

CERTIFIED LAND CORNER RECORDATION

Meander corner common to Secs. 22 & 23, T9S R8E, PMM

DESCRIPTION OF CORNER EVIDENCE FOUND, AND ORIGINAL RECORD (IF KNOWN)

I found a 1-1/8" diam. upright pipe firmly set in the ground on the south side of the Yellowstone River, protruding 4" aboveground, and fitted with a 2 1/2" diam. GLO brass cap stamped

WCMC
S22 | S23
T9S R8E
1933

from which:

a 36" diam. upright snag with partly-healed blaze on the south side scribed T9S R8E S22 BT MC, bears N4° 01' 25"W, 61.53'.

Despite diligent search, no trace of another bearing tree of record was found.

(ORIGINAL 1883 GLO RECORD: From cor. to Secs. 14, 15, 22 and 23, I (OVER)

DESCRIPTION OF MONUMENT AND ACCESSORIES ESTABLISHED TO PERPETUATE THE ORIGINAL LOCATION OF THIS CORNER:

Date of work: 22 Jan 1983

I accepted this found WCMC monument as the original location of the 1883 GLO meander corner monument, and raised a 2 1/2" diam. rock collar, 6" high, around it. I also attached a metal BT sign to the south side of the found bearing tree of record, above the old scribed blaze.

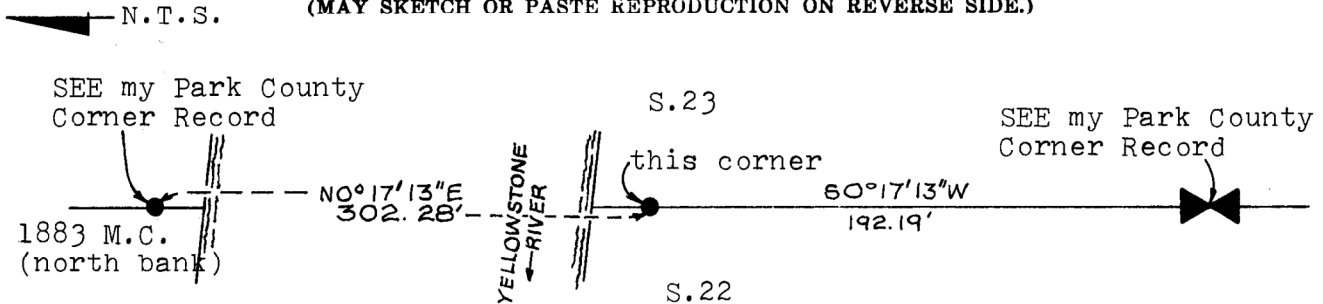
From this found WCMC monument:

a found 1-1/8" diam. upright pipe firmly set in the ground, protruding 13" aboveground, and fitted with a 2 1/2" diam. GLO brass cap stamped

T9S R8E
COR 1 | S22
CEM

(OVER)

SKETCH, WITH COURSE AND DISTANCE TO 1933 CORNERS IF DETERMINED IN THIS SURVEY. (MAY SKETCH OR PASTE REPRODUCTION ON REVERSE SIDE.)



BASIS OF BEARINGS: Solar observation from WC 0+00 M., North Boundary, YNP

Surveyor's Seal



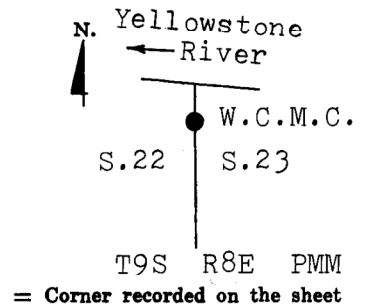
I, Mark Knops certify that the information shown herein is true and correct.

Mark Knops
Signature of Ground Party Chief

I, Thomas J. Hallin certify that I have carefully performed or reviewed the work done on the diagrammed corner as reported on this recordation form and approve the same.

Thomas J. Hallin
Signature of Surveyor

DIAGRAM OF CORNER:



287 ES
Registration Number

175614

Office of Clerk and Recorder, County of Park County

This "corner record" was filed for record on the 22nd day of June, 1982, was noted on the cross-index plat and is

assigned page No. 45, in book No. one

No fee

Form 125
State Publishing Co., Helena, Mont.

Margaret Ironical
County Official
Cross Index No. P-17 T. 98 R. 8E Mer.

EVIDENCE: (con't)

run South on a true line bet. Secs. 22 and 23

...
32.50 chs.--Right bank of Yellowstone River. Set granite stone ... for meander cor. ...

I now send a flag across river to left bank and set it on line south. I then run a base line east 5 chs. to a point from which flag on opposite bank bears S.42° 30'W. which gives for distance across river by calculation 4.58 chs.

37.08 chs.--Left bank of Yellowstone River where I set a granite stone 24 x 16 x 8 in., 18 in. in the ground for meander cor. to frac. Secs. 22 and 23, marked M.C. and raised a mound of stone 2 ft. high, 4½ ft. base alongside. Pits impracticable.)

(1933 GLO RESURVEY RECORD: From the closing cor. of secs. 22 and 23 ... N.0° 10'E. bet. secs. 22 and 23, on a true line to a flag on the ¼ sec. cor.

...
32.68 chs.--No trace of the original meander cor. of secs. 22 and 23 on left bank of Yellowstone River was found. After completing this line across the river this point was found to be the true point for the meander cor. of secs. 22 and 23, therefore it is reestablished at this point.

Set an iron post, 3 ft. long, 1 in. diam., 27 ins. in the ground for meander cor. of Secs. 22 and 23, with brass cap marked

MC
S22 | S23
T9S | R8E
1933

from which

A cottonwood, 12 ins. diam., bears N.37½° E., 13 lks. dist., marked T9S R8E S23 MC.BT.

A cottonwood, 20 ins. diam., bears N.5° W., 94 lks. dist., marked T9S R8E S22 MC.BT.

32.74 chs.--Set point for triangulation across river.

33.75 chs.--Left bank of Yellowstone River at mean low water elevation, water low at this stage. Intersect the Revised North Boundary of Yellowstone National Park.

Return to the point marked at 32.74 chs. on this line.

To determine the distance across the Yellowstone River I set a flag at the meander cor. of secs. 22 and 23 on right bank of Yellowstone River, N.0° 10'E. ...

37.26 chs.--The meander cor. of secs. 22 and 23 on right bank of Yellowstone River, which is a granite stone, 10 x 6 x 6 ins. above ground, marked and witnessed as described in the official record.)

MONUMENTATION: (con't)

bears S83° 45' 47"W, 1155.54', just inside the NE fence corner of the Gardiner Cemetery;

a found 1½" diam. upright iron bar firmly driven into the ground, protruding 8" aboveground about 3' easterly of a new N-S wire fence on the north side of the Yellowstone River, bears N7° 01' 49"W, 321.01'; I centerpunched the top of the bar and raised a 3' diam. rock collar, 6" high, around it;

a found stake tack set in the top of a concrete-filled 2-3/8" diam. upright pipe firmly set flush with the ground in a concrete collar at the ordinary highwater line on the north side of the Yellowstone River, bears N0° 17' 01"E, 268.91'; I built a 5' diam. rock mound, 3' high, on the north side of the pipe, which was originally set by Hallin in July, 1949 to monument a corner of a tract survey for Adelaide Scott.

CERTIFIED LAND CORNER RECORDATION
Meander corner for Section 23, T9S R8E, PMM

EVIDENCE: (con't)

I have, as directed by special instructions, determined the exact location of all boundary and other monuments which I could find, relative to a true parallel of latitude projected from the Meander corner at the confluence of the Yellowstone and Gardiner Rivers. The projection of the tangent to the west was therefor discontinued at this point.

I did not project a tangent east from the meander corner at the confluence of the Yellowstone and Gardiner rivers because that no corners have been established upon the Park boundary east of said meander corner, and as the unsurveyed portion of Sec. 24 is non-agricultural the survey thereof is prohibited by my special instructions ... consequently the projection of the tangent east from said meander corner would subserve no purpose and was therefor not run.)

(1893 GLO EXAMINATION SURVEY RECORD: North Boundary of the Yellowstone National Park, Through Frac. R.8 East --

From the meander cor. on the left bank of the Yellowstone at the confluence of the Yellowstone and Gardiner rivers, which is a boulder 6 x 5 ins. 6 ins. above ground, marked M.C. on N. and N.P. on S. faces, with a mound of stone, alongside, I run West on N. boundary of National Park.

72.20 chs. -- Hub on line from which a stone marked W.C. on N. and N.P. on S. faces, with a mound of stone alongside, bears N.62°W., 83 lks. dist.

In chaining over this line I found the distances between the hubs varying from $\frac{1}{2}$ a link to a couple of links, which is quite close considering the nature of some of the ground chained over.)

Examination of the 1883 GLO survey approved field note record indicates conclusively that three miles of the Park north boundary was measured by survey and monumented running west from the meander cor. set at the junction of the Gardner and Yellowstone Rivers, for which the contracting surveyor was duly paid after official acceptance of the returns from this work. Furthermore, this meander corner and the so-called Witness Corner common to Secs. 22 & 23 were the ONLY two mons. established on the ground by the 1883 survey for the south boundary of Sec. 23, and coincidentally the adjoining Park north boundary until the latter was independently re-surveyed by a War Dept. employee in July, 1897. During this fourteen-year interval, Park County deed records indicate that all of Sec. 23 was patented by reference to the 1883 survey except for Lot 5 and the NE $\frac{1}{4}$ SE $\frac{1}{4}$, and the townsite of Gardiner was privately platted and improved in conformity to the 1883 Park boundary as then monumented on the ground and shown as surveyed on the approved township plat. The location of these patented tracts on the ground was fixed at that time by the approved 1883 plat governing these disposals, together with the accepted survey and monuments represented on that plat.

In 1892, apparently with a view toward completion of the unsurveyed portions of this fractional township, the US Surveyor-General for Montana contracted with Austin Alexander to, among other things, retrace the three miles of Park boundary surveyed in 1883, and survey some additional portions of the boundary for the purpose of setting both temporary and permanent corners thereon for new subdivisional surveys to close on. The Special Instructions directed Alexander to accept the meander cor. mon. set in 1883 as the point of beginning for his Park boundary retracement and extension survey, from which he was to project a tangent baseline aligned from THREE independent astronomical observations. Furthermore, Alexander was cautioned not to disturb any found monuments set by the 1883 survey, even if they failed to conform to his calculated Park boundary location. The GLO was obviously concerned at that time to protect the integrity of those tracts already patented or under homestead entry. The separate GLO examination survey record obtained from the national archives in Washington, DC, indicates measurements almost identical with the 1893 Alexander survey returns, demonstrating a remarkable degree of care in the execution of the Alexander survey.

In July, 1897, the Park Superintendent verbally directed a War Dept. engineer assigned to his staff to survey the Park north boundary in order to facilitate policing against poachers. This survey was duly executed

(OVER)

EVIDENCE: (con't)

in July and August without the technical requirements, authorization or even the knowledge of the GLO, and without any attempt to tie into or conform to prior GLO surveys delineating or closing upon the Park boundary. The three miles of Park boundary already surveyed and platted by the government in 1883 was completely ignored, and this 1897 survey did not in fact conform to the senior GLO survey then in force. For details of the War Dept. survey, see the original field book and reports in the Yellowstone Park Archives in Mammoth, WY.

The 1897 survey in fact overlapped the senior 1883 GLO survey along the east portion of the south side of Sec. 23, taking a small bite off the town of Gardiner as platted in 1886. Nevertheless, the Secretary of the Interior obtained the 1897 field book from the Park Superintendent in 1900, and sent it to the GLO Commissioner for his use. The GLO copied the field notes, sent a set to the US Surveyor-General for Montana for his use, and thereafter the 1897 survey was accepted by the Surveyor-General to limit new public lands surveys closing on it. No action was taken by the GLO to suspend or cancel the 1883 Park boundary survey, despite the conflict with the 1897 War Dept. survey. Correspondence found in the Park Archives amply indicates, however, that the physical overlap by the 1897 survey into Sec. 23 was a constant source of friction and confusion in the Gardiner area between the Park administration and private landowners.

For unknown reasons, a GLO retracement and resurvey of the Park north boundary in 1932-33 accepted the 1897 survey as the ORIGINAL government survey bounding Secs. 21, 22 & 23, and disregarded the senior 1883 Park boundary survey fixed in part by patents predating 1932 and even 1897. I found no reference to the 1883 meander cor. in the field note record of the 1932-33 surveys, although the corner monument may have been in place at that time. The 1897 survey overlap onto patented subdivisions of Sec. 23 was perpetuated by these later GLO surveys, and remains today.

I determined the original 1883 meander corner location from the 1893 GLO retracement survey field note record, as verified by the 1893 Examination survey record, by:

- performing a series of astronomical observations at the WC 0.00 M. mon. on the 1897 Park north boundary (see my Park County Corner Record at Bk. One, T9S R8E, p. 36), which is in the immediate vicinity of the 1883 meander corner location;

- deriving by calculation a true, astronomical bearing from these observations;

- traversing from this point of observation to the 1883 monument for the so-called Witness Cor. common to Secs. 22 & 23, T9S R8E, on the 1883 Park north boundary (see my Park County Corner Record at Bk. One, T9S R8E, p. 40);

- locating the 1893 record point on tangent by a calculated measurement of $S62^{\circ}30'E$, 55.44' from this so-called Witness Cor. to Secs. 22 & 23, using a true bearing as carried by traverse from the WC 0.00 M. mon.;

- from this 1893 record point on tangent, locating the 1883 meander cor. point by calculated measurement of 4765.20' along a tangent to the east, using the true bearing carried by traverse from the WC 0.00 M. mon.

In short, I simply reconstructed the record 1893 survey between the meander cor. and the found so-called Witness Cor. by running it backward from the latter mon. still in place. The record meander corner point fell right at the top of the bank on the west side of the Gardiner River, in a newly-graded site alongside the new pumphouse at the junction of the Gardner and Yellowstone rivers, easterly of the confluence and exactly where it could be expected to be found from the field note record.

MONUMENTATION: (con't)

and surrounded with a 4' diam. rock collar embedded in the ground, from which:

- a 5/8" diam. x 24" long upright rebar driven flush into the ground and fitted with a 1 1/2" diam. alum. cap stamped RM 1, set by me as a reference monument, bears $N59^{\circ}25'21"W$, 15.14', in a rock ring;

- a 5/8" diam. x 24" long upright rebar driven flush into the ground and fitted with a 1 1/2" diam. alum. cap stamped RM 2, set by me as a reference monument, bears $N53^{\circ}46'46"W$, 42.75', in a rock ring;

(CONTINUED ON SHEET THREE)

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Meander corner for Section 23, T9S R8E, PMM

MONUMENTATION:(con't)

a 5/8" diam. x 24" long upright rebar driven flush into the ground and fitted with a 1½" diam. alum. cap stamped RM 3, set by me as a reference monument, bears S3°24'09"W, 25.49', in a rock ring;

a found metal monument for the Witness Cor. to the 0.00 M. Initial Point of the 1897 War Dept. Park boundary survey, as per my Park County Corner Record filed at Book One, T9S R8E, p. 36, bears N3°24'09"E, 16.46';

a cross (+) found chiseled on the north face of a large granite boulder in place, protruding 42" x 60" x 36" aboveground, also marked

11
8715

for Corner No. 11 of US Mineral Survey No. 8715, bears N82°35'24"E, 580.84', on the north bank of the Yellowstone River;

the northeast corner of an adjacent sheetmetal pumphouse bears N22°31'44"W, 7.51';

the southeast corner of an adjacent sheetmetal pumphouse bears S32°48'33"W, 2.76'.

I also attached a 4" x 5" yellow alum. MARLS sign to the east wall of the adjacent sheetmetal pumphouse, which bears westerly, 1.82' from this meander cor. mon.

Hallin traverse station C18, a 5/8" diam. x 24" long upright rebar driven flush into the ground and fitted with a 1½" diam. marked alum. cap, bears S82°32'57"W, 343.87', in a rock ring at the crest of a hill, near the southeast corner of the fenced enclosure containing the Gardiner waterworks building.