



U. S. COAST AND GEODETIC SURVEY.

J. M. Thorn, Superintendent.

State: *Illinois.*

DESCRIPTIVE REPORT.

Topographic Sheet No. *1817.*

LOCALITY:

*The Great American
Bottom.*

1888.

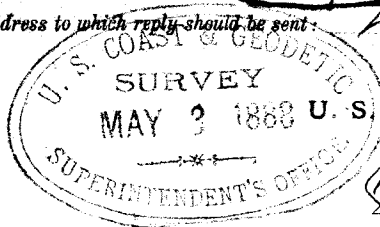
CHIEF OF PARTY:

J. E. McGrath.

Descriptive Report 1888

372.

Give here full address to which reply should be sent.



Hermann, Gasconade Co., Mo.

St. Louis, Mo.,

April, 1888

Mr. F. M. Thorn,

Superintendent, U. S. C. & G. Survey,
Washington, D. C.

Sir:

I herewith beg leave to make the following report upon the condition of the monuments that mark the ends of the U. S. C. & G. S. Base Line, in the Great American Bottom, in St. Clair and Madison Counties, Illinois; the nature of the surroundings and condition of the line; and the execution of the topographical survey of the line just completed and made in accordance with your instructions of February 8th and March 9th, 1888;

At South Base the monument seems to have never been disturbed; it stands erect, two of its faces parallel with the direction of the line, two faces at right angles to this direction. The copper bolt in the top of this stone has been loosened from its fastenings and while it is yet so secured that it cannot be taken out without the aid of some tool, it is yet so loose

that it may be easily turned around in its cavity, using no greater force than can be applied by the unaided hand. The distance from the center of the base monument to the witness stone on the east of the line was found to be 62.1 feet; the distance from the center of the base monument to the witness stone south was 39.8 feet, in the description of the monument, sent me by the office, these distances are given as 63 feet and 12 meters, respectively. The situation of the south base monument is one that is calculated to preserve it undisturbed; it is on the slope of a steep hill and is surrounded by a dense and tangled growth of briars, vines and bushes.

The base monument, at the north end of the line, is on the slope of a steep hill which has been plowed once since the stone was set in place. When this plowing was done, the foreman of the owner of the property so informed me, special care was taken to avoid any interference with base monument and witness stones. The purpose of the owner of the estate, upon which the end monuments of the north end of base are situated, is to leave the field, in which they are, for grazing use, it being too steep for profitable cultivation.

- The monument at North Base shows no sign of having ever been moved; the copper bolt in its top is firmly secured but the cross lines on the head of this bolt are nearly obliterated and seem to have been hammered out.

The two witness stones, referred to in the description, are yet standing the distance from the center of each to the center of the base monument was found to be 24 feet. The base monument stands erect, two of its faces being parallel with the direction of the base line and two of its faces are at right angles to this direction.

Since the line was measured an orchard has been set out on the slope of the hill along which the northern end of the base line runs; this orchard extends from about station 2 (100 feet from North Base) to station 11 (550 feet from N.B.), one small tree being on the line. Twenty feet south of station 21 (1070 feet from N.B.) a cottonwood tree has grown up on the line.

Commencing near station 200 (10,000 feet from N.B.) are the house, garden, vine yard, orchard, farm buildings and outhouses of Mr. F. Metzger, which have been erected and set out since the Base was measured in 1872. The line runs through the garden of Mr. Metzger avoiding all buildings and clear of any interference with

- the vineyard and orchard. The south end of the base line runs through an orchard but clears all the trees; the only obstruction encountered on this end of the line is the thicketty growth that runs from station 474 to the monument at south base.

This section of country being generally clear of fences, except in the vicinity of houses, where the gardens and buildings are usually enclosed, in making a re-measurement but little difficulty will be experienced on this score. Near the north end of the base line three fences of the "Virginia Rail" variety are encountered; at station 92 (4600 feet from N.B.) an osage orange hedge is met and crossed twice. This hedge is neither dense nor high being only of three or four years growth and properly trimmed; in crossing Mr. Metzger's garden panel fences are encountered; Beyond this, going south, the line is entirely clear of all fencing.

The houses at the north end of the base line, shown in detail on map, are quite substantial including two excellent dwellings, a large barn, stables and one building which is in use for a grist mill.

The house shown on the map, near station 35 (1750 feet from N.B.) is a two story frame but so rotten and dilapidated

-that it can never be used as a habitation again. Hay is sometimes stored in it.

The houses shown on either side of the line, at that portion where it runs through the suburbs of Caseyville, are neat, well built substantial frame structures. The houses at the southern end of the base line are also frame buildings and in good condition with the exception of those near station 292 (19,619.5 feet from N.B.); the buildings near this station are unoccupied and at present are in bad order.

Commencing at station No 280 (14,019.5 feet from N.B.) a brushy growth is encountered that continues for about four hundred feet; the line runs through this thicket near its eastern edge and is not much affected by it as the growth nearly runs out here. The thicket extends for five or six hundred feet west of the line over a low country that is somewhat marshy, the water standing on it in the wet seasons that prevail in the late Fall, Winter and early Spring. If the line was moved more than two hundred feet west of its present position, between stations 280 and 288, its new location would be through a piece of ground that

-would be extremely marshy during the wet seasons mentioned; in the summer and early Fall & late Spring this ground dries well out.

The line crosses Big and Little Canteen creeks, one county road, that from Collinsville to East St. Louis, and the tracks of the Vandalia and the Ohio & Mississippi Railroads-

Before commencing the survey of the base line small signals were erected at each end over the terminal monuments for use in securing proper direction while making measurements. The line was then measured with a 50 foot steel tape. Taking North Base as station 0. stubs were set in at each succeeding fifty feet until station 206 was reached; the distance between each station was 50 feet and a copper tack in the head of each stub was lined in and so set that the center of it marked the station. Just beyond station 206 a large hay stack stood partly across the line necessitating the measurement around it by offsets; station 207 was in consequence established 69.5 feet south of station No. 206. Starting again with station No. 207 the measurement was continued as before stubs being set in at each succeeding fifty feet until station No. 476

- was reached; the distance from the center of the copper tack in the head of this stub to the center of the copper bolt in the top of the end monument at South Base being 18.1 feet; the distance given by this measurement for the length of the base line is 23,837.6 feet, composed as follows:

Station C (North Base) to Station 206 10,300.0 feet

Station 206 to Station 207 69.5

Station 207 to Station 476 13,450.0

Station 476 to South Base 18.1

True length 7266.9 m Total 7266.9 23,837.6 feet

The tape used in the measurement was of Chesterman's make, no temperatures were taken and no correction could be made for expansion and contraction of the tape due to thermometric variations, in consequence. I have no knowledge of any comparison ever being made between this tape and a standard and had no means to make any such myself, being away from any locality where a proper standard could be obtained - all possible care was taken to have the line horizontal in going up and down all slopes, the two chainmen were each provided with plummets to secure the proper markings of the

ends of their measures when measuring wherever the ground was not level. The chainmen were always lined in and the tacks set by instrument, an engineer's transit being used for this purpose.

After the line was measured and marked out a line of levels was run over it; elevations being taken at every change of grade and where ditches, creeks, dykes, and railroad embankments were crossed at every point necessary to give an exact profile of the obstacle.

In connection with the leveling, cross sections were made wherever they were necessary to obtain the proper position and courses of the contour lines.

In measuring to the various points, where the leveling rod was held while cross sectioning, from the center and in making all the measurements to houses, fences, dimensions and lengths of the same and in meandering Big and Little Ant-tum Creek the steel tape was always used.

The Engineer's Transit, "Y" Level and New York Rod used by me in making this survey were kindly furnished for the party use by Mr. August Rauschenbach, Assistant

Street Commissioner of the City of St. Louis

Yours, respectfully,

John E. McGrath

Sub Assistant, U. S. G. Survey
Chief of Party