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REPORT
OF THE
SUPERINTENDENT
OF THE
STATE LAND SURVEY
OF THE
STATE OF NEW YORK

TRANSMITTED TO THE LEGISLATURE MARCH 2, 1899

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STATE OF NEW YORK
OFFICE OF STATE LAND SURVEY,
ALBANY, March 2nd, 1899

TO THE HONORABLE S. F. NIXON,

Speaker of the Assembly

SIR:

In accordance with the requirements of Chapter 589 of
the Laws of 1895. I have the honor to transmit the following

report on the progress of State Land Survey.

Respectfully yours,

[Signed] Verplanck Colvin
Superintendent

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R E P O R T

TO THE HONORABLE, THE LEGISLATURE OF THE STATE OF NEW YORK.

The work of the State Land Survey has been carried forward during the past year in the eastern counties of the State, between the St. Lawrence River on the north and the Delaware River on the south, in accordance with the requests made by the State officers authorized to have such surveys made; and in accordance with a resolution of the Senate of the State, passed at the last session.

The surveys have been conducted chiefly in the Counties of Essex, Franklin, Hamilton and Warren, with minor sections of the work in the Counties of St. Lawrence and Herkimer; in addition to which, a reconnaissance was made of the lands in the Counties of Greene, Ulster, Delaware and Sullivan at some of the more important points, in order to obtain data for the special report in regard to the lands in the last mentioned counties, requested by the Senate as before mentioned. The surveys and examinations of land have, therefore, been carried on in those counties touching the northern boundary of the State and thence southerly at different points, in

other counties almost to the boundary line of the State of New Jersey.

In the district north of the Mohawk River, surveys have chiefly been limited to a space within the boundaries of the Forest Preserve, for the location of lines separating the property of the State from the holdings of private individuals, and chiefly in the completion of work on sections where surveys were begun during the preceding year.

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In the district south of the Mohawk River, including the district in which are located the Catskill Mountains, no special appropriations having been made, the examination of the lands was purely of a preliminary nature; the Superintendent going in person to different points where it was claimed that the boundaries of lands were in dispute and the interests of the State liable to be injuriously affected, and making an examination of the country with a view of ascertaining the features of the ground, the assessability of the lines and points of vantage, such as mountain peaks, from which, by careful trigonometrical work, tests could be applied to some of the long boundary lines of the ancient patents, so as to ascertain whether the distances and bearings, recorded in the original grants between known topographical features of the ground, could be tested by precise methods.

For the purpose of testing views advanced, as to the complications and uncertainties of the boundary lines at different points, persons claiming to be or asserted to be experts, in regard to these boundary lines, were called before the Superintendent and sworn as witnesses, and their testimony taken by a stenographer as evidence in the

preliminary investigation of the alleged faults or defects in the ancient surveys, or erroneous modifications of the original boundaries in recent times, occasioning the conflicts as to the locations or titles referred to. Very interesting facts were thus developed, as will be hereafter shown in the testimony of several of the witnesses thus examined and annexed hereto in the form of appendices to this report.

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From these examinations the actual existence of grave discrepancies between the ancient records and the actual conditions of the property lines in the Catskill Mountain regions, and the district southward from the northern limits of the forests, and among these mountains to and into the forest regions of the counties of Ulster and Sullivan, may be considered to be established. In fact, complications and disagreements between the original surveys and the boundaries as now held and claimed are so notable in certain places that it is remarkable that the attention of the Legislature has not been heretofore called to them; for, as early as the year 1790, some of these conflicting lines were made matters of public discussion and were then, and have since remained, unsettled and undetermined, in one place for a distance of nine and a half miles, at another point for a distance of over thirteen miles, affecting, with the uncertainties of their location, all of the lands in that part of the State.

In regard to the county lines in northeastern New York: the work upon the westerly boundary of the County of Hamilton, and the westerly boundary of the County of Herkimer were both deferred until another season; the means afforded

being insufficient for these works if the special requests made by the Comptroller this year for a survey and location of the section of the easterly line of the county of Hamilton and the surveys requested by the Governor to ascertain the true location of the northerly boundary of Totten and Crossfield's Purchase, which is also the north boundary of part of the Counties of Essex, Hamilton and Herkimer, were to be fulfilled. The means afforded for surveys by the last legislature was so moderate that the surveys of the county lines westerly, not being provided for, had to be omitted at this time, although exceedingly important and desirable.

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In the office work of the department good progress has been made in the reduction of the field observations and in the drafting of the maps for the surveys of the lands, so that several sections of the large atlas of surveys for administrative purposes are now ready for the engraver and for publication.

The general details of the surveys made during the past season are given in the following synopsis of the field work.

F I E L D W O R K

During the winter only one survey party was kept in the field, passing from section to section to make measurements which were desired for purposes of computation and filling in the details of incomplete sections of work.

A considerable amount of topographical work was also secured by the surveyors in charge of this field work and was of a high quality and very satisfactory.

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In the southerly part of Totten and Crossfield's Purchase, particularly in Township No. 10 of said patent, surveys were continued during January and February with excellent results, affording, in addition to the measurements, five (5) excellent topographical maps of the lands in this section, in connection with the boundary of the township and subdivision lines therein.

A most interesting and exceedingly important result of this survey was the positive survey evidence, in confirmation of the evidence already on file in this department, that the surveyors in this section in the year 1797 had uniformly endeavored to make their survey lines conform to the magnetic meridian of the magnetic surveys of the year 1772; so that, as far as the intent and purposes of the surveyor of 1797 was concerned, their magnetic survey lines made

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parallel and right angle lines with the boundaries of the townships in Totten and Crossfield's Purchase though not actually with precision. These results, confirming in every respect the conclusions on this subject heretofore arrived at, that the marked lines of trees, representing most of the surveys made subsequently to the year 1772 within the limits of Totten and Crossfield's Purchase, or adjacent thereto, or in the adjoining land patents, were made or intended to be made practically parallel to the magnetic meridians of 1772 of the township lines in that great Purchase, and that as far as the boundary lines marked in the field in the year 1796-1797 are concerned, the magnetic angles and true

azimuths laid off from the same will, or should, in most cases, agree with the magnetic or true azimuth of the boundary lines of townships in Totten and Crossfield's Purchase, established the fact that as far as the local magnetic meridians are parallels to the subdivision lines laid off by survey in 1796, 1797 etc., they are by the ancient variation allowance (if any) practically based upon identical magnetic meridians. It appears, therefore, that the surveyors employed since the period of the Colonial surveys in northern New York endeavored in general to make their subdivisions of property and the new boundaries of land patents conformable to the more ancient grants in the vicinity of their surveys; obviously for the purpose of preventing irregularities in the figures of the lands and conflicts in regard to the boundary lines, by the compass courses not agreeing with the more ancient meridians. By this process of laying off the variation since 1772, to keep parallel with the Colonial lines, these surveyors under the

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State government very wisely systematized their work, as nearly as the instruments of the period permitted, so as to make the new work agree, in its meridians and parallels, with the surveys of the earlier period, and it is where this method has not been followed, and false theoretical considerations have been permitted to govern the location of the new lines, based upon the unreliable sightings of the magnetic compass, that "gores" and disputed boundary lines have chiefly arisen. It is obviously unwise to use theories relating to magnetism in a region where irregular local attraction of the magnetic needle is to frequent and the fact

of these local attractions well established, so frequent and large. In such a country the general laws affecting terrestrial magnetism becomes obscured and hidden under the irregular action of the local influences, which are much more powerful in causing sudden and irregular deflections in the needle's pointings than the ordinary variation. The same peculiarities of the magnetic needle are noticeable in other mountain districts of the world and, even upon the plains and prairies, where no mineral deposits have yet been discovered, it has been found unsafe to depend upon the magnetic compasses as the instrument with which to lay off and locate lands. For this reason the United States Government, many years ago, adopted the system of surveys with the solar compass, and its more modern form, the solar transit, so that all meridians and parallels are based upon astronomical observations, and magnetic needle readings only taken occasionally, or as a last resort when the sun and stars fail to be visible. Throughout all of the modern land surveys in the western territories of the United States,

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the system of astronomical meridians and parallels have been made with the solar compass and solar transit as standards of reference, instead of surveys with the magnetic compass; and it is time that the older states of the Union, among which the State of New York is so eminent and imperial, should adopt finally and forever the modern system of surveys and relegate the magnetic compass permanently to the obscurity to which it should be consigned in all matters

relating to land surveys.

Except for the purpose of retracing ancient magnetic compass lines, the use of the magnetic compass for laying out or locating lands should be permanently prohibited, as the solar compass is now accessible to all surveyors, and tables for use in obtaining the astronomical data for the location of true meridians are obtainable in all ephemerides published, making it easy for any competent surveyor to accurately lay off boundary lines by means of the solar compass and solar transit.

The use of the magnetic compass, as the sole instrument for the location of any tract of land, should therefore be prohibited by law, and the records of future conveyances of property describing metes and bounds by the antique methods should invalidate the deeds and render the descriptions of the property void, unless such descriptions are made by courses from the true meridian. In this manner only can accurate surveys be enforced, and the confusion which arises from the multitude of erroneous new surveys, with worthless magnetic instruments, ended.

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During March and April the surveyor in charge of the winter work was sent northward into Macomb's Purchase in the County of St. Lawrence, with instructions to make survey measurements of base-lines and boundary lines crossing the great lakes in that district; commencing at Great Cranberry Lake; and he was to extend his work also to the township and base-lines at Great Tupper Lake and to other lines crossing waters in that section. A sudden and unexpected change in the weather, however, prevented the completion of these measurements on the ice, for on the 28th of March, a heavy

rain set in and the ice at Cranberry Lake entirely

disappeared, together with the snow on the adjacent lands: a most sudden and unexpected result, for in the previous year the ice remained in Cranberry Lake until the 26th day of April. Further measurements upon the boundary lines across the lakes upon the ice had, therefore, to be deferred until another year, for the usually favorable month of April, when the alternate thawing and freezing of the ice usually affords a perfectly smooth surface for measurements was lost to us.

The plans for the survey work in this section had to be modified accordingly. The means afforded for the survey work being also more limited this year than previously, it was determined to take up the office work on the maps during the months of May and June, until the computations had been so far advanced, and the work tested in different sections, that the localities where additional surveys should best be carried forward could be ascertained, and the necessary data, extracts from records to be verified, made ready for the use of the surveyors who were to be placed in the field. The survey

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party which had been sent to St. Lawrence County to make the measurements upon the ice was directed to restore some of the signal stations in that section, and was busied with this work during the months of April and May, inspecting and restoring such signals as had become dilapidated and imperfect: these signals being between stations afforded the azimuth lines, superior in many respects to true meridian lines, for starting surveys therefrom.

This signal work being completed, and the survey party being in the vicinity of Great Tugay Lake, the

being in the vicinity of Great Tupper Lake, where the Moody Patent--a grant from the State heretofore referred to in my reports--remaining unsurveyed in its northerly, easterly and southerly lines, the surveyor in charge was directed to complete the survey of this patent and to prepare and make a map of the same; which work was successfully accomplished; and during the month of June and the first week in July (some signals to the northward, requiring restoration) the men were sent to attend to this work and finished it.

On the 16th of July the surveyor in charge of this section was directed to proceed to Township No. 12 in the Old Military Tract--two of the boundary lines of which township form very important sections of the most important external limits of the great land patents of northern New York: on the south touching upon the Totten and Crossfield's Purchase, and on the west forming the division line between the Old Military Tract and Great Tract Number One of Macomb's Purchase. The State has large holdings of property in Township No. 12 and, as the boundary lines of the patent and county required some special investigations at this point, in order to obtain positive data for the settlement of disputes affecting the location of the property, a survey of a portion of Township No. 12 was ordered.

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Owing to the reductions in the appropriations already referred to, it had been found necessary to give a leave of absence to several of the best assistants and surveyors connected with the Department, and this reduction in the force of officers made it necessary to keep the remainder in the office, in order to employ them upon the computations and reduction of the work of the preceding season, testing and

proving the surveys which had been made. This, as has been explained in the previous report, involved a great amount of technical, scientific and clerical work, for which a high order of talent is necessary and unfailing accuracy in the mathematicians and computers.

It was with regret that the Superintendent was compelled to follow this course; but, inasmuch as the reduction in the appropriations made it necessary to reduce the office force, the only recourse under the circumstances was to retain the field men in the office to do this computing and clerical work, as it was unwise to leave the work of the past season unreduced and unrecorded and to proceed and accumulate a great mass of additional data and field observations which could not be tested or proved until treated by rigorous mathematical methods to insure the accuracy of the results.

The Superintendent was thus compelled to keep those assistants who were the most skillful computers in the office during the months of May, June and July, for the reasons above stated. Early in the winter the surveyor in charge of the work in the middle western division reported that he considered the time favorable for re-marking and monumenting the boundaries of Township No. 26 in Totten and Crossfield's Purchase, and that he would undertake to

carry forward this work successfully at a low rate of expense, as the south and easterly lines of the township are convenient to habitations which would prevent any great exposure of the men engaged on the work; and, by the time he should reach the northerly line, the spring weather would also permit him to restore this line also without any great delay or difficulty.

In accordance with these proposals he was permitted to proceed with these surveys, and on the 31st of January reported that he had completed this re-marking and monumenting of the most important points in the boundaries of said township; also placing of signs of "State Lands"; the work being carried forward so as to connect with the northwest extension of the survey lines of the easterly boundary of Township No. 16, thus completely enclosing Township 26, which has an area of over 25,000 acres. In carrying forward this work the original line trees were carefully studied and the new markings restoring the lines were placed in the course of the original line by careful instrumental work. Almost all of the stations on the lines of this township are drill holes in the rock or drill holes in a right line between two stations--it not being found convenient during the stormy weather to set the copper bolts; and, indeed, this was hardly expedient, as it would be better to set the bolts later in the season on this work so as to number them in regular order as found necessary. No further work was carried on in this section until March, when a special survey was made to determine the position of some allotments in the southern central portion of Township No. 26, which was successfully accomplished, together with a

connection with the triangulation station in Lot No. 26 in Bailey's Patent in said township.

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During April the weather became moderate; and the results of the surveys of the external boundary lines of Township No.26 having been considered, a surveyor was sent to place copper bolts in the boundary line of said township to preserve some of the most important stations; and this work was also successfully accomplished.

In the study of the subdivisions of the townships the same complexity and obscurity in these minor subdivisions was found as in the two preceding years. Numerous re-surveys, without authority and without any records in the offices or departments of the State, or (as far as could be ascertained) without any record in any county clerk's office, existed, subdividing lands into small pieces or parcels, entirely contrary to the received notions and to the State maps and records; so that the separation of the true boundary lines of the allotments from the scattering of irregular and badly surveyed lot lines--if they were surveys at all--was found to be so unsatisfactory a work, as regards precision and the obtaining of legal evidence to prove that these were the subdivision lines entitled to recognition and restoration, compelled the Superintendent to order the surveys of the township boundaries continued in preference to proceeding with the almost hopeless task of finding evidence within the township sufficient to establish the boundaries of the subdivisions between the State and private owners where great complexities existed.

In this determination the Superintendent was also guided by the present policy of the State; as the authorities are acquiring most of the small private holdings within the limits of the township

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by purchase from the proprietors, and it was clearly inadvisable to go to great expense to separate property and monument lot lines which would soon become merged in the general ownership of the commonwealth, particularly in the Forest Preserve.

An exception to this rule was found in one case where one-quarter of an entire township had been reserved from sale by a private organization for purposes of a Club; while two or three outstanding lots in the same vicinity were held by private parties, who were now proceeding to remove the timber in the immediate vicinity of the timbered lands of the State. A saw-mill having been erected near the State lands, and the teams of lumbermen being engaged in moving lumber to market, it was deemed wise to pay particular attention to the boundaries of the State property in this locality; and, although the work proved difficult, the entire external limits of the State lands adjacent to the private holdings were recovered, and monuments marked with copper bolts placed in and along the lines of the survey trees, standing in line between public and private property. The old marked trees of the ancient boundaries which were recovered were again blazed at such frequent intervals that no mistake as to the lines could possibly be made; stone monuments were placed at the corners of the lots with bolts centered in boulders, and with boulders piled up around them, to call attention to these corners. At frequent intervals,

along these lines metallic signs were placed to call attention to the fact that this was the boundary of the State lands as determined by official surveys; so that no trespasser could for a moment claim that the

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boundary lines were unknown to him , and could not be found. So plainly have these lines been marked that one of the officers of the Forest Preserve Board stated emphatically that it was impossible to make any mistake as to the boundaries after they had been marked by this Department, and that they were so plainly and distinctly marked that they could be followed in the night time from tree to tree and monument to monument.

Very thorough work of this character was done in Township 16 restoring and re-establishing the center line of said township, and separating the property of the State from that of the North Woods Club.

These surveys were begun in the middle of the month of June by a small party of men under an experienced surveyor and skilled men connected with this Department. The weather, however, proved most unfavorable during the latter part of June and through almost all of July and part of August, severe storms being frequent, and the men were so much discouraged by the exposure and discomforts experienced as to several times threaten to leave the work; several of the men being on the sick list and the surveyor in charge also disheartened; so that, but for the arrival of an officer sent on inspection duty, they would have abandoned the work as impossible of accomplishment in such weather.

Notwithstanding these discouragements the work in this

section was urged forward and completed early in the month of August, all of the lines being measured, re-marked and monumented in the best manner as above described.

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These surveys have restored the original division and boundary lines between Great Lots 1 and 24, 2 and 23, 3 and 22, 4 and 21, 5 and 20, 6 and 19, 7 and 18, 8 and 17, 9 and 16, 10 and 15, 11 and 14, 12 and 13; while, by a separate survey, the lands of the State in Great Lots 16, 17, 18 and 19 were distinctly separated from the private lands by lines of marked trees and monuments, with signs at intervals showing the boundary marks of the State lands.

In the north part of this township the subdivisions of original Great Lots 8, 9, 10, 11 and 12 were also restored, as far as necessary to separate the State lands from the lands of the North Woods Club. The lines now re-marked and monumented being the south line of Lots 50, 53, 75, 76 and 77; the west line of Lots 50, 52, 53, 55, 57, 59 and 62 and the north line of Lot 59. The hardest part of this work was searching for the original ancient boundaries, the clearing away of the brush from around the trees supposed to be or proved to be marked line trees of the original survey, and the connection of the original line trees together into one true line, thus restoring and proving the boundary. All of this had to be done before the final linear work could be taken up; and numerous preliminary measurements had to be made, from time to time, to ascertain whether the lines and lot corners claimed or apparently in the vicinity of the lines and lot corners sought were reliable, judging by the evidence of the distances and measurements compared with old records and connected with topographical features of the

ancient surveys and original lot lines and corners. After these were proved, the monuments were set with copper bolts and numbers marking the same, and then the measurements made for the permanent record, so that these lines and monuments should become indisputable evidence of the territory owned by the State.

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In this connection it is perhaps important to note that the northerly half of Township No. 16 is not actually subdivided upon the ground in accordance with the system of 1000-acre lots described in the original surveys of the township, but is actually subdivided into about seven times as many parcels or pieces of land of different areas and dimensions; namely, into 83 different lots. Many of these lots have an area of 160 acres and some perhaps 200 acres, while others were found to contain 174 acres, 120 acres and 100 acres, respectively. The task of searching out these lots, so different in area and dimensions and locations from the records in the State departments, was exceedingly difficult, and the work being done in such severe stormy weather made the task irksome in the extreme.

Had it not been for the surveys previously made by this Department restoring the boundary line of this township, affording thoroughly established limits within which the conflicting subdivision lines of the allotments must be located by the conditions of the survey, it would have been practically impossible to have recovered these locations of lot lines and corners in such a manner as to demonstrate that they were symmetrical and legal subdivisions of said township, so different were the allotments from the records. This additional experience of the difficulties which

would be encountered in restoring the allotment subdivisions in the interior townships made the Superintendent loath to take up work of this tedious and intricate nature, where it was not absolutely necessary, or where the lands owned by the State were not of great value, when the expense necessary for the location of the allotments would bear a small ratio

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to the value of the lands, so as to make the restoration advisable and necessary.

ALLOTMENT SURVEYS IN OLD MILITARY TRACT

The conditions and high value of the lands , and great uncertainty as to the location of the allotments, with danger of trespass and the possible absolute extinction of the boundary lines between the State and private owners at a point where the State might receive many thousands of dollars for even some of the smaller sections of this property near one of the great lakes of northern New York, was considered by the Superintendent as of this particular importance; so that special allotment surveys for the purpose of restoring the ancient boundary lines and monumenting the same was required.

In 1895 a survey had been made by this Department of an external boundary line enclosing 88 lots in Township No. 11 of the Old Military Tract, where, probably, the most valuable lands owned by the State are located. At the settlements, near the centre of this enclosed area, villa lots have sold at as a high a valuation as \$4,000 per acre. This tract is bounded on the south by the south line of Lots 220, 240, 260, 280, 300, 320, 340 and 360; it is bounded on the east by the west line of the Whiteface Mountain Tract (or the easterly

line of lots from 350 to 360, inclusive); on the north this tract is bounded by the north line of Lots 210, 230, 250, 270, 290, 310, 330 and 350; and on the west by the west line of Lots 210, 211, 212, 213, 214, 215,

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216, 217, 218, 219 and 220. The whole tract thus enclosed has an area of about 14,000 acres including beautiful Lake Placid and Mirror Lake, and a number of smaller but picturesque bodies of water. At the east this tract touches upon the west branch of the Ausable River and the base of mountains, culminating in the high rugged alpine crest of Whiteface. At the north it is shut in by the rugged mountains, extending from the westerly flank of Whiteface to the St. Armand pass and thence to Mt. St. Armand; while, on the westerly side, the range of mountains extending northeast and southwest from Mt. McKenzie and the Sugar Loaf Range, enclose this basin, which has been named the Lake Placid Tract, as a distinction by which to separate this valuable property from the less accessible territory beyond the mountains or in the wilderness, further back.

During the latter part of the summer and the fall of 1895 a transit-transverse was run around this tract; and, as narrated in a preceding report, such difficulties were encountered that the local surveyors found it almost impossible--particularly in the northerly and westerly parts of the tract--to separate the allotments made by the Surveyor-General of the State at two different periods, owing partly to the ruinous condition of these ancient boundaries and to the obvious failure of the ancient deputy surveyor to mark all of the boundary lines and corners in the manner in

which they had claimed to have marked on their original survey. These facts, reported to the Superintendent in 1895 by the local surveyors, together with the length of time which it had taken to merely run the transit line around the external limits of this tract, caused your Superintendent to decide not to direct the extension of surveys within this tract

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until he had personally examined certain controlling boundaries and corners therein, and had so thoroughly familiarized himself with the marks and corner trees, and the topography adjacent to the correct boundary lines that he could issue instructions to skillful surveyors as to the manner in which this work should be done and exercise the necessary watchful control over the work, to prevent errors or blunders creeping into the restoration surveys. As detailed in last year's report, a single surveyor with one or two men accompanied the Superintendent at different times into this tract; and different local surveyors were called in to testify in detail to their knowledge as to the complexities which are peculiar to this territory.

In brief, the condition of affairs in this tract may be stated as follows:

At some early date some small farm areas, now termed lots, were preempted, taken up or occupied in some manner by pioneers, probably along some trail traversing the wilderness in this section during the past century. These pioneers had cleared off these small areas of land; erected cabins; and, when the surveys came to be made of what was afterwards called the Old Military Tract, these original settlers were in some way permitted to retain their locations of lands in accordance with lines or boundaries which were

of lands, in accordance with lines or boundaries which were concessions contrary to the original records on file, in the offices of record. Subsequently, in the year 1804, by direction of the Surveyor-General of the State, a subdivision "of the unappropriated lands" in this Township No. 11 of the Old Military Tract was made by Stephen Thorn. This, styled "Thorn's Survey," though sworn to by said Thorn as an accurate survey, was in a short time found to

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be so erroneous, probably owing to his having made use of the magnetic compass without regard to the errors arising from local attraction by magnetic iron ore beds and similiar causes, and also from his not paying strict attention to careful horizontal measures in crossing the high mountain ranges (and, on the contrary dragging his chain up hill and down hill over these frequently almost vertical masses), that his great errors were speedily apparent; his map reducing the famous Lake Placid from its actual width of upwards of two and a half miles along certain lines to a narrow distorted form, which anyone crossing the lake by boat could readily see was owing to an inaccurate survey and could not possibly come from accurate allotments; for the offset distances from the lot corners would have given a fairly accurate form to the lake, in a general way, if the allotment survey in itself had been accurate. The errors of Thorn's survey were already unendurable as early as the year 1831, and the Surveyor-General then ordered a re-survey of the said Township No. 11, by John Richards, a deputy surveyor in said department, who proceeded to put in a new allotment

of the land of the first settlers; in a few places, however, agreeing with the lines as run by Stephen Thorn in 1804, but generally entirely different from either of the before mentioned locations of lots. Subsequently, at different times, private owners, and it is said the Board of Supervisors of the County of Essex, in order to locate certain lines, have had surveys made within this tract, probably as late as the year 1873. All of these markings have now overgrown upon the line trees, and since the date of the

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latest allotment surveys, or alleged surveys, lumbering has been carried on quite extensively upon the tracts owned by private parties adjacent to the State lands and, in many places, the original line trees have been cut down and removed or destroyed.

It was this state of affairs which led you Superintendent to determine at the close of the survey of the external boundary of the 88 lots mentioned, to defer a completed survey of the interior of the tract until he had made further personal examinations and fixed upon the corners and lines it was necessary to run and re-locate, and had established certain secret marks and indications by which he could tell when the special survey party sent to complete the work in this tract had actually arrived at points which were the true corners and in the true lines, and thus to be able to verify from day to day the integrity of the work reported to him by the engineers and surveyors employed thereon. This reconnaissance work having been sufficiently advanced, and the territory under dispute having had some of its chief lines examined and reblazed for identification

and verification of the ancient marks by cutting into the line trees of the Richards Survey, which is the lawfully recognized subdivision of the tract; and having had the length and breadth of Lake Placid fixed by measurements between large nickel-plated copper bolts set in the rock at the shore of the lake at various points in and near important lot lines and town lines, and these measurements so checked and tested as to render their accuracy beyond all question; and having had them connected at two points with the external boundary line of the Lake Placid tract and also the entire shore line of the lake run out by a transit traverse upon the ice; and the platting of

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these results having been carefully examined by the Superintendent, he now decided that sufficient data had been secured to enable him to prove and test any and all conflicting lines which might be found in the survey of the interior. He accordingly ordered the final survey of the interior of this Lake Placid Tract to be taken up so that the authoritative marks of the John Richards Survey should be permanently marked and monumented, and no further complications permitted to arise, these boundaries being already in a sufficient state of confusion to be exceedingly detrimental to the interests of the State should fire chance to sweep through the forest near any of the few remaining perfect boundary lines. This danger of fire is not an imaginary menace in this locality, inasmuch as large territories in the southerly part of the tract have been swept over by most fierce forest fires, to the utter

destruction of all valuable timber and the extinction in these localities of the boundary lines. Singularly enough, in this section these arid and burnt lands are largely the property of private individuals; while the State is here the fortunate possessor of magnificent spruce forest, intermingled with gigantic hardwoods, hemlocks and beautiful balsam timber. The lumbering, however, having been carried up very closely to the State lands, made the necessity of the marking and monumenting of these boundaries very evident.

Heavy rains were frequent in this section during the month of July, and the reports of the engineers and surveyors in the field being very unfavorable to the advisability of the placing of any additional force in the field, while these great rain storms prevailed,

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the survey force was not ordered into the field in this section until about the middle of August; when some indications of the cessation in the daily storms gave promise that valuable results could be obtained and the men be able to proceed with their work without being kept within their tents by the unfavorable weather.

On the 15th of August instructions were issued for the final survey of the Lake Placid Tract. Orders were given for the starting of the work from the marks and monuments set by the Superintendent, or under his direction, on or within the limits of the external boundary survey of 1895.

The chief of the engineer corps was particularly directed to monument the external boundaries of the State land fronting upon the private lands adjacent to Lake Placid and to make such a thorough survey and re-marking of these

of this territory, not conformable with the allotment lines of the land of the first settlers; in a few places, however, agreeing with the lines as run by Stephen Thorn in 1804, but generally entirely different from either of the before mentioned locations of lots. Subsequently, at different times, private owners, and it is said the Board of Supervisors of the County of Essex, in order to locate certain lines, have had surveys made within this tract, probably as late as the year 1873. All of these markings have now overgrown upon the line trees, and since the date of the

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Section these arid and burnt lands are largely the property of private individuals; while the State is here the fortunate possessor of magnificent spruce forest, intermingled with gigantic hardwoods, hemlocks and beautiful balsam timber. The lumbering, however, having been carried up very closely to the State lands, made the necessity of the marking and monumenting of these boundaries very evident.

Heavy rains were frequent in this section during the month of July, and the reports of the engineers and surveyors in the field being very unfavorable to the advisability of the placing of any additional force in the field, while these great rain storms prevailed,

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the survey force was not ordered into the field in this section until about the middle of August; when some indications of the cessation in the daily storms gave promise that valuable results could be obtained and the men be able to proceed with their work without being kept within their tents by the unfavorable weather.

On the 15th of August instructions were issued for the final survey of the Lake Placid Tract. Orders were given for the starting of the work from the marks and monuments set by the Superintendent, or under his direction, on or within the limits of the external boundary survey of 1895.

The chief of the engineer corps was particularly directed to monument the external boundaries of the State land fronting upon the private lands adjacent to Lake Placid

and to make such a thorough survey and re-marking of these boundaries and measurements between every monument and the lake shore and the natural features of the ground, that it would be impossible for anyone in the future to destroy or extinguish these boundary lines. To prevent any claim that the lines were not indicated as the boundary of State property, the surveyors were provided with metallic signs bearing the words "State Lands" and the name of the survey, and these signs were placed at sufficient intervals along the line to enable anyone traversing the country to readily distinguish the locations of the boundaries of the State lands.

The survey party was organized under able engineers and surveyors, one an officer from the civil service force entrusted with the monumenting and measurement of the lines, and also by a surveyor

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of local experience, who had accompanied the Superintendent on different surveys in previous years and could show to the men engaged upon the final work the correct boundary lines and monuments and starting points from which the surveys were to be carried forward.

The hope that the weather had changed from its persistent stormy character to a more favorable condition proved unfounded. Severe storms set in again shortly after the new engineer corps had been placed in the field, and these frequent storms were a source of great delay, not to say annoyance and even illness, to many of the men, as during weeks at a time the men were almost daily driven from their work by sudden and furious rain storms; and, often, these storms were so unexpected (the morning opening bright and

fair) that the men would be unprepared with waterproofs, so that scarcely for a day in weeks were the surveyors able to return to their camp undrenched by the rain.

As an illustration of the weather experienced by this division between the commencement of the work on the 20th of August and the close of that month, the reports of the engineer show that on the 20th the weather was very threatening; on the 23rd it rained; on the 24th it rained, and the assistant surveyor was laid up sick; on the 25th of August it was snowing hard in the morning and rained the rest of the day; on the 26th it rained; on the 28th it rained; on the 30th it rained.

Under such conditions the Superintendent did not feel authorized to send out any more large survey parties, having gone personally

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into the field to supervise the work near the south boundary of the Old Military Tract, and having had similar experiences with unfavorable weather in that section.

During the month of September there were eleven days during which it rained, and on three of the days during which it was possible to work, it rained heavily in the morning and at night ratherly direction across the westerly part of said Township No. 29.

On the completion of this work the surveyor in charge was directed to proceed down the westerly line of Township No. 29 to the southwest corner thereof, which he was to inspect and make a report

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as to its present condition and marking; and, thereafter, beginning at the said southwest corner of Township 29, in Totten and Crossfield's Purchase, follow the original survey line of the year 1772 northeasterly along the south line of Township 29, separating the same from Palmer's Purchase, and re-marking or re-blazing the trees along the said line and placing stone monuments at important points thereon; and especially at the southeasterly corner of said Township 29.

He was also directed, if any difficulty should arise in recovering the old original line trees of 1772, to continue this re-survey and restoration of the south line of Township No. 11 in Totten and Crossfield's Purchase to the southeast corner of Township No. 11, which is also the southwest corner of Township No. 12 in said purchase; at which last named corner, by orders of the Superintendent, a stone monument with a nickel-plated bolt, marked, had been placed at said intersection and corner and would serve as a foresight in approaching said corner from the southwest.

All of this work above directed, with the exception of the south line of Township No. 11, was reported to be successfully accomplished by the surveyor in charge, who began this work early in July and completed the same by September 1.

The work was not continued, owing to the surveyor reporting difficulties in connection with the southeast line of Township No. 11, which he was not able to solve to his own satisfaction; and the large amount of field work proceeding in other sections prevented the Superintendent from visiting this locality at this

time, in order to ascertain the extent and precise nature of the difficulties.

The report of the surveyor indicated that the restoration of the south line of Township No. 11 was beset by singular peculiarities; and, pending an investigation of the conflicting testimony and survey marks relating to this particular boundary, he proceeded to restore the corners of the gore south of Township No. 31 or north of Township No. 29 called "the Ladder Lots" and to connect the same with the easterly line of Township No. 9; which he reported successfully accomplished.

A discussion of the results of these surveys cannot be given at this time or until the field notes transmitted by the surveyor have been taken into the field by the Superintendent and the lines, measured, and located by the surveyor, tested to ascertain the cause of the difficulties which led the surveyor to abandon the attempt to locate the south line of Township No. 11.

The conclusions and decisions in regard to matters of this nature must always await such a careful inspection and verification. As the field work closes each year at a late season when the work of paying off men and closing the work of the season consumes or occupies all of the available time left to the Superintendent and some of the survey inspectors, the final decisions by the Superintendent have, necessarily, to be left until the spring or summer of the following year. Then, the field notes having been platted, and a discussion of them made, the ancient and the new records can be taken together into the field and the test of measurements from the old marked lines and topographical features referring

Township No. 45 in the said purchase; it became necessary to have established starting points from fixed corners in Totten and Crossfield's Purchase. Particularly, the original corners of townships should agree exactly with the descriptions of the said corners as laid down in the original records of 1772 at the intersections of lines of the original marked survey trees. Some of the original corner trees might be found by precise distances in chains and links from the shores of lakes or rivers to correspond with the conditions given in the original field notes. Starting from such corners, if found, and repeating the measurements along the township lines northwesterly to the northerly boundary of the Totten and Crossfield's Purchase, the agreement or non-agreement of the distances from the original township corners to the line extending easterly and westerly, and called the "north line of Totten and Crossfield's Purchase," would show which of the different conflicting exterior boundary lines conformed to the records and appeared to be at the right distance from the township corners and in every way properly located

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or conditioned with regard to the ancient and original township surveys of the interior of Totten and Crossfield's Purchase.

Of the original townships actually laid out in the year 1772 in the northerly portion of Totten and Crossfield's Purchase, having their boundary lines actually marked upon the trees and witness trees blazed around the corner tree, few reach actually to the north boundary of the said purchase where it is adjacent to the Old Military Tract nor; indeed, have there as yet been found any of the original township corner marks of the survey of 1772 in the lines claimed to be the north line of Totten and Crossfield's Purchase between

to streams and lake crossings can be made, the erroneous lines eliminated, and the true lines restored.

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SURVEYS IN THE NORTHEASTERLY
PART OF TOTTEN AND CROSSFIELD'S PURCHASE

As heretofore explained in the account given of the surveys made to determine the north boundary of Totten and Crossfield's Purchase, particularly at points in the south boundary of Township No. 12 in the Old Military Tract, the north boundary of Township No. 50 in Totten and Crossfield's Purchase and the north boundary of the Triangle North of Township No. 45 in the said purchase; it became necessary to have established starting points from fixed

*Rest of p. 31
wrong*

or conditioned with regard to the ancient and original township surveys of the interior of Totten and Crossfield's Purchase.

Of the original townships actually laid out in the year 1772 in the northerly portion of Totten and Crossfield's Purchase, having their boundary lines actually marked upon the trees and witness trees blazed around the corner tree, few reach actually to the north boundary of the said purchase where it is adjacent to the Old Military Tract nor; indeed, have there as yet been found any of the original township corner marks of the survey of 1772 in the lines claimed to be the north line of Totten and Crossfield's Purchase between the Indian Pass and the Racquette River; for, although the northeasterly and northwesterly corners of Township No. 50 in said purchase exist; or, it is claimed, have been found by surveyors; yet Township No. 50 was not laid off or located in the year 1772, being based upon some of the more ancient townships to the south and west, and wholly located by a deputy surveyor during the present century; it is, in fact, a modern township.

In the westerly part of Totten and Crossfield's Purchase where the State has a most valuable tract of forest land in Township No. 38 and the Triangle northward thereof, together with the greater portion of Township 43 in said purchase--the territory recently acquired by the State by an expenditure of over \$600,000--the ancient surveys of the townships, according to the record, extend directly northerly and westerly to the outer limits of the Purchase. Here the corners of the townships are close to the great northerly boundary of Totten and Crossfield's Purchase and the

original timber still being very dense and in a healthy condition, unaffected by fire,

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it is hoped that an accurate restoration of this great exterior boundary might be effected.

The occasion for this very exact and precise study of the northerly boundary of Totten and Crossfield's Purchase was the almost continuous series of disputes relative to this boundary from its eastern to its most westerly extremity and the extreme activity of private parties--some largely engaged in lumbering operations--endeavoring to fix the location of this great boundary line, some asserting it to be half a mile to the northward and some asserting it to be even a mile to the southward of the long easterly and westerly lines existing in the field and heretofore at different points accepted and believed to be the north boundary of Totten and Crossfield's Purchase. Two, at least, of these great marked lines extended at or along the north boundary of the Counties of Herkimer, Hamilton and Essex for a distance of over sixty miles through dense portions of the wilderness into and across sections very difficult of access, were almost impossible of restoration, throughout its whole extent, with the limited means at command. Yet if the means had been sufficient for the re-location, restoration and re-monumenting of this great boundary line, a great amount of preliminary data had first to be acquired, particularly a series of points in said north line of the Patent, evidence of the original anciently marked survey trees, which should correspond in their distances and directions from the nearest ancient township corners in Totten and Crossfield's Purchase,

with the original records of said townships and with the distances from abrupt shores of lakes, of rivers and other topographical features.

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To obtain a number of such definite points in this north line of Totten and Crossfield's Purchase, with the evidence absolutely establishing the correctness of these points, so that such places could be made the starting points from which to begin surveys easterly and westerly at the right location to look for the original marked trees of this great northerly boundary line, the Superintendent decided, for the easterly section, to have surveys made of township boundaries in the district between Long Lake and the Racquette River, and in the westerly section near the northwest corner of Hamilton County near Mud Lake at the head of Bog River, where--as before stated--ancient township corners might be found, or, in the event of their failure, the ancient marked line-trees might yet be recovered in places and the lines produced to an intersection restoring the township corners, which could then be permanently monumented and preserved. From these corners, thus restored, measurements could be made to the shores of the lakes and rivers, referred to in the original field notes; and, the testimony proving the restored corners being thus obtained, the measurements could be continued northerly for the record distance to where the ancient north line of the Purchase said to have been laid down. When this north boundary line had been recovered at such a point, by finding some of the original old marked boundary line trees, it could next be extended by producing a line to intersect with the record distance measure from the nearest township corner, the point of

intersection being permanently marked, and this segment of the north boundary of the purchase then thoroughly monumented with stone in such a manner that it should not again be lost.

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In accordance with this plan the Superintendent proceeded into the field personally early in the month of August, and traveling to the head waters of the Hudson River crossed the divide separating those waters from those which flow to the St. Lawrence, going to the head of Cold River at the Preston Ponds near the southwest corner of the Old Military Tract. The Superintendent took with him those local surveyors who claimed to be familiar with the boundary lines of Totten and Crossfield's Purchase in this vicinity, and an examination was made of a portion of the boundary lines of what is called the Gore between Totten and Crossfield's Purchase and Township No. 27 of Great Tract No. 1 of Macomb's Purchase. An examination was also made of the south boundary of the Old Military Tract over the mountains easterly towards the Indian Pass from the upper Preston Pond, and also of the line extending westerly from the upper Preston Pond in a direction such as the south line of the Old Military Tract, if produced westerly with magnetic compass, might approximately take. The results of these surveys were not wholly satisfactory except in the matter of the restoration of the southerly boundary of the Old Military Tract, where remeasurements were made restoring the southerly line of Great Lot No. 43 and the westerly line of Great Lot No. 37 in Township No. 12 of the Old Military Tract, separating the State lands in that section from the private lands. The southerly line of the Old Military Tract, from the southwest corner of that patent in the upper Preston

Pond, was also restored by re-survey and permanently monumented by nickel-plated bolts in the rock, easterly to the summit of the range of Mt. Henderson.

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The only large divisions of Totten and Crossfield's Purchase adjacent to the southwest corner of the Old Military Tract are the two gores lying northwesterly of Township No. 45 and the tract next westerly of these gores called Township No. 47. None of these tracts were laid off or marked in the field in the year 1772, but immediately adjacent to Township No. 47--which is a residual township and first appears upon the maps after the breaking out of the American Revolution--are Townships No. 27, 28 and 46, of which there are records on file in the office of the Secretary of State purporting to be the records of their original surveys in the year 1773 by Mr. Moses Crane, the original surveyor of a great portion of the older townships in Totten and Crossfield's Purchase. These survey records show the said Townships No. 27, 28 and 46 were laid off and actually marked in the field in the year 1773 by survey starting from the corners of Townships 16, 18, 20, 26 and 30 of the surveys of 1772 and hence well connected with the original surveys, forming indeed a triangle of townships within which Township 47 is supposed to stand in the northerly enclosure; and Township No. 50 (the latest probably of the residual townships in this purchase), is based on the northerly line of Township No. 28 and the northeasterly and northwesterly corners of the last named township. Near the northeast corner of Township No. 27 and the southeast corner of Township No. 28 is located a large and beautiful body of water known as Newcomb Lake, being in the town of

Newcomb of the County of Essex. This lake has long been known to be the lake referred to in the field notes of the survey of Townships No. 27 and 28 by Moses Crane in the year 1773. In these field notes Surveyor Crane gives very careful measurements from the steep or abrupt shores of the lake to the northeast corner

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of Township No. 27 and the southeast corner of Township No. 28. Mr. Crane is very precise in stating three different measurements from the shores of this lake to the said corners; for he did not make the northeast corner of Township No. 27 at the same distance from the east shore of Newcomb Lake as the point at which he located the southeast corner of Township No. 28. The southeast corner of Township No. 28 was a hemlock tree in the original description, and the northeast corner of Township No. 27 a black birch tree in the original field notes. Mr. Crane says, in his field notes of Township No. 27, when within 65 chains of the northeast corner of Township No. 27 the needle of his compass was "much attracted," which may account for the failure of these two townships, Nos. 27 and 28, to corner at the same point, the distance between said corners being over twelve chains; that is, the birch tree northeast corner of Township No. 27 was over twelve chains northeasterly from the hemlock tree southeast corner of Township No. 28.

Township No. 28 appears to have been very well surveyed, and the field notes record that the survey was begun at the southeasterly corner of the 20th township "marked for the southeast corner of the said twentieth township and for the southwest corner of this twenty eighth township in the year 1772 by me Moses Crane"; and he returns, after he has surveyed the southerly, easterly and northerly sides of the

28th Township, to the northeast corner of Township No. 20 and thence southeasterly along the east line of Township No. 20, he says, "to the place where I first began

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to run out the 28th Township," showing that this survey closes accurately and is connected with and based upon the surveys of Township No. 20 of 1772 and in every way authoritative, -in its boundaries and corners a veritable subdivision of Totten and Crossfield's Purchase by the original survey.

The points which were the most important to establish for the present purpose were the southeasterly and northeasterly corners of this Township No. 28 which are in the right line which, produced northwesterly, extends to the north line of the Purchase; while the southeasterly corner of said township is so exactly conditioned in its direction and distance from two shores of Newcomb Lake that, if the boundaries of the township existed, or any of the original marked line trees remained, this corner could be restored.

It would then only be necessary to obtain the true bearing of the original easterly line of Township No. 28 and, restoring this line centrally among the original marks thereon, to measure the distance accurately northwesterly along said line and its extension to the record distance necessary to connect the same with or reach to the point where the north boundary of Totten and Crossfield's Purchase should be. Then the searches could be made to ascertain the agreement of this point at that distance from the southeast corner of Township No. 28 with said original patent line.

A valuable result of such survey would be the determination of the location of nearly 2,000 acres of State land in the northeasterly part of the township, the

boundaries of which would thus be permanently marked by this survey.

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In order to facilitate this work the Superintendent, while engaged upon the survey of the south boundary of Township 12, Old Military Tract, sent for an aged surveyor, whom he knew was familiar with the southeasterly corner of Township No. 28, and directed him to proceed with another surveyor to locate this corner.

The work was not found to be as easy of accomplishment as had been anticipated. The waters of the lake had been raised by dams since the time of the original surveys, and not only had lumbering occurred in this section but cottages had been constructed for a summer camping ground in recent years, changing the appearance of the locality, so that two additional local surveyors had to be sent to retrace connecting lines further back in the forest where the marks of the ancient survey had not yet been obliterated.

These preliminary surveys were hardly completed before the chief of the party and his foreman were both taken sick, owing to their frequent exposures to storms, and it was late in September before the entire easterly line of Township No. 28 had been recovered. Meanwhile the southeasterly corner had been found near Newcomb Lake by the intersection of lines (the ancient hemlock tree corner being gone but some of its roots existing at the said intersection of lines). The recovery of the northeasterly corner of the township was found to demand the most careful study and search for its recovery and identification, local surveyors having made a number of new lines and corners in this vicinity, apparently to serve the purposes of lumbermen. The lumbermen, in turn, removing a great amount of the evergreen timber, carrying the

ancient marks most easy to retrace, had well-nigh extinguished and destroyed the original and authoritative boundaries in many places.

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On the first of October the surveyor in charge of this work having recovered from his illness, rejoined the survey party. During the next two weeks the work was pushed forward rapidly, notwithstanding frequent and severe storms. On the 29th of the month, the line being restored, the final measurements were completed connecting the northeast and southeast corners of said Township No. 28 with surveys extending northwesterly to a line claimed to be the south line of a gore, south of Township No. 26, of Macomb's Purchase.

The results of this work developed several complex questions, and it was found that it would be necessary for the Superintendent of the survey to personally examine the conflicting boundary lines at the northerly terminus of this survey, as there is more than one line there--marked in ancient times--which is claimed by some local surveyors to be the north line of Totten and Crossfield's Purchase, while others claim that the north line of said purchase is an east and west line located over 2640 feet further north. Here the choppings made by the lumbermen were said to have removed line trees at important points, making a very strict and careful search for the lines at this point necessary.

It may prove necessary to make a survey of all the State lands in Township No. 50 in order to ascertain the agreement of the surveys of said township in its metes and bounds and in the location of its allotments and lot corners with regard to the great patent line which forms its northerly limit; but this is a matter which can only be determined after the

marked trees and evidences of

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corners in this section have been first personally examined by the Superintendent of this survey.

SURVEYS IN THE NORTHWESTERLY PORTION OF TOTTEN
AND CROSSFIELD'S PURCHASE

In accordance with the general plan of determining several points in the north line of Totten and Crossfield's Purchase (which could be proved to correspond with the sections of the original surveys of the great external boundary line of the Purchase), as soon as men could be spared from the surveys of the northeasterly portion of this Purchase a survey party was organized and placed in charge of a surveyor especially skillful in retracing old marked lines. This corps of men was sent partly overland across the country through Essex and Hamilton Counties to Long Lake West, a station on the Adirondack and St. Lawrence Railroad, while the survey equipment, tents and provisions were forwarded from Albany by rail to the same station. The work was begun in this section in the middle of November, the party proceeding from Long Lake West to Bog Lake and thence to Mud Lake, near the head of Bog River, where their tents were pitched.

In this district enormous swamps, almost impassable in summer, extend along the northerly boundary of Totten and Crossfield's Purchase for a great distance easterly from Mud Lake, although there is firm land adjacent to the lake suitable for camp grounds. As frost usually visits this locality early in November, it was hoped that these marshes would soon be sufficiently frozen to permit of

measurements being carried across them. Indeed Mud Lake was already barely navigable, being partly frozen, and the weather soon became severe, imposing great hardships upon the survey party. In the face of these difficulties the instructions given the surveyor and his aides by the Superintendent were well carried out. Numerous lot lines in Township No. 37, in Totten and Crossfield's Purchase were first found, and the original marked corner trees in many places discovered--very fortunately, because these trees are now old and were likely to soon die and disappear. The division line, also, between the State lands in Township No. 38 and the allotments in Township No. 37 were also recovered and other lines still further westerly within the territory owned by the State. Here, however, the recovery of the allotment and township lines did not appear to solve the difficulty, for the complications affecting the great external boundary line of the Purchase were found to exist here also. At least two ancient boundary lines were discovered which it is understood were claimed to be the northerly boundary of Totten and Crossfield's Purchase, while there were other apparently more recent parallel or nearly parallel survey lines existing, and helping to increase the uncertainties which appear everywhere to attach themselves to this unfortunate boundary. The surveys of these various lines were continued during the month of November north of Townships No. 38 and No. 37 and, by the middle of the second week in December, the surveys had been extended easterly along one of the ancient survey lines mentioned until north of the astronomical observatory station

building and pier of the State Land Survey east of the Adirondack and St. Lawrence Railroad and measurements had been made connecting the survey line with this important latitude station. The weather now becoming very severe, and the means remaining for this section of the Survey being quite limited, the Superintendent directed the discontinuance of the work in this section, inasmuch as the reports received indicated that his personal examination of these lines was necessary before the final determination and monumenting of the boundary of the line could be entered upon. Although, from the measurements reported to certain lake shores and corners of lands, there were indications that the original line had been recovered at two points, yet the verification of this important result and the connection of the new work with important stations of the Adirondack survey--established in pervious years--required the personal supervision of the Superintendent for its accomplishment in such a manner that he could decide several of the most important questions connected with this investigation.

The work in this section was therefore declared closed for the season.

SURVEYS IN THE SOUTHEASTERN SECTION OF TOTTEN
AND CROSSFIELD'S PURCHASE

In connection with the location of the boundaries of land in Township No. 13 and the change made in the exterior limits of the Adirondack Park, enclosing what is known as Leggett's Survey, work was carried forward on the eastern line of said Survey to determine the location of this line, which was greatly in doubt. This boundary

becoming very important, on account of its being a section of the new line separating the State Park from the private lands to the eastward, was very carefully studied by a survey corps working in this section during the months of September, October and November.

It was soon discovered that the allotment of Leggett's Survey under which the lands had been subdivided and sold to the present owners and occupants was entirely different from that shown upon the maps of the Forest Preserve, which have been published without consultation with this Department. The actual allotment upon the ground and the dimensions as described in the deeds are entirely different from and unconformable to the subdivisions shown upon the printed maps. In only one point is there any similarity and this is in the number of the lots; the actual location by Leggett's Survey upon the ground making 42 lots, which is the same in number as that shown upon the fictitious paper exhibit, but that 42nd lot is the only one in the true survey and paper exhibit which are found upon examination to even approximately correspond to the subdivisions as made in the field.

Such an extraordinary condition of affairs made it impossible to proceed rapidly with the surveys in this section at first, more especially as much of the northerly portion of this tract has been swept over by fire or is now open country where ancient land marks cannot be expected to be found; and, in the southern and central parts of the tract, the State having in recent years conveyed and sold some of its lands, lumbering operations have spread over the

small area of virgin forest which remained, so that from many of the lot lines the original marked survey trees appear to have been entirely removed or destroyed. By persistent search, however, some of the lot lines and corners were at length found, agreeing with the original Leggett's Survey and the deeds and conveyances of property therein.

The lot corners thus recovered and the line trees found served as starting points from which to recover other lines and corners and, gradually, three entire tiers of lots in the southeasterly section of the Leggett Survey were recovered and found to be fairly consistent with one another; and the measurements, being in this way carried from lot to lot, were extended easterly for the purpose of determining the location of the easterly line of Leggett's Survey.

This easterly line of the survey was found to be largely located in a high mountain district over which forest fires had spread nearly a quarter of a century ago, in most places destroying the timber and the marked trees of the original boundary line. In a few places, however, near streams or in swampy spots along this line, and in places where the forest fire for some other reason had not utterly and entirely destroyed the timber, the original markings of the easterly line of Leggett's Survey were recovered and found to agree with an ancient map of Leggett's Survey which makes the area of this tract 6155 acres; but by the record the lots are not of uniform width, although the easterly tier are assumed to have an area of 150 acres in each lot, through Lots 6, 7, 18, 19, 30, 31 and 42.

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These surveys were continued through the months of September, October and November until the entire easterly line of Leggett's Survey had been recovered and almost all of the lot lines in the southerly half of that tract restored in accordance with the original survey.

In the latter part of November and the first week in December the Superintendent made an inspection of the work of this division, with regard to the easterly and northerly lines of Leggett's Survey, and found it to correspond with the marks and surveys which he had made in previous years in this section. The weather becoming very severe, the final monumenting of this boundary line was deferred until another season, and the field work of this survey party closed.

BOUNDARIES OF GREAT PATENTS

In the account already given of the surveys for the purpose of restoring the boundary lines of many of the original townships within the limits of the great land patents, references have already been made to researches along the principal external boundary lines of the several townships of the great land patents.

Inasmuch as Totten and Crossfield's Purchase, having an area of nearly one million acres, occupies almost the center of the northern district of the State; and as this great land patent was one of the earliest of the original locations by actual survey within the territory of what is now the Forest Preserve; the disputes relating to boundary lines almost invariably, whether to south, north, east or west of this great land patent, eventually are most surely and accurately

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solved, in many instances, by surveys starting from some

established corner or internal or external boundary line of this great purchase.

I have elsewhere alluded to the practice of former deputy surveyors in the last century and beginning of the present century of laying out the lands located subsequently to the year 1772, whether within or without the Totten and Crossfield Purchase, by survey lines either parallel or at right angles with the patent lines or township lines of Totten and Crossfield's Purchase, so that in this way the magnetic meridians of all the different years from 1772 upward until quite recent times have been made practically the same as those of Totten and Crossfield's Purchase. This remarkable fact has given almost all of the symmetry and uniformity which is to be found in the surveys of the central district of northern New York. The rule applies, however, to only a few of the lines in the ancient surveys in the valley of the Mohawk River and to those between the Moose River Tract and the old grants connected with the Mohawk Valley land patents. Nor does the rule apply to the lands in the interior of Macomb's Purchase to the northward of the north boundary line of Totten and Crossfield's Purchase, where magnetic meridians were adopted somewhat different from those of Totten and Crossfield's surveys between the north boundary of Totten and Crossfield's Purchase on the south, the St. Lawrence River on the north and thence westward to the shores of Lake Ontario. In this great area of four million acres there is a notable diversity in the declinations of the

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magnetic needle. The magnetic declination decreases in the westerly part of this territory, being greatest in the easterly part thereof.

At the time when this territory was sold by the State, the State government refused to make any surveys locating

the several townships or even to survey the great tracts into which the territory was divided. Hence, the owners, being at the expense of these surveys, kept the records in their own possession to a great extent, so that now, when these vast extents of country have to be studied by re-surveys to restore the original boundary lines, the greatest difficulty is experienced, owing to a lack of records in the office of the Secretary of State and other departments, giving officially the data on which to base the restoration of these boundaries. It is said that the records, upon the completion of the surveys and the change of ownership of the lands, were carried away by the original proprietors and taken by them, in part at least, to Scotland. This has made the restoration of the township and great division lines in Macomb's Purchase a difficult work, inasmuch as the metes and bounds which should be given to the several townships are frequently difficult to prove from any good documentary evidence, and surveyors are forced to go into the field and search out such lines of marked survey trees as appear to correspond with diagrams and maps, or the records or deeds.

This uncertainty of the records, and the fact that very great local attraction of the magnetic needle is met with in almost all

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of the mountainous parts of Macomb's Purchase, where veins of magnetic iron ore and bodies or seams of magnetic iron sand are met with, renders it impracticable to depend upon theories of terrestrial magnetism in such section of the great patent where irregular local attraction of the needle is so frequent and so marked.

It is to be regretted that the townships of Macomb's Purchase could not have been made exact rectangles, for they

are based upon the northerly boundary of Totten and Crossfield's Purchase, and refer to magnetic meridians (or to one observed meridian) representing the magnetic meridian of 1772 in the south and central district of northern New York. If this had been done, some of the difficulties which exist in regard to the boundaries of Macomb's Purchase might never have occurred. As it is, the southerly boundary of Macomb's Purchase is involved in great doubt along its whole extent from the southwest corner of the Old Military Tract to the most easterly corner of Great Tract No. 4, and it is thought that the uncertainties in the boundaries may extend even as far as Lake Ontario.

The chief feature of the error affecting the south boundary of Macomb's Purchase may perhaps be best made intelligible by a statement of the claims of the various parties who own lands adjacent to such boundaries either in Macomb's Purchase or the Totten and Crossfield's Purchase. Thus it is claimed that in the field there are two or more marked boundary lines extending from a point at or near the southwest corner of the Old Military Tract to the point or points near the southeast corner of Great Tract

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No. 4 in Macomb's Purchase. Two of these boundary lines chiefly in dispute are located in some places a half a mile apart; and at other points being a somewhat greater or less distance apart. The difficulty may be partially illustrated by some phases of the claims made by the land owners, engineers, surveyors and local experts:

(1st) That the northerly line is the south line of Macomb's Purchase.

(2nd) That the southerly line is the south line of Macomb's Purchase.

These two claims are each accompanied by the admission that what constitutes the south boundary of Macomb's Purchase also forms the northerly boundary of Totten and Crossfield's Purchase; which, in a certain sense, may be constructively true, although it does not necessarily follow that the surveyors of Macomb's Purchase in their township surveys ever actually laid out their townships fully to the Totten and Crossfield's boundaries; yet they may have not only extended their surveys to the Totten and Crossfield boundaries, but may have extended them beyond that boundary; whence comes the proposition

(3rd) That the Macomb's Purchase line had been laid out too far to the south so as to lap over upon and include a long and narrow strip of the northerly part of Totten and Crossfield's Purchase.

(4th) There is still another claim, which is, that the north line of Totten and Crossfield's Purchase should be properly located independently of the Macomb's Purchase by a theoretical

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line extending westerly at right angles to the magnetic meridian of 1772 from a point ten miles north of Crown Point. Here the difficulty consists in whether this part of the description in the original grant or deed of the Indians was not merely a general description in its nature, or whether it is to be construed strictly as a rigorous condition of the northerly line of Totten and Crossfield's Purchase.

If the latter view be taken, then it will be necessary to know the particular point at Crown Point which is to be the point of departure of the measurements, and the second and, perhaps, more important item that must be known is what standard of measurement is to be used, or was actually in use

in those days, for the purpose of land surveys.

The progress in these investigations with maps, etc., will be given in an appendix to these reports, where the data and evidence appear to be sufficient to solve the questions brought up by the above mentioned and other claims.

C O U N T Y L I N E S

The great patent lines above mentioned are in many cases the boundaries adopted in the statutes as the division lines between counties, and the uncertainties in regard to the locations of these boundaries affect the jurisdiction of the counties in the execution of civil and criminal processes and in the administration of the laws.

If these county lines were straight lines, their establishment and permanent marking with stone monuments would be comparatively

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easy; but having been laid out only with magnetic compass instruments, they are affected--where they have been laid out at all--by all the peculiarities and imperfections which make the compass needle so fruitful a source of error and litigation. The county lines are frequently shown upon the maps as straight lines, as the magnetic compass surveyors, of the early period when they were laid out, reported them to be. As a fact these compass lines are not straight, but have many deflections, curves and variations; and, when new property owners, not familiar with the compass errors so peculiar to this country, come into contact with some sharp angles or curves in the line, they are apt to consider that the line is erroneous; when, if the land within the angles or curves is covered with valuable timber upon the property of the State, the valuable trees are in great danger of

destruction by some local surveyor being employed to "straighten the line," so as to include or throw into the possession of the private parties the strip of valuable timber or lands desired.

In this way confusion along the county lines as well as other boundaries is constantly increasing, and it is surely a misfortune that ample means are not afforded for the expense necessary for the immediate monumenting of these important boundaries.

It is true that these permanently monumented surveys are expensive, but it is equally true that the State is not expending a tithe of the amount which private parties are annually putting into surveys for the restoration and recovery of the boundaries of their lands; as in one instance over \$10,000 has

been placed in the surveys and litigation over a single lot of 40 acres where mineral rights existed, and these surveys and numerous other of a kindred character of a less extensive nature are constantly going on throughout the forest district as well as in the cleared districts.

The State, therefore, appears in the field with a really less expenditure of money in the prosecution of its surveys than the private parties interested in the lands. As a consequence, litigations increase and multiply, and frequently dissatisfaction is expressed by parties adjacent to State lands that all of these surveys cannot be completed at once, when they are not aware that the means are so exceedingly restricted for so great an extent of country.

During the past season the appropriations were entirely inadequate for the surveys of two of the great county lines which have been requested by the Comptroller: namely the division line between the Counties of Hamilton and Herkimer; and the division line between the Counties of Herkimer and Lewis.

It was with a view to the future accurate survey of these county lines that attention was this year given to the surveys of various boundaries, heretofore mentioned, to secure starting points for said county line surveys, and to fix the legal limits at which such final lines should terminate.

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BOUNDARY BETWEEN THE COUNTIES
OF ESSEX AND HAMILTON

While surveys were being contemplated between the Counties of Herkimer and Lewis, on the 6th of July a

communication was received from the office of the Comptroller--dated July 1--referring to this Department certain questions in regard to the area of State lands in Township No. 17 of Totten and Crossfield's Purchase westerly of the west boundary of the County of Essex, which is the boundary line between said County of Essex and the County of Hamilton. This southeast corner of Township No. 17 has become the property of the State, and questions of assessment and taxation have arisen which required the determination of the area included in said township to the easterly of the county line referred to. Unfortunately most of this section has been badly affected by forest fires, so that an enormous extent of the woodlands have been entirely burnt over, but as the Comptroller made this his latest requisition for surveys of county lines, and as the condition of the boundaries of this section were more likely to grow worse than better by any delay, it was decided to take up this work forthwith. This conclusion was arrived at because it was hoped that the investigations of this easterly line of the County of Hamilton might afford data which would be useful in the work on the other county line surveys; while the area to be surveyed was not probably over one thousand acres, and the cost of the survey within the means at disposal of such work, which was not the case

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of the great unlocated boundary lines in the westerly section of northeasterly New York.

The surveys in the Counties of Lewis and Herkimer being thus deferred, in accordance with the request of the Comptroller, a survey corps was organized and sent into the field at the close of the first week in July with proper camp equipage, supplies and provisions.

Upon taking up the work in the field, the surveyors found that it was almost impossible to recover almost any section of the county line between the Counties of Essex and Hamilton, and much delay was experienced in the searches for old marked trees of the original boundary. Fortunately, while upon the former surveys, the Superintendent had found some marked trees of this county boundary line in Township No. 18 of Totten and Crossfield's Purchase, and the surveyors were placed upon this line in Township 18 and given the true course or bearing of the line on which to continue their search for said boundary southerly. After leaving Township 18 and crossing Township No. 16 they entered Township No. 17, but soon found that forest fires had almost extinguished the county line in many places. The search was extended on the course given by the Superintendent southerly into Township No. 15, across a section almost entirely cleared of timber, and the line was run backward and forward until at length some of the marked trees were fortunately discovered, when monuments were set at the intersection of the lines and the measurements were made, including a survey of the south line of Township No. 17, affording data determining the area of the triangle in Township No. 17 referred to.

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The results of this survey were not altogether satisfactory, the forest fires had so largely destroyed the original boundary lines southerly from the old marked trees identified in Township Nos. 18 and 16 that some uncertainty was felt to exist as to the precise recovery of this section of the county line, and additional investigations were made. The principal facts desired by the Comptroller for the use of the tax department of the State, in connection with this

survey, was the area of the lots in this triangle, included between said county line, the west line of Township No. 16 and the north line of Township No. 15 in Totten and Crossfield's Purchase. The most delicate search in the field failed to reveal any lot lines in the triangle mentioned, and even a more diligent search in the State departments and in the records of former land owners who had caused surveys to be made in the interior of Township 17 for the purpose of allotting the same also failed to reveal any precise record of the dimensions of the lots in this part of Township 17, or, indeed, any legal evidence of what the exact dimensions of these lots of said Township 17 should be. After a long and careful search for evidence to prove the area of the lots, a report in regard to this triangle has been deferred in the hopes that records may yet be found of legal evidence of the area of these lots in said Township No. 17. The survey of the triangle was completed on the 11th of August and the survey corps were then sent to another section of the work.

The certified results of surveys and measurements will be found in an appendix to this report.

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MOOSE RIVER TRACT

The State having acquired many thousand acres recently in the southerly part of the Moose River Tract and lumbering operations having to a great extent destroyed the southerly boundaries of this patent at many points for a distance of 18 miles, the re-survey, restoration and monumenting of this section of the south line of said patent was determined upon. It was the more important that this survey should be made for the reason that the original surveys of the Moose River Tract evidently contained very grave errors, the nature of which it was necessary to discover so that these sources of trouble

might be eliminated.

This work was placed in charge of a surveyor familiar with the starting points and who had previously been engaged on surveys in this Department on the Moose River Tract and was familiar not only with the lines in the interior of the patent but with the difficulties which had been met with on former surveys therein and was acquainted with the true bearings on which to run the line of the said patent.

The survey was ordered to be begun at the northeasterly corner of the Nobleborough Patent or northwesterly corner of the Arthurborough Patent and extended northerly across the narrow strip of land lying north of the said patents to the intersection of the county line between the Counties of Hamilton and Herkimer and the south line of the Moose River Tract. Beginning at this point of intersection in the south line of the Moose River Tract, the re-survey and restoration of the patent line was ordered carried

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forward in a southeasterly direction along the southwesterly bounds of Townships Nos. 7 and 10 in the Moose River Tract to the southeast corner of the Town of Morehouse in the County of Hamilton. From this point the survey was to be extended in an eastern direction along the south bounds of Townships 10 and 9 in the Moose River Tract so as to form a permanent line of division between that tract and the Oxbow Tract on the south; and the line was to terminate at the monument at northwest corner of Township No. 1 in Totten and Crossfield's Purchase as set by this Department in the year 1895. This survey would thus not only restore the south line of the Moose River Tract and the north line of the Oxbow Tract but would give the first accurate measurements connecting the

joint northerly corner of the Arthurborough and Nobleborough Patents with the monuments on the west line of Totten and Crossfield's Purchase, and would afford the latitude and departure of all the important corners intermediate or at the terminus of this line, based upon the trigonometric station on the summit of Mt. Francisco, which is very close to the northwest corner of Township No. 1, Totten and Crossfield's Purchase, and is connected with the monument at said corner by a precise measurement and azimuth.

This work was accordingly taken up on the 15th of July and, as soon as the survey party could be assembled with its equipment and supplies, field work was begun and was prosecuted successfully to its completion during the balance of July and in August and September. In this section, as in every other district where the survey work was in progress during the season, the greatest inconvenience and

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delay was caused by repeated and frequent rain storms, rendering some of the men ill; one of the men resigning the employment being unable to endure the exposure and hardships, although he had been heretofore considered one of the best men employed upon this work.

The survey was finally completed notwithstanding all these difficulties and, although in the lumber choppings and fire slashes great delay was occasioned by the difficulty experienced in searching for the veritable anciently marked line trees, which were often found prostrate, cut down or overthrown, and in many places entirely removed, yet the restoration of this south line of the Moose River Tract was perfected and the line permanently marked by 177 stone monuments in addition to those set in 1897, making a total of

296 monuments, all of which have the station center permanently marked by nickel-plated transit station bolts, set in drill holes in the top of each monument or stone used as station.

The work being thus completed, the survey was closed in this section October 1, and the men being paid off and discharged, returned to their homes.

ARTHURBOROUGH PATENT

In studying the conditions affecting titles to the lands in the Arthurborough Patent, the Superintendent found it was necessary to ascertain the absolute difference in location of the corners and lines of the surveys of the Arthurborough Patent distinguished and known as the Simeon DeWitt Survey, the O'Hara Survey and the Gilbert

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Survey, to connect the same with the surveys made of the south boundary of the Moose River Tract. The surveys made by Surveyor-General DeWitt were recovered in the southwesterly portion of the Arthurborough Patent and connected with the O'Hara Survey; which latter was a private survey, made after the location of the Patent by the State authorities. In the easterly part of the Arthurborough Patent, however, different surveyors had failed to bring in what was considered by the Superintendent as sufficient proof of the recovery of the O'Hara line and of measurements connecting it with the lines of the Arthurborough Patent and the Moose River Tract in such a way as to show in what parts of these patents the said O'Hara lines were located and whether they intruded upon or cut across any of the grants or patents located by State authorities.

Inasmuch as the surveyor in charge of the work on the

south line of the Moose River Tract was not satisfied that the O'Hara line could be readily found in this section and was busy in pressing forward his own work towards its completion, the Superintendent decided to place another survey party in the field to obtain this special data. An expert surveyor for many years familiar with the boundary lines in this particular section was accordingly sent to make the searches, beginning about the close of the month of August, but he returned to the office of the Survey in Albany on the 12th of September and reported only partial success; stating that he "had not found to his satisfaction the northeasterly corner of the O'Hara Survey." A further study of these various surveys of the Arthurborough Patent was immediately made and references were found to lines crossing lakes and streams at certain precise distances

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from the survey corners recorded in the ancient notes. With this data the Superintendent drew up a plan for the continuance of this search for the old survey lines in the Arthurborough Patent and instructed the surveyor where to make the search for the ancient line and the measurements which he was to make from the shores of lakes and streams (identified as those referred to in the ancient field notes) by which he could prove that the lines found in these locations were the true and original marks of the particular surveys referred to. With this data the surveyor was sent again into the field and this time he was successful in finding the old original marks of the ancient surveys as stated in his report and sworn testimony. The most important part of this evidence was the fact established that the so-called O'Hara Survey in the Arthurborough Patent of the year 1791 extends nearly ten chains northerly of the south

line of the Moose River Tract into said Moose River Tract and that the north line of the so-called O'Hara Survey would thus cut off a strip from the south part of what is unquestionably Townships 10 and 7 in the Moose River Tract, an enormous quantity of land largely owned by the State of New York, the title to which as a part of the Moose River Tract cannot be in any way questioned as this O'Hara Survey does not correspond with the legally established locations of these patents, as made by the Surveyor-General of the State. The second expedition of this surveyor being thus successfully terminated and his testimony taken by a stenographer, his report was held subject to final examination of his lines in the field by the Superintendent.

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MAGNETIC VARIATION

As heretofore often mentioned, the variable pointings of the magnetic needle in times of the ancient surveys have caused much if not most of the difficulty in restoring the boundary lines. The manner in which these ancient magnetic surveys shall be treated so as to make an effectual quietus in the perpetual troubles which they excite is a problem which has taken much thought.

Where the statutes, as they at times do, refer to the magnetic needle bearing of a particular year as the course by which certain boundaries are to be located, extensive magnetic surveys are actually necessary in order to ascertain what the true mean bearing at the present time is throughout the area to be traversed by the lines referred to, so that the average magnetic course at the present time of any line traversing this district can be computed, and all variations and deflections, caused by local attraction throughout the

area to be traversed, mapped and located in such a way that proper allowances may be made for them, and the requirements of the statute complied with when the surveys come to be made. Without going into these magnetic surveys with an amount of elaboration, which many scientists would regard as fully justified, examinations have been carried on to the north and south and along the great division lines, forming the easterly and westerly boundaries of the County of Hamilton and other districts, and a very large amount of data of the magnetic surveys has been accumulated. All of this data tends to show that between the year 1772 and the year 1800 only a very slight change in the average pointings

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of the magnetic compass needle has occurred in the interior of the forest district of northern New York; so slight, indeed, that the large errors of the ordinary compass readings are barely within the limits of the change in declination between the epochs mentioned.

While the practice of the surveyors during this epoch or period, in the central district of the forest, was to refer survey lines to the magnetic meridian of 1772, the slight differences found in the actual annual variation are trifling compared with those resulting from the frequent local attractions of the needle. It is, therefore, even more necessary that the county and township lines should be run with solar transit instrument, or by the proper angle from the true astronomical meridian to correspond with the standard magnetic meridian of the time of survey, and for this reason, inasmuch as a single astronomer and geodetic engineer could work advantageously in connection with this investigation and the results would be most important, and indeed invaluable when the survey lines came to be located,

special investigations were made at various points, and will be hereafter discussed in a special appendix to these reports.

MERIDIAN LINES - AZIMUTH LINES .

This special astronomical work, where the geodetic measurements could not be readily carried to the survey lines in the depths of the forests, were entrusted to skilled astronomers or personally executed by the Superintendent of the Survey.

A great deal of stress has been laid upon the importance of meridian lines for references in land surveys, but much of this

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importance depended upon the old system, when the magnetic compass was the only instrument used in the field, and the error of the compass was supposed to be tested on a true north and south line between monuments called a true meridian line. Such true meridian lines were established at different places by this Department and by the former State Adirondack Survey, and are exceedingly valuable for the work for which they were designed. At the same time the requirements of true meridian lines were such that they were not always as convenient or as valuable, on account of obstacles existing at important localities, as true azimuth lines. A true azimuth line may be located in any direction from a monument towards another fixed monument, forming a line having a permanent deflection from the true meridian, and this deflection or true azimuth line may be so selected as to be in a range which is not likely or perhaps never will be obscured or destroyed by the erection of buildings, or by any other impediment. The azimuth line, however, requires the use of an instrument accurately graduated into trigonometrical divisions for the measurement of angles, and it also requires more pains and care in its establishment and use than the ordinary meridian lines as used by compass surveyors. An azimuth line, when determined with precision to one second of arc, if its deflection from the true meridian is large in angle, requires delicate, careful and precise measurements with a theodolite or transit, but by these observations the long and unimpeded sight between signals on mountain tops or between some permanent monuments in the valley and a signal upon a distant hill or mountain, or upon the opposite shores of a lake, may be made the point

of reference

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and so selected as to be much more permanent than the average meridian line, and often may be regarded as fixed points which will not be disturbed. If a trigonometrical survey is carried on from these azimuth lines, every triangle side becomes a new azimuth line in turn, so that the direction between every signal station of the triangulation becomes of ready reference as a true azimuth, on which to test, not merely magnetic needles or compass sights, but to enable the surveyors using the more accurate solar compass or solar transit to examine and prove the adjustment of their instruments, and be able to show on their records that the work which was executed with their instrument corresponded with the true meridian lines, from which these trigonometrical azimuths are laid off by its angle of deflection therefrom. More than this, the azimuth lines from the signal stations of this survey triangulation afford to the surveyors working with the solar compass and the solar transit an angle to turn off the direction of the meridian, so that even during stormy weather and when the skies are covered with clouds, the surveys can be continued by setting up the surveyors' instrument at a signal station and taking a single sight to a flag in the boundary line. The next backsight (corrected when necessary for convergency) gives the true course of the line from the astronomical meridian. This is frequently much better than an observer could determine if the skies were clear and the sun or stars visible.

It is this important use, to which the long trigonometrical lines can be applied, which renders the

increase of the number of

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triangulation and triangle sights, as true azimuth lines, so exceedingly important. But these long and accurate right-line distances are equally advantageous in checking and testing the measurements of the land surveyors employed in the measurements along the boundaries intermediate between the signal stations. Although the boundary lines do not run from signal station to signal station, yet an occasional sighting or azimuthal angle turned off with a transit instrument from a signal on a high point or mountain top to a signal station on the boundary line, also sighting to other signal stations, with back angles from the boundary lines, enables the assistants or Superintendent to ascertain whether the intermediate work by the land surveyors has been accurately done.

This necessitates, of course, a great amount of computation and severe office work, but it is found absolutely necessary to have these checks and tests upon the land survey work to avoid careless measurements or errors which might occur and cause trouble unless trigonometrical control was strictly maintained.

TRIANGULATION

For the reasons above explained, a certain amount of trigonometrical work had been done on this survey, but only so much as was absolutely necessary to test and prove the work in the manner described and to furnish the true azimuth lines from which to obtain or to test the true meridians from which the final surveys of this Department are laid off. This trigonometrical work was carried on chiefly in the Counties of Essex, Hamilton and Warren. A reconnaissance was made in

the Catskill Mountain district by the Superintendent to ascertain which mountain peaks in the Catskills were the most

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important and would be most useful as signal stations. In this reconnaissance the highest peak* in the State south of the Mohawk River was climbed and the examination of the summits of other commanding points was made, but no systematic trigonometrical work was undertaken in this southern section of the State at this time, the means not being sufficient for the work which would be needed.

It was found that in the Catskill region the highest summits are more generally forest-covered than in the Adirondacks and that a careful study of both the boundary lines and the commanding points would be necessary before the permanent signal stations in this section were erected to afford the azimuth lines and distances necessary for the control of the survey in the Catskill Mountain region.

An interesting feature of the examination of the Catskill Mountains was the large amount of evergreen timber noticed on the summits of the higher mountains and their slopes, particularly at elevations of over 2,000 feet above the sea. While the Catskill region does not include many lakes, there are numerous beautiful brooks and streams, and the preservation of these sources of water supply makes it advisable that the forests above the 2,000-foot contour and, indeed, all the woods along the margins of the streams, should be in some way protected and preserved. These forests are not without their wild inhabitants though the game may not be very abundant, yet indications were seen of the presence of bear and deer. The raccoon and the bay lynx are said to be met with in some localities, and an opossum was killed by a hunter near the village of Big

killed by a hunter near the village of Big

*Editor's Note: Slide Mountain

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Indian, showing a southern addition to the fauna of our mountains in this part of the State.*

The regular trigonometrical work of the Department was begun in the County of Hamilton in the month of June and continued during the month of July, the following stations being occupied, viz.-: Buckhorn Mountain, Copeland Ledge, Page Hill, Burnt Mountain, and five minor stations to the west of Township No. 9, in Totten and Crossfield's Purchase.

In the primary triangulation the signal station on Black Bear Mountain, near the head of the Fulton Chain of Lakes, on the west line of the County of Hamilton was occupied with a large theodolite instrument and measurements made to signal stations to connect with the survey of the division line between the Counties of Hamilton and Herkimer. In Warren County the signal station on the summit of Mount Moxham was occupied for the purpose of closing in the recent triangulation to this station so as to make available the geodetic azimuth lines in the work of the land surveys in the surrounding district. The other trigonometrical stations occupied in Warren County were those on Gardner Hill, North River Station, Balm of Gilead Mountain and Cavern Mountain.

Storms amounting at times almost to hurricanes having swept over the mountains during the winter, and also at times during the summer, some of the signal stations of the triangulation were thrown down and destroyed. For this reason signal stations had to be rebuilt on Mahlon Hill, Mount Pharaoh and Mount Dix, and the signal on Crane Mountain had to be repaired. New signal stations were also erected

* Editor's Note: This narrative recounts Colvin's only trip

to the Catskill Mountains. He raises here the same watershed preservation argument that he had long used as justification for preservation of the Adirondack forests.

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as follows, viz.: at the southwest corner of Township No. 12; on the summit of Oven Mountain; on Mitchell Hill, near the boundary of Totten and Crossfield's Purchase; on Landon Hill; on Green Hill; on the Butler farm near the county line between the Counties of Essex and Warren; at the Nelson West station; on Orebed Mountain; at Rocky Point signal; and six other secondary stations on the Fulton Chain of lakes.

It is important to remember that the Survey as now being carried on is independent in the matter of base-lines of the United State governmental surveys, having several nicely determined base-lines measured upon the ice of the lakes with standard steel tapes and corrected for temperature and the height of the lines above the level of the sea as determined by the levels of this survey, run from tide water with level and rod. In addition to the base-lines measured upon the ice of the lakes there is the important base measured in Essex County for this Department by Prof. E. A. Fuertes, Director and Dean of the Civil Engineering College at Cornell Univerity, the mechanism used in this operation being the base-line apparatus constructed especially for Cornell University and perfected in the mechanical division of the College of Engineering. These several separate base-lines at frequent intervals greatly facilitate the work of the Survey by affording frequent checks upon the geodetic work governing the triangle sides which are the azimuth lines of the survey. Such frequent base-lines are quite in accordance with the modern theory of the best practice of

geodetic engineering, but could not be employed in such an elevated mountainous district but for the frequent level spaces afforded by the lakes offering an opportunity

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for such measurements. At the same time, but for the determination of the elevations of those lakes, which lie at such a height above the sea level, such base-lines would be recorded at too great length owing to their height above the sea. The arc between their termini bearing a longer radius than the same arc at sea level, these lines could not be used in the linear tests of the geodetic connection with the triangulation from the sea board, except by aid of the data from the determination of the true heights of these lines above the sea by leveling.

LEVELING

Only a limited amount of leveling was carried on, however, during the past year in the determination of the height of starting points above the sea; so that the base-lines measured and all the horizontal work could be reduced to one uniform sphere when required and the contour of the work of the topographers proceed on an accurate basis.

The results of these levels made during the present season are as follows:

Total length of main lines leveled	199,876 feet
Total length of side lines measured	6,396 feet
Total number of stations occupied	1,009
Total number of benchmarks cut on stone	50
Total number of important reference station marks	461

The above results do not include several thousand stations occupied on the boundary lines with hand levels

where the horizontal measurements were watched closely and kept perfectly true by a light hand-leveling apparatus. These results, also, do not in any way refer

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to the elevations of knolls, ridges and inferior summits not located on county or township lines, found by readings of vernier mountain barometers read from near bench marks of this Survey. All of this hypsometric work is represented by many thousands of station readings at interior points within the tracts, apart from the land lines. This class of work answers very well for wild districts in the interior of lots where the mountain summits and hills and depressions are not located upon the boundary lines and the precise elevations of points is not necessary as a coordinate determining the vertical element of the station. The precise levels and the vertical angles, however, form the basis of the map work or what is called the topography.

TOPOGRAPHY

The general land survey work of the Department being very thoroughly and accurately done both in the horizontal and vertical components, the topography of the interior of the tracts has been very easy to map with probably a higher degree of accuracy than has ever been obtained in this country in work of this character in a wilderness region. In townships subdivided into lots of 160 acres or less, the limits of the allotments when accurately determined both in horizontal measures and in the elevations, along their entire extent, afford exact limits beyond which error either in the distances or elevations cannot go; and, in this way, a perfect miniature representation of the ground is obtained so that there results an absolutely accurate mapping of the

territory within the lot or township, and each mountain or hill, cliff, stream or lake is thus truly placed upon the map by actual measurement to become a natural

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monument forever preserving a knowledge of the true positions of the boundaries. The extent of territory thus covered by the map work during the past season, as far as completed, is about 31,000 acres; but in addition to these surveys, in numerous sections the field work (not yet reduced and placed upon maps) represents a very great additional area which cannot be computed until all the reductions have been made.

SURVEYS OF RIVERS

In carrying forward the work of leveling in connection with the search for boundary lines of lands intersecting the channel of the Sacondaga River, in connection with the topographical work, a survey of the whole of that beautiful river has been completed together with the location of every ten-foot contour intersecting the banks of the stream, and maps of this topographical work have since been perfected in the office showing the location and topography along the whole river line. This survey of the Sacondaga River will be preserved in an atlas of 14 large map sheets, 10 of which are already finished and on file in the office of the State Land Survey in the Capitol, and the others are in excellent manuscript form, but need to be united and placed on sheets for reproduction by photoengraving. These maps show every bend and curve of the river, and the topography along the line where the survey had been carried, with great skill and care. They will form a most important basis for all surveys which hereafter shall be made in that district.

SURVEYS OF LAKES

Perhaps the most beautiful map that has yet been prepared of any section of the State of New York is the detailed topographical map of the Lake Placid Tract--completed this year--which includes the large and beautiful lake of that name. In this tract, representing about 14,000 acres of land, the center of the territory is occupied by Lake Placid, within which are two large and one small island, the lake being thus cut up into two long, narrow strips of water connected by narrow straits. Deep bays and sharp jutting promontories give great variety to the scenery of this beautiful lake and the position of these points and bays is controlled by a very precise triangulation, and the shore line in all its details can be depended upon for its accuracy, having been carefully run out and measured by offsets from transit line stations made on the ice of the lake in the previous year. The lot lines throughout this great tract having been restored and monumented, the topography of the interior of these lots was taken seriatim, in detail. The peaks, mountains, hills and valleys are all shown with notable precision upon this remarkable map. The northern portion of the tract being perfectly alpine in its ruggedness and in the wonderful features of its mountain topography, whether created by erosion or in some other manner, these features of the mountain architecture thus depicted will be of the greatest interest to all students of physical geography and dynamical geology. Besides the large figure of Lake Placid which occupies so great a portion of this map sheet, the southern section of the map shows the settled district in the

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neighborhood of Mirror Lake, to the east and west of which the State still had large and valuable holdings of property; while numerous smaller bodies of water add color and contrast to the details of the map.

In the survey of the Moody Patent a considerable portion of the shore line of Great Tupper Lake was run out and mapped; and it is hoped that, before the completion of the present winter, a survey of the shore line of this great lake may be perfected.

ADMINISTRATIVE MAPS

Satisfactory progress has been made in the preparation of the atlas of administrative maps, of which about 20 sheets on a scale of 1:10,000, representing over 100,000 acres of the most valuable lands, are now ready from the engraver. A number of these sheets have been for some time in the hands of the engraver for reproduction, but the progress of this work of engraving appears to be exceedingly slow; otherwise the entire atlas would now be in the hands of the Legislature.

It is not proposed to include all the lands in this series of administrative maps, but only those wherein the State designs to have special studies made of the woodlands for the purposes of scientific forestry and where as heretofore stated the lands and forests upon them possess such great money value that their protection will be most facilitated by the possession of these large and precisely accurate maps.

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It may be stated that no accurate maps of these

It may be stated that so accurate are these administrative maps which have been perfected and are now on file in this office that they convey vastly more information, at a glance, than is even possessed by those people who have resided upon the lands or in their immediate vicinity for a life time. The revelations of details, of the topography, the shore lines of the lakes and ponds, all the curves, bends and meandering lines of the rivers and streams, the exact slopes of the mountains, the positions of the declivities and of all those features of the land in the true localities; showing in one place the lands best suited for the growth of the spruce timber; another the natural locality for groves of beech trees; while here there are great expanses already occupied by the densest forests of white cedar (*arbor vitae*), and there enormous pines cast their shadows over long belts of lowlands--all of these details, and other and equally interesting facts, can be readily sketched in colors upon these great administrative maps; so that the Legislature and State officers, foresters or travelers, can by merely glancing across these maps obtain more information about the country than the residents themselves possess.

It is hoped that a sufficient edition of these maps may be printed to provide each member of the Legislature and each State officer with a copy of the atlas, and that sufficient additional copies may be printed to supply the State libraries and the libraries of foreign governments, as it is believed that these are the most perfect maps of forest lands ever produced by any government and that they will be useful for administrative purposes for all time.

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The boundaries of these lands have been monumented permanently; surveys have been made with such accuracy that

they will never need to be made again, and all expense on this score in these tracts may be regarded as being ended forever. It only remains for the State to so administer these lands in the future that they shall become a source of permanent revenue.

LANDS IN LITIGATION

The following list of lands in litigation between the State and private parties has been furnished to this office by the Attorney-General for the guidance of the Superintendent in directing the surveys of these lands in the future. This list was not received until late last fall. Previously this Department has conducted the surveys either upon direct and special requisitions made by the department officers needing such surveys, or by the knowledge possessed by this Department that the boundary lines in particular sections needed immediate attention to protect the interests of the State. In the future this list will be of great service to the Superintendent in directing the surveys of lands in the Forest Preserve, as heretofore he has been almost wholly dependent upon the written requests made by the Comptroller, the Attorney-General and the Commissions referred to.

It will be noticed that a majority of these cases refer to lands in Totten and Crossfield's Purchase; while Macomb's Purchase, naturally, on account of its great area, and, perhaps the fact that the surveys were not made under authority of the State, comes next in order.

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I am informed, by a communication from the office of the Attorney-General, that these suits are still at issue, and that no printing has been done in connection with these

cases. It will, therefore, be necessary to study the manuscript notes of the evidence in such cases as are taken up for survey in advance of the field work, and this will require such leisure as is afforded the Superintendent during the brief time in the spring preceding the beginning of the season of field work.

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STATE LANDS LIST

The area of the lands now owned by the State in the several counties within which are located the tracts constituting the Forest Preserve, including the Adirondack Park and forest reservations in the Catskill Mountains are as follows:

County	Area of State Lands	Acres	Total area, acres
Clinton.....	by former report	14,106.32)	
	new purchases	0.00)	. . .14,106.32
Delaware.....	by former report	6,455.50)	
	new purchases	0.00)	. . . 6,455.50
Essex.....	by former report	184,215.63)	
	new purchases	24,513.84)	. . 208,729.47
Franklin.....	by former report	63,959.15)	
	new purchases	24,909.49)	. . .88,868.64
Fulton.....	by former report	17,061.87)	
	new purchases	0.00)	. . .17,061.87
Greene.....	by former report	507.50)	
	new purchases	0.00)	. . . 507.50
Hamilton.....	by former report	284,254.41)	
	new purchases	153,438.24)	. . 437,692.65
Herkimer.....	by former report	83,323.75)	
	new purchases	40,305.96)	. . 123,629.71

Lewis.....by former report	3,008.00)	
	:	
new purchases	0.00).	. . . 3,008.00
	:	
Forward		900,059.66

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		Acres
	Brought Forward	900,059.66
Oneida.....by former report	3,013.70)	
	:	
new purchases	0.00).	. . . 3,013.70
	:	
Saratoga.....by former report	8,221.90)	
	:	
new purchases	0.00).	. . . 8,221.90
	:	
St. Lawrence.....by former report	27,451.66)	
	:	
new purchases	0.00).	. . . 27,451.66
	:	
Sullivan.....by former report	293.90)	
	:	
new purchases	0.00).	. . . 293.90
	:	
Ulster.....by former report	33,088.90)	
	:	
new purchases	0.00).	. . . 33,088.90
	:	
Warren.....by former report	67,847.41)	
	:	
new purchases	16,467.40).	. . . 84,314.81
	:	
	Total . . .	1,056,444.53

A large additional area is under contract for purchase, amounting to 20,169.75 acres, but title to these lands has not as yet been perfected. The lands contracted for in several counties are as follows:

In Essex County	310.00 acres
In Hamilton County.	16,545.75 acres
In Herkimer County	2,160.00 acres
In Warren County	1,154.00 acres

Total area 20,169.75 acres

SUMMARY OF RESULTS

A summary of the more important results obtained in the surveys of the several tracts of land where boundaries have been restored and monumented, during the past season, is given in the following table.

TABLE SHOWING AREAS INCLUDED BY SURVEYS

Totten and Crossfield's Purchase

	Acres
Township No. 29 _ _ _ _ _	18,000
Township No. 11 (North part) _ _ _ _ _	2,850

Moose River Tract

Townships Nos. 9 and 10, South Line, monumented about one third of the external bounds of about 30,000 acres _ _ _ _ _	10,000
--	--------

Old Military Tract

Allotment surveys in the interior of Township No. 11, Old Military Tract, completed work, about -	14,000
	44,850

Totten and Crossfield's Purchase

Township No. 26 (preliminary work) _ _ _ _ _	19,000
Township No. 23 (preliminary work)	
north line of lots in,	2,000
Township No. 30 (preliminary work) lots in, -	2,000
Township No. 27 (preliminary work)	
north line of lots in, -	2,000

In addition to the above, there are surveys of parts of lots in the south portion of Township No. 12 and the northerly portion of Township No. 12 in the Old Military Tract, and a part of the 2000-acre tract in the northeasterly part of Township No. 28 in Totten and Crossfield's Purchase

and the various surveys on sections of county lines

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and Great Patent lines, which, when completed next season, will include large areas.

SOUTH LINE, MOOSE RIVER TRACT	Feet of Lines Measured	Number of Stations Set
	-----	-----
Distances measured	66,972	
Station monuments	-----	177

ALLOTMENT SURVEYS SEPARATING

public lands in

Minerva, Essex Co.	92,621	
Station monuments	-----	332

TOTTEN AND CROSSFIELD'S PURCHASE

Townships Nos. 11 and 29

Distances measured	99,805	
Station monuments	-----	144

Township No. 28

Distances measured	42,092	
Station monuments	-----	116

ESSEX AND HAMILTON COUNTY LINE

Distances measured	27,392	
Station monuments	-----	116

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Feet of Lines Measured	Number of Stations Set
-----	-----

MOODY PATENT

Distances measured	10,560	
Station monuments	-----	34

TOWNSHIP NO. 46, TOTTEN AND CROSSFIELD'S PURCHASE

Distances measured 13,143
 Station monuments ----- 36

SURVEYS, NORTH PART, OLD MILITARY TRACT

Distances measured 163,680
 Station monuments ----- 456
 Corner monuments and reference bolts --- 72

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TOPOGRAPHICAL WORK

Distances measured _ _ _ _ 132,000
 1st Division: Transit stations occupied _ _ _ _ 59
 Topographical points located _ _ _ _ 2,158
 2nd Division: Transit stations occupied _ _ _ _ 53
 Topographical points located _ _ _ _ 1,318

TOWNSHIP NO. 12, OLD MILITARY TRACT

North Part: Distances measured - 12,399
 Station monuments ----- 37

SOUTH LINE AND LOTS

Distances measured _ _ _ _ 18,821
 Station monuments ----- 31

LEGGETT'S SURVEY : WARREN COUNTY

Distances measured _ _ _ _ 102,855
 Station monuments ----- 404

LEVELING: Distances measured _ _ 97,021

Bench-marks established _ _ _ _ 50
 Reference stations _ _ _ _ 461

TRIANGULATION:

Primary stations occupied _ _ _ _ 3
 Secondary stations occupied _ _ _ _ 8
 Tertiary stations occupied _ _ _ _ 32

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CONCLUSION

The surveys described in the foregoing pages have been accomplished in the face of great difficulties, during one of the most inclement seasons which has ever been experienced during our field work. The results obtained are most creditable to the faithful officers and men of this Department, who have systematically carried out the orders of the Superintendent and have made such permanent and thorough surveys over the lines and territory completed by them that it is not probable that surveys will ever have to be made in these sections again, as the records and maps obtained will serve every purpose for future use, and for the administration of these lands either for forestry or for other purposes.

In establishing the great forest preserves of New York, the Legislature of our State has entered upon a task which appears to be unparalleled in its grandness and magnificence by any work ever hitherto undertaken for such a purpose. I was the first to suggest the Adirondack Park, but neither in my reports nor in the original recommendations of the first Adirondack Park Commission (of which I was a commissioner and for which commission I wrote its first report) were the vast purchases of lands contemplated which have since so grandly added to the public domain in the mountain districts of this State. At the time, when I first recommended the preservation of the Adirondack forests as a timber preserve, the State was disposing of this property--then covered with the most beautiful and untouched forest trees--and receiving in return only a few shillings an acre for many of the most valuable tracts.

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finest portions of the shore line of Racquette Lake, in Township No. 40, of Totten and Crossfield's Purchase, lands covered with the original pine timber and unsurpassed, in location and beauty for summer cottages and villa sites, by any lands in the State, receiving in return only two dollars per acre for lots fronting upon one of the most beautiful lakes in the forest. At the present time the State is buying back much of the land in other sections--less valuable--at twice the price received for these choice sites, and, at times, more than three times the price then received per acre has been paid for lands inferior to those upon the shores of Racquette Lake.

The reports of the condition of the forests throughout the United States and Canada have indicated that the State of New York did not begin a moment too early to preserve its great forests; for we have here a reservation which will be practically a mine of wealth, superior to the iron and minerals which have heretofore been considered of greater importance. The time is not far distant when the State of New York will control the lumber supply--not only for its home consumption but for great markets in other States, and even beyond the seas. When this time comes it will behoove the Legislature and the people to use the most watchful care in the protection of these great forest heritages; for every device which cunning can prepare, and every argument which avarice can propagate, will be employed to induce the people to part with these great forests and to throw into the hands of speculators and

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schemers an opportunity to enrich themselves from these public lands at the expense of the people. The precious supplies of merchantable timber which will then clothe the

slopes of our mountains, will, in the event of great timber famine, or of some international embargo or war, be sought and demanded under every plea and pretext that can be devised. Before syndicates are permitted to invade these forests to market their mature and merchantable timber, the State authorities should secure evidence of the practical possibilities, economy and remunerative returns from forest administration, over areas of forest lands located without the limits of the Adirondack Park; and, only after skillful management of large areas involving tens of thousands of acres of forest lands in the border districts between the settlements and the boundary lines of the Forest Preserve, should any thought of timber cutting within the limits of the Preserve be considered.

It will take many years of work by practical men in practical ways to organize a skillful system of forestry in this state, particularly if it is to be administered under political control--which must be the case, inasmuch as the appropriations for the support of the work must pass the approval in policy of the party in power.

The history of forest administration in other lands teaches that the most skillful forestry management has been that which has clothed the barren and denuded territories with a new growth of valuable timber. Attention is respectfully called to the fact that all of the border lands of barren country, forming a broad

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and frequently almost desert upland around the Adirondack Park--and in some portions around the Forest Preserve in the Catskill Mountains--were originally covered with grand forest trees and dense growths of heavy timber, which have only too rapidly disappeared before the axe and forest fires. No more useful or valuable work can be effected by the State authorities than to secure the reforestation of all of these extensive barren uplands, now frequently sandy deserts, or "stony barrens," where brush fires, unprevented, frequently destroy the young trees endeavoring spontaneously to re-cover these desert uplands.

In the haste of travellers to enter the great forests, the great possibilities and the enormous advantages which would accrue to our State, if these barren uplands (beyond the limits of the Park) could be re-covered with timber, are often overlooked; and the importance of the subject, and the fact that it has not received the notice which it deserves, is my reason for calling attention to it.

It may be estimated that there are a million acres of these barren uplands existing around the exterior of the Adirondack Park, between the borders of the Park and the settlements, lands which are hardly utilized for any profitable purpose, the soil being exhausted and the country unattractive and less known and visited than many more remote sections in the interior.

I would not advise that these lands be purchased, but I would respectfully suggest that, if this State is to have a system of forestry, the encouragement of individual efforts in the care of timbered lands and in tree planting--if fostered in these border

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lands between the Park and the settlements--would, within a generation to come, develop a large class of skillful foresters thrifty, economical, and industrious, to whom the future care of the great forests of the interior might be entrusted in proportion as they are proved to be faithful to their private work and able in the management of their own forest lands and in their business relations in connection with such industries.

The proper method by which to encourage tree planting in these border land districts and to secure a wise and uniform forest management and administration, without the expenditure of money for the purchase of lands, would seem to be: the furnishing of seed, the cones of coniferous trees, and pamphlets of instructions as to the proper means of planting pine, spruce, hemlock, cedar trees and larches, and other valuable timber; the manner in which the forest fires are to be combatted; the manner in which the matured timber is to be cut and brought to market; the method of accounts necessary to be kept showing the amount of merchantable timber on the several lots; the amounts cut and the amounts sold and the amounts of lands replanted; the condition of the timber--all could probably be obtained merely by some systematic control and a reduction in the tax rate* in favor of those who, by care, industry and knowledge, increase the forest wealth of the State upon their private lands by the cultivation and protection of its timber.

I earnestly recommend that attention be given to these suggestions because the Constitution and the laws do not permit the cutting of timber within the limits of the Adirondack Park upon the State lands; and, unless the forests external to the Adirondack Park and State Forest Preserve are

external to the Adirondack Park and State Forest Preserve are increased and fostered, the

Editor's Note: The so-called "Fisher Forest Tax Law"

(Chapter 610 of the Laws of 1926)

accomplished just what Colvin here suggests.

The same law, with some modifications,

continues in effect today.

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industries of the State, depending upon these supplies of timber, may languish and suffer. When the time arrives that the people are satisfied that honest and economical forest administration is possible and that such forest managers have developed and proved their ability by their reports of the management of their own forest lands, then such practical, skillful and reliable foresters being placed in charge of the State Forest Preserves, future generations may receive the advantages and reward of the forethought of the statesman and legislators of the present period.

It is with these thoughts that the administrative maps, giving the exceedingly accurate surveys of large areas upon a large scale, have been made, and are herewith transmitted to the Legislature. The State will possess the engraved plates from which these maps are printed, and duplicate maps can be issued at trifling expense. The methods of showing by colors the locations where the different kinds of forest trees are to be placed or cultivated can be most economically indicated upon such maps, and the modern system of forestry thus readily taught, and the forest field work exactly controlled from the office at Albany.

In explanation of the surveys made during the past year and for the information of the Legislature the

year, and, for the information of the Legislature, the maps of the more important surveys, with field notes and records relating thereto, together with illustrations, are appended to this report.

All of which is

Respectfully submitted,

[Signed] Verplanck Colvin

Superintendent

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SPECIAL REPORTS
on the
STATE LAND SURVEY
of
the State of
NEW YORK

Containing
THE INVESTIGATIONS AND CONCLUSIONS
RELATIVE TO BOUNDARIES
Under Survey
in the Forest Preserve of New York
with Illustrations and Maps

1898-1899

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Report
1899

APPENDIX

The appendix to this report consists of the annexed papers and of all manuscripts, field notes and maps of and appertaining to the New York State Land Survey, the same being herewith transmitted to the Legislature for publication in condensed form in this report.

Verplanck Colvin
Superintendent

Albany

March 2, 1899

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APPENDIX A
1898 - 1899

F I N A N C I A L R E P O R T

GENERAL ACCOUNT
Summary

Office salaries	\$8,940.00
(Field officers' salaries are included in accounts given below)	
Traveling expenses, inspection of field work, all parties	250.58
Instruments	235.20
Repairs to instruments	166.07
Labor; detached sections of work	155.49
Copies of testimony and of documents	113.22
Copper bolts for transit stations	127.50
Stationery and office expenses	125.27
Tents	94.36
Department printing	55.90
Stone monuments	55.00
Hardware and signal material	43.98
Signs, "State Lands"	30.00
Knapsacks	10.00
Computing tables	5.25

Computing tables _____ 5.35

\$10,407.92

Ninety-nine vouchers filed with the Comptroller; accounts sworn to by Inspector Street.

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F I N A N C I A L R E P O R T
SALARIES AND EXPENSES FOR THE YEAR

Salaries of officers and clerks(not including local surveyors employed in the field) _____ \$10,450.00

OFFICE EXPENSES AND SUPPLIES

Express charges, Postage, Stationery, Telephone Rental, etc., _____ 321.93

TRAVELING EXPENSES

Including expenses of inspection of work _____ 339.46

INSTRUMENTS

Aneroid barometers, etc. _____ 235.20

REPAIRS TO INSTRUMENTS

Including general repairs and marking of instruments "State Land Survey" _____ 176.42

SPECIAL LABOR ACCOUNT

For different minor sections of work in various counties _____ 394.99

PERMANENT STATION MARKS

Inscribed bolts for marking boundary lines _____ 197.50

RECORDS

Copies of testimony and documents relating to boundaries of lands, etc. _____ 113.22

TENTS

For use of field parties _____ 94.36

DEPARTMENT PRINTING

Forms and blanks _____ 55.90

STONE MONUMENTS

Special cut stone for important points _____ 55.00

HARDWARE

Including signal material _____ 43.93

METALLIC SIGNS

Marking boundaries of State lands _____ 59.70

OFFICE EQUIPMENT

Including one typewriting machine and computing tables _____ 40.35

FIELD EQUIPMENT

Knapsacks and haversacks _____ 18.80

One hundred and ninety-four (194) vouchers filed with the Comptroller; sworn to by Assistant Blake and Inspector Street _____ \$12,596.76

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COMPUTING DIVISION

Wages and expenses, March _____ \$181.82

Two (2) vouchers filed with the Comptroller;

sworn to by Assistant McGrath _____ \$181.82

FRANKLIN AND HAMILTON COUNTIES
 Macomb's and Totten and Crossfield's Purchase;
 Gore in and along North line Totten and Cross-
 field's Purchase.

Wages and expenses, March _____ \$150.00

Wages and expenses, April _____ 150.00

Four (4) vouchers filed with the Comptroller;

sworn to by Assistant LeFevre _____ 300.00

ST LAWRENCE COUNTY

Macomb's Purchase

Wages and expenses, March _____ \$225.54

Wages and expenses, April _____ 265.90

Seventeen (17) vouchers filed with the Comptroller;

sworn to by Rodman Wilson _____ 491.44

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WARREN COUNTY

Totten and Crossfield's Purchase

Trigonometrical and Pioneer work

Wages and expenses June \$158.38

Wages and expenses July 225.56

Wages and expenses August 251.08

Fifty (50) vouchers filed with Comptroller;

sworn to by Assistant McGrath and Signalman Browne --

_____ \$635.12

Reduction of observations, Township No. 10

Wages and expenses, May and June \$361.20

Wages and expenses, July 147.98

Seven (7) vouchers filed with Comptroller;

sworn to by Assistant Luster _____ 509.18

FRANKLIN COUNTY

Macomb's Purchase, Great Tracts Nos. 1 and 2

Townships 5, 14, 18 and 25

Wages and expenses, May _____ \$220.83

Wages and expenses, June _____ 221.25

Twenty-two (22) vouchers filed with Comptroller:

Twenty-two (22) vouchers filed with Comptroller;
sworn to by Surveyor Wilson -----442.08

ESSEX COUNTY

Totten and Crossfield's Purchase

Townships 15 and 17 and allotments easterly. (portion
of the men also employed on county line work)

Wages and expenses, June _____ \$223.69
Wages and expenses, July _____ 363.93

Thirty-three (33) vouchers filed with Comptroller;
sworn to by Surveyor Lynch _____ 587.62
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ESSEX AND HAMILTON COUNTIES

Township No. 17, East boundary of the County of Hamilton

Wages and expenses, July _____ \$269.77

Wages and expenses, August _____ 227.16

Nine (9) vouchers filed with Comptroller;

sworn to by Surveyor Edwards _____ \$496.93

HAMILTON COUNTY

South boundary, Moose River Tract

Wages and expenses, July _____ \$195.52

Wages and expenses, August _____ 355.33

Twenty-five (25) vouchers filed with Comptroller;

sworn to by Surveyor Corey _____ 550.85

ESSEX COUNTY

Old Military Tract

Including survey and monumenting section of county line
between Townships 11 and 21, Macomb's Purchase

Wages and expenses, July _____ \$355.17

Wages and expenses, August _____ 341.34

Twenty-seven (27) vouchers filed with Comptroller;

sworn to by Surveyor Wilson _____ 696.51

ESSEX AND WARREN COUNTIES

Totten and Crossfield's Purchase, north boundary

Wages and expenses, August _____ \$345.40

Ten (10) vouchers filed with Comptroller;

sworn to by Surveyor Barnes

_____ 345.40

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ESSEX AND WARREN COUNTIES

Topographical work and leveling

Wages and expenses, July _____ \$ 164.80

Wages and expenses, August _____ 357.45

Twenty-one (21) vouchers filed with Comptroller;

sworn to by Assistant Locke _____ \$522.25

HAMILTON AND WARREN COUNTIES

Totten and Crossfield's Purchase

Townships 11 and 29

Wages and expenses, July _____ \$265.60

Wages and expenses, August _____ 275.42

Twenty-one (21) vouchers filed with Comptroller;

sworn to by Surveyor Richards _____ 541.02

ESSEX COUNTY

Old Military Tract (Lake Placid Tract)

Wages and expense, July _____ \$150.46

Wages and expenses, August _____ 413.69

Twenty-four (24) vouchers filed with Comptroller;

sworn to by Assistant Luster and Surveyor Thew _____ 564.15

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ESSEX COUNTY

Totten and Crossfield's Purchase

Monumenting boundaries of State lands in various allotments
in Minerva

Wages and expenses, August _____ \$416.34

Seventeen (17) vouchers filed with Comptroller;

sworn to by Surveyor Lynch _____ \$416.34

ESSEX AND WARREN COUNTIES

Triangulation and signal work

Wages and expenses, August _____ \$269.39
Wages and expenses, September _____ 297.24
Twenty-four (24) vouchers filed with Comptroller;
sworn to by Assistant McGrath and Signalman Browne ___ 566.63

HAMILTON COUNTY

Moose River Tract

Wages and expenses, September _____ \$397.76
Thirteen (13) vouchers filed with Comptroller;
sworn to by Surveyor Corey _____ 397.76

ESSEX COUNTY

South line, Old Military Tract

Wages and expenses, September _____ \$101.42
Nine (9) vouchers filed with Comptroller;
sworn to by Surveyor Edwards _____ 101.42

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WARREN COUNTY

Johnsburgh, leveling and pioneer work

Wages and expenses, leveling - September _____ \$367.78
Wages and expenses, pioneer work - September _____ 180.89
Wages and expenses, pioneer work - October, November and
December _____ 156.30
Forty-five (45) vouchers filed with Comptroller;
sworn to by Assistant Locke and Signalman Browne _____ \$704.97

ESSEX COUNTY

Old Military Tract, monumenting and mapping lands
adjacent to Lake Placid

Wages and expenses, September _____ \$568.64
Wages and expenses, October _____ 546.70
Thirty-two (32) vouchers filed with Comptroller;
sworn to by Assistant Luster _____ 1,115.34

ESSEX COUNTY

Totten and Crossfield's Purchase

Survey restoring ancient township corners as basis for

Survey restoring ancient township corners as basis for
north line, Totten and Crossfield's Purchase, Townships 27
and 28

Wages and expenses, September _____ \$453.67
Wages and expenses, October _____ 352.71
Thirty (30) vouchers filed with Comptroller;
sworn to by Surveyor Lynch _____ 806.38

ESSEX COUNTY

Old Military Tract

Survey and monumenting south line, Town of St. Armand and
adjacent lots, etc.

Wages and expenses, September _____ \$233.39
Wages and expenses, October _____ 228.00
Eleven (11) vouchers filed with Comptroller;
sworn to by Surveyor Wilson _____ 461.39

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TOTTEN AND CROSSFIELD'S PURCHASE

Leggett's Survey, east boundary and allotments

Wages and expenses, October _____ \$473.64
Wages and expenses, November _____ 498.56
Thirty-six (36) vouchers filed with Comptroller;
sworn to by Assistant Locke _____ \$972.20

TOTTEN AND CROSSFIELD'S PURCHASE

Townships 28, 37 and 38.

Wages and expenses, August, September and October ____ \$347.30
Wages and expenses, November _____ 374.97
Thirty-seven (37) vouchers filed with Comptroller;
sworn to by Surveyor Kelley _____ 722.27

CATSKILL MOUNTAINS

Expenses, reconnaissance, September _____ \$ 91.59

ESSEX COUNTY

Location of corners, Townships 46 and 47 and Township line

Wages and expenses, November _____ 129.82

Twenty-three (23) vouchers filed with Comptroller:

Twenty-three (23) vouchers filed with Comptroller;
sworn to by Clerk Wood and Surveyor Lynch _____ 221.41

ESSEX COUNTY

Old Military Tract

Wages and expenses, November _____ \$516.15

Monumenting subdivision south of St.

Armand line, November _____ 201.87

Nineteen (19) vouchers filed with Comptroller;

sworn to by Assistant Luster and Surveyor Wilson _____ 718.02

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TOTTEN AND CROSSFIELD'S PURCHASE

Boundary line of Township 37

Wages and expenses, December _____ \$244.41

Leggett's Survey

Wages and expenses, December _____ 249.69

Twenty-two (22) vouchers filed with Comptroller;

sworn to by Surveyor Kelley and Assistant Locke _____ 494.10

ESSEX COUNTY

Old Military Tract

Final survey of State lands at Lake Placid

Computations, etc., December _____ \$163.40

Topographical work, December _____ 110.33

Monumenting boundaries, including
wages of men, December _____ 419.16

Thirty-six (36) vouchers filed with Comptroller;

sworn to by Assistant Luster, Surveyors Wilson and Thew-
-----692.89

1899

Office salaries and expenses, January _____ \$ 83.33

Office salaries and expenses, January _____ 180.00

Nine (9) vouchers filed with Comptroller;

sworn to by Assistants Locke and Luster _____ 263.33

Office salaries and expenses, February _____ \$130.00

Office salaries and expenses, February _____ 180.00

Four (4) vouchers filed with Comptroller;
sworn to by Assistants Locke and Luster _____ 310.00

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SURVEYS IN MACOMB'S PURCHASE

Townships 25 and 26, Great Tract No. 1

Wages and expenses, January ___ Township 25 _____ \$108.80

Wages and expenses, January ___ Township 26 _____ 179.74

Eight (8) vouchers filed with Comptroller;

sworn to by Surveyors Wilson and Thew _____ \$288.54

Surveys in Macomb's Purchase, Township 25.

Wages and expenses, February _____ \$149.22

Four (4) vouchers filed with Comptroller;

sworn to by Surveyor Wilson _____ 149.22

FRANKLIN COUNTY

Surveys in Macomb's Purchase, Townships 23 and 25

Wages and expenses, February _____ \$243.13

Six (6) vouchers filed with Comptroller;

sworn to by Surveyor Thew _____ 243.13

SUMMARY

Total accounts filed with the Comptroller, with vouchers, as above stated for the years 1898 and 1899 _____	\$29,451.87*
Balance to meet expenses _____	548.13
Balance from account of 1896-1897 _____	27.58
Balance from accounts of 1897-1898 _____	5.45
Total of accounts and balance to date _____	\$30,033.03

	\$30,033.03
By appropriation for the year of 1898-1899 _____	\$30,000.00
By balance from the years 1896-1897 _____	27.58
By balance from the years 1897-1898 _____	5.45
Total appropriation and balance _____	\$30,033.03

	\$30,033.03

*Editor's Note: The actual total, from the addition of all expenditures is \$29,106.49. The inconsistency of \$345.38 may be accounted for by a missing section, which appears to have been cut out of the second page of the tabulations of the original manuscript.

FROM THE MANUAL OF NEW YORK STATE LAND
SURVEY

RULE FOR BOARD, LODGING, SUBSISTENCE AND TRANSPORTATION

Section 1. No board or lodging shall be allowed to any assistant, engineer, surveyor or other employee of this department when such person shall be permanently employed in Albany.

Section 2. Transportation of employees starting out upon work, will be allowed from the depot to their place of labor, at the usual current rates, and the same allowance for transportation returning, with one day's board each way at current rates.

Section 3. When a survey party has been ordered into camp, having been authorized to make requisition from a depot where the camp equipments of this department are stored; or having been supplied-in the judgment of the officer authorized to order the work-with camp equipment and provisions (or an order or authority to procure provisions within the limits of the printed provision list of this department) the assistant or other employee shall be allowed fifty cents per day per man, to cover all expenses of board, lodging, subsistence, teams and transportation; but the man acting as cook for the party shall be allowed pay for every day in the week.

SPECIAL RULE

Allowed only on order in writing, or by special permit of Superintendent.

(a) While a survey party, without camp equipment, is busied with work ordered from headquarters to be carried on in some district or section of country which is settled, and where the

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survey lines each day intersect or are carried on along the limits of cultivated or cleared fields within one mile of occupied houses, in a section where it is unusual to camp, and they have no man to act as cook for party, an allowance of (insert rate limit) per man per week, will be temporarily allowed, or permitted; which will include all board, lodging, subsistence and transportation: provided no less rate can be secured; but the person in charge of the party must take pains to secure a less rate if possible; but this rule will only apply in case a special authority or written order, signed by the Superintendent, has been secured, permitting such temporary quartering of the men.

(b) When an assistant, or other employee, of this department is ordered in writing on brief special duty, to any section or place, he will be allowed to incur and pay at hotels the regular transient rates; but when such a person shall be in the vicinity of a camp of a survey party, he shall make his quarters and obtain his board at such camp.

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After the items of the accounts with vouchers and sworn statements of the assistants, have been transmitted to the Superintendent, they are sent to the Inspectors of the Department, who go over all of the items in each voucher and account, and compute the cost of provisions, the cost of teams and other expenses, from information with which they are provided as to market prices and rates per mile, etc. They then, under oath, make a report to the Superintendent in the following form:

STATE OF NEW YORK

OFFICE OF STATE LAND SURVEY

ALBANY,..... 18...

Hon. Verplanck Colvin. Superintendent. New York State Land

Hon. Verplanck Colvin, Superintendent, New York State Land Survey, Albany, N. Y. :

Sir: The undersigned have the honor to report that we have examined the accounts of for the month of comprising the sworn statements, in duplicate, one for the Comptroller and one for the Superintendent of this survey, together with Comptroller's andSuperintendent's vouchers; each series lettered from .. to.., and amounting to a total sum of \$....., and we hereby certify, under oath, that we have compared both of the said sworn statements or accounts with both series of vouchers, reading the same through verbatim et literatim, and comparing each Comptroller's voucher with each Superintendent's voucher; word for word and figure for figure; and have compared all the items in the

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several bills, multiplying all the rates into the quantities and adding the resulting totals, and find that the said accounts are in each and every particular correct to the nearest decimal, and that there is no article charged for or allowed that is not properly allowable in accordance with the rules prescribed or the limits fixed for the expenditures of the employees of this Department.

Sworn to before me

this... day of ..

in the year.....

.....
.....

Inspectors

.....

Notary Public, Albany County, N. Y.

If the accounts are not found to be satisfactory or are incorrect, the assistant is obliged to explain his account

and correct any errors.

All of the accounts are filed with the State Comptroller, and are subject to his audit, approval or disapproval, before being fully settled. The accounts, vouchers and bills of items are on file in the office of the Comptroller, where they may be examined.

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NOTICE

The allowance of fifty cents per day for the board (provisions) for men in the field is made in view of the difficulties which they would experience in furnishing their own board (food, tents, camp, etc.) while away from home and from hotels or regular boarding houses. At such hotels, etc. regular resident employees must pay their own board and lodging.

As all of the employees have fixed salaries or wages from which they can pay their board and other personal expenses while at home, the extra allowance of fifty cents per man per day for board while in the field is in the nature of an equilization and to facilitate the work in the field and concentrate the men at one headquarters under discipline in a camp; this being requisite in the management of bodies of men engaged on such public work, where the absence or delay of one or two persons will stop the work or delay it until the tardy men arrive.

Such camp control-if properly managed-is more economical for the work and better for the men than scattered quarters; preventing late hours and absence at night, which unfit men for duty.

(Signed) Verplanck Colvin

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STATE OF NEW YORK
DEPARTMENT OF LAND SURVEYS
VERPLANCK COLVIN,
SUPERINTENDENT

TESTIMONY OF
DANIEL LYNCH, LOCAL SURVEYOR,
on
N. Y. State Land Survey,
relative to the retracing by him,-
in the year 1896,
of the original outlines
of Township Number 21,
Totten and Crossfield's Purchase

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Daniel Lynch, sworn.

Q. What is your name? A. Daniel Lynch.

Q. Where do you reside? A. Minerva, Essex County, New York.

Q. Your profession is what? A. Surveyor.

Q. You are a local surveyor attached to the State Land Survey? A. I am.

Q. You made a re-survey of Township 21, Totten and Crossfield's Purchase?

A. I did, a re-tracing.

Q. Mr. Lynch, how did you ascertain the location of the westerly line of Township 21, as compared with the westerly line of Townships 34 and 35? A. By commencing at the joint corners of Townships 34 and 35, a large birch on low ground, with original marks on the tree, and monument, and post, with a nickel plated bolt duly

monument, and post, with a nickel plated bolt duly marked. The copper bolt of the State Land Survey was in the stone monument.

- Q. What did you do from there? A. I traced, or re-traced, the old lines between Townships 34 and 35, as ascertained by cutting out blocks from the line trees, and found them to have been marked in 1772.
- Q. What age did you find the marks on these trees? A. 124 years in every case.
- Q. That was the northerly line of Township 34? A. Yes, sir, of Township 34.
- Q. Did this re-survey agree with the original survey as to topography? A. It did practically. The principal land marks mentioned in the original notes, I found agreed as to distance.

(Mr. Lynch shown a roll of paper.)

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- Q. You see this roll of paper; did you prepare this map?
A. I did, and prepared it immediately upon the completion of the line, while it was fresh in my mind, from my field book.
- Q. What did you find the total length of this northerly line of Township 34 to be? A. 495.52 chains.
- Map produced, stamped "November 27, 1896," Marked "Exhibit A, Daniel Lynch." Map entitled: "Diagram showing the re-survey of the Northerly line of Township No. 34 in Totten and Crossfield's Purchase," which I hereby certify is a correct delineation sketch of the said line, and that the distances written thereon in chains and links are the true distances as measured by myself and S. J. Palmer in the months of June and July 1896; and that the said re-survey was carefully and correctly made.--

correctly made.--

Daniel Lynch.

Q. Have you placed any marks at the corner forming the north-easterly corner of Township 34? A. A nickel-plated bolt in the rock with a large heap of stones over it, marked with the corner of the Township and the numbers of the Townships 34 and 35 and located on the northeast corner of Township 34 and the southeast corner of Township 35.

Q. Are there any witness marks of the corner on the trees?

A. I placed witness, or reference marks on numerous trees.

Q. Did any one keep any notes of this survey except yourself? A. Mr. S.J. Palmer kept notes of all except the east line of Township 19.

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Q. When you came to this corner, the northeasterly corner of Township 34, did you find any line running at right angles with the northerly line? A. I found a marked line, about at right angles.

Q. How was this line marked? A. I found a line of marked trees.

Q. You cut into those trees and found the age to be correct? A. Yes, sir; 124 years.

Q. What was the course of this line purporting to be the easterly line of Townships 34 and 35? A. North 26 degrees 30' West, practically.

Q. Did you find any other lines about this course in this vicinity? A. I did, I found two lines, apparently.

Q. What was their course? A. North 26 degrees 30' West.

Q. That was to the east or west of this line? A. To the west.

Q. How far were they to the west? A. I did not measure the

distance of the first; it might have been, I think, between 3 and 4 chains; and another at 7 chains 92 links South 64 degrees West from the true east line of Townships 34 and 35.

Q. What was the age? A. The oldest was 63 years.

Q. There were no old original marks on this line? A. I found none on the Davis line, at 7 chains 92 links westerly from the true line nor on the line at 3 or 4 chains.

Q. They were within the limits of Townships 34 and 35?

A. They were.

Q. And they had no old marks upon them? A. I found none.

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Q. The first one of these was how far to the west of the line? A. To the best of my recollection, the first was 3 or 4 chains and the second was about 7 chains 92 links. This is the Davis line.

Q. Had there been any recent marking on these lines? A. I do not recollect but the one marking, oldest 63 years. Same age as the allotment lines of Township 21.

Q. About whose surveys would they relate to? A. I could not say.

Q. Who was surveying at that time? A. Probably the surveyor who made the allotment of Township 21, as the oldest marks I found on the allotment lines were of the same age-63 years.

Q. You do not regard this line of 63 years as of any consequence or importance as to the location of the easterly line of Townships 34 and 35 which forms, when produced northerly, the west line of Township 21? A. I do not because they could not agree with the field notes.

Q. How did you find the location of the easterly line of Township 21? A. First by going to where the oldest inhabitants told me the east line crossed the shore of Long Lake; there I found it, and after that, in accordance with the data and directions from the Superintendent's office, I found the original marks there also, on a white pine tree-now down-described in the field notes as a white pine tree, and known to the inhabitants as the "old line tree." Then I crossed the lake and went on this line North 26 degrees West.

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Q. How far north westerly did you go on the easterly line of Township 21? A. To the north east corner of Township 21.

Q. Then did you measure this line? A. I did, by standard chains furnished by the Department of State Land Survey.

Q. Did you make a diagram of this survey of the east line?

A. I did, and it was forwarded to the Superintendent.

Q. Only one? A. Only one special diagram.

Map produced, stamped November 27, 1896, with the following statement: " I hereby certify that the accompanying diagram sketch is a correct representation of the re-survey of the easterly boundary of Township No. 21 in Totten and Crossfield's Purchase, made by myself and S. J. Palmer etc., in July 1896; and that the distances marked thereon in chains and links are the true distances found by measurement with the standard chains 66 feet in length, divided into 100 links, and that the said measurements were made with the chain as nearly horizontal as practicable without leveling; and the said measurements were made along the ancient and original line as ascertained by cutting out

the marks on the old line trees which formed a continuous line along the course indicated on this diagram, which, with due allowance for the variation of the needle since the year 1772, was the true course retraced, which we found to be South 26 degrees 45' East along the line by the magnetic needle in July 1896."

Q. You continued how far? A. To the north shore of Long Lake, from the corner.

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Q. And what distance did you make it from the north shore of Long Lake? A. 271 chains and 13 links.

Q. How did you get the distance across Long Lake? A. We took the distance across the lake from the reports sent by the Superintendent, as measured by Mr. W. D. Lockwood, Assistant on State Survey, across on the ice.

Q. What was the distance? A. 19 chains and 16 links.

Q. And how far was that from the north corner of the township? A. 290.29 chains.

Q. You then continued the re-survey of the easterly line south of Long Lake? A. Yes, sir.

Q. Did you find any lot corners? A. Not for certain; we found what were pointed out as lot corners. We found lot corners all along the line of both Townships 21 and 22, north of Long Lake.

Q. What did you do then? A. Continued the survey to the southeast corner of Township 21; cutting out original blocks as we went along.

Q. What was the age of these blocks? A. 124 years; the rings of the blocks showing the age of 124, or from the year 1772.

Q. What evidence did you find, Mr. Lynch, when you reached the southeast corner of Township 21 to prove it was such

corner? A. We found a rock five (5) feet high, agreeing with the stone described in the original notes as being 10 links north from the 43rd-mile tree; and, 10 links south of this rock,

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we found the roots of a birch tree, agreeing with the original notes. Then chained northerly along this line 6 chains and 25 links from the roots of this birch tree, which was a mile tree, which is 10 links south of the round rock on this same line (reversing the course), and at a distance of 6 chains and 25 links turned, at right angles, South 64 degrees West, and followed that course; at 9 chains and 60 links found original marks, 124 years old, on a green spruce tree; cut block out and preserved it. The corner where we had turned being at 551 chains from the northeast corner, and there we set a post, and turned to make search for the southerly line of Township 21, that is where I found this old marked tree, at 9 chains 60 links.

Q. What is the length of the easterly line of Township 21; that is, the original length, as given in the field notes?

A. 525 chains.

Q. What is the length of the easterly line of Township 21 by your re-tracing measurement? A. 551 chains.

Q. This is longer than the original measurement? A. It is.

Q. How much longer? A. 26 chains surplus.

Q. That is to say that the township line by your measurement is longer by 26 chains according to the original record?

A. It is.

Q. So this south line of Township 21 that you found is the random line? A. I think not.

Q. Why do you think not? A. Because it agrees with the line

described in the original field notes as the south line of
Township 21 and the north line of Township 19.

- Q. What is this random line? A. I do not know; there is a line located at 14 chains and 60 links South 26 degrees East of what I consider the southeast corner of Township 21—an old line this is, and running nearly parallel to the south line of Township 21. I think it is the random line re-marked.
- Q. Do you state that the line which you call the south line of Township 21 contains the surplusage of 26 chains in Township 21, and that there is also 14 or 16 chains additional to the so-called random line? A. That is my opinion.
- Q. The north, i.e. North 30 degrees West, and south lines of these Totten and Crossfield townships are generally of what length? A. I have never known them to be less than the recorded length, usually 525 chains. They usually overrun, but rarely fall short of the length given in the old field notes.
- Q. Did you make a re-survey along the so-called random line? A. I did not, except to ascertain its bearing.
- Q. This is the sketch which you made and sent in of the easterly line, marked "November 27, Exhibit B," and surveyed by you? A. It is.
- Q. Did you make a survey at this time of the northerly line Township 21? A. I did.
- Q. Where did you begin the survey of this northerly line of Township 21? A. At the northeast corner, being the southeast corner of Township 23.
- Q. How did you mark this corner? A. I marked it on a large copper bolt, "21-23," on the westerly side, and set this in a large boulder with a big pile of rocks around and over it.

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- Q. This was the point where you began your survey of the easterly line of Township 21? A. The same point.
- Q. You started to survey from here southwesterly? A. On the course South 64 degrees West, magnetic.
- Q. Why did you adopt this course? A. It was at right angles with the east line at that point.
- Q. Did you find any old marked trees on this line? A. At a distance of 13 chains and 28 links found a green spruce tree with marks 124 and 80 years old, being the marks of the original survey, and Richards' re-survey in 1816.
- Q. Did you find marked trees along this line? A. The whole length of this line I found the old marked trees, 124 years old. Also the marks of Richards' survey of 1816 of the survey of the 23rd Township being the same line, and found the original (1772) corner (Beech) of Lots 1 and 2 in Township 21.
- Q. These marks continued the whole length of this line?
A. They did.
- Q. The course you mention had slight variations, did it not?
A. It did.
- Q. Are they properly indicated on this sketch which you submit? A. I think they are. Mr. Palmer ran that line and marked the variation of the compass on my sketch.
- Q. What did you find the length of this northerly line of Township 21 to be? A. 489 chains and 57 links.
- Q. Did you come to any corners before you reached the northwest corner of Township 21? A. I did. I came to a large rock with a drill hole and pile of stones at 485 chains and 87 links.

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Q. What did you call this corner?

- Q. What did you call this, an angle in the easterly line of Township 36? A. An angle or jog in the east line of Township 36.
- Q. How far was it from this corner to the true corner of Township 21 west? A. 3 chains 70 links.
- Q. On this northerly line of Township 21 you crossed the outlet of Mud Pond? A. I did.
- Q. How far from the dam was it to the point where you crossed the outlet of Mud Pond? A. 6 chains and 25 links northerly from the dam, practically.
- Q. How did you get around the water? A. By rectangular offsets.
- Q. Did you cross any other lakes? A. I did not on the northerly line, but crossed several small streams or brooks.
- Q. Did you then proceed to make a re-survey of the westerly line of Township 21? A. I did.
- Q. Where did you begin this survey? A. At where I indicated on this last diagram, at the distance of 489.57 chains, South 64 degrees West from the northeast corner of Township 21. I found a boulder monument marked with drill hole centre in a pile of stones and small birch tree at the northwest corner of Township 21, and from the drill hole in said rock I ran on the magnetic course South 26 degrees East, along the westerly line of Township 21.
- Q. Did you find any corners on this line representing the corners of Township 36, on the west line of Township No. 21? A. I did. I found a pile of stones at 50 chains South 26 degrees East from the northwest corner of Township 21.
- Q. Was it an old birch tree? A. Yes, sir.
- Q. How marked? A. They were quite old marks, did not cut into it.

- Q. Did you find any false lines in that vicinity? A. I found a false line to the east when I had gone 54 chains 52 links on the course South 26 degrees East, a cross line running North 64 degrees east which I believed to be a false line run for the North line of Township 35.
- Q. Would that not properly be a lot line in the 21st Township? A. Very likely, as I am not certain that it continued southwesterly from the west line of Township 21.
- Q. Why very likely? A. Because as far as I found the lots in the 21st Township they overran the 50 chains, north and south.
- Q. This assumed lot line was well marked? A. Quite well marked; well on that line. Going 4 chains 66 links North 64 degrees East on this supposed lot line found another line running parallel to the west township line of Township 21 with a corner marked on supposed lot line.
- Q. Did you regard this parallel line in Township 21-South 26 degrees East-as a township line? A. I did not regard it as having any value whatever.
- Q. Why? A. Because it was not old enough and did not agree with the original field notes, being too far easterly of the marsh in Township No. 35 described in the original field notes, being 4 chains 66 links too far easterly, whereas the said marsh is described in the original field notes as being only 2 chains from the said line and I found this false line 4 chains 66 links further east, making 6 chains 66 links from the marsh.
- Q. You continued on the original west line of Township 21 southerly? A. I did, South 26 degrees East, magnetic.

- Q. Did you find any old marked trees along this line?

- A. I found marked trees of 124 years marking.
- Q. Did the re-survey agree with the original survey?
- A. It did agree with the description in the field notes on record.
- Q. Did you extend this re-survey of this line to the Raquette River? A. I did.
- Q. At what distance on this line did you reach the Raquette River? A. 429 chains 22 links.
- Q. This was the north bank of the Raquette River? A. It was.
- Q. At what point on the river did this true division line between Townships 21 and 35 cross said river? A. Below and eastwardly from Buttermilk Falls on the Raquette River; I would guess it to be 4 or 5 chains below the broken foaming water.
- Q. How wide is the river at this point? A. 2 chains 55 links by actual chaining through the river.
- Q. You continued this survey on the same course? A. Yes, sir.
- Q. How far did you continue this survey of this line? A. I extended it to the north line of Township 34, whole distance being 569 chains 38 links.
- Q. What is the length of the west line of Township 21 according to the original field notes? A. 525 chains.
- Q. This distance along the line measured exceeded 525 chains?
- A. It does.
- Q. How much? A. 44 chains 38 links more than the original notes call for to north line of Township 34.
- Q. Is not this a very great excess? A. It is, unusually great.

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- Q. You do not regard this, therefore, as the corner of

Township 21? A. I would not

- Township 21? A. I would not.
- Q. Where did you locate the southwesterly corner of Township 21? A. At 16 chains and 50 links northwardly on the east line of Township 35, from the corner of Township 34 and 35.
- Q. Had you any reason besides the chaining for placing this corner of Townships 19 and 21 16-1/2 chains northerly from the corner of Townships 34 and 35? A. I had. I found a line running North 64 degrees East from it, which I afterwards found to be the south line of Township 21.
- Q. How long would this make the westerly line of Township 21, according to your recent survey? A. 552 chains and 88 links southerly from the northwesterly corner of said Township 21.
- Q. How far is this southwest corner of Township 21 northly from the joint corner of Townships 34 and 35? A. 16 chains and 50 links by careful measurement.
- Q. You make, then, the west line of Township 21 to be 552 chains 88 links? A. I do.
- Q. This is longer, then, than the original record? A. It is 27 chains and 88 links longer on the west side.
- Q. Then the westerly line is only one (1) chain and 88 links longer than the easterly line by your re-measurement of both lines? A. It is.
- Q. And both exceed the original measurement? A. Yes, sir; the easterly line is longer by 26 chains and the westerly by 27 chains and 88 links.
- Q. Did you mark the southwest corner of Township 21? A. I did mark it with a large boulder, standing in the swamp, with a nickel-plated bolt with proper figures; also set up a stake with

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of Townships 19 and 21, and made a pile of stones around the stake and over the bolt.

Q. Did you place a monument also at the joint corner of Townships 34 and 35? A. I did.

Q. Which are properly marked? A. Yes, sir, with a heap of stones.

Q. Did this complete your work on the west line of Township 21? A. Yes, sir, on the west line.

Q. What line did you next take up? A. Practically the south line. Finished up the east line and took the south line.

Q. Where did you begin the survey of the south line of Township 21? A. At the southeast corner, being 6 chains and 25 links northerly from the roots of a birch tree, 10 links from a round rock 5 feet high, and also 551 chains southerly from the northeast corner, all as described in the original field notes of this township.

Q. If the easterly line of Township 21 were extended southerly on the same course would it strike a brook?

A. Yes, sir; at 10 chains and 75 links from the southeast corner, which brook runs easterly and is about 10 links wide.

Q. Would that brook help to identify the location of the corner? A. It would, certainly.

Q. Has this brook a steep bank? A. No, sir, it is in low swampy ground.

Q. The corner is 10 chains and 75 links North 26 degrees West of the brook? A. Yes, sir.

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Q. The corner is how far from the boulder on the line?

A. 6 chains and 15 links from the south edge of the boulder, on course North 26 degrees West.

Q. What mark did you place at the southeast corner of Township 21? A. Drill hole in big rock, with stones

over it and a wooden post scribed and marked.

Q. You then went southwesterly on this line, which you call the south line of Township 21? A. Yes, sir.

Q. This is not the random line, so-called? A. No, sir, not what I consider the random line, there is a line to the southward 14 chains and 60 links from the easterly joint corner of the 19th and 21st Townships running nearly parallel with this line, the south line of Township 21, in a southwesterly direction.

Q. Where does the northerly line terminate? A. 16 chains and 50 links northwardly from the corner of Townships 34 and 35.

Q. Where does the south line of Township 21, as you hold it to be, terminate westerly, at how many chains North 26 degrees West from the corner of Townships 34 and 35?

A. 16-1/2 chains.

Q. When you say you made a re-tracing and re-survey of the southerly line of Township 21, you mean the northerly of these two lines? A. I do.

Q. And not the random line? A. No, sir.

Q. With what course did you proceed to trace this south line of Township 21? A. Started on South 64 degrees 30' West.

Q. Did this course bring you to any old marked trees? A. It did.

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Q. Did you cut into the trees to find the age of the original marks? A. I did, at least one every mile, and found the full age to be 124 years, representing the original survey of 1772.

Q. What did you make the total length of this line, the south line of Township 21? A. 496 chains 25 links.

Q. Which way did you measure this line? A. We went southwesterly from the easterly line of Township 21.

southwesterly from the easterly line of Township 21,
beginning at southeast corner of Township 21.

Q. This was the direction in which it was originally run?

A. Yes, sir. I was re-tracing the original line.

Q. Can you recover the original distance from the west line of Township 21 resuming your survey by taking the distances in your book from 496 chains and 25 links which you enter here as the total length of the south line of Township 21? A. You can, any place west of South Pond, but not east of South Pond, because South Pond is wider than the old record gives it.

Q. How do you account for the extra width of South Pond?

A. By error of the old survey.

Q. Mr. Lynch, will you read from the field notes of the original survey the description in Volume 59, Colonial MSS, Office N.Y. Secretary of State, and Volume B, page 91, State Engineer and Surveyor's Office, N.Y. State, and see whether they agree? A. Yes, sir, they agree practically.

Q. What do they give the width of the lots on the southerly side of said Township 21? A. 40 chains, except the last, or easterly lot.

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Q. How wide does this field book say the last lot is?

A. 30 chains.

Q. Both books agree? A. Yes, sir.

Q. How do you account for it? A. They made too much allowance for the unevenness of the ground. They practically admit that they made an error of 10 chains in the width of the south end of Township 21.

Q. But that would make it 480 chains? A. Yes, sir.

Q. You found more error than that? A. In crossing the water we found more error. We found Mud Pond to be 4 chains

wider than the original surveyor called it. We found at South Pond the east shore to be 397 chains and 55 links from the southeast corner of Township 21, and the west shore is at 421 chains and 45-1/2 links, making width of South Pond from station to station 24.075 chains, or 23.90-1/2 chains from shore to shore, the easterly station being 17 links east of shore.

Q. The original survey made South Pond to be how wide?

A. 15 chains wide.

Q. And you make it 23 chains and 90-1/2 links? A. Yes, sir, which adds 8 chains 90-1/2 links to the width of South Pond.

Q. Mr. Lynch, the original surveyor says of this south line that "beginning at the southwest corner, on a course North 60 degrees East at a distance of 10 chains from the corner, came to a lake." Did you come to a lake at that distance? A. Yes, sir; practically. That is, to the west shore of Mud Pond.

Q. What is that lake? A. It is now known as Mud Pond.

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Q. And this lake is 4 chains wider than the old record gives it? A. Yes, sir, but this is nothing unusual in the ancient records of water measurement in Totten and Crossfield's Purchase.

Q. At what distance from the southwest corner of Township 21 do you reach the west shore of South Pond? A. At 74 chains 33 links to the west shore of South Pond by reversing my measurements.

Q. Does this agree with the ancient field notes? A. They don't give the distance so I can compare.

Q. What distance do you make it to the east shore of South Pond from the southwest corner of Township 21? A. 98 chains 23-1/2 links.

Q. By the old record the east shore of the South Pond is a different distance from the lot corner or Township 21? A. It is, on Townships 21 and 19, both records.

Q. How far is the joint lot corner of Lots 123 and 124 in Township 21 west from this east shore of the pond by the original record? A. At 4 chains in the lake west from the shore.

Q. How many lots is that from the west line of the township? A. Two (2) lots.

Q. How wide are those lots? A. They are assumed to average 40 chains each.

Q. That would be 80 chains to the lot corner from the west line of Township 21? A. Yes, sir, if they had the width of South Pond measured correctly.

Q. As a matter of fact it is 98 chains and 22-1/2 links to the east shore of pond? A. Yes, sir, by measure, not

calculation.

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- Q. Did the original surveyor mark any trees on the east shore of South Pond to find the township line by? A. The notes say they did mark a white pine tree on the shore of the pond, at 50 links south of the line.
- Q. Did you find any such white pine tree living? A. I did not, living.
- Q. Did you find any down? A. I did.
- Q. Where did you find this fallen white pine tree? A. At 50 links southerly from the south line of Township 21 on the shore of the pond and marked of old with an axe blaze, and has now a growth of about 8 inches of wood over the mark before the tree died.
- Q. How far is this tree from the inlet, in a direct line? A. I think about 20 chains; in the neighborhood of 20 chains.
- Q. Did you make any survey of the random line? A. None whatever, except at the easterly end to ascertain the bearing. Mr. Palmer brushed through across the head of South Pond at some time previous to making this survey.
- Q. Do you know how far the random line runs through South Pond? A. 4 chains & 55 links.
- Q. What is the distance on the random line from the easterly corner of Townships 34 and 35 to Mud Pond? A. 21 chains & 60 links, and the width of Mud Pond is 6 chains 70 links.
- Q. The length of the line, the random line, from the water of the South Pond, do you know? A. I do not.
- Q. Do you know the distance on the random line from shore to shore of South Pond where it skirts the shore at or near the inlet? A. Yes, it is 4 chains 55 links.

- Q. At what distance does the township line cross the Blue Mountain Lake Road? A. At 385.77 chains from the southeasterly corner.
- Q. In your examination of the southerly boundary of Township 21, did you find any of the lot lines of the sub-divisions? A. Only two in the southerly part of the township.
- Q. What lines were those? A. They were the lines between Lots 123 and 124, and Lots 121 and 122.
- Q. Did you block out marked trees on these lines to find the age? A. I did; 63 years.
- Q. How long are these lots in Township 21 northerly and southerly? A. Different lengths; no two appear the same length that we measured. The average length must be over fifty chains.
- Q. With regard to the southerly corners of the lots in the southerly part of Township 21. where would they appear to corner, on the township or the random line? A. I found no corners on the township line, no indication of corners.
- Q. Did these lot lines cross the township line and go southerly? A. I think so; I found no line, but H.D. Kellogg claims he found the joint corners of Lots 123 and 124 on the random line, 16 chains or more south of what I call the township line, and in what I call Township 19. I have been to that corner and found reference marks for a lot corner on the "random line."
- Q. Would Lots 123 and 124 have their full length according to the general understanding, if they were extended to the random line? A. They would have their full length.

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Q. About how long would these southerly lots then be?

A. About 52.03 chains long, if they were extended to the random line.

Q. What is the area and length of these lots commonly called?

A. They are called 200-acre lots; 50 chains long by 40 chains wide. They average more than 50 chains long.

Q. Did you block out any trees on these lot lines? A. I

did, and found the age to be 62 years or 63 years marking; that would place the allotment survey 1833 or 1834.

Q. Whose allotment survey is that? A. I don't know; it is

called "Richards' Survey." That means John Richards' survey.

Q. In Lots 111 and 112, next north of the last two lots you mention, how long did you find the division line to be?

A. A length of 55 chains and 12 links.

Q. North of these two lots are Lots 99 and 100; what is the length of the division line between these two lots?

A. It is 45 chains and 50 links.

Q. You have two lots north of these last mentioned, 87 and

88, adjacent to Long Lake; what is the length of the division line south of the lake? A. It is 26 chains and 93 links.

Q. Are these all the lot lines you were able to find?

A. That is all I was able to find in the south part of the township; of the latter I found a corner on the "random line."

Q. All of the several four diagrams sketches, which you have submitted, accurately represent your work on Township 21?

A. Yes, sir.

Q. You have handed me a diagram sketch of the easterly line of Township 21 which you testify is an accurate map of the

same? A. Yes, sir, I do..

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Q. Did you find, along this line, any mile trees bearing the marks of the original survey? A. I found two for certain, the 47th mile, a birch with the original Roman letter on the bark.

Q. At what distance? A. 213.96 chains southerly from the northeast corner of the 21st Township on the line of mile trees, found this birch having the Roman letter, part of an "X," then after an interval a "V" and two "II's" in the bark of said birch tree, thence from the southeast corner of Township 21 proceeded southerly along the line of mile trees on the easterly line of Township 19, and at 248 chains 20 links southerly from the southeast corner of Township 21 being the northeast corner of Township 19, found a dead spruce tree with marks on and the remains of marks which I think was the 40th-mile tree.

Q. Where did you find the centre line of Township 19?

A. At 264 chains and 25 links from the southeast corner of Township 21 and northeast corner of Township 19, and well marked.

Q. What would that make the whole length of the township to be? A. 526 chains, but this is fully one chain too much length, on account of the extreme allowance in the north half.

Q. Did you find any more mile trees? A. At the 487th chain on the same line, South 26 degrees 00' East from the southeast corner of Township 21, came to the original 37th-mile tree marked on two sides with "XXXVII," distinct on both sides.

Q. You came to the southwesterly corner of Township 19, Totten and Crossfield's Purchase, at what distance?

A. Yes, at 526 chains.

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Q. All along this line of mile trees you found proof of original marks? A. Yes, sir; and cut them out and counted in rings of tree growth the years, the exact age. I found what appears to be the corner of Township 18 and 20, on this line, and set a stake marked "supposed corner of Townships 18 & 20," at 352 chains on this line.

Q. In all of the measurements your chain was level? A. It was as nearly level as we could make it without leveling.

Q. What chain did you use? A. The survey chain supplied by the Superintendent of the State Land Survey.

Q. And along this easterly boundary of Township 19, what magnetic course did you find would best follow the line?

A. South 26 degrees East, followed the line to the 76th chain, there made an angle (30') thirty minutes, to the right; afterwards had to make several angles, but the course of about South 26 degrees East (magnetic course of 1896) would generally follow the line.

Q. How do you account for these several lines in Totten and Crossfield's Purchase not having the same course?

A. Local attraction.

Q. Who did the chaining on the east line of Township 19?

A. I did, I took the hind end of the chain, and had H.D. Kellogg run the compass.

Q. What do you mean by " local attraction"? A. Local magnetic influences; scattered magnetic iron ore or magnetic iron pyrites, sulphurets, etc.

[Signed] Daniel Lynch

Surveyor

Albany, N.Y. January 15, 1897

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State of New York

City and County of SS.

Albany

On this 15th day of January 1897, Daniel Lynch, of
 Minerva, Essex Co., N.Y., to me personally well known,
 appeared before me, and, being duly first sworn, deposed and
 said that the foregoing twenty-four pages of his examination
 before Verplanck Colvin, Superintendent of New York State
 Land Survey, forms a correct statement of his work of
 survey of the boundary lines herein referred to as far as
 the said examination extended.

Sworn to before me this 15th day of January 1897.

[signed] A. W. Street

Notary Public, Albany County

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Appendix B, Part 2

Decisions and Conclusions

relative to the lines of

Township 21

Totten and Crossfield's Purchase

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HAMILTON COUNTY,

TOWNSHIP No. 21 TOTTEN AND CROSSFIELD'S PURCHASE

TOWNSHIP No. 21 - TOTTEN AND CROSSFIELD'S PURCHASE

DECISIONS

The surveys of Township No. 21 developed what appeared to be very serious discrepancies between the ancient records of measurements and the actual marked lines found in the forest, both appertaining to and identified as of the year 1772.

The survey of the easterly line of Township No. 19 and the recovery and connection of the measurements with a number of the important original reference marks of the first survey--viz., the living marked mile trees of the survey of 1772--proved that the intersection of the line of mile trees (being the baseline of Totten and Crossfield's Purchase) with the northerly one of two lines (each claimed as the south line of Township No. 21) agreed as to the position of the southeasterly corner of said township most nearly with the intersection with the said northerly line. The southerly line was identified as the so-called "Campbell random line" of 1772 and is 14 chains and 60 links south of the true south line of Township 21 on the ancient line of mile trees, and 16 chains and 50 links south from the south line of Township 21 on the line between Townships 19 and 35.

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CONCLUSIONS

My conclusions are:

First: that the south line of Township No. 21 in Totten and Crossfield's Purchase has its southwesterly terminus and corner at a point in the west line of Township No. 21 at a distance of 16 chains and 50 links on a magnetic bearing as the needle pointed in 1772 of North 30 degrees West from the most northeasterly corner of Township No. 34 which is also the most southeasterly corner of Township

No.35.

II.

Second: that the southeast corner of Township No. 21 is located in the ancient line of mile trees which forms the easterly line of Township No. 21 at the intersection with said line of mile trees of a line which begins in the westerly line of Township No. 21 at the southwest corner thereof, at a point which is 16 chains and 50 links from the northeast corner of Township No. 34 on the magnetic bearing of North 30 degrees West to said southwest corner of Township No. 21 and that from said southwest corner of Township No. 21 the south line of said Township No. 21, being here 16-1/2 chains northerly from Mr. Campbell's random line (so-called) and having a course to which said random line is not quite parallel, proceeds along a line of marked trees of the survey of 1772 North 60 degrees East as the needle pointed in 1772 to the intersection with the line of mile trees.

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III.

Third: that the southeast corner of Township No. 21 is located in the ancient line of mile trees or base-line of Totten and Crossfield's Purchase, at a distance of 259 chains and 78-1/2 links from a copper bolt set in the rock standing in the south shore of said lake and as described in the field notes of said survey; the course from said bolt being South 30 degrees East as the needle pointed in 1772.

IV.

Fourth: that the southwest corner of Township No. 21 is located in the ancient survey line of 1772 which crosses the Raquette River above Long Lake and about four chains below the high falls on said river (called Buttermilk Falls)

and measuring from the south bank of said river on the course South 30 degrees East as the needle pointed in 1772 a horizontal distance of 119 chains 62.2 links from the south shore of said river.

V.

Fifth: that the length of the east line of Township No. 21, deducting the width of said lake, is 530 chains 88.3 links, and that in the ancient measures the water area appears to have been rejected from the measurement of this township; but, if the width of the lake was not intended to be included in the estimate of the extreme length of the township, then the east line of said

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township is 550 chains and 54.3 links.

VI.

Sixth: that the length of the westerly line of Township No. 21 from the northwest to the southwest corner thereof is found to be 548 chains and 99.4 links, whereas the ancient records make this distance 525 chains. The difference is found to be 23 chains 99.4 links, which is $4\frac{1}{3}$ chains of the width of Long Lake.

VII.

Seventh: that the width of the north line of Township No. 21 by surface chaining measure as nearly as possible in imitation of the ancient measure was 489 chains and 57 links, which indicates an excess over the ancient records of 9 chains and 57 links.

VIII.

Eighth: that the length of the south line of the township is 495 chains $78\frac{1}{2}$ links, which exceeds the distance recorded in the ancient measure by 15 chains $78\frac{1}{2}$ links.

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IX.

Ninth: that the excess in the length of the south line of Township No. 21 corresponds very nearly with the estimates given in the field notes of Township No. 19 for the width of South Pond; that the difference between the record and the actual length of the line is owing to the incorrect measurement of the waters crossed by said line.

X.

Tenth: that the line generally called "Campbell's random line" and shown on the small map of Township No. 21 as "Mr. Campbell's random line" is an intrusion upon Township No. 19 and is not the south line of Township No. 21 or the division line between Townships 19 and 21.

[signed] Verplanck Colvin

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Appendix C

FIELD NOTES

AND

PAPERS RELATING

TO

TOTTEN AND CROSSFIELD'S PURCHASE

WEST AND NORTH BOUNDS

BY A. CAMPBELL IN 1772

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Totten and Crossfield's Purchase

Surveyor General's office (State Engineer), Albany, N.Y.

Field-Book, Vol. 39, Page 224

A Field Book of the Survey of the West Bounds & Part of
the North Bound of the land Purchased for the Benefit of
Joseph Totten & Stephan Crossfield and their associates,
1772.

Arch'd Campbell.

Beginning at a Certain Tree standing on the West Bank of
the Sackendaga River oposit to a Small Island in said River &
from thence West 46 chains to a Beach Tree mark'd for the N W
corner of Northampton and from said beach tree Run N 30
degrees W 1040 chains to a maple & beach tree mkd T. P. by
Mr. Thomas Palmer and by myself A.C. 1772, this is mark'd for
N W corner of John Bergain's Tract & alls for the S W corner
of Messrs. Joseph Totten & Stephan Crossfield and their
associates this is the beginning of the first Township as
will appear on a map of said land.

From here continued said line N 30 degrees W along the
west bound of township No. I. At 47 ch 30 l cornered a birch
sapling No. 24 & 23 at 55 ch a B.R.S.W. than asdd a hill at
94 ch 60 li cornerd a spruce sapling No 23 & 22 at 130 ch top
of a mountain and at 141 chs 90 a small beach sapling N 22 &
21 standing on the north side of a mtn at 189 ch 20 li a
beach tree No 21 & 20 on the N end of sd mowrtain at 236 ch
50 li a Beach Tree N 20 & 19 at 258 a Run Going N.E at 283 c
80 l a Spruce Tree No 19 & 18 at the side of a Run Going West
in a fine Old Bever Damb of 20 Acre Cleard at 331 ch 10 li a
Small Spruce Sapling No 18 & 17 at 376 a B.R.W. in flat stone
Land at 378 ch 40 a Spruce Tree No 17 & 18 at 408

Editor's Note: This copy of the Archibald Campbell field
notes of his 1772 survey of the northerly and westerly lines
of the Totten and Crossfield Purchase

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It is presented here as in the original, that is with the spellings, capitalizations, punctuation and abbreviations as they there appear. It is these last that will cause problems for any reader who is not a Land Surveyor and the following table is given to better understand what Campbell is saying.

ch or c - chain (66 feet)
li or l - link (1/100th of a chain)
B.R.S.W. - brook running southwest
sd - said
B.R.W. - brook running west
S.B.R.S.W.- small brook running southwest
assd - ascended
desd or dessd - descended
S.B.R.W.- small brook running west
S.B.R.N.E.- small brook running northeast
R.G.S. - run (or brook) going south
R.G.W. - run (or brook)going west
M - mile or miles (one mile = 80 chains)

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ch top of a hill at 425 ch 70 li a Hemlock Sapling No 16 &
15 Standing on the West End of a Mountain at 435 a S.B.R.S.W.
at 473 ch a Large Beach Tree No 15 & 14 at 492 Began to Desd
a Rocky Mtn at 520 ch 30 li a Spruce Tree No 14 & 13 at the
foot of sd mountain at 520 a S.B.R.S. at 560 B.R.S.W. at 567
ch 60 Li Cornerd a Large Birch Tree No 13 & 1 allso No. II &
I for the Town Corners Continued Sd Line along the West Bound
of the Second Town Over Good Beach Land at 12 ch a S.B.R.S.W.
at 28 ch top of high hill than Dessd at 47 Ch 30 Li a Spruce
Tree No. 1 & 2 for Lot Marks than over good Land at 87 Chains
a S.B.R.W. at 94 ch 60 Li a Beach Tree No. 2 & 3 at 108 a
S.B.R.W. in a Small Pond than assd a hill at 141 ch 90 Li a

Small Spruce Sapling No 3 & 4 than at 148 a S.B.R.N.E. than
assd Mowntain at 180 top or East End of a high Mowntain at
189 ch. 20 a Beach Tree No 4 & 5 at 225 the S. End of a Lake
here it is 5 ch a Cross & it is Called By the Indians
Tacalago it is abow one mile Long & runs to the East this
is the head of the Sacindago.

at 236 ch. 50 a Spruce Sapling No 5 & 6 at 283 ch 80 Li
a Beach Sapling No 6 & 7 on good high Beach Land at 309 a R G
S in a Swamp at 331 ch 10 Li a Spruce Sapling No 7 & 8 at 375
ch a Deep B R S W in a broad Ugly Spruce Swamp at 378 ch 40
a Spruce Sapling No. 8 & 9 at 425 ch 70 Li a Beach Tree No 9
& 10 on the side of a hill at 480 ch top or West End of sd
hill or mowntain at 473 a Small Spruce Sapling No 10 & 11 on
the East of sd mtn then Dessd at 510 ch a fine flat swamp for
Meadow than assd a hill at 520 ch 30 Li a Beach Tree No 11 &
12 at 526 top of said hill than Dessd whare verry Rocky at
554 B R E at 567 Ch 60 Cornerd

a Birch Tree No 12 & 1 for Lot marks & No II & III of the
Town Marks for the N W Corner of the 2nd Town and allso for
the S W Corner of the 3rd Township Continued Sd Line along
the west Bownd of the Third Town at 47 ch 30 Cornerd a Spruce
Sapling No 1 & 2 for Lot Marks on fine flat Land, at 56 ch
a Run G.E. at 74 a fine B R S E at 85 a R G S at 94 ch 60 Li
a Beach Tree No 2 & 3 at 141 ch 90 a Maple Sapling No 3 & 4
on the summit of a high Mowntain whare the soyl of the Land
is good with Beach & Maple Timber, at 166 ch offset N 60
degrees E 4 ch thance a Cross the Lake to the first object
N 46 W which Makes said Lake to be 18 ch a Cross the water
Runs out of Sd Lake S.W. than assd a hill, 189 ch 20 a Birch
Tree No 4 & 5, at 206 top of sd hill Land Midling good Beach
& Maple Timber than Dessd over Poor Stoney Uneven Land at
236 ch 50 Li a Small Beach Sapling No 5 & 6 than poor stoney
Land at 283 Ch 80 Li a Balsom Sapling No 6 & 7 just at the
side of a Deep Brook R.W. at 331 ch 10 li a Large Birch Tree
No 7 & 8 at 346 a S.B.R.W. in a swamp, at 352 a S B R W , at
365 a S.B.R.W. and abowt 10 Chs West is a fine Lake the water
Runs to the Mohawk River the Indians tells me at 378 Ch 40
a Beach Tree No 8 & 9 at 425 ch 70 a beach sapling No 9 & 10
at 443 a fine Brook R.W. in a flat Swamp which will make
meadow at 473 ch a Balsom Tree No 10 & 11 and 5 ch East of
this is a Small Lake at 480 a S.B.R.W. out of said Lake at
492 a fine Brook R.W. at 520 ch 30 Li a Birch Tree No 11 & 12
Land Poor & Stony, at 567 ch 60 Li a Small Spruce Sapling No
12 & 1 of the lot marks and No III & IV of the Township Marks
this is Markd for the N. W. Corner of the 3rd Township &
allso for the S.W. Corner of the

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4th Township the land in General as far up as this is
Midling good Although it is sum What Rough & Mowntainous yet
I think it May answer for to Patent.

Beginning at the S W Corner of the fowrth Township which
is a Small Spruce Sapling Cornerd & markd No 12 & 1 for Lott
Marks & for Townships No III & IV and Run from thence N 30
degrees W at 3 ch a B.R.S.E this Brook Comes out of a Lake
abowt one Mile S.W. as the Indians tells Me, at 41 ch a Run
G.W. at 47 ch 30 Li Cornerd a Balsom Tree No 1 & 2 Standing
on flat poor land at 94 ch 60 Cornerd a Birch Tree No 2 & 3
just by a run going west at 130 top of a high Mowntain than
Dessd, at 141 ch 90 Li a Spruce Tree No 3 & 4 at 175 ch a
R.G.W. at 189 ch 20 Li a Small Birch Sapling No 4 & 5, at 213
Ch a S B R E than Assd a hill, at 236.50 cornerd a Beach Tree
No 5 & 6 at 280 a R.G.N.E. at 283 ch 80 a Balsom Tree No 6 &
7 here the land is Leavil but Stony, at 288 ch a fine B R W
at 331 ch 10 Cornerd a Beach Sapling No 7 & 8 at 378 ch 40 a
Spruce Tree No 8 & 9 at 393 a R G W at 416 a Large B.R.W.
called Cannada Kill, and at 425 ch 70 li a Maple Sapling No 9
& 10 at 430 ch a piece of flat Stony Land all most Cleared at
473 a Pine Tree No 10 & 11 Standing at the West Side of Fine
Brook Runing S.W. than Poor flat Land at 520 ch 30 Li a
Crooked Birch Tree No 11 & 12 at 567 Ch 60 Li a White Pine
Pine Tree No 12 & 1
and Township No IV & V Continued Sd Line N 30 degrees W at 6
ch a R G W in a Swamp than at 10 ch Assd a hill at 47 ch 30
a Birch Tree No 1 & 2 at 94 Ch 60 Li a Spruce Sapling No 2
& 3 Just at the S.W. end of a Lake that Runs to the S.W. than
assd a high Rocky hill at 106 top at 141 ch 90 a Spruce Tree
No 3 & 4 then land verry

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Poor & so it Was alon Sd Line Run Yesterday and apperars

Likely to continue, at 154 ch a B R W in an old Bever Damb, this Comes out of a Lake at 189 ch 20 a Birch Tree No 4 & 5, at 236 ch 20 a Beach Tree No 5 & 6 at 245 ch a R G West at 283 Ch 80 Li a Large Birch Tree No 6 & 7 on the East side of a Rocky hill at 306 Ch came to the side of a Lake Sat a Cross to a Rock & than tuck offsets & fownd it to be 17 ch wide than went a Cross fownd it to be an Island and at 331 ch 10 Cornerd a Spruce Sapling No 7 & 8 on said Island this is 10 chs a Cross & the Water on the North side I fownd to be 37 ch wide and this Sd Lake is one & 1/2 Miles Long by My Gess from the North side of Sd Lake which I find to be at the End of 370 ch 50 Continued Sd line at 378 Ch 40 Li a Beach Tree No 8 & 9 here is Sum Good Land Along the north side & sum white Pine Timber, at 386 a S.B.R.W at 425 ch 70 Li Cornerd a Beach Tree No 9 & 10 on the North Side of a hill whare the land is midling Good at this N. side of Said Lake at 435 ch a S.B.R.W in a Cedar Swamp this is the first I have Seen on this Line at 473 a Spruce Tree No 10 & 11 on or Near the top or West End of Rocky Mowntain at 519 a R.G.W at 520 ch 30 a Spruce Sapling No 11 & 12 at 567 ch 60 Li Cornerd a Large Rock Maple Tree No 12 & 1 for lot Marks and No V & XLI for Townships.

Continued Sd line N 30 degrees W for the West Bownd of the Forty-first Township at 35 ch a B.R.S W than Assd on an other mowntain at 47 ch 30 a Spce Sapling No 1 & 2 at 69 ch top Sd Mowntain than desd at 94 ch 60 a Spruce Sapling No 2 & 3 near the foot of Said Mowntain, at 101 ch a Lake of 7 ch wide & it is long & narrow & Runs to the West at 128 Ch top of a high Rocky Mowntain and south

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from here is a vast high Mowntain a considerable way off & S B.W is a lake than at 141 ch 90 Li Cornerd a Beach Sapling

No 3 & 4 at 159 ch a S B R N at 189 ch 20 a Beach tree No. 4
& 5 Un Marked at 218 ch the head of North End of a Small Lake
at 238 ch 50 Li a Spruce Tree No 5 & 6 on Poor Land at 283 ch
80 a Spruce Tree No 6 & 7 on high Poor Stony Land, at 310 ch
a Tammerack Swamp at 329 ch a fine B.R.W. at 331 ch 10 a
small Birch Sapling No 7 & 8 at 371 the side of a Lake which
I found by Calculation to be 32 ch 50 a Cross, than at 425 ch
70 Li a Spruce Sapling No 9 & 10 at 440 an other Lake of 6 ch
a Cross in this place, this is 2 or 3 Miles Long and the
other is 5 or 6 Miles Long & they Both Run to the West, & the
General Course of the first Long one is S 65 degrees W
Continued Sd Line N 30 degrees West at 473 ch a Spruce
Tree No 10 & 11 at 515 ch a Run G W into a Small Lake
at 520 ch 30 Li a Beach Tree No 11 & 12 at 567 ch 60 Li
a Large Spruce Tree No 12 & 1 and alls No XLI & XLII
for Town Marks.

Continued along the West Bownd of the Forty-second
Town N 30 degrees W at 47 ch 30 a Spruce Tree No 1 & 2
Than Mr. Adonijah Standbury Run the Line for this Part of
Sd 42nd Township.

Begining at Said Spruce Tree Run Over Level Land Spruce
Timber at 47 chains a Run Going Eastwardly at 47 c 30 Li a
small firr Tree No 2 & 3 Then at 28 chain a Run Going
Eastwardly in level Land Beach Maple & Spruce Timber and not
stony at 47 c 30 l a small spruce No 3 & 4 then at 10 Chain
a run going Eastwardly in Good Land at 29 c a run Going
Eastwardly at 47 c 30 l marked a Spruce No 4 & 5 at 20 c
Decended a hill at 20 chn a swampy slow at 47 c 20 link
Marked a Small Maple Tree No 5 & 6 on Level Land Beach
Maple & Spruce Timber at 30 c entred a

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Stony Spruce & Hemlock Swamp it appears very Large on the

east side of Us at 42 chain a fine Brook Going East at 47 c
30 l a Small Spruce No 6 & 7 in a swamp then at 17 chain out
of said swamp at 23 entered another Swamp 10 chn a Cross at
47 c 30 l Marked a Small Spruce Sapling 7 & 8 then at 14 chn
another Swamp 24 Chain Wide at 47 c 30 l a small Spruce Tree
No 8 & 9 thence through another Swamp at 23 chains a fine
Large Deep Brook Running Westwardly fit for a Battoe at 47 c
30 link Marked a Small Maple Sapling 9 & 10 Standing on a
Ridge, then at 6 chains a small pond at 43 c a Run Going
south Eastwardly in Rocky Land at 47 c 30 l Marked a Beach
Tree No 10 & 11 at 7 Chn a Run Going south west at 30 c a Run
Going Westwardly at 33 c another run at 47 c a Larg Stony
Brook Going West Near 2 chain Wide at 47 c 30 l Spruce Tree
No 11 & 12 then Over Rough Stony & Poor Land at 38 Chn a Run
Going west an Ugly Low Swamp at 47 c 30 l Cornered a Spruce
Sapling No 12 & 1 & NO XLII & XLIII For Town Marks Thence, I
Continued the line North 30 degrees West For The Westwardly
Bound of the 43rd Township at 47 c 30 a Spruce Sapling No 1
& 2 on the top of a rocky hill at 20 ch a small Lake Runing
West which overflows about 50 acres then assended at 94 c
60 l a Birch Tree No 2 & 3 at 141 c 90 l a Spruce Tree No 3 &
4 land rocky & Spruce Timber at 173 c A Brook Runing North in
a Beaver dam and Tamarik Swamp at 189 c 20 l a maple Tree No
4 & 5 at 220 ch entered a West Tamarik Swamp and East of this
is a Large Long Lake at 236 c 50 L a Spruce Sapling No 5 & 6
Just by side of a Deep Brook runing W N W at 250 ascended on
high stony land at 283 c 80 L a Spruce

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tree No 6 and 7 and at 307 c Began to decend at 331 c 10 L
a small spruce Sapling No 7 & 8 in Swampy poor Land at 347
High Stony Land at 366 a small Brook Runing N.E. at 378 c
40 L a Beach tree No 8 & 9 on the South Side of a hill, at
425 c 30 L a Spruce Sapling No 9 & 10 at 440 the end of sd

Hill and east of this is 2 or three small Lakes running West at 454 c a small Brook running West out of the aforesaid Lake & then flat poor spruce Land, at 473 c a Spruce Sapling No 10 & 11 at 496 c Top of a hill then Descended at 507 chain a run going West at 520 c 30 L a Birch tree No 11 & 12 at 564 c a Deep Still Brook Running N.E. in Good Low Land, at 567 c 60 L a Tamarack Sapling No 12 & 13 at 583 c ascended on high spruce Land at 614 chs 90 L a Birch tree No 13 & 14 at the east side of a Brook Running S.E. Land Stony and poor at 662 c 20 L a Hemlock Tree No 14 : 15 on the West Bank of the Last mentioned Large Brook at 685 c Crossed said Brook To the east side where is poor Hemlock Land, at 700 c a Run going West at 733 c a Spruce Tree No XLIII A C 1772 Standing on the east side of a Rising Round Hill and at the West side of a Swamp this is marked for the northwest Corner of the aforesaid purchase.

Thence along the northerdly bound east at 64 chains a Run Going North the land is stony along here, at 80 ch Cornerd a Spruce Sapling I M for miles, at 85 ch a Tamarack Swamp at 148 the N End of a hill Land stony & rocky here is a Beach Timber, at 160 c a spruce sapling No II M at 240 a Spruce Tree No III M at 348 a S.B. R. N. than over good land Beach & Maple & Hemlock Timber, at 320 chs a Beach Sapling 4 M at 350 stony Land at 380 a S.B.R.N. Land stony & poor, at 393 a B.R.N. at 400 ch a Spruce Sapling No 5 miles on

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high stony Land, at 446 top of a high hill than Descended on good Beach Land, at 463 chs a fine Small Brook R N at 475 ch a B R N at 480 ch a Beach Tree N 6 M at 520 ch a Tamrack Swamp at 560 a Spruce Tree N 7 M in Poor Spruce Land, at 580 entred a piece of Burnt Land, at 640 a Dead Spruce Tree N 8 M miles in sd Burnt Woods at 647 a fine B R N W at 720

a Tamrack Tree N 9 M so fawr this swamp & Burnt wood has midling good Land at 770 ch Got out of said Swamp, this has sum fine land a Long a Brook Which Runs threw said Swamp at 800 chs a Balsom Sapling N 10 M on the South End of a Rownd hill, at 220 ch fine Beach Land one mile on sd line at 880 a Beach Sapling N 11 M and 5 ch South of this is a Lake about 50 ch Long at 960 ch a Spruce Sapling N 12 M in a Large Tamrack swamp, at 1021 ch ofset N 7 ch thance a Cross to the first object S 80 degrees E Which Makes it to be 38 ch Wide at 1090 a Deep Still B.R.N. east out of said Lake here is Low flat Land all Tamrack Timber for sum Miles as we Run, at 1120 ch a Tamrack Sapling No 14 M at 1200 ch a Tamrack Sapling No 15 M at 1220 ch got out of said Tamrack swamp on high poor land, Spruce and Hemlock Timber, at 1280 Chs a Spruce Tree N 16 M miles on poor Land with spruce Timber, at 1300 c got on good Beach Land, at 1360 Ch a Balsom Tree No 17 M at 1364 ch Entred a swamp, this 2 Last Miles has Been Good Beach Land, at 1372 c a B R N W at 1420 the West End of a Lake, at 1440 ch a Spruce Tree No 18 M at 1520 a Maple Sapling N 19 M in a Low swamp, at 1579 ch a Brook R.N.E. in a Bever Damb, than assd a high Rocky hill, this is the only one we have met with on this Line, at 1600 ch a Spruce Tree No 20 M Just at the West End of a small Lake about half a mile Long, the Land is Poor and Rocky here, than Assd & Run Between two lakes, at 1645 the East End of the Southermost

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Lake, this is Long But Narrow, the Land is verry Rocky Rownd sd Lake & the water Run out at the S.E part thereof, at 1680 Chains a maple Sapling No 21 M on a Beach hill, the first I met with this day at 1692 a B R N E than assd along on the North side of a Beach hill, at 1760 ch a Beach Sapling No 22 M miles on the N. side of sd hill on good Grownd Beach

Maple Basswood & ash Timber, at 1800 ch entred on Low swampy Land at 1823 ch a S B R N in said swamp, at 1840 ch a Spruce Tree N 23 M miles in said swamp, at 1845 chs a small brook runing N.W. than up along it in said swamp, this is a fine Land for to make Meadow at 1920 chs a Spruce Tree N 24 M the Land here is poor with sum Spruce Timber at 1941 ch a Large Brook Runing N.W. this has Large falls & is verry Rocky, at 2000 Chs a Beach Sapling No 25 M on the West side of a Rocky hill, at 2048 a R G N. than Assd a Beach hill, at 2070 top than Dessd at 2080 chains a Beach Sapling No 26 M at 2104 ch a S.B.R.N than Assd a mowntain at 2138 Chains Came to the Line Run from the North Branch of Hudsons River about 10 miles above the forks and at the end of 55 miles & 32 ch as Markd By Messrs Jessup & Crain, here stoped and Got Mr Moses Crain to goe to the S.E Corner of the 30th Township & Run a Line N. 60 degrees E 376 Chains to one of the Branches of Hudsons River as was supposed to be the head of the same

A True Copy of My Work Done

Archd Campbell D. Sury

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The Within Work was Done by me the Subscriber in the Presents of sum of the Indians who was Deputed by the original Propriators to Goe and attend the within said Survey, Namely

Brant	Isaac
Nicholas	Lawrance
Powlas	Jacob
Peter	Thomas

from the End of the afore said line I Showed the Indians the Course of the Line to the East of a high hill which gave a full view to the east and they all agreed & was fully

Satisfied with the Course to be Continued & So Chose to
return home With out Going any farther along said Line .

Archd Campbell

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Appendix D

MINUTES OF TESTIMONY

of

LORRIN KELLEY,

Local Surveyor on the New York State Land Survey,
Relative to Investigation and Survey of Lines
Forming North Line of Totten and Crossfield's Purchase
and South Line of State Gore
in the Vicinity of Mud Lake

(Townships 37 and 38 and Triangle North of
Township 38, Totten and Crossfield's Purchase)

in the year

1898

Before

The Hon. Verplanck Colvin,

Superintendent,

New York State Land Survey

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OFFICE OF THE NEW YORK STATE LAND SURVEY

Albany, N.Y., December 17, 1898

LORRIN KELLEY appeared, and Superintendent Verplanck
Colvin administered the oath as follows: "Mr. Kelley, you
swear that the evidence you shall give in regard to the
surveys made by you in the northerly portion of Townships No.

37 and No. 38, Totten and Crossfield's Purchase, and the Triangle North of Township No. 38, and of the lines called 'Richards Survey Lines' and of the line called 'Campbell's Survey Line' and the line called the 'south' line of Macomb's Purchase,' shall be the truth, the whole truth and nothing but the truth, so help you God?"

MR. KELLEY: I do.

Q. You are the Lorrin Kelley employed as a local expert surveyor in the Department of the State Land Survey?

A. I am.

Q. You reside at Salisbury, N.Y.? A. I do.

Q. You have made surveys for this Department in search of the boundary lines in the townships and on the patent lines referred to? A. I have, to a certain extent.

I might say, from notes furnished me by the Office of the State Land Survey, purporting to be the field notes of Archibald Campbell, describing the north bounds of the Totten and Crossfield Purchase, which I herewith return attached, signing the same as field notes used by me in December 1898. I also had the field notes of John Richards of lines near the northerly line of Township No. 37 and also some memorandum of the surveys and corners of the south line of Macomb's Purchase, all furnished me by the Department of the State Land Survey; also map of the Triangle North of

Township No. 38 in Totten and Crossfield's Purchase made by John Richards in the year 1821; also map of John Richards of the lots in the north part of Township No. 37 adjacent to the line of Macomb's Purchase; also map showing the railway station Long Lake West, now known as Sebattis, and the observatory on the hill near said railway station, which maps purport to show the location of the north line of Hamilton County and measurements made thereto from said observatory.

Q. Mr. Kelley, did you go to Mud Lake? A. I did.

Q. On the north line of Totten and Crossfield's Purchase?

A. I did.

Q. Just state in what direction it is from Station Long Lake

West? A. It is in a northwesterly direction.

Q. On the Adirondack and Long Lake Railroad? A. Yes, sir.

Q. What is the distance? A. The distance from a right-hand course to the observatory is 409 chains and 90 links from the east shore of Mud Lake.

Q. As you ascertained subsequently by actual measurement?

A. I did. That is the distance given me by my chain men.

Q. Where did this line strike the shore of Mud Lake and did it strike Bog River at any point? A. Yes. The question is right here, I would like to correct myself in regard to Bog River--Bog Lake outlet, not Mud Lake outlet.

Q. Bog River is the main stream? A. That flows from Mud Lake?

Q. Yes. A. Yes, I crossed that lake.

Q. You crossed the outlet? A. Yes, sir.

Q. Did you cross the outlet on the line which goes from the point north of the observatory at Long Lake West?

A. I did.

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- Q. How far is that line north of the observatory building at Long Lake West Station? A. 6 chains and 74 links to the observatory; having turned my course South 4 degrees West and at 4 chains and 74 links came to the center of the railroad track; 6 chains and 74 links to the observatory.
- Q. That is, you were 6 chains and 74 links north of the observatory on the line you refer to which extends on a magnetic course almost west to Mud Lake? A. Yes, sir.
- Q. Does that line strike, in going west, the outlet of Bog Lake? A. No, sir.
- Q. It does strike the outlet of Mud Lake? A. It does, it crosses it.
- Q. That is Bog River? A. Called Bog River on the maps.
- Q. Now, Mr. Kelley, will you tell us what you found in the way of marks on this line easterly of Mud Lake; but before you tell us that, after you crossed the outlet of Mud Lake or Bog River, how far it was from the river going west to the lake? A. 28 chains and 9 links.
- Q. On what course? A. Well, it varies from 85.
- Q. South 85? A. No, it is all 85; this distance is all 85 degrees; South 85 degrees East is the course I used in retracing said lines.
- Q. From the lake shore to the outlet of Mud Lake, called Bog River? A. It is.
- Q. On this line did you strike Mud Lake in the middle on the southerly part or northerly part? A. Northerly part.
- Q. In the bay? A. I would not consider it to be fairly a bay. I should think it to be in the body of the lake, but not in the widest part of the lake.

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- Q. Did you leave much of the northerly shore of Mud Lake below you to the south before you struck the lake going west? A. I left it I would estimate, 7 chains from the line to the lake, south.
- Q. How far did you run from a point north of the outlet of Mud Lake before you struck the shore, leaving the lake all the time on the south of your line? A. Well, the outlet of the lake is probably 4 chains--well, 3-1/2 chains.
- Q. West of where you crossed the river? A. South of where I went through with the line between the lake and the river.
- Q. Well, what I want to get at, Mr. Kelley, is the length of the north shore of the lake to its outlet from where you struck the shore going west? A. Well, the shape of the lake--
- Q. Generally, is it 10 chains--about 10 chains or is it 20 chains that you are running parallel with the lake north of the outlet to the time you struck the shore? A. Yes, it is nearly. I can give it by the stations.
- Q. Very well, give it by the stations. A. Well, it is very nearly 25 chains from--well, I would call it about 22 chains from the outlet.
- Q. To where you struck the lake going west? A. Yes; it is what I would call the outlet of the lake--where it begins to spread.
- Q. Mr. Kelley, you made a survey of this line east on a course South 85 degrees East from the shore of Mud Lake, or of the north bed of Mud Lake until you were opposite Long Lake West Railroad Station? A. I did, with small variations from station to station.
- Q. Did you find any marked trees on this line marked as survey trees? A. I did.

- Q. As a surveyor's mark? A. That is my experience.
- Q. You identify them as survey trees? A. Yes, sir.
- Q. Did you cut into any of these trees? A. I did.
- Q. Did you find marks of blazes of axe marks upon the trees indicating survey marks? A. I did.
- Q. Did these blazes point with the course upon which you ran? A. The course of the line; they did.
- Q. Did you then count the number of grains or rings of wood over these blazes? A. I did, to the best of my ability.
- Q. In many cases? A. Yes, sir, probably twenty.
- Q. Twenty marked trees? A. I should judge at least twenty that I counted through there.
- Q. Twenty survey trees? A. Twenty blazed survey trees.
- Q. What was the extreme age of the marks upon this line as you counted them? A. I found 110 grains on a dead tamarack tree.
- Q. By "grains," you mean rings of growth of wood over the mark? A. I do.
- Q. Did you take a block from this tree? A. I did.
- Q. How did you mark the block? A. I marked it with the letter "A."
- Q. Is that the block (exhibiting block)? A. It is. I will add to that, that that block was taken from a tree between the lake and the outlet of the lake.
- Q. Did you find any other tree on the line between the lake and the outlet of the lake? A. I found one tree that had fallen at the time it was lumbered. I found one spruce tree with a blaze on one side. I found another large tamarack tree from which I took a block which is not here. It is in the other room. I found

one spruce tree marked 103 years on this line, marked "P" on the book and on the block.

Q. What was the age of this mark by the grains counted? A. 103 grains.

Q. Did you find any other mark beside this? A. I did; (see) Exhibit "D." I count 108 grains; that is the dead tamarack.

Q. Any other mark upon this line? A. I have other marks but I do not think they are here.

Q. What is this? A. That, I think, is one.

Q. What is that mark? A. Marked with a cross.

Q. What was the age of this mark? A. 107.

Q. What is the oldest mark that you found to the east of Mud Lake on this line? A. 110 on a dead tamarack.

Q. Did you find any younger survey marks on this line? A. I did, several.

Q. Of what age? A. That I am not prepared to say. They are numerous through there.

Q. Did you, Mr. Kelley, make any survey examination of the extension of this line westerly from Mud Lake? A. I did.

Q. How far did you extend this examination? A. I ran to opposite Lost Lake.

Q. What is the course? A. That will vary.

Q. Vary how much? A. [I] commenced work on the easterly side of Mud Lake on the supposed 1772 line at a stake I had heretofore set --that is, the stake I set--and commenced my work easterly, North 86 degrees West.

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Q. Did you come to any marked trees on this course? A. I did not.

- Q. Well, I want you to give the course that you came upon marked trees. A. I am now showing you I was too far north for that line. 33 chains and 8 links to the westerly side of the lake I set a stake.
- Q. How did you get this? A. By measurements upon the ice.
- Q. On what date? A. Tuesday, the 29th of November, 1898.
- Q. What did you do next? A. Then I commenced stationing again regularly.
- Q. Did you change your course? A. Not yet.
- Q. What distance did you make any change? A. 57 chains and 95 links west of the place of beginning.
- Q. On the west or east shore of Mud Lake? A. Way west to the edge of the marsh. Took an offset of 77 links to the south to two stakes inscribed. I did not put the inscription on my book. My recollection is it had "37" on one side and "38" on the other.
- Q. Was there a line at the point where these two stakes stood? A. There were indications of a line there thence on westerly.
- Q. On what course? A. 87 was the forward sight.
- Q. North 87 degrees West? A. North 87 degrees West from thence and the next was North 84 degrees and 45 minutes West; the next was 86 degrees and 10 minutes; and at this point, from this offset, I commenced to see blazed trees for a line, very soon, right along.
- Q. Of what age? A. Well, I did not cut anything.
- Q. Did you at any place find any ancient marking upon this line? A. I did.
- Q. At what distance? A. At a distance from the stake on the

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tree from which I took a block marked with a square.

Q. A live spruce tree? A. A live spruce tree.

Q. Marked with a survey mark? A. It was.

Q. Have you counted the age of this tree by the grains over growing it? A. I have, to the best of my ability.

Q. How many did you find? A. 123.

Q. Now, Mr. Kelley, can you, from you field notes, state just what work you did each day, where you went, the manner in which you reached the line, what proof you had that you had found the original ancient lines referred to in the field notes furnished you by this Department (copies whereof you have in your hands and have certified that these are the records you used, being the same that you have signed and certified to as the records you actually used)--can you give this detailed information?

A. I can very closely.

Q. Upon receiving orders from me with regard to the surveys to be made for recovering and restoring the north boundary line of Totten and Crossfield's Purchase northerly from Townships 37 and 38, what steps did you take to carry out these orders and make said surveys? A. I started from Albany on the morning of November 16 on the New York Central and went by way of the Adirondack and St. Lawrence Railroad, leaving Albany at 11:13, and arrived at Long Lake West at 4:30. I am informed by Mr. Hurd, who was with me that this is the same station as the United States Post Office "Sabbatis" in the county of Hamilton or St. Lawrence, I do not know which, being

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so near the county line. As I have since found, it is between two lines running easterly and westerly not quite

parallel. I was accompanied by my foreman, Mr. F.S. Hurd, Mr. Joseph Little, Mr. C.W. Rawlins and Mr. James H. Goodspeed arriving at the People's Hotel at this station a little after we got there, by stage or some other conveyance from North Creek and Minerva and Pottersville across the country. The baggage and equipment reached there at the same time we did. We stayed that night at Long Lake West.

The next morning, November 17, paid express charges and as soon as we got a little provisions in our packs, Rawlins, Goodspeed and myself took freight train south and went to Bog Lake Station and thence to Bog Lake by trail and got ferried across the lake by Mr. Lewis, living in the cottage at the outlet on the northeasterly side of Bog Lake. We took dinner with Lewis.

Q. What hour did you leave this place? A. I could not give the hour; it was after dinner.

Q. You went by trail? A. Went by trail and Mr. Lewis was guide over to Mud Lake.

Q. When did you reach Mud Lake? A. In the afternoon, I should think half past one or two o'clock.

Q. State what you did. A. We left our provisions at a cottage on the shore of the lake, owned by Tottum and Converse.

Q. Was there anybody in this cottage? A. No one.

Q. Was it locked? A. It was.

Q. Did Mr. Lewis open it? A. He did.

Q. And allowed you the use of it? A. He did.

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Q. Overnight? A. He did.

Q. Did you make any surveys on the 17th? A. I went back

with them a ways on the trail.

Q. Into what territory? A. Near the south line of Lot 3.

Q. Into what township? A. Township 37 of Totten and Crossfield's Purchase.

Q. You knew this to be the township on account of the lakes and topography? A. Yes, sir, and descriptions which I had from the field notes.

Q. Why did you return in the afternoon on the trail? A. I saw a bark table by the side of the trail, and Mr. Lewis said to me that surveyors had been there and I discovered a tree on the west side that looked as though it was a line tree.

Q. Did Mr. Lewis tell you what surveyors? A. He did not. He did not know who they were. He said he did not know their names.

Q. Have you this Mr. Lewis's first name and post office address? A. Edgar Lewis, Sabattis or Long Lake West. Either Long Lake West or East would reach him.

Q. What did you find at this point? A. I found one tree blazed on one side next to the trail. It was an axe blaze. Searched west of the trail and east of the trail and found no line either way, only that one blaze on a tree, probably not far from two to four years.

Q. What else did you do? A. I then went into the woods west of the trail and started to search for blazed trees of a lot line.

Q. How far from Mud Lake? A. I could not give the distance--not far, though, from a half mile south of Mud Lake. I don't think it was quite that. I went into the woods in search of a line of

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trees indicating a line of lots. I found a blazed tree and cut it out.

Q. An old blaze? A. An old blaze.

Q. Of a survey line? A. Of a survey line.

Q. Proceed and state what you found. Have you got your field book before you? A. I did not follow the line out at that time. I was only prospecting. I did not follow it out until I passed three or four line trees.

Q. I want to know what course you ran on--I want to know the age of the trees in each case. A. I have blocks in the other room. They are not for that line, but that line counts 76 grains.

Q. Begin at the beginning: On which side of the trail did you find a line; what trees did you find marked; what magnetic course did these trees follow; what direction did you follow the line; and where did you stop this day?

A. On the westerly side of the trail I found spruce and birch trees marked. I think I used to trace that line 64 degrees; South 64 degrees West. I stopped between the course of discovery and the southwest corner of Lot 2. Night came on and we returned to Mud Lake cottage which is near the flat rock just south of the outlet of Bog Lake where it enters Mud Lake.

Q. November 18, what work did you do, Mr. Kelley? A. On the morning of the 18th of November went north to the outlet of Bog Lake and built a raft; went up the brook or river; had to go way up in the timber to build a raft, southeast. Built a raft and ran the raft down to the natural place of crossing from the cottage to go to the outlet of Mud Lake. We used it on the lake

but it was not taken down that day. After we got across we went in north and there discovered the lines that had been run between these two lines, as I afterwards found.

Q. You state that you crossed Bog Lake outlet? A. Yes, sir.

Q. I want to know how you got across Mud Lake outlet? A. Did not get across there that day.

Q. Where did you search? A. Along north. We started to go to the dam that we had heard we could get across from Mr. Lewis and we came across a line run three or four years ago.

Q. How far down the stream? A. A short distance below Mud Lake. We did not cross the dam and did not go the the outlet that day. We found a marked line running easterly and westerly. It was between Mud Lake outlet and Bog Lake outlet where it empties into Mud Lake in the alder swamp. We followed it westerly to the lake and thence returned on it easterly and searched for old line trees. Did not take the course of this line either that day or any other day because I found no old marks upon it. Considered it to be a "wild cat line," that is, not a survey line of any ancient survey that I could discover. There were no old line trees marked on that line that I could find. There were not any remarkings. There were new marks from three to five or six years old. Traced this wildcat line easterly until it was getting late in the afternoon, turned my course southerly towards the camp, travelled through the woods and went about two chains and found another cutting through the timber, but I discovered no blazes on the trees. It was simply a cut-out to go through with an instrument. It went east and west practically parallel with the other line. Did not put a compass on this line because I did not consider it of any

importance to me in searching for the line I was sent there to search for. There were no old survey marks upon it that I could discover. I then returned to camp at the Tottum cottage. This was all I was able to do on the 18th, but Goodspeed, Little and Hurd took train for Bog Lake Station from Long Lake West with all the equipment except tent and stove, which I said we would not need to bring because we had a cottage at Mud Lake to go into. We arrived at cottage that night. Mr. Edgar Lewis, the agent for Bog Lake Company's party, arrived in the morning of November 19 and informed us that we would have to vacate the cottage.

Q. What did you do on November 19? A. Goodspeed and Hurd started for Long Lake Station for tents and stove, arriving at Long Lake Station about 10 A.M., too late to catch the freight train south. They waited for the next train and arrived at Mud Lake at night. The equipment was drawn on a cart from Bog Lake Station to the inlet of Bog Lake and thence by boat to Bog Lake and thence by horse and jumper about three-quarters of a mile, and then we had to carry the rest of the way to Mud Lake. While Foreman Hurd and Mr. Goodspeed and the men were bringing in the baggage, tent and stove and were making up the camp, I was alone south of Mud Lake. I searched this day in various directions trying to find some of the old lot lines. I was trying to find the east line of Lot 2 and the north line of Lot 2 of Township 37 of Totten and Crossfield's Purchase as run by John Richards, as described in his notes furnished me by this Department. I found many blazed trees but not any that gave me any proof of being the lot lines as laid down by John Richards. I returned to

camp.

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November 20 was Sunday. All hands were busy all day in moving stuff from the cottage across Mud Lake to the outlet by boat loaned by Tottum's agent, Mr. Lewis. Camped on the north side of Bog River just below Mud Lake on a knoll. Here we made our camp during the entire time that we worked on the lines near Mud Lake to which this report relates.

November 21, went to the southeast line of Lot No. 2 in Township 37, Totten and Crossfield's Purchase to where we left said line on the 17th of November, where we had cut into a spruce tree. There was no evidence of a corner there. Made the corner by tracing said southeast line westerly to a stake standing by the side of a stump, about as high as a stub, on a line North 26 degrees and 30 minutes West, or South 26 degrees and 30 minutes East, an old survey line, and cut into the trees and found the age to be about 77 years old, which would make the year of survey about 1821, which agrees with the survey of John Richards in his subdivision of Township 37 into lots. My field notes read as follows: "Began to chain at the southwest corner of Lot No. 2, a fallen spruce tree, much decayed, having one blaze. A stake had been set there for a few years; thence on and along a line of old blazed trees and more recently blazed, about North 26 degrees and 30 minutes West; 4 chains and 18 links came to a stake inscribed ` lot No.2 & 4, T. 38 & 37, D.C. Wood Sept. 18' "which I took to be the subdivision of Township 38. It stands on a hill." Commenced to descend towards the northwest corner of Lot No. 2 in 37th Township. At 24 chains and 52 links took a block from a spruce tree which

counts 77 grains, which I marked 'A'."It has been hardwood timber most all the distance around. " At 40 chains and 75 links to a birch tree described in Richards' notes

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of Lots No. 1 and 2 on the westerly line of Township 37, Totten and Crossfield's Purchase, took a block marked 'M' from a birch tree standing easterly from that point, but could not get the age." It was an old line tree. I identified this corner birch (I chopped into the blazes but took out no block from the tree) tree by the distance run from the southwest corner of Lot No. 2 and indications on the outside of the tree of an internal blaze. The form of the tree was described by John Richards as a crooked birch tree at the butt, and this was a crooked birch tree and at the distance of 40 chains and 75 links, North 26 degrees and 30 minutes (nearly) West of the southwest corner of Lot No. 2. By this I identified this crooked birch tree to be the northwest corner of Lot No. 2 in Township 37 as described by John Richards in his field notes of 1821, being also the southwest corner of Lot No. 1 in said township. On this same day I returned to the southwest corner of Lot No. 2 of Township 37, started on a course North 63 degrees and 30 minutes East and chained 40 chains, and in the easterly part came into a line of old blazed trees. One spruce I counted 77 years old. Chained directly along among the old line of trees at the easterly part of this line, and think the 40 chains went beyond the southwest corner of Lot No. 2--that is, the corners of Lots 2, 3, 5 and 6--because I found about a chain and a half back South 63 degrees and 30 minutes West, on the line of old marked trees, a

spruce stub blazed on the westerly side, but could discover no blaze on the east side the way the line run. There was a birch tree about a chain or a little more than that northwest, with a blaze on the northwesterly side. Found no other evidences of a cross line there.

"November 22, went to the birch tree with a crooked butt

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described by John Richards in his field notes of 1821 as the joint corner of Lots No. 1 and 2 in Township 37, Totten and Crossfield's Purchase on the west line of said township; thence ran on a magnetic course North 26 degrees and 30 minutes West very near along a line of old blazed trees, and chained this line, and stationed it with stakes all the way through to the northwest corner of Township 37 according to John Richards, and in chaining this line came to a brook at 58 chains and 21 links to middle of brook. At 73 chains, to a rise of ground. At 79 chains and 2 links, to the northerly side of the second swamp. At 81 chains and 5 links, to on a ridge about 15 feet high. At 82 chains and 46 links, to a stake marked 'N.W.C. 37'; On the north side, 'S.T.L.A.W. Co.'; On the east side, 'F.M. Swift'; On the west 'E.C. 38'. The stake stands on low, marshy, muddy ground. This is the northwest corner of Township 37 as described by John Richards. Then made search for the north line of Townships 37 and 38--not particularly for that, because I considered I had found it, but made search for old marked trees. Went about west and east and found an old line marked as a survey line, but did not get the age that day." I had cut out a witness tree to the northwest corner of Township

37 over a cutting that had been previously made a few years before, to see the age of the witness mark. This is the block marked "H" which I have filed in this office. It stood between 20 and 30 links nearly to the westerly of the stake at the northwest corner of Township 37. On this day, sighting South 63 degrees and 30 minutes West, I noticed two trees standing on an old marked line. Did not cut into them this day but afterwards found one of these to have a mark upon it of 141 grains, carrying back to the year 1757.

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- Q. Mr. Kelley, what could such a mark as that mean, 141 grains belonging to the year 1757. A. I have no records of surveys from which I could form any opinion about it.
- Q. Have you any knowledge of marks made by Indians for division lines between the territory of the Iroquois and Algonquin tribes? A. I have no knowledge of it.
- Q. Are you aware, Mr. Kelley, at the time Archibald Campbell ran the north line of Totten and Crossfield's Purchase that he had with him Indians who pointed out to him the lines and stated to him that his lines were in the correct location? A. What knowledge I have is from the notes furnished me from this office.
- Q. It gives the names of the Indians who were with him? A. Yes, sir.
- Q. For what purpose? A. I suppose as inspectors of the location of the line of marked trees which he was running. The names of the Indians were Brant, etc.
- Q. This purports to be taken from where? A. It appears to be a part of the field notes of Archibald Campbell of the survey of the northerly line of Totten and Crossfield's

Purchase.

- Q. That is what you used? A. That is what I used.
- Q. Now, Mr. Kelley, I want to ask you whether you found this northwest corner of Township 37 and the line running easterly and westerly and the old trees of 1757 mark, to be in what you would call the original Archibald Campbell line of 1772? A. From the papers which I had and my knowledge, I should say it was not in that line.
- Q. Did you find any marked trees on the easterly or nearly westerly course that had marks upon them of 1772? A. I did not, that I

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- could count. There was a number of spruce stubs which might have been blazed in 1772 but too much decayed to determine the year of marking.
- Q. Did you find any evidence of a line run by John Richards as the north line of Township 37? A. I have, of the Triangle.
- Q. North of Township 37? A. North of Township 38.
- Q. North of Township 38? A. Yes, sir. I also have evidence of the corner of Lots 3 and 4 and trees giving 77 grains and witness to the corner of those lots.
- Q. On November 23, what did you do? A. "November 23, beginning at a dead and decayed spruce tree at the southwest corner of Lot No. 2, which is the northwest corner of Lot No. 5 of Richards' allotment of the 37th Township, South 26 degrees and 30 minutes East, found the following courses as I proceeded: At 1 chain and 1 link, South 24 degrees and 45 minutes East, back sight North 26 degrees and 30 minutes West; 5 chains and 91 links,

Station No. 2, head sight 24 degrees and 30 minutes, back sight 24 degrees and 30 minutes; 9 chains, Station No. 3, head sight 26 degrees, back sight 25 degrees and 45 minutes; 16 chains, Station 4, head sight South 26 degrees East, back sight North 26 degrees 15 minutes West; 16 chains and 40 links, found a spruce tree marked with old survey line. Cut in and counted 70 grains over the mark. Marked block 'A.W. 5'. At 19 chains and 56 links found a spruce tree which counted 77 grains or 77 years, marked 'B. W. 5'. At 22 chains and 60 links, Station 5, where the course is South 23 degrees 35 minutes East, back sight 26 degrees; at 22 chains and 25 links found a spruce tree marked, and cut in and found age of mark 77 grains over mark. Marked this block 'C.W. 5'. At 27 chains and 65 links,

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Station 6, forward is 27 degrees and 30 minutes East, back sight 24 degrees and 05 minutes; at 40 chains and 10 links ran out distance, made search for the old beech corner and did not find the same. Searched the rest of the afternoon for line east and failed to find any of Richards' line going northeast from this point." I cannot say that I found the joint westerly corners of Lots 5 and 10. There were beech trees that had fallen and there was snow on the ground so that I could not find any under the snow.
"Returned to camp."

November 24. I went down that morning to the outlet of Mud Lake where I had discovered a cut-out, and went westerly, north of the east part of Mud Lake. I went through the big cut-out where the new line was marked and did not find the ancient marks in that cut-out. Searched about 40 links north of the new cut-out and found

evidences of an old survey line, put the compass on it, and searched with the aid of the compass westerly in the direction of the northwest part of Mud Lake. Came to the shore of Mud Lake. South of where I came to the lake in the big cut-out, I found a stake just on the shore of the lake, in the land, marked "A" on the westerly side, and on the easterly side "N.Y.S.L.S."; 83 links to a nail driven in the southerly side of a dead spruce tree, the nail driven in a diamond cut in the tree; that is, it is 83 links from the stake back to the tree having this on. I measured the distance from that line to where I came to the east shore of the lake and found it to be 54 links northerly from the spruce tree having a nail to my line, which I claim to be the ancient Archibald Campbell line. I put up a stake on my line

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calling it the "Campbell line". From that stake I ran the compass South 85 degrees East. At 3 chains and 78 links made Station No. 1. At 13 chains and 35 links to a dead tamarack, from which we took a block which counts 110 grains over an old survey mark, and a more recent blaze which was cut for the purpose of showing both blazes and is marked "A." Said block is stamped by the Superintendent. The tree stands 2 feet northerly from my course. A spruce stub 22 feet westerly and 2 feet southerly from my course marked on both sides as an old survey line. The marks on this spruce stub had been cut out years before. This stub stood probably 9 feet high but was all shaky and decayed and was evidently a very old mark. This was practically the place of my beginning between the dead tamarack and the marked spruce stub.

I divided the distance about equally, 2 feet to a dead marked tamarack and 2 feet to the stub, set up the instrument and ran westerly back to the shore of Mud Lake as a trial line, and then set the stake on the shore of the lake, from which I measured to the other stake in the new cutting. This stake is my starting point both easterly and westerly on what I call the Campbell line or north line of Totten and Crossfield's Purchase.

At 14 chains and 70 links to a dead tamarack, 4 feet southerly from our course, took a block marked "B.S.T. Co. N." that is between my course and the cut-out. I found this dead tree to have 93 grains over the oldest survey mark upon it and think it to be of the same age as the block cut from the dead tamarack marked "A." 28 chains and 9 links came to the northwesterly bank of Mud Lake or the outlet of Bog River.

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November 25. We found eight inches of snow on the ground in the morning. The men built bridges across two inlets of Mud Lake between Bog Lake trail and our camp. The lake was frozen over with a thin coat of ice and we were unable to get around the lake without the use of these bridges. In the afternoon we ran and stationed the supposed Campbell line across Bog River or outlet of Mud Lake, and at 33 chains and 95 links, southeast shore of said outlet or Bog River, set a station stake marked "7." At 39 chains and 73 links, Station 8, found a live spruce tree.

November 26, resumed at Station 8 and cut a block clean across the live spruce tree referred to on the 25th and found it had been marked when a sapling about an inch

and three quarters in diameter and that the mark was entirely covered by the wood. There are over a hundred rings of growth over this mark. I counted 103 grains. I will not swear there are any more than 103 because the marks are so close and fine. I marked this block "P." It has an inscription in blue pencil signed by me as cut December 2, 1898, at a time when I came to this place again and took out the whole piece. At 44 chains and 50 links came to the edge of a large timberless marsh.

November 26. We commenced work this morning on the supposed Campbell line on the east side of the outlet of Mud Lake or Bog River at Station No. 8, and ran on this so-called Campbell line on a course South 85 degrees and 30 minutes to 86 degrees East, but in places it ran up, I think, as high as South 87 degrees East. This is the only line that had the old marks on of a survey line. At 52 chains and 65 links we were in the swamp covered with snow

in the open marsh. Here we found that someone had made a chopping through the brush and timber 4 chains and 57 links south of our line, but there was also another cut-out through the brush, I should say 35 feet north of the line I was following, I mean from the line I was following which I believe to be the Campbell line. On neither of the cuttings referred to running nearly parallel with the line I believe to be the Campbell line were there any ancient survey marks that I could find. In order to be sure about this, I placed the compass on the northerly chop-out and turned a right angle with the east and west line. I ran southerly very close to south, crossed the line I call the Campbell line, and came to the other cutting through the brush or cut-out which was blazed newly and heavily blazed within a few years. Then we had lunch, building a fire by a stub in the snow, and I took a hasty lunch and requested Mr. Hurd to sight along the newly blazed cut-out westerly, and I made search and had the other men who were with us, Goodspeed and Rawlins, search along the newly heavily blazed line westerly, while I went in south of the said newly heavily blazed line. I should judge I went 18 or 20 chains south of this said cut-out but found no old blazed trees. Mr. Hurd, Mr. Goodspeed and Mr. Rawlins reported they had found no old marked trees along the newly and heavily blazed chopped-out line, and in my opinion this chop-out, newly blazed, is not an original line. We found no evidences along it of any old blaze. On the line which I call the Campbell line this day came to a dead tamarack tree which we cut into and found marked of old--in fact, twice marked as an old survey line. The oldest mark I count 108 grains over

the mark. Mr. Hurd called it 110 grains. The newer mark over the old mark we find to have 32

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grains over the survey mark, but the tree being dead, could not determine the year it was blazed in. It had been dead a long time. Came back on the heavily blazed chop-out to camp. All came in with wet feet. "We will take up the Campbell line west of the lake as soon as the rubber boots ordered come in, which will probably be Monday," is a memorandum made by Mr. Hurd, which is correct.

November 28. Mr. Hurd went to Bog Lake Station on the railroad and thence to Sabattis or Lorg Lake West Station to get the rubber boots, but boots were not there. I with Rawlins and Goodspeed went to the southwest corner of Lot No. 3 in Township 37, which I had located already from the southwest corner of Lot No. 2 by a course and distance. This southwest corner of Lot No. 3, Township 37, is now a stake which I set. It was simply a tally stake cut and driven in by axe to tally the 40 chains distance. I did not blaze my marks on the trees to witness this stake as it was not a formal corner post. It was blazed on two sides. chained 40 chains and 55 links on a course of North 63 degrees and 30 minutes East from said stake and came to a stake where some surveyor had run a line for the east line of Lot 3, but this surveyor had run too far with his line to the westerly. I mean that his course from this 40 chains point, which should be the southwest corner of Lot No.4, bears too much to the west. But I took my course of North 26 degrees and 30 minutes West and ran on that course

along the division line as I supposed between Lots 3 and 4, 36 chains, but did not find any old marked lines running that course. At 36 chains I turned my course North 86 degrees West and ran a distance of 12 chains and 40 links and then searched

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for the north line of Richards' allotment of Township 37 and found the north line of said township and also found Richards' northeast corner of Lot No. 3, located easterly from Mud Lake 17 chains and 88 links by my measurements. There was no post stake nor monument here, except a soft maple tree standing a few links rather southeasterly from where a number of reference trees or witness trees were blazed, passing where the corner had formerly stood, as I believe. Here there were six reference trees or witness trees. Took a block from one, a spruce tree, which counted 77 grains. Block marked "R." I marked this block as follows, or had the said block marked for me thus:
"Witness block to the joint corner of Lots 3 and 4, Township 37, Richards' Survey, being on the north line of Township 37 as run by John Richards in 1821. This block shows 77 grains of annual growth over the axe mark and taken from the end line of Township 37 on November 28, 1898. (Signed) Lorrin Kelley, Surveyor." Block "R" stamped by Superintendent Colvin for reference.

From this joint corner of Lots 3 and 4 on the north line of Township 37, I ran on a magnetic course North 86 degrees West and followed an old marked line which I claim to be Richards' north line of Township 37, but the marks were of a more recent date, made sometime in the 1860's, and at the distance of 17 chains and 88 links came to the shore of Mud Lake north of the inlet from Bog

Lake into Mud Lake. Here set a stake in the edge of the shore and put up a white flag on a pole above said stake. Continued my course North 86 degrees West out on to the ice of the lake until I was south at right angles with the stake which I had set on the east shore of Mud Lake in the north part thereof

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on what I claim to be the Archibald Campbell line of 1772, so as to measure the offset on the ice between the two lines; turned this right angle with the compass, and ran north on the ice to the said stake on the east shore on the north bay of Mud Lake and found the distance between the north line of Township No. 37, John Richards' Survey, and what I call the initial point of my survey on Campbell's north line of Totten and Crossfield's Purchase to be 16 chains and 97 links. This proved to me that Richards' allotment of Township 37 and all of his Township 37 here was 16 chains and 97 links south of the old Totten and Crossfield line according to Archibald Campbell.

November 29. Mr. Hurd returned from Long Lake Station West or Sabattis with two pair of rubber boots and one pair for Mr. Goodspeed, which he purchased at his private expense. Began the survey this morning on what I call the Archibald Campbell north line of Totten and Crossfield's Purchase at a stake set on the east shore of the north bay of Mud Lake, being the stake referred to on November 24, which is 54 links north of a dead spruce tree having a nail driven in the side, which is 83 links east of the water's edge of this part of Mud Lake. So that this tree with the nail in it is 16 chains and 43 links north of the north line of Township 37 according to John Richards' Survey. I make this

Richards' Survey. I make this explanation so as to make clear the spot from which I start the survey of what I call the Campbell line westerly from Mud Lake before I began at this stake on the east shore of the north bay which is, as I have said, 16 chains and 97 links north of the north line of Township 37 of John Richards' Survey of 1821, thence on magnetic course North

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86 degrees West, measured on the ice of Mud Lake 33 chains and 8 links to the westerly shore of Mud Lake where I set a stake. I am aware that Archibald Campbell in his field notes makes this distance 38 chains, but I believe a hundred or more years ago this lake extended to a greater distance westerly, because the westerly part of this lake is a quaking marsh of moss and water, and I make this statement because I have within my own memory seen a lake of shallow water like this grow up and fill with moss and mud, and wild grass is now growing out where formerly there was water. I believe this to be the part of Mud Lake crossed by Archibald Campbell with his line because of the course South 86 degrees East. (From this east shore of Mud Lake I came on the center of the outlet of Mud Lake or Bog River at 31 chains and 2 links--that is, I came to the northwest shore at 28 chains and 9 links and to the southeast shore of said lake at 33 chains and 95 links, the mean whereof is 31 chains and 2 links for the middle of the stream, which agrees within two links of the distance given by Archibald Campbell on his line from the lake shore. A deep brook runs northeast out of said lake. Here is low flat land, all tamarack timber for some miles as we ran.)

Having crossed Mud Lake going west on the course

heretofore given from the stake on the west shore of the lake in the wet swamp land, at 33 chains and 8 links set a stake. It is my opinion that Campbell would have had to have gone west on his line to get his base line 7 chains north that he refers to in his field notes of 1772. I then went down along the westerly shore of the lake southerly until I came opposite--i.e., North 84 degrees 15 minutes West--the flag I had set on the north line of Township 37

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when I ran from the east to the shore of Mud Lake on the north line of Richards' allotment. Here on the west end of the lake I found a line. Traced said line westerly and came to the northwest corner of the 37th Township, being the point which I found when I ran out the west line of Lot No. 1 in said township. Then I commenced work with the instrument. Then set compass on the flag easterly of the north line of Richards' Survey of Township 37, east side of the lake, and found that the old cut-out was too far south to sight my flag on the east side of Mud Lake on Richards' line. Ordered the axman to clear the line so that I could see the flag and then stationed the line at the lake shore and, beginning at the northwest corner of Township 37, chained the said north line of Township 37, Richards' Survey

as follows: On a course South 84 degrees and 15 minutes East, at 11 chains and 12 links came to the west side of Mud Lake; at 64 chains and 64 links came to the easterly side of the lake at flagpole station; at 79 chains and 84 links came to a small brook running north; at 82 chains and 52 links came to the corner of Lots Nos. 3 and 4 where

there are the six reference or witness trees heretofore described. This day we established the post for lot corner of Lots 3 and 4 in the north line of Township 37. Thence turned at right angles and ran northerly 17 chains by actual measurement to what I call the Archibald Campbell line of 1772.

The lake was frozen sufficiently solid to be safe to work on.

November 30. We commenced work this morning at a stake set on the west side of Mud Lake on Campbell's line. Cleared, stationed and chained 24 chains and 95 links on a course North 86 degrees West, coming north of two posts to a pole set for a flag in the line by

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D.C. Wood, as I am informed. His initials were marked on a stake there. Then searched here for old marks of 1772, and Mr. Rawlins and Mr. Goodspeed found two old marked trees; one gave 103 years for the age of the survey line and the other gave 123 years for the age of the survey line, which were the oldest we could find, and here the line which I call the Campbell line and the line which I call the D. C. Wood line agree. I went back, and at a distance of 57 chains and 95 links from the east shore of the lake I made an offset due south of 77 links to the center of what proved to be an ancient survey line at the pole and two posts, one of which is marked "D.C.W." At this offset of 77 links I should not be surprised if there was a jog in the ancient Archibald Campbell survey of the Totten and Crossfield's Purchase, or in this vicinity--or it is more likely to be nearer the shore of the lake. At any rate, there is some difficulty here in retracing

the line, but not enough to carry it to any other line either north or south. I thoroughly searched north and south, but could find no other line here.

After correcting for this jog which I considered to be owing to crossing the lake, I continued my course North 83 degrees and 35 minutes West and back sight 86 degrees and 10 minutes. At 90 chains and 13 links, Station 12.

Following the course of old marked trees on what I call the Archibald Campbell line, the fore sights on this line were as follows:

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North 86 degrees 40 minutes West from Station 12

at 93 chains 52 links to Station 13;

North 85 degrees 05 minutes West from Station 13

at 96 chains 89 links to Station 14;

North 87 degrees 15 minutes West from Station 14

at 100 chains 50 links to Station 15;

North 85 degrees 45 minutes West from Station 15

At 61 chains from the west side of the lake we made a search for mile tree, but did not find it.

At 100 chains and 50 links, stopped for the night and returned to camp.

December 1. Received telegram from the Superintendent to continue work on the Campbell line to the intersection of the Adirondack & St. Lawrence Railway, if it could be done in a few days. Went first, however, to the northwest corner of Township 37, which is also the northeast corner of Township 38, and stationed a line westerly 20 stations and searched for old marks and cut-out blocks ranging from 77 to 101 years on the north

line of the Triangle North of said Township 38 as surveyed and located by John Richards in 1821. These markings, 77 years, agree with John Richards' Survey of 1821 and the 101 years agree with survey marks of about the year 1797.

Q. Do you know, Mr. Kelley, in what year the great tracts of the Macomb's Purchase were laid out? A. I know what the Superintendent tells me: " The south line of Macomb's Purchase, the original records for the year 1799, South 89 degrees 45 minutes West for Township No. 1; same for Township No. 2; and same for Township No. 3 in 1799."

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Q. That was the course in 1799 by the records. It is stated, however, Mr. Kelley, that the Patent great lots which included these townships were actually laid off in the year 1796. You have no data in regard to that? A. I have not, that I know of--that gives me any information about it.

Q. You would, therefore, be likely to find survey marks of 1796, which should be 102 years old, and of 1799, which should be 99 years old to 100 years old, because it might be in the fall of one year and spring of another before the bark commenced to grow on the tree--Do you say, therefore, that this is a line along the north line of Township 38 according to John Richards' mark, or both, either in the year 1797 or in the year 1821, or about that time? A. I would. That is it; according to my own figures that would be the age of the line and coincident with that of John Richards on the north line of Township 37 and the Triangle North of Township 38.

Q. Did you find more than one tree on this line coincident with John Richards' line for the north line of Township 37 and the Triangle North of Township 38? A. I did.

Q. Which had the 101-year marks upon them? A. I did.

Q. How many? A. I found a number of old marked trees strung along the line which I found to be John Richards' north line of Township 37 and the north line of the Triangle North of Township 38 in Totten and Crossfield's Purchase, which were marked before John Richards made his survey, and by the count of the grains must have been marked about the year 1799 or 1801 and therefore marked at the time of the record of the survey of the townships of Macomb's Purchase, as they count 101 grains.

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Q. You did not find here anything of 126 years? A. I did not.

Q. Or did not find anything of the age of 120 years? A. I did not. The oldest I found were these 101 blocks.

December 2. When we got to 84 chains and 65 links on the north line of the Triangle in Richards' Survey of Township 37 or the one more aged than his on the north line of the Triangle North of Township 38, Totten and Crossfield's Purchase, (the one which Richards calls "Macomb's Purchase, south line"), thence turned my course to North 4 degrees and 30 minutes East to measure the distance between the two lines, being the north line of the Triangle North of Township 38 and the line I call the north line of Totten and Crossfield's Purchase, being the 1772 line; I turned that angle and found the distance to be 12 chains and 40 links to the 1772 line. Then I went back and resumed on the Campbell line of 1772, which is here, as I have stated, 12 chains and 40 links north of the north line of Richards' Survey of Township No. 37 produced as the north line of the Triangle North of Township 38,

where we found trees of 101 grains of growth, which would make a survey line of the year 1797 or 1796; and continued this Campbell line of 1772, 134 chains and 40 links to a live spruce tree in good condition marked on the east and west sides with three old survey marks. Cut into this tree and counted the age of the oldest survey mark, and found it to be 123 years of annual growth over the oldest survey mark. I would not swear that it is any more or any less than 123 years. There is another old mark on this block. I have counted it several times and made it 23 years younger than the oldest mark. There is still a younger mark which is 82 grains younger than the oldest mark.

Continued the course 173 chains and 58 links on a course about North 86 degrees and 10 minutes West and saw a lake to the southward. Here turned nearly a right angle to the left southerly South 4 degrees and 30 minutes West and chained to the shore of the lake which we reached in 5 chains. This was Lost Lake. This is the lake which I have seen on a reconnaissance map, sketch made by Superintendent Verplanck Colvin in the year 1873, reported to the Legislature, and called Lost Lake. This is unquestionably the lake referred to by Archibald Campbell in his field notes as occurring at a distance of 880 chains on the north line of Totten and Crossfield's Purchase from the northwest corner thereof, where he marked a beech sapling 11 miles, and measured 5 chains south of this to a lake about 50 chains long. We searched here for the mile tree and old marks but did not find anything that was satisfactory, and returned to camp and cut road through from the camp north to a wagon road which goes from Grassy Pond to Long Lake West Station so that we could move our camp.

December 3. I began on the Campbell line at Station 13 in the narrow belt of timber between the two open marshes--swamps--east of Mud Lake and ran through on said Campbell line on a course of about South 86 degrees and 30 minutes East at a distance of 92 chains and 38 links from the place of beginning.

At a distance of 114 chains and 68 links came to Station 16, a stake set in the line by the side of an old stake, very rotten, set by some former surveyor. Course of the line now South 86 degrees East, back sight North

85 degrees and 30 minutes West. Here found a stake marked "N.E.W.O." on the north side and "F. M. Swift."

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Here took a course to the signal on Graves Mountain of North 25 degrees East, magnetic.

At 141 chains and 20 links came to Station 17. Course here South 86 degrees and 10 minutes East and here took a magnetic course to Graves Mountain Signal Station of North 14 degrees East.

This is an open place in the great swamp before we got to the east edge thereof. By cutting a few trees we can go 10 chains further east and also see the signal on Graves Mountain.

The other observation which I took to Graves Mountain was near the easterly edge of the second swamp out in the opening of the swamp. I could have gone about 10 chains further west and without any cutting have observed the Graves Mountain Signal, but I think possibly a cutting could be made through the timber between the two big swamps so that we could go back between Stations 8 and 9 at 44 chains and 50 links from the east shore of Mud Lake to the west side of the first big swamp, and perhaps we could get a sight along the whole distance for 97 chains or more as a base line to locate this county line from the signal station on Graves Mountain, but this base line should be located on the course in winter, as the ground is very soft and stone will have to be carried in on a sled in winter by men to mark the ends of the base line.

Continued the course 249 chains and 31 links and returned to camp at Mud Lake.

December 5. On Monday we commenced at Station No.

13 with chain and chained the distance through to the 36th Station, 249 chains and 31 links. Then we followed the line through to the railroad station at Long Lake West, merely walked through, and stayed there overnight.

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December 6. Tuesday morning we returned to Station 36 and searched southerly to find the north line of the 37th Township, and failed to find it. Commenced to chain at Station 36 and chained the distance from thence through 349 chains and 41 links to the edge of the swamp, which is claimed to be the one referred to by Archibald Campbell in his field notes of 1772.

At 336 chains and 81 links found quite a sized brook 10 feet wide running northwest. This is the brook mentioned by Archibald Campbell as "at 1372 C a B.R.N.W."

At 368 chains and 12 links is a stake marked "Nov. 22, 1889, G.W.R.S. "north side, "Middle Oakham."

The stream I crossed before is very near the line to the south.

At 379 chains and 58 links to the brook again, which here runs west for 3 or 4 chains close to the line.

At 384 chains to a distance of 2 chains and 50 links south from the west end of the lake, my line being south 2 chains and 50 links from the westerly end of a lake.

At 395 chains and 30 links to the road leading to Grassy Pond.

At 409 chains and 90 links was north of the observatory occupied by Professor Smith as a latitude station just a little north of the hotel at Sabattis or Long Lake West Station.

Here turned my course to South 4 degrees West and chained on this course and at " chains and 10 links to

chained on this course, and at 4 chains and 18 links to the center of the railroad track.

At 6 chains and 74 links to the north side of the observatory building.

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In making these measurements I used a 66-foot chain furnished me by the Department of the State Land Survey.

The stations I refer to as having been set along this Campbell line and I identified, were long stakes blazed on two sides facing or pointing along the line each way--not only blazed but peeled on the side towards the line east and west.

Here closed field work and sent party to their homes. Party under Foreman Hurd remained to pack up tents and other stuff, which was shipped to Albany on December 7.

[Signed] Lorrin Kelley

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On this 19th day of January, 1899, personally appeared before me, Lorrin Kelley, to me personally well known, who made oath that he had read the foregoing testimony relating to the surveys made by him, during the months of November and December in the year 1898, on the north boundary of Townships Nos. 37 and the Triangle North of Township 38 of Totten and Crossfield's Purchase by John Richards' Survey of 1821 and on the north line of said Purchase called the Archibald Campbell line of 1772, and

of certain lot lines within said Township 37, composed of forty-one (41) pages numbered from 1 to 40 inclusive with an additional page numbered 8-1/2; and that he made the interpolations correcting the same, that the same as it now stands is correct according to the best of his knowledge and belief; and he has certified to the same by attaching his signature thereto.

[signed] Lorrin Kelley

Subscribed and sworn to before me,
this 19th day of January, 1899.)

[signed] Verplanck Colvin
Notary Public
Albany Co.
N. Y.

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GORE IN TOTTEN AND CROSSFIELD'S PURCHASE
MAP TO BE INSERTED BETWEEN P. 186 & 187

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Appendix E

WESLEY BARNES

Local Surveyor

Relative to the lines between

Macomb's Purchase,
the Old Military Tract

and

Totten and Crossfield's Purchase

N

- 187A -

Camp at Preston Pond, August 21, 1898

Hon. Verplanck Colvin, Supt.

Dear Sir:

The afternoon of Aug. 17th after you left Newcomb, Mr. O. P. Morse and myself went over to Newcomb Lake. Found that when they had run the line across the Lake between Tps. [Townships] 27 and 28 they blazed no trees or marked any line, and it all having been lumbered since Mr. Morse was there, things looked a little different to him than he expected. We had to hunt around for sometime before we could find a starting point. We found the Birch cor. [corner] or cor. of Tps. 27 and 46 that night.

The next morning we went back. I ran the line from the Birch cor. to Newcomb Lake and we found the Hemlock cor. Continued the line to the Lake. Found distance from Birch cor. or cor. of Tps. 27 and 46 to Hem. Cor. or Cor. of Tp.28

6.60 C [chains] and from Hem. cor. to Highwater at Lake
13.50 C instead of 10.00 C. At 10.00 C from Lake there is no
sign of corner, of ever having been any Hemlock Tree. At
13.50 C found one old Birch stub about 12 ft high blazed for
witness with 3 hacks. Also a spruce stub 5 ft high, blazed,
and one spruce tree down, blazed. All Blazed toward the
center of a spot, and there I dug up out of the ground old
Hemlock Roots. The ground at this place is as Mr. Morse
remembered it when the tree was standing. To make sure of
this cor. being right, I ran a line N 26 degrees W to the
Lake about 20.00 C, it having been all lumbered, and most all
the way right along an old Log Road, it having growed up very
thick to undergrowth. Found no old line. Crossed an arm of
the Lake about 40 C wide to a point

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of Land about 2.00 C wide, then crossed a small Bay of the
Lake about 5.00 C wide and then up on side of Hardwood Ridge
and found old line right in my course, which satisfied Mr.
Morse very fully that we was right. We then went back to
cor., placed a stone in the ground about 18 inch square on
the line and amongst the old roots of Hem. tree, put a drill
hole in the Rock and laid another stone 8 in. square top of
it. At the Birch Cor. we found a large pile of stone and
stake. Old Blazes for Witness and the pile of stone are over
the Roots of a old Birch tree, all gone. I took down the
stone and drilled a hole in one, on n.e. [northeast] side of
pile, and then piled the stone up again. On the 18th I got
John Griffin to go with us. I made up my mind we would have
considerable to so to establish what we wanted. Mr. Morse
waited and was going out on stage home the 19th. I got my
provision what I wanted at Newcomb and came back to camp.

Found Mr. Edwards here.

The 20th I continued the S. line of O.M.T. (Old Military Tract) to where it crossed the Brook up in the Mountain, C.L. Barnes and [Dennis] Lynn and L. Mallen helping, and put in sta. [station] to No. 14, Mr. Edwards helping Mr. Wheaton measuring. Not having Men enough to work both compass and Transit and Measure, I thought the best way, I would run the line to Signal which I think I can do by Tuesday, letting Mr. Edwards and Wheaton Measure and then Charley help Wheaton, and Lynn and Mallen Mr. Edwards with the Transit. I will have a few days work to do I can do alone, looking up those lines running S. along [Lots] 43 and 44 [Of Township 12, Old Military Tract]. Also I will have to go out to get recpts. signed etc. for Monthly Report. I wish you would send

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Me, at Olmsteadville, Blanks for Monthly Report etc. I have Blank Receipts enough.

Mr. Edwards and Mr. Wheaton yesterday broke one of the steel tapes. I have sent it to you today by express. Please return it when fixed to Tahawus.

Please send me copy of the Iron Clad Bolt (?) on Monthly Report.

The Town Meeting in Newcomb was a fight between McNaughton and Pruyn. The Ballot a tie, 43 votes each, leaving the Honers even.

Very respectly Yours,

[signed] Wesley Barnes*

Editor's Note:

* Wesley Barnes has a place in Adirondack history other than his work with Verplanck Colvin. In 1885, as a

Member of the Assembly, he personally carried the bill creating the Adirondack (and Catskill) Forest Preserve to Governor David B. Hill urging his signature.

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August 25, 1898

HON. WESLEY BARNES,

Tahawus Club, via. Newcomb

Essex Co., N.Y.

Dear Sir:

Your letter of the 21st inst., is before me, and I herewith enclose you the financial statement sheets for your accounts as requested.

I hope that by the time you receive this you will have finished the tape measurements to the signal on the summit of Mt. Henderson and have got well on the way down the west side of Henderson towards the Indian Pass with the retracing of the south line of the Old Military Tract.

I find, on consulting my old notes of 1884, that when you get at the east foot of Mt. Henderson and near the south end of the Wallface Mountain, the Old Military line appears to jog to the south, probably owing to the magnetic iron ore. I think you ought to look all over the country here at the south end of the Indian Pass and especially south of the line that you run east from the top of Mt. Henderson and search out and connect this jog, from which the line then goes easterly with about a four-degree variation up into the notch over the McIntyre range near the middle small peak just south of the highest or Mt. Algonquin.

As our means are very limited this year I regret to say that it is necessary to close work on the 31st day of August and therefore request you to discharge the party at that

time, taking their vouchers for all pay and expenses.

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W.B. No. 2: 8-25/'98.

On the August account I have paid Mr. Dennis Lynn for work while with Edwards, \$10.50, and I have advanced you on your account \$50.00 August 17th. You can have Mr. Edwards certify to you personally about Lynn's work with him, or you can certify to Edwards about the time and expenses of yourself and men, including bills at the Tahawus Club store, and either of you can make out the account including the other's pay as a voucher in this account. If Mr. Edwards and Mr. Wheaton have not quite got up to the signal yet with the tape measurements you can let them keep Mr. O'Connor as cook and perhaps one axeman to help them a day or two in September until they are through.

Request Mr. Edwards to bring to me my transit and tripod very carefully when he has finished observations up to the signal station and let him measure to the centre of the copper bolt at the base of the signal and also to the point plumb under the signal.

You will have funds sufficient to return the men to their homes, and cheques in payment of balances will be sent as soon as vouchers are received.

Respectfully yours,

[signed] Verplanck Colvin

Superintendent

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Olmsteadville, September 1, 1898

Hon. Verplanck Colvin

Dept. N.Y.S. Land Survey

My Dear Sir:

Your letter of instructions with Blanks enclosed of Aug. 25th was duly received the 29th. I had the line run to the Signal and no farther, being detained at Newcomb Lake a day longer with Mr. Morse than we expected, and last week we had 3 Rainy days and could do nothing on the line. I have a good line to Signal sta. all placed and everything cut out ready for Transit. Mr. Edwards, Wheaton and Charley finished Measuring to Signal Aug. 30th. Mr. Edwards had not run the Transit-line. He said there was one Level he had not got, had written to you for but had not received any. I turned over every thing to Mr. Edwards. Enclosed find Recpt. for same. I left Mr. Wheaton, Walter O'Connor and Thomas Mallen with him to run the Transit-line. Dennis Lynn (and) C. L. Barnes came Home with me. Got Home 10 o'clk last night. I did not get the Measurements at each sta. from Mr. Wheaton, as it was late the night of the 30th when they got through measuring. He is going to send them to me. As soon as I get them will send you a full report of line run. I will finish my monthly statement to day and send to you tomorrow. Mr. Wheaton and Walter [O'Connor] having been with Mr. Edwards the first of the Month of Aug., he will send you vouchers for their time. I will for all the rest.

Very Respectly Yours,

[signed] Wesley Barnes

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Testimony of Wesley Barnes, taken September 29, 1898.

Examined by Superintendent Colvin, of the State Land Survey.

Q. Mr. Barnes, the testimony which you will give in regard to the surveys in the northern New York will be the truth,

the whole truth and nothing but the truth?

A. Yes, sir.

Q. Your name is Wesley Barnes?

A. Yes, sir.

Q. You reside where?

A. Olmsteadville, Essex Co., N.Y.

Q. During the season 1897 and 1898 you made surveys?

A. Yes, sir.

Q. In and upon the line of and adjacent to Macomb's Purchase
and Totten and Crossfield's Purchase?

A. Yes, sir.

Q. You made a survey in the Old Military Tract, also on a lot
in the extreme southwest corner of the Old Military Tract?

A. Yes, sir, I did.

Q. What was the number of the lot?

A. I think it was 44.

Q. Can you state the dimensions of this lot as measured by
you?

A. No.

Q. Well, Mr. Barnes, you began where to survey Lot 44?

A. At the southwest corner.

Q. Which is also the southwest corner of the Old Military
Tract?

A. Yes, sir.

Q. Where is this corner located?

A. In the northwest side of the Upper Preston Pond, nearly north by northeast of the outlet bay in the Upper Preston Pond.

Q. What evidence did you find there of the south line of the Old Military Tract?

A. I found a line from the east, also a line from the north.

Q. Forming the south and west lines of the Old Military Tract?

A. Yes, sir.

Q. Did you examine the south line of the Old Military Tract?

A. Yes, sir, I did.

Q. Did you run the same by compass?

A. I did.

Q. On what course did you follow this line?

A. It was varied; on the general about South 86 degrees East, magnetic in the month of August 1898.

Q. How far did you follow this line with compass?

A. I should think somewhere over two miles.

Q. To what point?

A. To the signal on top of the mountain south of the Ponds.

Q. Known as Mt. Henderson?

A. I think it is Mt. Henderson.

Q. Did you sight from there easterly to see where this line would go?

A. I did.

Q. Where would this south line of the Old Military Tract go if extended, on the magnetic course you mention of South 86 degrees East

with regard to the mountains, such as Wallface Mountain?

A. I do not know as I could tell just where.

Q. Would it go north or south of Wallface Mountain?

A. It would go through a deep hollow which would be south of the Wallface Mountain. I do not know the names of all the mountains. As near as I could tell it was beyond the Indian Pass; it went over the middle of the McIntyre range.

Q. Looking back west on this line, what course did it have?

A. North 86 degrees West, magnetic.

Q. Could you see the Upper Preston Pond from the signal station?

A. I could.

Q. From the summit of the mountain?

A. I could.

Q. You could see the spot where the southwest corner of the Old Military Tract was, near the Upper Preston Pond?

A. Yes, sir. That spot I obtained in 1897 by running the west line of the Old Military Tract southerly to that point in the Upper Preston Pond, which was also the southwest corner of Lot 44. In 1897 I measured north on the west line of the Old Military Tract, or the west line of Lot 44, North 4 degrees East to the northeasterly shore of the Middle Preston Pond, where are some marked cedar trees of the division line between Macomb's Purchase and the Old Military Tract. In 1898 I resumed at this point and measured north along the said west line of the Old Military Tract; the distance is in a book which I have home and will send to you, together with a letter which you can embody as a part of this

report and statement. I ran on the west line of said Lot 44 to the northwest corner thereof. I found a large spruce post marked for the northwest corner of Lot 44 and old witness trees blazed for a corner. In my opinion there is no question about this being the west line of the Old Military Tract. I looked both sides of this north and south line to see if there was any other line for the Old Military Tract between that and the Macomb Purchase, and found none. I then resumed the survey at the northwest corner of Lot 44 and ran South 86 degrees East on the north line of Lot 44 for a distance, I think to the first corner, of 72 chains, but I think their lot calls for only 71 chains, but I measured 72 chains. My letter will explain that. I cut [blocks] from the marked trees on the north line of Lot 44 and found that they would agree with the survey for allotment marks of the Old Military Tract, Township No. 12. I continued my line for the north line of Lot 44 and found another corner at over 100 chains from the west line of the Old Military Tract. I found a post and stones at this corner. The post was marked for Lot 44 and other lots which you will find in my written report. Here changed my course and ran South 4 degrees West, but I found no old line south of this corner. This line had been run not over eight years ago, from the age of the marks. There was also a line running south from the corner at 72 chains on the north line of Lot 44. That was a new line, but I think there was an old blaze right south of the corner. I went a half a mile on this first line south from the post at 72 chains on the north line of Lot 44, but

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only found one old mark which was near the corner. Both of these lines I afterwards found continued all the way through to the south line of the Old Military Tract on a course of about South 4 degrees West, magnetic. I chained all of the length from the north line of Lot 44 and about 66 chains on the east line of said Lot 44 south, beginning at the northeast corner, which is about something over 100 chains east of the west line of the Old Military Tract. I did not run this east line of Lot 44 through from the north, but subsequently came up from the south to the point where I had left off the survey. This lot is wholly in the Cold River basin; none of the water drains to the Hudson from this lot, but into the Racquette River basin.

Q. Mr. Barnes, how old did you find the marks on the south line of the Old Military Tract?

A. I do not remember, without referring to my book. It seems as though there were some 99 years; I could not say now. It is my opinion now that the Old Military Tract was surveyed in 1794 and the Macomb's Purchase in 1799. That is my impression now. I found marks of these ages.

Q. Did you find, on the west line of Lot 44, the south line of any of Macomb's townships coming in the line which would represent it?

A. I did.

Q. What township would that be?

A. It would be the southeast corner of Township 27.

Q. Where did you find that corner?

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A. I found that corner was on the northeasterly side of the Middle Preston Pond, in the water, a few links over 40 chains from the southwest corner of the Old Military

Tract, measured on the ice across the lake in the month of December 1897.

Q. What evidence did you find of a line representing the south line of Township 27 in Macomb's Purchase?

A. I found a straight line running with the same point of compass continued through from the south line of Township 26 and Township 25 of Macomb's Purchase.

Q. Where did you begin to find this south line of townships in Macomb's Purchase?

A. About 60 to 80 chains from the southwest corner of Township 25 of Macomb's Purchase.

Q. How did you know that it was the southwest corner of Township 25 Macomb's Purchase?

A. I there found the old line of Macomb's Purchase, and I found a nickel-plated bolt in the rock, marked as such, and marked "New York State Land Survey, Verplanck Colvin, Superintendent." It was south of Big Tupper Lake nearly two miles; it was east of the signal station where the signal had been burnt on the mountain about 30 rods north of the line, and it was about 3 miles west of Merritt Lake.

Q. Was this called the corner of any county?

A. It was called the corner of Franklin and St. Lawrence counties.

Q. Was there any reference to any other patents upon this bolt? Was Macomb's Patent, only, referred to on this bolt?

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A. My impression is that the bolt stated that it was the north line of Totten and Crossfield's Purchase and the

south line of Macomb's Purchase.

Q. How old did you find marks on this line running east, representing the south line of these townships in Macomb's Purchase?

A. I found marks on it 125 years old and 98 years old.

Q. Where did you find these marks 125 years old?

A. I found it in two or three different places along the south line of Township 25 of Macomb's Purchase.

Q. Do you remember the trees?

A. I remember one.

Q. Blazed with this line, passing the line?

A. Yes, sir.

Q. Where is this tree?

A. I think it is just west of Merritt Lake a short distance.

Q. What kind of a tree is it?

A. A spruce tree.

Q. Did you cut into it?

A. I did. I saved one mark out of it. I left the tree standing, cut in enough to count the grains.

Q. Did you make a survey of this marked line called the south line of townships in Macomb's Purchase.

A. I did.

Q. In what year?

A. In 1897.

Q. You made a report to me of said survey?

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A. Yes, sir.

Q. That report is correct?

A. Yes, sir.

Q. Does it mention the marked trees of 125 years old in 1897?

A. It does.

Q. The distance to them?

A. Yes, sir.

Q. From where?

A. I would say that it does. I think that it gives the distance from the northwest corner of the Triangle East of Township 23 and the northeast corner of Township 23. It is the distance from that point to the trees. It is the triangle north of Township 22 in Totten and Crossfield's Purchase.

Q. You understand, of course, the importance of getting the distances of these old marked trees of 1772.

A. Yes, sir.

Q. Did you find any?

A. I did.

Q. How many?

A. I think I found three or four; I think I found quite a number more, but I put it at three or four.

Q. On what line?

A. On the south line of Township 25 in Macomb's Purchase; on the south line of Township No. 3 in Great Tract No. 2 of Macomb's Purchase.

Q. Mr. Barnes, you are aware that there is alleged to be a gore between Macomb's Purchase and Totten and Crossfield's Purchase--that it is so stated and called?

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A. Well, now, I could not state it in that way. There is two lines in there and the space between those two lines is called a gore.

Q. On which side of this gore, alleged to exist between Totten and Crossfield's Purchase and Macomb's Purchase, are you now surveying?

A. On the north line of the gore.

Q. And when you speak of the south line of Township No. 3 in Great Tract No. 2, and the south line of Townships 26 and 27 in Macomb's Purchase, you mean the north line of this so-called gore?

A. I do.

Q. Where did you begin on this survey?

A. The measurement began at the northwest corner of the triangle north of Township 22 and ran thence easterly on a course of about South 86 degrees East, magnetic, in the year 1897.

Q. Did you chain this line?

A. I did, very carefully.

Q. Where did you begin chaining?

A. At the northwest corner of the triangle north of Township 22.

Q. How far did you chain this line?

A. I chained it to the west line of the Old Military Tract.

Q. As a continuous chain line?

A. Yes, sir.

Q. Did you, in the first place, follow out this south line of said Township in Macomb's Purchase?

A. I followed the line ahead with the compass.

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Q. Did you clear out and brush out this line all the way from the said northwest corner of the triangle north of Township 22 in and along the south line of the said Township in Macomb's Purchase?

A. I did.

Q. So as to make it good for chaining?

A. Yes, sir.

Q. Did you reblaze this line, as you went along, on the

trees?

A. Not until after I had crossed the Racquette River.

Q. Did you set tally stakes along this line from time to time, so that you could recover it?

A. I did.

Q. There could be no mistake about the tally stakes?

A. No, sir.

Q. Mr. Barnes, did you run out the whole length of the south line of this so-called gore at any time?

A. I did not.

Q. You made surveys on it?

A. I did. I followed it most of the distance and examined it in different places.

Q. Did you cut into the trees to find the age of the marks on this south line of the gore?

A. I did.

Q. What did you find?

A. I think the last line that I found was 98 years. I am positive that I found none 125 years.

Q. How distant was this south line of the so-called gore on the north line of the townships to the south line of Macomb's?

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A. At the east end of the gore it is 40 chains 80 links, if my memory is right; 42 chains 20 links about the centre where the Essex-Hamilton county line crosses through north of Township 50 in Totten's and Crossfield's Purchase; it is about 42 chains between the lines.

Q. Did you endeavor to trace this south line westerly, and if so, how far?

A. To the west side of the Racquette River, about a mile, or

from 60 to 80 chains west of the Racquette River.

Q. Did you clear this line at all?

A. I did not.

Q. Why did you stop at 60 or 70 chains?

A. The old line stopped there. I traced the line on further.

I traced the line really from there clear through to the southwest corner of the gore.

Q. Where is that?

A. That is south 32 chains 20 links from the corner of Townships 25 and 26 of Macomb's Purchase on the north line.

Q. What marks did you find there; what age?

A. About eight years old, a stake.

Q. In what township was that?

A. In Township 22, Totten and Crossfield's Purchase, where the stake is. I found the north line of Township 22 and traced them...

Q. Then this gore extends along the north line of Townships 47 and 50?

A. Yes, sir.

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Q. And there is a corner in Township 22, the one you refer to?

A. Yes, sir.

Q. Did you trace it any further west than that?

A. There is no line running west of that corner for the south line of the gore. There is another thing that I would state--that is, that there is no line later than about eight years old on the south line from about 80 chains west of Racquette River to the southwest corner of the gore.

Q. Then along the north line of Township 50, at a distance of about a mile from the northwest corner of Township No. 50, for a distance of about a mile or a mile and a half you found no old marks on the south line of the gore?

A. Not any, not over eight years old.

Q. How frequently did you find old marked trees of survey line on the south line of the gore easterly of this point?

A. Every 10 or 20 rods. In following that line through I found trees on the east line of Township 22, both of them on the east line of Township 22. Then I traced that line north through and found the northeast corner of 22.

Q. Mr. Barnes, you have made surveys in Township 50?

A. I have.

Q. According to the survey of John Richards?

A. Yes, sir.

Q. Did you find any corners in Township 50 of Totten and Crossfield's Purchase?

A. Yes. sir.

N

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Q. Did you find any lot corners in the north part of Township 50?

A. I did not.

Q. Did you find either the northeast corner of Township 50 according to the John Richards' Survey or the northwest corner of Township 50?

A. I could not say for certain; I found some old corners, but had no field notes and therefore don't know whether I found the lot corners or not.

Q. Did you make any surveys of lots along the north line of Township No. 50?

A. I did not.

Q. Have you any other information that you would like to communicate, in regard to questions on this line?

A. I have found, on the south line of the gore, corners for some of the lots of [Township] 50; I have also found on the north line, the corners for the Macomb's townships, and in the whole distance that I have mentioned along that line not one old line could I find running from the north line to the south line, or connecting these two lines together, after leaving the east line of Township 22.

Q. You have been to the joint southerly corner of Township 26 and 27, Macomb's Purchase, on the north side of the gore?

A. I have.

Q. Did you find a line running across there by Mr. LeFevre of 1897?

A. I did.

Q. Do you know whether Mr. LeFevre marked or blazed this line?

N

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A. I don't know. I think he set stations but did not mark it. Also got the distance to the south line of Macomb's by commencing at the [westerly] corner of Townships 16 and 18 of Totten and Crossfield's Purchase and running northwesterly along said township lines according to the old original survey of 1772 and measuring it, and found the old mile trees - original and came out at the south line of Macomb. Came out at the north line of the gore which strikes the line, turning east saw the north line of the gore running to the nickel-plated bolt* and other points mentioned.

Editor's Note: The "nickel-plated bolt" is the one mentioned
by Barnes in this testimony as being at the
corner of Franklin and St. Lawrence counties.

N

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Department of State Land Surveys

Verplanck Colvin

Superintendent

DIAGRAM

of the

Original southerly line of Township 3, Great Tract 2,
and Townships 25, 26 and 27, Great Tract 1, Macomb's
Purchase, from notes of surveys made for the New York
State Land Survey by Wesley Barnes, local surveyor,
in 1896 and 1897.

N

between pages 207 and 208

eight numbered pullouts

W Barnes survey

N

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APPENDIX F

Record
of the Survey of the
West Line of Township 11
in the
Old Military Tract,
including the
Restoration of the
County Line between
Essex and Franklin Counties

1895

N

RECORD

Of the Re-survey and Restoration

of the

West Line of Township 11

in the

Old Military Tract

Essex County

+++++

Including the monumenting of the

COUNTY LINE

between the Counties of Essex and Franklin

N

RECORD

of the Survey of the Boundary Line

between the Counties of

Essex and Franklin in the State of New York,

being the section thereof

which is the west line of Township 11, Old Military Tract,

and east line of parts of Townships 21 and 24 in Great Tract

1 of Macomb's Purchase.

from the Southwest corner of said Township 11, Old Military Tract to Jenkins' Hill, north of the Corporation of the Village of Saranac Lake, N. Y.

NOTICE

The following is the record of the surveys made by or under the direction of Verplanck Colvin, Superintendent of the New York State Land Survey, and his surveys as Superintendent of the State Adirondack Survey, under and in pursuance to the several laws and statutes of the State of New York, empowering him, the said Colvin, to locate county and township boundaries in this State; and under the statutes making the records of the field notes filed by the said Verplanck Colvin, as Superintendent of the New York State Land Survey, prima facie evidence in the courts of this State, the following are filed as the

N

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Field Notes

of a survey made by the New York State Land Survey, by and under the direction of Verplanck Colvin, Superintendent, along the westerly boundary of Township 11 in the Old Military Tract, which is the original, ancient marked boundary for the west line of the County of Essex in the State of New York; being the same ancient survey line which is or forms a part of the easterly boundary of Townships 21 and 24 in Great Tract 1 of Macomb's Purchase, being the

original east boundary of the County of Franklin in the State of New York; being a re-survey and restoration, re-marking and monumenting the said boundary line -----

between the Southwest corner of said Township 11 and the ancient marked trees of said county line on Jenkins' Hill north of the Corporation of the Village of Saranac Lake:

WITNESS, for initial point, and for the verification of this survey, the following memorandum:

First. That, in the year 1786, the Legislature of the State of New York, by Chapter 67 of the laws of New York, did make, create and establish a great land patent having its westerly line as a magnetic meridian beginning at a point thirty miles west from West Port Bay on Lake Champlain.

Second. That the south line of this tract, or land patent, now known as the Old Military Tract, terminates in a bay in the northwest part of the Upper Preston Pond or Lake, almost all of which lake is in the Totten and Crossfield Purchase.

N

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Third. That the west line of the Old Military Tract was actually surveyed and located, and now extends as an ancient marked survey line from the said corner in the Upper Preston Pond north as the needle originally pointed (in the year of the creation of this line) to the north bounds of this State.

Fourth. That the territory west of this line was subsequently sold by the State to Alexander Macomb, and in the year 1796 was made the east line of the said Macomb's Purchase; which said east line of Macomb's Purchase and west line of the Old Military Tract was found by the surveyor of Macomb's Purchase, on this line, Medad Mitchell, to have a magnetic bearing in the year 1796 of North 2 degrees West.

Fifth. That in the year 1881, under authority of the Legislature of this State, Verplanck Colvin, the

Superintendent of the Adirondack Survey, did make surveys in the Counties of Essex and Franklin, of various lines and tracts; and, among other surveys, did personally direct the re-survey and restoration of the south and west lines of the Old Military Tract to the corner in the Upper Preston Pond. Sixth. That in this re-survey of the original west lines of Townships 11 and 12 in the Old Military Tract and the east lines of Townships 21, 24 and 27 in Great Tract One of Macomb's Purchase were re-traced and the several corners of the said townships between the Upper Preston Pond and Saranac Lake Village were then found and restored. Seventh. That in the year 1895, the said Verplanck Colvin, as Superintendent of the New York State Land Survey, was, by law,

N

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authorized to restore the boundaries of counties and townships in this State, and did in accordance with law make such surveys and restore portions of the boundaries of certain counties and townships, and among other surveys did more permanently survey and mark the division line between the Macomb's Purchase and the Old Military Tract (which is the boundary between the Counties of Essex and Franklin), including the section of said boundary line, hereinafter described, located between the said southwest corner of Township 11 in the Old Military Tract and the summit called Jenkins' Hill, north of the Village of Saranac Lake; of which survey the following is a true description:

The Southwest Corner of Township 11

was rediscovered on the 24th day of October in the year 1895, in the original joint boundary line between the Old Military

Tract and Macomb's Purchase at a distance of 200 chains and 7 links from the southeast corner of Township 24 (Great Tract 1) Macomb's Purchase, on a course of North 2 degrees West as the magnetic needle pointed in the year 1796, but now, in the year 1895, magnetic nearly North 4 degrees 00 minutes West from the said southeast corner of Township 24 (Macomb's Purchase) to the southwest corner of Township 11 (Old Military Tract) along the original joint boundary line of the Old Military Tract and Macomb's Purchase.

The southwest corner of Township 11 (Old Military Tract) thus rediscovered was found as when left in the year 1881-- four stones, surrounding a smaller one. Here in the year 1832 a post had been set by John Richards, Deputy State Surveyor--a

N

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post, witnessed by axe marks on a beech tree, for the southwest corner of Lot 20 in said Township 11 (Old Military Tract). This witness tree was found this 24th day of October 1895, and is now a dead beech stub, blazed and marked of old.

At this corner, by orders of Superintendent Colvin, the small central stone was lifted up and removed, and a small boulder set in its place, and the corner was marked in this boulder by a drill hole, in which was set and secured, by a metallic wedge in split shank of bolt, a nickel-plated copper bolt inscribed with the letter "(U)" having a raised rim to protect the lettering "N.Y.S.L.S." and "V.C." inside. This is Station 441 of the survey of the east line of Township 24 (Macomb's Purchase), and the initial point of the survey of the west line of Township 11 (Old Military Tract). The boulder in which this copper bolt and corner is set has dimensions of 1.6 feet by 1.6 feet by 1.4 feet.

GREAT TRACT 1

Lot 20

Township 24

corner Township 11
OLD

MILITARY

MACOMB'S PURCHASE

TRACT

Lot 1

Township 12

N

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The monument above described and shown was set in the place of the old, small centre stone, leaving the four smaller stones around the new monument. The centre of the corner of Townships 11 and 12 in the Old Military Tract is marked by the nickel-plated raised-rim copper bolt "U", heretofore described as set therein; this corner being thus re-marked and monumented this 24th day of October 1895 by H.S. Meekham, surveyor, Francis K. Kyle and H.D. Murphy, aides and C. Wellman Parks, Assistant New York State Land Survey and John Benham, guide, as per instructions given by the Superintendent of this Survey to the above-named employees by his personal orders while upon this survey, from the southeast corner of Township 24 (Great Tract 1, Macomb's Purchase), northward along this county line, personally directing the above-named employees to remonument this ancient, original corner.

This is the joint corner of Townships 11 and 12 on the west line of the Old Military Tract as rediscovered on the Adirondack Survey in the year 1881. The present monument,

bolt "U", is also Station 441 of this year's survey of the east line of Township 24 in Macomb's Purchase.

[signed] Verplanck Colvin

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Field Notes

of the
West Line of Township 11
in the
Old Military Tract
Essex County

SECTION SECOND

The county Line between the Counties of
Essex and Franklin,

from the southwest corner of Township 11 along the ancient survey line of marked trees of the west line of the Old Military Tract and east line of Macomb's Purchase to and along said country line at the Village of Saranac Lake and thence to the ancient marked survey trees of said county line or patent or purchase partition line of Jenkins' Hill, in the old and well-marked county line north of said Village of Saranac Lake.

+++++

The southwest corner of Township 11, in the Old Military Tract, is 200.07 chains north, in said ancient county or patent line, from the southeast corner of Township 24 in Great Tract 1 of Macomb's Purchase, which is also the

northeast corner of Township 27 in said purchase--the southwest corner of Township 11 (Old Military Tract) being also 2,196 feet south, on said county or patent line from where the said line crosses Rogers Brook, and said ancient corner being

N

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now marked by a boulder (stone) in which the corner centre is the centre of nickel-plated raised-rim station bolt "U", which is also Station 441 of the survey of 1895 of the east line of Township 24 in Great Tract 1 of Macomb's Purchase or Patent. This corner was also this year, 1895, witnessed by blazings upon trees:

Northeast by a 3-inch ironwood 3.61 feet distant and a 4 inch beech, 11.4 feet distant, marked "Tp. 11, Lot 20."

Southeast by a 4-1/2-inch maple 6.15 feet distant and a 10 inch birch 23.1 feet distant; and 11-inch birch (dead) 15.6 feet distant.

Southwest by an 8-inch maple 21.75 feet distant; 10-inch spruce 22.75 feet distant; 18-inch birch 24.7 feet distant.

Northwest by a 5-inch hemlock 26.7 feet distant; 12-inch Spruce 12.4 feet distant, marked 441 and hemlock 22.7 feet distant marked "Tp. 24, Franklin County"; being in Township 24, Macomb's Purchase.

(Note. There is a recently marked line, blazed upon the trees, 176.48 feet to the east of the true, original county line, and nearly parallel with the true county line, which recently marked line was run or marked about the years 1879 or 1880, it is said, by a Mr. Carpenter, for the State Forest Commission*, but this was done without any legislative

authority and is not the county line.)

Beginning at the stone, set as new monument at the ancient southwest corner of Township 11 of the Old Military Tract, over the centre of the nickel-plated bolt "U," which is Station

*Editor's Note: This is in error as the Forest Commission was not created until 1885. However, Charles F. Carpenter was an Inspector with the Commission and this would indicate that the dates "1879 or 1880" are in error.

N

441, before mentioned, and at the distances mentioned from the witness trees described, thence North 2 degrees West as the magnetic needle pointed in the year 1796, as recorded by Medad Mitchell, the surveyor of this line for Macomb's Purchase; but now in the year 1895 computed to have here a magnetic bearing of North 3 degrees and 57 minutes West, or nearly North 4 degrees 00 minutes West in the year 1895.

(The locations of the lot corners, on this county line, will be given in the records of the restoration of the John Richards' allotments of Township 11 now in progress.)

DETAILS OF MEASUREMENTS ON COUNTY LINE

-
- At 0.000 feet Bolt "U" = Station 441 of county line survey
.....0.000 chains
 - At 7.920 feet A copper bolt in a large
boulder0.120 chains
 - At 21.220 feet Hemlock tree 18" diameter marked
of old, 9 ft. to left0.321 chains
 - At 45.220 feet Beech tree 16" diameter marked
of old, 1-5 ft. to right...0.685 chains

At 121.780 feet Began to descend hill which
slopes northeast1.840 chains
At 236.220 feet Beech tree (leaning) 16" in
diameter marked of old 6 ft.
to right.....3.579 chains

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At 315.220 feet Beech tree 5" in diameter
marked of old, 2.5 ft. to
left.....4.776 chains
At 436.220 feet Maple tree 20" in diameter
marked of old, 3 ft. to
right.....6.609 chains
At 462.395 feet Station 442 of county line
survey, bolt in boulder on
slope of hill.....7.006 chains
At 469.220 feet Hemlock tree 12" in diameter
marked of old, 1.5 ft. to
right.....7.109 chains
At 731.220 feet Hemlock tree 24" in diameter
marked of old, 3.5 ft. to
left.....11.079 chains
At 771.295 feet Station 443; on low ground;
old marked survey trees at
interval along the line...11.686 chains
At 786.220 feet Maple tree 14" in diameter
marked of old, 4 ft. to
the right.....11.912 chains
At 932.220 feet Hemlock tree 10" in diameter
marked of old, 1 ft. to
right14.124 chains
At 948.220 feet Hemlock tree 16" in diameter

marked of old, 1 ft. to
left14.366 chains

N

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At 966.220 feet Hemlock tree 12" in diameter
marked of old, 3 ft. to
left14.639 chains

At 1049.835 feet Station 444, on small hill;
land rises again slightly..15.906 chains

At 1175.220 feet Hemlock tree 5" in diameter
marked of old, 2 ft. to
right.....17.806 chains

At 1294.220 feet Spruce tree 12" in diameter
1.5 ft. to left; blocked it
and counted 99 grains over
the mark by H.S. Meekham....19.609 chains

At 1345.220 feet Hemlock tree 12" in diameter
marked of old, 7.5 ft.
to left20.382 chains

At 1395.600 feet Hemlock tree 9" in diameter
marked of old, 4.5 ft. to
the right.....21.145 chains

At 1424.600 feet Spruce tree 7" in diameter
marked of old, 2.5 ft. to
left; blocked it and counted
102 grains over the mark by
H.S. Meekham.....21.584 chains

At 1442.220 feet Hemlock tree 10" in diameter
3.5 ft. to left; blocked
and counted 64 grains over
the mark.....21.851 chains

N

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At 1452.980 feet Station 445, near two marked
hemlocks, on northerly slope
of hill, about 20 feet below
the last station.....22.148 chains

At 1526.220 feet Hemlock tree 10" in diameter
marked of old, 3 ft. to
left23.124 chains

At 1550.220 feet Spruce tree 6" in diameter
marked of old, 3.5 ft. to
the left.....23.488 chains

At 1604.220 feet Maple tree 24" in diameter
marked of old, 1 ft. to
left24.306 chains

At 1691.995 feet Station 446; land descending
northerly to Rogers
Brook25.636 chains

At 1996.100 feet Station 447; in beaver
meadow; brook east.....30.243 chains

At 2038.220 feet Balsam tree 8" in diameter
marked of old, 2 ft. to
left.....30.882 chains

At 2196.000 feet Crossed Rogers Brook, here
21 ft. wide; brook runs
N.W.33.272 chains

At 2512.220 feet Pine tree 24" in diameter
marked of old 2 ft. to
left38.063 chains

- At 2602.220 feet Balsam tree 7" in diameter
marked of old, 2.5 ft. to
the right 39.427 chains
- At 2679.220 feet Spruce tree (dead) 24" in
diameter marked of old
6 ft. to right40.594 chains
- At 2812.785 feet Station 448; near lumber
road; north side of
marsh 42.617 chains
- At 2818.220 feet Cedar tree 10" in diameter
marked of old, 2 ft. to
the left42.700 chains
- At 2890.220 feet Cedar stub 10" in diameter
marked of old , 1 ft. to
the left.....43.791 chains
- At 2969.220 feet Cedar tree 14" in diameter
marked of old, 4 ft. to
the left.....44.988 chains
- At 2971.220 feet Cedar tree 14" in diameter
marked of old, 3 ft. to
the right.....45.018 chains
- At 3015.810 feet Station 449; nickel-plated
bolt in boulder in a pile
of stones.....45.694 chains
- At 3023.220 feet Balsam tree 5" in diameter
marked of old, 2.5 ft. to
the left.....45.806 chains

N

At 3135.220 feet Brook 8 ft. wide crosses
county line going westward.
North side of stream is an
alder swamp; south side,
meadow and marsh47.503 chains

At 3423.560 feet Station 450, copper plug
in boulder, in a timber
slash; rocky here and land
begins to ascend
.northerly.....51.872 chains

At 4176.865 feet Station 451, nickel-plated
copper bolt "V," of 1895, in
small boulder surrounded by
stones.....63.285 chains

At 4254.220 feet Hemlock tree (fallen) 14.5"
in diameter marked of old,
1.0 ft. to the left.....64.457 chains

At 4367.220 feet Hemlock tree 7" in diameter
marked of old, 3.5 ft. to
the right.....66.170 chains

At 4409.220 feet Spruce tree 8" in diameter
fallen across the line...66.806 chains

At 4562.220 feet Hemlock tree 8" in diameter
marked of old, 2 ft. to
right69.124 chains

At 4591.220 feet Maple tree 14" in diameter
2.5 ft. to left.....69.563 chains

N

At 4604.220 feet Spruce tree 14" in diameter
2 ft. to right, blocked,

count 40 grains.....69.760 chains

At 4635.220 feet Spruce tree 12" in diameter
1 ft. to left; blocked it
and counted 61 grains over
the mark.....70.230 chains

At 4657.220 feet Beech tree 9" in diameter
marked of old, 4 ft. to
the left.....70.563 chains

At 4673.220 feet Maple tree 22" in diameter;
blocked it and counted 120
grains over the mark....70.806 chains

At 4674.650 feet Station 452, on southerly
edge of summit of hill..70.828 chains

At 4718.220 feet Maple tree 7" in diameter
marked of old, 2 ft. to
the left71.488 chains

At 4762.220 feet Hemlock tree 12" in diameter
marked of old, 7 ft. to
the left72.154 chains

At 4982.220 feet Beech tree 14" in diameter
marked of old, 1.5 ft. to
the left.....75.488 chains

At 5010.220 feet Hemlock tree 11" in diameter
marked of old, 5 ft. to
the left.....75.912 chains

N

At 5021.220 feet Hemlock tree 10" in diameter
marked of old, 4 ft. to
the left.....76.079 chains

At 5048.220 feet Hemlock tree 8" in diameter

At 5048.220 feet Hemlock tree 8" in diameter
marked of old, 1 ft. to
the left.....76.488 chains

At 5060.220 feet Hemlock tree 9" in diameter
marked of old, 2 ft. to
the right76.670 chains

At 5089.220 feet Beech tree 12" in diameter
marked of old, 1 ft. to
the left.....77.109 chains

At 5142.55 feet Station 453, on land descend-
ing northerly; county line
well marked by ancient
blazed trees.....77.917 chains

At 5149.220 feet Birch tree 18" in diameter
marked of old, 1.5 ft. to
the right78.018 chains

At 5182.220 feet Hemlock tree 8" in diameter
marked of old, 2 ft. to
the left.....78.518 chains

At 5293.220 feet Hemlock tree 7" in diameter
marked of old, 4 ft. to
the right80.200 chains

At 5312.350 feet Station 454, copper bolt in
boulder at top of steep
northerly slope of hill....80.490 chains

N

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At 5682.220 feet Twin birch tree 22" in
diameter at base, marked of
old, 2.5 ft. to right.....86.094 chains

At 5717.220 feet Spruce tree 10" in diameter
marked of old, 3 ft.
to the right.....86.624 chains

At 5782.440 feet Station 455, at foot of hill
in swamp.....87.612 chains

At 5915.220 feet Birch stub 10" in diameter
marked of old, 3 ft. to
the left.....89.624 chains

At 6132.905 feet Station 456, copper bolt
marked "18-19" in small boulder,
near foot of hill.....92.922 chains

At 6207.220 feet Birch tree (blazed of old on
the N.W. side) 12" in diameter,
2 ft. to right.....94.048 chains

At 6230.220 feet Birch stub 18" in diameter
marked of old, 2 ft. to
the right.....94.397 chains

At 6251.220 feet Hemlock tree 11" in diameter
marked of old, 6 ft.
to the left.....94.715 chains

At 6284.475 feet Station 457, copper plug in
rock in situ; at top of
hill sloping southwest.....95.219 chains

N

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At 6477.220 feet Spruce stub 14" in diameter
marked of old, 2.5 ft. to
the right.....98.139 chains

At 6486.205 feet Station 458, on side hill,
axis of slope northwest.....98.275 chains

At 6674.855 feet Station 459, on side hill
above small ledge.....101.134 chains

At 6695.220 feet Birch tree 16" in diameter
marked of old, 2.5 ft. to
the left.....101.442 chains

At 6717.220 feet Birch tree 18" in diameter
 marked of old, 3 ft. to
 the left.....101.776 chains

At 6787.140 feet Station 460. at foot of hill
 and south edge of Ray Brook
 marsh102.820 chains

At 8761.580 feet Station 461, in marsh on
 south edge of a small
 island.....132.751 chains

At 8820.390 feet Station 461A, on highest
 point of a small island in
 marsh crossed by the
 county line.....133.642 chains

At 9780.560 feet Station 462, in edge of
 birch timber, on south
 slope of hill, near Ray
 Brook meadows.....148.190 chains

N

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At 9968.560 feet Cedar stub 12" in diameter
 marked of old, 1 ft. to
 the right.....151.038 chains

At 10,082.750 feet Station 463, at the top of
 the hill, or south edge of
 plateau, north of Ray
 Pond.....152.768 chains

At 10,492.090 feet Station 464, on north brow
 of hill or plateau looking
 northwest to Toad Pond.....158.971 chains

At 10,765.240 feet Station 465, in low ground
 about 200 ft. east of the

head of Toad Pond.....163.109 chains
 At 11,045.930 feet Station 466, on south brow
 of west front of hill facing
 Toad Pond.....167.362 chains
 At 11,334,525 feet Station 467, on north brow
 of same hill, looking north
 toward outlet of pond.....171.735 chains
 At 11,872.140 feet Station 468, nickel-plated
 copper bolt "X," in middle
 stone of a pile of stones
 on a point south of Ray
 Brook canal.....179.881 chains
 At 13,391.270 feet Station 469, copper plug
 in middle stone of a pile
 of stones, on a point north
 of Ray Brook canal.....202.898 chains

N

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At 15,034.100 feet Station 470, on the right
 bank of the Saranac River,
 north of Ames' rolling bank
 and near a 15" cedar tree..227.789 chains
 At 15,231.100 feet Poplar tree 6" in diameter
 marked of old, 2 ft. to
 the right.....230.774 chains
 At 15,345.100 feet Poplar tree 6" in diameter
 marked of old, 2 ft. to the
 right.....232.501 chains
 At 15,442.450 feet Station 471, on top of hill
 (summit is about 1,000 ft.
 east).....233.976 chains
 At 15,986.070 feet Station 472, at the sharp

northwest point of the last
mentioned hill and 1590 ft.

+ tide level.....242.213 chains

At 16,132.445 feet Station 473, copper plug in
boulder at south shore of a
small pond in a tamarack

marsh.....244.431 chains

At 16,534.100 feet Balsam tree 11" in diameter
marked of old, 1.5 ft. to

the left.....250.516 chains

At 16,584.905 feet Station 474, at south edge

of marsh around small pond.251.286 chains

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At 17,390.525 feet Station 475, at north edge

of marsh around small pond.263.492 chains

At 17,750.285 feet Station 476, nickel-plated
copper bolt in "Y," in brow of
ledge, south front of hill,

north of small pond.....268.943 chains

At 17,889.525 feet Spruce tree 10" in diameter
marked of old, 2 ft. to the

right.....271.053 chains

At 17,905.525 feet Spruce tree 5" in diameter
marked of old, 1 ft. to the

left.....271.295 chains

At 17,973.525 feet Spruce tree 8" in diameter
marked of old, 1 ft. to

the left.....272.326 chains

At 18,004.525 feet Spruce tree 9" in diameter
marked of old, 1 ft. to the

right.....272.795 chains

At 18,053.525 feet Maple tree 16" in diameter
marked of old, 3.5 ft. to
the left.....273.538 chains

At 18,063.310 feet Station 477, on top of hill,
in forest, on the ancient
county line.....273.686 chains

At 18,132.525 feet Beech tree 14" in diameter
marked of old, 3 ft. to the
right.....274.735 chains

N

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At 18,273.580 feet Station 478, copper plug in
boulder at foot of 17" maple
on north edge, top of hill.276.872 chains

At 18,506.525 feet Maple tree 18" in diameter
marked of old, 2 ft. to the
right.....280.401 chains

At 18,521.840 feet Station 479, edge of hard
land, south side Saranac
River.....280.633 chains

At 19,116.305 feet Station 480, in low land on
southeast bank of Saranac
River.....289.641 chains

At 20,488.625 feet Station 481, on northwest
bank of the Saranac River..310.433 chains

At 20,493.725 feet Hemlock tree 10" in diameter
marked of old, 6.6 ft.
to the left.....310.510 chains

At 20,498.075 feet Birch tree 14" in diameter
marked of old, 3.22 ft. to
the left.....310.576 chains

At 20,513.425 feet Hemlock tree 8" in diameter
marked of old, 4 ft. to the
left.....310.809 chains

At 20,548.295 feet Spruce tree 13" in diameter
marked of old, 4.1 ft. to
the right.....311.337 chains

N

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At 20,564.645 feet Hemlock tree 14" in diameter
marked of old, 5.5 ft.
to the right.....311.585 chains

At 20,566.995 feet Station 482, on rising
ground (old station) on the
ancient county line.....311.621 chains

At 20,595.975 feet Hemlock tree 8" in diameter
marked of old, 6.35 ft. to
the right.....312.060 chains

At 20,621.595 feet Hemlock tree 8" in diameter
marked of old, 12.25 ft. to
the right.....312.448 chains

At 20,627.985 feet Hemlock tree 12" in diameter
marked of old, 13.1 ft. to
the right.....312.545 chains

At 20,733.595 feet Hemlock tree 10" in diameter
marked of old, 2 ft. to
the left; blocked it out
and counted 40 grains over
the mark.....314.145 chains

At 20,757 feet Birch tree 10" in diameter
marked of old, 1.35 ft. to
the left.....314.508 chains

At 20,762.855 feet Station 483, on high ground

of the point (old station)
on the ancient county line.314.588 chains

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At 20,790.365 feet Hemlock tree 12" in diameter
marked of old, 8.55 ft. to
the left.....315.005 chains

At 20,819.335 feet Hemlock tree 5" in diameter
marked of old, 11.8 ft. to
the left.....315.444 chains

At 20,829.355 feet Hemlock tree 12" in diameter
marked of old, 9.5 ft. to
the left.....315.596 chains

At 20,829.355 feet Hemlock tree 12" in diameter
marked of old, 2.45 ft.
to the left.....315.596 chains

At 21,089.175 feet Station 484, survey of Township
24 of Macomb's Purchase....319.533 chains

At 21,250.685 feet Station "Z," on County Line
point, southwest shore of
the Mill Pond on Saranac
River above Saranac Lake
Village. This is a small boulder
with a raised-rim nickel-plated
copper bolt set in drill
holes as centre and reference
mark in the county line for
the northeast corner of
Township 24, of Great Tract
1, Macomb's Purchase, which

corner is the old spruce stump
393.057 feet north in the pond.

There is another hidden monument
here set about two feet below
the Station "Z:" copper bolt
in a large boulder, which is
embedded in stones set in
Portland cement.

The lower centre is a
copper plug.....321.980 chains

At 21,643.742 feet The joint corner of Townships
21 and 24 in Great Tract 1 of
Macomb's Purchase on the west
line of the Old Military
Tract and east line of
Macomb's Purchase; an old
spruce stump still existing
re-marked in the year 1891.
(The iron water pipe, set near
this stump, is not at the
Township corner).....327.935 chains

At 22,681.718 feet The water's edge, north shore
of river or Mill Pond, above
Saranac Lake Village.....343.662 chains

At 22,686.118 feet Stake (triangulation station)
north shore of the Mill Pond
at Saranac Lake Village....343.729 chains

- At 22,927.227 feet Red sandstone monument of the
New York State Land Survey
on the county line between
Essex and Franklin Counties;
a little south of the south
side of the road from Saranac
Lake to Lake Placid; and inside
of fence in yard of Mr. Thomas
Dewey.....347.382 chains
- At 23,943.258 feet Small temporary signal flag-
pole over stake in the county
line, on the south brow of
hill and west side of Shepard
Avenue, which avenue is here
wholly in Essex County.....362.776 chains
- At 24,345.718 feet Old fence, in Township 11, Old
Military Tract, at right angles to
the county line. This fence
is, apparently, an old subdivision
line of Township 11, running east into
said Township. Shepard Avenue
here has the county line as its
west boundary.....368.874 chains
- At 24,361.877 feet Red sandstone monument set
by the New York State Land
Survey on the ancient bound-

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ary line between the Counties
of Essex and Franklin, on the

plateau, top of hill, and
66 ft. N.W. of verandah of
house of Mr. French (which
is in Essex County). Shepard
Avenue, having made a turn
to the west, is now wholly
in Franklin County; the east
side of the avenue being now
the county line.....369.119 chains

At 24,500.207 feet A monument (boulder) set by
the New York State Land
Survey in the ancient county
boundary line between Essex
and Franklin Counties, and
in east line of "West Shepard
Avenue." The centre of
this station is marked by a
nickel-plated copper transit
station bolt, set in the
rock.....371.215 chains

At 24,607.597 feet A red sandstone monument set
by the New York State Land
Survey in the original boundary
line between the Counties
of Essex and Franklin, being

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in the ancient west line of
the Old Military Tract, and
is 69.360 feet S.W. of the
centre of the Moody Signal

Station.....372.842 chains

At 24,667.377 feet Monument (boulder) in the ancient boundary line between the Counties of Essex and Franklin, and east line of the "west" section of Shepard Avenue. This monument is 19.44 feet S.W. from the centre of the Moody Signal Station, and was set by the New York State Land Survey in the ancient county line; and is called the "west-base" (of Essex County line), for triangulation to Jenkins'

Hill.....373.748 chains

At 24,711.648 feet Hack in shoulder of the white birch tree; marked of old as a line tree of the ancient boundary between the Counties of Essex and Franklin.....374.418 chains

At 24,801.407 feet South side of East Main Street, of Saranac Lake Vil-

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lage, under and north side of Signal Hill375.778 chains

At 24,840.207 feet North side of East Main Street, of Saranac Lake Vil- lage; top of steep descent to the river.....376.366 chains

At 25,010.907 feet South bank of the Saranac River;

river here flowing easterly,
over rapids; railroad trestle
to the east.....378.953 chains

At 25,097.067 feet North bank of the Saranac
River, on the east line of
the Ensign Miller lot (sub-
division of the Plinny Miller
300-acre lot, of Township 21
in Great Tract 1 of Macomb's
Purchase).....380.258 chains

At 25,342.117 feet Over the great rock, opposite
its west end - a massive
boulder.....383.971 chains

At 25,578.977 feet Red sandstone monument, set
by the New York State Land
Survey in the ancient west
line of the Old Military
Tract and east line of
Macomb's Purchase, which is
the ancient boundary line

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between the Counties of Essex
and Franklin, near the S.W.
corner of the John A. Strong
lot, in Township 11 of the
Old Military Tract. The
corner of what is called
the Todd fence is 12 feet
further west on this road,
in Franklin County.....387.560 chains

At 25,954.727 feet Nickel-plated copper bolt

"transit station" of the
State Land Survey in boulder
on top of hill, being county
line mark.....393.253 chains

At 26,010.567 feet Line fence of Dr. Simpson
(here, west of the county line
was noticed an iron bolt in a
boulder, 15.65 ft. distant).394.099 chains

At 26,151.247 feet Centre of a well.....396.231 chains

At 26,303.957 feet Red sandstone monument, set
by the New York State Land
Survey in the ancient boundary
line between the Old Military
Tract and Macomb's Purchase,
being the ancient boundary
of Essex and Franklin
Counties. This monument is

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south of the new street, in
wet meadow, foot of Jenkins'
Hill.....398.544 chains

At 26,593.207 feet Nickel-plated township line
bolt, set by Superintendent
Verplanck Colvin many years
since on his survey of this
county line. It is set in
a drill hole in rock in situ
on a knoll at foot of Jenkins'
Hill.....402.927 chain

At 27,282.743 feet Station "Z3", a nickel plated
copper bolt "Transit Station
Z3" set in rock at the top
of the cliff on the south
face of Jenkins' Hill, 4 feet
north from the edge of cliff
which extends east and west.413.374 chains

From the last described station, on the top of the
cliff, (nickel-plated Transit Station Bolt Z3) the Essex and
Franklin County boundary line was re-traced by Superintendent
Verplanck Colvin over one quarter of a mile further
northward, along the joint partition line of the Old Military
Tract and Macomb's Purchase, numerous old survey line trees
being found of the original ancient location of this great
boundary line. Being now at Station Z3, past the centre
of Township 11 in the

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Old Military Tract, and the country in the valley of the
Saranac River at the foot of Jenkins' Hill being largely
cleared of the old original "timber" or trees, so the the
lot line marks are here difficult to find in many places;
and the ancient blazed trees having the original lot line
marks having been found by the officers and assistants of
the State Land Survey in Township 11 on the mountains to the
eastward, where the ancient blazed lines of the ancient
governing allotment of John Richards made in 1832 were
now being found and the lot lines restored by the State
Land Survey; it was decided by the Superintendent of the
New York State Land Survey to defer the marking and
monumenting of the corners of said lots in Township 11,
in the Old Military Tract, until the restoration of the

true and legal allotments had been carried through from the already recovered and identified lot lines eastward.

Hence the further restoration and re-marking of the west line of Township 11 Old Military Tract was; by order of the Superintendent, temporarily discontinued.

The line hereinbefore described as the original west line of said Township 11 was found to be in fact also the west line of the Old Military Tract and the east boundary of Macomb's Purchase; and, consequently, the boundary between the Counties of Essex and Franklin.

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NOTE

on the survey of the south half of the west line of Township 11 in the Old Military Tract.

While this line may now (in the year 1895) be practically retraced by a magnetic course of nearly North 4 degrees East, it must not be understood to be an absolutely straight line.

On the contrary, this line, while it has numerous straight sections, sometimes even a quarter of a mile in length--has also numerous small deflection angles. These small deflections in the ancient line were in many places caused by the local attraction on the magnetic needle, and in other places, apparently, by the carelessness or mistakes made on the original survey by the Surveyor or his flagman in setting or occupying stations. This latter cause of small angles in the county line is proved by the discovery of short sections of blind-line--that is, of marked line extending straight from the back sight on the county line--although the pointing of the needle has changed.

In one such case noticed upon this county line, the "blindline" ceased in a distance of a few rods, and may have been caused merely by the erroneous marking of the line by axemen attempting to mark the line by ranging in from the forward flag, without orders from the surveyor. At all events, such blind-line goes but a few chains and then stops entirely. The axemen upon the original survey marked this county line very broadly, blazing trees far to the right and left of the line and generally without any symbolic marking to indicate on which side of the blazed trees the patent line had been run and located. This has made the

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restoration survey a very tedious work and necessitated the re-examinations and surveys made in the different years by the Adirondack Survey and the State Land Survey, of Verplanck Colvin, between the years 1878 and 1895.

To enable those who use a theodolite or transit theodolite instrument, instead of a magnetic compass, to retrace this county line, the following record of the actual deflection angles found at tangent points in this county line are given.

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Stations	Deflections	Distances	Description
441			Copper bolt "U," in boulder.
441 to 442	0 degrees 00 minutes 00 seconds	7.006 chains	Copper plug in boulder; side hill.
442 to 443	1 degree 51 minutes 38 seconds L.	4.680 chains	Low ground.

443 to 444	0 degrees 59 minutes 25 seconds R.	4.220 chains	On small hill.
444 to 445	0 degrees 20 minutes 16 seconds R.	6.108 chains	Near two hemlocks.
445 to 446	0 degrees 44 minutes 52 seconds L.	3.621 chains	On northerly slope of hill
446 to 447	0 degrees 21 minutes 40 seconds L.	4.607 chains	Low ground west of brook.
447 to 448	2 degrees 20 minutes 33 seconds R.	12.374 chains	Near lunber road, edge of meadow.
448 to 449	1 degree 42 minutes 01 seconds L.	3.076 chains	Copper bolt in boulder.
449 to 451	0 degrees 10 minutes 33 seconds L.	17.591 chains	Nickel-plated bolt "V," in boulder, and pile of stones.
451 to 452	0 degrees 10 minutes 36 seconds L.	7.542 chains	South edge, top hill.
452 to 453	0 degrees 22 minutes 07 seconds R.	7.091 chains	Near summit of hill.
453 to 454	0 degrees 24 minutes 48 seconds L.	2.572 chains	Copper bolt in boulder; summit.

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Station	Deflections	Distances	Description
454 to 455	0 degrees 37 minutes 10 seconds L.	7.122 chains	At foot of hill in swamp.
455 to 456	1 degree 43 minutes 03 seconds R.	5.310 chains	Copper bolt in boulder.
456 to 457	0 degrees 38 minutes 22 seconds R.	2.297 chains	Copper plug in rock, in situ.
457 to 458	0 degrees 31 minutes 58 seconds L.	3.056 chains	On side hill.
458 to 459	1 degree	2.859 chains	On side

	06 minutes 25 seconds L.		hill above small ledge.
459 to 460	0 degrees 06 minutes 08 seconds R.	1.686 chains	At foot of hill, south edge of Ray Brook marsh.
460 to 461	0 degrees 19 minutes 12 seconds R.	29.931 chains	In marsh on south edge of small island.
461 to 461A	0 degrees 03 minutes 42 seconds L.	0.891 chains	On highest point of small island.
461A to 462	0 degrees 06 minutes 25 seconds R.	14.548 chains	Edge of birch timber, on south slope of hill.
462 to 463	0 degrees 03 minutes 51 seconds R.	4.578 chains	At top of hill, or edge of plateau, north of Ray Pond.
463 to 464	0 degrees 18 minutes 32 seconds L.	6.203 chains	On brow of hill.

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Stations	Deflections	Distances	Description
464 to 465	0 degrees 13 minutes 26 seconds L.	4.138 chains	In low ground, about 200 ft. east of the head of Toad Pond.
465 to 466	0 degrees 25 minutes 51 seconds R.	4.253 chains	On south brow of west front of hill facing Toad Pond
466 to 468	0 degrees 25 minutes 20 seconds R.	12.519 chains	Nickel- plated copper bolt "X," in middle stone of a pile of stones, on a point south of Ray Brook canal.
468 to 169	0 degrees 07 minutes 02 seconds L.	23.017 chains	Copper plug in middle stone of a

pile of
stones, on a
point north
of Ray Brook
canal.

469 to 470

0 degrees
06 minutes
32 seconds L.

24.891 chains

On the right
bank of
Saranac
River, north
of Ames'
rolling bank,
and near a
15" cedar
tree.

Stations	Deflections	Distances	Description
470 to 471	0 degrees 26 minutes 18 seconds R.	6.187 chains	On top of hill (summit is about 1000 ft. east).
471 to 472	0 degrees 00 minutes 47 seconds L.	8.237 chains	At the sharp northwest point of the last men- tioned hill.
472 to 476	1 degree 07 minutes 27 seconds L.	34.517 chains	Nickel-plated copper bolt "Y," in brow of ledge, south front of hill, north of small pond.
476 to 477	0 degrees 48 minutes 31 seconds L.	5.193 chains	On top of hill in forest, on the ancient county line.
477 to 478	0 degrees 11 minutes 36 seconds L.	3.186 chains	Copper plug in boulder at foot of 17" maple, on north edge top of hill.
478 to 480	1 degree 12 minutes 28 seconds L.	12.769 chains	In low land on southeast bank of Saranac River.

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Stations	Deflections	Distances	Description
480 to 481	0 degrees 02 minutes 30 seconds R.	20.792 chains	On northwest bank of the Saranac River.
481 to 482	0 degrees 04 minutes 00 seconds L.	1.188 chains	On rising ground (old station) on the ancient county line.
482 to 483	3 degrees 42 minutes 00 seconds L.	2.967 chains	On high ground of the point (old station) on the ancient county line.
483 to 484	2 degrees 41 minutes	4.945 chains	Survey of Township 24 of

30 seconds L.

Macomb's
Purchase.

484 to Z

1 degree
40 minutes
00 seconds L.

2.447 chains

On County Line
Point southwest
shore of the
Mill Pond on
Saranac River.

[signed] Verplanck Colvin

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APPENDIX G

MINUTES OF TESTIMONY

of

Daniel Lynch

and

Lorrin Kelley,

local surveyors on the New York State Land Survey,
relative to surveys made by them on the boudaries of
Townships 27, 28, 46, 47 and 50, in
Totten and Crossfield's Purchase,

in the year

1898,

before

The Hon. Verplanck Colvin,

Superintendent,

New York State Land Survey

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OFFICE OF THE NEW YORK STATE LAND SURVEY

Albany, N. Y., November 10, 1898

The following sworn testimony of Daniel Lynch and Lorrin Kelley, relating to surveys made by them, by my orders on the boundaries of Townships Nos. 27, 28, 46, 47 and 50 in Totten and Crossfield's Purchase, were made particularly with a view to the settlement of the location of said boundaries as necessary corroborative evidence in establishing the location of the north boundary line of said Totten and Crossfield's Purchase, now being greatly in dispute, there being two nearly parallel ancient boundary lines running east and west about forty chains apart near, at or in the vicinity of the northerly limits of Townships Numbers 47 and 50 (in said Totten and Crossfield's Purchase) adjoining the north line thereof; and WHEREAS Township No. 50 was not an originally laid out township in the said Totten and Crossfield's Purchase, but was made up as a surplus or remnant of lands without record of its metes, bounds and corners in the ancient records; and WHEREAS Townships 27, 28, 46 and 47 are the nearest of the townships, anciently of record, to the location of the disputed north boundary of said purchase; and, hence, the restoration of their boundaries affords the nearest and most authentic adjacent original evidence of the original location of the great division line between Totten and Crossfield's and Macomb's Purchase:

The re-surveys were accordingly made, by my orders, by surveyors Daniel Lynch and Lorrin Kelley after they had been placed upon the original lines of Townships 27, 28, 46, and 47, by my direction.

[Signed] Verplanck Colvin
Superintendent,
New York State Land Survey

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Examination of Daniel Lynch,
in re Surveys in 1898 in Townships 27, 28, 47 and 50 of
Totten and Crossfield's Purchase.

Examined by Superintendent Verplanck Colvin.

Q. Mr. Lynch, you swear that the testimony given in regard to
the surveys made by you, with the assistance of F.S. Hurd,
Lorrin Kelley, J. H. Goodspeed and C. W. Rawlins, in
Townships 28 and 50 and the adjacent lines, will be the
truth, the whole truth and nothing but the truth?

A. I do.

Q. Mr. Lynch, you reside in Minerva, Essex County, New York?

A. Yes, sir.

Q. You are the local surveyor of this Department, resident
there?

A. Yes, sir.

Q. In accordance with my orders you made surveys of portions
of Township 28 in Totten and Crossfield's Purchase?

A. Yes.

Q. Where did you begin this survey?

A. I began first at the southeast corner of Township 28, as
surveyed by Moses Crane in 1773, usually known as the
hemlock tree corner.

Q. How did you identify this corner?

A. By finding reference marks.

Q. Will you give the course and distances of the lines which
enabled you to identify the said hemlock tree corner; the

distances from Newcomb Lake from the west and from the north; and the courses?

A. I identified it by the distance from the south shore of the

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D. L.

big east bay of Newcomb Lake, being South 26 degrees East 21 chains and 20 links. And if the corner were not there, if it were either easterly or westerly, its distance would be very different.

Q. Had you any other course or distance from Newcomb Lake shore that would enable you to identify the hemlock tree corner?

A. I had, on the south line of Township 28; Crane's notes give the distance at 9 chains from the easterly shore of the lake, which I identified as the easterly shore of the narrow part of Newcomb Lake, on the course of North 64 degrees East, at the present time.

Q. That makes a variation from Mr. Crane's course of how much?

A. A variation of 4 degrees at present.

Q. Had you anyone familiar with this hemlock tree corner show you the same, and identify it for you, before you made these measurements referred to, South 64 degrees West, and North 26 degrees West from the hemlock tree corner?

A. Mr. Orson P. Morse, of Minerva, New York, showed me a corner which was near, but not at this point, but, according to his recollection, he thought it was the corner, but what he thought was the hemlock tree corner was 6 chains east from this corner, which I subsequently

found by running the line found north of the lake down to it South 26 degrees East.

Q. Mr. Lynch, did you find any other corner of an adjacent township near the hemlock tree corner referred to by Moses Crane in his field notes of the survey of this Township in 1773?

A. Mr. Orson P. Morse showed me another corner.

Q. Where was this other corner located from the said hemlock tree corner?

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D. L.

A. North 64 degrees East magnetic, present time, 12 chains and 9 links.

Q. What evidence did you find there of a corner?

A. Found abundant and very old reference marks around it, repeatedly marked at different dates. Found the intersection of two lines from the southerly and westerly sides, and the roots of a birch tree at this intersection.

Q. Was there any line running northerly from this birch tree corner?

A. There was. It was an old line on a course North 26 degrees West, and about half way between this birch tree corner and the lake, I cut out a block of green spruce showing 125 years' growth.

Q. What do you call this line?

A. It is the continuation of the line between Townships 27 and 46 on the course North 26 degrees West.

Q. Do you feel that you have fully identified the two corners mentioned?

A. I do.

Q. What relation to the position upon the north line of Township 27 have these two corners called the hemlock tree corner and the birch tree corner, with regard to said Township 27?

A. The hemlock tree corner is in the north line of Township 27, and the birch tree corner is the northeasterly corner of Township 27; it is also the northwesterly corner of Township 46.

Q. What do you call the hemlock tree corner?

A. It is the Crane corner; the southerly corner according to Crane's survey of Township 28 on the north line of Township 27.

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D. L.

Q. Have you any question in your mind as to this hemlock tree corner being the southeast corner of Township 28?

A. I have not; it is the Crane corner of 1773.

Q. Did you find any line running northwesterly from this corner?

A. I did, from the hemlock tree. We found, between that corner and the lake, on the North 26 degrees West course, a number--perhaps seven or eight--marked trees and stumps, but not any in that distance of the full age, but some from 50 to 90 years old; but, continuing the same northerly to the lake, then across the lake on the same line and same course, North 26 degrees West from the hemlock tree corner, we found old marked trees immediately from the lake shore up, and at the distances mentioned in the notes found original marks.

Q. How old were the marks?

A. The first that we found was a big pine stump with 112 years of growth over the marks, and the tree was cut about 13 years ago, which makes the line 125 years old. Found other marks right along, in fact, found the line all the way along.

Q. Did you find any live trees marked?

A. I do not remember finding the full age in green, living trees at all, until we got north of Snyder Brook. There found the full age, in a green spruce of 125 years; in a direct continued course, and in the same continued line from the hemlock tree.

Q. Did you then change your location and camp?

A. Under orders, we did, and went in camp on Snyder Brook near the northeast corner of Township 28.

Q. Did you go up into Township 50 of Totten and Crossfield's Purchase?

A. Yes, we did.

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D. L.

Q. And did you find any evidences of a line marked or surveyed in Township 50, running on a course South 26 degrees East, and if so what line did you find, and whose line was it called by men who had been on the surveys?

A. I went up through Township 50 and found a marked survey line which I was informed was run by Mr. LeFevre.

Q. Did you put a compass upon this line?

A. We did, and found it to run South 26 degrees East.

Q. Where did this line, when continued on a course South 26 degrees East magnetic, bring you to eventually?

A. It brought us into the Crane easterly line of Township 28

and extends from the LeFevre corner South 26 degrees East to the hemlock tree corner, which was out first starting point.

Q. You speak of the LeFevre corner; what do you mean by this?

A. A corner which Mr. Hurd showed me as set by Mr. Solomon LeFevre on a former survey.

Q. And this line extended North 26 degrees West from the said corner last mentioned?

A. I did not go northwest from the LeFevre corner.

Q. How is the corner, which you call the LeFevre corner, marked?

A. By a pile of stones and I think a copper bolt, monumented as a corner stake and large pile of stones.

Q. Did you find any other lines at what you call the LeFevre corner besides the line which runs North 26 degrees West and South 26 degrees East from the hemlock tree corner to Newcomb Lake?

A. Yes, from the LeFevre corner found a line running North 64 degrees East, an old line, and on this line North 64 degrees East at 15 chains

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D. L.

21 links found a stake and stones set for a corner known as the Moynehan corner.

Q. Why is this called Moynehan corner?

A. Because Mr. Patrick Moynehan had a line run to this corner, for the south line of Township 50, as I understand.

Q. Where then would be the east line of Township 50, according to the Moynehan survey?

A. It would be 15 chains 21 links easterly from the line which we followed on a parallel line, or nearly parallel to the Crane line, being the east line of Township 28. It was quite an old line North 26 degrees West of the Moynehan corner. There is an old line running North 26 degrees West from the Moynehan corner, and I traced this line northerly perhaps 20 or 30 rods and found a number of old marked trees. It is the east line of Township 50 according to Moynehan. There is also a line running South 64 degrees West from the Moynehan corner to and past the LeFevre corner, which I consider the division line of the south tier of long lots in Township 50. It is an old line.

Q. How old were these trees marked on this Moynehan line?

A. I cut a block out and got the age and I gave it to Mr. Kelley. I have no record of the age.

Q. Can you recall, at all, what the age of this line was?

A. I cannot, but my recollection is that it was close to 100 years old.

Q. Inasmuch as you made numerous surveys around the vicinity of the northeast corner of Township 28, would you be able to determine the location of the southeast corner of Township No. 50?

A. Not positively; we did not do enough to determine it.

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D. L.

Q. By whose survey is Township 50, in your opinion, located, and by whom allotted?

A. It was surveyed originally by John Richards in 1809--the survey of the township, both outlines and allotment. As far as I know, there was no Township No. 50 until the survey by John Richards.

Q. Is there any other survey of Township 50?

A. I do not know of any other survey of Township No. 50.

Q. Where, in your opinion, Mr. Lynch, would the southeast corner of Township 50 be located, according to the survey of John Richards of 1809?

A. I could not say, but I think the Kelley corner is very likely to be the southeast corner.

Q. You chained the east line of Township 28, did you not?

A. We did, Mr. Kelley and myself.

Q. Where did you begin to chain?

A. For Township 28 we commenced at the so-called LeFevre corner monument, 15 chains 21 links South 64 degrees West from the Moynehan corner, and chained southeast on a course South 26 degrees East 24 chains 14 links, there found evidences of old reference marks for a corner, but the reference marks being all on dead trees could not get the exact age. This is the Kelley corner.

Q. Were there any cross-lines, crossing, at this point, the east line of Township 28?

A. There is a line intersecting it from the west but does not cross it.

Q. How is it marked and what course does it follow?

A. This is a line which I have always heretofore considered as

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the north line of Township 28, which intersects this last mentioned corner 24 chains 14 links South 26 degrees East from the so-called LeFevre corner.

Q. How did you find this line to bear, and what evidences did you find upon it?

A. We found the course to be South 64 degrees West from this corner and cut out a block from a green spruce tree showing the age of 125 years, and also saw several other marks in green spruce, which Mr. Kelley and I considered as original marks, but did not cut them out. The spruce we did cut out was at 58 chains 28 links South 64 degrees West from the Kelley corner; in that tree were good marks of the age of 90 years and 125 years, going back to the Moses Crane survey of 1773. On this same line at 92 chains 58 links reached the east bank of Moose Creek, a little over one-half a chain wide, flowing on a bed of big boulders. At 105 chains 52 links came to markings on trees for lot corners. This is as far as we went on this line; but we also found on this line, at 40 chains from the Kelley corner, a lot corner.

Q. Do you call this line, South 64 degrees West, from what you call the Kelley corner, the south line of Township No. 50?

A. That is my opinion; I have always thought so and have no reason to change it now.

Q. What then is the line extending South 64 degrees West from the so-called Moynehan corner to the LeFevre corner?

A. I have thought it was most likely to be the subdivision line between Lots 115 and 116 in Township 50, as it is nearly the proper distance. That is merely an opinion.

D. L.

Q. Did you make any surveys on the course North 64 degrees East from the Kelley northeast corner of Township 28?

A. We did. We started and brushed out for several chains and found one marked tree, perhaps two, but I only recall one, North 64 degrees East.

Q. How far did you go on this course?

A. Perhaps 12 or 15 chains, and found no more marked trees; but, while there was good green timber there, if there was a line there it should be well marked. The marked tree that we found was on a small live tree, I think, and was not much over one chain from the corner found by Kelley.

Q. Will you state what evidence of the corner was found by you South 26 degrees East 24 chains 14 links from the LeFevre corner?

A. This is what we call the Kelley corner. Found reference marks on two or three old dead trees facing this corner, but the witness trees we found were dead and we could not determine the age of the marks; but we found that this corner was at the intersection of the north and easterly lines of Township 28 as we found them by the lines of old marked trees of Moses Crane's survey of the year 1773. There was nothing for the corner itself, but there were reference marks facing where the corner stood; there was nothing of the corner tree itself except some resinous fragments of the exterior of this tree, a spruce tree-- must have been dead and entirely gone as we could find nothing of it except the aforesaid pieces of resinous fragments. The corner is in the edge of the swamp. I would say that I was present, and saw taken from the ground in the centre of the witness marks and at the

D. L.

intersection of the northerly and easterly line of Township 28, and saw in the hands of Mr. Kelley, pieces of the external wood of a spruce tree bearing two or more "X" marks--Roman numerals standing at least for "20"--in the wood or tree; evidently it had been blazed. There were two "X" marks ("XX"), perfectly plain. Mr. Kelley regarded these as good marks of the original corner tree and, so did I.

Q. Can you give the references to the witness marks, of the kind of stumps or stubs around them, and the distances to them?

A. I think there were three witness marks facing this corner, five or eight feet distant. Mr. Kelley placed a monument right there of stone, with a nickel-plated copper bolt marked with a line corresponding with the township line at this point;--that is, for the northeast corner of Township 28--but I think there were no numbers put upon it. I did not stamp any numbers upon it, nor do I remember ordering any stamped upon it.

Q. Did you resume the survey after you had established this monument at the Kelley northeast corner of Township 28, and run South 26 degrees East along the east line of Township 28?

A. We did, and at 56 chains came to a brook called Synder Brook, and crossed the same, and crossed it again at 2 chains from where we first struck it, making 58 chains from the said northeast corner to the southerly bank of this brook; following that course we struck the

northeasterly shore of Newcomb Lake at 459 chains 48 links to the water's edge from our starting point, the Kelley northeast corner of Township 28. The original notes give the distance across the lake here at 40 chains. We did not measure

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D. L.

this again but accepted this old measurement as part of the record and resumed the survey on the southeast shore of Newcomb Lake and measured on a course South 26 degrees East to the hemlock tree corner, finding the distance from the south shore of the lake to the hemlock tree to be 21 chains 20 links, which makes the length of the east line of Township 28, 520 chains 68 links by our chaining; and a very little difference in the manner of chaining would probably make the distance the same: making less allowance for the inequality of the ground would easily make it 525 chains for the easterly line of Township 28.

Q. When you came to the hemlock tree in the north line of Township 27, did you find any witness marks around said hemlock tree corner?

A. We did. They were in an old dead spruce, an old dead hemlock and a green birch; blazed on the trees facing this corner, in the spruce and in the hemlock there were three hacks; in the green birch we found the reference marks--my recollection is, about 50 years--and under that the original mark 125 years old. All of these marks practically faced the one point, and at this point were the remains of the hemlock tree.

Q. What did you find at the birch tree corner, being the joint northeasterly corner of Township 27 and northwesterly corner of Township 46?

A. At the intersection of the northerly line of Township 27 with the easterly line of the same township, we found the roots of a birch tree; before finding this, Mr. Morse stood where this said birch tree stood, according to his recollection, and about two feet from where he stood we cleared away the rubbish and found the roots of a black birch tree; surrounding it and facing it were

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D. L.

numerous old marked trees, blazed for witness marks, facing the roots of the black birch tree, notably one very large dead spruce with large long blaze upon it facing this corner; and this spruce was also a line tree for the east line of Township 27 in the line between Townships 46 and 27.

Q. How did you monument the hemlock tree corner and the birch tree corner?

A. The hemlock tree corner we monumented by placing a large boulder in the place where the remains of the hemlock tree stood, with a number of other large boulders around it, with a nickel-plated bolt in the rock at the centre. This bolt was marked with one line across it corresponding with the north line of Township 27 and another line running from that line North 26 degrees West corresponding with the east line of Township 28. This bolt was marked on the south side, I think, "27" and on the northwest side "28," with no other marks upon it.

The birch tree corner we marked by placing a copper bolt in a line in a solid boulder, which lay partly under and amongst the roots of the birch tree, in the top of the boulder. It was marked in the same way with a line across it North 64 degrees East and another line south from that line to the edge of the bolt, South 26 degrees East from the centre of the bolt to the edge, and numbered for "TP. 27 - 46" and I think "47." From this birch tree corner, we traced the north line of Township 46 North 64 degrees East and surveyed and monumented the same about two miles and a half this year, and traced the same to the west shore of Lake Sanford, and found it a well-marked line. It came out at the narrow place where the lake comes right close to the road; it there strikes or goes south of

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D. L.

an island in the narrow part of the lake. On this line beyond where we ran it--that is, where we ran this line, between where we quit chaining and Lake Sanford--we cut out another original mark on a spruce tree and found the age of 125 years. The block is marked by Mr. Rawlins and myself. The line crosses the narrow part of Lake Sanford not more than 8 or 10 chains below the main body of the lake and probably skirts the main body of the south shore of the big south bay of the lake. Did not cross the lake. On this last line mentioned we found several original marks, enough to identify it as the original line of 1773, and cut out blocks which I have sent in to the office

signed by myself and Mr. Rawlins, and some by myself and Mr. Kelley. This is a correct synopsis of the principal features of the surveys made by me in Townships 27, 28, 46, 47 and 50 during the year 1898.

Q. When you were at the birch tree corner, the joint corner of Townships 27 and 46, did you find any evidence of another corner near there on the south line of Township 47, and if so by whose survey established, and how monumented?

A. At about 20 links eastwardly from the birch tree corner and about 4 or 5 links northwardly from the true south line of Township 47 we found a stake and large heap of stones which was pointed out to us by Mr. Elbert Parker (manager for the owner of the lands, Mr. Robert C. Pruyn) as a corner set by a surveyor named Walker, employed by Mr. Pruyn to run out the lands owned by Mr. Pruyn, which said Walker (said Elbert Parker assured me) called the southeast corner of Township 28; but it could by no means be the southeast corner of Township 28 by the Crane Survey, but it might be called

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D. L.

the southwest corner of Township 47. He--Walker--brushed out a line northwest from this point, as I understand it, but the marks which I saw were about 15 years old and in my estimation were made by Jefferson Chase before Walker's time. I did not find a single mark that I could say was made by Walker upon a tree. I understand, however, from common conversation at Newcomb, that Walker began at Belden Pond and ran a line with transit from what is

called the southwest corner of Township 50; that is, he started from the true corner in Belden Pond and ran northeast to the corner I have mentioned or described as the Moynehan corner, beyond the LeFevre corner, and that Walker then turned at the said Moynehan corner southeast and came to the said stake and stones which he set near the birch tree corner in the north line of Township 46.

[signed] Daniel Lynch

Sworn to before me this
10th day of November
1898:

[signed] Verplanck Colvin
Notary Public
Albany Co., N. Y.

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OFFICE OF THE NEW YORK STATE LAND SURVEY

Albany, N. Y., November 7, 1898

The Hon. Verplanck Colvin, Superintendent, called as a witness Lorrin Kelley, a local surveyor employed on the New York State Land Survey, and informed Mr. Kelley that he would examine him under oath for the purpose of securing information relative to certain details of the work and results of measurements on the boundaries of Townships Nos. 27, 28, 46, 47 and 50 in Totten and Crossfield's Purchase, Essex County, New York, inasmuch as Surveyor Daniel Lynch

was assisted on his surveys of the boundaries of said townships by him, the said Lorrin Kelley, who was stated by said Lynch to have personally assisted said Lynch in chaining the distances along the boundaries of said townships, and to be cognizant of some facts not known to said Daniel Lynch.

The said Lorrin Kelley of Salisbury, Herkimer County, New York, accordingly appeared, and Superintendent Verplanck Colvin administered the oath as follows:

"Mr. Kelley, you swear that the evidence you shall give in regard to the surveys made by you in and along the boundaries of Townships 27, 28, 46, 47 and 50 in Totten and Crossfield's Purchase during the months of September and October in the year 1898, shall be the truth, the whole truth and nothing but the truth, so help you God"?

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A. I do.

By Superintendent Colvin.

Q. Mr. Kelley, please state what you did on the surveys of the boundary line of Townships 27, 28, 46, 47 and 50 in Totten and Crossfield's Purchase, County of Essex, during the months of September and October 1898?

A. In accordance with your orders I left home, Salisbury, Herkimer County, September 26, reaching Albany the same day and received your instructions; and on the evening of the 27th left Albany by the 4:40 train for North Creek, where I stayed at Straight's Hotel and engaged Newell Scripter with his team for the next day. The next morning, the 28th, I started for Newcomb, Essex County, Mr. Scripter with a two-horse covered carriage. He drove me rapidly, and I got dinner at John Anderson's Hotel at Newcomb about 1 o'clock, intending to drive on to Newcomb

Lake to Mr. Lynch's survey party, but found that they had left for Snyder Brook camp south of the Cold River. After dinner I discharged the driver, and as I could not reach the camp that day stayed at Anderson's that afternoon and night. Next morning made inquiry as to the location of the camp of Lynch's survey party; found a guide said to be the best informed man in that section, who told me they were somewhere encamped on Cold River within three miles of Callahan's lumber camp. Leaving my baggage at Anderson's Hotel, to be sent to me the next day, I set out with my compass and tripod alone by road and trail for D. Lynch's camp on Cold River. I went by high road towards Long Lake about two miles and crossed Fishing Brook just above the saw mill, went north or northerly in the sag of the

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hill seven or eight miles upon this road in the woods; met a teamster going back from the lumber camp, who informed me that Lynch's survey party was about one-eighth of a mile this side--that is, south of Callahan's camp on the banks of the Snyder Brook stream (this comes off of Mt. Santanoni).

This country has been lumbered all through Township 28; there is a great deal of cedar remaining; the hardwood has not been touched by the lumberman; it is the pine, spruce, etc., that has been cut and taken away. It is stated that this section had been sold by Patrick Moynehan to the lumbermen. Reached the camp on Snyder Brook at dark, where I found Mr. Hurd, Goodspeed, Rawlins and Little; Mr. Lynch was not there. (I had seen Mr. Lynch

near Minerva, at his home) I made inquiry for him there, at Minerva, and was told that he was at work on the road near a little lake one-half mile or so north of his house. A young man went with me to look him up; on the west side of the little lake we found his tools, but did not find Mr. Lynch. He then looked on the easterly side and found Mr. Lynch and brought him to me. I handed Mr. Lynch the envelope containing your letter. He examined the same and requested me to take it right on to Mr. Hurd. He said he was going to Albany.)

Friday, September 30 (being next morning), went to the LeFevre corner, being the southeast corner of Township 50, according to LeFevre, as shown to me by Mr. F.S. Hurd, then present, who was there with LeFevre in 1897. I was accompanied by Hurd, Goodspeed and Rawlins. I found a stone nearly a foot in diameter set for this LeFevre corner with a nickel-plated bolt set in it, marked for Transit Station 180, from which Foreman Hurd and the

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men had cleared the line southeasterly and had ranged the line out with pickets and brushed it out for almost a mile. I remained and searched along the 30-degree line northerly and found a line of old blazed trees along this LeFevre cut-out, on course North 26 degrees West, and went until I came to low and rather marshy and soft ground. I was looking for the vlaie ("fly") or meadow mentioned by Moses Crane in his field notes of 1773, of the 28th Township; but did not find this vlaie or swamp here, according to Crane's description.

Then went off through the woods to the east, with

Mr. Hurd, and came to a line which had been cleared a few years before for survey work. This line has a magnetic course of North 64 degrees East, followed it and came to a stake and pile of stones called "the Moynehan corner," claimed by one Patrick Moynehan to be the southeast corner of Township No. 50 and northeast corner of Township No. 28 in Totten and Crossfield's Purchase. I recognized it by the description given me by Mr. Hurd. Then went back South 64 degrees West to the LeFevre corner, at Transit Station Monument No. 180, and then and there began a survey and search on a course South 64 degrees West, and chained 40 chains, and searched for a spruce tree described in Moses Crane's field notes for the corner of a lot in the 28th Township, if this was the north line of said 28th Township. I did not find any corner at the end of 40 chains, although my course followed a good old line. Was not satisfied. Then went northerly into Township No. 50, searching for old survey line. Did not find any. Then with the entire party of men, spread out, searched wouth and east from this 40-chain point southwest of the LeFevre corner. The returned to

the LeFevre corner, Transit Station Bolt No. 180, and with compass took the course South 26 degrees East (magnetic) and had the line chained southeast on this course from the LeFevre corner (Transit Station No. 180) to Snyder Brook. I took an axe and went very cautiously along this line South 26 degrees East and found good evidences of an old survey line, and came on this line to a low place where grass grew along a small brook.

This brook seemed to connect with what used to be called a vlaie (or "fly"), a grassy low ground. There were two of these small grassy spots, one east of the line, one west of the line; may have been a beaver dam easterly. It was evidently the locality which agreed with Moses Crane's description of the northeast corner of Township 28, Totten and Crossfield's Purchase. Found in this 30-degree line, southeasterly from LeFevre's corner, the old roots of a dead, decayed spruce tree, bearing ancient survey marks. Then searched southwest for the meadow described by Moses Crane. Found the meadow, which agreed with his description and which is intersected by line trees of more recent markings. I felt very sure then that I had found the corner.

Saturday, October 1, I went to the spot where I had found the remains of the old tree, where I had found fragments of wood bearing marks, which I believed to be the original northeast corner of Township No. 28 of Totten and Crossfield's Purchase, according to Moses Crane's survey of 1773. I thence traced an old survey line South 64 degrees West; I found evidences of an old survey line blazed on trees; examined the fallen trees but found nothing that could prove the age because they were

dead. I ran by compass South 64 degrees West and at a distance of 40 chains from the point that

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I assumed to be the original corner of the township I came to the roots of two spruce trees standing near together, which should be on the north line of Township 28, but these trees were dead and all gone to decay. At 40 chains and 6 links there were four stones, which showed they had been placed for the corner of a lot, as an old line was marked from them into Township No. 50 northwest. I came to the edge of a little marsh mentioned by Moses Crane in 1773, at 2 chains and 80 links from the supposed northeast corner of Township 28. At three chains, came to a brook going south. At 13 chains came to the west side of the meadow. At 40 chains came to a stake and stones, before referred to, witnessed for a lot corner in Township No. 50. These distances were entered in Mr. Lynch's book by the foreman, Mr. Hurd, and these entries are correct as far as I have any knowledge. There is no question but what this was the meadow referred to by Moses Crane in his field notes of 1773 of the 28th Township.

I then came back and chained on a course North 64 degrees East, so as to ascertain the distance to the so-called "Moynehan" or west line of Township No. 47, from the original northeast corner of Township 28, being Mr. Moses Crane's northeast corner of the 28th Township, as just re-discovered by me; and at 15 chains came to a line of blazed trees. I should judge they were blazed for a survey line from 30 to 50 years ago. I did not cut

into any of these trees of this line; but this is the line, in my opinion, by the measurement which comes South 26 degrees East from the Moynehan (called by some the Rabbitt) corner, because I had measured the distance of about 15 chains North 64 degrees East from LeFevre's southeast corner of Township 50

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to the "Moynehan" corner--called by some the southeast corner of Township 50 and these two nearly parallel lines each North 64 degrees East from the 30-degree line, one from the LeFevre corner, the other from the Moses Crane corner, indicated to my mind that the line South 26 degrees East from the Moynehan (or Rabbitt) corner is nearly parallel with the east line of Township 28, Totten and Crossfield's Purchase, but the intervening parallelogram is a little narrower at the south end near Newcomb Lake, where it is 12 chains 28 links wide on the course North 64 degrees East to the black birch tree corner from the hemlock tree corner, now marked by a monument with nickel-plated bolt marked with a "T" cross, at said hemlock tree corner or southeast corner of Township No. 28. My intersection on the course North 64 degrees East from Moses Crane's northeast corner of Township 28, running out a distance of 15 chains, must come therefore about 24 chains 14-1/2 links South 26 degrees East from the Moynehan (or Rabbitt) corner, because that is the distance from the LeFevre southeast corner of Township 50 to the true northeast corner Township 28 as found by me.

Q. Mr. Kelley, did you search, at the so-called LeFevre

southeast corner of Township No. 50, to see whether there was an ancient line running on the course South 64 degrees West and North 64 degrees East?

- A. I did. The line westerly from Transit Station 180 is not more than about 90 years old; I traced this line 40 chains southwest; I searched for the spruce tree corner of the first lot in the north line of Township 28 but could find no such corner on the course of the old trees marked 90 years before from Mr. LeFevre's corner, South 64 degrees West, but when I searched on the course South 64 degrees West from

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the northeast corner of Township 28, as found by me, passing across the edge of the little meadow at the distance of 40 chains 6 links I found four stones surrounding where a stake stood in a little hollow in the ground--all decayed wood, except a new stake of a few years standing. There were witness marks on a birch tree facing this corner of the four stones and stake. I cut into the birch tree but could not count the age; I could not find how old the mark was. It was quite an old witness mark, I should judge by the growth over the blaze, but I was unable to count it.

October 1, 1898, I began again at the point on the north line of Township 28, where there were stones 40 chains 6 links South 64 degrees West from the northeast corner of said Township 28, as determined by me to be Moses Crane's original corner; and when on the course South 64 degrees West I had gone 18 chains from the four stones, this making a total of 58 chains 28 links, I came

to a spruce tree having 125 grains or layers of wood over the original survey marks. From this tree I took a block showing it to have been marked in 1773; evidently Moses Crane's mark. I also found upon this tree another blazing which counts 90 grains over the old survey marks, which would bring it to the year 1808. This, and other evidence--such as one dead and fallen tree on this north line of Township 28, which was marked more than 100 years ago, at the time when it fell dead; and the fact that at the distance of 55 chains 46 links from the four stones, making 95 chains 52 links from the Moses Crane northeast corner of Township 28, I came to the corner of a lot in the 28th Township, on the north line there were witnesses of a corner around a point, and there was a line running southeasterly in the 28th

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Township--every evidence agreeing to prove that this 64 degree line proceeding from the corner, 24 chains 14-1/2 links southeast of LeFevre's corner, was the true northeast corner of Township 28 by Moses Crane.

I wish to make a statement in regard to the direct evidence I found at Moses Crane's northeast corner of Township No. 28 in Totten and Crossfield's Purchase. Foreman F. S. Hurd called my attention to evidences of a corner here before we surveyed and measured to this corner from the LeFevre corner. Mr. Hurd said he was foreman with S. LeFevre in 1897 and assisted in setting the stone monument marked by Station Bolt No. 180, being the LeFevre southeast corner of Township 50. Hurd said, "Stop and look at this. This looks as if it was a corner. There

are witness marks on the trees all around here." I would not consider it at the time, because we had not surveyed to it yet. My orders were to begin the survey or search for the east line of Township 28 at the LeFevre southeast corner of Township 50, and did begin there as I have stated. Now, when I got 24 chains and 14-1/2 links on South 26 degrees East, we came to this same place, where there were witness trees, again. By the surveys, I have stated I found it to agree with the topography at the northeast corner of Township No. 28 as described in Moses Crane's field notes of 1773. When I had looked the old survey lines all over and had retraced the lines, they centred at this spot among the witness trees to which Mr. Hurd had previously called my attention. I then examined the ground at the point of the intersection of the east line of Township 28 and north line of Township 28 and in the old rotten decayed butt, or nearly in the roots

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of and old dead spruce tree-- the tree had fallen and was decayed--I found nine pieces of the surface of this corner spruce tree which showed seven different blazes or survey marks on this tree. The "blazes" were preserved by the pitch or resinous matter which flowed from the wound in this spruce tree when it was marked. On one of the blazes were marks for numbers after the style used in marking a corner of a township, thus: "X X" ; and under this, on same blaze "X I". All of the marks, I judge, were not there, so much of the wood being decayed, it appeared to me. The other marks on this corner tree were blazes with hacks in them, more or less distinct. One of these hacks

resembles the scribe mark of a surveyor's scribing tool. The crosses or "X" marks I should judge were made with a knife. This spruce tree must have been very aged when it fell down or broke off. It was now rotten wood, in great part now.

October 2 was Sunday. October 3, we brushed out and monumented the east line of Township No. 28, South 26 degrees East from the northeast corner of the township above described. At 49 chains and 11 links came to a point in the east line of Township 28, nine links easterly from a spruce tree, having survey marks pointing with this line. Cut into this line and found the old marks and took out a block. The old survey mark I found covered by 125 grains of annual rings of tree growth over the old survey mark. This is my block "A" of October 3, 1898 (marked by Superintendent, "A of examination Dec. 23d, 1898"). At 55 chains and 50 links came to the northerly side of a large brook, called Snyder Brook, here 21 feet wide. About 10 feet

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south of Snyder Brook a white cedar tree, marked of old as a survey line tree. (I subsequently cut into this tree and found the ancient survey mark, covered by 125 grains of wood, about midway between the ancient mark and the surface bark of the tree; this latter was also a survey mark. Block exhibited and marked by Superintendent "Second of Dec. 23 1898.")

I would say that I also found a white cedar tree about 200 feet southeast of the township corner, with old survey marks upon it, counting back 125 years. This

is exhibit Block "B"--Marked by Superintendent "B of Exn Dec. 23d, 1898." Continued my course, South 26 degrees East finding old marked trees of an ancient survey line all the way through to Newcomb Lake, in the town of Newcomb, Essex County, New York. At 84 chains and 20 links, foot of the mountain. At 123 chains and 20 links, summit of the mountain. At 126 chains and 53 links, came in to the cleared line and to my Station No. 23--this being into the brushing out along the ancient survey line, the east line of Township No. 28, as run on the magnetic course of North 26 degrees West by Surveyor Daniel Lynch, of the State Land Survey, from the south. At 142 chains and 39 links came to a stake and large stones, being the northeast corner of a subdivision in the 28th Township (said to be the northeast corner of lands of R. C. Pruyn of Albany, N. Y.). At 176 chains and 87 links came to the north side of a wood road from Newcomb Village to William Waddell's lumber camp on Moose Pond Inlet.

At 190 chains 56 links to the southerly side of a small brook. At 191 chains 12 links to the northerly side of a large brook, which is 46 links wide. At 220 chains, to a small brook

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which runs easterly. At 227 chains 83 links, on the summit of a hill. At 245 chains and 60 links, a small brook runs westerly. At 247 chains, a small brook runs westerly. At 263 chains and 50 links, a small brook runs westerly. At 275 chains, Mr. Lynch's station has been set in a straight line across a "sag" or bend in the old line 50 links westerly from the ancient marked line. At 283

chains 40 links, a small brook runs westerly. At 300 chains, Mr. Lynch's station is exactly on the ancient, original line again. At 302 chains and 40 links, on the summit of a mountain. At 311 chains and 8 links, the line is a trifle on the westerly side of the station set by D. Lynch. At 313 chains and 54 links, on top of a steep side of the mountain. At 320 chains, on steep side hill. At 331 chains, foot of the hill. At 335 chains, a small run of water, westerly. At 350 chains, top of a ridge. At 355 chains and 44 links, summit. At 356 chains and 77 links, descending quite rapidly. At 373 chains, foot of hill.

At 375 chains 56 links, copper bolt set by Foreman Hurd, in a stone monument. Said bolt is marked for Station 27 from the south. Had Foreman Hurd change this (so as to have numbers run all in one direction) to Station No. 85 from the northeast corner of Township 28.

At 413 chains and 44 links, a brook runs westerly. At 422 chains and 56 links, the northerly side of a rapid brook, Station 98. At 422 chains 93 links, southerly side of brook being Station 99. At 459 chains and 48 links, the northerly edge of water in Newcomb Lake; low shore, cedar trees here. Station No. 108 is at 459 chains and 37 links, or by base-line measurement 30,153.47 feet to said station, which is a nickel-plated copper bolt, No. 108.

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Here I assumed the lake, Newcomb Lake, to be 40 chains wide, as this is the distance given across the lake by Moses Crane in his field notes of 1773 survey of the east line of Township 28 so as to keep this agreement with

Crane's record and identify his corners south of Newcomb Lake. This makes the south shore of the lake at 499 chains and 48 links.

At 520 chains and 68 links, to the southerly line of Township 28, at the place of the hemlock tree corner, being the southeast corner of said township. I found south of the lake an old marked survey line, in this continued course from the northeast corner of Township 28 South 26 degrees East magnetic, coming down to this hemlock tree corner. Here at this 520.68 chains from the northeast corner of Township 28 (distance by including the 40 chains across the lake, according to Moses Crane) I found witness trees surrounding a point where the Township corner must have formerly stood. I found the distance on the east line of Township 28 on the magnetic course which agrees with South 30 degrees East in 1773 (now South 26 degrees East) to be 21 chains and 20 links. Mr. Moses Crane's field notes makes this distance 21 chains. I agree with Moses Crane within 20 links.

At the corner thus identified I also measured South 64 degrees West to Newcomb Lake, or rather from the lake North 64 degrees East, which is the course now tracing the 60 degree lines of 1773--and found the distance to be 7 chains and 83 links, which is 1.17 chains less than Mr. Crane gives it in his field notes: but this lake has been raised by a dam below on the outlet (since Crane's time) and, where the water is shallow, as it is here, it may have covered the shore of the lake. This may make the width

of the lake on the east line more than Crane records. It should be measured on the ice to ascertain about this.

I then went to the place of the intersection of the east and south line of Township 28, the southeast corner of said township, to search for the evidences of the hemlock tree corner. I examined the witness marks, facing the point south of Newcomb Lake in the east line of Township 28, which is 21 chains and 20 links South 26 degrees East from the point at the south end of the east bay of Newcomb Lake. Here I found four trees or stubs of trees, blazed with witness marks facing the point at the intersection of the east and south lines of Township 28; said lines being marked anciently by survey marks which I identified as of the year 1773, or the time of Moses Crane's survey. I cut into one of the witness trees and counted 125 grains of wood--annual rings--over the old survey marks. It was a yellow birch tree about 14 or 15 inches in diameter. This birch tree stands South 2 degrees East just 19 links from the point of intersection of the south and east lines of Township No. 28. There were other very anciently marked trees or stubs all facing this corner of intersection of lines. Two of these, however, were dead, but blazed, and each had three hacks in it facing the corner.

(last paragraph of page 278 on next disk)

Being fully satisfied that the southeast corner of the Township was located at this intersection of the township lines among the witness trees, I here caused a large monument of native rock set in the ground exactly at this intersection of lines, and at the point of intersection I had a nickel-plated copper bolt set in the monument. This bolt is marked 28/---27 for the southeast corner of the said 28th Township and north line of the 27th Township. The 27th Township does not corner with the the 28th Township.

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To find the northeast corner of Township 27 in Totten and Crossfield's Purchase, I began at the monument just set, being the southeast corner of Township No. 28, where formerly the hemlock tree stood. I then ran on a magnetic course from this corner North 64 degrees East to Station 1 then North 64 degrees 30 minutes East back South 63 degrees 45 minutes West (see field book) and--on chaining a distance of 12 chains and 9 links by nearly horizontal measure; or on a second chaining after the old surface chaining method, so as to correspond with the ancient method--found a distance of 12 chains and 28 links and came to where a large tree had stood. It had fallen. The point where it had stood was surrounded by ancient witness trees marked after the ancient way to face and show the location of an important corner.

At this point I found an old marked survey line coming in from the northwest on a course South 26 degrees

East. I set my compass at the corner and got the bearing northwest along this line, and traced this line northwest, probably about 20 chains. I found some old marked trees along this line and cut out a block from a spruce tree and counted the grains over the old survey blaze and it showed 125 years. I then went northward of the east bay of Newcomb Lake, measured 12 chains and 28 links on a course North 64 degrees East and then searched on the course 26 degrees, first northwest, then southeast, but could find no continuation of old original blazing of this line (which goes northwest towards the Moynehan of Rabbitt corner), but did find some new markings about 30 or 40 years old on this line, about parallel with the east line of Township 28 and at a distance of 12.28 chains from the true east line of Township 28 on which we had come down from the northwest.

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Before searching northwest I set my compass at this old birch tree corner North 64 degrees East 12.28 chains from the hemlock tree corner or 20.11 chains from the east shore of the narrows of Newcomb Lake; and sighting South 26 degrees East, I found two old marked trees and several that had been more recently blazed, and satisfied myself that this was the original boundary line between Townships 27 and 46 in Totten and Crossfield's Purchase. I then fixed the intersection of these lines, and had the moss and thin earth removed from the surface of a large boulder which was already naturally set in the earth, and had a drill hole made in this big boulder and ordered a nickel-plated bolt set therein [marked] ----- 27/47/46. I

ordered Mr. Rawlins of my survey corps to set this bolt while I was busy elsewhere, and Foreman Hurd, who saw the bolt after it was set by Rawlins, and states that it was marked as shown in the diagram above; for the joint corners of the 27th, 46th and 47th Townships; the blank space in the upper northwest corner of bolt showing part or place of what is called the "gore" or "parallelogram" between Townships 28 and 47.

This completed my surveys at this time with regards to this part of Townships 27 and 28 in Totten and Crossfield's Purchase.

On October 29, I began with Mr. Lynch and Rawlins on the division line between Townships 46 and 47; Mr. Hurd was still busy on work on Township 28 with Goodspeed. I traced the division line between Townships 46 and 47, starting on a magnetic course North 65 degrees East, because I found that to keep in the line of anciently marked survey trees I must adopt this course. There was magnetic attraction all along here; I learned of large

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deposits of magnetic iron east of here. I at times could hardly believe myself that the needle was correct.

Several times lifted my needle with iron to see if it was stuck or caught by anything. Did this at nine out of every twelve settings of this instrument. Did this also in the east line of Township 28. Am sure that the needle was not caught or adhering to anything in the compass box. I know the needle was free. It was local attraction. Proved as such by the back sight. Variation at times I think as high as 2 or 3 degrees. I ran a compass line but

took magnetic readings back. In retracing an old survey line, I ran by the foresight of the magnetic compass to flags on some object forward and sat up at that station, then read my back sight first, when I had a rear flag. If I found the regular compass bearing was running far away from a straight line, I followed the magnetic course, which kept with the old survey notes.

I ran on the division line between Townships 46 and 47 a distance of 199 chains and 48 links to a beech tree marked by Moses Crane for one of his 40-chain lots in Township No. 46 in Totten and Crossfield's Purchase. It was the original lot corner tree. I identified it by Crane's description and by the age of the marks and the location of this beech tree at the distance I mentioned--a little less than 200 chains. The mark in this tree is 125 years old, and, as the survey was made by Crane in 1773, this is the right age, and this beech tree represents the joint corner of Lots 5 and 6 (V and VI) in the north line of Township No. 46.

At 160 chains and 46 links from the black birch tree, northwest

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corner, Township 46, on the north line of Township 46 from the northwest corner of said township, found a lot corner at black birch tree; standing near the line on the north and blazed for the 40-chain distance lot corner according to Moses Crane's system for the corner Lots 4 and 5 (IV and V) in Township No. 46. This black birch tree agreed with Moses Crane's description of said lot corner.

At 127 chains and 90 links from the northwest corner

of Township No. 46, a spruce tree was found by Rawlins, and Lynch cut it out. This tree had old survey marks facing along the division line between Townships 46 and 47; we counted the age and found it to be 125 grains and have marked it accordingly (see Exhibit X). I took blazed pieces from other trees upon this line, showing hacks upon them indicating compass line trees of the old survey of the line between Townships 46 and 47.

We stopped the survey of the division line between Townships 46 and 47 at 200 chains from the northwest corner of Township 46. Here I set up a 200-chain talley stake. This stake was about 3-1/2 feet high and blazed in the direction of the said north line of Township 46.

Mr. Hurd, Mr. Rawlins and Goodspeed set the monuments and nickel-plated station bolts in stone all along the east line of Township No. 28 and on the north line of Township No. 46 to a distance of 188 chains and 55 links from the northwest corner of Township 46 northeast along said Township line. The base-line measure to this point (Station No. 36) is 12,339.55 feet.

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I returned to Albany November 6 with Mr. Hurd, closing this work for the time.

[Signed] Lorrin Kelley

On this 20th day of January, 1899, before me appeared Lorrin Kelley, to me personally well known, and who made oath that he had read the foregoing testimony relating to the surveys made by him during the months of September

and October in the year 1898, on the boundary lines of Townships 27, 28, 46, 47 and 50 in Totten and Crossfield's Purchase, in the County of Essex, State of New York, and of the corners and subdivision lines therein referred to contained in eighteen (18) pages of typewritten text, and that the same as it now stands is correct to the best of his knowledge and belief; and that he has certified to the same by attaching his signature thereto.

[Signed] Lorrin Kelley

Subscribed and sworn to before me,
this 20th day of January, 1899.

[Signed] A.G. Street

Notary Public,

Albany Co., N. Y.

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APPENDIX H

Report

of

Harry Richards, Surveyor

1898

Townships 29-31

Totten and Crossfield's Purchase

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Johnsburgh, March 25th 1899

Hon. Verplack Colvin

Supt. State Land Survey

Dear Sir:

I arrived home last night and looked up those field notes. I find you have them as I took them in the field. I think you had best strike out that 442 ch & 20 lks as wrote of the brook and leave the 441 ch, 54 Lks for the bolt, as in my judgement the distance to the bolt is correct. There is plenty of snow here; it is fine sleighing. About the first of May would be a good time to begin work in the woods. I will take up the survey of Township No. 11 or Township 50, as you may think best. I am shure I could do either or both correctly.

Very truly,

[Signed] Harry Richards

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Field notes of the Northerly line of Tp 29, Totten and

Crossfields, as kept by Harry Richards in the Month of
July 1898.

Beginning to survey at the North East Corner of said Tp 29,
which is situated in a small swamp or low piece of ground
covered with small spruce & Balsam timber, and is a spruce
stake with a large pile of stones around it. Said stake has
letters & figures "Tp 29 Tp 11 L A D T R" on it. Running
from thence to follow the Original Line south 64 Deg
(degrees) 45 Minutes west, at 4 ch (chains) no timber except
small bushes. Begin to ascend a Hill. At 13 ch 62 L (links),
first bolt in a small Bolder with stones placed around it;
cut fig (figure) 1 in a small popple 3 L North. At 19 ch
82 L, second Bolt in Bolder; cut fig 2 in small pine to the
East. At 31 ch 32 L, third Bolt on south edge of Curtis
Clearing in small Bolder; cut fig 3 in popple 46 L south
west. At 35 ch, large timber. At 36 ch, a small spring
Brook. At 43 ch 9 L, Bolt 4; cut fig 4 in maple 6 L south
west. At 51 ch 60 L, the Curtis Brook flowing North East.
At 51 ch 98 L, Bolt 5 in Large Bolder; cut fig 5 in small
maple 10 L East. At 60 ch 61 L, Bolt 9; cut fig 6 in large
maple 3 L North, south side of Hard Wood Hill. At 70 ch
68 L, Bolt 7; cut fig 7 in spruce 17 L west. At 81 ch
64 L, Bolt 8; cut fig 8 in Beach 10 L East. Hard wood
timber Hill steeper to North. At 85 ch, cross line between
Lots 10 & 11, Ladder tier*. At 95 ch 8 L, Bolt 9 in Bolder
near top of a Hill; cut fig 9 in a Beach 3 L North East.
At 103 ch 57 L, Bolt 10; cut fig 10 in Beach 8 L south. At
107 ch, a steep Hill Descends to south west. At 110 ch
50 L, a Ravine. At 111 ch, a small Ledge of Rocks. At
116 ch

*Editor's Note: The northerly line of Township 29, as being
described here by Richards' survey, is not the division line

between Township 29 and Township 31 to the north. The two Townships are separated by a Gore (or gap), which had been subdivided into twelve lots. Richards refers to these as the Ladder tier of lots throughout his field notes.

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the Shanty Creek. At 116 ch 84 L, Bolt 11 in small Bolder; cut fig 11 in small spruce 4 L south East. At 122 ch, Bolt 12 in Bolder in low piece of ground; cut fig 12 in Birch 20 L North. At 127 ch 20 L, found post and stones for a Corner of lots on Ladder tier; said post and stones are on the East side of a road that leads from Curtis place to County line Creek and directly south of this place in sight is the Vaughn Clearing. At 132 ch 83 L, Bolt 13; cut fig 13 in Birch 13 L south west. At 148 ch 14 L, Bolt 14 in small Bolder; cut fig 14 in Maple 22 L North. At 141 ch, a small spring Brook, at the foot of a small Mountain. Begin to ascend the Mountain which is quite steep--some Ledges. At 151 ch 47 L, Bolt 15 in Bolder on top of last mentioned Mt; cut fig 15 in Beach to North. At 159 ch 80 L, Bolt 16 in Ledge Bolder about 5 feet long, 4 in height, 18 inches width; cut fig 16 in Birch 4 L North East. At 170 ch, Bolt 17 at foot of Mt on west side in Bolder; cut fig 17 in large maple south west. At 180 ch 13 L, Bolt 18 in large Bolder; cut fig 18 in small maple 12 L south. At 184 ch 70 L, a small Brook flowing southerly. At 189 ch 46 L, Bolt 19 in Bolder 2 ft in heighth; cut fig 19 in small Maple 14 L north. At 193 ch 70 L, gulf Brook flowing southerly. At 199 ch 77 L, East County line Creek. Bolt 20 is in Large Boulder on Northerly side of Brook in the watter course; cut fig 20 in Black Ash 6 L East. At 202 ch, the Ben Marking Shanty place; the line

cuts through the Northerly corner of the barn. At 211 ch 38 L, Bolt 21 in Large Bolder near a spring; cut fig 21 in spruce 7 L North. At 215 ch, a corner for Lots 7 & 8, Ladder tier, on East side of a Hill covered with Hard wood timber. At 220 ch 39 L, Bolt 22 in small Bolder; cut

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fig 22 in Whistle Wood* 8 L south. At 230 ch, Bolt 23 in large Boulder; cut fig 23 in maple 7 L south. At 236 ch 60 L, the County line on a spruce that is turned up by the Roots. At 241 ch 14 L, Bolt 24 in large Boulder; cut fig 24 in Birch 6 L North East. At 243 ch, the top of a Hill that we have been ascending from the East County line Creek. At 251 ch 5 L, Bolt 25 in small Boulder in low piece of ground; cut fig 25 in willow tree 5 L north. At 257 ch, a ledge of Rocks that extend parallel with line on north for three chains. At 259 ch 55 L, Bolt 26; cut fig 26 in maple 7 L south west. At 270 ch 30 L, Bolt 27; cut fig 27 in large beach 8 L North East. At 281 ch 21 L, Bolt 28 in Large Boulder. At 293 ch 71 L, Bolt 29 in large Boulder; cut fig 29 in maple 10 L west. At 299 ch 82 L, Bolt 30 in Large Rock; cut fig 30 in soft maple 4 L south. At 302 ch 42 L, a small Brook flowing southerly. At 306 ch 42 L, Bolt 31 in Boulder on Low ground mostly second growth timber. At 316 ch 40 L, a large Rock on the south Bank of the west branch of County line Creek. At 317 ch 40 L, the west Branch of county line Creek. At 320 ch 6 L, Bolt 32 in Large Rock in second growth timber. At 330 ch 20 L, Bolt 33 in large Bolder all small second growth timber; cut fig 33 in willow 3 L west. At 339 ch 75 L, Bolt 34 in large Rock on the East side of a Hill covered with

heavy Hard wood timber; cut fig 34 in small maple 18 L south west. At 350 ch 74 L, Bolt 35 in Rock near small spring Brook; cut fig 35 in maple 15 L south west. At 363 ch 9 L, Bolt 36 in Large Rock; cut fig 36 in Beach 13 L North East. At 372 ch 19 L, Bolt 37; cut fig 37 in small Beach 9 L south. Near this Bolt is a cross line on Tp 29. At 378 ch 65 L, Bolt 38 in large Rock; cut fig 38 in large Birch 23 L west. At 391 ch 3 L,

* Editor's Note: Whistle wood is a common name for striped maple.

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Bolt 39 in small Boulder; cut fig 39 in small Beach 18 L west. At 402 ch 3 L, Bolt 40 in small Boulder; cut fig 40 in spruce 17 L East. At 410 ch 12 L, Bolt 41 in small Boulder; cut fig 41 in maple 8 L North East. Hill slopes to the North before this Bolt. For the last mile we have been ascending a Hill and it descended to the south. At 420 ch 94 L, Bolt 42 in large Rock on top of same Hill which slopes to North; cut fig 42 in maple 8 L East. At 436 ch 69 L, Bolt 43 in Large Boulder; cut fig 43 in small spruce to south of Boulder. At 446 ch 21 L, Bolt 44 in small Boulder; cut fig 44 in Beach 22 L North West. Heavy Hard wood timber. At 452 ch 28 L, Bolt 45 in small Boulder; cut fig 45 in Birch 3 L south. At 463 ch, Bolt 46 in small Boulder; cut fig 46 in Birch 14 L south East. Heavy Hard wood timber, Hill slopes to North. At 470 ch 12 L, Bolt 47; cut fig 47 in spruce 14 L south. At 479 ch 75 L, Bolt 48 in ledge of Rock; cut fig 48 in Beach 18 L north. At 489 ch 77 L, Bolt 49 in small Boulder; cut fig 49 in small Beach 6 L west. At 505 ch 53 L, Bolt 50; cut fig 50 in stake set by Boulder. At

526 ch 43 L, the East line of Tp 9, set spruce post with large pile of stones around it for corner; cut fig and letters in post: on west, "Tp 9"; on south "Tp 29"; on north, "L A D = T R". Measured southerly on Tp 9 Line, to first bolt No 151 is 5 ch 42 L; measured Northerly from corner on Tp 9 line, to first Bolt No 152 is 2 ch & 5 L.

Thence measured Northerly along the west End of Ladder tier.

Found it to be 41 ch & 82 L across said west End.

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Aug. 1898

Field notes of Southerly line of Township 29, Totten & Crossfields purchase.

Beginning to survey at the south west Corner, which is a Chery post with a pile of stones around said post. Said corner is on a rise of ground. Measured Northerly along the line of Township 10 & 29; found the bolt at 2 ch 73 L from corner. Running thence from Corner North 64 Deg 30 Minutes East. At 9 ch 77 L, first bolt in large Rock on North East side of a Hill (first growth Hard wood timber); cut fig 1 in small Beach 8 L to south. At 21 ch 80 L, second Bolt; cut fig 2 in small Birch 29 L to North East. At 28 ch, third bolt in large Bolder on low ground covered with mixed timber; cut fig 3 in small Beach 5 L North. At 40 ch, set Black ash post in swamp; cut fig 40 in black ash with letters ch to represent forty chains from Corner. Timber in this swamp is mixed--a few Tamarack & pine & Balsam. At 48 ch 25 L, a small Creek running North west. At 53 ch 96 L, fourth Bolt; cut fig 4 in Birch 19 L to East. At 60 ch 9 L, fifth Bolt in Bolder level with the ground; placed small stone around it; cut fig 5 in maple 11 L to North. At 70 ch 33 L, sixth Bolt nearly on top of a Hard wood Ridge that slopes to south; timber large Beach & maple; said bolt is in flat Bolder with stones piled around it; cut fig 6 in large Beach 11 L to south East. At 78 ch 32 L, Bolt 7 in large Bolder in center of small Rocky gorge or spring rivulet; cut fig 7 in small spruce 11 L to south East. Now the line begins to ascend a steep Hill. At 92 ch 38 L, Bolt 8 in large Bolder in stony watter course for High watter; cut fig 8 in Beach 8 L south East. Fine hard wood timber at this place.

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At 100 ch 62 L, Bolt 9 in Bolder at the westerly foot of Georges Mt; cut fig 9 in large maple 20 L south. At 109 ch 94 L, Bolt 10 in large Bolder on west slope of Georges Mt (very steep; considerable spruce timber); cut fig 10 in small spruce 6 L East. At 118 ch 94 L, Bolt 11 in a placed Bolder as heavy as Two men could Roll, with other stone placed around it; this station is on the top of Georges Mountain. If the timber was down, there would be a fine view to the North & west. At 132 ch 48 L, Bolt 12 in Bolder on East side of Georges Mt; cut fig 12 in Birch 18 L west. Not very steep here; timber, maple & Beach. At 140 ch 50 L, Bolt 13 in small ledge sloping to south; cut fig 13 in large maple 17 L south East. At 149 ch 35 L, a corner for Cross line on Palmer purchase. At 151 ch 13 L, Bolt 14 in ledge on East slope of last mentioned Mt (very steep); cut fig 14 in small maple 7 L south. At 159 ch 94 L, Bolt 15 in Bolder on East side of same Mt; cut fig 15 in Birch 4 L North. At 169 ch 74 L, Bolt 16 in small Bolder within Two ch of the foot of the Mt; cut fig 16 in large Birch 6 L south East. At 177 ch 50 L, a swamp covered with Alders & some Balsam. At 179 ch 30 L, a small Brook running North west. At 180 ch 92 L, Bolt 17 in small Bolder on East side of swamp; cut fig 17 in spruce 8 L west. At 189 ch 69 L, Bolt 18 in large Bolder in Old lumber road; cut fig 18 in small Hemlock 19 L south. At 202 ch 29 L, Bolt 19 in large Bolder; cut fig 19 in small Hemlock 10 L North East. Mixed timber and small. At 210 ch 13 L, Bolt 20 in Bolder with stone around it (Low piece of ground); cut fig 20 in small Black ash 12 L North East. At 219 ch 87 L, Bolt 21 in Large Bolder on west side of steep Hill (some small spruce).

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At 231 ch 58 L, Bolt 22 in small Bolder; cut fig 22 in small maple 6 L south. Nice Hard wood timber Here. At 239 ch 24 L, Bolt 23 in large Bolder in low piece of ground (spring Brook 12 feet south); cut fig 23 in small Birch 24 L south west. At 250 ch, Bolt 24 in small Bolder on south side of a Hill cut fig 24 in swamp maple 4 L to North west. At 260 ch 50 L, Bolt 25 in Large Bolder; cut fig 25 in small Balsam 5 L to East. At 270 ch 24 L, Bolt 26 in large Bolder on the North west side of a large swamp. At 280 ch, set spruce post in said swamp; cut 280 ch in spruce tree 5 L south west of post for 280 ch from Corner. At 286 ch 36 L, Stewart Creek flowing Northerly; no timber for some ways except Alders which are very thick. At 297 ch 22 L, Stewart Creek again flowing Southerly. 1 ch 50 L, south 75 Deg west is a pine tree about 18 inches through at the ground. After Crossing Creek at this place, it is Beaver Meadow--no timber. At 306 ch, Hard land again. At 309 ch 24 L, Bolt 27 in large Bolder on East side of a road that leads from Oregon to Harrisburgh; cut fig 27 in popple 9 L south. At this place for about 15 ch on the line is had been burnt land; is now timbered in places with popple and other small timber. At 320 ch 10 L, Bolt 28 in large Bolder (plenty of other large ones in vicinity); cut fig 28 in small Birch 3 L to south East. At 332 ch 2 L, Bolt 29 in small Bolder with placed stones around it; cut fig 29 in small Birch 2 L south East. At 341 ch 63 L, Bolt 30 in Bolder on North side of ridge covered with Hard wood timber; cut fig 30 in large Beach 10 L southerly. At 350 ch 90 L, Bolt 31 in Bolder on North side, last mentioned ridge; cut fig 31 in Beach 8 L North. At 362 ch 72 L, Bolt 32 in large Bolder on North side, same ridge; cut fig 32 in small cherry 8 L west. At 372 ch 74 L,

Bolt 33 in small Bolder

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even with top of ground; cut fig 33 in small Birch 8 L south west. Second growth timber at this place. At 380 ch 43 L, Bolt 34 in flat Bolder; cut fig 34 in Beach 11 L west. At 392 ch 55 L, Bolt 35 cut fig 35 in Birch 17 L south. At 402 ch 3 L, Bolt 36 in top of Ledge nearly on top of rise of ground; cut fig 36 in Beach 17 L North East. At 410 ch 72 L, Bolt 37 in Ledge of Rocks, south side of a ridge covered heavy hard wood timber; cut fig 37 in small maple 17 L south East. At 421 ch, Bolt 38, south East side of last mentioned Hill; cut fig 38 in Beach 18 L south. 50 L, south 64-1/2 Deg west, is a very large Oak tree. At 429 ch 82 L, Bolt 39 in large Bolder; cut fig 39 in small maple 8 L south East. At 432 ch, a small spring Brook near what is known as Chester Fullers Bark road that leads to Johnsburgh. At 439 ch 87 L, Bolt 40 in small Boulder on west side of a Hill; cut fig 40 in small birch 7 L west. At 451 ch 37 L, Bolt 41 in Bolder on south East side of a Hill; cut fig 41 in Beach 4 L south west. At 464 ch 65 L, Bolt 42 on ledge of rock on west side of a Mt; cut fig 42 in spruce 22 L East. At 478 ch, Bolt 43 in ledge of Rocks on west side of last mentioned Mountain; cut fig 43 in Large Beach 19 L Easterly. At 484 ch 7 L, Bolt 44 in small Bolder with other stones around it; cut fig 44 in small Basswood 11 L North. At 491 ch 37 L, Bolt 45 in large Bolder; cut fig 45 in Birch 14 L East. Mountain is now steep. At 501 ch 31 L, Bolt 46 in large Boulder on ledge; cut fig 46 in small spruce 4 L south west. At 510 ch 31 L, Bolt 47 in small Boulder; cut fig 47 in Balsam 11 L North. At 514 ch 32 L, made a corner by Drilling a Hole in a Bolder 2 feet in Heighth and setting

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spruce post by it and piling stones around it. Said Corner is on the south East side of top of Mountain in a ledge of Rocks, 5 ch & 50 L, south 26 Deg East, from the supposed corner of Township No. Eleven. All the Bolts I have placed as set in this line of Tp 29 is in fast or stationary Boulders except one, and there is posts set at every station.

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Field Notes of the South Line of Tp 31 as kept by Harry Richards in the Months of July & August 1898.

Beginning to survey at the south East Corner of Tp 31, which is a post and stones standing on the West line of Tp 13, North 25 Deg West, 45 ch 15 L from the North west corner of Tp No. Eleven; said post and stones is on the North side of a Hill in what has been burnt land (there is a few popple and cherries growing). Running from thence to follow the Original line south, south 64 Deg & 30 Minutes west. At 9 ch 96 L, placed first Bolt in Ledge of Rocks; cut fig 1 in small popple 12 L south. At 17 ch 75 L, Bolt 2 in ledge of Rocks in burnt land; cut fig 2 in popple 28 L south west. At 20 ch, small swamp; some balsam and other timber. At 28 ch 58 L, Bolt 3 in large Boulder in burnt land; cut fig 3 in small popple 28 L East. At 41 ch 13 L, Bolt 4 in Boulder in North Edge of Curtis Clearing; cut fig 4 in stake set by Rock. At 42 ch 75 L, the woods. At 50 ch, Bolt 5 in small Boulder near an old log road; cut fig 5 in large Birch 23 L south. At 51 ch 30 L, a Beaver Meadow; it is about 7 ch across. At 61 ch 75 L, another Beaver Meadow; is about 3 ch wide. At 69 ch 85 L, Bolt 6; cut fig 6 in

maple 11 L West (mixed timber), at the foot of a small Mountain. Begin to climb said Mountain on the south slope; has been lumbered on Ladder Tier some five years ago.

At 77 ch 41 L, Bolt 7 in Boulder on south slope of Mt where it is steep; cut fig 7 in Beach 18 L west. Heavy timber, mostly Hard wood. At 85 ch 55 L, Bolt 8 in large Rock on south slope of Mt; cut fig 8 in Beach 8 L south west. At 93 ch 92 L, Bolt 9 on top of the Mountain as the line runs on south slope; cut fig 9 in small Beach 5 L North west. At 102 ch 24 L, Bolt 10 in large Rock at foot

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of steep ledge; cut fig 10 in small maple 18 L to south. At 108 ch, the south Bank of shanty Creek; said Creek runs south west. At 112 ch 92 L, Bolt 11; cut fig 11 in Beach 10 L south. Heavy Hard wood timber. At 120 ch 49 L, Bolt 12 in large Rock level piece of land (a mountain close by to the North west); cut fig 12 in small Beach 11 L to North west. At 123 ch, south side of steep ledge. At 130 ch 94 L, Bolt 13; cut fig 13 on small spruce 9 L south. At 140 ch 85 L, Bolt 14 in Boulder on south slope of Mountain; cut fig 14 in large Birch 13 links North. At 150 ch 74 L, Bolt 15 in Boulder on south side of Hill; cut fig 15 in large Beach 6 L to south. At 166 ch, a nearly perpendicular Ledge 50 feet in Heighth on the East bank of Gulf Brook; said Brook runs southerly. At 166 ch 50 L, placed Bolt 16 in large rock in the center of Gulf Brook; cut fig 16 in large spruce 23 L North East. At 171 ch 15 L, found a stake & stones for corner of Lots 8 & 9 for lots on Ladder tier. At 174 ch 26 L, Bolt 17 in Boulder on south East side of a Mountain covered at this place with hard wood timber. At 183 ch 49 L, Bolt 18 in small Boulder on south side of Mt;

cut fig 18 in Beach 20 L North East. At 189 ch 97 L, Bolt 19 in Boulder south side last mentioned Mt; cut fig 19 in large Maple 9 L southwest. At 198 ch, a very good view into the south west. At 200 ch & 28 L, Bolt 20 in small Boulder on south side of same Mt; cut fig 20 in spruce 5 L North west. At 214 ch 57 L, Bolt 21 in placed stone with a pile of stones around it; cut fig 21 in Beach 5 L North. At 215 ch 4 L, the County Line. At 218 ch, the East Branch of County line Creek. At 222 ch 34 L, Bolt 22 in Rock in small rivulet; cut fig 22 in Beach 27 L westward.

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At 230 ch 16 L, Bolt 23 in large Boulder; cut fig 23 in Balsam 14 L North west. At 232 ch 25 L, to small Brook (runs East). At 243 ch 60 L, crossed last mentioned Brook; in about 1 ch, cross it again. At 244 ch 73 L, Bolt 24 in Boulder on north Bank of last Mentioned brook; cut fig 24 in Birch 24 L Westward. For the last 12 ch, it has been low swampy land covered with spruce Black ash and other timber. At 249 ch 86 L, Bolt 25 in Boulder on East side of a Heavy timbered Hard wood Hill; cut fig 25 in small maple 10 L south west. At 260 ch 42 L, Bolt 26; cut fig 26 in maple 2 L south (East side of steep Hard wood ridge). At 270 ch 34 L, Bolt 27 in Rock on south side of same Hill last mentioned; cut fig 27 in small Beach 4 L south west. At 282 ch 65 L, Bolt 28; cut fig 28 in Maple 6 L south. Plenty of Local Attraction* at this place and, for some ways. second growth timber. At 291 ch, Bolt 29 in Rock on south side of Hill or Mt. At 302 ch 56 L, Bolt 30 on west side of same Mountain last mentioned; cut fig 30 in small Birch 10 L North East (small second growth timber). At 310 ch 24 L, Bolt 31 in large Rock; cut fig 31 in small Beach 13 L south west. Have just past nice Boiling spring. At 318 ch 40 L, the west Branch

of county line Creek, At 318 ch 60 L, Bolt 32 in large Rock in Center of Creek; cut fig 32 in spruce 22 L North. At 330 ch 81 L, Bolt 33 in Rock in small Brook; cut fig 33 in Birch 18 L North East. At 342 ch 88 L, Bolt 34 in large Rock on East side of Hard wood Hill; cut fig 34 in beach 9 L East. At 349 ch 93 L, Bolt 35; cut fig 35 in small Beach 9 L North. At 362 ch 45 L, Bolt 36 in large Rock East side of Hill; cut fig 36 in Beach 10 L East. At 370 ch 38 L, Bolt 37 in Rock; cut fig 37 in small spruce 8 L south East.

*Editor's Note: Local attraction refers to the offset or "pull" of mineral deposits in the area on the compass needle.

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Some small spruce there. At 389 ch 26 L, Bolt 38 in Boulder on west slope of a mountain; cut fig 38 in spruce 10 L North East. At 394 ch 14 L, Bolt 39 in large Boulder on west side of Mountain; cut fig 39 in Birch 10 L west. At 402 ch 66 L, Bolt 40; cut fig 40 in small Birch 20 L to south west. At 409 ch 72 L, Bolt 41 in large Boulder; cut fig 41 in small spruce 5 L south. There is a small Brook about 50 L North running west. At 415 ch 20 L, crossed last mentioned Brook. At 422 ch 43 L, Bolt 42; cut fig 42 in small maple 60 L south west. At 429 ch 50 L, crossed same Brook again. At 429 ch 84 L, Bolt 43 in large Rock; cut fig 43 in large Birch 12 L south. At 442 ch 20 L, same Brook again. At 441 ch 65 L, Bolt 44 in Boulder on level land; cut fig 44 in large Birch 15 L south west; this Bolt is 3 links North of line. At 452 ch 38 L, Bolt 45 in large Rock; cut fig 45 in small spruce 5 L North. At 464 ch 55 L, Bolt 46 in large Rock; cut fig 46 in small spruce 18 L south west. At 471 ch 85 L, Bolt 47; cut fig 47 in small maple 8 L North. Nice Hard wood, Beach & Birch & maple. At 477 ch 84 L, Bolt

48 in large flat rock; cut fig 48 in maple 7 L North. Timber mostly Maple. At 488 ch 13 L, Bolt 49 in large Boulder. At 490 ch 30 L, same Brook again. At 499 ch 71 L, Bolt 50 in Large Rock. At 508 ch 8 L, same Brook again. At 514 ch 60 L, Bolt 51 in small Boulder. At 529 ch, East line of Tp 9. Set Spruce post and piled stones for a Corner. Measured Northerly on Tp 9 line from Corner to first bolt, No 160--is 4 ch & 65 Links from Corner; southerly on Tp 9 Line, is 4 ch & 20 L to first Bolt, No. 159.

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APPENDIX I

Preliminary Report

on the Survey of

East Line of Township 50, Totten and Crossfield's Purchase

in Connection with

West Line of Township 27, Macomb's Purchase

Solomon LeFevre

Assistant

October 1897

Under order of

Verplanck Colvin

Superintendent

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Albany N. Y. Feb. 11, 1898

Hon. Verplanck Colvin,

Superintendent, N.Y. State Land Survey

Dear Sir,

I have the honor to submit the following preliminary report on the survey of the East line of Township No. 50, Totten and Crossfields Purchase in connection with the survey of the west line of Township No. 27, Macombs Purchase.

I began, October 19, 1897, the survey of the west line of Township 27, McC. P. (being the east line of Tp 26) at Sta. 80 of Parks' Survey where the work was suspended in 1895, and continued the line southerly.

I found the line plainly marked and the old line trees uncut. It is an easy matter to find proof of the age of the line, as over some of the ridges there are still standing trees not more than 100 ft. apart along the line, any one of which will show 97 years growth over the blaze. I therefor conclude that the line was run in the year 1799 or 1800.

At Sta. 122, 33579.63 ft. (equal to 508.78 chains) from the N. W. corner of Tp. 27, this line comes to an end and is intersected by a line of the same age

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running at right angles to it. This cross line is the north line of the "Gore" so called. The average bearing of this part of the West line of Tp. 27 was S 3 degrees 57' W , in 1897. The bearing of the north line of the "Gore" at the point of intersection is N 86 degrees W & S 86 degrees E.

The length of the west line of Tp. 27 as given in the original description from the survey of 1799 is 506. chains.

To determine the age of the west line of Tp. 27 I cut block "A" from a spruce tree 32343. ft. from the N. W. cor of Tp. 27 and Block "B" at 32774. ft, both count 97 grains over the blaze.

On the north line of the "Gore," so-called, I cut Block "C" 300 ft. westerly from Sta. 122 which counts 97 grains over blaze. Block "D" was taken 210 ft. Easterly of Sta 122 and block "E" 50 ft easterly of "D" both count 97 grains over the blaze.

I then continued the survey to the southward on an average bearing of S 4 degrees 32' W which is the magnetic bearing of the W. line of Tp 27 produced by transit line but found no line marked, old or new, after leaving Sta. 122. I marked no trees along this part of the line except one at each station, across the "Gore."

At Sta. 133, 36293.69 ft. from N. W. cor. of Tp. 27 our line intersects the south line of the "Gore" at nearly right angles. The bearing of the South line of the "Gore" was N 85 degrees 40' W. at this time, ie., in 1897.

The width of the "Gore" is 2714.06 ft or 41.12 chains at this point.

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At 175 ft easterly of Sta. 133, I cut Block "F" to determine the age of the south line of the "Gore." This Block shows 102 years growth over the oldest blaze, which would indicate that the line was run in 1795. The line shows reblazing in the years 1850, 1866 and 1882. Two other old blazed trees were cut out about 100 and 150 ft. farther east which both counted 102 grains over the blaze.

At Sta. 133, I turned westerly (bearing N 85 degrees 40' W) and at Sta. 134, 114.57 ft from Sta. 133, found an old transit stake of the survey of 1882 (probably Sta. 95); continuing westerly to Sta. 135 found a line coming in from the S.E. being the E. line of Tp 50. I turned here to the South East to follow said line.

Before proceeding on the E. line of Tp. 50 I went back to Sta. 133 and measured easterly to connect with other stations of the transit line of 1882. At 88.32 ft. E'ly from Sta. 133 found a stake fallen over, probably Sta. 96; at 520.44 ft a stake, probably Sta.98; at 834.81 a stake, Sta. 99. At 922. ft a drill hole in boulder, Sta.100. At this Sta. 100 there is also a line coming in from the South East.

I cut out Block "G" from an 18 inch Spruce tree on this line about 60 ft, S 25 degrees E, from the drill hole in boulder (Sta.100 of 1882). It shows 89 grains over the blaze, marked in 1809, reblazed in 1880. This line is of the same age as the east line of Tp 50 and parallel to it. (Richards Survey) The distance between the two lines measured along the south line of the "Gore" is 1375.33 ft.

I returned to Sta. 135 and continued the survey southeasterly along the E. line of Tp. 50; the average bearing being S. 26 degrees 43' E. The N. E. corner

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of Tp. 50 is described in the field notes filed June 6, 1809 as "a small beech sapling standing on the top of a hill in a windfall." I could not identify any tree for the old corner. Sta. 135 is on a rather flat shelf at the top of a steep slope which might have been taken for the top of the hill, but in reality the summit of ridge is about 200 ft higher a

few hundred feet farther north.

The lot line between lots 120 and 121, Tp 50, should come in from the S. W. and intersect at this point (Sta.135) according to old field notes. As run in by me it intersects at a point 211.33 ft, S. E'ly of Sta.135.

At Sta. 145, 2856.53 ft from the South line of the "Gore" at Sta. 145, I found a 12" Spruce tree standing 66 ft. N'ly of a brook. This tree shows marks of a scribe on the bark on west side; and although I could not read the figures, I think it is the tree mentioned in the field notes of 1809 as the corner between lots 119 and 120 on E. line of Tp 50. It is described as "a spruce tree marked 119-120." and also mentions a brook one chain from the Corner which corresponds to the distance I found to the brook. This is the only lot corner along the E. line of Tp 50 which I was able to find having any old marks.

This corner also give evidence of the correctness of this location of the E. line of Tp. 50. The other parallel line, to the eastward, crosses this brook at about 1600 ft from the South line of the "Gore" while this one crosses the brook at 2903.48 ft. According to the old field notes the distance to the brook would be 41 chains (2706 ft.).

I cut out Block "H" to determine the age of the lot line between lots 120 & 121 at about 600 ft, S 63 degrees 30' W from the east line of Tp 50. It counted 87 grains over the blaze, in Nov. 1897.

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Block "I" was taken on the E. line of Tp 50 at 5393 ft. from N. E. Cor. near Sta. 152, from an 18" Spruce tree. It counts 89 grains over oldest blaze, marked in 1809 before

sap wood formed. This tree was remarked in 1847, 1851, 1860 and 1892.

I continued the E. line of Tp 50 to Sta. 180, 14112.12 ft = 213.82 chains, where a cross line intersects bearing S 63 degrees 15' W. The length of the E. line of Tp 50, according to the old field notes, is 211 chains, my difference is 2.82 chains more (+).

The cross line at Sta. 180 is a transit line run about five years ago for P. Moynehan. There are no old marks on the trees along this cross line where the E. line of Tp. 50 intersects. I followed the continuation of the E. line of Tp 50 southerly between Tps 28 & 47 some 1000 to 1500 feet but found no other cross line.

Block "J" was taken from a 14" Spruce tree 40 ft. S. E'ly from Sta. 180 on the line between Tp's 47 and 28 an Counts 88 grains over blaze.

I then went N 63 degrees 15' E along Moynehan's line and found the stake he set for the N. E. Cor. of Tp 28 and S. E. cor. Tp 50 at 1005.16 ft. from Sta. 180. There is a line running N. W'ly from this point which is 89 years old and is the same line which intersects the south line of the "Gore," at drill hole in boulder at Sta. 100 of transit line of 1882.

I then went S 63 degrees 15' W from Sta. 180 and at about 2000 ft found an old line. At this point, over a rise of ground in good timber this old line is plain and about 50 feet Northerly of Moynehan's line. The old line shows no remarking here since the first running.

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Block "K" was taken from a Cedar 9 ft N'ly of Moynehan's line at 668. ft, N 63 degrees 15' E, from Sta. 180 and counts

89 grains; but the centre of tree under blaze was rotten and the first grain over blaze indefinite. Block "L" was taken 257. ft W'ly from Block "K" and 12 ft N'ly of Moynehan's line counts 84 grains over blaze. It is fine grained and hard to count.

Block M was taken from a hemlock and Block N from a Spruce at about 2000 ft, S 63 degrees 15'W, from Sta. 180; both show 88 grains over the blaze.

Please find attached hereto, a copy of field notes from Sta. 110 to Sta. 180 giving distance, bearings, declination of the needle and azimuth at each Station and a plot of the line on a scale of 1/10,000. ft.

All the above is respectfully submitted.

[Signed] Solomon LeFevre

Assistant

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(Pullout chart)

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(pullout chart)

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Field Notes of Survey of the East Line of Township 50,
Totten and Crossfield's Purchase

Horizontal page to be done with the pullout
pages 306 and 307

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APPENDIX J

ARTHURBORO AND NOBLEBORO

PATENTS

TESTIMONY OF LORRIN KELLEY, SURVEYOR,
BEFORE

VERPLANCK COLVIN, SUPERINTENDENT

OF THE

NEW YORK STATE LAND SURVEY

AS TO SURVEYS MADE IN 1898 IN
SAID PATENTS

AND

EXPLANATIONS ABOUT THE ANCIENT O'HARA LINES
AND THE "GILBERT" LOT LINES

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by him during the month of September 1898.

Examined by Superintendent Colvin.

Q. Mr. Kelley, when did you begin work in 1898 to search for the northeast corner and lines of O'Hara's survey in and adjacent to the Arthurboro Patent?

A. I commenced the field work in September. I started from home the last day of August. You sent me back the first day of September.

Q. Where did you start the field work?

A. I started from Albany on the first day of September.

Q. Where did you go to on the first day?

A. I got to my home at Salisbury.

Q. The second day, where did you get to?

A. I got to Hoffmeister's three miles and a half beyond Morehouseville, in the County of Hamilton.

Q. Where did you stay that night?

A. At Hoffmeister's.

Q. The next day you started where?

A. I started for the foot of the stillwater on the East Branch.

Q. Of what, the West Canada Creek?

A. The east brach of the West Canada Creek.

Q. How far from Hoffmeister's?

A. We call it ten miles the way we went.

Q. Did you drive?

A. Did not.

Q. Walk all the way?

A. No, sir; I rode part of the way with the keeper of Gee Lake; the men walked.

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Q. Gee Lake is a preserve?

A. Yes, sir.

Q. Kept by whom?

A. I do not know; it is owned by Wright and Collins.

Q. Where did you reach that night?

A. Reached the foot of the stillwater.

Q. House?

A. No, sir.

Q. Camp?

A. No, sir; put up a tent.

Q. On what side of the stream?

A. On the easterly side of the West Canada Creek.

Q. Was there a boat there?

A. There was a small boat up the stream.

Q. The next day was what day?

A. Sunday, I think.

Q. Sunday the 3rd?

A. No, sir, the 4th. I went up to the stillwater the 3rd; 4th, remained in camp on the stillwater.

Q. What sort of a country is it at the stillwater here; was it a clearing?

A. No, sir, from what the boys said it was something over a half mile long and alders growing down to the water, on the west side.

Q. Whose land is it?

A. Cannot say; Hiram Bannen used to own Lot 91. I ran it out some years ago.

Q. On Gilbert's survey?

A. Yes, sir, in Arthurboro.

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Q. On the morning of the 5th you started?

A. Yes, sir.

Q. Who was in your party?

A. My son Lucius and Mr. Charles E. House.

Q. Started from the foot of the stillwater on the morning of the 5th of September--did you sail or walk or what?

A. We walked.

Q. Northerly?

A. Northerly to this spruce stub on the line, which I supposed to be and which was called by me the marked tree in the north line of O'Hara's survey of Arthurboro Patent in October 1887.

Q. What time in the morning did you reach there?

A. Could not say; it was quite early as it was only four chains from where we were in camp. We walked right to it. It was where they had lumbered and cut the timber, but it is a good forest and there are no clearings within miles and miles of it.

Q. You started here at this spruce stub?

A. Yes, sir, I set up my compass at this spruce stub east of the West Canada Creek. Said spruce stub is marked with two blazes on each side, on the O'Hara line as found by me in October 14, 1887, but it has since proved not to be O'Hara's line but Gilbert's line. Then commenced the survey from this stub on the course 35 degrees 30 minutes, magnetic, west; and at 2 chains 40 links, the centre of a log road on the easterly side of the creek. At 5 chains 50 links, the centre of a small run going westerly into the West Canada Creek. At 10 chains, the foot of a hill. At 15 chains 22 links, on the southerly line of the Moose River Tract as run by John Richards and rerun by me in 1887.

Q. You were then wholly in the Moose River Tract at this time?

A. I was. At 15 chains 22 links, came to the south line of the Moose River Tract as run by John Richards in 1820, Township 10; intersected said line 63 links westerly from Corey's transit station in said south line of the Moose River Tract according to Corey's resurvey of Moose River Tract, copper bolt 151.

Q. Then what did you do?

A. Returned to stake or intersection after measuring the distance to transit station on the south line of the Moose River Tract and then ran along the said southerly line of the Moose River Tract on the course North 54 degrees 30 minutes and ran to the centre of a log road. At 8 chains 21 links on the easterly side of the stillwater, the West Canada Creek; at 8 chains 66 links, transit station 150. At 11 chains 32 links, to creek being the east branch of the West Canada Creek, anciently known as Volunteer Creek, which is the first name ever given to this stream. At 1 chain 29 links, up the westerly side of the stillwater. At 12 chains 79 links, transit station No. 149. At 16 chains 90 links, to the witness corner, witnessed by five trees with 57 grains now in 1898; that means 1841.

Q. What did you call this corner surrounded by witness trees of 1841?

A. It is the northerly terminus of the instrument (compass) line run up from the south; I have since found it to be an earlier line than 1841. I have found it with marks of the survey line of 1821.

Q. Does not the lot corner of Gilbert's survey show that

age?

A. It is not the lot corner of Gilbert's survey; I have proved that.

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This line goes south from this corner and crosses the O'Hara line, as I found afterwards in the log cutting north of Gee Lake stream, and then runs parallel with the O'Hara line on the easterly side of it. It varies some, and is not quite parallel with the O'Hara line.

Continued the line on a course of north 54 degrees 30 minutes west, and at 25 chains and 30 links came to a stake and three stones. I think I set that myself in 1887. It was one of the distances of John Richards, at one of the locations of John Richards on his line as he came from the west. I suppose Richards intended this as a lot corner of Township No. 10 of the Moose River Tract.

Then turned north 35 degrees east, and at 15 chains 50 links an old survey line running northerly at right angles with my survey line, which I identified as the O'Hara survey of 1791. By blocking out trees I found no tree earlier than Gilbert's survey of 1794 of said line or easterly thereon to the West Canada Creek stillwater. Then, North 64 degrees West, backsight South 54 degrees east went down across the foot of the stillwater and resumed on the line of the east bank of the West Canada Creek stillwater; ran on the said bearing south 54 degrees east; then returned to the place of beginning, the spruce marked as heretofore described and standing 3 or 4 chains northerly from the camp. I found this to be the north line of Lot 92 of Gilbert's survey

inside of the Moose River Tract, supposed by Gilbert to be in the Arthurboro Patent but really over the line. I continued my course from said spruce stub south 54 degrees east and at 17 chains 74 links from spruce stub came to a large common yellow birch tree marked for a corner on the south side, on the west side and witness trees on the west side, by two trees, one a beech and the

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other a birch for a corner. I could find no line extending beyond this yellow birch tree although I ran a distance of 27 chains and 20 links from this spruce tree stub, so I then swung off and eventually returned to the yellow birch tree corner and started and ran south 35 degrees 30 minutes west, but did not chain this line--traced the line only. It was an old line. Continued to trace the same until I passed the south line of the Moose River Tract of John Richards' survey in 1820 and the survey made in 1898 by W. H. Corey. Continued on south into the Arthurboro Patent until I came to a tree that I could cut. Found a hemlock tree on said old line, and took out a block which counted 104 grains; that is to say, of the year 1794. Then began at the said hemlock survey tree of 1794 and ran north 35 degrees 35 minutes east on said old line, and at 21 chains 48 links struck the southerly line of the Moose River Tract, a stake set by Corey--which stake is 73 links westerly from the transit station nickel-plated bolt No. 154, which is at the end of the Richards' line of south line of the Moose River Tract, where it makes a sudden angle of very nearly south. Then went back to the Corey stake in the Gilbert line north 35 degrees 30 minutes east, being the east line of Gilbert's Lot 92, and came to the yellow birch tree marked for a corner; at 36 chains 79 links, northeast corner Arthurboro in 1794, a large birch tree.

Then went to the end of the John Richards' line of 1820 where an angle occurs and the line turns suddenly

south 2 degrees west, magnetic, in 1898, 2 chains 60 links to the Ox-bow Corner at the big rock. There found the west line of the Ox-bow Tract; it was so plain that I did not have to set up my compass. I should judge that it was

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south 24 degrees west. Found two trees cut out, I suppose by Corey; counted 87 grains. It was the west line of the Ox-Bow Tract.

Then returned to camp and went in search of the south line of Lot 91 of Gilbert's survey in Arthurboro Patent. Found it the next morning. Ran and chained south line, beginning on the easterly side of the log road, at a nail driven in a stump on the easterly side of the log road leading from the stillwater to Pine Lake and the West Canada Creek.

At 13 chains, the centre of the creek.

At 37 chains 42 links, the southwest corner of Lot No. 91. Found it marked by a stake and pile of stones set by me in 1887. Then on the course, magnetic, north 35 degrees 30 minutes east, at 30 chains 54 links a stake and stones set by me in the year 1887, 1 chain 9 links west from Corey's transit station 143 in the south line of the Moose River Tract, being the John Richards' line of 1820. At this point on the south line of the Moose River Tract commenced a new tally and continued on the course north 35 degrees 30 minutes east on and along an old lot line of Gilbert's survey of the west line of Lot 91, and at 15 chains 92 links northerly from said John Richards' north line of the Moose River Tract came to and intersected an ancient survey line. There were trees covered with survey marks of 104 grains to a stake set by D. C. Wood, or which

I believe was set by D. C. Wood in the year 1887 as a point in the said O'Hara north line of the Arthurbor Patent, but which is in the Moose River Tract as I have since proved by my survey, of which I will proceed to give an account.

I reached Albany Saturday, September 10, and made report to the Superintendent on this work. I stated to him that I had not

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found to my satisfaction the northeasterly corner of the O'Hara survey, and was by him directed to return to the field, take with me one man and see if I could find the northeasterly corner of said O'Hara survey where it enters into and is located within the said Moose River Tract.

September 12, was in Albany at office of the Superintendent.

September 13, left Albany and returned to Salisbury, Herkimer County, my home.

September 14, went by direction of the Superintendent of State Land Surveys to search for the 1791 survey of Arthurboro Patent by O'Hara; arrived at Hoffmeister's in the town of Morehouse, Hamilton County, in the evening of Wednesday the 14th. Engaged or employed Theodore Remonda as helper.

September 15. Went with pack and provisions, etc., to Pine Lake, in Arthurboro Patent. In the afternoon examined compass line on the south shore of Pine Lake running into and across the lake. Cut out blocks from trees on the old survey line, having magnetic course of north 35 degrees east, found the age of the line by these marks to be 57 grains or of the year 1841. Could not tell whose survey this was. Traced the same to the south shore

of the lake. Left it there. Then commenced searching for the O'Hara line until we had gone to the westerly side of Pine Lake. Set off over to the northward about 4 chains. Then with the man who accompanied me, Theodore C. Remonda, searched the woods south of Pine Lake, working westerly several chains from the lake, so as to examine which might have marks upon them bearing north 35 degrees east. Had returned about two-thirds of the distance

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back easterly, at which place Mr. Remonda saw traces of the axe blaze on a hemlock tree; a few rods to the northward found an axe blaze in a fallen spruce tree. Went still further in the same direction; saw a blaze on a large fallen birch tree. This tree had been cut out of the way of the log road and lay there so that the blaze happened to lay up. Remonda then called for me. I saw that it was an ancient survey line, and I directed the hemlock to be cut into in order to enable me to count the grains of wood over the old axe marks; counted the grains or annulars but could not positively count more than 106 grains, but believe it to be the 1791 line by O'Hara, as the age of the mark would indicate at least the survey line of 1791. It was very difficult to get the first lines grown over this blaze. The tree was dead and it seemed to be soft mealy stuff.

On September 16, beginning at the hemlock tree south 35 degrees 30 minutes west, magnetic, traced the line south 35 degrees 30 minutes west about 60 chains--estimated distance--being south of Pine Lake; found several trees blazed; cut out and counted 117 grains--see block marked " `X' Lorrin Kellev. September

16, 1898." Returned then to the cottage at Pine Lake and got lunch. In the afternoon set off to the south shore of Pine Lake, where this line--which I had recognized as the east line of the O'Hara survey of the Arthurboro Patent--struck the lake. Sighted across the lake with compass to a pine tree on an island close to the shore of the lake; then crossed the lake in a boat and passed around the island with the pine tree to the north shore of the lake, and got into the line by means of sighting to the pine tree in the line. Backsighted and

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found that there was a local attraction acting on the needle. Found that 7 degrees had to be added to the course of 35 degrees 30 minutes; saw that the course with the backsight was 42 degrees 30 minutes, on the backsight south 42 degrees 30 minutes west. Went on my second setting with my compass. North of Pine Lake the needle settled on the original course and I ran north 35 degrees 30 minutes east.

Continued my course and found plenty of ancient blazed trees but none took our course or had the right direction. Appeared to be mostly the marks of hunters, trappers and fishers. Some of them made 50, 60 or 70 years ago.

Continued my course and searched until stopped by a thunder shower. After the rain continued the course until I came to a line running at right angles to my course. It was getting late and I turned my course south 54 degrees 30 minutes east. Found two lines running parallel about 75 links apart until I come to the

northeast corner of Lot No. 88 by B. Gilbert--by Benjamin Gilbert. Thence ran south 35 degrees 30 minutes west, magnetic, until I had passed the head of Pine Lake, and continued until I had come to the stake set by Francisco--Jacob Francisco--for a corner. I suppose he set it there for the southeast corner of Lot 87. This was a stake and three large stones piled around it. Thence north 54 degrees 30 minutes west along Francisco's line of marked trees, marked by me--a line which Remonda stated was run and marked by J. Francisco, but there is no old line there as far as I went. At 15 chains 2 links, came to the O'Hara 1791 line, then crossed the lake again by boat to the northeast corner of Lot 88. Thence north 54 degrees 30 minutes west, magnetic, in the year 1898, along the north line of Lot 88 15 chains and 2 links; set up compass and searched in every direction

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for the 1791 line but could not pick it up. Returned to compass where I had set it up at a distance of 15 chains and 2 links from the northeast corner of Lot 88 and moved two settings on a course of north 35 degrees 30 minutes East; cut a blaze as high up as possible, a large blaze around the tree, so as to return to the same and find the same--a yellow birch tree, according to my recollection. Sent Mr. Remonda westerly; I went easterly and found the O'Hara line; cut into a spruce tree bearing the original marks--bearing the survey marks-- and took a block from said tree, marked "A"; the age of the mark was 107 grains, 107 year, or 1791. By measurement the O'Hara line was now closely to the lot line. By measurement I

found the O'Hara line to be here 8 chains 30 links westerly from the east line of Lot No. 89 or 88, either one--8 chains 30 links from the east line of Lots 88-89 being nearer the lot line by 6 chains 22' links than it was at the southeast corner of Lot 87 by Francisco's survey.

Returned to the tree from which the block marked "A" was taken. Beginning at the first-found marked line tree, spruce, from which was cut out block marked "A," thence ran north on the magnetic course 35 degrees 30 minutes east; followed the line on this bearing and found that this course would not trace the line. Set back upon the line again and took a new course of north 36 degrees 15 minutes east, magnetic, which I found would follow the whole of the line quite well to a little distance north of Gee Lake Stream. Then I returned to the first tree found north of the lake from which I took block marked "A" and ran south 36 degrees 15 minutes West and found a sufficient number of trees of the old survey line marks to establish this as the O'Hara

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line; the last of these marked trees was about 2 chains from the north shore of Pine Lake, a spruce tree.

I ran to the lake, set up a flag on the shore; then crossed the lake by boat to the south shore of the same; set up the compass sighted to the flag at the north end of the lake and found the course to be north 47 degrees 15 minutes east. We found 16 trees between Gee Lake outlet and Pine Lake which were marked with blazes.

The 18th was Sunday.

September 19, Monday. Commenced on the O'Hara line at Gee Lake Creek, where we left the same on the 17th inst., and thence ran with magnetic compass north 36 degrees east through a log cutting until we came to the East Branch of the West Canada Creek, a little below the stillwater; found three different ages of markings, namely 43 grains, 57 grains and 87 grains, representing the years namely of 1811, 1841 and 1855 of marks along this line. The O'Hara line I did not find upon any tree between Gee Lake outlet and the east branch of Volunteer Creek on any spruce or hemlock trees that I could count or get the age of the line. There were old marks on birch trees in the line but I could not make out their exact age with any degree of certainty at all. Crossed the east branch of Volunteer Creek and came to the southerly line of the Moose River Tract. Crossed the south line of the Moose River Tract and continued my course, and in this course found the O'Hara line a little east of my course, a trifle over 80 links to the east of my course between the Moose River line on the south and the O'Hara line and Gilbert line on the north. Cut into and counted the age of the marks and found it to be 107 grains (see block, exhibit "H"). Then set off easterly so as to come in the line of the said spruce tree from which the last block was taken ("H") and

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changed my course to north 36 degrees 15 minutes east; continued on this course to the O'Hara and Gilbert northerly line for the Arthurboro Patent; and continued same course 19 chains or thereabouts further, but found no

line nor corner at that distance northerly of the O'Hara line. Returned to my intersection on this course with the O'Hara line and Gilbert line (O'Hara-Gilbert line); ran it back on a course south 36 degrees 15 minutes west to the east branch of the West Canada Creek or Volunteer Creek; found blazed trees as will hereafter appear in the record of the chain measurements, and marked the line so that it could be retraced backward; then left compass and proceeded to chain this line on the course of old line trees north 36 degrees 15 minutes east, magnetic, in 1898, with results as follows:

Commenced to chain at the northerly side of the east branch of the West Canada Creek. At 11 chains and 50 links, a large birch tree blazed on both sides with the line, an old blaze. At 12 chains 15 links, a large birch blazed on the easterly side, high, for a sight blaze. At 13 chains 17 links, a large black cherry tree blazed with the line, an old mark. At 13 chains 47 links, came to the intersection of the south line of the Moose River Tract as located by John Richards in 1820 at a point 1 chain and 57 links easterly from the location of the 57-grain line, on the crossing of the 57-year line which I traced out on September 5 when I started from the spruce stub running southwest and northwest to this point. This point on the south line of the Moose River Tract I had found some 11 years ago, 80 links easterly from my intersection of the south line of the

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Moose River Tract when I first ran a search line for this east line of the O'Hara survey line. Before, I had corrected my course on the morning of this day. At the

present time intersected said south line of the Moose River Tract 2 chains 34 links westerly from the stone monument with nickel-plated copper bolt No. 149, set by W. H. Corey as a transit station this year on said south line of the Moose River Tract as run by Richards.

At 18 chains and 77 links, came to a birch tree blazed on both sides; I think this is a line of old markings. At 19 chains 50 links came to a birch tree blazed on both sides of old, for the O'Hara east line. At 20 chains 98 links, came to a spruce tree blazed on both sides and bearing marks of 107 years, being the tree from which I took the block marked exhibit "H." At 27 chains 33 links, came to the fallen large decayed spruce tree blazed for the line of old. At 27 chains 90 links, came to a dead spruce tree marked of old for line, and cut out a block, marked "R" in blue pencil. At 28 chains 73 links, came to a line marked by O'Hara in 1791 for his location of the north line of the Arthurboro Tract, being the line subsequently followed and allotted upon by Gilbert in 1791. At the intersection discovered here traces of a tree which had fallen in a southerly direction; we dug out of the decayed material, once a tree, several pieces of resinous wood which showed axe marks either blazed for a line or for a corner. This I hereby

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deliver to the office in a case marked "S." At this place where the tree formerly stood, which must have located the northeast corner of the Arthurboro Township, according to the O'Hara survey, I set a spruce stake surrounded by eight stones; three of four of these stones were as large as a man could carry; the remainder were a little smaller; the pile of stones was about two feet above the stake; this stake is of spruce wood about four inches in diameter and is hewn on two sides and faces the easterly and northerly lines of O'Hara's survey of Arthurboro. In hewing this post I hewed it first, then turned it upside down and hewed a long shaving under which I wrote an inscription with a blue lead pencil "N.E. Corner of Arthurboro according to O'Hara or O'Hara northeast corner of Arthurboro." I then turned this post back again so that the shaving protected the writing from the weather and drove it into the ground for the corner, the shaving hanging down over the writing, and piled stones around it. The top of this post must be six feet above the ground. Said corner of O'Hara northeast corner of Arthurboro is still witnessed by one of the original witness trees, a birch tree which stands easterly, on the northeasterly side of the corner.

Thence at this corner turned my course to north 54 degrees west on and along the line of old marked trees.

Found several spruce blazes not old enough for O'Hara's line. Birches marked show age of old survey. At about 20 chains came to a spruce tree marked of old for this line, cut out mark and counted 107 grains of annual growth of wood over the same. Preserved the block which I

herewith transmit marked " `K,' September 19, Lorrin Kelley."

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Returned to camp, took down tent and started for Pine Lake the same evening.

September 20, I measured and found the 57-grain line to be 5 chains 90 links westerly from the Gilbert allotment line and 9 chains 12 links easterly from the O'Hara. This measurement being made by me on and along the line said to have been run by J. Francisco and on which I found only very recent marks and no ancient marks whatever and these particular measurements on the 20th being made by me south of Pine Lake on said Francisco line, connected the same with the Gilbert allotment line and the O'Hara line.

I also examined the east line of Lot 88 by Gilbert and the Gilbert west line of Lot 93, and took a block from the said east line of Lot 88, a marked tree, which I herewith transmit marked Exhibit "G" in red pencil. The block which I took from the west line of lot 93 of the Gilbert survey of 1794 was from the spruce tree which I herewith transmit marked Exhibit "B" in red pencil; each of these blocks show an age of 104 years.

September 21, I started with Mr. Remonda from Pine Lake for the settlement at Hoffmeister's, and reached Hoffmeister's a little past 11 A.M.

On the 20th I went to the stake and stone set on the Gilbert line, supposed to have been set by Mr. Francisco for the southeast corner of Lot 87, and ran thence north 54 degrees west on and along a line said to have been run by Mr. Francisco 5 chains 90 links to the 57-grain line;

said line was about 9 chains from Pine Lake.

C O P Y

(Original was signed by
Lorrin Kelley)

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ARTHURBORO AND NOBLEBORO

BOUNDARY LINE

TESTIMONY

OF

LORRIN KELLEY

RELATIVE TO

THE WORK, AND EVIDENCES OF LINE

FOUND BY HIM

1896

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Albany, N. Y. September 27, 1899, LORRIN KELLEY, a local surveyor employed by the Department of State Land Survey, appeared before Verplanck Colvin, Superintendent of the said Survey, to answer to a summons, and was reinstated in the Department and made oath as follows:

Questioned by Superintendent Colvin.

Q. Mr. Kelley, you swear that the evidence which you shall give in regard to the surveys made by you on the division line between the Patents of Arthurboro and Nobleboro, being the survey line of Simeon Dewitt, afterwards a survey line of one Beekman about the year 1800, being the county line between the Counties of Hamilton and Herkimer, shall be the truth, the whole truth and nothin but the truth?

A. I do.

Q. Mr. Kelley, you made a survey and restoration of the true boundary line between the Patents of Arthurboro and Nobleboro in the fall of the year 1896 by orders received from me under the general law governing the work of the New York State Land Survey?

A. I did.

Q. Will you state what evidences you found of a corner?

A. When I came from the east surveying along the north line of Vrooman's Patent, in 1895, I found an old stake set in the north line of Vrooman's Patent, with witness trees for an old corner. I measured from there right along to the West Canada Creek, along the north line of Vrooman's Patent, and from this stake measuring to the east bank of the West Canada Creek I found it to agree very nearly with the distances recorded in the return of the survey of Simeon Dewitt, Surveyor General of this State, August 23, 1787, which was 94 chains and 24 links. My measurements sub-

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east bank of the West Canada Creek and running thence southeasterly along the north bounds of Vrooman's Patent a distance of about 94 chains and 24 links, I came to that post with the witness trees from which a marked line goes very nearly at right angles between the Patents of Arthurboro and Nobleboro, as described in the return of survey of Simeon Dewitt, and which is the same line as that re-run or re-surveyed about the year 1810 by Cornelius Beekman and hence locally called the Beekman line. The O'Hara line, so-called, is a trifle over a half a mile west of this line. I began my survey of the division line between Arthurboro and Nobleboro at a stake 94 chains and 24 links from the east bank of the West Canada Creek in the north line of Vrooman's Patent. As this stake was in a perishing condition I put another new post directly along side of it. I then hung a plumb-bob over the old stake and dug up and removed the soil and moved in a large boulder so the the drill hole in the centre of the said boulder marked the southeast corner of the Nobleboro Patent, which is the southwest corner of the Arthurboro Patent, and was exactly in the position occupied by the old corner stake. This work at the corner was done in 1895 under the Assistant Engineer Solomon LeFevre, and he agreed with me in setting this as the corner of the said Arthurboro and Nobleboro patent, as did also Mr. Will H. Corey, a local surveyor present at that time, all being in the employ of the New York State Land Survey, as will be seen by a reference to their field books and reports.

In 1896 I had charge of a survey party and began at this stone monument at the joint southerly corners of the Arthurboro and Nobleboro Patents nearly 94 chains and

24 links southeast from the east bank of the West
Canada Creek in

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L. K.

the Vrooman Patent line. Beginning at this point
September 8, 1896, I made a survey of the division line
between Arthurboro and Nobleboro along the aforesaid
Simeon Dewitt and Beekman line, beginning at the large
rock on the northerly line of Vrooman's Patent which we
had set for said corner. I followed the line of old
blazed trees--blazed for a survey line; the magnetic
bearings along this line were a little irregular, as shown
in the field notes in my book of the Nobleboro line of
1896, filed in the office of the State Land Survey and
marked as "Volume 13 of 1896, Compass Notes of L. Kelley,
division line between Arthurboro and Nobleboro,
Herkimer-Hamilton County line." This is the original
field book which I used, and the course of this line at
Station 8 was north 31 degrees 10 minutes east; at
Station 18, North 38 degrees east; and between these
stations the line had various bearings, such as at Station
12, north 40 degrees east; at Station 13, north 31 degrees
45 minutes; there appeared to be a good deal of local
attraction or something affecting the needle along this
line. My orders were to hold to the old original line.
Those were my orders and I had to take the course as the
needle gave them. I did not make a new line; I simply
followed the old line as I found it. On this line I found
numerous old marked trees, and this book describes them
accurately. At 500 feet, I cut into and certified to
the line on a block taken from a spruce tree which counted

86 grains of wood over the old survey mark; that would belong to the year 1810 survey; the tree stand 3 feet easterly from our course of line. At 1200 feet, to the highway.

At 2245 feet, a hemlock compass stub was found which was blazed and hacked and was located 4.9 feet west of our course.

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At 2784 feet, a spruce compass tree was 4 feet west of our course or line near a little brook running north. At 4329 feet, a hemlock compass tree was found blazed with three hacks; cut into the wood and found the age of the mark to be 86 grains over the old survey blaze. This tree was 2 feet west of our line. The course here: north 36 degrees 10 minutes east. At 4681 feet, a corner, said to be the corner of Lots 1 and 2 of the Bethune Tract. At 6386 feet, came to an old line tree from which we took a block: Block No. 5. It was one foot west of our line.

The age of the old survey blaze in this tree was 86 years, or block of the survey of 1810. Certified said block. At 8295 feet, we were opposite to the tree witnessed for a corner.

At 8548 feet is Station 31, opposite and southward of the signal station on Ft. Noble Mountain. The centre of the said signal from this station bears north 18 degrees 20 minutes west, and the distance was 192.40 feet. From Station No. 32, which is at 8867 feet ("Rolling Rock") from the place of beginning, again sighted the signal on Ft. Noble Mountain, which bore south 68 degrees west and was 255.32 feet distant. At 9342 feet, came to the

corner said to be the corner of Lots Nos. 2 and 3 in the Bethune Tract, directly on our line. At 11,038 feet, came to the corner of lots in the Nobleboro Patent 3.1 feet east of our line; it was a spruce tree. At 12,171 feet, came to a compass tree, a spruce, 2 feet west of

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L. K.

our course.

At 12,909 feet, came to a compass tree, a spruce tree, 9 feet east of our line; the course here was north 36 degrees 45 minutes east along the old line. At 13,067 feet was a small brook. At 13,285 feet, another brook. At

13,409 feet, came to the southeast corner of Great Lot 107 in the Nobleboro Patent; this was September 12, 1896. At 14,178 feet, came to what is called the corner of Lots 3 and 4 in the Bethune Tract of the Arthurbcro Patent.

At 15,871 feet, came to what is called the corner of Lots 1 and 2 of Great Lot 107 of the Nobleboro Patent; the course of the old division line between the patents here was north 32 degrees 10 minutes east at Station 55, while at Station 54 the course had been north 37 degrees 10 minutes east, a difference between these two stations of 5 degrees. Crossed Betty Green Creek at 15,700 feet. At 16,827 feet, a branch of Betty Green Creek. In the Betty Green Creek we set a station, a drill hole in the rock in the bed of the creek. At 18,103 feet, near the foot of a steep ascent of the Betty Green Mountain. At 18,899 feet, the summit of Betty Green Mountain; before we came to the summit at 18,774 feet found a spruce tree marked for a corner, said to be the corner of Lots 4 and 5 in the

Bethune Tract. At 19,285 feet, a small brook running west. At 20,178 feet, Station 73; the line here was re-blazed 77 years ago. At 20,577 feet found a corner between the north and south half

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of the Nobleboro Patent.

At 20,654 feet, took a block from a line tree of an old survey; in this line tree found the age of the survey to be 86 years previous. This tree was half a foot east of our line. There was a small brook at 20,685 feet. At 20,699 feet, came to the corner of Lots 3 and 4 of Great Lot 107 in the Nobleboro Patent, 3 feet west of our course. At 20,911 feet there is another small brook, and then begin to ascend a mountain. At 21,220 feet, made Station 77 on our line; the old line here on the foresight bears north 30 degrees 35 minutes east. At 21,805 feet, made Station 80 on our line. The line here bears north 37 degrees east. At 26,421 feet, located Station 97, being the corner of Lots 2 and 3 in the Arthurboro Patent. At 28,544 feet and 69/100 of a foot (28,544.69), came to the east bank of the West Canada Creek, Medium water mark. At 32,471 feet, to the corner of Lots 4 and 5 in the Arthurboro Patent.

At 33,079 feet, came to the corner of Lots 106 and 107, Nobleboro. Station 125 was located at 32,715.37 feet, and the foresight along the line by the magnetic compass was north 39 degrees 50 minutes east. Station 127 was located at 33,170.89 feet; the magnetic bearing of the old line was north 31 degrees 5 minutes east. At 35,281.48

feet, came to the corner of Lots 5 and 6 in the Nobleboro Patent. At 35,824.78 feet, to the outlet of Honnedaga Lake. At 36,378.86 feet, came to the corner of Lots 105 and 106

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in the Nobleboro Patent. Station 145 was located at 37,362.31 feet; and 53 links before this station was reached, came to a spruce tree marked of old as a line tree 5 links to the east of the line, from which a block was taken. At 38,971.63 feet, came to the corner of Lots 6 and 7 in the Arthurboro Patent.

At 39,250.64 feet, came to the old stub which, when I first discovered it, had upon it "C. Beekman 1810 & 11," and there were 19 characters before the figures, cut with a scribe, being Beekman's name. There were some other inscriptions upon this stub. I did not copy them upon my book. There was a line at this stub which went westerly nearly or about at right angles with the Dewitt or Beekman division line between Arthurboro and Nobleboro Patents, which said line I have followed clear through to the Adgate Patent. It is an ancient survey line of the same age of marking as the division line which I followed through and surveyed as the Dewitt-Beekman division line between the Arthurboro and Nobleboro Patents. I cut out the blocks and found them to be of the same age. On this line, at 38 chains and 67 links from the northeast corner of the Nobleboro Patent, came to what is called the O'Hara

line. This is a line located and surveyed by William R. O'Hara--supposed--made in the year 1791. This O'Hara line cuts across the north line of the Nobleboro Patent

approximately at right angles and extends north into what is now the Moose River Tract, but there is a gore between the north line of the Nobleboro Patent and the south line of the Moose River Tract. O'Hara's division line between what he claims or wishes to make the division line between

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L. K.

Arthurboro and Nobleboro goes a way across the gore north of the Nobleboro Patent and a long distance in the Moose River Tract--as near as I remember, about 40 chains.

Having established this north line of the Nobleboro Patent, which is here 4 chains and some links north of the north line of Lot 6 of Gilbert's survey, I returned to the stub at the northeast corner of the Nobleboro Patent, which, according to the original description of the patent and the return of survey of Simeon Dewitt, Surveyor General, is identical with the northwest corner of the Arthurboro Patent, both of said patents being located south of the gore between the same and the Moose River Tract. I took the centre of the roots of the old marked stub or beech tree which had been blazed of old for the corner of these patents, and hung a plummet directly over the centre of the same; then dug up and removed the roots and placed and bedded instead a large boulder of stone as a monument for the joint corner--the northerly corner of the Arthurboro and Nobleboro Patents. This stone was in my presence and with my assistance set in hydraulic cement, and the original centre was restored by lowering the plummet from the position where it had been while the monument was being set until it struck near the centre of

the stone preparatory to setting the corner mark therein.
This was the terminus of this survey line run by me
between the Arthurboro and Nobleboro Patents on the line
described by Surveyor General Simeon Dewitt in his return
of survey of August 23 in the year 1787 and the subsequent
survey by Cornelius C. Beekman in the year 1810.

Q. Mr. Kelley, you found abundant evidences of the survey by

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L. K.

Cornelius C. Beekman?

A. I did.

Q. There was no question that the marks made in the trees belong to the period at the time when Beekman made a survey along this line?

A. There is no question in my mind. The evidence is conclusive.

Q. Mr. Kelley, did you discover any evidences of blazes along this line made by surveyors in the year 1787, presumably by men in the employ of the State under the Surveyor General, Dewitt?

A. Not that I recognized.

Q. Did you cut into the trees deeply enough to see if they had any other marks upon them?

A. I did not cut deeper than the 86 grains. I was satisfied with the identification of the line both at the place of beginning and at its direction.

Q. Mr. Kelley, have you seen a map showing, or purporting to show, a survey of the Arthurboro and Nobleboro Patents, purporting to be a representation or a survey by Archibald Campbell in the year 1787?

A. I have seen one in the office of the New York State Land Survey, supposed by me to be a copy of another map.

Q. Have you any knowledge of such a survey by Archibald Campbell?

A. I have only by this map on exhibition now before me.

Q. Could you have passed nearly along the line of Archibald Campbell without noticing marks made by him or his men in 1787?

A. Not if the line had been reasonably well marked at that time.

Q. How far to the east or west of the so-called Simeon Dewitt or Beekman line did you search for other marks?

A. Not to exceed a chain or so east or west, unless it was to trace.

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Q. Have you had any experience with the survey lines run by Archibald Campbell? Where he has made a report of the survey of a line between the years 1750 and 1800, would you expect to find any number or large number of trees marked as compass trees or line trees on said survey?

A. A year ago, I made a survey of the north line of Totten and Crossfield's Purchase, which is also the south line of Macomb's Purchase--particularly of the place where the north line of Totten and Crossfield's Purchase crosses Mud Lake, north of Township No. 37 in Totten and Crossfield's Purchase; also westerly of said Mud Lake as far as Lost Lake, which is the lake five chains southerly of Campbell's north line of Totten and Crossfield's Purchase, being the first lake west of Mud Lake near said Campbell's line. I found numerous markings of recent surveys along this line. Some pretty ancient, but did not find any that I could say were Campbell's markings, although Campbell correctly describes the country that he measured over--the distance to the lake; the distance across the lake; the distance across the neck of land between the lake and the river; and other features of the ground--but, although Campbell says in his field notes (which I carried with me), that he marked

certain trees at intervals of a mile, I was unable to find any of his markings that would give the right age. It seems to me that this surveyor--Campbell--did not mark his lines very thoroughly, at least along the section which I retraced, surveyed by him for the north line of Totten and Crossfield's Purchase, which correctly

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agrees with his field notes but does not bear much if any mark of the age of the year 1772 that I could find. My opinion is that Mr. Campbell was running a trial line when he went through with the Indians, and only marked once a mile, calling them in his field notes "mile trees"; so that, if these few trees should happen to decay, his marks upon the trees of that date would be extinguished. It is a bare possibility that there may be a blaze under the blaze of Mr. C.C. Beekman. I will not say that I cannot find, or that the marks of the survey of 1787 cannot be found, if a careful search were made. There were a large number of other trees along this line marked of old as survey line trees which I did not cut into, as I did not deem it necessary as this was the line which agreed with both the Surveyor General's description and the Beekman description. There were also re-survey marks along this line showing that this line had been retraced once since the time Beekman surveyed and marked again as the survey line, and part of the way it had been more recently marked; while the south part and the southerly part of the north half, I think, was the latest retracing and was by Earl Phelps of Alder Creek, N. Y.,

as I have since been on this line with Mr. Phelps and so understood from him. Also this line, the Simeon Dewitt or Beekman line, was represented by said Earl Phelps to be the division line between the Arthurboro' and Nobleboro Patents; he had determined it by running from the east, and told me he had by his measurements.

Lorrin Kelley

Local Surveyor

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Appendix K

Correspondence and Report

relative to

the Essex-Hamilton County Line

as it crosses

Township 17

Totten and Crossfield's Purchase

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July 6, 1898

HON. JAMES A. ROBERTS

Comptroller, Albany, N. Y.

Dear Sir:

I have received, under a reference envelope of your office, dated July 1, 1898, a letter of Messrs. King & Angell, Attorneys, of Glen's Falls, N. Y., in regard to the boundary line between the counties of Essex and Hamilton, where it crosses the southwest corner of the 17th Township. In this letter these gentlemen refer to a previous letter of yours to me relative to the matter of this county line. I have not received any previous letter relating to this county line; and if a letter has been written, I beg that a copy may be forwarded to me at the earliest convenient date, so that I may be acquainted with your requests in this matter.

Respectfully yours,

[signed] Verplanck Colvin

Superintendent

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S T A T E O F N E W Y O R K

COMPTROLLER'S OFFICE

LAND TAX DEPARTMENT

Albany

July 7, 1898

Hon. Verplanck Colvin
Superintendent, State Land Survey
Albany, N. Y.

Dear Sir:

Your favor of the 6th inst., requesting copy of letter to you in reference to the boundary line between the counties of Essex and Hamilton where it crosses the 17th township, has been received.

No record can be found of a letter written to you on the above subject; but you will find inclosed copy of letter to Messrs. King and Angell of Glens Falls, N. Y., under date of the 26th of January, last. The Department probably received some verbal information from you in reference to the matter.

Respectfully yours,

[signed] Wm. J. Morgan

Deputy Comptroller

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S T A T E O F N E W Y O R K

COMPTROLLER'S OFFICE

LAND TAX DEPARTMENT

Albany

January 26, 1898

COPY

Messrs. King & Angell

Glens Falls, N. Y.

Gentlemen:

Your favor of the 24th ult., in reference to land of your client, Mr. Barton, in township 17, Totten and Crossfield's purchase, Hamilton county, has received attention.

The matter is in the hands of Mr. Colvin, Superintendent of the Adirondack Survey, and he reports that he expects to complete his survey showing the boundary line of said township, some time this spring.

Respectfully yours,

Wm. J. Morgan

Deputy Comptroller

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July 8, 1898

Hon. Willliam J. Morgan

Deputy Comptroller

State House

Albany, N.Y.

Dear Sir:

Your esteemed letter of the 7th inst., is before me together with the copy of the letter of Messrs. King & Angell, of Glens Falls, N. Y., dated June 26th, 1898, and I have the honor to inform you that I have organized a surveying party and ordered it to proceed to the field, and expect that the survey of the county line between the

counties of Essex and Hamilton will be taken up to-morrow
so far as the same relates to township No. 17, Totten &
Crossfield's Purchase.

Respectfully Yours;

[signed] Verplanck Colvin

Superintendent

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KING & ANGELL

ATTORNEYS AND COUNSELORS AT LAW

GLENS FALLS INSURANCE CO. BUILDING

GLENS FALLS, N. Y.

H. PRIOR KING

EDWARD M. ANGELL

June 30, 1898.

James A. Roberts, Esq.,

Comptroller

Albany, N. Y.

Dear Sir:

On December 24th 1897, we wrote you in reference to the
location of the line between Essex and Hamilton Counties
where it crosses the southeast corner of 17th township,
and suggested to you that the line should be definitely
located so that the proper number of acres in the lots cut
by that line could be assessed to the proper owners, as we
understood that the State owned the part of the 17th
township lying in Essex County. We subsequently received a

letter from you stating that the matter had been referred to Mr. Verplanck Colvin, and that it would be attended to. The time had arrived when the taxes are about to be assessed, and we wish that it might be consummated before the review day, so that each party can pay upon the land owned by him.

Will you please ascertain from Mr. Colvin if this matter has been attended to, and if so, please write us the result.

Yours truly,

[signed] K & A

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March 13, 1899

HON. WILLIAM J. MORGAN

Comptroller

Albany, N.Y.

Dear Sir:

Referring to your request for a survey of the boundary line between the counties of Essex and Hamilton, and the area of the triangle cut off by said boundary line from the easterly part of township No. 17 in Totten and Crossfield's Purchase, as to the true number of acres in said triangle "so that the same can be assessed to the proper owners"--I have the honor to report that the survey has been made.

The area of said triangle is found to be seven hundred and seventy-nine acres and thirty-nine one-hundredths of an

acre (779.39 acres), included between the west line of township No. 16 (being the northeasterly line of township No. 17) and the northerly line of township No. 15 (being the southeasterly line of township No. 17) and the aforesaid boundary line between the counties of Essex and Hamilton.

The recovery of the boundary line between the two counties at this point was exceedingly difficult work, owing to forest fires having destroyed almost all of the marked trees of the original survey.

In regard to the allotments subdividing this triangle in township No. 17, which can be located in the county of Essex: no

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HON.W.J.M. No. 2. 3-13/'99

authorative record can be found describing the line or corners of these lots or their area, nor have the surveyors been able to find any marked lines of lots which they are satisfied are correct allotments of said triangle. A survey of the entire easterly line of township No.17 was made and the original southeasterly and northeasterly corners were recovered and have been restored.

There appear to have been at least three allotments in this township, No. 17: 1st, the original allotment corners and the boundaries of the township, made in 1772; 2nd, there are conveyances recorded in the Hamilton County Clerk's Office referring to a subdivision of the township into large lots of from 1280 acres, 1600 acres upwards to 5980 acre lots; 3rd, it is asserted that a subdivision of this

township into 156 lots was made by one Rufus Fairchild, prior to 1869, presumably into small rectangular lots of 160 acres each, being 13 lots long on the easterly and westerly sides and 12 lots on the northerly and southerly sides of the township; but it has also been asserted that the northerly or northwesterly tier of lots had an area of 200 acres each; yet, so far, this department has been unable to find any field notes of such a subdivision into small lots.

I should be pleased to be informed whether your department has any old records relative to an ancient subdivision of this township No.17 into lots; and, if so, to be informed as to the dimensions of each of said lots, as laid out before the forest fires passed over this country.

Respectfully yours,

[signed] Verplanck Colvin

Superintendent

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STATE OF NEW YORK
Comptroller's Office
LAND TAX DEPARTMENT
Albany
May 25, 1899

Hon. Verplanck Colvin
Superintendent, State Land Survey,
Albany, N. Y.

Dear Sir:

Will you please have the kindness to let the bearer, a draughtsman in the employ of this office, have access to your map of the triangle in township 17, Totten and Crossfield's Purchase, Essex county, so that he can make a sketch therefrom, as same is needed immediately for use in this office?

Respectfully yours,

Theo. P. Gilman

Deputy Comptroller

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May 31, 1899

HON. T. P. GILMAN
Deputy Comptroller
Albany, N. Y.

Dear Sir:

Herewith I transmit to you a copy of the map, made in this office, of the triangle in township No. 17, Totten and Crossfield's Purchase, Essex County, in accordance with your request of the 25th instant. This map had not been filed at the date when your request was made, not having been verified.

The dimensions of this triangle of State Land are as follows: on the east side one hundred and sixty chains seventy-seven links and four-tenths of a link (160.774 chains); south side ninety six chains and ninety six links

(96.96 chains); west side--which is the county line between the counties of Essex and Hamilton--one hundred and eighty-eight chains and fifty-two links (188.52 chains). On the basis of these measurements, the area is computed at seven-hundred and seventy-nine acres and thirty-nine one-hundredths of an acre (779.39 acres).

The failure of any evidence showing the existence of the records of the area of the lots in this triangle prevents the verification of this map as a record of the allotments therein. A request has been made

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HON. T. P. G. NO. 2. 5-31/'99.

to the Clerk of Essex County for a search, for twenty years back, of the conveyances of the several lots in township No. 17, being lots 118 - 131 - 132 - 133 - 144 - 145 - 146 - 147 and 148. If it shall be found that these lots have been conveyed, sold and disposed of, owned and possessed for a period of over twenty years before the State came into possession of the same as lots of 160 acres each, and that the survey recognizing these numbers as the numbers and the areas of 160 acres each covers the area included by this triangle, then such search will perfect the title of the State to the lands in this triangle and enable this Department to lay out the lots in accordance with the conveyances; which, under the statute of limitation, will hold as against any other theory.

To illustrate my meaning, let us suppose that the lots actually have the numbers above mentioned, and that each of these lots was intended to be forty chains upon each side, then by computation I find that in the two counties the

lots and parts of lots are located as follows:

IN HAMILTON COUNTY			IN ESSEX COUNTY		
Lot No. 118 =	136.14	acres	23.85	acres	
Lot No. 131 =	4.25	acres	155.74	acres	
Lot No. 132 =	76.90	acres	83.09	acres	
Lot No. 133 =	153.70	acres	6.29	acres	
Lot No. 144 =	00.00	acres	159.99	acres	
Lot No. 145 =	00.00	acres	159.99	acres	
Lot No. 146 =	19.69	acres	140.30	acres	
Lot No. 147 =	109.87	acres	50.12	acres	
Lot No. 148 =	159.97	acres	0.02	acres	
	<hr/>		<hr/>		
Total	=	660.52		779.39	

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HON. T. P. G.

No. 3

5-31/'99

The whole lots and fraction of lots in the triangle in Essex county totting up at 779.39 acres; thus agreeing with the area of said triangle, which is the condition covering the subdivision, if this subdivision shall be found.

Owing to the angle at the southeast corner of township No. 17 not being an exact right angle; if the lots were measured off originally at 40 chains on a side, they would be somewhat contracted in area; and, as computed, would contain, in such case, one hundred and fifty-nine and ninety-nine one-hundredths acres per lot (159.99 acres).

This, multiplied by 9--the number of lots which would be affected according to this theory--would make 159.99
9

1439.91 in the

nine lots partly in Essex county and partly in Hamilton county; of which I have shown, as above

in Essex County 779.39 acres
in Hamilton Co. 660.52 acres

1439.91 acres

which agrees with this condition and indicates that the lots should have an area of about 159.99, on the theory proposed.

It appears to me to be indispensable that this office be furnished with legal evidence of the areas of the lands actually conveyed or owned by the parties, in the forms of lots in this part of township No. 17, in order to make any restoration of the same; as the surveyors report that they can find no boundary lines of the lots existing.

Respectfully yours,

[signed] Verplanck Colvin

Superintendent

N

Between p. 348 and 349

Single page of Essex Co Township 15 & 16

Pullout # 10,215A

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COUNTIES OF ESSEX AND HAMILTON

TOTTEN & CROSSFIELD'S PURCHASE

TOWNSHIP NUMBER 17

The re-survey of the easterly line of Township No. 17 was made in the years of 1895 and 1897 by orders of Verplanck Colvin, Superintendent, New York State Land Survey. The

results of said surveys being as follows:

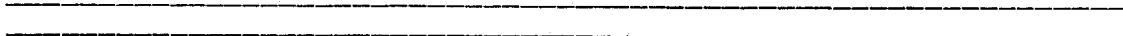
A part of the east line of Township No. 17 from the northwest corner of Township No. 16 on a course south 26 degrees 15 minutes east in 1895 to Station No. 40 on the east line of said Township No. 17 = 11,742.39 feet

To this must be added the distance by the survey of Edwards and Lynch in 1898 from Station No. 40 south 25 degrees 30 minutes east magnetic to the southeast corner of said Township No. 17, Totten and Crossfield's Purchase, which they record as

5.18 chains = - - - - - 341.88

To the above must also be added the distance from the northwest corner of Township No. 16 as run on the course 26 degrees 5 minutes west in the year 1897 by Surveyor Barnes to the northeasterly corner of Township No. 17 = - - - - - 22,504.62

Total length, east line, Township No. 17 = 34,588.89 feet



Which is equal to 524.074 chains by the measurements of The New York State Land Survey.

[signed] Verplanck Colvin

May 31, 1899

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APPENDIX L

Correspondence with

MARCUS U. MITCHELL, Local Surveyor

relative to

the Essex-Warren County Line

as it crosses

Schroon Lake

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CHESTERTOWN, N. Y.

Warren County

March 1, 1897

Mr. Verplanck Colvin Esqr.

Dear Sir:

I wish you would write me about the prospects of the Survey &c. I presume there will be an appropriation for the continuance of the survey. If so I would like a place if you could give me one.

I left two manuscript maps with your draughtsman when I was in Albany last, which were to have been returned to me by mail. Have not rec'd them. Wish you would have them sent me. Please send me copy of the report for last year as soon as printed. Have heard nothing of the results of the survey for a long time. Hoping you will write me soon.

I am very truly yours,

[signed] M. U. Mitchell

P.S. has the Forest Commission a report & new Maps this year.

[signed] M.

V. Colvin

I handed him his maps.

Mills Blake

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Department of State Land Surveys

Albany, N. Y.

March 10, 1897

Received from Verplanck Colvin, Superintendent, N. Y. State Land Survey, the following instruments and articles of camp equipment to be used by me and the employees of the survey under my direction in prosecuting the work of survey, and to be accounted for by me or returned to the office at Albany on the completion of the work, unless otherwise directed by the said Superintendent of the State Land Survey, or his authorized agent.

1	100-foot steel tape No. 207
1	Spring balance
1	Bolt marked East base (rim bolt) (No. 99)
1	Bolt marked West base (rim bolt) (No. 102)
2	Base line rods L and G
2	Base line levels
1	Blank book
4	Ice plates
3	Lead pencils; 1 red-blue, 2 black

[signed] M. U. Mitchell

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CHESTERTOWN, N. Y.

Warren County

March 15, 1897

Mr. Verplanck Colvin
Supt N.Y.S.L. Survey

Dear Sir:

I arrived home Saturday night & yesterday snow fell six inches. The wind is blowing a gale. Will try the Lake tomorrow if the weather is suitable. Fear the snow will hinder the accurate measurement somewhat, at any rate will make it more difficult.

I failed to ask you if it is necessary to see the signal at the Leland house from both bases; or, to see 2 points from each of the 3 bases.

Perhaps you had better send me explicit instructions. If I fail to get word from you I will if possible get the bases set so that the signal at the Leland House can be seen from each of the bases, & I hardly think the signal to the east of Adirondack can be seen from near Harrigan's where I think I will set the west base. Of course you know what signals can be seen from this point & if that will be satisfactory.

I send sketch which will suggest to you the problems in my mind. You can send me instructions by Telegram or Telephone if you think necessary.

Very respectfully,

[signed] M. U. Mitchell

N

March 16, 1897

Marcus U. Mitchell, Esqr.

Chestertown

Warren County, N. Y.

Do nothing until you receive orders in writing.

Letter follows.

[signed] Verplanck Colvin

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March 16, 1897

Marcus U. Mitchell, Esq.

Chestertown

Warren Co., N. Y.

Dear Sir:

Your letter of the 15th inst., has been received, and I herewith write to you the full instructions for the measurements across Schroon Lake upon the ice. Wait until the ice is clear of snow.

Set a copper plug in permanent rock on Taylor Point, west shore of Schroon Lake, on or near the County line. Set another copper plug on east shore on or near the County line. Place line marks along this line by transit from plug to plug. Measure the line between each copper plug, first in one direction and then back again, and report the results of these measurements.

If the weather is propitious and the work can be done within the limits of time and expense fixed by me. you can

then measure a line southerly from the signal at the Leland House so as to make a good base-line, both ends of which command a view of Park Mountain and Mt. Pharaoh--a base at least a mile long--on the west shore of the lake. If it is inconvenient to measure down to shore from signal then select rocks at shore (on west shore) in line from the Leland House Signal Station and measure base between copper plugs set in these rock monuments.

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The County line base and the Leland base need not be connected by measurement unless you find it convenient to do so.

The time in which you are allowed to do this work is four (4) days. You to wait for your pay until the appropriation is made.

Respectfully yours,

[signed] Verplanck Colvin

Superintendent

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CHESTERTOWN, N. Y.

Warren County

March 25, 1897

Mr. Verplanck Colvin

S.N.Y.L. Survey

Dear Sir:

I have set the Bases in Boulders one on each shore of Schroon Lake & measured the distance across & back.

First set a line by Transit of sections of wood 4 in. long by 2-1/2 or 3 in. diameter across the Lake. Then measured across from West to East 6137.65 & back

6138.12 dif. 47/100

The difference was Caused by the snow, ice & water & the inexperience of the tapeman, in using the ice plates. The first time across they scooped about 4 in. of the snow & slush away to firm ice & in placing the tape above the plate it gave a chance of error through paralax. In returning we placed the ice plates on top of the snow-ice & snow & the marks on the tape & the plates were coincident. I kept tally & personally inspected each measurement & think the last measurement would be the true one within 1/10th of a foot. In the 1st measurement I took the precaution of setting a plug at certain distances & marking the distances. On the return I compared distances & found the diference at 35 Tally, the decimal was .72 instead of .65, at 20 Tally, .80 & at 10 Tally, .86.

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I think the measurement near enough for practical use, but yesterday it snowed hard & very disagreeable working or I should have repeated the measurement but had not time.

I have followed your instructions precisely in all things, but if the season & weather had been better I would have gone west from the Taylor Point to the Highway to a Stone Monument set by Harris & run the line E to the Lake Shore on the true variation from 1772. But Mr. Harris run N. 88 degrees 10 minutes W. in 1844 & I allowed

5 minutes a year, $52 \times 5 = 4$ degrees 20 minutes + 1 degree
50 minutes = 6 degrees 10 minutes - 90 degrees = 83 degrees
50 minutes S83 degrees 50 minutes E-the course I ran.

I could find no marks indicating the County line but I got a man, Mr. Richardson, to show me a boulder, which he claimed to be on the original line. This boulder is on the highest point N. of Harrigan's Cottage, but south of the boat house. This I made the starting point. Could see nothing through transit yesterday.

Now I thought I would make this preliminary report so you could see the condition at present & determine what if anything more you wanted me to do in this premises.

The expense so far is inside of \$15.00. Can see signals on Pharaoh & Leland's from West base.

Please write at once.

Very Respectfully

The ice near the shore is

gone so it is difficult to get [signed] M. U. Mitchell

on the Lake & there is some

Surveyor

water about on the ice. Though saw loaded team on ice day before yesterday.

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STATE OF NEW YORK
DEPARTMENT OF LAND SURVEYS
VERPLANCK COLVIN
SUPERINTENDENT

March 29, 1897

Marcus U. Mitchell, Esq.

Chestertown

Warren Co., N. Y.

Dear Sir:

Yours of the 25th inst., was duly received. Since the ice is in such bad condition on Schroon Lake it will be better to defer further measurements until some other time. Kindly make out the men's vouchers and get vouchers for your expenses and send the same to this office. I will write you further after you send these papers.

Respectfully yours.

[signed] V. C.

Superintendent

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CHESTERTOWN, N. Y.

Warren County

April 12, 1897

Verplanck Colvin Esqr.

Dear Sir:

I send the voucher. 3 which includes all the expense of the survey & measure of Schroon Lake. I took my horse & went to Taylor's taking my son with me & on the 24th I hired Mr. Richardson to help measure & returned home each night, so you see these need no other voucher. I perhaps should have Mr. R.'s but it snowed & we were wet & had no facilities or place for writing.

I send sketch of Bases & needle courses to signals

&c. Have been very busy or should have sent sketch before this.

If anything is wrong about the voucher I will Correct it on receiving directions how to change it.

I am

Very Respectfully,

[signed] M. U. Mitchell

I await further instructions.

[signed] M.

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Between p 360 and 361

map # 10,216

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April 15, 1897

Marcus U. Mitchell, Esq.

Chestertown

Warren Co., N. Y.

My Dear Sir:

Your letter of the 12th inst., has been received, together with the vouchers which are imperfect, as they must not be certified by you, as they will be certified by the officer to whose account they will be charged.

I enclose you forms. made up in accordance with the

rules of this office, which you will please sign (receipt) where indicated with red pencil mark. On the return of these vouchers, cheque will be sent you.

As I have heretofore advised you, there is no additional work at present, nor can any be ordered until the appropriations are approved by the Governor.

Very truly yours,
[signed] V. C.
Superintendent

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May 6, 1897

Marcus U. Mitchell, Esq.
Chestertown
Warren Co., N. Y.

Dear Sir:

I have been absent from Albany or should have attended to your matter earlier.

Enclosed you will please find cheque for \$14.75 in accordance with the bill rendered by you, which settles your account in full to date.

I do not anticipate taking up work in your section for four or five weeks yet; meanwhile I trust you will send me a detailed memorandum or statement, in regard to the work done by you on the thirteenth township.

Truly yours,
[signed] Verplanck Colvin
Superintendent

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Chestertown, N.Y.

May 17; 1897

Hon. Verplanck Colvin Esqr.

Dear Sir:

I recd. yours of May 6th with check on Saturday 8th. I went to Ticonderoga early Monday & had no time to reply.

Have just returned & will give you a detailed statement of my survey in the 13th Township in a few days. Think by Saturday next.

Very Truly,

[signed] M. U. Mitchell

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June 3, 1897

Marcus U. Mitchell, Esq.

Chestertown

Warren Co., N. Y.

Dear Sir:

On March 10th the following list of survey property was issued to you for use in surveys at Schroon Lake.

1 100 ft. steel tape Marked No. 207

- 1 Spring-balance clutch
- 1 Bolt marked East Base - Was this set?
- 1 Bolt marked West Base - Was this set?
- 2 Base line rods, marked L & G
- 2 Base levels for base-line rods
- 1 Record book
- 4 Ice plates

Please send the above articles, by express,
to this office at as early a date as possible.

Truly yours,

[signed] V. C.

Superintendent

Separate report for property clerk.

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APPENDIX M

R E P O R T O F

T. W. W R I G H T, C. E.

Professor of Mathematics, Union University

on

Methods of Precision

on

Scientific Surveys

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SCHENECTADY, N. Y.

November 1, 1897

The Hon. Verplanck Colvin
Superintendent, N. Y. State Land Survey

Sir:

In accordance with your letter of June 9, 1897, I have the honor to submit the following report.

Your letter called for the preparation of a "monograph or paper relative to the degree of precision which has been secured upon the work of land surveys in this and in other countries, in the form of an historical sketch or synopsis

of the results obtained by the various surveys, as to the degree of precision which should be sought:

First, on primary, secondary and tertiary triangulation;
Second, on geodetic, secondary and topographical levels;
Third, as to methods and results on transit line traverses, constituting route surveys connecting trigonometrical points governing and controlling the topographical work."

As the historical feature would call for a more elaborate paper than I had material at hand to prepare, I have confined myself to giving the latest methods in all cases so far as I could ascertain them. The published reports of the various surveys discussed have been consulted and in several cases the necessary information had been obtained through correspondence.

An elaborate account of foreign surveys has not been attempted. The accounts of the British Ordnance Survey and of the Prussian surveys have been condensed from Comstock's "Notes of European Surveys."

The American surveys noticed are the survey of the St. Mary River, the surveys under the direction of the Mississippi River Commission and the Missouri River Commission, and the U. S. Geological Survey. The

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methods in use in the first three surveys named are founded on those employed on the survey of the northern and northwestern lakes, and are scattered through the reports of the Chief of Engineers, U. S. A., from 1879 to 1896. The methods in use in the Geological Survey are given in Monograph XXII and the recent (1897) instructions to Chiefs

_of party.

The U. S. Coast Survey has not been included as its methods are readily accessible through Dr. Staley's "Geodesy," now in press.

Very respectfully,

[signed] T. W. Wright

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THE ORDNANCE SURVEY OF GREAT BRITAIN

This survey is carried on by officers of the Royal Engineers with the aid of civil assistants of different grades.

The Primary Triangulation is executed with theodolites of 18-, 24-, or 36-inch horizontal circles divided into spaces of 10 minutes and provided with micrometer microscopes. The principal triangles have sides from 20 to 60 miles in length.

The secondary triangulation is executed with 12-inch theodolites. By means of it, the principal triangles are subdivided into triangles having sides about five miles in length.

In the tertiary triangulation, where 7-inch theodolites are used, the sides of the secondary triangles are subdivided by means of triangles whose sides are about one mile in length.

The detail work is based upon the tertiary triangulation, and in the cultivated districts is done with the chain alone. The sides of the tertiary triangles, the lengths of which have been computed are chained and the

triangles are subdivided by chained lines from which the details to be located are fixed by intersection with the chained lines or by offsets from them. Traversing with a 5-inch theodolite is used, but only where the surveying by right lines would be attended with difficulty.

In rough country, the detail surveying is principally performed by traverse, or by a combination of traverses and right lines depending upon them. The district is divided into blocks bounded by roads &c., and general lines of traverse are run starting from trigonometrical stations so as to embrace a whole block and close on the starting point, thus checking both the azimuth and distance. The general lines of traverse are also connected with every convenient trigonometrical station by a closing angle and distance; and from all trigonometrical stations closed on, where practicable, angles are taken to at least three

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surrounding stations and one or more conspicuous permanent objects between them. Intermediate or cross traverses are then proceeded with, starting from and closing on previously established pickets of other traverses on the same meridian, the angle of the former station being always retaken at closing; and in case of more subsidiary traverses made for fixing isolated objects some check-tie is given, such as a return-distance to some other picket on the traverse started from. In surveying by chained lines, the field party consists of one surveyor and one chainman; in surveying by traverse, of one surveyor and two laborers.

The notes and diagrams of field surveys are sent to the office to be plotted and checked by the triangulation; when

the discrepancy in chain work exceeds 1 in 500, the diagram is returned to the superintendent in the field for correction by re-survey.

After the work is plotted and checked, a tracing is made for examination on the ground. The examiner is required to verify the work by judicious intersections, so that the different portions of detail shall mutually prove each other.

The traces are returned to the draughtsman who transfers all corrections and additions to the original plans. A personal examination of the plans on the ground is next made by the officer in charge, after which the plans are forwarded to the officer in charge of the leveling to have the levels inserted.

Leveling. The datum plane is the height of mean tide at Liverpool. In primary leveling a series of levels is established along the principal routes of communication through the interior of the country, to serve as a basis for subsequent leveling operations of a more detailed kind, called secondary leveling, which provides, by the leveling and

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contouring operations, about one linear mile of leveling to every square mile, establishes bench marks and contours for every 100 feet of altitude up to 1000 feet above the sea, and determines the height of every trigonometrical station.

In the primary leveling, the accuracy of the work is checked by again leveling each line backward.

In the secondary, the work is checked by closing on the primary work. The limit of closing is 0.01 foot per mile in long lines.

The relative altitude of two stations is determined by measuring the angle of elevation from one station to another by reciprocal zenith-distances, or by the usual operations of spirit leveling.

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THE PRUSSIAN SURVEYS

The geodetic and astronomical work is performed by the Geodetic Institute, and the trigonometrical, topographical, and cartographical operations are entrusted to the general staff of the army.

Triangulation. The aim of the triangulation is to furnish for all time a net that shall be accurate enough for any demands that may be made upon it, even if surveys should be desired on a scale so large as 1:2000.

The primary triangulation consists of chains of triangles running through the area to be surveyed. Its angles are measured with theodolites having circles not less than 10 inches in diameter by 24 pointings at each object. Objects are pointed at in the order A,B,C,D-D,C,B,A, and between each set of pointings the horizontal limb is turned 30 in azimuth.

The angles are adjusted by Bessel's Method.

The probable error of a triangle side must not exceed 1:100,000.

The secondary triangulation consists of chains of triangles whose sides are about 10 miles in length. The angles are read with 8-inch theodolites giving seconds, 12 pointing being obtained on each object.

The angles are adjusted by Bessel's Method.

The probable error of a triangle side must not exceed 1:50,000. The detail triangulation (third and fourth classes) is based on the triangulation of the second class and must, if possible, be a continuous net covering the whole area to be surveyed. The angles are read by 5-inch theodolites giving seconds.

The probable error of the length of a triangle side must not exceed 1:25,000.

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The topographical work is based on the detail triangulation and consists in the production of finished plane-table sheets on a scale of 1:25,000. The trigonometrical points are plotted on paper which is fastened by its whole under-surface to a plane table. The alidade of the plane-table has a vertical circle and stadia wires, so that with a stadia, distances and elevations are readily determined.

It is asumed that, even in broken ground, a sufficiently accurate representation may be obtained when the stadia points have an average distance from each other of about 650 feet. Intermediate details are sketched on the plane-table, without use of the alidade, by setting the table up at each stadia point and by pacing. The permissible limits of error in distances on the plane-table sheet of any point are from 30 to 60 feet, and in elevation from 3 to 6 feet.

For more precise topographical work, the plane-table is replaced by the theodolite and stadia.

The heights of all triangle points are determined by

a combination of ordinary and trigonometrical leveling. The ordinary difference of contour curves is 16 feet. The heights are given from sea-level.

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RE-SURVEY OF THE ST. MARY RIVER.

The increase in the draft of vessels navigating the Great Lakes has rendered the re-survey of certain localities necessary. In 1892 a re-survey of the St. Mary river, which connects Lake Superior and Lake Huron, was begun under the direction of Col. O. M. Poe, Corps of Engineers, U. S. A.

Primary Triangulation

The instruments used have a 14-inch horizontal circle read by three equidistant microscopes to single seconds, tenths of a seconds being estimated.

The method of measuring the primary angles was as follows. Each angle was read independently. The instrument having been carefully adjusted, the telescope was set on the left-hand target of the angle and the micrometers read. It was then set on the right-hand target and the micrometers again read. The difference between the two readings was called a positive single result.

The whole operation was then repeated in the reverse order beginning with the second target, giving a negative single result. The mean of these two results was called a combined result, and is free from station twist.

The telescope was then turned 180 degrees in altitude and 180 degrees in azimuth and a second combined result obtained. The mean of the two combined results was taken as a single result. This result was free from errors arising

from imperfect adjustment for collimation, from inequality of pivots, and from inequality in the heights of the wyes.

The position of the circle on which these readings had been made was designated as Position I. The number of results sought being five, the circle was shifted by means of the trivet through 12 degrees, and a reading of the angle on this part gave a second combined result, and so on. Each

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angle was measured 20 times, giving ten pairs of combined results or five single results.

At each station, all the angles around the horizon between stations taken two and two completely closing the horizon were read. When weather permitted, the sum angles of triangles forming quadrilaterals were also read but were not considered essential. When read, they were used in the adjustment.

The limits set upon the observations were that the sum of the angles closing the horizon should equal 360 degrees within 2 seconds and that the sum of the three measured angles of a triangle should equal 180 degrees within 3 seconds. The season's work in 1895 showed the possibility of making a limit of error in observations with a good theodolite of 1 second both for closing the horizon and for sum-angles, with the bare possibility that the triangles would all close within 2 seconds.

In the office, the separate values of the horizontal angles were derived and the means taken. Local adjustments of the angles at the several stations were first made, and, next, the general adjustment of the triangulation net, using the locally adjusted angles to satisfy the equations.

The field work was planned in such a way as to make the office work as small as possible. Thus, in mounting the instruments at stations and in setting of targets and heliotropes, eccentric positions were avoided, thus doing away with the necessity of reductions to center, and leaving the work so that at the end of every day's observations the observer could form an idea of the value of his results.

Length of Lines. It has proven impracticable even with the powerful telescopes of the large theodolites to see targets under the most

N

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favorable conditions much over twenty miles away. Over long lines, therefore, it was necessary to use heliotropes. As this greatly increases the cost of the work, it was deemed advisable to avoid using lines longer than twenty miles whenever possible. The targets used were phaseless and were so placed as to need no change of position to be visible from all stations from which they were to be seen.

In 1893, the cost of the angle reading was \$223.45 per station; in 1894 it was \$321.12 per station. The difference is accounted for by the greater length of lines observed over and the consequent cost of heliotroping.

At each station, the zenith distance to all other stations of the primary system visible was read, four sets being taken to each station. No more than two sets were read to the same point on any one day. The angles were measured at both ends of the lines. Each resulting height is the mean of the determinations from a number of points, in one case of ten points. The range in the results in this case is 5 feet. Another station determined from five points

has a range of 14 feet.

Secondary Triangulation. In reading angles to locate secondary points, the method followed was to connect them with one or more of the primary stations by starting in with the first object on the left and reading round to each secondary and the selected primary objects in the order of their azimuth; finally closing on the point of beginning. Then the telescope was turned 180 degrees in altitude and 180 degrees in azimuth and read to all objects in reverse order. The mean of the forward and backward measures of any one angle of the first position of the circle was called a single result of Position I. The circle was next shifted through 15 degrees and the readings made in the

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same order, giving Position II. The mean of the four single results obtained from the four positions of the circle was free from such errors as can be eliminated by the method of observation.

So far as possible, each secondary point was read to from at least three primary stations, thereby securing a check on the location of each. In only a few cases were secondaries occupied.

No adjustment of the secondary triangulation was made. The common sides of the two triangles locating a secondary station were found in all cases to agree very well. The best shaped triangle was the one taken to locate the station. The greatest discrepancy on a line was 0.81 meter, or 1:28,000, the line being 22,222.83 meters in length.

Tertiary Triangulation In tertiary angles to flag stations, lighthouses, &c., only two sets of readings were

usually made. The angles were not read separately. All the objects around the horizon were read to in succession, ending with a reading to the one first sighted upon. The telescope was then turned 180 degrees in altitude and 180 degrees in azimuth and the objects sighted at in reverse order. A set is the mean derived from two such series of readings.

Levelings The instruments are supported on a tripod by three foot screws; the diameter of the object glass is 17/16 in.; the focal length, 14.5 in.; and the magnifying power of the telescope, 50 diameters.

The rods are made of well seasoned fir-wood, and have a breadth of 8 cm. and a thickness of 2.5 cm. They are strengthened by a strip of wood extending the length of the rods and attached to the rods in such a manner that the cross section is T-shaped. The rods are divided into centimeters, the graduation extending three meters.

Each rod has a handle attached one meter above its foot to aid in hold-

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ing it and a watch level 1.3 meters above its foot for keeping it in a vertical position. The rod is set on a cast-iron plate while in use, and is accompanied by a tripod for supporting it.

The method of observing was briefly this. Beginning with the instrument in adjustment, level up very carefully and set telescope on rod being held for backsight; with micrometer under eye end of telescope, bring level bubble to middle of tube and then read the projection of the horizontal wires on the rod; reverse the level, bring bubble to center and read the wires again; bring level back to direct position, bubble to center, and read the horizontal wires for the fourth and last time. Turn telescope to rod, set for foresight, when the method repeats itself. Care was taken to make the length of back- and foresights equal. All work was run as a single line.

All lines of levels were checked by being run forward and backward on the same day, unless change of weather prevented.

The limit of discrepancy in closing a polygon was 3 mm. divided by distance in kilometers. Between any two bench marks where this limit was exceeded, the line was re-run until it checked.

The cost of the work was about \$32.00 per mile of finished line. This is high, which in a measure comes from the fact that the amount to be done was small and the cost of fitting out large in proportion.

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U. S. GEOLOGICAL SURVEY

Work was begun in 1882. At first, three different scales were used for different parts of the country; but finally the scales adopted were 1:62,500 or one mile to an inch, nearly, and 1:125,000 or two miles to an inch, nearly. The contour intervals for the scale 1:62,500 range from 5 to 50 feet, and for the scale 1:125,000 the interval is 200 or 250 feet. Natural features are represented on the map and also artificial ones of general importance, but not features private in their nature. Hence cities, roads, bridges, canals, are represented, but not fences, property lines, or private roads.

It is probable that in nine-tenths of the area of the United States it will be found necessary to locate the details of topography, &c., by means of traverse lines. In different parts of the country the relative extent to which triangulation and traverse methods can be applied depends upon various circumstances, principally the amount of relief of the surface and the prevalence of forests. Thus upon the Atlantic Plain, which is densely covered with forest and which is very level, it is necessary to use the traverse method exclusively. Passing from this as an extreme case through rolling and hilly country to the high sharp mountains of the West, the triangulation method becomes more and more prominent while the traverse method finally becomes used but little, except in the details of roads and other cultural features.

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Base Lines. Base-line measurement is ordinarily the first of the preparatory steps toward mapmaking. Since 1887, steel tapes have been adopted for this work. The tape is 300 feet in length, and during measurement is supported by a series of low stools whose legs are pressed into the ground at intervals of not more than 25 feet, while similar stools sustain each end of the tape.

Alignment, tension of tape and measurement of temperature of tape are all carefully provided for.

The measurement of the line is made at night or during cloudy days, in order that the temperature of the air, which is that indicated by thermometers, and that of the tape be as nearly as possible the same. The temperature is observed by at least two thermometers at each tape length.

The line is measured at least twice, and the results compared by sections of 1200 feet, or four tape lengths.

The ends of the base are permanently marked by means of stone monuments set into the ground so that their surfaces are but a few inches above its level, and the exact position of the ends is indicated by a cross cut in a copper bolt embedded in the head of a stone.

A line of levels is run over the site or over the stools which support the tape for the purpose of obtaining its profile and thereby the means of deducing its horizontal length.

A base less than 5 miles in length is not an economical one, inasmuch as it costs less to extend the base than to complicate the expansion. A greater length than 10 miles is unnecessary, because this length admits of easy expansion. Thus from the ends of an 8- or 10-mile base, one can observe directly on points 12 to 15 miles away, a distance as great as the average side of a triangle.

Primary Triangulation In the primary triangulation, theodolites having 8-inch horizontal circles are used. The circle is subdivided into 10 minutes and is read by two microscopes placed opposite one another. The telescope with the eyepiece commonly used has a magnifying power of about 30 diameters.

Angles are measured either by the method of circle readings (directions) or by single angles. The following program is used when angles are read independently:

- Pointing on A and reading of both microscopes;
- Pointing on B and reading of both microscopes;
- Transit telescope and turn microscopes 180 degrees;
- Pointing on B and reading of both microscopes;
- Pointing on A and reading of both microscopes;
- Shift circle by 180 degrees/n and proceed as before

until n such sets of measures have been obtained;

Then measure the angles B to C, C to D, &c., including the angle necessary to close the horizon, in the same manner.

When the method of directions is adopted, each complete set must consist of pointings with telescope direct and reverse pointings with telescope inverted, always closing the horizon.

The error of closure of any triangle must not exceed 5 seconds. The observer must always endeavor to locate points that may be of use to the topographer.

Observations for azimuth on Polaris before and after elongation are made on two nights from at least one station in each square degree, consisting of not less than 6 angles between mark and star with telescope direct and reversed.

The measurement of the angles having been executed by instruments and methods much better than the needs of the map require, it is not ordinarily necessary to make any figure adjustment further than an equal distribution of the error of each triangle among the three angles.

Primary Traverse The initial point of a primary traverse is located either by triangulation or by astronomical determinations. The end of the line should be similarly well located.

The instruments used are a 20- or 30-second transit; one 300-foot steel-tape graduated to feet for five feet at either end; one spring balance; one 100-foot steel-tape; two thermometers; four hand recorders; two flag poles; one good watch.

The party consists of: One chief as transit man; one recorder; two tape-men, either of whom may act as front or rear flagman; one flagman. At each station the transit man proceeds as follows: Set telescope on rear flag, read both verniers, transit telescope, set on front flag and read both verniers. Shift the circle and read the same angle with telescope reversed. If the two angles differ by more than 60 seconds, repeat the operation.

Observations for azimuth are made at the close of each day's work when possible, and azimuth stations should not be more than 10 miles apart except on long tangents.

Meridian marks, consisting of two standard bronze tablets let into dressed stone or masonry posts and placed 500 feet or more apart, are established at each county seat passed in the progress of the work.

Observations for magnetic declination are made at

several points in the course of a season's work, especially at county seats.

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Secondary Triangulation. By means of the primary triangulation, two or three points are located upon each atlas sheet. Within this primary triangulation and depending upon it are then located a large number of points, either by intersection or by traverse or by both methods, forming a geometric framework upon which the sketching of the map depends. The work of making secondary locations by intersection is done mainly by the plane-table.

When traversing is done along roads, as is commonly the case, distances are measured by counting revolutions of a wheel. An experience covering many thousands of miles of measurement has shown that as a working method of measuring distances on roads, the wheel is superior to the stadia alike as to accuracy and rapidity. When, however, lines are to be run without reference to roads, it is found advisable to use the stadia in place of the wheel.

Traverse lines should close with but trifling error; an eighth of an inch in distance of 10 or 12 miles is as great an error as should be permitted, and all errors of closure should be shown.

Height measurements in connection with traverse lines are effected in one of two ways--either by vertical angles with the telescopic alidade or by the use of the aneroid. In the great majority of cases the aneroid is employed. Since, from its extreme delicacy, the aneroid is a very uncertain instrument, it is used differentially only, and for small differences in height and small intervals of time. Its indications are checked by reference to known elevations whenever opportunity is afforded. If the difference is more

than a contour interval, the error is distributed backward along the proportion to distance. If the error is small, it may be neglected.

Secondary triangulation, traversing, measuring of heights, and sketch-

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ing are commonly carried on by one party. This consists of the chief of party, who does all the sketching; an assistant who carries on the secondary triangulation, and one, two, or more assistants who are engaged in traversing. The secondary triangulation is done first, in order that the traverse men may be furnished with positions and heights for locating the traverse lines. The traversing follows, in order that the chief of the party may be furnished with all the control for his use in sketching.

Leveling Fore- and backsights should be of equal length, and no sight over 300 feet should be taken excepting under unavoidable circumstances. If impracticable to take equal fore- and backsights, as soon as the steep slope is passed take enough unequal sights to make each set balance. Lengths of sight are obtained by stadia or by pacing. These distances must be recorded.

Rodmen are provided with conical steel pegs, 6 to 12 inches long, with round heads to be used as turning points.

Leveler and rodman must keep separate notes and compute differences of elevation immediately.

Work on primary lines should not be carried on during high winds or when the air is "boiling" badly.

The limit of error must not exceed (in feet) 0.05 divided by distance in miles.

Temporary bench marks are left at frequent intervals,

marked so that they can be easily identified. All permanent bench marks must be on copper bolts or bronze tablets let in drill holes in masonry structures or in solid rock, or be on the iron posts adopted by this survey.

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MISSISSIPPI RIVER and MISSOURI RIVER

The methods of survey of the Mississippi River Commission and of the Missouri River Commission are quite similar. Both are founded on the methods used on the survey of the Northern and Northwestern Lakes.

Secondary Triangulation The instruments are non-repeating, 10- inch theodolites, graduated to five minutes and read by micrometers to one second. The instruments are protected from sun and wind when in use.

The value of an angle is determined by eight combined results read as follows:

The instrument being at A and carefully adjusted with the vertical circle to the right, point successively to 1, 2, 3 and 4, recording the reading of both micrometers for each pointing. This gives a positive result for each angle. Then point to 4, 3, 2, 1, and record readings as before. This gives a negative result for each angle. A mean of the two gives one combined result.

The telescope is now revolved through, leaving the pivots in the same wyes and the whole revolved 180 degrees in azimuth, the limb shifted 22.5 degrees and the stations read forward and back as before.

The same program is followed until all the results are obtained, the limb being shifted and the telescope reversed after each combined result.

The error in closing a triangle should rarely reach and never exceed six seconds and the average closure should be much below this.

The targets used give no phase and are equally illuminated whether the sun be in front or rear.

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Base Lines Base lines are measured at intervals of about 20 triangles. This is done with a 300-foot steel tape. The line is carefully staked out and the grade determined instrumentally. Supporting stakes are driven at intervals of 30 feet. The stakes marking the extremities of each tape are firmly set and free from any disturbing influence due to tension of tape or otherwise. On these stakes, strips of zinc are fastened and remain until the whole measurement is completed. The temperature of the tape is determined by three thermometers placed near the ends and in the middle of the tape.

The tape is suspended in hooks at intervals of 30 feet and attached in such a way that it may swing freely and eliminate friction as far as practicable. The tension of the tape is kept uniform while measuring by attaching a weight of 16 pounds. The extremity of each tape length is marked on the zinc strip with a fine line and suitably numbered.

The line should be measured two or more times with a discrepancy when reduced of not more than 1:250,000.

Experience shows that the main source of error in measurements with the steel tape is due to an uncertain temperature correction. Accordingly, the best work is done during cloudy weather or at night. In daylight, it is possible to measure a tape length every two minutes; by lamplight, about one-third more time is required.

The azimuth of each base line is determined by observing with a triangulation instrument two closely circumpolar stars on two different nights. The instrument and light should preferably be at the extremities of the base or a triangle side. The time is determined by observing the meridian passage of high and low stars.

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Leveling Errors of adjustment are determined at least once each day. The error of adjustment must not exceed two level divisions, and commonly should not exceed one. All details of adjustment must be entered in the proper notebook.

The instrument when in use is sheltered from sun and wind. It is carried from station to station without being dismounted, and the level is carried in the hand.

The rods are placed on the pins which accompany them and held in a vertical position by means of the spherical level attached.

Fore- and backsights are equalized by pacing or by stadia measurements, all the instruments having fixed stadia wires and the rods an extra graduation to correspond. Sights are limited to 300 feet except in crossing a river or when otherwise impossible.

Three readings of the rod were taken at each sight and the mean adopted. These three were required to agree within 0.001 of a foot.

Rodmen kept notes of readings on their rods, which readings were called out as a check when the leveler and rodman alternately passed each other.

Bench marks consist of thoroughly vitrified tile 4 inches by 18 inches by 18 inches placed 3 feet below the surface of the ground and surmounted by a four inch wrought

iron pipe as a surface mark. In the center of the upper surface of the tile a copper bolt is leaded, the upper surface of which will be the point of reference. Every bench mark is fully described in a special notebook. Its position with reference to prominent objects near it are given by distance and direction. In a town, several should be established to secure against loss.

Field reductions of all precise level notes are made at the end of each day's work, so as to ascertain before leaving the ground whether the results come within the prescribed limits.

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Topographical Field Work A record is kept showing the daily progress of the party. All notes should be so full and plain that they can be readily reduced by one who has not seen the ground. This requires attention to details which may seem of trifling importance in the field. Notebooks are fully indexed at the end of each day's work.

Where the secondary stations are more than three miles apart, a tertiary system of triangulation is carried giving points on either bank at intervals of a mile or less. This system begins on a triangle side of the secondary system or a carefully measured base, and all of the available secondary stations are used in the tertiary chain. The tertiary work will also close on a line of known length as a check of its accuracy. The discrepancy should not exceed 1:3000. The triangulation system is laid out and the angles read in advance of the topographers so that the azimuths and lengths of sides can be used in checking stadia work.

The angles are read with a 10-second instrument, the first series being read on azimuth. Pointings should also be made to prominent objects such as chimneys, houses, &c., the location of which serves to check the topographical work.

In the area covered, the detailed topography is located with transit and stadia. All points needed to plot accurately the important features are on a scale of 1:10,000. Beyond these limits, outline surveys are made defining streams, lakes, and the foot and main crest of bluffs, with approximate elevations of the same. This work is run with the transit, or with the compass and stadia, and is frequently connected

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with the detailed topography.

A sufficient number of elevations is determined to admit of putting in contours five feet apart. In a wooded area this will require cross sections at intervals of 500 meters or less. When the trees are too close together to admit of long sights, it will be sufficiently accurate to use the compass needle for obtaining the direction.

The error of level carried with the transit should never exceed one foot for the longest distances. In good work the discrepancies rarely exceed 0.5 foot. The work is frequently checked by starting and closing on points whose elevations are known.

Field sketches are made by the topographers on sheets of suitable size to fold and place in a notebook. The sketch is completed on the ground, except the contours, and the direction of these is indicated by showing the axis of sloughs, depressions, and ridges.

The coordinates of all tertiary stations are computed, and together with the secondary stations form the basis for platting the topographical detail. The field plats are on tracing linen 30 inches wide, and in such lengths as cover the topography to the best advantage (scale 1:10,000). On these sheets the projection and geographical positions are platted in the office. Parallels and meridians, one minute apart, are projected on the field plats and shown by fine red lines properly numbered. From these the triangulation stations are platted. The contour lines and other outlines should preferably be put in by the observer who located them in the field.

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Cost of Field Work The cost of the various classes of field work is a matter of considerable interest. It is difficult to make comparisons between different surveys in this particular as the local conditions differ so very much. Accordingly, this has not been attempted, but there is given instead a synopsis of the results published by the Mississippi River Commission of the cost of the work done by it during different seasons. In these estimates the expense of reaching the field and of returning from it is charged to the work, and hence the length of the working season is an important function of the cost. Cost of materials is also included, but not cost of repairs to plant.

Secondary Triangulation, including base lines and azimuth work:

Date.	Distance along river, in miles	Cost per mile.
1880	283	\$ 76.00
1881	166	41.00
1891	86	100.01
1892	135	86.08
1893	77	99.22
1894	91	63.26
1895	145	57.05

Tertiary Triangulation, including location of stone bench marks:

Date	Distance along river	Cost per mile
1892	175	\$ 40.23

Precise Levels:

Date	Distance in miles	Cost per mile
1880	300	\$ 25.00
1881	151	27.00

1882

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23.46

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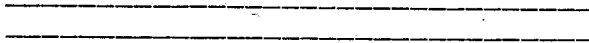
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Precise Levels (continued)

Date	Distance in miles	Cost per mile
1891	156	\$ 25.30
1891	321.3	21.57
1893	102	19.04

Topography

Date	Square miles	Cost per square mile
1880	240	\$ 65.00
1881	466	90.00
1882	1135	56.93
1883	819	43.01
1891	355	36.21
1892	218	42.02
1893	184	41.36
1894	432	48.06
1895	191	50.88



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APPENDIX N

FIRST AND SECOND MEASUREMENTS
OF THE
LAKE PLACID LAND SEGMENT

OF A BASE, MEASURED BETWEEN BREWSTER STATION AND THE
NEW MONUMENT 262,
IN AUGUST 1897

BY E. A. FUERTES

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PROFESSOR E. A. FUERTES

Director and Dean

Director's Rooms

College of Civil Engineering

of

CORNELL UNIVERSITY

Ithaca, N.Y.

November 2, 1897

Verplanck Colvin
Superintendent, State Land Survey
Capitol, Albany, N. Y.

Dear Sir:

In accordance with the correspondence with your office, dating from May 20, 1897, and your subsequent application to our Board of Trustees, asking for the loan of our base-line apparatus, I accepted your invitation to measure a base line previously located by you at Lake Placid in the Adirondacks, as per agreement contained in my letter of July 13, 1897. I went to Lake Placid for the purpose of measuring this base line on July 25, 1897.

The field work, owing to delays and necessary repairs and adjustments to the apparatus, extended to and through August 25, 1897. The operation of measuring, itself, extended from August 3 to Tuesday, August 23, 1897. The measurements were often interrupted by stress of weather

and the inherent difficulties of the ground.

The apparatus employed consists of two cylindrical rods of mild steel, capped at their extremities, respectively, with a flat agate at one end and a wedge-shaped agate at the other; the latter, moving in a thimble over the steel rod; and when in contact with the flat agate, it is brought to the known length of the bar by means of a screw, which presses the wedge backward until a fine line upon the thimble coincides with a similar line upon the steel rod. Under these conditions of the contact of the agates, the base bar

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marked "A" has a length of 3.9998211 meters at 32 degrees F; and the length of bar "B" at the same temperature is 3.9997913 meters. The co-efficient of expansion of these bars is 0.0000065 meters.

The starting station for the measurements is at station Brewster, which is the south end of the base line. Its north end is at Hawk Island Station; but your instructions required that I should measure only the southern land segment, along the slope of a hill from mark in copper bolt at Brewster triangulation station, to mark in copper bolt set in boulder on the shores of the lake. The other segment of the base line having been measured at some previous time, all details of this work are unknown to me. My measurement ended at a monument upon which a triangulation point, marked number 262, was placed. This point--nickel-plated copper bolt--has the date of 1896; it was furnished by your office but was not placed in position until August 18, 1897. This monument is a sound piece of gneiss, 14 x 15 inches on the side, and about eight feet long, roughly dressed by chipping, to about

14-1/2 x 9-1/2 inches from the top, for a distance of about one foot from the surface of the ground.

The mark in copper bolt set in boulder on the shore of the lake known in your survey as "south shore monument" falls 0.8154 meters north of the center of bolt 262, in the monument placed on August 18. In spite of the careful tamping while setting this monument, the heavy wheeling required to bring in the sand for filling, and possibly, carelessness of the driver, before two feet of the lower end of the monument

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had been packed, lengthened this distance by one millimeter, as accounted for hereafter. I considered it more desirable to continue the packing of the monument, than to force the stone back, thus rendering it insecure. This monument was left in a perfectly immovable position, and surrounded by a rubble wall built on the shores of the lake, so as to give six feet of earth between the wall and the monument. This wall was subsequently pointed with Portland cement. The center of the station point is in perfect alignment with the other two extremities of the base at a distance of 347.906345 meters north of station Brewster.

I had intended to neglect the first measurement of this base, fearing that lack of experience in the assistance furnished, required that the first measurement should be simply used for training purposes; but the close agreement of the two measurements justified the omission of a third measurement, on account of its expense. During the first measurement, vertical offsets were taken with the transit directly from the ends of the bars, by the employment of a contrivance, which it is not necessary to explain here; and

therefore, no entries are made in the table of measurements under the column of offsets, for the first measurement. During the second measurement, vertical offsets were taken by hanging a plumb line across the center of the agates and transferring the distance measured by each bar to the ground, upon a suitable peg furnished with a copper tack, and having previously made the horizontal axis of the transit perfectly horizontal, and the line of collimation perpendicular to it. The mark made was a fine cross scratched up-

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on the tack. the thickness of the line employed for these offsets was determined by winding upon a flat strip the plumb-line with the plumb bob hanging, whilst the line was rolled upon it. The average thickness of half the diameter of the plumb bob line was found to be 0.0006 meters.

The computations and reductions are furnished herewith in separate sheets. In the original computations the corrections for bars "A" and "B" were kept separately. In the sheets enclosed, the odd numbers in the first column correspond to bar "A", and the even numbers to bar "B"; in the next column are given the temperatures of the thermometers near the front and rear end of the bar, as well as the mean temperature deduced for the entire bar. Two thermometers were hung outside of the casing of the bars, to keep watch upon irregularities or sudden jumps of the indications of the internal thermometers. The temperatures of the bars, when thermometers were not read, were deduced by making the temperatures, not read at a particular time, proportional to the time elapsed between the previous and succeeding temperatures. In general, thermometers were not read more often than seemed necessary to avoid their giving

incorrect temperatures if exposed too often to the exterior air whilst removing their covers. The fifth column gives the corrections due to each bar on account of the difference of temperature between the temperature of the bar at the time of reading the thermometers, and the standard temperature at which the absolute lengths of the bars

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were determined. The sixth column gives the inclination of the bars, either as elevations or depressions, as read from the sector attached to the bars, and properly adjusted. The seventh column contains the corrections due to the inclinations of the bars, and the eighth column gives the amounts to be added to the length of such bars as were in position at the time of taking the vertical offsets. The letters (n) and (s) found as a subscript upon this column, mean that the addition was made on the north or south end of the bars, as indicated by these letters.

Using the data furnished by the enclosed notes, we have the following results:

Classified Values	First Measurement	Second Measurement
44 "A" bars at 3.9998211 meters	175.9921284	175.9921284
43 "B" bars at 3.9997913 meters	171.9910259	171.9910259
Unreduced lengths of bars "A" & "B"	347.9831543	347.9831543
Correction for temperature	+0.0939236	+0.0774388
Lengths corrected for temperature	348.0770779	348.0605931
Correction for inclination	-0.24040000	-0.1891800
Lengths corrected for temperature and inclination	347.8366779	347.8714131
Correction for offsets	0.0000000	0.0342000

Distance measured by 87 bars	347.8366779	347.9056131
Distance from end of last bar to plug in boulder	+0.8838000	+0.8154000
Distance between + in copper bolt at Brewster Station and the + on copper bolt in the bowl- der known as south "shore"	348.7204779	348.7210131

It was decided to place the monument at the end of the eighty-seventh bar so as not to disturb, during the operations of sinking

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the monument, the boulder carrying provisionally a marked copper bolt; but, as has been explained, the monument set on August 18 and marked number 262, moved one millimeter north of the end of the last bar of the second measurement, or; the distance between the boulder and the monument is 0.8144 meters. It will be seen that the two measurements differ from each other by 0.0005353 meters, which is about 1.4 parts in one million and must be considered as a very satisfactory result, even without taking into account the steepness of the ground and other difficulties of the base as located.

The final and most probable distance between Brewster station and the south shore boulder is 348.7207455 meters + or - 0.00042, and subtracting from the above -- 0.8144 meters we have:

347.90634 meters + or - 0.00042 meters =
as the true length of the segment of this base measured by me.

Very respectfully,

[signed] E. A. Fuertes

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FIRST MEASUREMENT

NUMBERS AND BARS	TEMPERATURES			CORRECTIONS	INCLINATIONS		REMARKS
	FRONT	REAR	MEAN		ANGLE	CORRECTIONS	
1 A	82	84	83	0.0013260	0.00'	0.00000	1897 August 3
2 B	82	84	83	0.0013260	D1.52'	0.00212	
3 A			83	0.0013260	0.00'	0.00000	
4 B			82.5	.0013128	D1.30'	0.00137	
5 A			82.2	.0013048	1.41'	0.00172	
6 B			81.9	.0012976	E0.18'	0.00005	
7 A	82	81.3	81.7	.0012928	D1.07'	0.00076	
8 B	79.5	80.5	80.	.0012480	0.55'	0.00051	
9 A			81.0	.0012740	2.35'	0.00406	
10 B	82.0	82.0	82.0	.0013000	3.32'	0.00760	
11 A	82.0	82.0	82.0	.0013000	1.47'	0.00193	
12 B			81.5	.0012868	3.21'	0.00682	
13 A			81.0	.0012740	2.36'	0.00411	August 5
14 B			80.5	.0012608	2.35'	0.00406	
15 A	66	66	66	.0008840	2.35'	0.00406	
16 B	65.5	65.6	65.8	.0008800	3.43'	0.00841	

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FIRST MEASUREMENT (continued)

NUMBERS AND BARS	TEMPERATURES		INCLINATIONS		REMARKS	
	FRONT	REAR	MEAN	CORRECTIONS		ANGLE
17 A			65.4	0.0008676	D2.31'	0.00385
18 B			65.1	0.0008600	2.59'	0.00541
19 A			64.8	0.0008532	2.33'	0.00395
20 B	64.5	64.5	64.5	0.0008448	2.07'	0.00272
21 A	64	65	64.5	0.0008448	2.34'	0.00400
22 B	59.7	60.3	60.0	0.0007280	E0.49'	0.00041
23 A			61.5	0.0007668	D2.10'	0.00286
24 B			63.5	0.0008148	1.52'	0.00212
25 A			65.5	0.0008148	2.50'	0.00489
26 B			67.0	0.0009100	1.59'	0.00240
27 A	67.0	70.0	68.5	0.0009480	2.36'	0.00411
28 B	66.0	66.0	66.0	0.0008840	2.40'	0.00466
29 A			66.0	0.0008840	1.54'	0.00220
30 B			67.0	0.0009100	2.34'	0.00400
31 A			68.0	0.0009360	2.25'	0.00355
32 B			69.0	0.0009620	3.12'	0.00624

N

-400-

33 A			70.0	0.0009880	D2.34'	0.00400
34 B	77.0	71.0	71.0	0.0010140	3.03'	0.00565
35 A	72.0	72.0	72.0	0.0010400	2.21'	0.00335
36 B			72.5	0.0010400	2.59'	0.00541
37 A			72.5	0.0010520	1.36'	0.00156
38 B			73.0	0.0010660	2.53'	0.00507

39	A	73.5	73.0	73.3	0.0010720	1.48'	0.00197
40	B	72.0	73.0	72.5	0.0010520	3.01'	0.00554
41	A	72.7	74.0	73.4	0.0010760	1.43'	0.00179
42	B	75.5	75.5	75.5	0.0011320	2.35'	0.00406 August 6
43	A			76.0	0.0011520	2.38'	0.00422
44	B	76.0	76.0	76.3	0.0011520	3.03'	0.00565
45	A			76.0	0.0011520	2.35'	0.00406
46	B	76.0	77.0	76.5	0.0011560	2.44'	0.00454
47	A	76.0	77.0	76.5	0.0011560	2.35'	0.00406
48	B			76.5	0.0011560	2.55'	0.00518

N

-401-

49	A			76.0	0.0011520	D2.35'	0.00406
50	B	76.0	76.6	76.3	0.0011520	2.20'	0.00331
51	A	56.0	56.0	56.0	0.0006240	2.36'	0.00410
52	B	62.0	62.0	62.0	0.0007800	D1.25'	0.00122
53	A	64.0	64.5	64.3	0.0008400	1.57'	0.00232
54	B			65.0	0.0008580	1.26'	0.00125
55	A			67.0	0.0009100	2.33'	0.00395
56	B			68.0	0.0009360	2.48'	0.00477
57	A			69.0	0.0009620	2.36'	0.00411
58	B	70.7	70.7	70.7	0.0010080	2.57'	0.00529
59	A	72.0	71.7	71.8	0.0010352	2.29'	0.00375
60	B	71.5	71.5	71.5	0.0010280	1.43'	0.00179
61	A	72.0	72.0	72.0	0.0010400	1.09'	0.00081
62	B			72.0	0.0010400	0.36'	0.00022
63	A			72.0	0.0010400	0.15'	0.00004
64	B			73	0.0010660	E0.10'	0.00002

N

-402-

65	A			73.0	0.0010660	E0.08'	0.00001
66	B	73.0	73.0	73.0	0.0010660	0.37'	0.00023

67	A	74.0	74.0	74.0	0.0010920	0.34'	0.00019
68	B	73.0	73.0	73.0	0.0010660	0.54'	0.00049
69	A	76.0	76.0	76.0	0.0011440	0.00'	0.00000
70	B	77.0	77.0	77.0	0.0011700	D2.26'	0.00360
71	A			77.0	0.0011700	0.50'	0.00042
72	B			78.0	0.0011960	0.09'	0.00001
73	A			78.0	0.0011960	0.38'	0.00024
74	B			79.0	0.0012220	0.09'	0.00001
75	A	79.0	79.0	79.0	0.0012220	0.13'	0.00003
76	B	79.0	79.0	79.0	0.0012220	E0.17'	0.00004
77	A			79.0	0.0012220	0.00'	0.00000
78	B			79.0	0.0012220	D0.05'	0.00000
79	A			79.0	0.0012220	1.27'	0.00128
80	B			79.0	0.0012220	1.09'	0.00081

N

-403-

81	A			79	0.0012220	D1.42'	0.00176
82	B	79.0	79.0	79.0	0.0012220	1.32'	0.00143
83	A	79.0	79.	79.0	0.0012220	0.52'	0.00046
84	B			79.0	0.0012220	2.11'	0.00290
85	A			79.0	0.0012220	2.35'	0.00406
86	B	79.0	79.0	79.0	0.0012220	2.51'	0.00495
87	A	79.0	79.0	79.0	0.0012220	2.59'	0.00541

Temperature

= 0.0939236

0.24040=

Correction

Inclination

Correction

N

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SECOND MEASUREMENT

TEMPERATURES				INCLINATIONS		OFFSETS	REMARKS
NUMBERS AND BARS	FRONT	REAR	MEAN	CORRECTIONS	ANGLE	CORRECTIONS	
1 A	60.0	61.0	60.5	0.0007408	D1.02'	0:00065	0.0006s August 12
2 B	59.0	59.5	59.2	0.0007080	E0.08'	0.00001	
3 A			60.0	0.0007280	D0.23'	0.00009	
4 B			60.0	0.0007280	0.39'	0.00025	
5 A			61.0	0.0007540	2.04'	0.00260	
6 B			61.0	0.0007540	E0.34'	0.00019	
7 A			62.0	0.0007800	D2.51'	0.00495	
8 B			62.0	0.0007800	2.25'	0.00355	
9 A			63.0	0.0008060	1.09'	0.00081	
10 B			64.0	0.0008320	1.45'	0.00186	0.0006n
11 A	64.0	65.5	64.8	0.0008520	2.25'	0.00355	0.0006s
12 B	63.5	65.0	64.2	0.0008380	1.55'	0.00224	
13 A			64.5	0.0008440	2.35'	0.00406	
14 B			65.0	0.0008580	2.09'	0.00281	
15 A	66.0	65.0	65.5	0.0008720	1.58'	0.00057	
16 B	66.0	65.0	65.5	0.0008720	1.53'	0.00047	

N

-405-

17 A	66.0	65.0	65.5	0.0008720	D2.06'	0.00268	0.0006n
18 B	66.0	65.0	65.5	0.0008720	2.15'	0.00308	0.0006s
19 A	54.0	53.0	53.5	0.0005600	2.06'	0.00268	0.0006s
							August 13
20 B	52.0	53.5	52.7	0.0005400	1.58'	0.00236	
21 A			53.0	0.0005460	1.46'	0.00190	0.0006n
22 B			54.0	0.0005720	1.42'	0.00176	0.0006s
23 A	55.0	55.0	55.0	0.0005980	2.29'	0.00375	
24 B			55.0	0.0005980	2.14'	0.00304	
25 A			56.0	0.0006240	1.59'	0.00240	

26	B	56.0	56.0	56.0	0.0006240	1.55'	0.00224	0.0006n
27	A			56.0	0.0006240	1.59'	0.00240	0.0006s
28	B			57.0	0.0006500	2.01'	0.00248	
29	A			57.0	0.0006500	2.03'	0.00256	
30	B			58	0.0006760	2.02'	0.00252	0.0006n
31	A			58	0.0006760	1.02'	0.00114	0.0006s
32	B			59	0.0007020	1.55'	0.00224	0.0006n

N

-406-

33	A	59.0	59.0	59.0	0.0007020	D2.29'	0.00375	0.0006s
34	B			59.0	0.0007020	1.55'	0.00224	
35	A			59.5	0.0007160	1.52'	0.00212	
36	B	60.0	60.0	60.0	0.0007280	2.11'	0.00290	
37	A	60.0	60.0	60.0	0.0007280	2.09'	0.00281	0.0006n
38	B	62.0	62.0	62.0	0.0007820	2.47'	0.00472	0.0006s
39	A			62.5	0.0007920	1.01'	0.00063	0.0006n
40	B			63.0	0.0008060	2.50'	0.00489	0.0006s 0.0006n
41	A	64.0	64.0	64.0	0.0008320	2.26'	0.00360	0.0006s 0.0006n
42	B	64.5	64.5	64.5	0.0008440	2.05'	0.00264	0.0006s 0.0006n
43	A			65	0.0008580	2.28'	0.0037	0.0006s 0.0006n
44	B	65.0	65.0	65.0	0.0008580	2.14'	0.00304	0.0006s 0.0006n
45	A			65.0	0.0008580	2.31'	0.00385	0.0006s 0.0006n
46	B	65.0	65.0	65.0	0.0008580	2.18'	0.00322	0.0006s 0.0006n
47	A	64.0	64.5	64.3	0.0008400	2.31'	0.00385	0.0006s 0.0006n August 16
48	B	64.3	65.0	64.6	0.0008480	2.30'	0.00380	0.0006n

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-407-

49	A	66.0	67.0	66.5	0.0008960	D2.33'	0.00395	0.0006s 0.0006n
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50 B		66.5	0.0008960	2.30'	0.00380	0.0006s 0.0006n
51 A	68.0 67.0	67.5	0.0009240	2.30'	0.00380	0.0006s 0.0006n
52 B		69.0	0.0009620	2.30'	0.00380	0.0006s 0.0006n
53 A	69.5 70.0	69.7	0.0009800	2.31'	0.00385	0.0006s
54 B		70.5	0.0010000	2.29'	0.00375	0.0006n
55 A	71.0 72.0	71.5	0.0010280	2.30'	0.00380	0.0006s
56 B	72.0 71.5	71.7	0.0010320	2.28'	0.00370	
57 A	72.0 72.0	72.0	0.0010400	2.31'	0.00385	0.0006n
58 B	79.5 78.0	78.7	0.0012140	2.30'	0.00380	0.0006s
59 A	74.0 75.0	74.5	0.0011040	2.30'	0.00380	0.0006n
60 B		75.0	0.0011180	0.00'		0.0006s
61 A		75.0	0.0011180	0.00'		
62 B		75.0	0.0011180	0.00'		
63 A		75.0	0.0011180	0.00'		
64 B	75.7 75.2	75.5	0.0011320	0.00'		

N

-408-

65 A	76.0 76.0	76.0	0.0011440			
66 B		76.0	0.0011440			
67 A		76.0	0.0011440			
68 B		76.0	0.0011440			
69 A		76.5	0.0011560			
70 B	76.0 77.0	76.5	0.0011560	D2.19'	0.00326	
71 A	76.0 77.0	76.5	0.0011560			
72 B	76.0 76.0	76.0	0.0011440			
73 A		76.0	0.0011440			
74 B		76.0	0.0011440			
75 A		76.0	0.0011440			
76 B		76.0	0.0011440			
77 A		76.0	0.0011440			
78 B		76.0	0.0011440	D0.02'	0.02000	
79 A	76.0 77.0	76.5	0.0011560	0.00'		

80 B 76.0 77.0 76.5 0.0011560 D2.30' 0.00380

N

-409-

81 A 76.7 0.0011640 D2.22' 0.00341

82 B 76.5 77.0 76.7 0.0011640 1.57' 0.00232

83 A 76.7 0.0011640 1.58' 0.00236 0.0006n
August 17

84 B 58.0 59.0 58.5 0.0006880 2.30' 0.00380 0.0006s

85 A 59.0 59.5 59.2 0.0007080 2.00' 0.00244 0.0006s
n

86 B 61.0 61.5 61.2 0.0007600 2.00' 0.00244 0.0006s
0.0006n

87 A 65.0 65.5 65.2 0.0008640 2.30' 0.00380 0.0006s
0.0006n

August 23

Sums = Correction for temperature 0.0774388 Correction for inclination 0.18918 Correction for Offsets 0.0342

CLASSIFIED VALUES	1st MEASUREMENT	2nd MEASUREMENT
Meters	(Meters)	(Meters)

44 A Bars at 3.9998211 Meters at 32 E 175.9921284 175.9921284

43 B Bars at 3.9997913 Meters at 32 E 171.9910259 171.9910259

unreduced lengths of 87 bars 347.98-1543 347.9831543

corrections for temperature +0.0939236 +0.0774388

lengths converted for temperature 348.0770779 348.0605931

corrections for inclination -0.2404000 -0.1891800

lengths corrected for temperature and inclination 347.8366779 347.8714131

correction for offsets +0.0000000 +0.0342000

Distance measured by 87. Bars 347.8366779 347.9056131

Distance from 87th Bar to "South-Base bolt" +0.8838000 +0.8154000

Distance from Brewster to

South Base Station

348.7204779 348.7210131

Mean of 1st and 2nd Measurements

348.7207455 +or-0.00042

Distance from South Rock to new

monument 262

-0.8144000

Length of base segment between 262

and Brewster

347.90634 + or -
0.00042

APPENDIX O

EXAMINATION

of

Ebenezer W. Lindsley

and

Col. S. Williams Martin

Local Surveyors

relative to State land boundaries

in Delaware County, New York

by

The Hon. Verplanck Colvin,

Superintendent,

New York State Land Survey

N

STATE OF NEW YORK

OFFICE OF THE CLERK OF THE SENATE

Albany, April 7, 1898

Respectfully Referred to

HON. VERPLANCK COLVIN

SUPERINTENDENT OF THE

N.Y. STATE LAND SURVEY

[Signed] Lafayette B. Gleason

Clerk of the Senate

N

-412-

STATE OF NEW YORK
IN SENATE

Albany, March 31, 1898

By Mr. Grant:

Resolved, that the Superintendent of the State Land Survey be, and he is hereby requested to make a preliminary examination of the public lands in the counties of Delaware, Greene, Ulster and Sullivan, and to report to the Legislature such recommendations in relation to said lands as may seem proper.

By order,

[signed] J. S. Whipple
Clerk

N

-413-

Examination of E. W. Lindsley, of Downsville, Delaware County, N. Y., in regard to boundaries and State Lands in Delaware County and vicinity, held at Delhi, Delaware Co., N. Y.

By Hon. Verplanck Colvin,
Superintendent, New York State Land Survey.

September 15, 1898

N

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Examination of Ebenezer W. Lindsley regarding the State lands in Delaware County, N. Y., held at Delhi, N. Y., Thursday, September 15, 1898.

EXAMINED BY SUPERINTENDENT VERPLANCK COLVIN, N. Y.

STATE LAND SURVEY.

Q. What is your name?

A. Ebenezer W. Lindsley.

Q. Mr. Lindsley, you swear that the testimony that you will give regarding the State lands will be the truth and nothing but the truth.

A. I do.

Q. You reside where?

A. Downsville, County of Delaware.

Q. What is your age?

A. I am in my seventy-second year.

Q. What is your profession?

A. Surveyor.

Q. How long have you followed this profession?

A. About fifty years.

Q. In what sections of the country?

A. In this county and the adjacent counties.

Q. You are familiar with the State lands in this county and the adjacent counties?

A. Yes, sir.

Q. You exhibit to me here [indicating] a manila paper, marked "A"; what is this map?

A. That is a map of the westerly part of Great Lot 5 in the Hardenburgh Patent.

N

-415-

Q. This map appears to show parts of two counties; what counties are these?

A. Sullivan on the easterly part, and Delaware on the westerly part.

Q. The stream which you see in the easterly part of this map is what?

A. The Beaverkill. On the westerly part of this map is the Great Lot 5 in the Hardenburgh Patent.

Q. The Beaverkill is in the west?

A. No, sir. The long line northeasterly and southwesterly is the county line between Delaware and Sullivan Counties; the north line shows the corner of Ulster.

Q. How many lots of State land are shown on this map?

A. There are 17 lots and parts of lots indicated on this map.

Q. Have you personally examined the boundaries of these lots of State land?

A. To a considerable extent I have.

Q. What is the general condition of the boundaries of these lands--are they marked permanently with stone monuments?

A. There are a few marked with stones set in the ground.

Q. How many stone monuments are there set in the ground, marked with numbers upon them?

A. There are only a very few, and those are some which I have done myself in recent years--not more than a half dozen altogether.

Q. Where are these marks located?

A. On the easterly part of it.

Q. As far as the State land is concerned, where are these lots located--on the mountain tops?

A. The easterly part of the land is very much detached. They

have

N

-416-

not been desirable lots for cultivation and have not been taken up. The division of title is with the patentee, and the State has taken these lots at tax sales. They have no original titles.

Q. What is the condition of the State lands as to the boundary lines--have they been marked recently?

A. Many of the State lots have been marked, or re-marked, but that had been done by the resident landowners who own the adjacent lands, for their own protection.

Q. What is the condition of the original markings?

A. In regard to the State lands, the original marks are still in existence. I find them occasionally. In a lot half a mile square I have found some of the original marks made in 1809--the survey was made by James Cockburn. John Kearstead was agent for the land grantees and he re-marked many of the lines.

Q. In what years did Mr. Kearstead make his re-surveys?

A. All the way from 1824 to 1863. His death occurred in the early part of the present century. In 1824, the marks should be those of Kearstead; he was the agent for James D. Overing, who was owner of the property, and Henry C. Overing had the westerly part of this Great Lot 5.

Q. I notice, Mr. Lindsley, that the county line is marked from here. By whom was that surveyed?

A. The early records show that it was run by James Cockburn and William Cockburn in 1797. That preceded the allotment of Great Lot 5. There were many lots surveyed from Great Lot 5--they were surveyed previous to 1797, these lots were along the Beaverkill.

N

-417-

Q. I notice on your map that many of the lots along the centre adjacent to the county line are laid off at right angles to the county line as though that line was used as a base?

A. Yes, sir, it was.

Q. Now this particular county line begins at this northern part and goes through Lot 5--where does it begin, at what point?

A. It is a straight line from the Delaware River where the two branches unite and is straight to the easterly. It begins on the south line of Great Lot 8, which is the line of Greene and Ulster and Greene and Delaware, and runs thence south as the needle pointed in the year 1797. The line was made by Statute and commences at the Delaware River and runs north 62 degrees east in 1797.

Q. What is the condition of this county line which is shown on this map at the present time--is it still marked upon the trees along its entire extent?

A. No, many of the marks are gone and it is somewhat difficult to find it in some places. It is not easily found unless you go to certain points and run for some distance.

Q. How many stone monuments are placed along it which you are familiar with?

A. Perhaps eight or ten, or possibly fifteen, in a distance of two miles, mostly across Great Lot 5.

Q. How many of these monuments are there in crossing Great Lot 5?

A. I speak of the monuments I know of in Great Lot 5--perhaps

eight or ten.

Q. Are there any cut stone monuments that you know of?

A. No, sir.

Q. Are there any monuments with inscriptions cut upon them, for any county or patent line that you know of?

N

-418-

A. No, sir, there are no monuments with inscriptions or numbers cut upon them that I know of either for patent or county line monument. There is a monument at the Delaware River, though, a native rock with a drill hole in it with something like an arrow pointing towards the river where the corner is on the easterly side of the river on the Pennsylvania side.

Q. At what point on the bank of the Delaware River is this drill hole and arrow?

A. At Long Eddy.

Q. Is that a post office?

A. Yes, sir.

Q. Which way from the post office is this drill hole and monument?

A. It is up the river northerly about a half a mile. I do not think that that was made from the line originally run.

Q. Have you any knowledge as to who marked this point in the rock?

A. No, sir.

Q. Has this point--drill hole and arrow mark--been accepted as a mark for the county line?

A. I do not know; I inquired from some resident surveyors and others I think over ten years ago and could not find out.

Q. Upon whose lines is this monument?

A. I cannot tell you. It is upon a rafting place for rafting

on the river; it is upon the bank of the river.

Q. How did you come to know about it?

A. I was looking for some land there and went up the river and found this mark.

Q. Did you ever run the county line in that section?

N

-419-

A. No, sir, not in that section.

Q. You have traced the county line in other places?

A. Yes, sir, long distances.

Q. Very long distances?

A. No, not very long distances--perhaps not over two miles in any one place.

Q. How could you identify the county line without running it through?

A. By the age of the blazes.

Q. Have you any records of points connected with the county line, such as corners of lots and the distances along lot lines to find it by?

A. Yes, sir; the first I ran the county line I was told that it was a little soft maple tree on the road going down Berry Brook of the Beaverkill. I started from that point with the required bearing.

Q. How long ago was that?

A. That was some time ago, possibly 20 years ago.

Q. Where did you start?

A. It was perhaps a mile from the Beaverkill. I ran along perhaps a mile or a half a mile and found many corners of lots.

Q. What course did you run?

A. On a northeasterly course. I found many corners of lands in Sullivan County.

Q. Were the corners marked or monumented?

A. Just a stake with stones piled around.

Q. Then there are no cut monuments anywhere along this county line?

A. No, sir.

Q. Have you run any lines since for the county line?

A. I have since run the county line more than a mile finding stone

N

-420-

heap corners on the line or near the line.

Q. Did you use any other means of identifying the county line?

A. I had different deeds.

Q. Did you measure from any corners to find the line which you thought might be the county line, and see if it was the county line?

A. In one case there was a piece of land run out for Mr. Kearstead in 1839. I think it was Lot 391 in Great Lot 5. This piece--this Lot 391--was made in 1861 by Mr. Kearstead, according to his field-book.

Q. What does he state?

A. It gives the course and distances. It begins at the northeast corner--that is, the re-tracing survey at Lot 391-- and goes South 25 degrees East and at right angles to the line 24 chains and 65 links to stones.

Q. Have you ever been able to locate the county line between the counties of Delaware and Sullivan by rivers and such boundaries as distances from the Beaverkill?

A. No, sir.

Q. Do you recall in any ancient field notes any distances

being given from the Beaverkill to the county line?

A. No, sir; I do not think I have any field notes which give the distance from the Beaverkill.

Q. Do not the original surveys give any references to the waters which you pass?

A. Yes, sir, but this is in the field notes of Sullivan County and I have no notes of Sullivan County.

Q. How do you know that this is the county line?

A. The first survey I made in that locality, I started from the

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soft maple tree and went on until I found a monument near a farm. I found one man who had built him a new house. He had been a voter in Sullivan County; when I ran the line out it left his house in Delaware County, and afterwards he made that his residence and paid his taxes there. This was in 1874.

Q. Did you find any marked trees or monuments?

A. You will find very few, if any, trees or monuments. It is my opinion that this line should be re-traced, marked and monumented the whole length. There was a part that was re-surveyed in later years but this is not to be depended upon.

Q. Did you find any stone heaps on this line?

A. I found a good stone heap on the county line where it crosses the Great Lot line. I understand that this is a good stone heap. The surveyor who ran or re-ran this line did not mark it properly.

Q. Have you run any portion of the county line in recent years?

A. South of the Beaverkill, in the town of Colchester, some

years ago-- I had to run a portion of it. I found plenty of marked trees. I did not find it without difficulty.

Q. How far back did this line run?

A. It ran back to 1770.

Q. Are you familiar with this county line where it crosses the other Great Lots?

A. Not where it crosses the other Great Lot lines. I made a survey over it on that line starting from the pile of stones accepted as the corner of the town of Hancock and Colchester.

Q. What course did you run?

A. Northeasterly.

Q. Did you find any marked trees?

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A. A few marked trees. I found one maple tree and counted back to the year 1797. I also found other marks along the line and established a satisfactory line near that point.

Q. In what Great Lot was this?

A. In Great Lot No. 4. In regard to the Neil property, in Sub-lot No. 1, I had to survey a lot in Sullivan County adjacent and run a survey across the tract, the line of 399 and 400; then followed the line 399 and 400 a certain distance-- that is, 14 chains 57 links North 24 degrees Westerly-- to the Delaware and Sullivan County line; thence along said county line South 66 degrees West 4 chains to the easterly line of the Brandow Huggins old lot, that is this Lisha Neil lot; thence along said easterly bounds South 24 degrees East 2 chains 7 links to the southerly corner of said old lot--that is the county

line; this is called 391 east part-- it follows along to the soft maple tree and comes back again . . . chains and 7 links to the brook and then to the place of beginning.

Q. Are you familiar with the north line of Great Lot 5?

A. Yes, sir.

Q. Where does the description of this line begin?

A. It begins far east from this, east of the Beaverkill a long distance. When it comes to the Beaverkill it is over 20 miles.

Q. Are there any marks where it crosses the Beaverkill?

A. I do not know.

Q. This north boundary of Great Lot 5--is it well marked?

A. It is marked pretty well some of the way by trees and by corners upon it on different sides. I have run that line considerable.

Q. Where do you start when you make a verification of this line?

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A. I ran the westerly part of it. The starting point is the corner of lots near there, which is the line of property.

Q. Is there no fixed monument?

A. No, sir. The line between Colchester and Andes corners on the north line of Lot 18. From that corner to the county line it is the line between the two towns.

Q. Have you ever been to the corner, which is the north line of Lot 5 on the banks of the Delaware?

A. Yes sir, it is on the westerly bank.

Q. What corner is there--what kind of a mark or monument?

A. None, not even a stake.

Q. Proceeding westerly along the north line of Great Lot No. 5, are there any marks?

A. There are no monuments for quite a ways; there are nothing but fences, in from the Delaware.

Q. Is there no properly inscribed line?

A. No, sir. There is a stone, however, marking the corner of Andes and Colchester--marked to indicate the line of Andes and Colchester. I can send you a copy of this mark.

Q. The south line--how is that marked?

A. Only by a pile of stones.

Q. Is there no cutting on the stones at all?

A. None that I know of, except where they have been marked for the corner of lots, which I have marked myself--which is very few. The sub-lots have a few marks upon them. Most of these stone monuments I have placed in my surveys--they are mostly stone heaps. There are a few of the stone monuments placed there when the lots were subdivided with figures cut in the stone. This was done in the 1860's. I have some records of them.

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Q. Are there any in any of the other Great Lots?

A. I think there are some in Great Lot 3 with corners numbered upon them. On the south side of Lot 388 a man cleared it and raised a good crop of rye in 1897. This is a State lot.

Q. Why did the man do this?

A. He had an erroneous survey which prevented him from knowing where the line was. The corner which this man claims was only a pile of stones.

Q. Have you run for any distance on the lot line in the interior of Great Lot No. 5?

A. Yes, sir.

Q. Along what lot lines have you run within Great Lot No. 5?

A. Beginning on the east bounds of the John Holmes farm lot at Lot 79, east part (it would be the south line of Lot No. 314), then ran southeasterly to the westerly bounds of the Brandow Huggins' Lot No. 391, east part.

Q. What marks did you find along this part?

A. I found blazed trees, blazed fore and aft.

Q. Did you chop into these trees?

A. Yes, sir, to ascertain the age, and found them dated back to 1809. I found some of the corner trees on the corners. In one case there was a beech tree which was called for in the old survey. The tree had been chopped down but it showed the corner. Another corner was the corner of Lots 372, 373, 378 and 379--a large maple tree corner with stone heap pile up by it and witness trees marked around it. From there on I did not find any original markings.

Q. What was the course?

A. I cannot give you the exact course, I think it was South 56 degrees

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East in 1809. I have run them South 54 degrees and upwards and again down a little less than South 52 degrees.

Q. When were these courses run?

A. I cannot give you the exact dates as I haven't my field books here.

Q. Can you give me any description of the character of the timber, etc., on the State lands--whether it is worth while preserving the boundary lines so as to know which is State and which is private?

A. The general character of these lots, in my opinion, is such as would indicate that there would be a good growth of beech, birch, maple, some ash, and some chestnut and oak upon it. There is no pine of any account on it.

Q. Is it worth while to go over this map lot by lot so as to ascertain the condition of the State Lands?

A. I cannot give you an idea of the lots separately. Some of them are occupied by private parties.

Q. Which ones are occupied?

A. Nos. 379, 380, 386 and 388 in Great Lot 5; also No. 18. Most of these lots that have names are occupied and cleared, some simply by cutting the timber off of them. Then in Great Lot 4, No. 87 is occupied as a farm, and I think No. 379 is occupied as a farm, but am not positive.

Q. Which do you consider. of these Great Lots 4 or 5 or

other Great Lots, is the most important to restore?

A. In my opinion they should all be restored and marked permanently.

Q. Are you familiar with the boundaries in Hancock?

A. Yes, sir.

Q. Can you recall the condition of the lands in the town of Hancock?

A. Similar to those in the town of Colchester.

Q. Have you any knowledge of any large wild area in Sullivan County--any uninhabited area?

A. I have no definite knowledge.

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Q. Are you familiar with the lands in the interior of the town of Hancock?

A. Yes, sir.

Q. What is the condition of the State lands in the town of Hancock?

A. From what I know of them, they are similar to those in the town of Colchester.

Q. Are the lands in the town of Hancock as fully settled as those in the town of Colchester?

A. I think where the State lands are, they are about the same.

Q. What would you call the lands in that section--first or second quality?

A. Not the first; hardly the second quality.

Q. Have you any idea what the selling price of lands has been in the town of Colchester, since the State has had lands in its possession?

A. They have sold from \$1.50 to \$2.00 per acre.

Q. How much in Hancock?

A. The lands appear to be of about the same quality. There are some lands in Colchester, around the State lands, that cannot be sold for 50 cents per acre.

Q. How do you account for that?

A. That is where the timber has been removed.

Q. Could you mention about where, so as to identify it?

A. You would be near Lot 120. It has been pine timber land.

Q. What would pine timber land be worth?

A. I think it would sell for \$3.00 per acre.

Q. How large are the pine trees on this land?

A. Some of them have been cut off recently. Possibly some of them would be two feet in diameter, some of them smaller--not like first growth.

Q. Are these trees on State lands?

A. No, sir, they are on private lands.

Q. Where are they located?

A. This Lot [indicating] 120 in Great Lot No. 5 is near that vicinity.

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Q. The lands in the town of Hancock, Delaware County, are in what Great Lots?

A. In Great Lot No. 2, in Great Lot No. 3, and part of Great Lot No. 4 of the Hardenburgh Patent.

Q. Are they mostly tillable lands? These State lots, I mean?

A. I think not, from what I know of them; they are hardly tillable lands--mostly suitable for timber. Many of them are stony, barren and mostly covered with hardwood.

Q. Where are the most precipitous parts located?

A. Adjacent to the river--that is, the lands in Hancock. Lot No. 34 in the Spooner Tract in Great Lot No. 4 is near the river.

Q. What kind of a lot is this Lot 34?

A. A pretty good lot, generally.

Q. Is there any timber upon it?

A. Yes, sir.

Q. What kind of timber?

A. Hardwood timber, mostly.

Q. You say this is on the river?

A. I am not sure that this Lot 34 is directly on the river, but near it, I think.

Q. The Hardenburgh Patent is bounded on the east by what?

A. By other patents on the east.

Q. How is it bounded on the west?

A. On the west by the Delaware River and the West Branch of the Delaware River. The most northeasterly Great Lot, which corners at Utsayantha Lake and Mountain (I think is No. 49) was not, according to my understanding, actually possessed by the Hardenburghs on account of a dispute.

Q. What was the dispute?

A. The patentees of other patents claimed the lands or a portion of it.

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Q. If a re-survey of the lines in the Hardenburgh Patent were ordered, where would the survey begin--the actual survey line?

A. I do not know of but a very few stone monuments that can be verified. There is one--the north end of the division line of Great Lot No. 35 between the branches dividing it into two parts--a large pile of stone for a monument and a beech tree. The Great Lot line is said to be originally about North 57 degrees West between the two Great Lots.

Q. Would this be a proper place to begin a re-survey; that is, would you find marks along the line sufficient to enable you to recover it?

A. I would not say that I could. There has'been a dispute as to the line between Great Lots 35 and 36; there have been two lines run there.

Q. Has this monument you speak of ever been in dispute?

A. No, sir.

Q. Where is it located?

A. It stands at the north end of the Great Lot No. 35.

Q. In what way is there a dispute as to the line?

A. The line dividing Great Lot No. 35 into two parts is started at this monument. It stands at the north end of that line, but there are two other lines running from that monument southeasterly. There is a dispute as to which of these two lines is the true line, and that will have to be determined yet.

Q. Will you give me the history of this dispute?

A. It started in regard to the line between Tompkins and Walton, which, according to the Statutes, was to be the line between Great Lots 35 and 36 on the east side of the West Branch of the Delaware River. There are two lines here. These lines begin at the same point on the east branch of the Delaware River. The northeasterly--or northerly line, rather--is located and begins at the stone monument and marked beech tree about four miles and a half to either of the rivers or about half way between the East Branch and the West Branch of the Delaware River. This is on the northerly line that I was on, which had,

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about 1857, marks on the trees of the survey of about 67 years before that time, or about the year 1790; but I found another old division line starting from the same point on the East Branch of the Delaware River to the south of this northerly line. This southerly line kept deflecting to the south as it went away from the Delaware River northwesterly. At the West Branch of the Delaware River, the northerly and southerly lines were ten chains apart.

Q. Were there any peculiarities about either of these lines?

A. Yes, sir; the south line was peculiar as it had the trees blazed for and aft and marked 67 years previous to my survey of 1857; then right under those marks were marks of an earlier survey dating back to 1754.

Q. Are there any records of this earlier survey?

A. Yes, sir; the records show that one Ebenezer Wooster made a survey in 1749-1754, and one Charles Webb made some surveys of Great Lots 35 in the year 1754, along this southerly line.

Q. Where did you find these records?

A. In some deeds that I had. Along this southerly line some stones had been set at the corners of sub-lots at the time when they were originally located.

Q. When was that?

A. About the early part of the present century or the latter part of the last century.

Q. Who did you say made this survey?

A. Charles Webb had something to do with the subdivision of the lots. The corners which I found on that line had a much later blaze than the corners on the north line.

Q. Did anyone else make a survey there?

A. Squire Hathaway, who lives in the village of Delhi, made a subsequent survey and found the two division lines

separating Great Lots 35 and 36.

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Q. Was this ever settled?

A. It was considered that there was a gore between the same, and on the trial of the case the courts decided that such a gore did exist.

Q. When was that?

A. That was in 1858.

Q. How is the line between Walton and Colchester?

A. The line between Walton and Colchester of 1827 by John

Radeker is entirely obliterated, with one or two exceptions.

Q. Do you think you can find any marks?

A. I think I can find a mark on Trout Brook.

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A rough sketch by Mr. Lindsley in regard to the lines in question. Essentially an 8 1/2 x 11 map.

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Examination of Col. S. Williams Martin, of
East Branch Delaware Co. N. Y. regarding State Lands

and boundary lines in Delaware County and vicinity, held
at East Branch, Delaware Co., N. Y.

By

Hon. Verplanck Colvin, Superintendent
New York State Land Survey, September 15,

1898

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Examination of Col. S. Williams Martin, of East Branch,
Delaware County, N.Y., relative to the condition of the
boundaries and State lands in the vicinity of East Branch,
and other places with which he is acquainted.

Examined by Superintendent Verplanck Colvin, of the
State Land Survey, Friday, September 16, 1898.

Q. What is your name?

A. S. Williams Martin, though I never use the Williams.

Q. You have resided here a long time?

A. Most all of my life.

Q. You are familiar with the survey lines in this section?

A. Yes, sir.

Q. Have you made any surveys?

A. I have.

Q. Those are all in the Hardenburgh Patent?

A. Yes, sir.

Q. What did you find to be the present condition of the
boundaries, with regards to stone monuments and stone
piles--marks of any kind of a permanent character?

A. There are hardly any lines that are permanently marked.

Q. Why is that?

A. On account of the acid people, where they get in they cut down the trees with no regard for line or marked trees, and our lumbermen also pay no regard to saving these monuments; and the stone piles are removed by parties interested.

Q. Are there no bolts or numbered stones of any kind?

A. There are no bolts or monuments on any of these lines.

Q. What is your opinion as to the advisability of the State making a search for these old lines and marking them permanently?

A. I think it would be an advantage to the coming generations.

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Q. Are you familiar with the State Lands in this section?

A. Yes, sir.

Q. Do you know of any State land on the Delaware River near the State line?

A. I know of three lots.

Q. Which lots are they?

A. Lot No. 1 in Division 29 of Great Lot No. 2 of the Hardenburgh Patent; Lot No. 2 in Division 28 of Great Lot No. 2 of the same Patent,--

Q. What is the area of Great Lot 1 in Division 29?

A. 134 acres.

Q. What is the value of this lot with regard to the wood?

A. There is not much value to the lumber; the principle value is the stone.

Q. Is the stone of much value?

A. Yes, quite valuable. There are a great many quarries now working on State land.

Q. How long have they been working on the State land?

A. They have been taking stone off the State land for the past ten or twelve years.

Q. How much taxes do these men pay?

A. None at all.

Q. Are there any other lots belonging to the State that you know of?

A. Yes, sir; there is also part of Lot 34 in the Spooner Tract in Great Lot No. 4 of the Hardenburgh Patent. The line cuts in nearly in the center. There are probably 40 acres in the town of Hancock. On Reades' Brook there are 75 acres. Great Lot 35 of Hardenburgh Patent, the southern part of Lot No. 8, Division 14, is State land.

Q. Is there any valuable timber on these lots?

A. No, sir, it has been all cut off.

Q. Is there any lumbering going on now?

A. No, sir.

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Q. Has anyone taken any timber off the State land in the last few years?

A. There is an acid factory there, and when I was agent for the Forest Commission, I made them pay about \$25.00 for taking timber from this lot.

Q. What kind of timber do they use?

A. Birch, beech and maple.

Q. What is the principal acid product from these woods?

A. Wood alcohol.

Q. What is the name of the firms engaged in acid making?

A. Originally it was under the name of Carey, then Tyler & Hall, but they have merged four or five factories under one head, and are located at Fish's Eddy. They also make acetate of lime.

Q. Any other State lots?

A. There is a piece of land in Great Lot 2 and Lot 4, south part; the lot contains 135 acres and the State owns one-half.

Q. Who are the principal lumbermen in this vicinity?

A. Monroe Williams; D. Mitchell of Callicoon.

Q. What factory is that near the railroad [indicating]?

A. That is an excelsior mill run by Henry Sulliger and one Decker.

Q. Is there any hemlock timber in this vicinity?

A. There is very little left, being mostly all cut off.

Q. What is the greatest height of the pine you have ever see grow here?

A. The greatest height I ever saw was perhaps 100 feet long. It is said that the main mast of the frigate, Constitution, was cut around here.

Q. Have you any spruce timber in this country?

A. No, sir; mostly balsam.

Q. I see considerable bark being loaded on the cars; what price does it bring?

A. We are loading bark in this section at the rate of four or five cars a day. Is worth--per car--\$3.85. I used to get \$6 or \$7. In

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greater.

Q. This map that we have before us--who made it?

A. It was copied from the Charles Hathaway map, who made the only map.

Q. When was the original map made?

A. In 1832, before the Burr map.

Q. Have you ever been all over this country as shown by the map?

A. Yes, sir. I was over it for the National Transit Pipe Line Company.

Q. For what purpose--to lay out their line?

A. No, sir, to regulate their assessment. I examined that area fully.

Q. How many lots did you visit in that examination?

A. I cannot tell without counting them up.

Q. You must know the division and boundary lines and whether there are any monuments on them?

A. Yes, sir, but they are very few. There are some on Division 14--these lots are marked with stone monuments with numbers cut on the stone; and I think there is one in Great Lot 35 in Hardenburgh's Patent, and no place else. In the Griswold and Spooner Tract, the marks were on the trees, but are now all gone. Perhaps altogether not 50 marks will be found at this time in the whole region. In the margin of the woods there may be a few. I would like to state here, that there was a mark in the vicinity of Long Eddy, but the railroad obliterated the marks entirely. They were cut in stone, but cannot now be found.

Q. Who marked the names on this map?

A. I put them on about the year 1885.

Q. This large map of the town of Hancock, Delaware Co., in 1888 is whose map?

A. It is a copy of a map in the Comptroller's office. Squire Joseph Yendes was authorized to make a map, and he took a Midland Railroad engineer named Bevier, who worked on the railroad--he made the map.

Q. Did this engineer make surveys?

A. No, sir; he took the old map and enlarged it.

Q. This other map is a very ancient map, is it not?

A. Yes, sir. It is a map of lands belonging to Edward Livingston Esq., as surveyed by Simeon Searing, surveyor. There is a bit of history connected with this survey, which perhaps will interest you. They say that Searing and his party came up the Delaware River from Pennsylvania in a dugout. They had another surveyor, but Searing would plat out the work and send the boys off into woods the and stay in the dugout and keep company with a large jug of rum which they brought up with them. Tradition says that he was drunk mostly all of the time the survey was being made. When the jug of rum was exhausted, he sent the dugout back to Pennsylvania for more rum.

Q. Is this the original map?

A. No, sir, I think not; as you can see that it has been pricked off.

Q. Would not that be caused by another map being pricked off from this one?

A. I think not, as a Mr. Samuel Homer, principal of the school in Bedford, owned some lots here and came to spend his vacations, and as I am perfectly familiar with his writing I would have to say that this map is in his hand-writing.

Q. What was the name of the Delaware River--the ancient name?

A. "Packatackan," the East Branch. The Fishkill Brook is now called Delhi. Where the East and West Branches come together, they called it Shehawkin.

Q. What is the name of the mountain in the rear of your place between the Beaverkill and the West Branch?

A. It is called Mt. Christopher--named after Christopher Roff, one of the early settlers. It is the breaking

up of the Catskills.

Q. Do you know the names of any of the older surveyors before your time?

A. My father was a surveyor in this country'before me.

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APPENDIX P

Signal Stations

built by

The New York State Land Survey

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pages 439 through 468

all represent signal stations

probably will have to be type set.

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Miscellaneous Correspondence

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Herkimer, N. Y.

October 20, 1897

Mr. Verplanck Colvin

Albany, N.Y.

Dear Sir:

I went to Long Lake Sta. Tuesday. Placed a board on each side of the Right of Way of the A. and St. Lawrence R.R. on county line marked as you requested, also blazed the line and set stakes about a mile each side of the R.R. You will find about 400 ft. east of the Right of Way a corner stake placed in an old hemlock stump & marked 34 & 45 [number of lots]. Said stump was of the tree described by Richards as being the corner of those lots. I had Mr. Henry Carbary of Long Lake Sta. go with me who will show you the Line. The line is but a few hundred feet from Long Lake Sta.

I saw Mr. Thomas Murry, Section foreman, who lives at Bog Lake Sta., about 5 miles west of Long Lake Sta., regarding the cor. He will carry provisions etc. for you although he had no right to do any such work. And if you had any very great amount you had better see Mr. John Block, Road Master of that division. To get to the terminus of the county line at or near Lost Lake, Stop at Bog Lake Station. Lake Road to Bog Lake Cross Bog Lake Lake

Carry 1-1/2 miles to Mud Lake. Then Carry to Lost Lake.

I have been through that section and am familiar with all carries. If I can be of any more use let me know.

Yours Respectfully,

[Signed] M. O. Wood

P. S. Between the outlet of Mud Lake shore you will find bow in old line which is 50 or 70 links north of the one we ran through.

M.W.

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Albany, N. Y.

Oct. 1, 1898

Hon. Verplanck Colvin

Superintendent, N.Y. State Land Survey

Albany, N.Y.

Dear Sir:

I have the honor to submit the following remarks in the use of the Houghton & Simms Theodolite No. 1 in the triangulation work of the Survey.

The instrument has two microscopes so divided that each single division represents approximately two seconds. Their heads are accordingly divided into 30 spaces and adding the readings gives the value of any determination in seconds.

In taking a reading the degrees and nearest five minute value are observed in an auxiliary microscope (with a large field) set near microscope "A".

An adjusting screw permits of the adjusting of the index in the auxiliary telescope so that it can be set in exact accord as to a single minute with the microscope

reading.

All the microscopes show objects reversed. For application of run the U.S.C. & G.S. table prepared by Prof. Geo. Davidson is available in the office; but in my practice I prepared a table of the run correction for each reading from the actual observation at each station.

For the occupation of the various stations it was decided that for the Primary Objects the instrument should be used in eight positions viz;

0 degrees 00 minutes 00; 11 degrees 15 minutes 00;
22 degrees 30 minutes 00 seconds; 33 degrees 45 minutes 00 seconds; 45 degrees 00 minutes 00 seconds; 56 degrees 15 minutes 00 seconds; 67 degrees 30 minutes 00 seconds; 78 degrees 45 minutes 00 seconds being the readings as near as

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possible. In each position the instrument would be used in two series, an observation Direct & one Reversed forming a series. For secondary stations, four positions of each, in series, will be satisfactory.

The vertical angles are measured by a detachable vertical circle which is read by two verniers.

The vertical angles, measured, are double zenith distances, and slight changes during the observations are corrected by means of level readings, a two (2 second) second level being attached to the circle. In taking the readings it is usual to point in some well defined position of the signal or object observed upon, with vertical circle on the left. After the telescope is pointed, the level readings are taken & then the two verniers read: next the

instrument is swung around 180 degrees & the telescope then directed again to the object & after reading the level the verniers are again read--the difference after subtracting the readings "Circle Left" from the readings "Circle Right" & correcting for level change is the Double Zenith distance--one half of this subtracted from 90 degrees 00 minutes 00 seconds is the altitude of the object.

Yours, respectfully,

[signed] John E. McGrath

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Albany, N. Y.

Oct. 1, 1898

Hon. Verplanck Colvin
Superintendent, N. Y. State Land Survey
Albany, N. Y.

Dear Sir:

I have the honor to describe as follows the method pursued in tracing the line between Hamilton & Herkimer Counties--from the Beekman Corner towards Fourth Lake.

For lining-in purposes the pointings were made on the two targets that were specially prepared for this work and which are now in the office.

The lining-in instrument was a Buff & Bergier alt-azimuth.

The instrument having been set up over a station and leveled, a pointing, with Telescope Direct, was made on the back target and the telescope was then plunged through the wyes and the front target was set approximately. The forward target man then drilled a hole and set a plug of lead in it.

After this the first proceeding was repeated; and, plumbing down from the center of the target, a mark was made in the lead. After this the instrument was reversed, the telescope (now being reversed from its first position) was again pointed in the front target and after this was accurately lined, then the center was referred again to the lead plug. After this operation a cross was made whose center

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was equidistant between the two first marks and over this cross the front target was set--it marking the advance point in the line.

The next step was to measure the angle at the instrument station between the Back and Forward stations. For this the Instrument was set at a certain reading and when pointed on the Back Target both verniers were read; then the upper circle was unclamped and the telescope swung around until the forward target was bisected & then the two verniers were read. Next, the telescope was reversed. The lower clamp was loosened and either so set in the back target or else it was set by the tangent screw if the angular distance was small--this last condition was almost always the case. The upper clamp was then freed and the telescope swung around until it bisected the front target once more. This gave two measures of the angle, one with Telescope direct, & one with Telescope Reversed. To prevent the constant repetition of the use of any one part of the circle, the initial reading in the back target was changed at each station. When pointing on the Back and Forward Targets, the Magnetic Bearings of the stations were observed. After the horizontal angles were read, next in order was the measurement of the vertical angles; but while waiting for the setting of the front target

in its final position, usually, the vertical angles in the back target were observed. The vertical angle measured was the double zenith distance (D. Z. D.) of the top of the targets and one of the duties of the target'men was to measure at each station the height of the top of his target above the

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station mark; the observer also measured the height of the axis of his instrument above the stations as he occupied them. The height of the instrument was recorded in the proper column in the record book. The heights of the targets as observed from each station were recorded in the pages containing descriptions for each station.

In observing the D. Z. D's, the instrument would be carefully leveled and then a pointing made on the top of the target and the corresponding readings taken; then the instrument was revolved through 180 degrees & the telescope reversed & pointed again on the top of the target. This gave one set of readings with instrument (Vertical Circle) "L" & one set with Vertical Circle "R". Before beginning the operation the instrument would be put in such adjustment that the level would read the same in each position. After this operation, the next step was to read the stadia rod which would be held as nearly as possible even with the station mark.

In the pages for notes as full a description of each station as was practicable would be given. The stone would be described, its dimensions given, and the distances & bearings to the marked trees would be recorded. The heights of the targets would be given and as close an estimate as was possible would be given of the character of the timber in the

vicinity--special stress being laid on estimating the quantity of soft timber in sight.

In the pages at the end of the Transit Line Book will be found

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the computation of the values of the vertical and horizontal angles measured on the line.

Station #153 was not set by the regular target man and as it was done by one not familiar with our practice, it will have to be re-marked.

Yours respectfully,

[signed] John E. McGrath

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END