Introduction: This survey journal of Verplanck Colvin is the second one he completed in the Season of 1876, roughly covering the second part of that season from October through December, with an 11-page insert of a smaller journal format into the middle of this Journal. The 1886 season began for Colvin June 16, extending the work of triangulation for an accurate Adirondack map into the western region, Moose and Beaver Rivers, with Frank Tweedy hired to survey the Beaver River from Lowville to Raquette Lake. With guides he had a Theodolite Station installed on Blue Mtn (Mount Emmons), measuring and surveying Blue Mtn., Eagle, and Utawana Lakes, and linking these western areas with his earlier eastern work. Noted on Aug. 17 that "there were great forest fires in all directions which blocked views from Mt. Marcy to Blue Mtn. (p. 120).* On Sep. 10, Colvin sent a party to set up a survey Station on Bald Mtn (Mt. Saint Louis), by the Fulton Chain, to try to triangulate to high points in the western Adirondacks. By Sep. 13, Tweedy had surveyed 9 miles along the Beaver River, exploring and charting "offsets" perpendicular to that line up to a mile in length.

This Journal picks up with Colvin's return from his headquarters in Albany "to make a reconnaissance and exploration of the peculiarly wild region to the northward and southward of the Fulton Chain" (P. 135 in *7th Annual Report*). From the top of Mt. Saint Louis, Colvin viewed Blue Mtn., Mount Marcy, and to the west Tug Hill, raising hope for connecting his map data for the east and west. During this tour he decided to trace the boundary line between Herkimer and Hamilton counties, believed to cross 4th Lake, then triangle it with Bald Mtn. or Mount St. Louis. On Oct. 14th he stated: "I now resolved to take advantage of the present storm- interrupting the triangulation- to march northward across the wilderness to Beaver river, and inspect the work of the party now engaged in extending the survey of that stream…taking with me two guides and rations for one week" (p. 140). He left guides at 4th Lake to find that County line and reached Big Moose Lake by evening on that date, with plans to survey lakes between the Fulton Chain and Beaver River, and check in with his Western Division crew under Tweedy.

This journal is full of the raw material that went into survey work, including time checks, astronomical observations, geological identification, transit and compass measurements, animal and plant descriptions, and of course the rough sketches of the many lakes and ponds Verplanck Colvin found on inaccurate maps he inherited, with discovery of new ones in the process. I can just picture Colvin and crew, with guides in tow carrying all the food, boats, gear, and survey equipment for mapping, humping their way through the wild Adirondacks. At night he must have recorded these notes by candlelight or kerosene lantern, summarizing a full day of survey work. In this transcription, I made a good faith attempt to capture his original text and format, facts and figures, and diagrams and sketches- which I have scanned and pasted in appropriately, to accurately represent the original journal. This of course is searchable. Generally, his lake and pond sketches are in the rear of the *Journal*.

As a camp owner on Twitchell Lake in Big Moose, NY, I was particularly interested in Verplanck Colvin's sketch of my lake, with his account of two days of camping, hiking, and survey work there. I discovered some mistakes he made in the *Journal*, which I think led him to a lake in the shape of a "reverse C", as opposed to a long, strait, narrow Lake leaning SW to NE off of a N-S line. Most fascinating to me is that Colvin set up his Micron Survey Telescope on what I as a boy called "The Big Rock," a location where my family picnicked and played, across the lake from our current log cabin. He used that to view the stadia posts at either end of the lake to calculate Twitchell's length. I found that most of his measurements were within 1 to 12% of the actual distances. See my analysis at the end of this *Journal*.

Where I was unsure of Colvin's entry, I put a question mark. For ease of identification, I have highlighted all dates and pages in yellow, people in blue, and geographical locations in green. From these rough notes and sketches, Colvin prepared a summary for his reports to the NYS Legislature to communicate on his survey season and in preparation for his coming season. Reaching his goal of an accurate map of

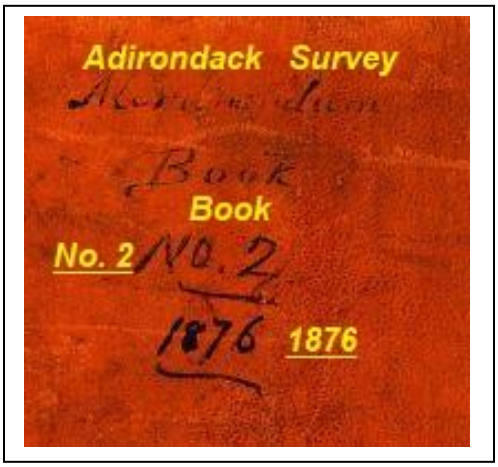
the entire Adirondack region depended on funding by the NYS legislature which helped him procure equipment, food, instruments, and hire guides and assistants. Citations for this *Journal* and Verplanck's supplemental info on the 1876 survey season are as follows:

> Colvin, Verplanck. *Adirondack Survey Book No. 2, 1876*, Albany, NY: New York State Archives & Department of Environmental Conservation, Volume 270, Series B1406.
>
> Colvin, Verplanck. *Seventh Annual Report on the Progress of the Topographical Survey of the Adirondack Region of New York to the Year 1879, Containing the Condensed Reports for the Years 1874-75-76-77 and 78* (Albany: Weed, Parsons & Company, Printers, 1880. An 1876 season summary is found in pp. 19-29, a condensed 1876 *Journal* on pp. 107-156.

Table of Contents for Journal Entries:

Pages correspond to Colvin's original Journal

p. 111-12 (Oct. 17-20, 1886)- observations from "Bald Mountain," near Beaver River & Stillwater
p. 113- sketch Lake of North Creek (N. of Beaver River)
p. 114- sketch of Cold Lake (or L. Oswegatchie)
p. 115- sketch of West end of Twitchell Lake
p. 116- sketch of Shallow (or 1st Lake) near Beaver River
p. 118- sketches of Fifth and Sixth Lakes (probably Fulton Chain)
p. 119- sketch of 7th Lake, with white or showy fish spawning grounds



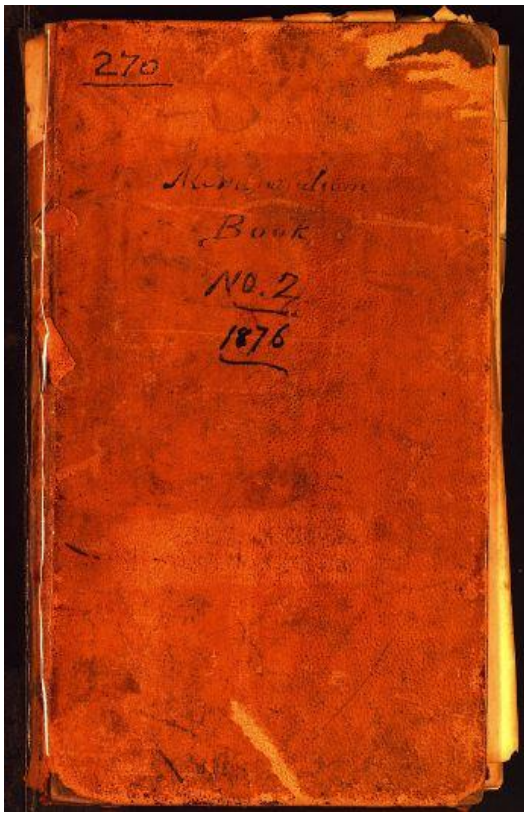
Cover, Book 270, "Memorandum Book No. 2, 1876"

P. 1- Inside Cover [Left], #270, "M. Sebattis, 50? Oct. 26th- VERPLANCK COLVIN

P. 2- [Right] VERPLANCK COLVIN

P. 3- Note in box "See return to Big Moose"

-Whopennocker Indian- Name Alvah Dunning says given to Sable because he tweaks his head beside his ? [note the sable is a type of martin]
-"Whaper-jawed" boat with gunwales twisted out of shape, on Upper Saranac [note "whopper-jawed means askew, crooked, off-center, sideways, messed up, having a projecting lower jaw]
-"Rag abee bob" a fabulous animal whose legs are larger on one side, so as to run well on hillsides.
-"Swamp-dogger" a fagulor animal of the guides- tale d of to scare the ignorant, said to be a dangerous animal in swamp



Adirondack phrases---
-"Dug-out"- a boat dug from a tree trunk
-"Dug-out"- = "Cleared-out" or left- gone suddenly? Derived from animals digging out of traps-
-"Lean-to" Shanty of boughs or bark like a shed with one slope
-"Treed" Stopped a man or corner him- Derived from treeing a Bear or other animal
-"Denned" To go into a hole- to go to sleep

P. 4- blank

P. 5- Oct. 4th 1876- Mr. Fasholdh thinks that the rate of the pocket chrono- lent me will be about 0.2 sec plus or minus. Will commence to test it tomorrow.

Oct. 11th 1876- 8th Lake- carry from Brown tract inlet of Raquette Lake to the 8th Lake is 1 1/8 miles by pedometer- Reached the lake about 2 h 30 m P.M.

Chronometers

Oct. 12th –

V.C. Watch	8 h 3 m 00 s	8 h 5 m 30
P. Chro- =	8 2 57.7	8 h 5 27.7

Watch slow of P. Chro- 2.3 sec 2.3

Arose this morning before light, had some white fish boiled- and some bread baked with saleratus, & milk and of salt & curry on fish made out to get along without butter, sugar, &c. Directed the guides to pack & started them with their boats and the most of the baggage by 7 A.m. Alvah Dunning taking with him his dog "Trump"- which he proposes to put out in the woods for deer to either the 7th or 8th Lake.

[P. 6] I remain at the old shanty on the 8th Lake- The morning is partly clear but a pall of clouds do make it necessary to hasten to Bald Mtn- the air is cold temperature being about 20 Fah- but the lakes are not as yet frozen over- but [last] night at about 6 P.m. the A. P. was teresik 27.470 inch, but this morning it is 27.680. The trees are nearly leafless- a few retaining their yellow color (buds siding but much of the small branches of brite green leaves- Alvah D. estimates that it takes 20 minutes to cross the straits the 7th Lake with packs on & about 15 m. coming back- It takes Mitchell 50 minutes from the line of leaving the lake to the 8th [Lake] camp. Left the 8th lake at 12:38 P.m., with the start of 7th inlet at 12:58 P.m. Distance in a S. direction of ¾ of a mile or about 260 rods on way hard through the birch and hemlock (yellow) trees gold in brilliant & with ? leaves …
(Yesterday…

Adirondacks

P. 7 The country along the trail from 8th [Lake] area back descends 8 to 10 feet suddenly just before the 7th L. shore is reached & a small stream is being spanned by 3 logs, then we came to a beautiful marshy glade with balsam trees. At point on the west shore of 7th lake (see map), the inlet is 1050 yards distant on a mean 101° by P. E. from rocks at outlet to inlet signal 2300 yards & by P. E. bearing 96° 40'. Reached the 5th Lake about 10 m. to 4 P.m. making the length of carry 140 rods by pedometer. (It is walked ¾ miles) M. Sheppard thinks ½ mile nearest correction- but Sebattis thinks it full ¾ mile- This carry is at first up hill a little steps irregular- sorte cobblestones & rocky & many dry roots (slippery) then it descends rapidly the stream trailing along on the left in rapids (We noticed between the 7 & 6th lake a peculiar kind of plant at water's edge like wild rice or more like bamboo---, tall stalks at 6 or 7 ft with leaves along the stem- Saw a White fish near us which S. says was not seen as spring place the whitefish seldom coming up out of the 6th lake- spawning ground not desirable perhaps).

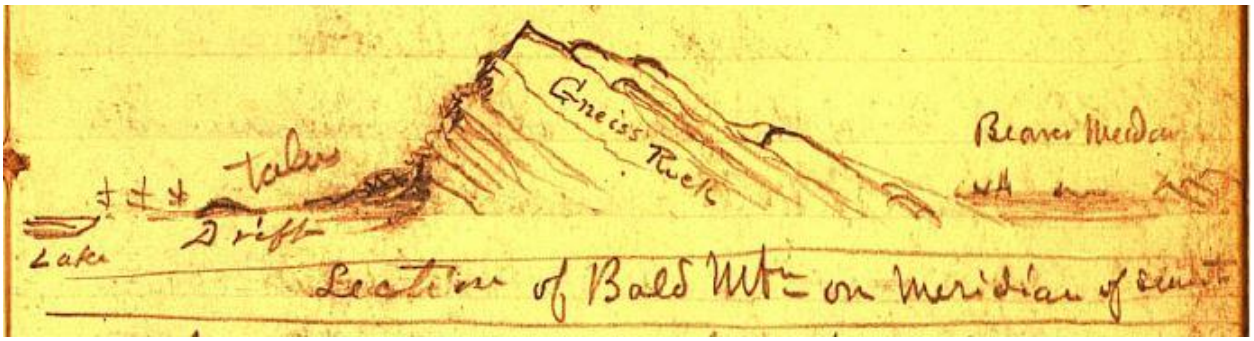
[p. 8] On the 6th Lake saw many cranberries on a march on E. shore- where S. has always been picked (abt ½ bushel). Seen flocks of wild ducks and this morning on the 8th saw a large pack- 30 at least of Wild Geese going S. ___\ Heard them honk. Saw many deer on 5th Lake & found tracks up through woods. My new rifle- missed. "Manque un coup" [French for "missing a shot"]. It commenced to snow as we cross the 6 & 5 carry & is very cloudy & cold & threatening- If this weather lasts further work for the season at Mtn station may be considered closed. We make two trips at this carry- guides going back. Of Course between the 6 & 7 we ran with boats. Tamaracks on shore of 5th lake are still green- a few only brightening up yellow- Lilly pads everywhere on top of water- We cannot run in them a few rods down the outlet of 6th- have to walk over- Shepard & Sebatttis run boats & baggage through, wild wan on the 4th we walk round to Chas Pratts camp (house) & then by boat to Sheppard's- 4 miles down the Fourth Lake- now after lunch- putting them- our cofir. Mr. Shepard settles down with us after supper & maps his Queer L. region. (see Big back &e).

P. 9- Oct 17th (13th crossed out)- This morning up at ½ past 6 A.m. It is foggy on the Fourth Lake mist rising like snow- so that I mistook it at first- looking out of Shepard's upper windows mistook the fog for snow on a roof- S. calls us and we hastened down-stairwell- Dunning replaces straps- &

Mitchell drills copper tacks into his boots- The Air. Bar. last night at 9 P.m. stood at 28.035 and this morning is at 28.120, a rise of .085 inch. Fair weather probable.

Reached top of Bald Mt. at 10 A.m. the Pedometer gives 1 mile & 1/3 over 8 or say 80/3 rods = 26 2/3 rods, by Aneroid Bar. (set at shore of 3rd Lake 28.160 inch) reads at 10 A.m. on top 27.480 inch (diff = 0.680 inch)

P. 10- Left top of Bald Mtn at 5 hr 45 m P.m. and reached the shore of Third lake at just 6 P.m.- partly cloudy and partly starlight. At shanty- foot of trail (Alvah finds way for us)- but trail so full of fresh fallen leaves as to be invisible in dusk- run off of it frequently as reunited of decent of Graves Mtn higher usqh- the woods here contain the hemlock as a characteristic tree but on & about Bald Mountain the Aspen or "Poplar" is the most Abundant_ The mountain itself is very peculiar in its geological formation- consisting of the common or gray markedly stratified gneiss rock containing much quartz & hornblende, but little or no mica. Burning has softened its surface but the most peculiar thing about it is the strange ridgey character of the crest which extends east and west as a series of glacial embossed ridges resembling often raised (elevated) and weathered, rounded edges of dykes. It is however, simply the gneiss rock in layers, dipping sharply to the north (dip = + strike =). [P. 11] The crest is formed of thin middle layers of this series, which in some manner has been the least eroded (trees) (Section)



The rock like all the Adirondack gneisses is so weathered (the Feldspar washed & very hard particle projecting) that it is impossible to find any glacial scratches but the evidence of Glacial action seems to me today as I write the conclusion in the particular embossed character of the exposed ledges or layers on summit.

Bas. at 11:30 P.m. reads 27.945 inch on Bald Mtn at 5h 45 P.m read 27.350 inches-

P. 12- In 1870 the Mag. Var at Fourth Lake must have been 9° 45'. Six years elapsed at 5' per year = 30' and 9° 45' + 30' = 10° 15' = the present variation on the County line- the present line bears 4° west of true north or the Meridian- Then:

10° 15'
\- 4 00
Co. line will bear (Magnetic) 6° 15' E. of North

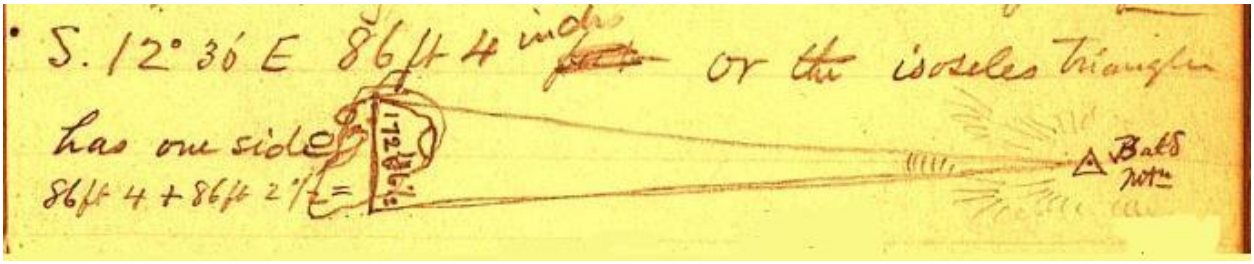
The Lat. of centre of Fourth Lake at Co. line is 43° 45' and Long. 2° 8' E. of West.
By Jones Map of Herkimer County line crosses 57 chains or 3366 feet.

6° 30' 10"
86° 44' 55"
86° 44' 55"

180 00 00

P. 13- Oct. 13th on a line (Township M. R. Tract)
at 10h 15m A.m. line to N bears N. 62° E (sun bian S. 18 ½° E).
To South on S. 73° West, on Lake shore a large Hemlock stands hewed long strip on E. side

From center of Elba Island to Bald Mtn.- is S. 77° 30' W. (& for right angle on line 77° 30' + 90 = 172° 30' or 77° 30' + *X* = 12° 30') measured therefrom along a line N. 12° 30' W =86 ft 2 ½ inches S. 12° 36' E. 86 feet 4 inches or the isosceles triangle has one side 86 ft 4" + 86 ft 2 ½ " = 172 ft 5 ½ in.



86 4/12"
86' 2.5"
Therefore Base line = 172' 6.5/12" = 172.54 feet.

On Mt. St. Louis
To South end Elba I. = 360° 06' 15"
To North end Elba I. = 359° 36' 05"
Angle = 0° 30' 10"

½ Angle = X = 0° 15' 05"
90° - X = Two angles = 89° 44' 55"

[P. 14] Names of party we met at Blue Mtn. Lake-

John Watts Russell, Sep. 30th- No. 21 W. 10th St, N.Y. City (Secretary to Hamilton Finch)
Travis C. Van Buren, Sep 30th- 39 E. 21st St, N.Y. (nephew of Pres Martin Van Buren)
Gregorci de Williamson, Sep 30th- Russian Legati in Washington, D.C.
Nicholas Shiskin is Russ. Minister at Washington

An. Bar. at 10h20 m A.m. 27.860

P. 15- Comp [Comparison]

Comp'n of time Oct. 14th, 1876-

V. C. Watch	8h 19m 15s	8h 22m 30.0s
P. Chr.	8h 19m 1s	8h 22m 15.2s
Diff watch fact	14s	14.8
Blue Mtn Watch	7 15 15.0	9h 18 00.0
P. Chr.	9 14 33.5	9h 17 18.8
Watch slow	41.5	41.2

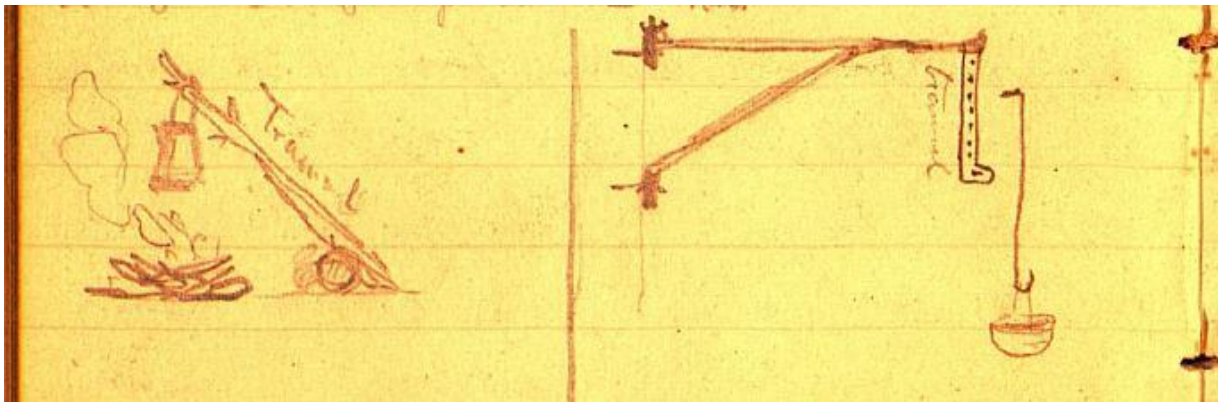
Blake Mtn time was here adjusted 9h 16 00.0

9 15 18.8
P. Chr. Time 41.2 sec
An. Bar. nt 12^h 45^m P.m. 27,550 inches

A marked meteorological peculiarity of the Adirondack region is that almost constant cloudiness through out the winter- so that on clear day is something to be remarked and noticed_ Though M. Sabattis says he has seen a great many clear days in winter.

[P. 16] Left Jack Sheppard's on 4th Lake at 20^m to 3 P.m. at 5 P.m. landed at end of carry opposite Elba Island- left boat, &c- & set out Jack S. for Dunning landing- passed a small pond on right or east of trail (D. remarks that 32 by 20 rods = 4 acres) came to Bub's Lake but keep clear of it on the east and go in directly towards Moose Lake- reach this lake- & skirt it- see a fam of Harpen weekly in ground at an old camp—shoot our pistol at a giant red headed woodpecker—coast along lake where see dogs & deer tracks- the lake has an island in it & is very forked- then leave this lake and by a trail half wet, muck & boulders— (by P. s, it is 3 miles as walked—direct—to 2nd Lake of North Branch Moose R.-- & 1 1/8th mile from up past end of lake to Big Moose Lake). The big lake when we reach it is in wild commotion—a fair N.W. wind has driven it into fury, rolling waves & in the dusk we see the clouds striking the water- boat under Sheppard's vigorous rowing dashes forward against the headwind- [P. 17] while sheets of icy foam rush from the wave tops into our faces- great flocks of ducks around as our approach rise wildly into the dusk every few minutes & skim the wild wave tops to rise and circle round. Biting cold & a still ferocious wind- and sleet and biting snow crystals sting our faces driven by the wind. The waves leap into the boat & almost overturn it- Alvah says, a little more and we shall see more ducking than ducks- Tells of someone who told him if he was ever abrade on water- & said no. Reach camp on N. shore of Big Moose L. at 6 P.m.

P. 18, Sunday, Oct. 15th, 1879- [This date is in error- it was on a Wed., while Oct 15, 1876, was on a Sunday]- Left Big Moose Lake 10 A.m. going to the N.E. bay which is indeed a lake of itself having islands in it. Ascend a mountain ridge along an old trapping line- remarked 2 or 3 times- ? in a rough mountain country- fallen timber with descent past a ? ledge of rock 40 or 50 ft high near a small lake unknown to maps- so bring it up and- it goes to Twitchell (Sheppard says) and we name it "Hackmatack pond." Pass around its east end on wet grassy march- trail crosses pond- strike a trail again = "Tranmel" is the single pole set in the ground & projecting over the Camp fire- & used to hang on its crutches the tea kettle or pail for boiling water. It is desired for the part of the circuit crane used as an adjuster to bring the suspended pots & kettle to right height above the fire in fire place- thus:



And follow it in at N. W. direction about noon reach Twitchell Lake near its inlet or the N.E. end. Set up a stadium signal 5 &c for Micron telescope in preparation for measurement of its length-

Went around the end- find several trails- don't follow the first ones but find one leading N.W. & take it. Then ensues a long weary march over a snowy country- logs & brush & ? icy snowy slippery- Enormous quantities of fallen timber- Here the spruce forest has evidently been earlier attacked by the malady, or beetle which killed the many spruce trees in Cedar River & Red Horse valleys- nearly all the large Spruce trees are down and at ties 5 logs deep- with ? masses of brush. We think we are upon ? to be ? an old trapping line- At 2 P.m. we stop in the snow and have dinner- cold venison with mustard & maple sugar. There are no deer or other game apparently in the desert region of dead trees & fallen timber not even a partridge.

P. 19- Reach the Beaver river road at 5 P.m. having march 10 miles by the pedometer- march ½ mile by the road East (find tracks of two men & follow) but finally reached that leveling party having not yet present—no chopping if boughs or stomping down to weeds. March east on road two miles—find the old ? [mis]take it for a shanty. I also find "Rock Shanty", sound? like it looks- so march on till suddenly we came upon Tweedy tent on N. Side of road. Enter it. Here are blankets- provisions &c.

P. 20 is a drawing of the "Camp of Beaver R. party" [the Frank Tweedy leveling party]

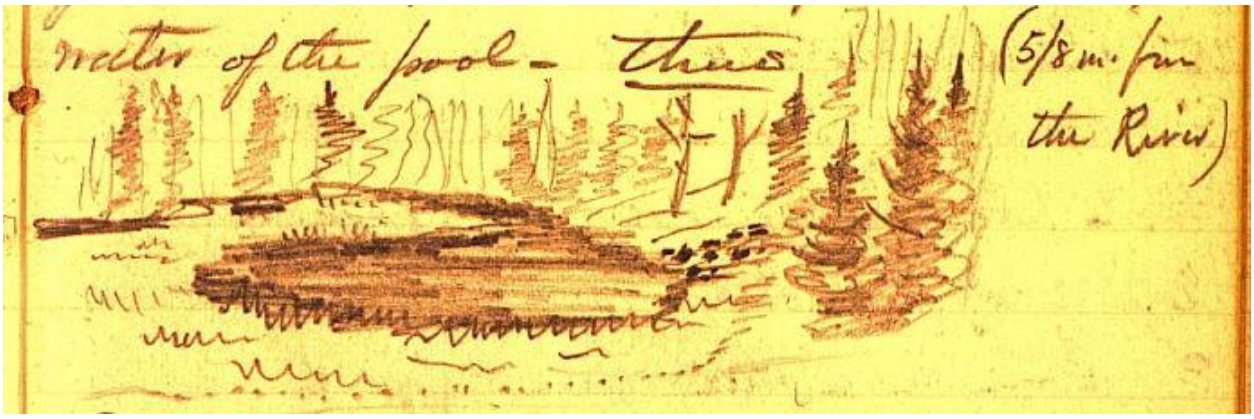
P. 21- is blank.

Stillwater
Beaver River

P. 22- Tuesday, Oct. 17th An. Bar. stood last night at 27.610, to day at 7^h 20^m stands 27.630 inch—clouds separating—sun clear sky in patches but then was more snow last night after the rain and it has frozen to the boughs of the trees. Now the Sun commences to shine on the opposite shore of the Round Pond, the wind has changed into the N. E. after having been N. W. for weeks—what it forebodes we can only imagine.

"Billy Wood" the old frozen hunter of the Raquette would walk from Raquette Lake to Lowville in 2 days on his stumps & from Raquette Lake to Lake Pleasant in 4 days.

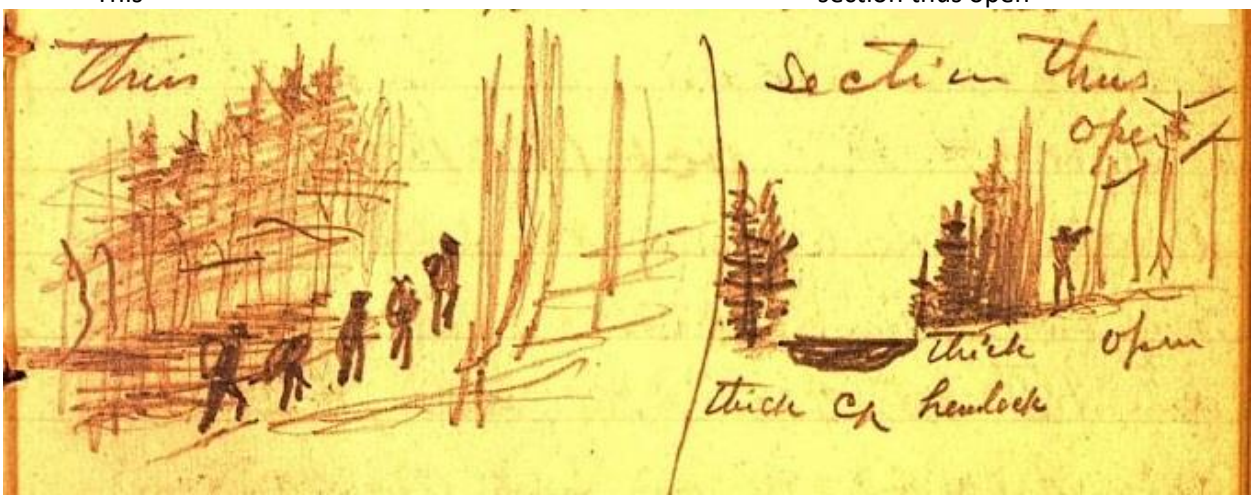
Set out from Burke's at 9^h 2^m and descending the snowy trails to shore of Little Burnt Pond where two queer Beaver River boats, one which we take has no oars, but with two paddles—Shephard & Dunning get it along hands only—enter the bay in the river and then descend the river and reach the landing of carry to North Ck ponds at 9^h 20^m-- under a steep bluff, guides shoulder the packs and we set out through a dreary country—much fallen timber, snowy and slippery—less fallen timber here than on the south side of the river—but it is almost amazing how little sign of deer there is in this region. Alvah sees our track of Sable made night before last. Wind my chronometer on trail—see the Bald Mtn. N. of Stillwater & pass it on trail through notch ¼ or ½ mile to East of the Mtn. The trail continues to wind away to the N. E., at length come to the N. Ck. Stream & a march. Wind or skirt on this S. or right—then suddenly at the upper end (N.E. end) of this marsh come upon a most beautiful and remarkable basin, deep and clear where the stream purling down on cobble stoned gravel emerging at once upon the deep water of the pool—<u>thus</u> (5/8 m. from the river)



(New Frost fish make alternate runs up stream one year strong and plenty, next year few) J. S. Y.

Then we turn up and through the country on irregular ground and at <u>ab</u>out 2 miles reach the stream again, which here has a peculiar & remarkable appearance,

"This" "section thus open"



"Thick" "Creek" "Thick Hemlock" "Open"

[P. 23] Soon the stream enlarges into a small pond along which on marshy shore we go—enter woods again along the inlet or stream to the 1st Lake- where we find a boat. This lake is extremely shallow & contains no fish--- there are said to be no Frost fish in Beaver River waters--- it is 2 5/8 miles from Beaver River landing—course N. E. (Alvah D. & Carl Hough walk around the lake on E. shore, Sheppard & I put up signal cards on a spruce, see pintail?—miss with pistol, find length of pond with ? telescope 940 yards from upper N. E. end of lake.

Oct. 18th 1876

Double Altitude of Sun at Lake Sunshine (has been called by some "Big Mosher P") as below.
Time $12^h\ 10^m\ 2.6^s$ D. Alt. Sun = 71° 28' 30" An. Bar. = 27.740 and Temp. air 40 Fah.
On Scricb Luimb?? Index error of Sextant = -28' 30" in each reading and requires +28' 30" to each (??)

[P. 23] Oct. 18th
D crible Alb.?? Seen at Moshier Pond
At $12^h\ 10^m\ 2.6^s$ = 71° 28' 30"
An. B. 27.740 - temp. air 40°

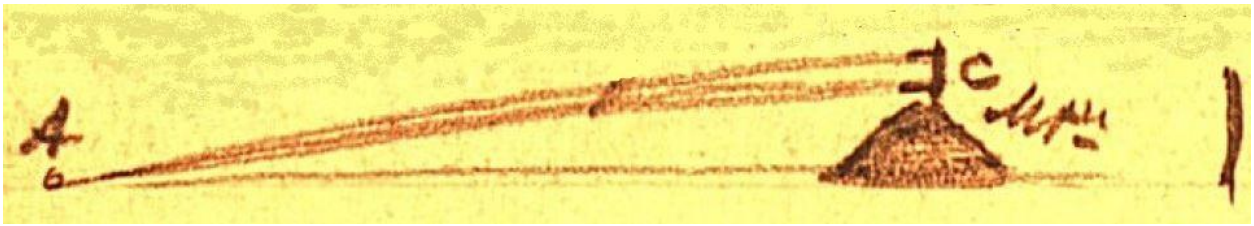
Map of Big Moshier Pond
[length of pond] 1550 yards on a N. 30° E. line
[note on left side of map]
Blazed trail, 1 ½ miles from Shallow Pond to N. E. & S. W.

P. 24- Oct. 18th (blank)
P. 25- Oct. 18th

Left top of Bald Mtn. at 4h 20m P.m. and reached the B. river at 5m to 5h P.m.—Have marched to day 7 miles besides distance run in boats about (= 2 ½ in all). It is 14.8 miles to Sunshine Lake (Moshier Pond waters) and that lake as shown on its map ?? 3 miles upon run of peaks to Bald or Burnt Mtn. ridge peculiar as extending as outcrop east and west while the mass of the ridge extended from N. to South. This is a general character of hills here—the back of which is a gneiss usually of a red feldspar with much quartz. Upper ? Colland ? bluffs about and the abun. of the interior lakes—The "glacial drifts" of this country (it is remarkable) is on hills & any for lakes of the common? Gneiss of granular combined red or beautiful white feldspar 1/10 inch grains & rounded into boulders & pebbles. There is the presenting? cobblestone & boulder rock of this region—except in ponds where flattened pebbles are noted apparently of common? drif? Quartz, etc. Then usind tend to shin a local glacial period of bidding??
The rock summit of Bald Mtn. is of the weathered grayish gneiss & granular. Blue Mtn. & waters north of it & the country west of Lowville, are visible from it.

P. 26- Oct. 19th

Arose about 7 A.m. and while dressing (the morning in beautiful clear and bright) seeing a huge buck rabbit (white han) come racing around the corner of the house Gilser?-- he get about ten rods when a rifle ball from a rifle in Alva Dunning's whistles past him, but misses him. Descended? With black m. telescope proceed to measure the distance of Bald Mtn. (N.) and find it about 3000 yards or 9000 feet. Take angular measurements also (these will be useful to determine the height of the mountain— the hypotenuse of R. a. triangle being given, & will as vertical angle be useful in correcting the value of distance afforded by the micrometer for the obliquity of signal, thus:



The signal B C will appear smaller than it really is on account of the triangle not being an isosceles and obs. (see Rear) 2,954 yards is too great by the amount of the shortening of signal by obliquity. The vertical angle taken with the Sextant is so g?? that I test it by arc of excess and discern a great index error.

P. 27- paid B. $13.97 Oct^{r} 19th

Left Burks (Stillwater) at 15m to 10 A.m. saw tracks of sable and porcupine- & Sheppard starts after the Porcupine but comes back track fails. See Tweedy's bench marks 1^2, 29 & 30 and meet him with Ike Stone—tell him to get his line through to Raquette Lake this fall if possible—he has advanced nearly 2 miles in 2 ½ days. Bid him goodbye, and go on to his tent—just beyond which after crossing the stream off into the trail for Twitchell L. After Marching abt 3 miles from road (the snow going off fast in sun) came to Woods L. 90? Yards (?) long—Wonderful hard cranberry Marsh at its upper N. end. Cross this marsh to resume of alo chuafps & sefonb for Twitchell (deer tracks plentiful. Scare when an owl had killed a partridge just before we came to W. Lake).

About 1 m. from Woods L. came the West branch of S. Branch—a grassy stream full of logs—to N. E. a Sedgegluite?? Then into ? & two streams from left into W. L. We rather go up outlet T. lake question. Hills here higher & with snow. We think near T. when 2 mi. off. Pan a little red Fox hed- & nyle tracks Lyminifin. Have a long march cross stream turn past nd in fly. Reached Twitchell Lake Camp 4^h 25^m P.m. having marched to day 10 3/8 miles— through snow & sleet & windfalls.

P. 28- Oct. 20^{th}

Up at 6 A.m. and had breakfast— the rabbit now being a God-send—and get off by 8 A.m. marching first along shore of T^L. Lk. to outlet. Station W. shore of lower (outlet) end Twitchell L.

Index error

At 8^h 59^m 15.3^s Sun's double Alt = -- 30'

Diameter

(1)	9^h 2^m 36.0^s	A.m.	"	30°	24'	(# index error)
(2)	9^h 4^m 44.8^s	"	"	31°	6'	"
(3)	9^h 7^m 48.2^s	"	"	32°	0	"

Sun bears N. 41° E. by pocket compass-

Oct. 20 N. Shore

Double Altitude of Polaris at camp Big Moose L.

Air Temp 42° F. | 8^h 17^m 4.4^s P.m.

" 40° F. | 8^h 48^m 30.6^s P.m.

An. B. 27.680 inch (at last time also)

Temp of air 40° Fah.

8^h 56^m 14.1^s 89° 10' (≠ Index error)

(Air) Therm. 41° Fah.; An. Bar. 27.675 at same time

(In Art. Horizon of melted land)

Set up a signal at the lower end of Twitchell Lake and then march and to the outlet—which proves to be a most beautiful spot- for here the lake pours from its very edge out over a fall of 8 or 10 feet to form a picturesque stream margined with bright [P. 29] green moors—from dead timber &c &c- There is however too much water for this to run to West branch of S. B. R. "Wopennocker", Alvah Dunning says is a name given by Seru [Indian name?] to the Sable on account of a knocking which they are said to make in the hollow breather? holes by beating their heads with great rapidity against the tree with hollow.

March $1/5^{th}$ way up E. shore of the lake & set up ~~another~~ a stadium signal & observe to N. & S. signals (see map)—find ab? station is a flat rock of hornblende in syenite— also a peculiar feldspathic rock [rock containing feldspar]- with flakes? of black hornblende of which I keep a piece—Leaving the Station we set out in a S. E. direction and trail only 20 minutes when we find a new lake to maps of which the shores of which are stamped up by deer—Set up signal and measured lake's length &c. There is some kind of small fish spawning near its shores—cranberries near upper E. end & I see a deer run away—S. finds the deer's bed, then follows up inlet, seeing plenty of deer tracks- & reach a subterranean lake or pond which has been grown over with sphagnum & shewked? like filled up of water as we walk over it. [P. 30] Snow here deep. Follow up the valley & brook heading up this marsh—see our sables track and soon after came to our old trail. I prophesy that we will reach Big Moose Lake by 12^h P.m. (and the rest (S.) 1 P.m. & (D.) 1^h 30^m P.m.). Cross one ridge and come to our first swamp—then cross another high ridge & see Big Moose L. which we reach at 11^h 35^m A.m. Immediately enter boat & commence the survey of this large lake with the N. bay—by stadia signals, micrometer telescope

& pris. [prismatic] compass. Work goes on slowly—and deepens all our trarte? at 3 P.m., we make a hasty lunch on hand tack & resume work out E. bay only to find night coming on. Hands run deer into the lake but we had no time even to look out them much less shoot one—Old D.—shouts from camp but we only ? on our work—Night settles in—clouds suddenly deepen, bun? across the Sun. It is too dark to do signals & we go in to supper taking some Ast^{l}. obsr [astronomical observations] later and then to bed 9-35 P.m.

P. 31- Oct. 21 [to East ?

Pilgrim Mtn., Buck L. & West Mt. are visible from Big Moose Lake. This morning all is haze and mist—distant shore of lake invisible.
An. Bar. at 6^{h} 40^{m} A.m.; 27.640 inches.

Reach Sheppard's Camp on Pine Point—Fourth Lake- again- just at dusk- about 6 P.m. The dogs Tiger especially welcome our return- & Mills & Mitchell are very glad to see him again.

[P. 32] Set out from Shepphard's Camp early in morning to search for the County line—from all day on this (See other journal), back & to bed at 7 P.m.

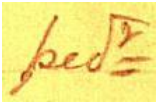
P. 33- blank

P. 34- Oct. 23rd

Astronomical Data— α [alpha] *Ursae Majoris*
R. A. Upper Transit at Greenwich the

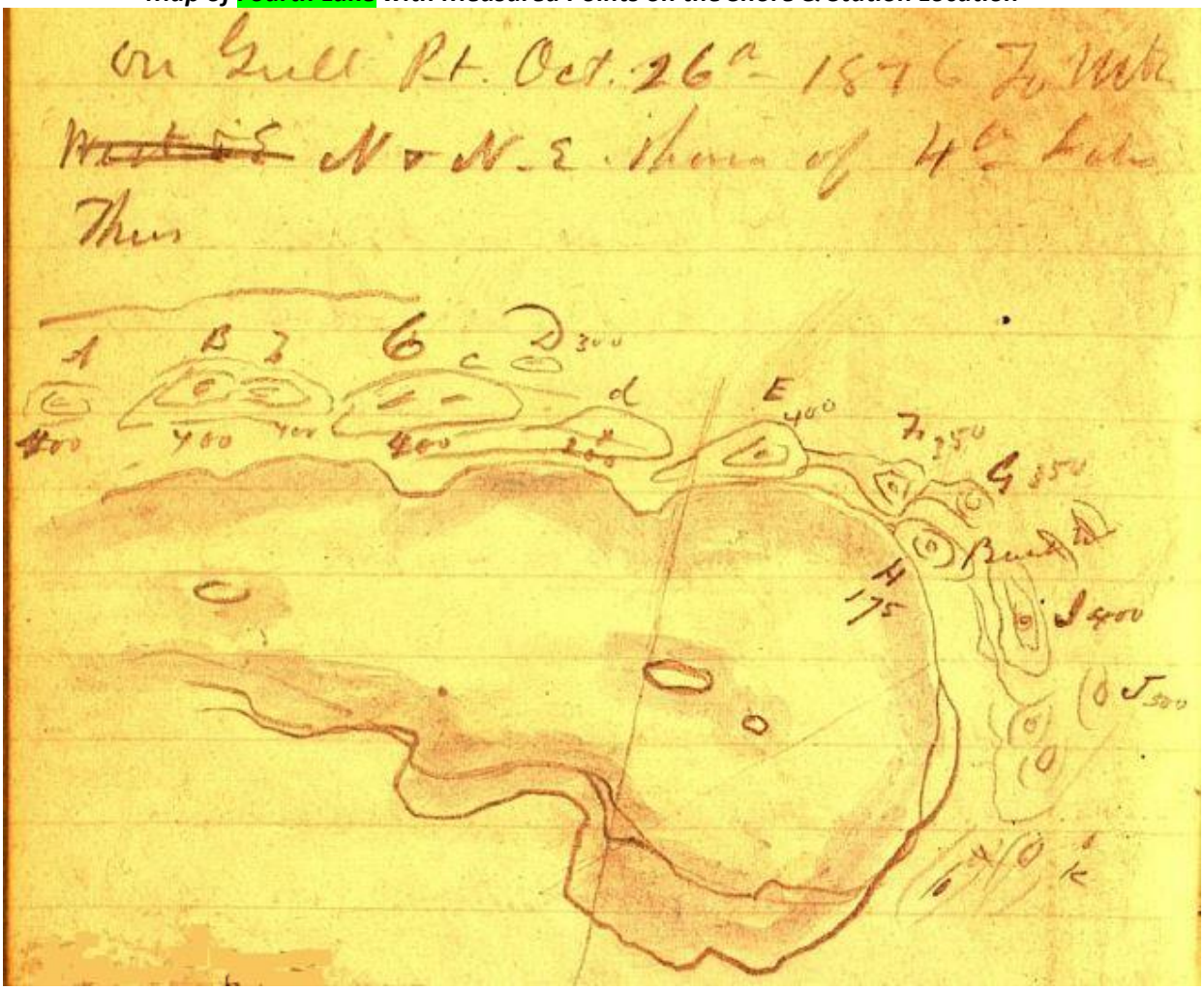
	Dec.
R. A. (Oct. 23rd) 1^{h} 13^{m} 66.25^{s}	88° 39' 17.3"
R. A. (Oct 24) 1^{h} 13^{m} 66.13^{s}	88° 39' 17.6"

This first point of Aries has for mean time Transit across the meridian on Oct. 23 = 9^{h} 49^{m} 24.50^{s} and on 24^{th}- 9^{h} 45^{m} 28.59^{s} = mean time at Sidereal noon
Say, 11^{h} 10^{m} 2^{s} & 10^{h} 0^{m} 21^{s} as 21^{st} -+ 26^{th} Oct.—up, culmination of Polaris-

Went to Bald Mountain again (Azimuth) from landing to foot of rock (cliff) by  5/8 miles whole distance to summit 1 1/8 miles—took 40 min. (i.e., let foot at 10^{h} 55^{m} A.m.) and reached summit 11^{h} 35^{m} A.m. taking 20 to foot of cliffs. An. B. at foot 27.600 inches & on top 26.920 – temp air = [blank]

P. 35- On Gull Pt. Oct 26^{th}, 1876 to Mtn N. & N.E. thence of 4^{th} Lake, Thus:

Map of Fourth Lake with Measured Points on the Shore & Station Location



To A 269°
To B 281° 30’ + b 284° 20’
To C 286 + c 287
To D 326 E 330
F 4° 30’ G 49° 40’
H 57 I 75° 10’
J 87° 30’ K 114°

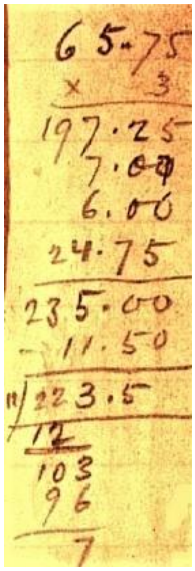
4th Lake
Ik. Is 848 yds from A. end \ (“ J or I to
Death Pt. Signal
& P.C. = 247°

P.C.*
Inlet to E end C dar I = 1140 yds | 321° 30’

*note P. C. Is short for Pocket Chronometer

P. 36.- Oct. 24th

5 ft 5 ¾ in x 3 + 7 in + 6 inch + 24 ¾ inch – 11 ½



Measurements for height of Barometer B. M. at Sheppard's above the level of water of Fourth Lake of Fulton Chain—

---

18 ft. 7 ½ inches above the water of 4th Lake

Barometer B. M.—

Or 18.626 feet above surface above surface of 4th Lake

Or 18.626 feet above surface of 4th Lake

Survey of Fourth Lake (6 mi. long)

From my station (A) to Sheppard's Station (J)—

Distance 1175 yards, Bearing of 82° 40' P. C.

From (A) to carry---------420 yards; P. C. 299° 20'

The Sun 37' 40" (excess); 32' 30" (direct)- on a shore line it should app. Index error = +1° on direct arc A to Lowries? Pt. 2150 yards & P. C. = 63° 30'

Outlet of 4th L. (A) = 1935 yards, 69° 20' P. C.

On Gingerbread Pt. to Lawrence Pt. (Signal), Distance 550 yds., P.C. 355° 20'

On Elba Isle to Lawrence Pt. (Signal) 831 yds, 286° 40'

On Gull Pt. to Elba I. 850 yards & P.C. = 282° 20'

County Line--

Cedar Isle signal 85° 40' P. C. &

Lawrence Pt. Signal 284° 40'—1700 yards

On West end Dosth? Pt. to Bull Rock Pt. 1180 yds. 280° P. C.

C-- County Line—

Cedar Island Signal- 820 yds, 52° 40'

P. 37-

625 yds

Fourth Lake—Cedar I. Signal to Dacte Pt. 810 yards, 233° 70' P. C.

" " " " to Co. line signal 352° 40' P. C.

" " " " to Bald Mtn. 265° 20 P. C.

On Third Lake at East Signal to Bald Mtn. Signal 302° 30' and to the West Signal on 3rd Lake 198° P. C. and distance = 963 yards between signals at E. & W. end of 3rd Lake. The reference bearing from W. signal to E. = 1.9° 30' P. C. & Bald Mtn. bear 331° 45'

Second Lake

P. C. 92° From a bay on N. shore & distance 745 yards, Pt. a- 21' 15.0"

P. C. 121 " " " " " 289 yards, Pt. b- 24' 32.5"

2 | 45 47.5

22' 53.75"

A. 59° 30' 25"

Math version

The mean by Ref. Circle (excess direct)

At 1^h 27^m 21.2^s took double alt. Sun. with Ref. Circle—30' 30"

From West (upper) signal to 2nd Lake
" " to Bald Mtn. Signal 347° 20' P. C.
" " to Signal in Sticky? Pt. P. C. 324° or W. signal on Shetny Pond

1280 yards from Sticnky Pt. Signal to 2nd Lake E. signal and bearing = 46° P. C.
& Bald Mtn. = 10 P. C.

To Signal S. W. of Stickny is West signal on 1st Lake 910 yards & P. C. = 288° 30'
Bald Mtn. from W. signal 1st Lake = 30° 20 P. C.

Ascended Mt. St. Louis (Bald Mtn.) again and resumed angular observations—were to take Meridian & C but it clouds up.

P. 38, Mostly blank Oct. 25th

Mea… [begins to write "measured," does not record anything but calculations below]

360
352° 40'
7° 20'

Var. = 10° 47'
N. 7° 20 E.
19° 07'

P. 39- [Mostly blank, with one notation on bottom of page]
11 P.m.—An. B. stands 27.480 inches

P. 40- Oct 26

Comparison of time pieces—
Pocket chr. = $9^h\ 53^m\ 23.3^s$
V. C. Watch = $9^h\ 54^m\ 00^s$
36.7^s

P. Chr. = $9^h\ 56^m\ 14.6^s$
Blake's Watch = $9^h\ 56^m\ 00^s$
Slow 14.6^s

V. C. watch = $10^h\ 00^m\ 00^s$
P. Chr. = $9^h\ 59^m\ 23.8^s$
V.C. watch fast of P.C. 36.2^s

At $10^h\ 13^m$ A.m.—An. B. stands 27.647 mins.
Temp. of air = 36° Fah.
An. B. 27.315 (air 32°) on height of land
¾ way from 5th Lk to Limekiln $3^h\ 40^m$ P.m.
Limekiln Lake—has 75 ft. width in ave. place
(Mr. Sheppard makes 267 strokes of his oars in coming from Gingerbread Pt. to his boat house--)
Distance = [blank] yards—Remark.
A headwind—At 4 P.m. An. B. stood at Lime Kiln L. 27.480 in. (air 32°) & at 5 P.m. 27.660 (40°) &
At 11^h P.m. (Sheppard's 4th Lk.) 27.840 (13 ½ feet already noted).

P. 41- Sable [a type of martin] weighs 7 lb. + 9 oz; 23 inches length of body from nose to tip of bone of tail or 24 inch to tip hair on tail; bone of tail 6 ½ inches, from leg 6 ½; hind leg from up. Joint of the femur 8 inch; head 3 ½ inch long; length of body from fore shoulders to hind

quarters 10 ½ inches. Abt. 2 ½ inch neck. Have left side front third feet of coon; also left front & hind foot of sable—also right side of rabbet hind & fore feet.

P. 42- On the 26—sent Blake with Denny & Sebattis to Bald Mtn to secure the signal & bring away the instruments & rest of material from the station. With Sheppard as guide I resumed the survey of the Fourth Lake with P. C.- & micrometric telescope—Set signals on Elba Isle., Gull Pt., Death Pt., & Cedar Isle, & observe at all these points and at inlet and Gingerbread Pt., Death Pt. It is cold snowy and blowing—biting wind makes it difficult to observe and the frequent flurries of snow prevent clear seeing of signals. Have notion to eat our sparse lunch, but hurry on up the shallow inlet & grating over the shallows & scaring the frost fish from their spawning beds—we see them flit away in droves—(I at front thought them trout-) David on S. Shore of 5th Lake (muddy shore) at 3 P.m., and set out immediately for Limekiln L.; half way over cross a small brook [P. 43] flowing to 7th Lake (S. W. end) see at half way a fallen yellow birth—which Sheppard tells me is the tree where he parted from Sperry & his boy on the fatal day—when Sperry was drowned. Here he last saw him alive. An Owl hoots— suddenly— (3^h 30 P.m) and renders the dismal story more dismal—so dread? To hear the owl by day. Further on we come to a Sable (martin) in a deadfall—hurry on and reach Limekiln Lake in 55 min. (i.e. 3^h 55^m) making the Inlet 1 1/8 miles— slushy and snow deeper on high ridge— (see aneroid Obs. & else where). See the old boat that Sperry was in when drowned and observe a spring at the carry winding from the grass? Take a good boat which we fid and go up upon the Lake. Set up a Signal ashore? of the N. E. way towards 7th Lk. Weh? & make map & sketch. So to Eagle [P. 44] nest point and measure its distance from the inlet—Sketch rest of lakes, get back to the landing by 4 P.m. and cross the carry-point—in dark. The Owl hoots again as we reach the 5th Lk and the frost-fish leap affrighted on top of the water in shoals as we push down the dark creek. The 4th Lk. is wild in waves but the boat bounds forward under the impulse of Sheppard's oars—a wild scene the Mtns. On the north shore loom up in the darkness like the highlands of the Hudson and from which foam flies from the wave tops as they strike the oars.

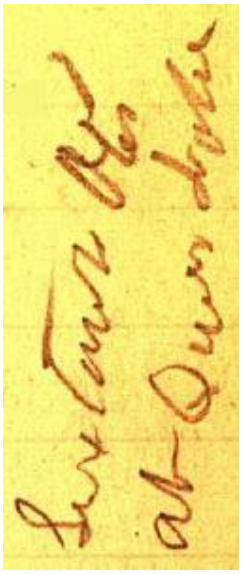
Pdat? rest of Map of 4th L. tonight.

P. 45.- [***Sideways sketch of mountain scene on 4th Lake showing jumping of frost fish***]

The extent of vertical effect of result of moisture from Lake air 4th Lake of Fulton Chain.

P. 46- Oct. 27th

From Fourth Lake to Queer Lake.



After horer? splash set about the trigonometric work on rock at Sheppard's station.

12^h 13^m P.m. 65° 7' (= D -- alt. Sun)
An. B. 27.700 This (air) 36.5° Fah.
12^h 21^m 30.29^s & 63° 55'-- d-alt Sun
12^h 25^m 49.8^s & 63° 33' 30"-- d-alt Sun
12^h 29^m 3.1^s & 63° 24' 24"-- d-alt Sun

[Vertical Comment- "Six Tour Observations at Queer Lake]

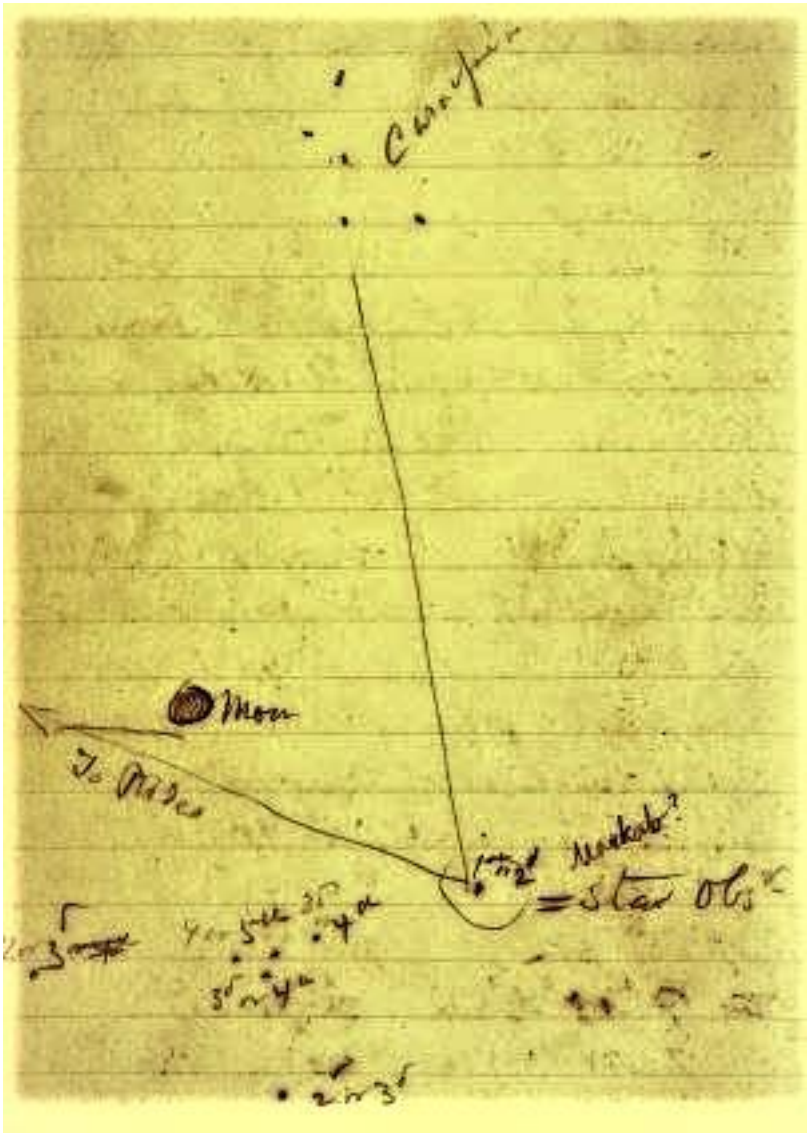
[P. 47 mostly blank, except for following lines at bottom]:

Marched 4 ¼ miles to day—Left camp about 7 A.m. shore of 4th at 3 P.m. & reached Queer Lake at 5^h 15^m P.m.

P. 48- Oct. 28th

While I remain in my blanket… [thought not completed]
This lake has lake trout to 15 lbs. in weight—An. B.- 27.765 & air 32° F., 9^h 30^m A.m. (see Astronomical Obs. at Queer L.)—Make it 1 ½ miles by around Queer L. any cases? no trail on the S. side. It is 1^h & 2^m from Queer L. to Shallow L. and 3 1/8 miles by Ped^r. reached S. Fork 10^m to 3 P.m. Reached Raquette Lake 5 P.m. exactly, having marched by Ped^r. 7 1/16 miles from heard of Queer Lake.

P. 49- ***Sketch of View of Heavens Including Pleiades, Moon, Cluster from "Star Obs."***



Index error 61’ + 5’ = 67 + 67/2 = 33’ 30” Mean
Diam. of Moon, Then 5” = Obs. of direct + 33’ 30” – 5” = 28’ 30” = Index Error.

P. 50. 29th Raquette Lake

At Dunning’s Camp, Raquette Lake
Took an observation of the Sun, with Pris. Ref. circle & chronometer with Chronograph (De. camp 10? N. 70 E. of obs.)

9h 35m 38.8s A.m. d. alt Sun = A 50° 47’ 32” (1)
B-- 47’ 50”

9h 50m 30.4s A.m. d. alt Sun = A 53° 43’ 59” (2)
B-- 44’ 45”

10h 0m 33.8s A.m. d. alt Sun = A 55° 30’ 00” (3)
B-- 30’ 35”

10h 20m A.m. Alt. N. Star Das dry cas Wet dry Mar (Number, Clear, Fsushay?)
Bar. 28.257 29° 28.5° 27.75° 31° 29.5°

At Raquette L. 11h 9h A.m., normal An. B. = 27.925 inches; suetian? 27.920
press. 27,970 inches- & Sue? 27.920 inch & pris? 27.950—

The standard Ther. reads 30.5°, 30° (Wet), 29.5° (dry cov), 30.75° (ban North)

At Shedd Lake Oct. 29th, 1876, d. alt Moon

$7^h\ 50^m\ 32.8^s$	Sextant =	81° 37′	An. B. 27.780 inches, 7 A.m. 24.1°
$7^h\ 56^m\ 40.6^s$	" =	83° 58′	
$8^h\ 0^m\ 55/8^s$	" =	84° 50′ 30″	

Moon Diam^2 = Asocya.? 1° 1′ (Index error)

Moon $8^h\ 58^m\ 21.2^s$	Sextant--	92° 15′ 30″	An. B. 27.770 inches, Alt. 24°
" $9^h\ 2^m\ 22.2^s$	"	92° 29′ 30″	
" $9^h\ 8^m\ 58.0^s$	"	92° 42′ 30″	

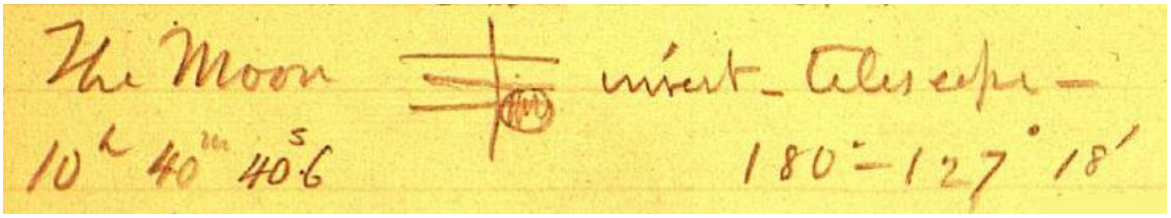
Star $9^h\ 19^m\ 13.6^s$	"	50° 30′ 30″	Alt.
" $9^h\ 24^m\ 49.3^s$	"	28° 30′	Distance of Star from Moon's W. edge
" $9^h\ 33^m\ 46.4^s$	"	93° 27′	

Air 23 F.— An. B.-- press 27.870, sue 27.780 in
An. B.-- Mean 27.825 inches

[P. 51] Lat. & Az. [Latitude & Azimuth]— Vic. Obsr—
Altitudes of { Koehob?
Polaris at Raquette Lake
(Osprey Isle. C. holv? No. 20) W. Transit

Time	Mag. N.	Alt.	
$10^h\ 11^m\ 9^s$	(N. 9° 30′ W.)	180° – 134° 48′ 40″	Arc. Zeis.

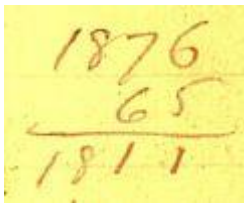
To Indian Pt. Signal (Lamp) { A 313° 16′ 30″ ; B 133° 16′ 00″



To Signal on Indian Pt. b.v.e. left { A 133° 17′ 5″ ; B 133° 16′ 40″

P. 52- blank
P. 53- blank

P. 54- Ther. (outside) this A.m. = 18° F. (& is frost covered—Left Shedd Lake at 8^h 35^m A.m. reached Old Military Road 9^h 15^m A.m., distance by Pedr. 1 5/8 (short 1/8). Yellow birch tree on "State Road" has 65 grains. Stopped 8 minutes. Make the distance from Shedd L. to Moheghan L. 2 1/8 miles—reaching M. Lk. at 9^h 35^m A.m.



At Mohegan L. Obs. of Sun (D. alt. Sextants)

$10^h\ 9^m\ 49.7^s$	A.m. & Sextant =	56° 10′ (double)	
$10^h\ 34^m\ 27.5^s$	" & Sext. =	59° 38′ (")	

10^h 49^m 42.6^s " & Sext. = 61° 17.5' Sun 170° 20' P.C.

12^h 29^m 31^s " direct = 1° 0' 30" direct = 1° 0' 30"
(2/7 Index Error.) Excess 0° 8' arc. Ex. = 0° 8' 30"

Sextant:
Obs. on 10 ft. Stadium A { direct 0° 11' / Excess 1° 5' } 104° 40' P.C.
" " " B { d-- 0 / Excess } 214° 30' P.C
" " " C { d-- 0° 12' 40" / Excess 1° 8' 00" } 259° 40' P.C.
An. B. normal 27.660 { 27.650 27.700 acr warm / Suct. 27.660 & press 27.730
Alvah D. 220° 40' bearing of B from C--
(Led. Read 2 5/8 on leaving Mohegan Park?)- time 12^h 40^m P.m. when we leave.

[P. 55.] Reached Shedd L. at 1^h 35^m P.m.
An. B. 2^h 5^m P.m. { (Pres.) 27.810 (Suc.) 27.750
" 2^h 8^m P.m. (") 27.790 (") 27.725
" " Temp—Air 65° Fah.

Station is [number missing] feet above the shore of Shedd Lk. (? 3 ½ heights of my eye & e)
Ped^r.—shows 8 ½ miles (Paid Fred Stenson? $2.00.

On Raquette Lake from S. inch Stein? to Signal on Double Head Pt.-- Durant's "Pine Point"—
(opposite Big Isle. = 1525 yds by black telescope bears by P. C. 317° 50'.

P. 56- blank
P. 57- blank

P. 58- Oct. 31st 1876
Comparison of time pieces-
V.C. Watch 7^h 41^m 00^s
P. Chr^2. 8^h 17^m 6.6^s
watch slow 36^m 6.6^s Remark: nearly ran down yesterday. Has heretofore kept within 30^s of Chr^2.
Shot Weasel (Ermine)—which Sebattis skinned. The ermine dead was 8 inches long between hind & fore feet & 10 inches long from nose to root of tail.
Utawana L. 1010 yds, 5.70° W.

P. 59 [blank except one line on bottom]- Reached Hollands Hotel about Sunset.

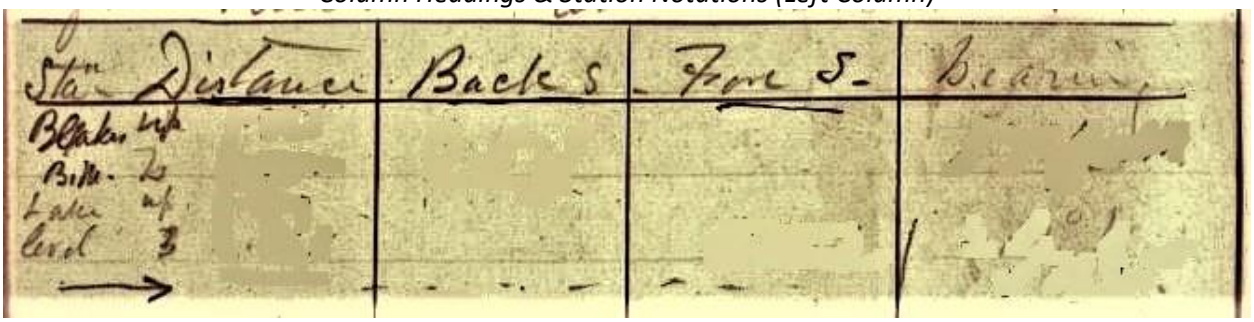
P. 60- Nov. 1st
Comp^n. [Comparison] of Time with Dent Chronometer 2401
Dent Chr^2.— 7^h 41^m 00^s 7^h 42^m 30^s
P. Chr^2.-- 7^h 40^m 54^s 7^h 42^m 23.5^s
P. Chr^2. = slow 6^s 6.5^s

Dent Chr^2.— 7^h 45^m 00^s 7^h 46^m 30^s
P. Chr^2.-- 7^h 44^m 53.8^s 7^h 46^m 23.8^s

P. Chr^2. = slow	6.2^s	6.2^s
V. C. watch—	7^h 48^m 30^s	7^h 50^m 00^s
P. Chr^2.--	7^h 48^m 33^s	7^h 50^m 2.2^s
P. Chr^2. = slow	3.0^s	2.2^s
V. C. watch—	7^h 51^m 30^s	7^h 53^m 00^s
P. Chr^2.--	7^h 51^m 31.8^s	7^h 53^m 2.2^s
	1.8^s	2.2^s
V. C. watch—	7^h 55^m 00^s	7^h 57^m 00^s
P. Chr^2.--	7^h 55^m 2.6^s	7^h 57^m 2^s
	2.6^s	2^s

P. 61- ***Table displaying Line of Levels (upp.) from Blue Mtn. Lake to Station @ Holland's Hotel***

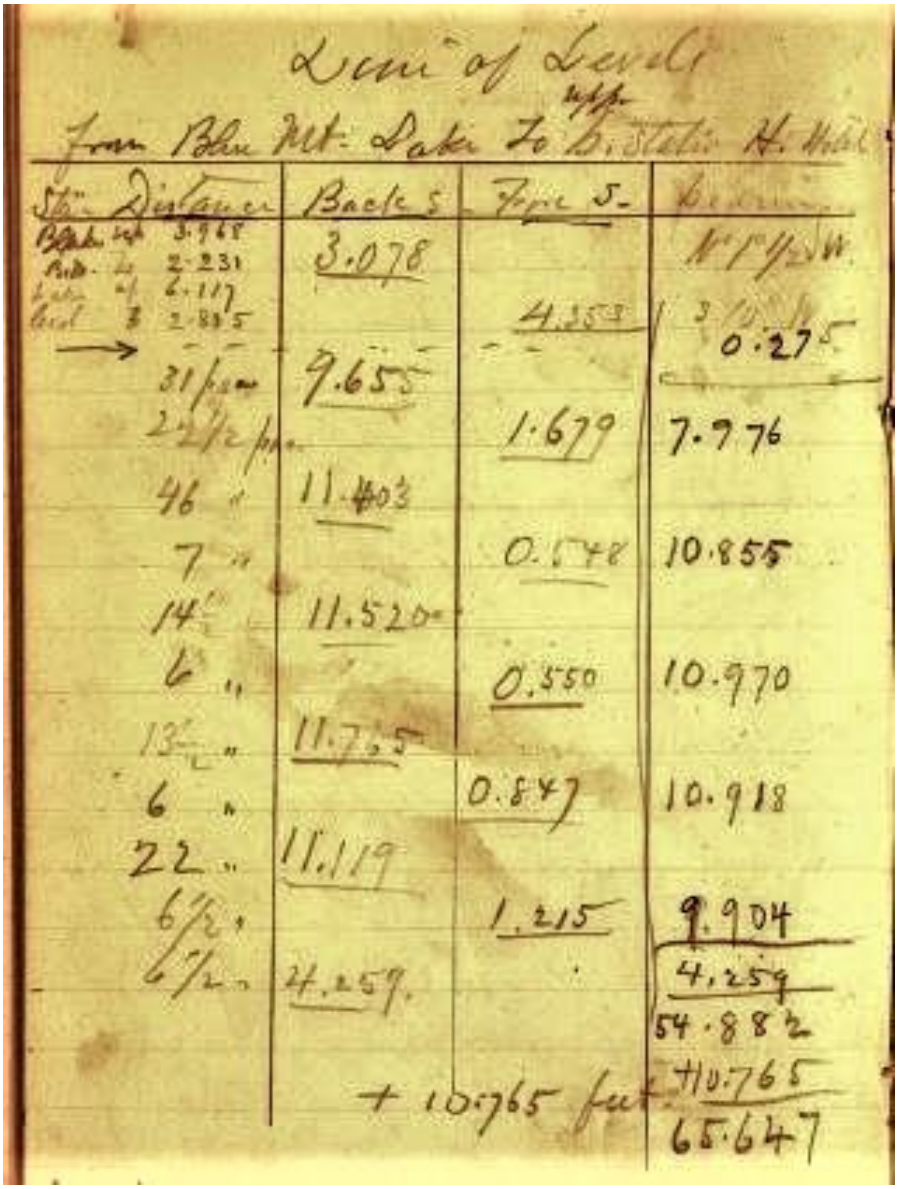
Column Headings & Station Notations (Left Column)



Station	Distance	Back s	Fore s	Bearing

Blakes Shore upp.
Bench Mark Is.
Lake upp.
Level 3

Entire Table



Line of Levels
from Blue Mt. Lake to B. State H. Mark

Sta.	Distance	Back S.	Fore S.	Elevation
Bk. Mk.	3.968	3.078		N 1° ½ W
Rod	2.231		4.354	3 0.275
Rod	2.117			
Bk. Mk.	2.835			
→				
	31 feet	9.655		
	2 2½ "		1.679	7.976
	46 "	11.403		
	7 "		0.548	10.855
	14 "	11.520		
	6 "		0.550	10.970
	13 "	11.735		
	6 "		0.847	10.918
	22 "	11.119		
	6½ "		1.215	9.904
	6½ "	4.259		4.259
				54.882
				+10.765
		+ 10.765 feet		65.647

And 65.647 feet = height of Bar. B. M. in N. W. rep. for ?
(2nd Story) room of Holland's Hotel abun. water Blue Mtn. Lake, Nov. 1st 1876 …

… or
65.647
-- .275
65.372 feet above Blakes shore B. M.

P. 62- Lake Shore

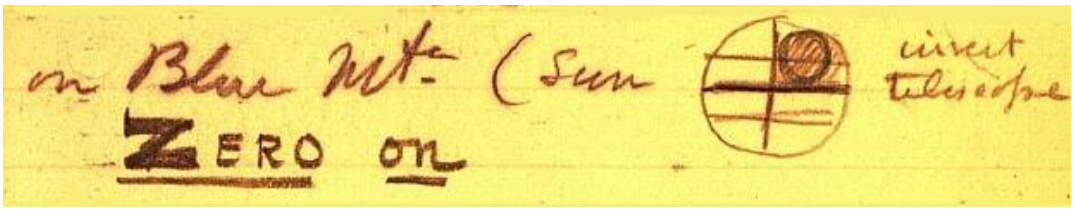
	9.655	B. S.
--	1.679	F. S.
	7.976	
+	11.403	B. S.
	19.379	
--	.548	F. S.
	18.831	
+	11.520	B. S.
	30.351	
--	.550	F. S.
	29.801	

+ 11.765
41.566
-- 0.847
40.719
+ 11.119
51.838
-- 1.215
50.623
+ 4.259
54.882 B. M. on Foundation of Holland's Hotel
Also + + 10.765 ft. above lake level
65.647 feet = Blake's bar. Station above N. W. room (corner) Hotel

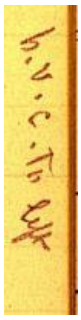
P. 63 blank

P. 64- Nov. 2nd

Altitudes of the Sun with W. Traverse? On Blue Mtn. (Sun … invert telescope…



…ZERO on
That is correctly (connected) the upper, right hand (west) limb of Sun, observed.



Time	Azimuth	Vest. Angle
1^h 24^m 27.8^s P.m.	0° 0' 0"	180° - 153° 1' 55"
1^h 30^m 1.8^s "	1° 24' 10"	180° - 153° 9' 28.5"
1^h 37^m 15.1^s "	3° 11' 20"	180° - 154° 29' 30.0"
1^h 45^m 19.3^s "	5° 10' 00"	180° - 154° 55' 5.0"

P. 65 is blank except for one line at bottom-
An. B. at 6 P.m. 25.450 inches

P. 66- Nov. 3rd

On Blue Mt.
An. B. at 8 A.m. 25.610

P. 67 blank
P. 68- Nov. 4th 1876

An. B.-- 8^h 45^m A.m. 25.845 inches.

P. 69 blank
P. 70- Nov. 5th

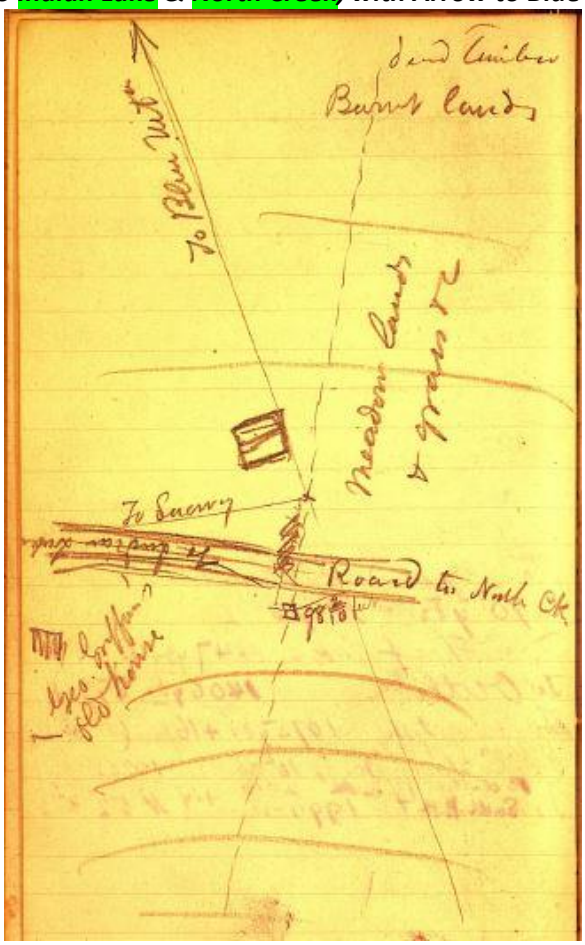
Altitude Palan?

Time	Alt.
4^h 32^m 29.1^s A.m.	180°-136° 15' 25" – 3 Sig"
Air (Stand- H) 48 Fah., An. B. 25.900 inches	
4^h 48^m 8^s A.m. (mean)	180°-136° 15' 20" 5"
5^h 3^m 30.2^s A.m. (a3-4ns, 2' 20")	180°-136° 15' 25" – 3 Sig"

On Rock Isle. Blue Mtn Lake
To Hollands S. and back by boat.
Ms. [measure?] telescope 1350-1400-1500 1400 yds & S. 74.5° E.
To end of Thatcher Island 390^{+3} yds, & N. 78 E.
To S. Shore of lake 447 yds. S. 53° W.
To Outlet 1406 yds. S. 79° W.
To Blakes I. Station 1075 yds + 16 paces (N. 68° W.)
Heay? of Polaris up oul?
Var. Compare (Dec.) 10^h 30^m P.m. 10° 22' 30"
Richardson's Bluff Pt. 2010. Copper Pt. of Schalf?
To Small B. Pt. base 1900-2000 (N. 52° 45' W.)

P. 71- [Map of Road to Indian Lake & North Creek]

Map of Road to Indian Lake & North Creek, with Arrow to Blue & Snowy Mtns



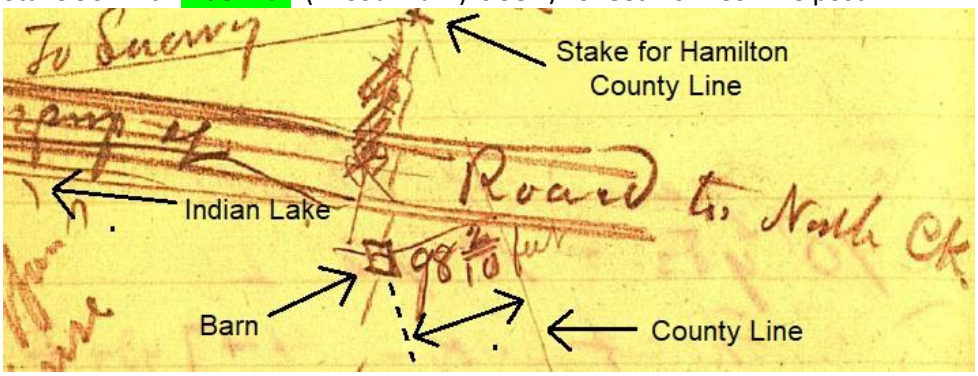
P. 72- Nov. 6th

On County Line, Ham^n. [Hamilton] Co.—

A.	B.	b.v.e. left vert

To Blue Mtn.	359° 59' 45"	179° 59' 40"	1° 53' 20"	
" Mt. Sebattis	22° 18' 40"	202° 18' 50"	2° 6' 10"	An
" Mt. McIntyre	79° 35' 35"	259° 36' 10"	1° 8' 10"	An
" Mt. Marcy	87° 24' 55"	267° 25' 20"	1° 15' 00"	An
" Mt. Hoffman	120° 16' 50"	300° 17' 10"	48' 20"	
" Mt. Pharoah				

Stake 90° with Blue Mtn. (in Cou. Barn) is 98 2/10 feet from Co. line post.



Reverse (Transited telescope)

			b.v.e right
Blue Mtn.	359° 59' 10"	179° 59' 5"	1° 53' 20" An
Mt. Marcy	87° 25' 00"	267° 25' 30"	1° 14' 00" An
Mt. Hoffman	120° 18' 9"	300° 18' 25"	48' 00" An

Co. line south blaze 220° 54' 40" & bearing S. 3° E. Mag. N. 1° 30' E.
North Side road stake 46° 32' 15", N. 2° 30' E.
Snowy & Blue Mtn's 69° 58' 40" 58' 45"
Blue Mtn. & Mt. Marcy 87° 41' 50" 42' 25"
& is 175 feet S. E. in line of Barn line.

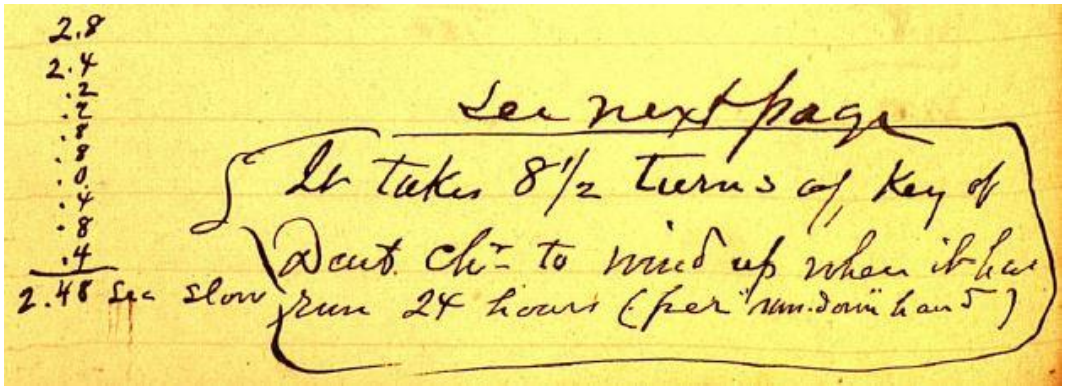
P. 73- [no entries] Nov. 7
Nov. 8

P. 74- Nov. 9th 1876

Comparison of Chronometers &c
Dent Chr. No. 2401 & Fasoldt Chr.:

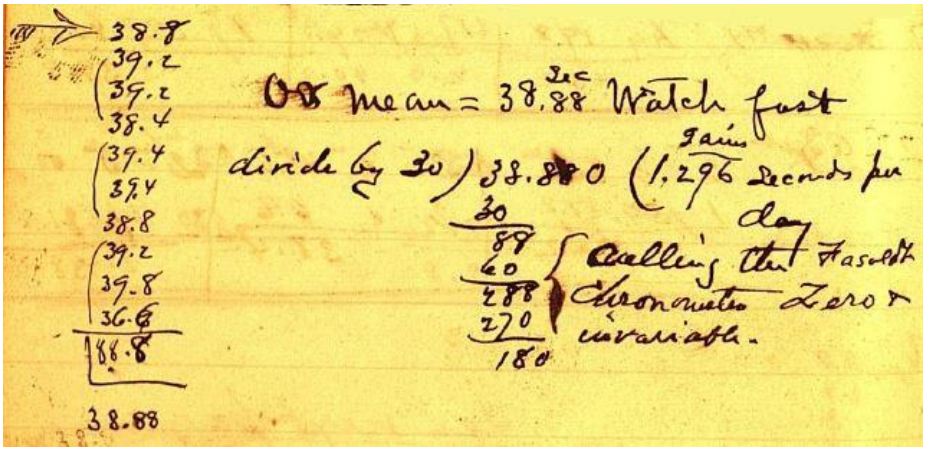
Dent. Chr.	$1^h\ 36^m\ 30.0^s$	&	$1^h\ 37^m\ 40.0^s$
Fasoldt Chr.	$1^h\ 36^m\ 27.2^s$	&	$1^h\ 37^m\ 37.6^s$
F. Chr. Slow =	2.8^s		2.4^s
Dent. Chr.	$1^h\ 40^m\ 30.0^s$	&	$1^h\ 41^m\ 40.0^s$
Fasoldt Chr.	$1^h\ 40^m\ 27.8^s$	&	$1^h\ 41^m\ 37.8^s$
F. Chr. Slow =	2.2^s		2.2^s
Dent. Chr.	$1^h\ 44^m\ 00.0^s$	&	$1^h\ 47^m\ 20.0^s$
Fasoldt Chr.	$1^h\ 43^m\ 57.2^s$	&	$1^h\ 47^m\ 17.2^s$
	2.8^s		2.8^s
	$-- 0.5^s$		
	0.3^s		
Dent. Chr.	$1^h\ 48^m\ 30.0^s$	&	$1^h\ 50^m\ 00.0^s$
Fasoldt Chr.	$1^h\ 48^m\ 27^s$	&	$1^h\ 49^m\ 57.6^s$
	2.0^s		2.4^s

Dent. Chr.	$1^h\ 51^m\ 65.0^s$	&	$1^h\ 52^m\ 20.0^s$	
Fasoldt Chr.	$1^h\ 51^m\ 52.2^s$	&	$1^h\ 53^m\ 17.6^s$	
	2.8^s		2.4^s	



P. 75-

V. C. Watch.	$2^h\ 4^m\ 15^s$	&	$2^h\ 5^m\ 40.0^s$			
F. Chr.	$2^h\ 3^m\ 36.2^s$	&	$2^h\ 5^m\ 00.8^s$			
	38.8^{sec}		39.2^s			
V. C. Watch.	$2^h\ 8^m\ 00^s$	&	$2^h\ 9^m\ 20^s$			
F. Chr.	$2^h\ 7^m\ 20.8^s$	&	$2^h\ 8^m\ 41.6^s$			
	39.2^{sec}		38.4^s			
V. C. Watch.	$2^h\ 47^m\ 00^s$	&	$2^h\ 48^m\ 10^s$	&	$2^h\ 50^m\ 20.0^s$	
F. Chr.	$2^h\ 46^m\ 20.6^s$	&	$2^h\ 47^m\ 30.6^s$		$2^h\ 49^m\ 41.2^s$	
	39.4^{sec}		39.4^s		38.8	
V. C. Watch.	$3^h\ 52^m\ 30.0^s$	&	$2^h\ 55^m\ 40^s$	&	$2^h\ 56^m\ 50.0^s$	
F. Chr.	$2^h\ 51^m\ 50.8^s$	&	$2^h\ 55^m\ 0.2^s$	&	$2^h\ 56^m\ 9.8^s$	
	39.2^{sec}		39.8^s		40.2	



P. 76-

Sunday
[Nov. 12]

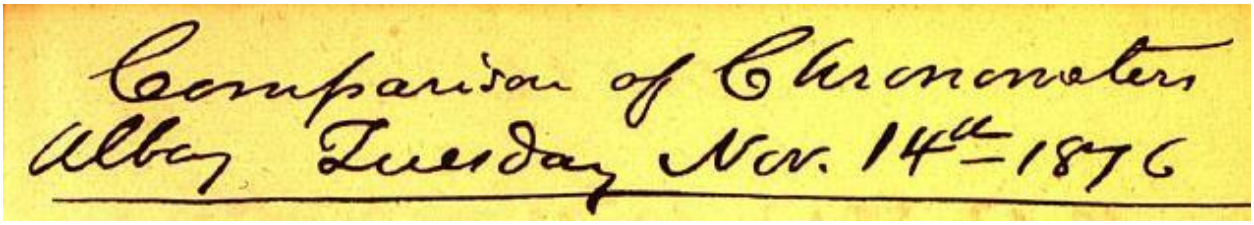
Dent. Chr.	$1^h\ 15^m\ 00^s$	&	$1^h\ 31^m\ 10.0^s$	
Fasoldt Chr.	$1^h\ 14^m\ 57^s$	&	$1^h\ 31^m\ 6.6^s$	
F. Chr. Slow =	3.0^s		3.4^s	

Dent. Chr.	$1^h\ 32^m\ 30^s$	&	$1^h\ 33^m\ 40^s$	

Fasoldt Chr.	$1^h\ 32^m\ 26.4^s$	&	$1^h\ 33^m\ 36.8^s$			
	3.6^s		3.2^s			
Dent. Chr.	$1^h\ 34^m\ 50^s$	&	$1^h\ 36^m\ 00.0^s$			
F. Chr.	$1^h\ 34^m\ 47^s$	&	$1^h\ 35^m\ 56.6^s$			
	3.0^{sec}		3.4^{sec}			
Dent.	$1^h\ 17^m\ 10^s$	&	$1^h\ 18^m\ 20.0^s$			
F.	$1^h\ 17^m\ 6.7^s$	&	$1^h\ 18^m\ 16.6^s$			
	3.3^{sec}		3.4^{sec}			
1^{st} Adjustment--						
V. C. Watch.	$1^h\ 50^m\ 00^s$	&	$1^h\ 52^m\ 10^s$	&	$1^h\ 54^m\ 20.0^s$	
F. Chr.	$1^h\ 49^m\ 19.8^s$	&	$1^h\ 51^m\ 29.8^s$		$1^h\ 53^m\ 40.2^s$	
	40.2^{sec}		40.2^s		39.8	
2^{nd} Adjustment--						
V. C. Watch.	$2^h\ 00^m\ 30^s$	&	$2^h\ 1^m\ 45.0^s$	&	$2^h\ 3^m\ 00.0^s$	
F. Chr.	$1^h\ 59^m\ 51.8^s$	&	$2^h\ 1^m\ 6.6^s$		$2^h\ 2^m\ 21.8^s$	
	38.2^{sec}		38.4^{sec}		38.2^{sec}	

P. 77 is blank

P. 78- Comparison of Chronometers, Albany—Tuesday Nov. 14th 1876



Dent.	$3^h\ 49^m\ 40.0^s$	&	$3^h\ 51^m\ 00^s$	&	$3^h\ 52^m\ 15.0^s$	
Fasoldt	$3^h\ 39^m\ 33.2^s$	&	$3^h\ 50^m\ 53.2^s$		$3^h\ 52^m\ 8^s$	
F. slow	6.8^{sec}		6.8^s		07.0^{sec}	
D.	$3^h\ 54^m\ 25.0^s$	&	$3^h\ 56^m\ 45.0^s$	&	$3^h\ 57^m\ 55^s$	
F.	$3^h\ 54^m\ 17.8^s$	&	$3^h\ 56^m\ 38.2^s$		$3^h\ 57^m\ {}^4 8^s$	
F. slow	7.2^{sec}		6.8^s		7.0^{sec}	
Fasoldt	$4^h\ 7^m\ 4^s$	&	$4^h\ 10^m\ 10.0^s$	&	$4^h\ 11^m\ 30^s$	
V. C. Watch	$4^h\ 8^m\ 00^s$	&	$4^h\ 9^m\ 13.6^s$		$4^h\ 10^m\ 34^s$	
Watch fast. Of F. Chr.	56.0^{sec}		56.4^{sec}		56.0^{sec}	

Comparison of Chronometer at Adirondack Survey Office Wednesday Nov. 15th 1876

Dent. 2401	$1^h\ 36^m\ 15.0^s$	&	$1^h\ 37^m\ 25.0^s$			
Fasoldt	$1^h\ 36^m\ 5.2^s$	&	$1^h\ 37^m\ 15.2^s$			
	9.8^{sec}		9.8^s			
Dent.	$1^h\ 38^m\ 25.0^s$	&	$1^h\ 39^m\ 45.0^s$	&	$1^h\ 36^m\ 50.0^s$	
F.	$1^h\ 38^m\ 26.0^s$	&	$1^h\ 39^m\ 35.6^s$		$1^h\ 36^m\ 40.8^s$	
F. slow	9.0^{sec}		9.4^s		9.2^{sec}	

F.	1^h	46^m	50.0^s	&	1^h	49^m	55.0^s	&	1^h	
V. C. watch	1^h	45^m	52.0^s	&	1^h	48^m	57.0^s			
			58.0^{sec}				58.0^{sec}			

P. 79- Nov. 16

Dent.	10^h	17^m	50.0^s	&	10^h	19^m	00^s	&	10^h	21^m 20.0^s
F.	10^h	17^m	34.4^s	&	10^h	18^m	47.6^s		10^h	21^m 7.6^s
			11.6^{sec}				12.4^s			12.4^{sec}
Dent.	10^h	23^m	30.0^s	&	10^h	24^m	35.0^s	&	10^h	25^m 40.0^s
F.	10^h	23^m	17.2^s	&	10^h	24^m	22.6^s		10^h	25^m 28.0^s
			12.8^{sec}				12.4^s			12.0^{sec}

- Nov. 16 1876

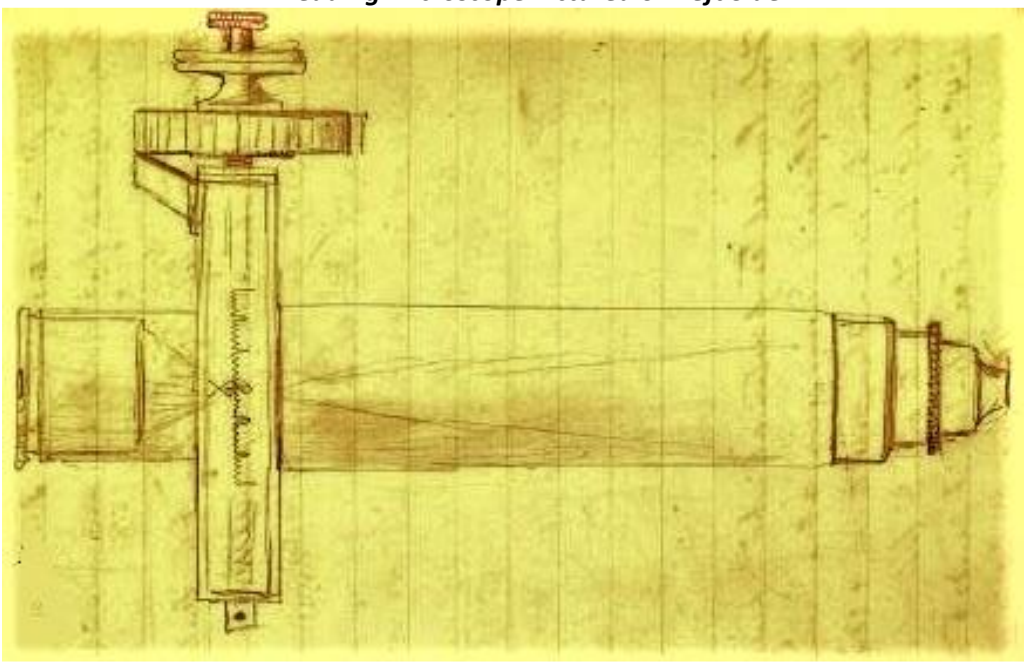
Arthur Dudley Observatory—with Fasoldt Pocket Chronometer, Comparison Thursday, Nov. 16
11^h 29^m 33.4^s
D. O. Clock is 36^s / 100 slow—

D. O.	23^h	39^m	30.0^s	&	11^h	42^m	00.0^s	&	11^h	44^m 00.0^s
F.	11^h	35^m	3.0^s	&	11^h	37^m	32.6^s		11^h	39^m 33.2^s
		4^m	27.0^{sec}			4^m	27.4^{sec}			4^m 26.8^{sec}
D. O.	11^h	45^m	30.0^s	&	11^h	47^m	00.0^s	&	11^h	50^m 20.0^s
F.	11^h	41^m	3.0^s	&	11^h	42^m	32.6^s		11^h	46^m 3.2^s
		4^m	27.0^{sec}			4^m	27.4^{sec}			4^m 26.8^{sec}

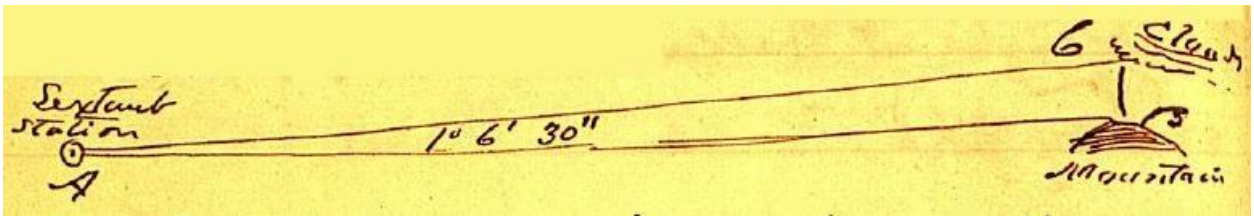
The lowest temperature at Ad^k. [Adirondack] Survey Office in Albany (during our absence) is shown by Micro-Ther. (No. 3568) to = +18.5° Fah.
The scale of this thermometer extends from –94° F. to +124° Fah. and as standard it reads 6° F. too lower than the portable minimum of Pike (i.e., Pike = +39° F. the large Green item? (3568) = 33° Fah—V. C. Nov. 28th, 10^h 10^m A.m.

P. 80- One of the Reading Microscopes of Gerthling 20 inch Theodolet No. 2361 weights in balance 6 oz—7 pds or 6 1/3 oz— (Troy, N.Y.)

Reading Microscope Pictured on Left Side



P. 81- About 11 A.m. Dec 5th 1876, Band of Clouds above Summit Mountain (?) was observed with P. Sextant (no index error) Angle measured = 1° 6' 30" being the angular value of the height of cloud above the mountain top—at below (distance =

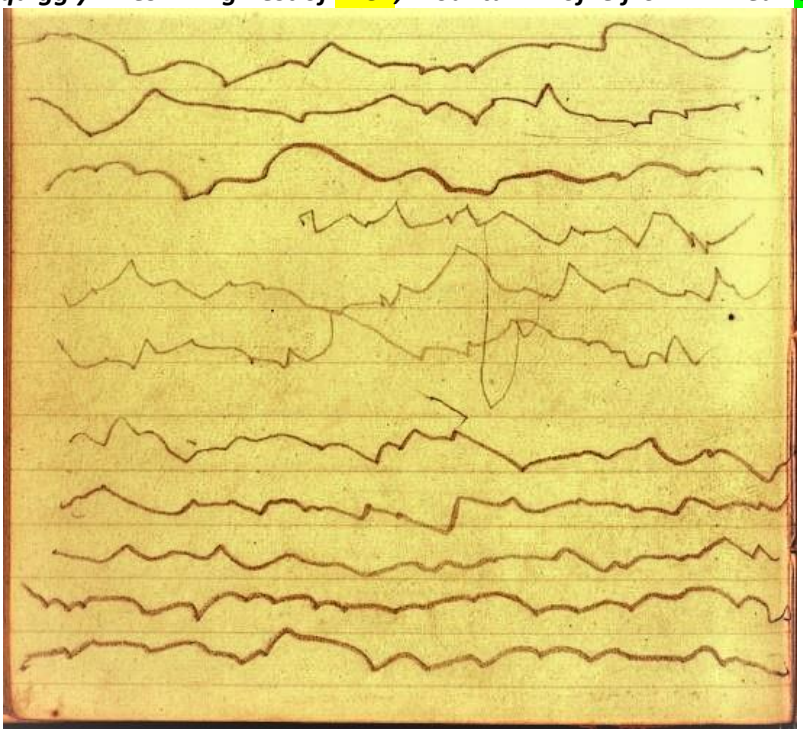


The upper forward front of cloud was observed in when the position of Cloud Mass of same front reached and touched the mountain. Bar (An. Pocket)– 29.560 in. Ther. = 30.0° Fah. (= air) or 29.5° F.

Then A = 1° 6' 30"
B = 89° 26' 45"
C = 89° 26' 45"

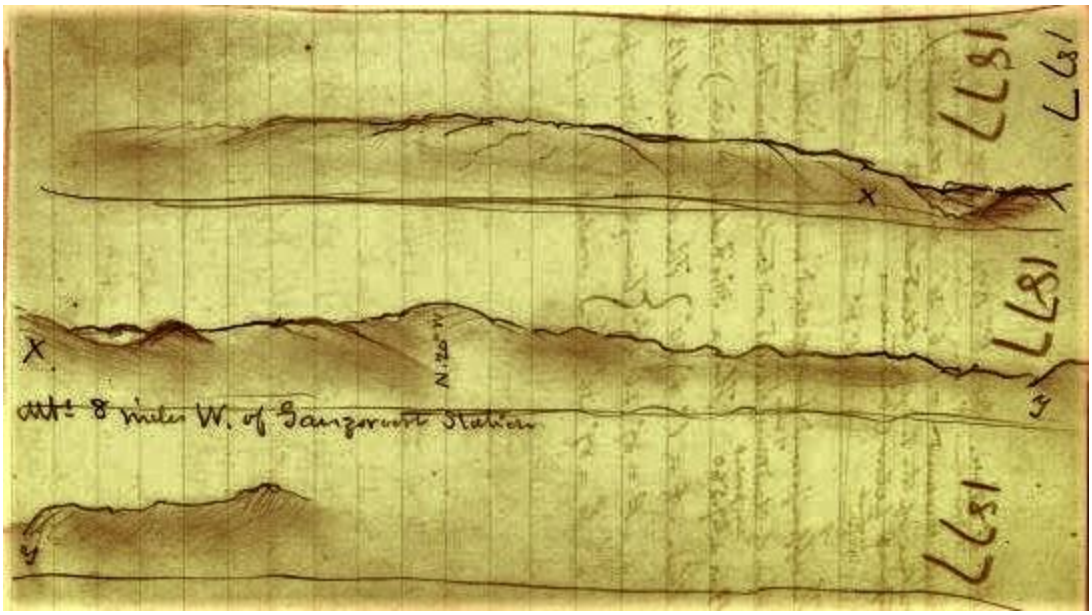
The distance AB of triangle = 60,937.5 feet or about 61,000 feet.

Unlabeled Squiggly Lines Filling Rest of P. 81, Mountain Profile from RR Near Gansevoort



[See P. 96 for explanation of these horizon sketches of mountainous regions on railroad trips in or near the Adirondacks, these not labeled, but prob. near or around Gansevoort. & Glens Falls.

P. 82- ***Three Mountain Sections forming a Continuous Mountain Range (Top as L., Bottom Two to R.)***
This range identifies 3 points, "X' to the left, "Mtn. 8 miles west of Ganzevoort Station," a middle point marked with a compass bearing of N. 20 W., which is the site of the Ganzevoort Station (directly between the Northway to the W. and the Hudson R. to the E., and 8 miles S. of Glen's Falls), and then Point "Y" to the right, approximately 12 miles (It appears that Verplanck Colvin has inserted material from the 1877 survey season into his 1886 Journal).



P. 83- Dec. 12th 1877

[This appears to continue 1877 material inserted in his 1886 Journal]

W. School Common?

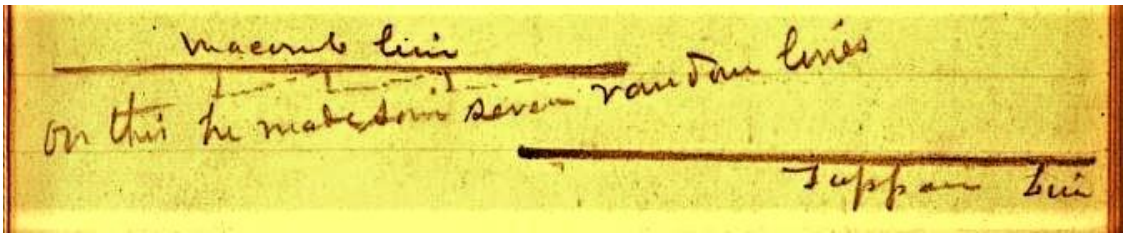
Mr. Newell's house (S. Side) was about two chains north of the line W 10 Miles North of Crown Point—8.87 E. to Heap of Stones on Shore of lake.

Lake George above Lake Champlain a plan 226 feet—high water Los Cs?? Say 326 above tide. Average water 230 ft. above Lake C. and Lake G. has little change.

McAlpine report 1839—George? Full on outlet 32 feet.

Arnold says he measured from the corner of the old fort (most northerly corner) ten miles on ice, on a course as the magnetic needle pointed in 1772 and then ran West, offsetting however—and going through Raven Pass and the Pitchoff Mtn. Pass as the true line would run over Giant of Valley—He says that he did not see any point in running this line west from Buell's but that on the headwaters of John's brook near Mt. Haystack, he crossed part of a marsh out of which ran a branch of John's brook on which he thought there might be a point.

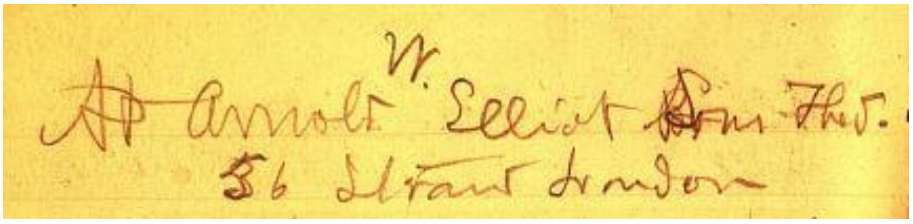
He represents the Tuppan or old Military line, and the Totten & C. [Crossfield] or rather the Corinth? Line as located thus:



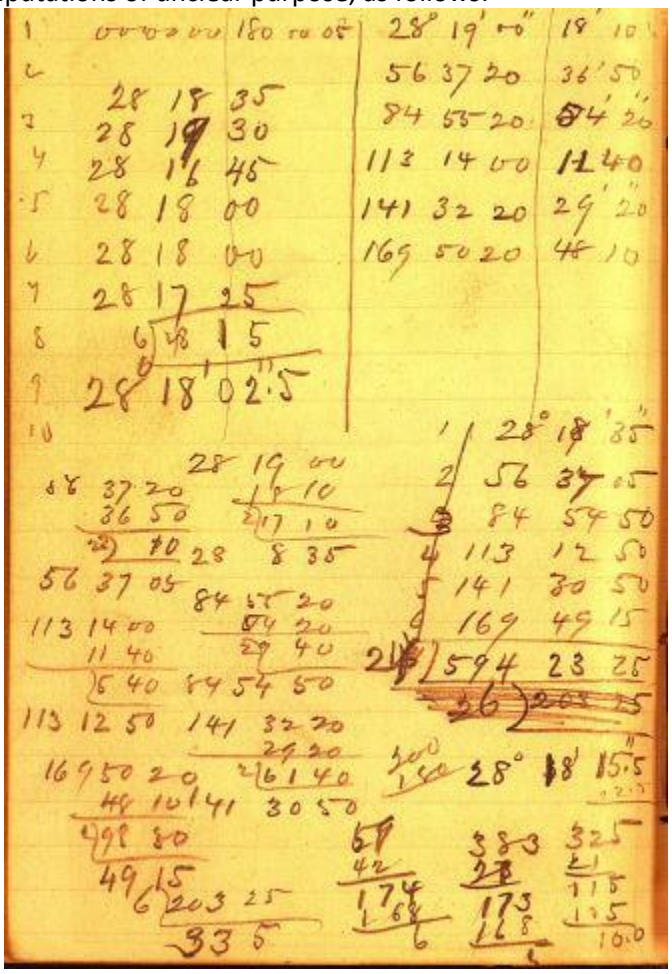
P. 84- The Heading for this page follows, referring to an "Arnold W. Elliot," probably following up on the McAlpine Report of 1839 referred to on P. 83, which proposed use of the waters flowing out of Lake George, but never implemented. Here is a quote about this project from *New York Court of Appeals, Records & Briefs* (p. 2476, Vol. 3):

> "The Map and Report (1839), prepared by the engineers McAlpine and Wilkinson, set forth a proposed project for utilizing the waters flowing out of Lake George and did not

refer to existing structures…The plan proposed by the McAlpine-Wilkinson Map and Report was never carried out."



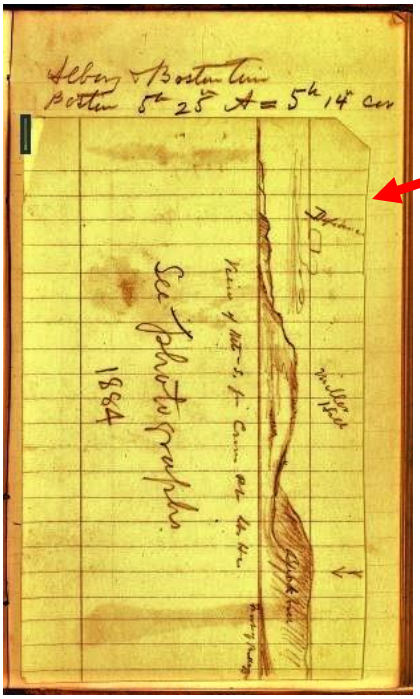
The rest of this page is filled with a list of Survey readings showing bearings (such as 28° 19' 00") as well as many computations of unclear purpose, as follows:



P. 85- Includes what appears to be an insert from another notebook, with the following heading on the original journal:

Albany & Boston time

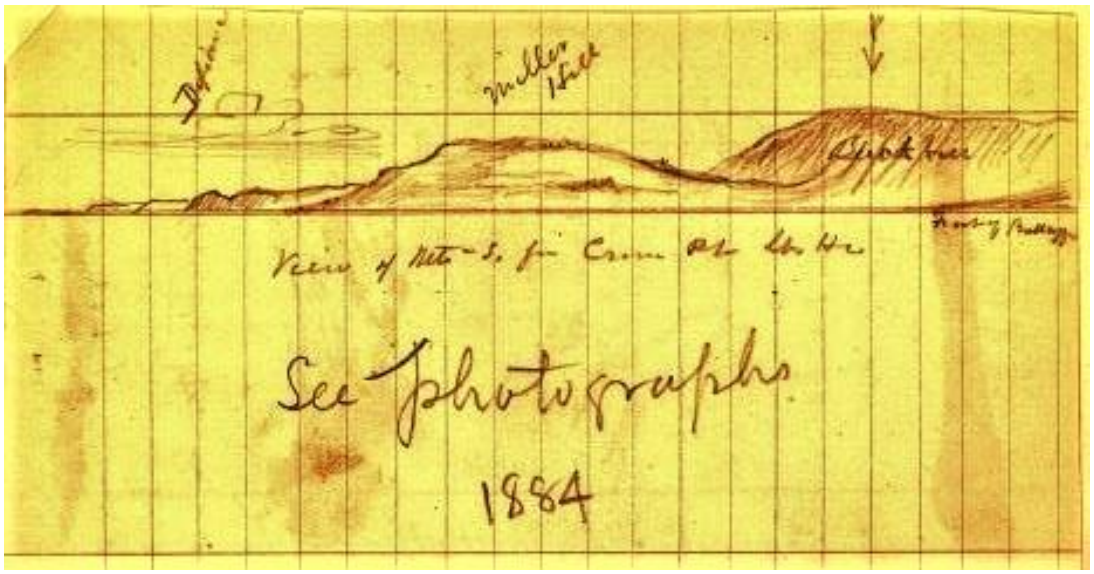
Boston $5^h\ 25^m$ A. = $5^h\ 14^m$ Cos.



Verplanck Colvin inserted 1877 Season material (11 pages) into this 1876 Season Journal.

View of Mtns. S. from Crown Point Light House

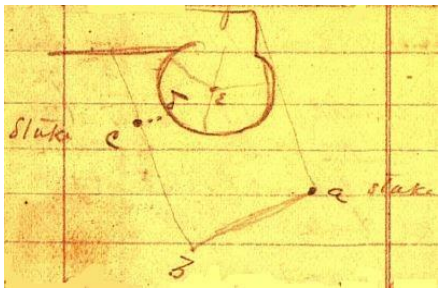
Miller's Hill Buck Hill



See Photographs 1884

P. 86- blank

P. 87 [2nd page Inserted in this Journal]—Measurements at Juniper H. House on Nov. 23rd 1877, V. C. obs. [Verplanck Colvin Observations] for diameter of base of tower—



In above sketch a + b are right angles, the distance a to b = 10.980 feet (big steel tape) and leveled by lake horizon North = 10.985 feet. Distance c.....d = 3.010 feet by big steel tape. Another measurement c to d = 3.010 (corrected for width of thickness of brass ridged end of tape—Now 10.980 -3.010 = 7.970 = diameter of lower part of tower of Juniper Light House two feet from the ground.

P. 88 [3rd page Inserted in this Journal]— 114.550 feet = distance from Instrument Station to outside of tower (white iron). Then this + 7.970/2 = + 3.985 = 114.550 +3.985 or exactly = 118.535 feet for center of tower to center of instrument (station), See third book.

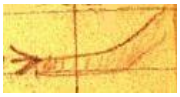
Loft 9 1/16 inches =
1.790 feet = height of telescope axis at Theodolite Station (118.535 from tower center) above iron base of tower, therefore the axis of telescope is (63.996 + 1.780) above level of lake, i.e., it is 65.785 feet above lake level of Nov 23rd.

P. 89 [4th page Inserted in this Journal]— Levels from Lake (at Juniper Isle) on Nov 23rd 1877 to Light House.

 each 5.500 feet

11

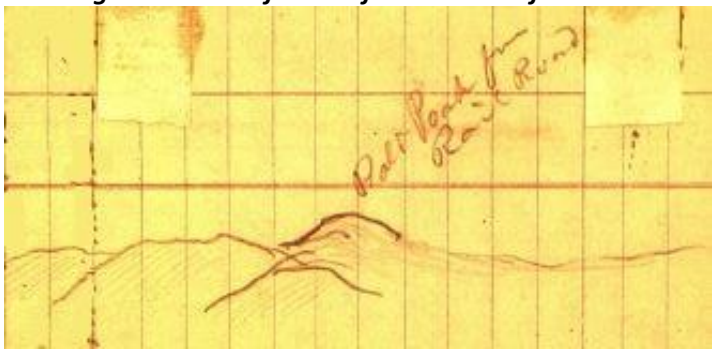
32.7 feet			5.500
32.0 "			55.000
28.2 "			60.500
22.6 "	4a		+ 3.495
44.8 "	5a	is forward	63.995 ft =
57.6 "	6	" "	height of base
44.5 "	7	" "	of tower
39.7 "	8	" "	
24.0 "	9	" "	
44.0 "	10	" "	[tower 48.5 feet
48.1 "	11	" "	& from here to base of

+ 3.495 ft to base of tower- i.e. Top of lower iron piece thus 

22.240 ft = height of level of floor of turret above base of tower,
6.420 = height over gutter (feet) to surface turret floor.

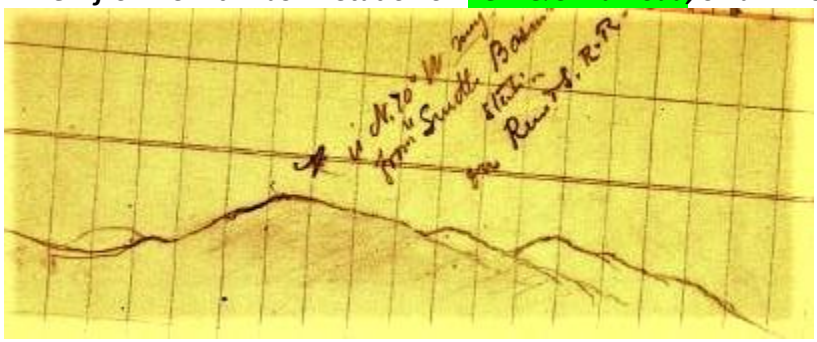
To top of Spire at an angle of 45 = 6.080 ft. from upp edge of gutter.
Outer circumference of tower just above turret floor 23.100 ft,
Line diameter =
Height of glasses or windows 3.870 ft.

Drawing on bottom of P. 89 of Pow & Rock from Rail Road



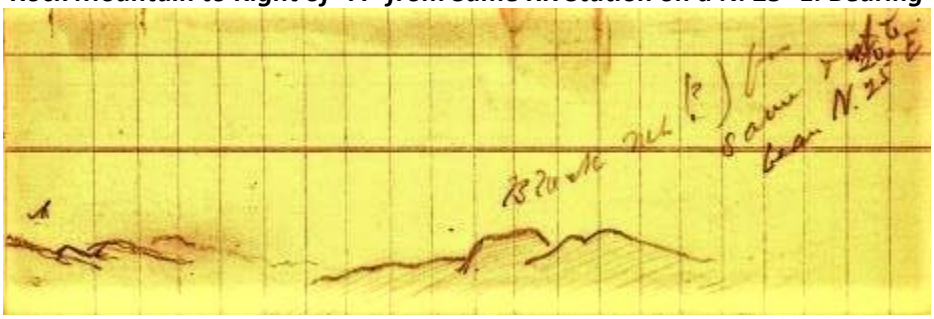
P. 90 [5th page Inserted in this Journal is blank]
P. 91 [6th page Inserted in this Journal has sketch of mountain scene]

"A" Mountain View from "Smith Basin" Station on Rem & S. Railroad, on a N. 70° W Bearing



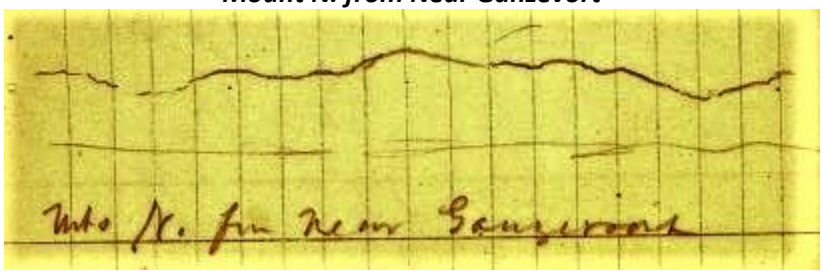
P. 92 [7th page Inserted in this Journal has sketch of mountain scene]

Rock Mountain to Right of "A" from Same RR Station on a N. 25° E. Bearing



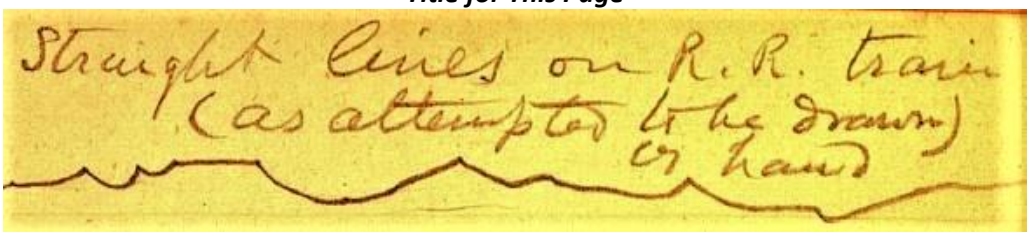
P. 93 [8th page Inserted in this Journal is blank]
P. 94 [9th page Inserted in this Journal has sketch of mountain scene]

Mount N. from Near Ganzevort

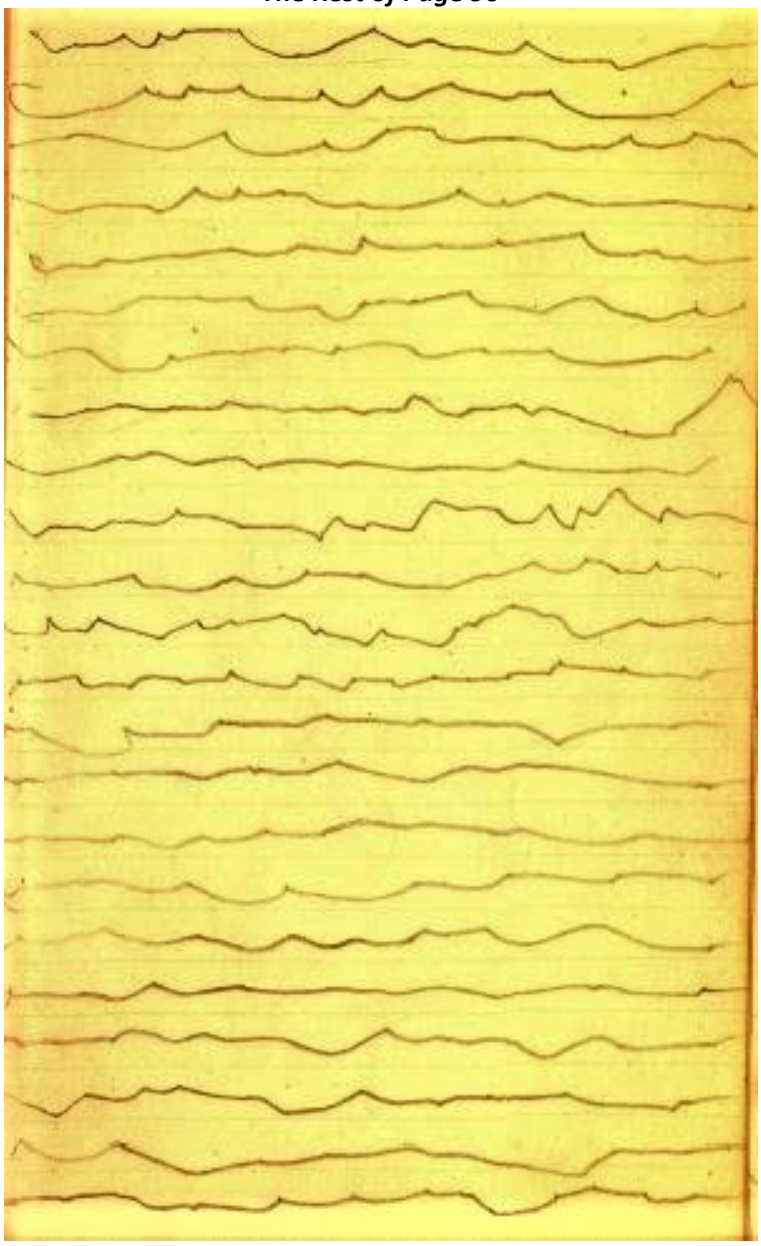


P. 95 [10th page Inserted in this Journal is blank]
P. 96 [11th page Inserted in this Journal has sketch of mountain horizons drawn from train]

Title for This Page

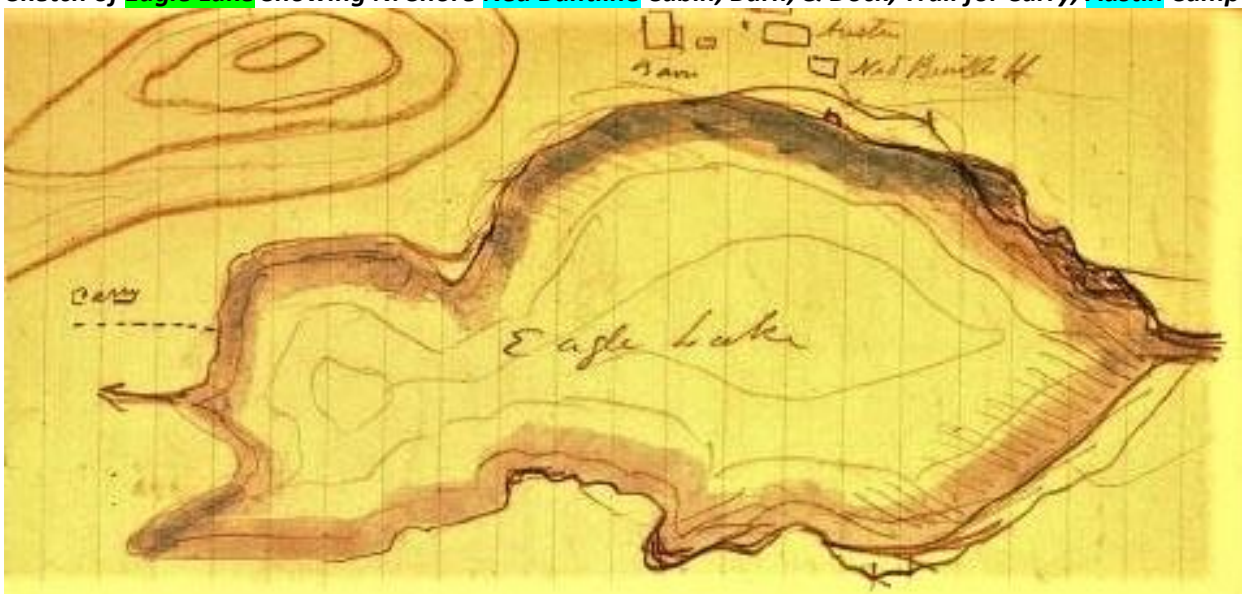


The Rest of Page 96



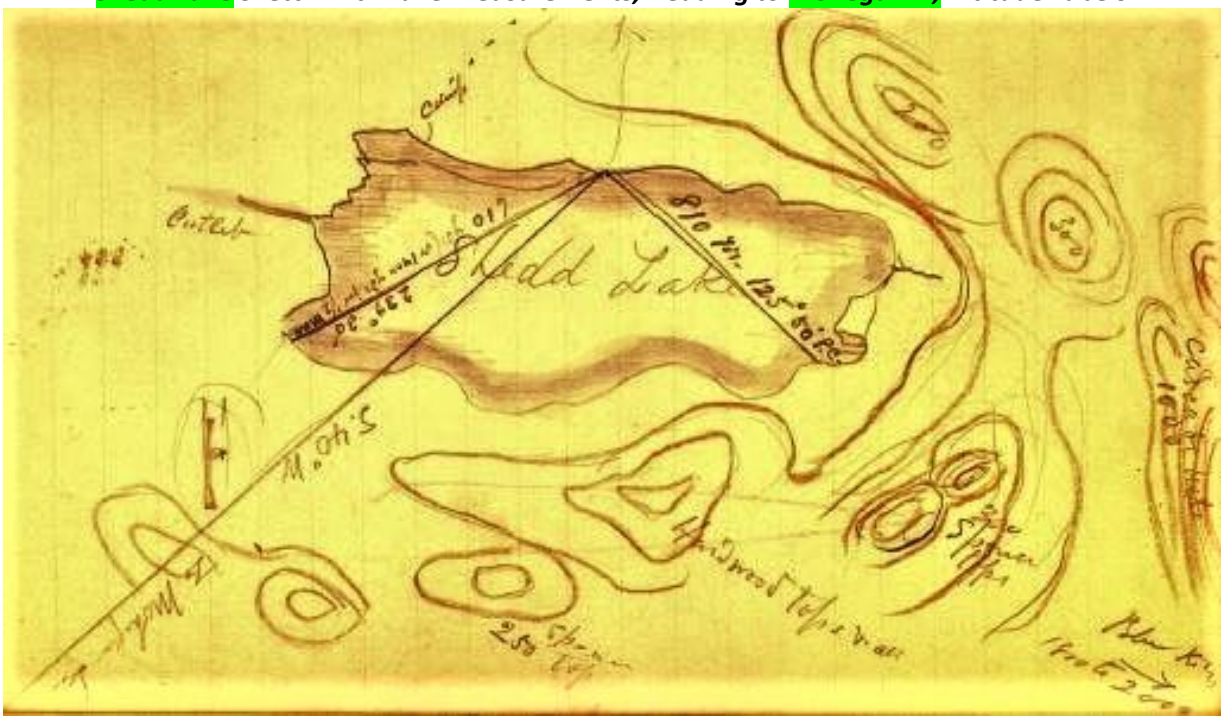
P. 97 [return to regular Journal, starting lake sketches from the 1876 Season]—

Sketch of Eagle Lake Showing N. Shore Ned Buntline Cabin, Barn, & Dock, Trail for Carry, Austin Camp



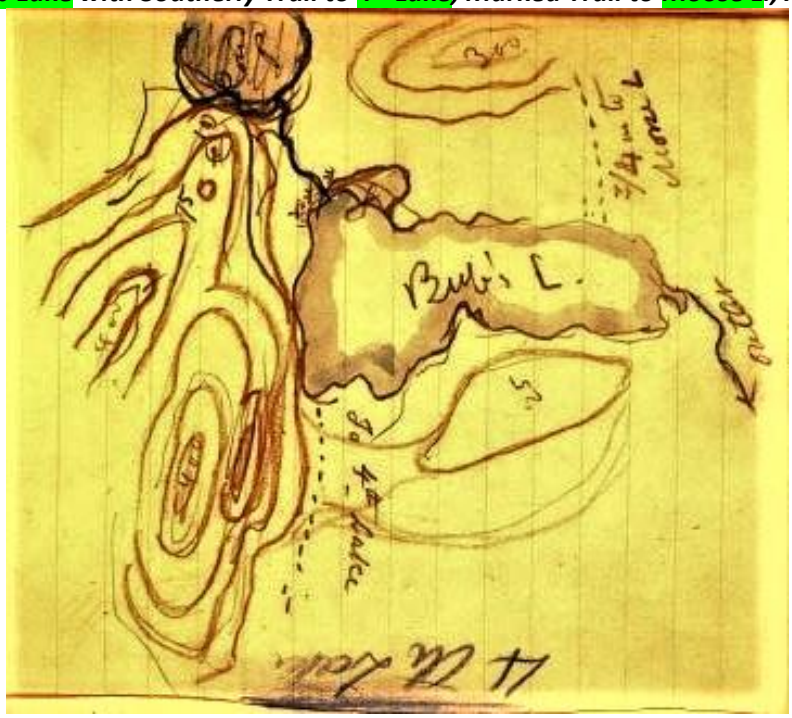
P. 98-

Shedd Lake Sketch with Lake Measurements, Heading to Mohegan L., Altitude Labels



P. 99 [Lake Sketch with Captions Underneath]—

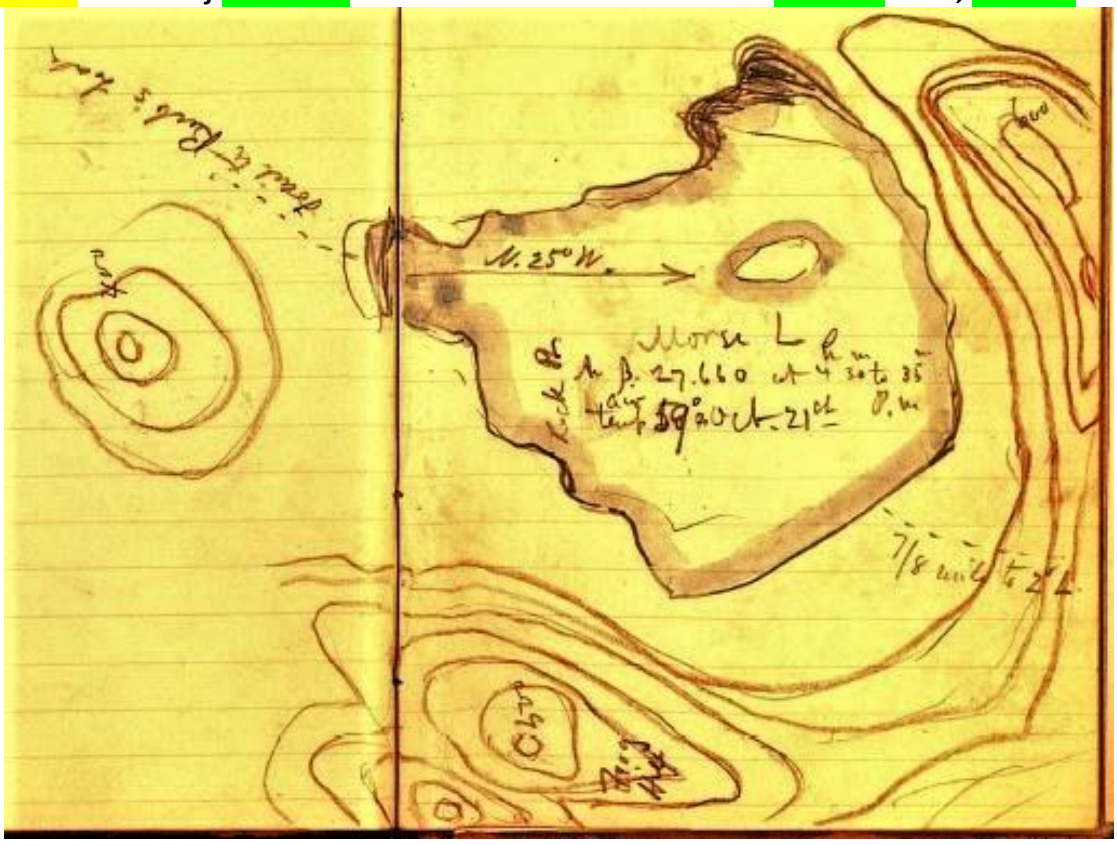
Sketch of Bubb Lake with Southerly Trail to 4th Lake, Marked Trail to Moose L., Altitude Labels



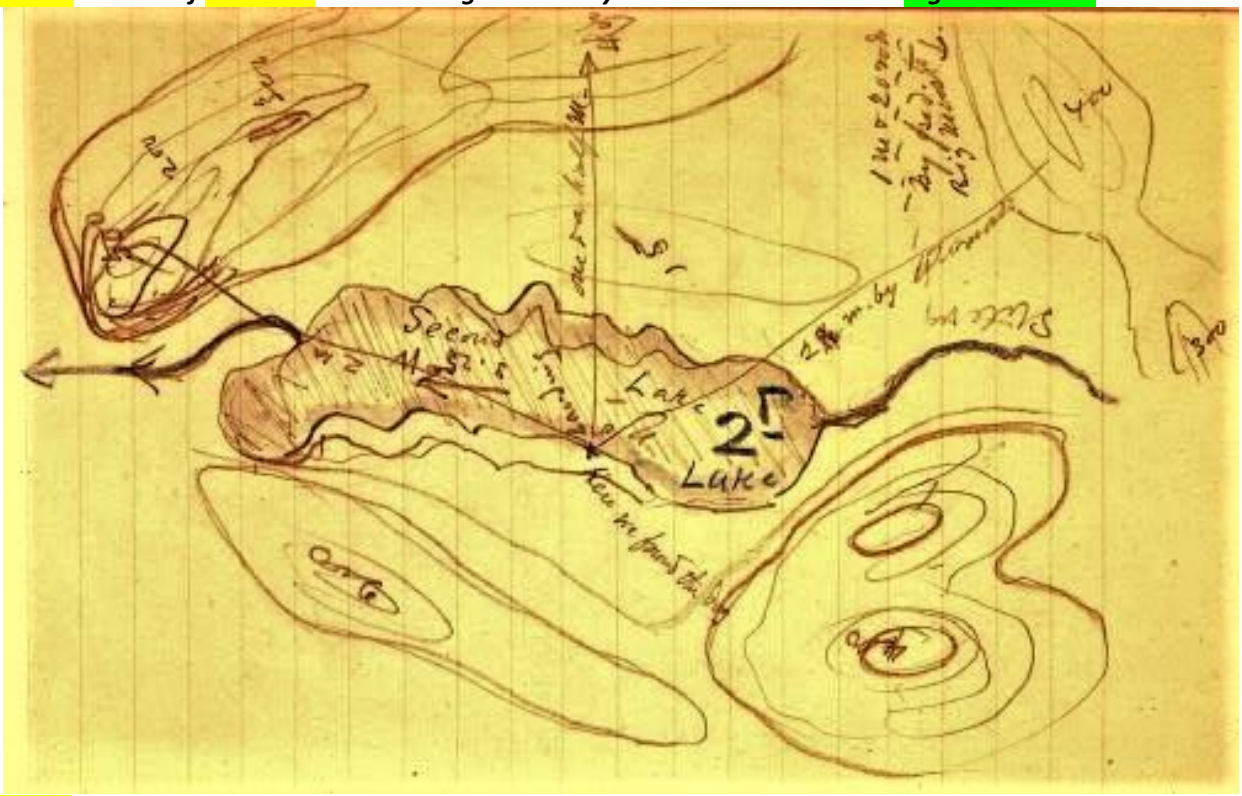
On Fourth Lake: from where the Co. line strikes the shore (north shore) to Signal on Cedar Island = 625 yards by black miesererates telescope—sketch of Lime Kiln Lake & Bald Mtn. Signal cut out & feet? Away.

P. 100 is blank

PP. 101-102—***Sketch of Moss Lake with Measurements & Two Trails- Bub Lake to W., 4th Lake to SE***

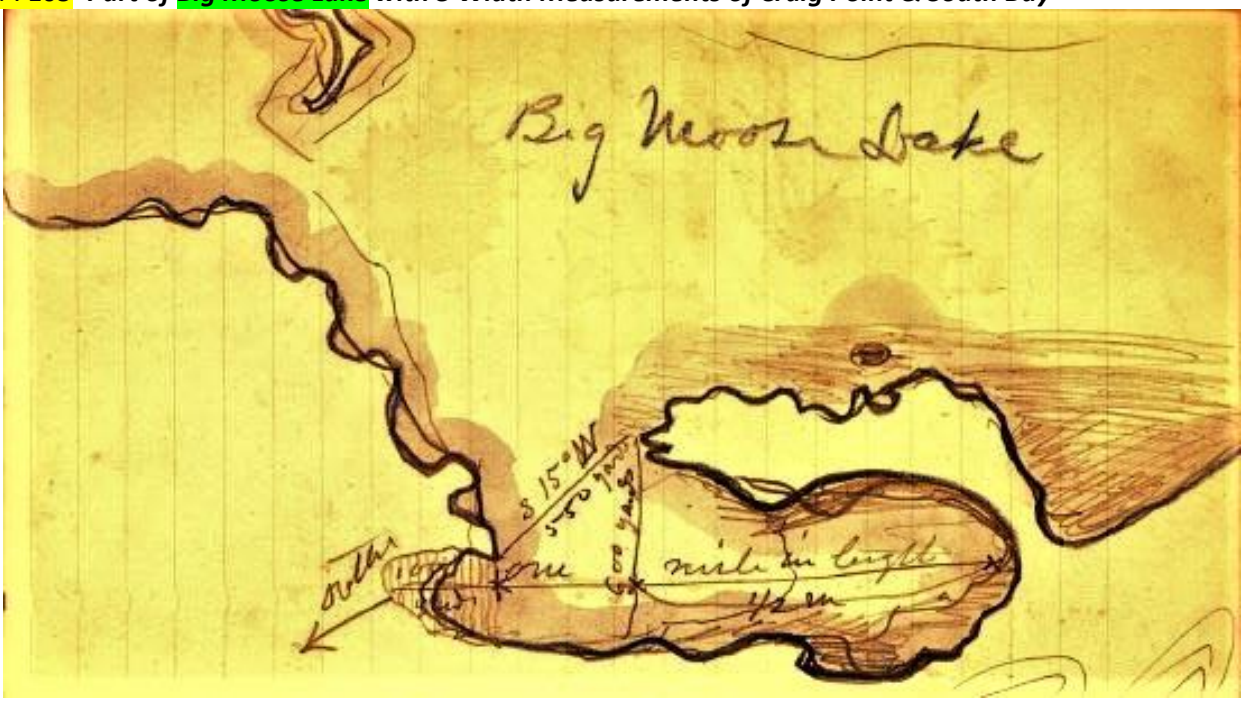


P. 103- ***Sketch of 2nd Lake with Bearings to Nearby Mtns. & 1 Mile Trail to Big Moose Lake on NE Side***



P. 104 Blank

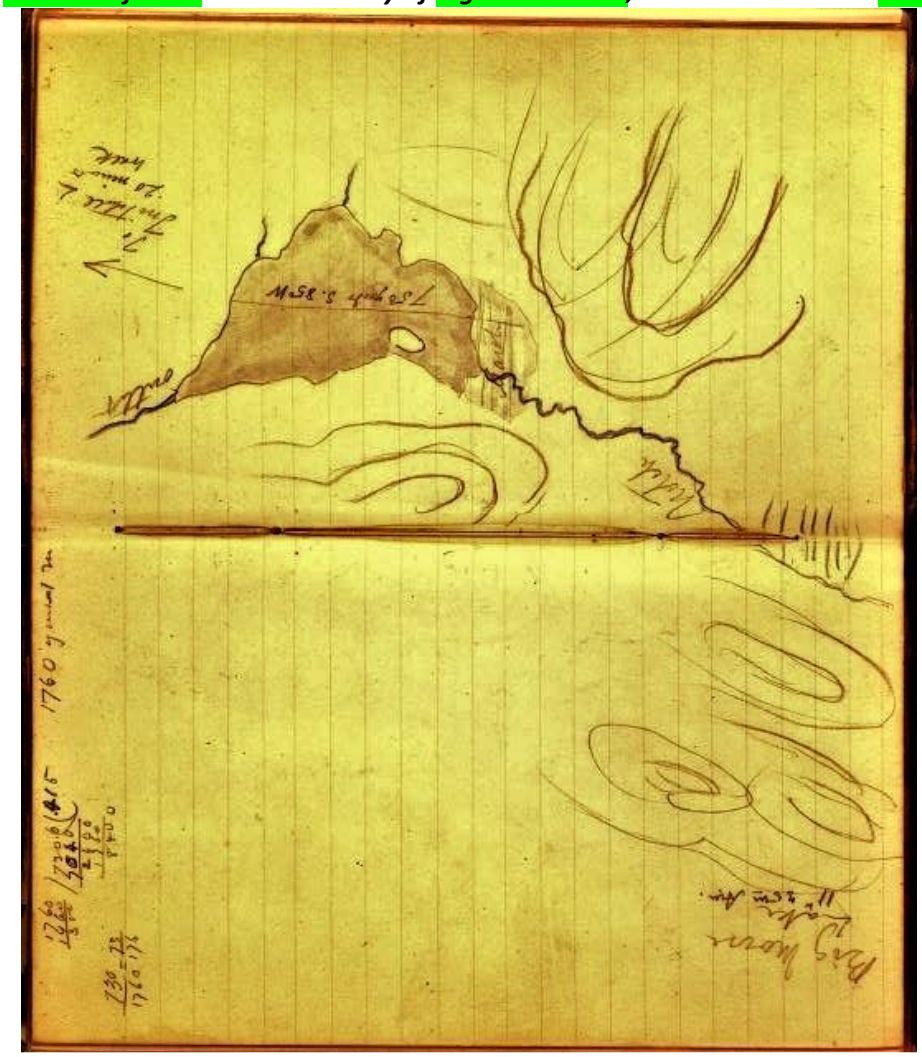
P. 105- ***Part of Big Moose Lake with 3 Width Measurements of Craig Point & South Bay***



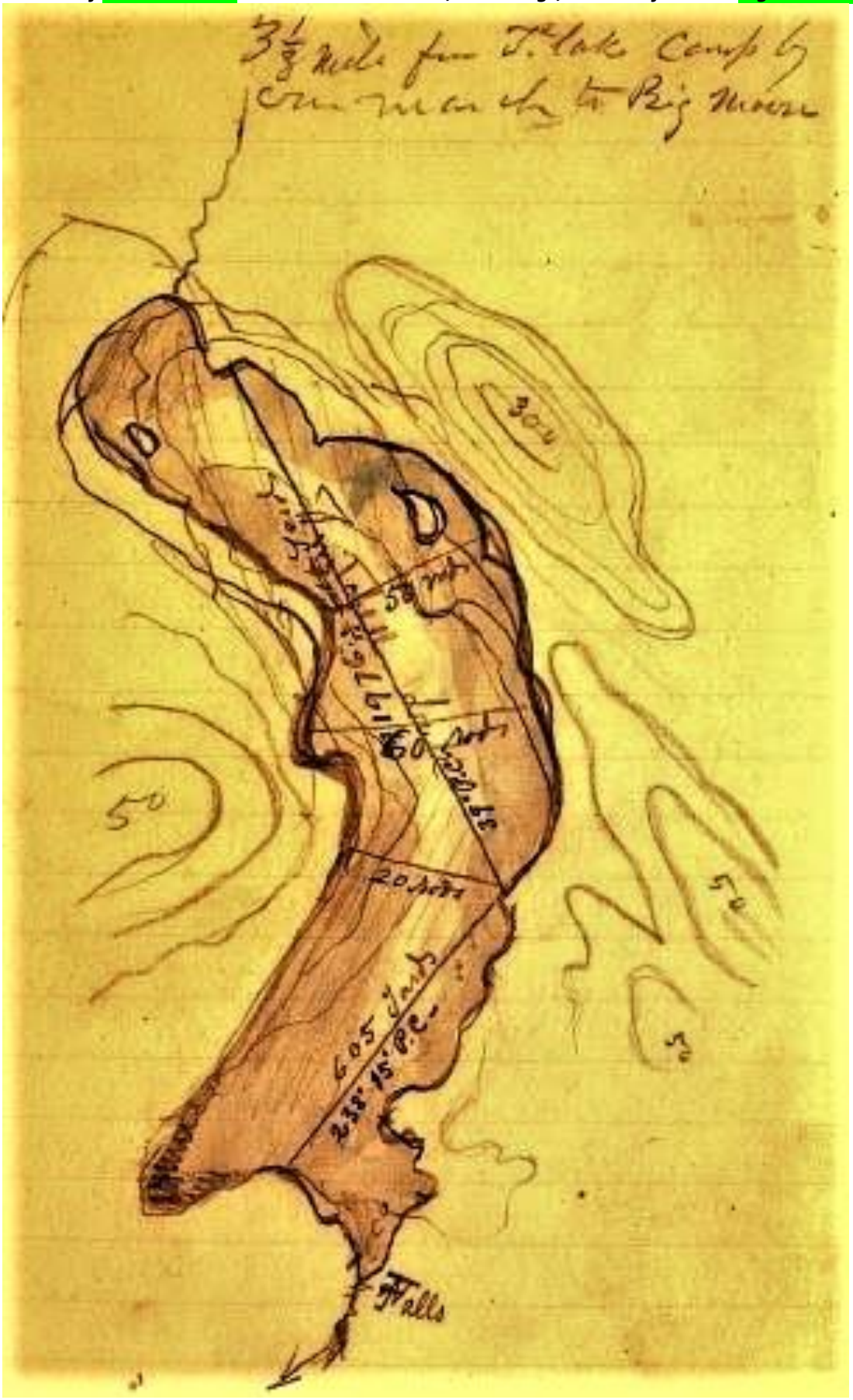
P. 106- From S. end of Signal Island to up. End of West bay Big. Moose Lk. = 1000 yards, direction = N. 80° W. by pocket compass-- & from S. end Island to Camp station ob^{s}. [observed] on tree 7 ft 3 ½ inches in circum^{c}. = 3000 yards (to be connected to signal = 5 ft 11 inches) & to be plussed (+) by 40 yards.

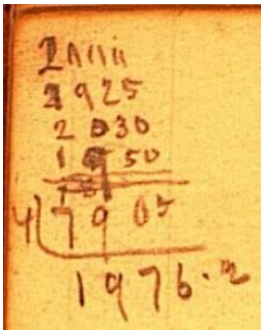
West End Big Moose Lake with 250' Bluff to N., 3 Bearings & Measurements from Tip of Signal Island

PP. 107-108- ***Little Chief Pond Near North Bay of Big Moose Lake, Marked Trail W. to Twitchell Lake***



P. 109- ***Sketch of Twitchell Lake with 5 Measurements, 2 Bearings, & Note of Trail to Big Moose Lk.***

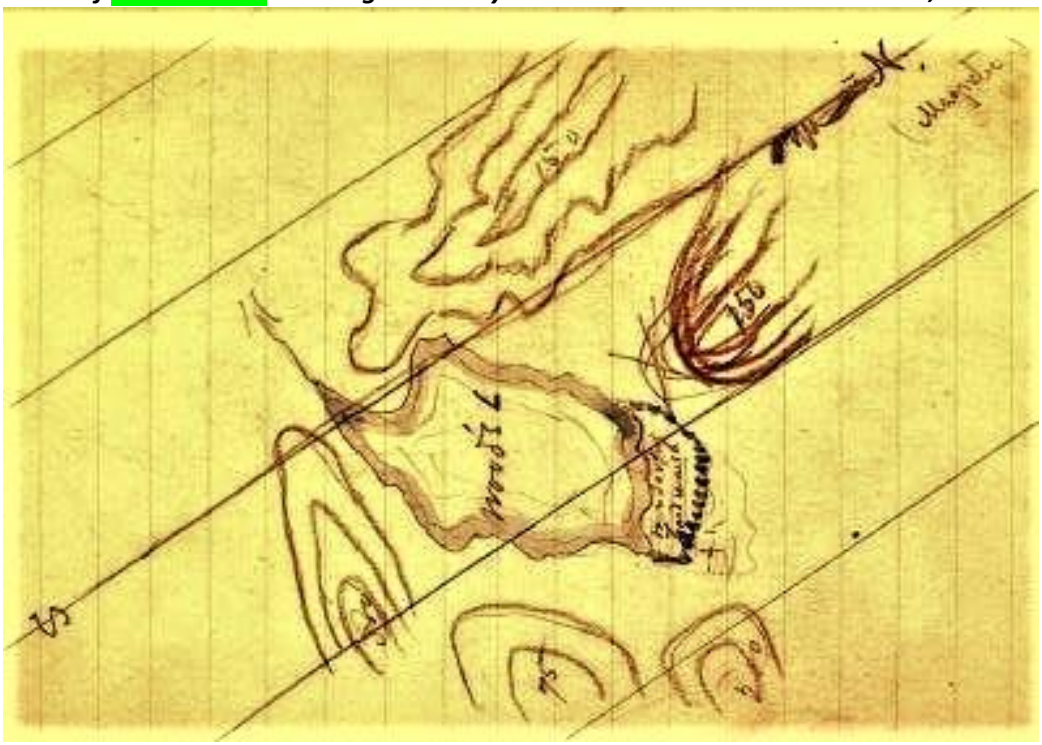




In the lower left hand corner of the Twitchell Lake Sketch is a calculation written down by Verplanck Colvin, by which he arrived at the measurement from the Stadia pole at the NE end of the Lake to a mid-point on the E. shore where he used a telescope sextant to record that length of 1976.2 yards.

I have added an analysis of Colvin's distances and bearings on the sketch of Twitchell Lake at the end, comparing them to an Google Topographical map of Twitchell as it actually is, with some interesting observations, showing how accurate Colvin was but suggesting that he made one mistake that affected his sketch of Twitchell Lake

P. 110- ***Sketch of Wood's Lake Showing Cranberry Plant Marsh on North End Marked, & N-S Direction***



P. 111- On Bald Mtn of Beaver R. Stillwater Obs. [Observations] with Pris. Campleves?

		P. C. [pocket compass]			
To Blue Mtn.		104°	40′		
To Wardwells		153°	20′		
To Still water Mtn.		174°	50′		
To Snowy Mt. N. of Blue Mt.		113°			
To Settlements Towards Lowville					
South strip	S. end	229°			
	N. end	231°			between these openings
North strip	S. end	231°	3.0′		
	N. end	241°	31′		
Timber com. Peak next N. of Bahs		78°	30′		i.e., the station
Angle between Blue Mtn & Stillwater		73°	58′	30″	
" " " "	& Chi?	5°	4′		
" " " "	& Thi?	29°	13′	30″	

" " " " " " 47° 00' 00"

Next day

Distance of the signal on top of Bald Mtn. by the black Micronomr. telescope 2900, 2950, 3--- all + 4 yards or say 2954 yards X 8862 feet
-- 5280 = 1 mile
3,582

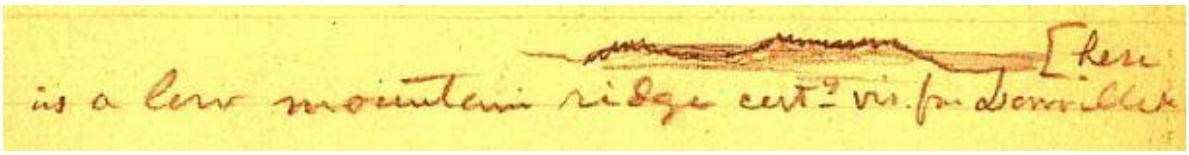
P. C. back to Bald Mtn. Signal 320° P. C. [pocket compass]

Direct Vert. angle 1° 53'
Arc of exam, 3° 10' = 2° 50'
2|3° 103'
2° 21.5' = 2° 21' 30"

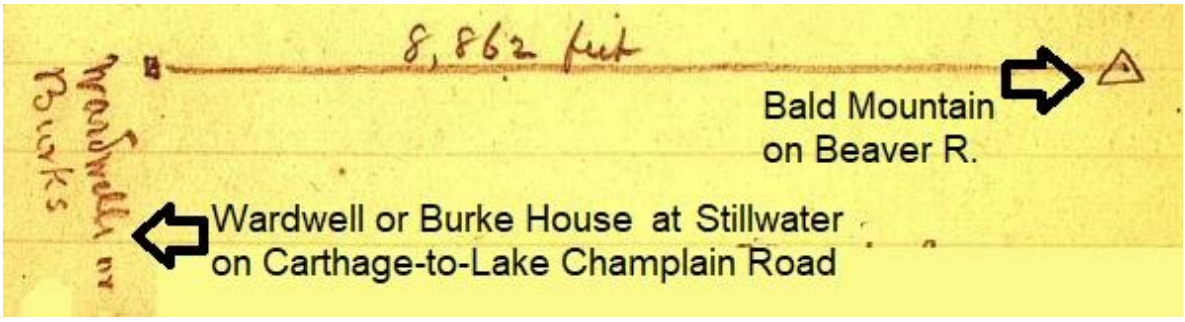
P. 112 [gaps here in the notes] Oct. 18th, 1876

Of? Sextant

[here is a low mountain ridge certy. [certainly] vis. from Lowville



Mtn. with Sextant (Index error = --28' 30" to be + 28' 30" to each obs. [observation])
Joseph Mtn. or Mt. Sabattus
Nameless (Unknown) Snowy Mtn. to the north—
Wooded peak next north of present station.
Wardwell House corner (N. W.)



Strict means 6' Index error
Sum are of excel 1° 2'
Diameter 2|1° 8'
Mean 34' = true diameter-- Sum

1° 2'
-- 6' Correction
2| 56" which are
- 28' (= +) when upper less

P. 113-

Sketch of Lake of North Creek Showing N. Trail to Oswegatchie Waters, S. Trail to 1st Lake

P. 114-

Sketch for Cold Lake (or Lake Oswegatchie, with Trail to Head of the Mosher Ponds (1/4 Mile)

P. 115-

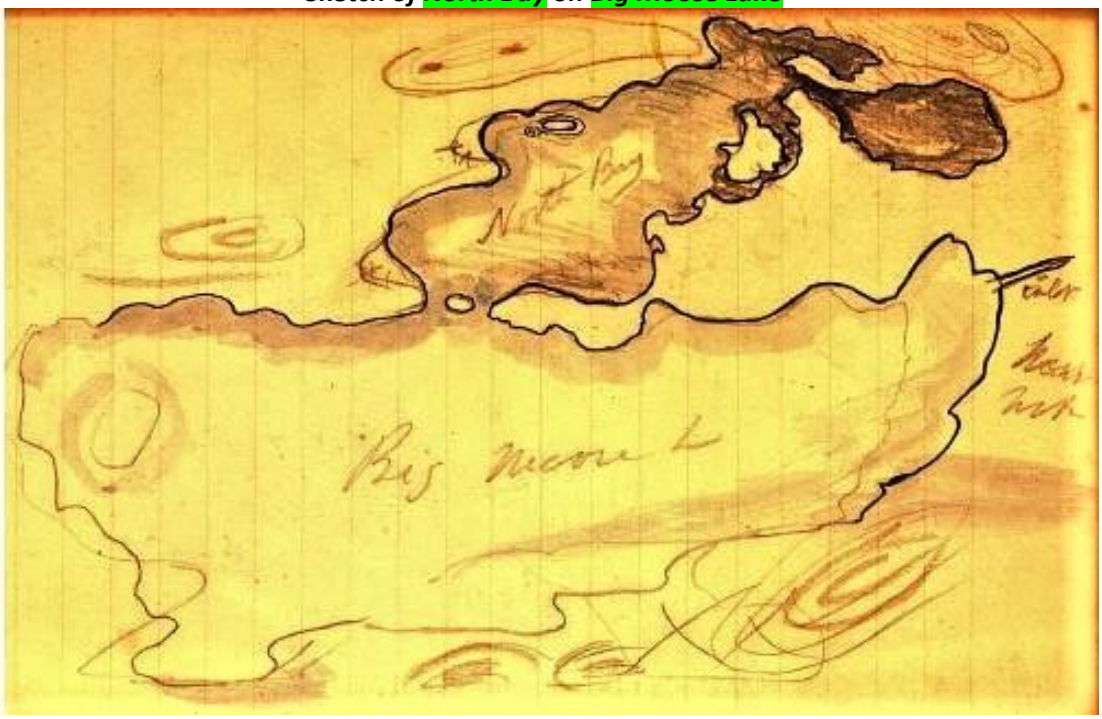
Sketch of W. End of Twitchell Lake Showing Falls, Trail to North, & Signal Location on S.W. End

P. 116-

Sketch of First Lake or Shallow Lake Near Beaver R. (See North Creek Lake on P. 113)

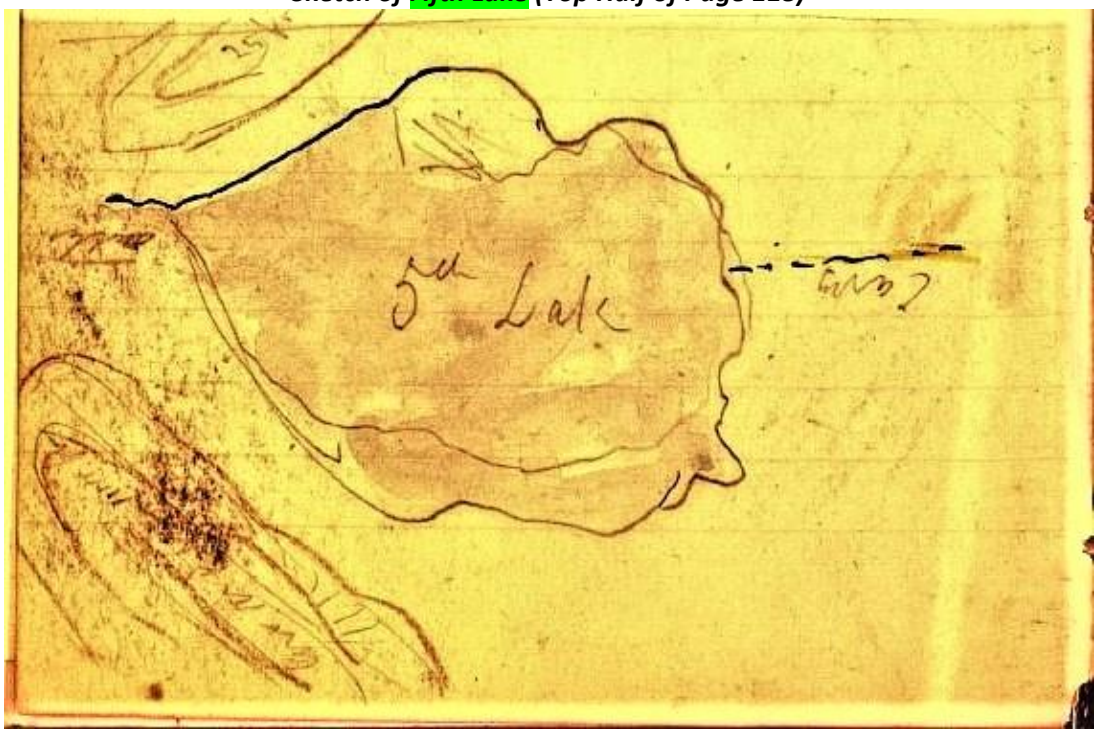
P. 117-

Sketch of North Bay on Big Moose Lake

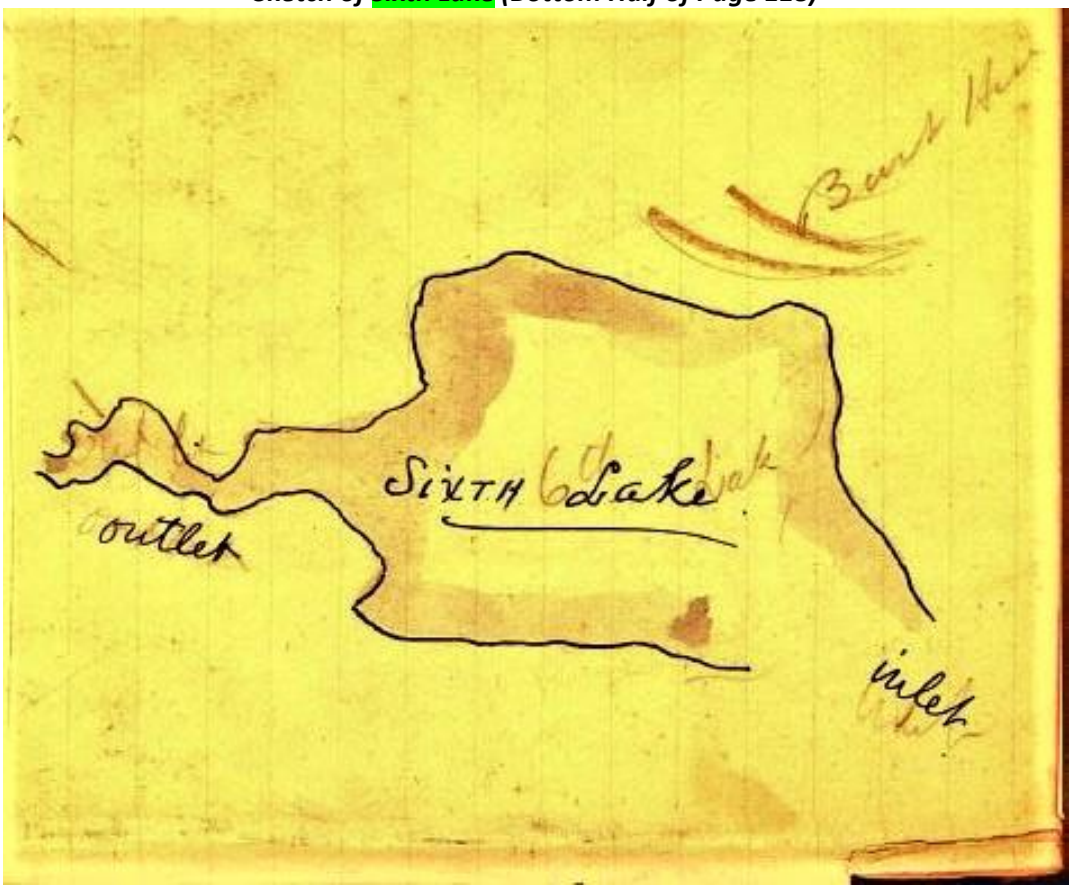


P. 118-

Sketch of Fifth Lake (Top Half of Page 118)



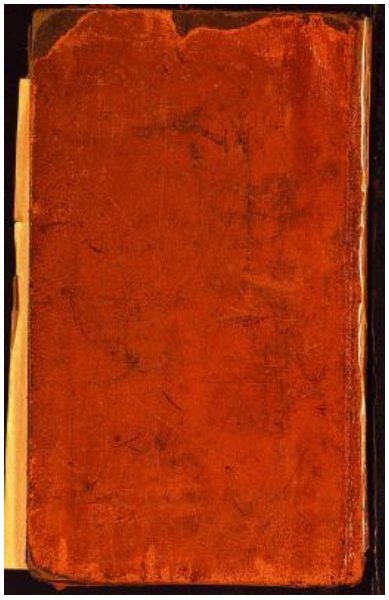
Sketch of Sixth Lake (Bottom Half of Page 118)



P. 119-

Sketch of Seventh Lake with Measurements, Point Pleasant & Windmill Pt. & Spawning Beds

P. 120 blank
Back Cover-



Supplement: My analysis of Colvin's Measurements of Twitchell Lake, Big Moose, NY:

Map of Twitchell Lake Showing North, with Lengths in Rods & Yards, Bearings in Degrees

Google Topographical Map of Twitchell Lake Showing Equivalent Measurements to Colvin's

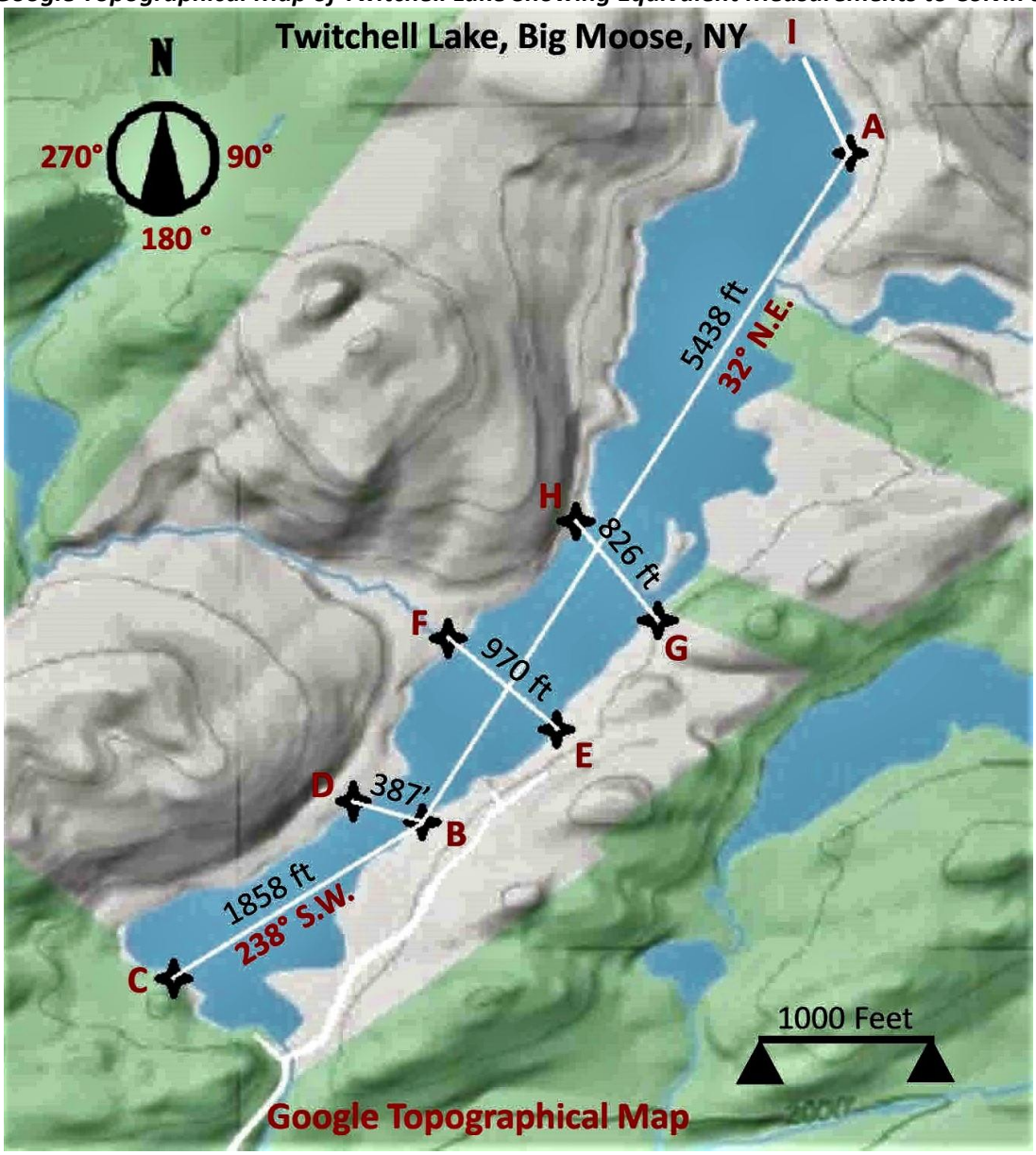


Table Comparing Colvin's Measured Distance Lengths & Those on Google Topo Map

Colvin Stadia Measurements	Verplanck Colvin Record	Colvin Distance (Feet)	Google Topo Map (Feet)	% Difference or Variance
AB	1976 yards	5928	5438	+ 8.3 %
BC	605 yards	1815	1858	- 2.3 %
BD	20 rods	330	387	- 14.7 %
EF	60 rods	990	970	+ 2 %
GH	50 rods	825	826	- 0.1 %
AB + BC	Not recorded	9036	8015	+ 11.3 %
Twitchell length	Add AI length	1.70 miles	1.52 miles	+ 10.6 %

Verplanck Colvin's measurements are remarkably close to accurate with one or two exceptions.

Table Comparing Colvin's Measured Bearings for Twitchell's Length & Those on Google Topo Map

Verplanck Colvin Stadia Line	Colvin Compass Bearing	Google Topo Map Bearing	Difference or Variance
AB	29* degrees N.W.	32 degrees N.E.	47.5%
BC	238 degrees S.W.	238 degrees S.W.	0%

*Colvin appears to have made a double mistake on the bearing of AB: (1) of 10°, so should be 29° instead of his marked 39° (for then bearing of BC is perfect), and (2) he oriented bearing AB to W. of N. instead of E. of N., which skewed the top half of Twitchell to W. instead of to E. as it is on the true Google Topo map. If correct, Verplanck Colvin's compass measurement on AB should have been 230° (N.W.). That bearing would have lined up his sketch of Twitchell Lake as it is on the accurate Topo map, in a 32° N.E.to 239° S.W. direction.