralogist declare that there is no probability of paying ore being found.

A very remarkable freak in physical geography is to be seen at the Cobscok Falls. The annexed sketch, traced from topographical sheet shows the locality.

In pursuance with given instructions I measured the falls during one flood and one ebb (neap) tides. I regret that darkness prevented the completion of observations of the first mentioned tide.

Maximum full, flood	ft. 2.593
" " ebb	" 2.144

Measurements were made along the red line drawn, generally parallel, on rocky point (covered at high water) at extreme N. W. end of

Falls island. The distances between measurements averaged forty metres. Therefore, the fall on these neap tides, as previously given, occurred in a distance of forty metres. I am quite sure that during heavy spring tides the fall is much more pronounced. The impression created upon the eye, aided by instruments is that the descent is very much in excess of obtained results. I have heard the noise caused by the rushing water two miles away.

Appended to this report is a copy of level observations. I do not regard them as of any special value.

I would recommend that during some future season more elaborate measurements be made, and that a line of levels be run from head of the West Branch (Whiting) of Casco Bay to Haycock Harbor, on the outside coast; difference in time of tides being noted, etc.

I need hardly say that the broader passage lying between Falls island to the southward and eastward - and the mainland is generally used by the vessels going to and from Whiting and Dumpsville, though, when the

wind is of sufficient strength, and in favorable quarter, vessels are apt to ship through the falls. There are several rocks and ledges in the broader-way which cause enormous and ugly "swirls." of course ^{sail} vessels attempt no passage without fair current.

The passage immediately below (N.E.) the falls is possessed of weird charms and beauty, and I cannot but think that it will become a resort for summer travelers.

In concluding this subject I can but express my regret at the inadequate results obtained by the observations taken.

Schedule of statistical subjects.

I. Annexed hereto.

II. The weather was extremely unfavorable. During early part of season there was a large rain fall, and with approach of summer - say July, the fogs became frequent.

Report of "working" days does not convey an exact idea of weather, as I frequently spent a day on the working ground to get but one

or two hours of work. I feel quite safe in pronouncing the working season of 1887, on Coast of Maine, as the least favorable of past six years.

III. I have, after very careful consideration concluded to estimate five miles of shore line as equivalent to one square mile of country. Generally it will require more than five miles of shore line, but on the sheet under discussion, the low water line is pronounced, and was in most cases measured quite as carefully as the high water. Indeed the low water has, throughout the work demanded more time than any other part of the work. Therefore, the estimate as above mentioned is not at all excessive.

IV. Cost of work, per square mile \$64. $\frac{27}{100}$

After settlement of hauling expenses
(during season)
of my foreman, from this place to Wash. D.C. the above cost per square mile may be very slightly lessened. I regret the cost of this piece of work, and feel quite sure that it materially exceeds any of my previous expenditures, per square mile, for work on this coast.

See over on back to this sheet.

Statistics of work done and cost.

Square Miles of Topog. - - - - - 23 ^{Sq. m.}
 Short Lim 75 m = - - - - - 15
 allow for 23^m of Roads - - - - - 2

Total 40 ^{Sq. m.}

Party Expenses May 1st to Nov. 14 - 2 mos. \$2590.37

Salary May 1st to Nov. 14 - - - - - 812.50

Office work inking Sheet - - - - - 512.50

and when Sheet turns in (still
 about 2 days work to finish
 it) etc.

Total Cost \$3915.37

40) 3915.37 (97.87 1/2 Per

360

315

280

350

320

300

20

40

Per
 Var. Mile.

Mr. Ellieott makes it 64.27

B. F. Colonna

Asst. Chf. Office

H. 12.88

U. S. COAST AND GEODETIC SURVEY OFFICE,

Washington, Apr. 6th, 1888.

Chief Drawing Division,

Please have measured on the
Shut created by Asst Ellicott of C. C. B.
in 1847 as follows:

- 1st The Shore Line in Miles? 75
2nd The Roads in Miles? 28
3rd The Area in Sqr. Miles? 23

4th How Mr. Erickson ~~estimate~~ ^{how} long
a time it would ~~take~~ ^{take} him to ink
this Shut?

4th How Mr. Molken ~~estimate~~ ^{how} long
a time it would ~~take~~ ^{take} him to ink
this Shut?

6 weeks 5th How long do you think it ought to ~~take~~ ^{take} to ink this Shut? ^{Take a competent draughtsman}

days, 6th How long ought it to take to complete
it?

Yours respectfully

B. A. Colonna

Asst. Chp. Officer

Maine

1 Fringed Lotus Party ---- Boyd ---- \$1.000
 1 Topc Party ---- Ellicott ---- 1.000

Nantucket

1 Topc ---- White ---- 700
 1 Topc ---- Fanchella ---- 7.00

Monomoy ---- Marindin 877

Reproba Dangers ---- 400

Ellicott

Expended to Jan 30th 1887 on P.T. Shet of Cobscook Bay (acid) 750.00

" to (Mar. 31 1887) (last fine Nov. 14) " " " 1840.37

Salary from May 1st to Nov. 14 fine 4m 6 1/2 m 2590.37

" from Nov. 15 to Mar. 31 Office 4m 512.50

Total 3915.07

Field work executed in Sq. M. = 23

" " in Shonkin = 75² = 15

" " in Ross = 23² = 2

40) 3915 - (\$98 per Sq. M. Sq. Min. 40)
 360
 315
 320

I con. The work was done on one ten-thousand scale.
V No trouble or inconvenience was experienced by condition of triangulation.

II It would be well nigh impossible to report on the number of plane table points. I will merely say that in running plane table along the shores the stations were made with great frequency. Every bit of shore has been actually measured to, in order to do which a great many positions had to be occupied. I long since adapted the habit of having stations close to one another in order to secure greater accuracy and to make the work less laborious. In running a road where improvements are adjacent (like the Machine - Lake stage road) to one another I think it safe to say the average distance of stations, one from another, does not exceed one hundred and twenty five metres.

When signals were to be seen I used the three point problem - in other cases the forward method.

VII. The detail of work is done with precision. Of course the shore line is most accurately

I^{con} faced - the roads are run with care, houses located by intersection, or distances read.

The only part of the work which is at all weak or uncertain is that of contours through wood lands. It would be impracticable to secure absolute precision in delineation of the surface. The cost of work - if accuracy of contours was required - would run into the hundreds of dollars per square mile and when secured, would be a value to every human being on earth. My system is to occupy every hill top which is of any prominence, determine the height, put in contours as well as needs be, and afterward to determine the water courses, the "divides", etc. and then sketch the contours. This applies to the wood lands.

It would be well to add that while on the hill tops I send the rodmen for distances here and there, to aid me in sketching. Not infrequently the rod is held in tree tops - height above ground estimated by the rodmen, and correction applied by me. I am conscious of having done a little rough sketching, but generally

II^{con}. speaking the "sketch work" is extremely good

According to my judgment there has been a great deal of time and money thrown away in attempting to secure the unobtainable in plane table work.

VIII. There are no objects on my sheet of sufficient prominence to justify special designation. Every house and farm is well enough located for the topographer or hydrographer to get positions from.

IX. There are certain fixed geographical names on this sheet, and others intensely local.

As an instance of the latter: one little creek is known, by a man named Morrison, as Morrison's Creek. Morrison lives close by. In the same vicinity lives one Horan, who has honored geography by bestowing on said creek his name. Mr. Anderson thinks like his neighbors, and gives the creek his name.

People living a mile or two away will have different names for same place. I think a report on such a state of affairs would be intensely interesting, and of not the smallest value.

I will make at future time certain recommendations concerning prospective work in the neighborhood of Lubec.

In conclusion I beg to say that it is an extremely difficult task to make a satisfactory report on a fragment of country bounded by the two sides and two ends of a topographical sheet. The limits of sheet are placed without any other reference than to overlap another sheet. I would most respectfully suggest that a certain section of coast, beginning, for instance, at Tracadine Bay, and extending to (and including) Lubec be made the subject of a report. Special features can be referred to certain (numbered) sheets for full elucidation, etc.

I venture to suggest, further, that no compilation made from reports of empirically bounded sections of country will have as much value as the sort of report above proposed.

Very respectfully

James Edmund Sumner

Essex, Mass.
U.S.A.

Sketch, showing progress of work,
" " shore line in neighborhood
of Cobsecock Falls.

Table showing result of level work at
Cobsecock Falls, and
Report of progress, are enclosed herewith.

Eugene Allen

Ad.
Aug 30/88

Drawing Division
Ble 12.15.87

Measurement of tidal Falls, Cabscook Bay, Me.
Keap tides prevented at time work was done.
Level rod was kept generally on line 4-12 distant about
about 40 meters.

Nov. 1st 1887

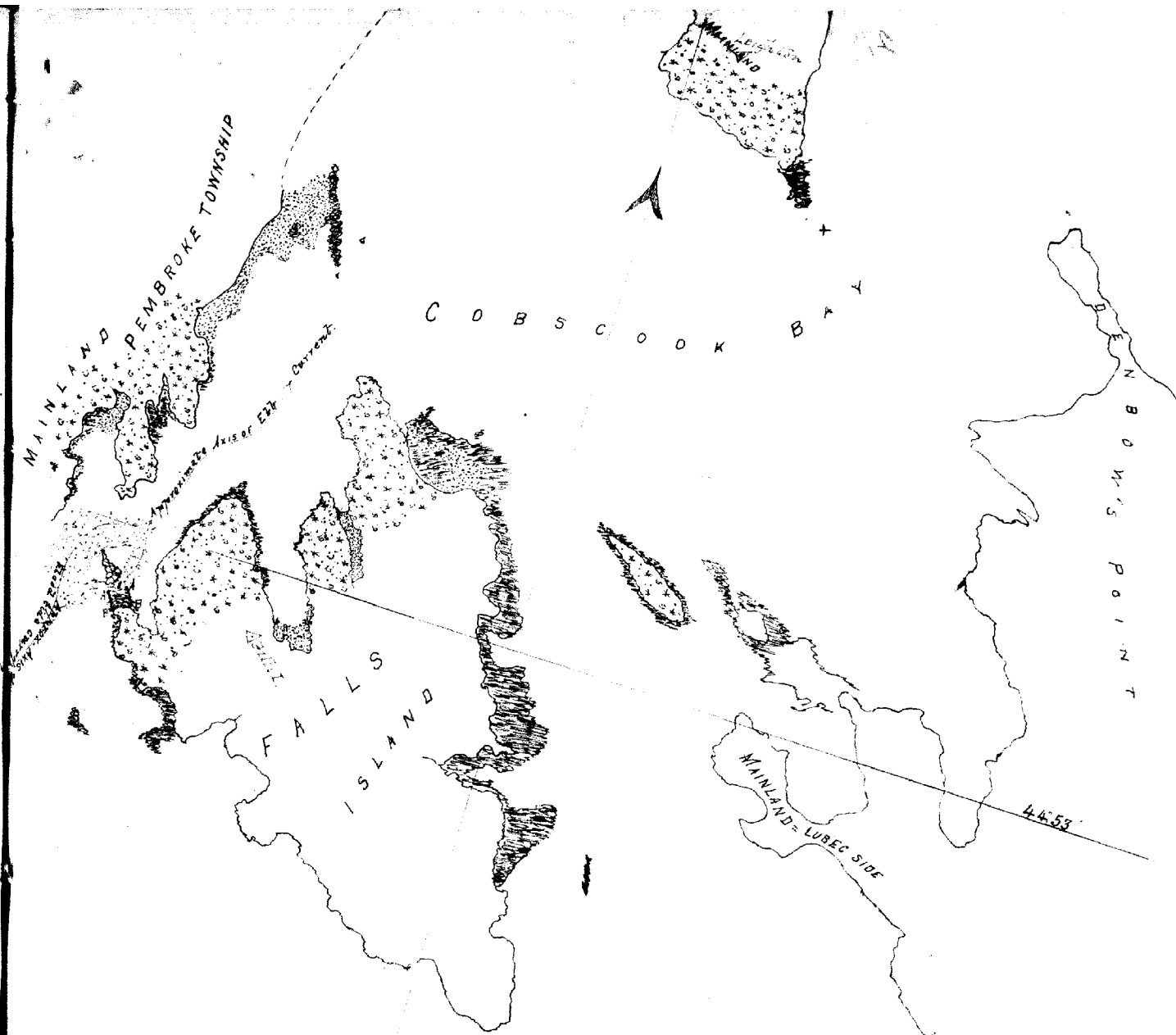
Nov. 3rd 1887

Flood tide					Ebb tide				
A.M.		FT.	FT.	FALL	A.M.		FT.	FT.	FALL
10 ^h	20 ^m	5.604	7.598	1.994	7 ^h	25 ^m	9.233	8.826	
10	40	4.140	5.864	1.720	7	48	Tide slack		
11	00	6.350	8.080	1.730	7	53	Flood makes		
11	20	6.740	8.000	1.260	8	10	8.355	7.655	.700
11	40	6.162	7.185	1.023	8	20	7.944	7.193	.751
12	00	5.960	6.520	.560	8	40	7.159	6.215	.944
12	20	5.970	6.090	.120	9	00	6.090	5.050	1.040
12	25	Slack high			9	20	12.870	11.505	1.365
12	35	Ebb sets			9	40	11.873	10.436	1.437
1	00	7.030	7.450	.420	10	00	11.035	9.182	1.853
1	20	7.756	8.465	.709	10	20	9.744	7.600	2.144
1	40	8.318	9.383	1.065	10	40	8.340	6.300	2.040
2	00	9.225	10.428	1.203	11	00	10.092	7.904	2.088
2	20	10.278	11.693	1.415	11	20	8.800	6.700	2.100
3	40	7.085	8.800	1.715	11	40	7.520	5.500	2.020
3	00	8.256	10.072	1.816	12	00	8.985	7.201	1.784
3	20	9.373	11.240	1.867	12	20	7.902	6.365	1.537
3	40	10.290	12.360	2.070	12	40	7.006	5.750	1.256
3	45	8.788	10.900	2.112	1	00	6.000	5.430	0.570
4	00	9.540	11.600	2.060	1	14	5.690	5.340	0.350
4	20	7.248	9.575	2.327	1	35	6.800	6.500	0.000 Slack high
4	40	8.387	10.980	2.593	1	40	Ebb sets		
Too dark for further obs.									

Too dark for further obs.

C. & S. S. Level No. 9
see annexed sketch.

E. J. Allen
and



Case

1887
 Coast & Geo. Survey
 Sketch showing location of
 Casco Falls (tidal)
 Casco Bay, Me.

Surveyed by, and to accompany Description Report

Traced from
 topog. sheet.

Scale 10,000'

of Eugene Elliott
 Arch.

