

Report
on

Resurvey of certain sections of Land in Block G.5, Brewster Co. Tex.
by R.S. Dod, Special State Surveyor, April 1909.

Object of survey. To locate and mark on the ground the true position of
Sections 1 to 22, Block G.5.

Authority for survey. Appointment as Special State Surveyor Ap. 1909 by the Hon.
Commissioner of the General Land Office of Texas, at the request of the
J.B. Watkins L. & M. Co. for the owners of the alternate sections.

Data for the Survey. The field notes of the original survey of Block G.5 by J.
T. Gano, in 1881, were obtained from the records of the Co. Sur. Office at
Alpine, Brewster Co. Tex.

A working sketch of adjacent blocks kindly furnished by the Gen. L. O.
Field notes of a former survey of these lands made by me in 1906.
Field notes of a resurvey of Block 15 G. H. & S. A. Ry Co. adjacent to
and connecting with G.5. made by me in 1905 - C. as State Sur.

Course of lines in Blk. G.5

The field notes of original survey of Blk. G.5 call for right lines running
N. S. E. & W. at a variation of 11 30' East in 1881.

Present Variation .

The magnetic variation of the needle from the true meridian was
measured at Agua Frio Spring, from which point Gano states in his field
notes, that he started the survey of Blk. G.5 on a solar meridian, lat. 29
33' N. long. 103 40 W. at 2 o'clock P.M. Ap. 10th /09 and found to be 10 21
E.

The field notes of N. E. Cor section 1, place it 299 varas south and 3774
west from Agua Frio Spring.

The bearings at this corner as given by Gano are, a sharp Peak in the
Chisos resembling the pommel of a saddle bears S. 54 E.
and a sharp peak about ten miles S. 63 E.

The peak in the Chisos is unmistakable, its outline appearing
thus and it is about 32 miles distant, giving a clear reading
between points mentioned. The other bearing is Hon Egg Mt. about 8 miles
east.

On running out course and distance called for from Agua Frio Spring
we reached an old rock mound on the slope of a hill. Age was shown by
the depth to which the lower rocks had sunk into the ground and by the
weather stain on the rocks. This rock pile is further identified by a
mesquite tree marked X standing on a small round hill 160 varas S 75 45 E
from the rock mound as called for at this same corner in the field notes
of a resurvey of Blk. 15 by D. L. Reavis State sur. in 1889, only eight years
after Gano had made his corner.

There are two other rock mounds both recently erected, one 19 varas
to the north, the other about 30 varas to the west of the old rock mound.

Setting up the instrument over the old rock pile and bringing the
transit to bear on the peaks as called for, and turning the variation arc
until the reading of the needle was that of the course given by Gano
for these bearings, we found the rock pile and the bearing peaks fitted
the calls given, and that the actual variation used by Gano in 1881
when he set over this same rock pile and read his bearings on these
same peaks has changed from 11 30 in 1881 to 11 48 now.

This reading was made on Ap. 17 1909 at 9.30 A.M. clear, no wind, temp.
abt 75 F. This reading was again checked from time to time during the
survey as will be noted in place.

It was essential to establish the actual course used by Gano in
this block as this N. E. Cor Sur 1, is the only record I can find of any
marked line or corner in the original field notes, hence the location
of the surveys depends absolutely on course and distance.

We have then a clear thirty mile reading from a well identified original
Gano corner, corroborated by an 8 mile reading from the same corner,
which would seem to settle the matter simply, satisfactorily and finally.

And this variation was consequently adopted for the resurvey.

As a matter of interest in connection with this matter I would
call attention to the following facts.

Miner surveyed Blk. 15 from Agua Frio Spring in 1878 calls for
var. 11 30 E.

Gano surveyed Blk. G.5 from Agua Frio Spring in 1881 calls for
var. 11 30 E.

Reavis resurveyed Blk. 15 in 1889 and calls for 11 30 E.

On June 9 1906 the reading on the Gano corner was 11 45 E. true north

both by solar and north star, 10 17' E.

On April 17 1909 we find the variation on the same lines to read 11 40' true north 10 21' E.

On May xx 26 1906 the variation of the needle on the U.S. Gov. Meridian at the Court House in Alpine read 10 29' E.

On April 10 /09 on same line read 10 33' E

Q find on the U.S. Top. sheet "Terlingua Special" the average mag. var. given as 9 45' E. for 1902

On the Chisos Quadrangle it is given as 10 E. for 1903.

I find in my fieldbook, Dec 18/04 mouth of Terlingua creek observed mag. Var. from Northstar = 10 19' E.

Again Dec. 19 lat 29 10' N. Var. from Solar meridian 10 18' 30" abt 2 miles north from Grand Canon.

In 1905 I find the var. noted as follows

East line Blk 10 H&TC	10 18'
Cigar Sp.	10 13' 30"
Joe Black Sp.	10 17'
Alpine Court House	10 29'

Further illustrating the erratic course of the mag. Meridian.

Alpine C.H. May 11, 4.30 P.M. cloudy, temp mod. 10 27' E. by two transits.

"a " 18, 10 A.M. cloudy light haze, temp 70 var. 10 29'

Feb, two readings with two instruments each time 10 18'

Jan, " " " " " 10 18'.

The object of introducing these facts is to show that the annual and diurnal change in magnetic meridian is so variable here that only actual observation can show what ~~xxx~~ variation is required to retrace any given line at any given date. This is an important principle as the variation is the controlling factor in Blk. G.5 and G.12 and was matter considered essential in the case of Turney vs Dewees Dist. Court, Brewster Co. And the above will show the absurdity of trying to fix the present variation of any line by figuring on any annual average allowance for change.

Beginning Point.

Block G.5 calls to begin 3774 varas west & 299 varas south of Agua Frio Spring.

This spring is well known and easily identified. It is a bold running spring, the only one in the neighborhood. It breaks out from under Painted Mountain, so called from the Indian paintings on the bluff above the spring which show the spring to have been well known to the Indians, and later ~~the~~ to the white men as a noted spot. There is a U.S. Gov. Bench mark in a flat rock a few feet north of the spring which gives the elevation as 3537 ft above sealevel. This spring is on Sur. 1 Blk. 15 GH&SARR Co. and the S.E. Cor. is S 5 E 300 varas, which places the call for beginning point G.5 two miles west. From S.E. cor of Blk 15 running west one mile we find a rock mound for the S.W. Cor same survey, on west a mile we find the large, old rock mound described above as fitting the field notes for N.W. Cor 5 Blk 15, and N.E. Cor. #1 Blk. G.5. where this block calls to begin (The identification of the rock mound is given above in the notes on Variation)

Distance.

As stated at length in former reports, the surface of the country is so broken as to make the use of the chain difficult and tedious and the results uncertain. The method of measurement adopted was that of the Stadia one double target rod in front, set by the instrument, read and booked by the rodman, one selfreading rod behind read and booked at the instrument.

The front rod was set by level perp. to the horizon. The hind rod by a sighting arm perp to the line of sight from the inst. The angles of elevation were read on circular arc on telescope and distance reduced to the horizontal, allowance on front rod double that on back rod. Stadia wires were set at camp on stakes 100 & 200 varas apart measured by 50 ft steel tape, and were tested daily for error. (Note. It was found that the excessive heat during the day and comparatively cold temperature at night had a tendency to shift the adjustment screws of the instrument, which required a constant series of tests to avoid error.)

The instrument used was a Gurley transit with engineer limb and verniers, 5 1/2 in needle, circular arc, solar attachment &c. The adjustment was first tested on the Gov. Rocks at Alpine and then daily on the work, and again on Gov. rocks when survey was completed. No error found.

These details are emphasized as the correctness of the survey depended on the accuracy of the work as it was all course and distance over a very broken surface, and extreme care was necessary to avoid error or to detect mistakes when made. Frequent angular measurements were made from points on the lines run to prominent objects at a distance, as a check on the work.

Lines were run with the transit and checked by the needle with occasional solar readings where local attraction was specially noted. Angles were measured by the transit limb checked by needle readings. The most frequent source of error in course was the xx abrupt changes in elevation. It was almost impossible to set the instrument so truly level with the horizon that the transit would not diverge from the perpendicular plane in elevating or depressing the telescope to reach a horizontal angle of 20 or more, any such divergence would of course set the front pin out of line, and the error small at first would in the transit line gradually increase unless discovered and corrected.

Lines run and corners marked.

Beginning at the N.E. Cor. Sur. 1 G. S., we ran west, at
874 vrs a sharp gap in limestone hill,
1074 vrs a rocky knob in a crater, volcanic ash & lava, large iron hill northwest.
1500 vrs edge of mesa, yellowish lime and gravel, little soil, on over mesa
1900 vrs in all to a rock mnd, with rock mrkd N W 1
N E 2
from which a cedar 4" in dia. brs S 40 E 26 vrs.

From N.E. 2

Thence west over the mesa, at
1025 vrs small calcite veins,
1250 vrs cedar draw
1900 vrs in all, to a rock mnd. with rock mrkd N E Cor 19

From N E 19,

On west, at
100 vrs a deep draw cutting through yellow lime and bluish shale, with some calcite veins,
on west crossing two simillar draws
1900 vrs in all to a rock mnd on east slope of high hill, near small bunch of cedars, for N.E. Cor. 20
N.W. Cor. 19

From N.E. 20,

on west over the hill and down into a draw, at
360 vrs a claim mmnt. 19 varas north of line, on this claim a prospect hole has been sunk on an iron outcrop in blue lime. On at
600 vrs reach a ledge of rock at edge of deep canon, contact between yellow lime and the blue hills, at
940 vrs cross canon
1900 vrs in all, to N.W. Cor. 20 on east slope of blue hill.

Note, Prospecting along this line, and especially where north line 19 crosses the draws, showed likely looking rock in place, but specimens gathered and washed failed to show any trace of cinabar.

I was told that the prospect hole above mentioned was put down with the hope of finding gold but was soon abandoned.

Along this line there was no water and no trails or signs of water near at hand. A fair coating of grass on the hillsides.

Returning to N.E. Cor. 19,

Thence south, at
75 varas top of a gravel mound from which a good view of the land to be surveyed is had. The greater part of the two tier of surveys 1 to 22 lie in valley running south along the edge of a range of high, rough, blue lime hills, which rise abruptly to the west, dip to the east 5 degrees, a fall of some 460 to 500 feet to the mile, as measured on the east line of survey 7.
The valley consists of yellowish, shaly limestone and clay hills, very much shattered and broken by upheavals, deeply scored by erosion, cut by deep draws with almost perpendicular sides. The dip is normally to the northeast, but in places the rock dips in every direction from some centre of upheaval. The innoceramus and other characteristic fossils show these hills to be of the same geological horizon as simillar hills near the Chisco and Big Bend mines and at other points where cinabar has been found, but the calcite which accompanies or carries the cinabar elsewhere was not found here in quantity.

On south, over alternate ridges and draws, at
1350 a ridge with two conical points ranging S 70 W
1804 vrs backbone of a ridge,
1900 in all to a rock mnd. in a draw, with rock mrkd S E 19
from which Hen Egg brs S 74 15' E
Rt hand Peak of Corazon brs S 85 15' E.

Counter 15777

From S.E.19

On south at

1309 vrs a point on high back bone,

1426 vrs line runs along west slope of steep hill, near the top east of line is a prospect hole going down some 8 or 8 ft on a calcite vein with a reddish iron stain, no sign of any cinabar. On at

1702 vrs southerly one of two red porphyry peaks bears N 80 W

1900 vrs in all to a rock mnd with rock mrkd S W 3

S E 18

from which Hen Egg brs S 80 E

Red Peak N 58 W about 1200 varas.

From S.E.18

On south at

550 vrs pass sharp conical hill, east, on across a draw at

720 vrs reach a point on nose of steep high hill, an extension of the blue lime hills, on across a flat and a draw at

1150 vrs a draw,

1900 vrs in all to a rock mnd in a draw, with rock mrkd S E 17

from which a persimmon bush 3" in dia. brs S 11 15' E 3 . 9
Mmnt on Painted Mt. brs N 67 E.

Note. We continued our prospecting from the draws on 19 and 22 South and West to the Porphyry Peaks which stand on the south half of survey 18. These Peaks have been thrown up at the contact between the yellow and the blue lime. They stand in a cup like depression with a rim of blue lime three quarters of the way round them and in contact with the northerly peak. We made a careful examination of the country all round these peaks and found the lime full of cracks and fissures but these were empty and barren, no quartz veins and no calcite.

The cinabar in this district has been usually found in connection with calcite, at the Mariposa in the blue lime hills, at the Chisos in the blue shale at the Almaden in a basalt but borings showed shale underlying this. It is also to be noted that according to the geological map of this district made by the Texas University Geological expedition and forwarded you with former report, the cinabar has been found only in the lower cretaceous limes and shales.

At the point on sur 18 we had the intrusion at the contact of the lower cretaceous limes and shales with the blue lime, here then if anywhere we would expect to find signs of cinabar, but we found no signs of mineral or veins that might carry mineral.

The principal upheaval and intrusion in this part of the country occurred at and about the Agua Frio mountain, west and south of that point the intrusion does not appear except in a few isolated spots. The position of the blue hills shows that the upheaval which tilted their strata occurred far to the west of where our line ran. Hence, although of course it is possible that we may have missed some mineral deposit of valuable stuff, yet our survey would seem to show that there were no mineral values present in these hills, except the iron above noted.

The country south of S.E.17 was an extension of the foot hills from the west and was very rough and broken, to carry the line through would have been very difficult and consumed an unnecessary amount of time, ~~xxxxx~~ and was out of reach from the water, so we moved to the Burro Tinaja on sur 11 Blk 15, the only available water and started our survey from the S.E. Cor. 12 in Blk 15.

This corner I had placed on a former survey, by running south from the N.W. 5 which is, as above stated, also the beginning cor of G. 5. and the field notes of this run were duly returned to the Gen. Land Office for record.

From this corner as above established we ran west, at

700 vrs crossed a draw and reached the top of a high ridge running N & S. near the foot of which ran a deep draw into which runs another deep draw from the foot of Tablecloth Mt. which bears from this point N. 80 15' W. On west, passing along north side of a yellow hill, at

1792 vrs a point on east edge of draw from which

Table cloth Mt. brs N76 30' W

Painted Mt. brs N46 30' E

Hen Egg Mt. brs N79E ,

1900 vrs in all, to a large rock mnd on west slope of draw, for N.E.

Cor. 7 G. 5 and S.W. Cor. 12 Blk 15. GH&SARROp.

From N.E. Cor. 7 south at

240 vrs edge of hill, at

570 vrs side of small hill, at

1134 vrs cross a draw, at

1525 vrs top of mnt. one of a series on ridge running out from hills

on the west, ranging about N 40 E, dip of strata to the east five degrees.

1900 vrs in all to a small rock pile in a flat with rock mrkd S E 7
from which Hen Egg brs N 72 20' E
North point of a rough mt. brs N 51 15' W
Mmnt. on Sawmill S 50 E.

From S.E.7

On south at

1190 vrs top of ridge, at

1900 vrs in all to a rock mnd in a hollow abt 200 vrs north of a
rough hill, with rock mrkd N E 9,
from which Mt. Emory bears S 63 E

~~From N.E.9~~

small sharp peak in Gap in Christmass Mt. brs N 88 30' E

From N.E. Cor. 9

S. 45 W. over blue lime ridges cut by canons, at

1400 vrs claim mmnts, but no indication of mineral. These mnds
stood at the foot of a small porphyry hill, but there were
no surface indications of the presence of mineral, and we
found no workings. On S 45 W at

1540 vrs top of highbackbone ranging SE & NW, on across small valley

2450 vrs top of a steep hill, at

2687 vrs to a rock mndset on a large flat rock 33 varas east of
the edge of deep ravine, with a rock mrkd S W 9 0.5

From which a nipple on a hill brs N 72 W

south edge limestone bluff brs S 47 05' W

Note. At this point we were well in the foothills of the blue ridge and the
country west and south was rough and broken. As we had found no in-
dications of mineral or water or other valuable material on the
lands surveyed, and had marked sufficient corners to enable any one
to find and trace out the lines of surveys on the ground if necessa-
ry, and having complied with the instructions of the Hon. Commissioner
of the Gen. Land Office, viz. to place corners two miles apart where
possible, we closed our survey.

The accompanying map shows the location of surveys and corners and is
intended to give an idea of the general topography of the country. The
south half of the surveys shown is covered by the U.S. Top. Sheet known
as the Terlingua Quadrangle, a copy of which was forwarded with my for-
mer report, and the details of that sheet are more accurate than the
general outlines I have placed on the accompanying map, but perhaps the
form of the map will give a better general idea of conditions and sur-
roundings than the more detailed work of the U.S. Sheet.

Respectfully submitted

R. D. Dod

Special State Sur.

Sketch File No. "D-1"

S. 1/2 Brewster County

Report Blk. G-5

By R. S. Dodd

Filed Surveyed Apr. 1909

~~W. S. Dodd~~, Com'r

5/9/32 Woodland
File Clerk

Descriptive: Survey to locate
& mark Sec. 1 to 2 R.
Blk. G-5

Courter 15745