

Report of a Survey of  
Section 18, Blk. 351,  
Presidio Co. Tex.

Object of Survey: To determine from its field notes and mark on the ground the true position of Section 18, Blk. 351, Presidio Co. Texas, and its relative position and connection with the original South Cor. of Sur. 76, in the name of S. Hernandez, known as "El Alamo", the SW Cor. of Survey 334, in the name of L. Fuentes, known as "El Chipadero", the SE Cor. of Sur. 1, Mitchell Co. School Land, the "Astronomical Point" established by Maj. Emory of the U.S. Boundary Survey, opposite Presidio del Norte, on the bank of the Rio Grande, and the line of location of the Kansas City, Mexico and Orient Railway.

Authority for the Survey:

Appointment as State Surveyor for this work by the Hon. Commissioner of the General Land Office of Texas, at the request of the K.C.M. & O. Ry. Co. through their Attorney.

Field -notes and Data for the Survey:

I was furnished with a copy of that part of the County map of Presidio County covering the lands in question:

A copy of a sketch by S.A. Thompson, original ~~purchase~~ Surveyor of some of the lands, covering the lands to be surveyed, and giving his field notes and marked "part of sketch 22 Presidio Co." filed in Gen. Land Office. Another copy of the same with the courses and distances of lines to be surveyed:

A copy of the connecting line run by Mr. Thompson from S. Cor. 76 to SW Cor. 334 and thence to the Astronomical Point, giving the courses and distances as run by him:

Copies of the original field notes of Sur. 76 and 334:

Copies of field notes of River surveys from Survey 4 L. Landren down the River to the Heredia and Hernandez surveys:

Correspondence and report of J.R. Marmion Co. Sur. Presidio Co. relative to these river surveys:

Copy of a sketch by G.H. Brooks Co. Sur. Presidio Co. showing some conflict in certain surveys:

A sketch furnished by the K.C.M. & O. Ry. Co. showing the position of their lines of location relative to Survey 18, and the two different positions claimed for this section:

Copies of the U.S. Topographic Map covering these lands, the Shafter shee Ruidosa sheet, and Polvo sheet:

A letter from Mr. S.A. Thompson as to his location of the Astronomical Point:

Also a personal interview with Mr. Brooks, during which he kindly gave me information as to corners and lines originally located by him:

The County records of Presidio County were searched for any additional matter relative to location of these surveys.

Course:

A surveyor's Transit, 5½ needle, with solar attachment was used on this survey. The instrument was in adjustment and reading of the needle was tested on the Gov. Meridian at the C.H. at Alpine before starting and on return.

A true meridian was established at Alamo by observation of North Star, needle reading 11-05' E. at 11:50 P.M.

At SE Cor. M. Co. S.L. Sur. 1, by solar needle reading 11-15' E. 9 A.M. local

At NW Cor. 18 ← At point 6 miles west " " " " 11:00' E. 8 A.M.

Solar was also used elsewhere on the survey as noted on sketch.

The South line of surveys 1 & 2 H. & T.C. Ry. Co. connecting with Sur. 76, resurveyed and marked in 1889, calls for 11-30' E, and was found to run at 11-45' E. between original S. Cor. 76 and resurvey corner SW 2.

On reaching the SE Cor. Sur. 1, Mitchell Co. S.L. established by Mr. Thompson the original surveyor of Blk. 351, we found a large rock mound as described in the field notes with a rock marked M. Co. S.L., we found the double Palmo called for, fallen over but still fast to the root, N. 8½ W. 28 vrs. and could plainly distinguish the perpendicular bluff forming the west end of a range of mountains in Mexico, as called for south, also the sharp peak called for S. 18½ E. but the angle between the south mark and the peak was 19, a variation of 12-06' E. was required to fit these bearings.

As this corner had been established by the original surveyor of Blk. 351 about the same time and adjoining the block in question, and as the var. of 12-06' E. fit the calls at this corner the evening we reached it and also when we returned next morning, and as the call south was an unmistakable point and some 25 miles distant, giving a very close reading and as this was confirmed by the bearing of the dagger close at hand, these facts seemed to determine clearly the course of the footsteps of the original surveyor, and this variation of 12-06' E. was adopted for this survey.

A variation of 51' to the left of the true meridian would at first seem excessive, but experience has shown that in this and the adjoining counties the earlier original surveyors for some reason unknown to me, adopted a variation far in excess of that of the true meridian. The later surveyors conformed to the earlier lines as found on the ground. For instance the original Gano lines in Brewster Co. run today at 11-30' E. while the true north is 10-18' to 10-35' in that Co.. A similar excess is found in G.H. & S.A.R.R. Blk. 14 lying in both counties.

The resurvey fieldnotes of the H&TCRR surveys near the Alamo call for 11-30' but the same surveyor at the same time notes that H&TCRR surveys 10 miles north run at 11-00' E.

The result of this survey as noted later would seem to show that 12-06' was the proper variation to retrace the footsteps of the original surveyor as we are very close together on the run from SW 334 to the Astronomical Point.

The reading of the needle on the true meridian was a surprise as the reading at Alpine followed closely for some years is now only 10-34' E. and at Cigar Springs is 10-18' at the mouth of the Grand Canon 10-21' E the Alamo is west of these points but not sufficiently so to account for the difference. For this reason frequent readings were taken with the solar to catch any possible error, and the needle compared with former readings on our return to Alpine, all experiments simply substantiated the facts. Our latitude was taken by the instrument at times and checked by the Topog. Map.

It is possible that the near by upheaval of the Chinatis may have something to do with the cause.

The needle was fairly steady throughout the trip, a daily change of 11' was noted one day, at other times from 3' to 5'.

On the south line of 334 a local difference of 30' was noted lasting for a mile or more.

The lines were all run with the transit, the course having once been fixed, and allowance made for curvature east and west, and the meridian set by the solar.

Special attention was given to the matter of 'course' as Sur. 18 depended entirely on course and distance for its location.

The connecting line run by Thompson from the Alamo to SW. 334 was figured to compare it with the course and distance as worked out from the field notes of individual surveys along the line as noted on the sketch kindly furnished by the Gen. L. Office, as follows:

Thompson places Cor. 334	20082.6	West and	7114.7	South of Alamo
Map	"	"	7117	" " "
Our Survey	"	"	7546	" " "

Thompson run from SW 334 places the Astronomical Point

	6120.6	south and	8069.3	west
Brooks field notes	6163	"	7748	"
Map	6137	" (7592)	7592	"
Our Survey	6116	"	8047	"

The calls for Thompson's traverse will be found on sketch 22 herewith returned. The figures for the individual surveys are also given on the sketch. The Brooks call as given in the field notes of 334 is N. 51-30' W. 9900.

As a further check on possible error the course and distance from the various points on the survey, also the angular measurements taken on prominent peaks and other natural objects was laid down on the U.S. Topog. Map on a scale of 1/125000, using a scale of 40 parts to the inch, which gives 20.27 to the mile, or 1900 varas, or 10 vrs .1067 40ths.

This showed that our courses and distances as measured on the survey fit quite nicely with topography of the map.

The position of the Spring at the Alamo is a little north of the house, and the corner was located on the map by angular measurements on peaks and a reading on the chapel.

The corner of the M.Co.S.L. was located by scaling the distance south 51' east on meridian on map, or true north, and checked by reading on the Black Hill. The 5000 vara run west from this point scales out nicely at the crossing of the creek on the map, and again on crossing the Alamita, the three points on the bluff and in the farm and across the creek fit.

the position of the Cor. of 334 is as scaled out very close to the Daly ranch on the Map.

On the run west from 18 we checked on Klemans Store, the largest building in Presidio and on a new store not shown on the Topo. Map the Presidio store happens to check out exactly. On running east from 18 we check in distance with the Alamita bluff.

The readings on the peaks are helpful but could not be made very exact as there were no monuments to read to, except on San Jacinto which is not shown and on Big Chinati which we could not see. A sharp peak may broaden out from a new standpoint and what seems a close reading may become too indefinite to be useful. Care was taken to select the most available points and the readings repeated.

I think that the general agreement in course and distance as well as in angular measurements between our work and the U.S. Map shows that no large error can have escaped notice. I think by careful work an error of 200 varas or less would be detected.

In running our continuous lines both N. & S. and E. & W. we had long back and front sights on the mountains, which, in addition to the pins set under the back and front rods, made it easy to detect a very slight divergence from the course.

#### Distance:

All distances were measured with stadia wires. A double target rod was used in front, read and booked by the rodman. A self reading rod was used behind read and booked at the instrument, giving two readings of each distance.

The front rod was set perpendicular to the horizon by a double rod level, the back rod set at right angles to the line of sight by a sighting arm, difference in readings giving a check on slope, which was also measured on vertical arc at the instrument and correction made to the horizontal. This method enabled us to hold our lines continuous over a country where chaining would have been tedious, unreliable and in places impossible, and a continuous course is much less liable to error than where the course has to be frequently altered.

The stadia wires were set by chaining 100 to 200 varas setting the targets for that distance from the center of the instrument and setting the wires to correspond. They were frequently tested in the same way, to see that they were in adjustment.

#### Beginning Point.

I was instructed by the Gen. Land Office to make the S. Cor. of the Alamo survey one of the points of this survey, hence I began at that place.

The field notes of survey 76 kindly furnished by the Gen. Land Office state that it is a 160 acre tract in the name of S. Hernandez, surveyed in 1875, and begins at a rock mound set for the SE Cor. of Sur. 2, H&TCORR Co. Thence N. 25 W 950 vrs &c. The application states that the survey is to cover a certain spring known as El Alamo and the spring is to be placed as near the middle of the tract as may be convenient.

The field notes of survey 3, H&TCORR give as a bearing at the NE Cor. Cottonwood at the Alamo brs S 58 $\frac{1}{4}$  W.

I went to the place known as the Alamo and found an old large dobe house, or rather group of houses. The residents claimed that they are some of their family had resided here for over 50 years. They said the spring near the house was known as the Alamo, or Cottonwood.

Starting from the running water north of the house I ran S 30 W 672 varas and on searching for a rock mound found an old rock pile S 45 E 180 San Jacinto Peak was hidden by a low hill. I noted this as this peak is very prominent and is used at several nearby corners as a bearing and I had wondered why it was not used at this point. To further test this corner I ran S. 65 W one mile and reached a rock pile with the stumps of two mesquit trees standing course and distance as called for at the SW Cor.

Sur.2 H&TC. I found another rock pile, more recent N.32 W.52 vrs. but there were no mesquites near it.

I ran on S 65 W.775 varas to a point in the south line of H&TC.1 where I figured that the east line of the Mitchell Co. School Land would reach it. The distance called for in the field notes was 1168 varas from SW. Cor. Sur.1, but I found an error in the field notes and they would not close by 40 varas.

At this point we turned south and ran 5764 varas the distance called for in the field notes to reach the SE Cor. Sur.1, M. Co. S. L. but found nothing, on south 5884 varas and 55 varas west we found the rock mound described above fitting the description given in field notes, as above noted.

This rock mnd. was 55 vrs west of a line run south at 11-45' E. from a point 40 vrs west of the call, which places it 130.9 vrs west and 120 vrs south of the position relative to the S. Cor 76 given in the field notes of the M. Co. S. L.. From the readings at this point we established our course as described above in discussing the variation.

This rock is on the east side of a draw and we could not see out east or west, but at 400 varas we reached the rise and took readings on certain hills as noted on sketch, and again at 2123 vrs.

At 5000 vrs. west we had crossed the Alamo, the road, and a line of R. R. survey stakes (numbers washed off). This should be the SW Cor. M. Co. S. L. Sur.1, but we found no rock mnds or marks. None are called for in the field notes we had.

On west at 1853 varas, as called for on the map, we looked for a corner 66 varas north, but found nothing:

On west at 7628 vrs we reached the edge of the bluff on east side of the Alamita valley. At the foot of this bluff we found a pile of large stones, but they did not look like a corner, too irregular:

On west at 8074 vrs we reached a point in a field or farm on east bank of creek, near north end of field:

On west at 8565 vrs reached top of bluff or low hill on west side of creek:

On west at 12,598 vrs from SE. Cor. M. Co. S. L. Sur.1, we took readings and returned to camp.

We next moved to Daly's Ranch. This was supposed to be on the old Fuentes survey 334,320 acres. The field notes of this survey state that it was granted to M. Favors, Ass. of L. Fuentes, Decd. whose application states that it is to cover a certain spring known as "El Chipidero", or sepe spring.

The field notes state that the survey begins at a rock mnd from which a willow ~~is~~ 3' in dia. standing near the spring bears N 50-30' E. 665 vrs and the Astro. Pt. brs S 51½ W. 9900 vrs.

We went to the ranch house and near it found two shallow wells, near the westerly one, about 30 steps from the house, we found an old rock wall, evidently built as a retaining wall to hold back the bank on three sides of a cut where the resident Mexicans stated that the Chipidero Spring used to run out. It is now dry but the old water course can be seen. There are a number of willows and one large cottonwood near by, but the 3' willow was not there. The Mexican stated that it had been there but had died and been cut down. The ranch has been constantly occupied and well known from the time of the original survey by Mr. Brooks.

From a point about ten steps north of the rock wall we ran a trial line S 51-30' W. 665 vrs and found an old rock mound on top of a small conical hill near a gap 39 vrs south and 20 vrs east of the point reached.

This would place the willow along the water course from the spring and near where some willows now stand.

An old Mexican, Epiphania Ramirez, said that this rock mound was the original corner shown him by Mr. Brooks. There was no other rock mnd in the neighborhood, and later on Mr. Brooks and Mr. Daly confirmed the identification of this corner from my description.

We ran east from this rock mnd and at 282 vrs passed a rock mnd 23 vrs north, and from it saw another some 75 vrs west.

At 364 vrs passed a well and Mexican house some 100 vrs south:

At 1258 vrs passed a rock mnd and stake set on small hill:

At 1350 vrs reach a rock mnd at foot of hill, said by Ramirez to be the original corner of 334 made by Mr. Brooks:

At 3692 vrs east and 528 vrs north we reach our line from SE Cor. 1 M. Co. S. L.

This places the SW Cor. of Sur. 334 17,640 west and 528 south of that corner, or 20149 west and 7546 south of the Alamo corner:

Thompson 20032 west and 7115 south:

The difference of 67 vrs in westing might easily arise from chaining over the broken country, the difference of 431 vrs in southing is a serious error.

To reach the Cor of 334 with Mr. Thompson's southing we would have to run some 12-05' to the south, which would of course no longer be a west course, and even then while reconciling the southing we would increase the difference in westing. Our course was checked by the solar at 12598 vrs and we could still see the object on the little point north of the Black Hill, which we had as a back sight soon after we left the M. Co. S. L. corner. The platting of our run on the U. S. Map would seem to confirm the position we give to these corners.

Returning to the Brooks SE Cor. 334, as above noted, we ran south:

At 630 vrs pass a rock mnd about 25 vrs west:

At 1025 vrs, at 8 A.M. local time we reached a rocky backbone ~~wasse~~ we checked on our course south with the solar needle reading 12-06 on our line:

At 1795 vrs we could see the SW Cor. 334, bears N. 36-55' W.

At 2470 vrs reach a rock mnd and stake 20 vrs west-2466 would be the corner S.W. of Sur. 5 Blk. 351:

At 3274 vrs, 804 vrs further south, we found a very large rock mnd and stake on east side of road from Daly's Ranch. This is 572 vrs too far south for the corner of Sur. 4, which should be 232 vrs south, or 2688 from S.E. 334:

At 4200 vrs we passed a circle of rocks about 3' in dia. probably indian work:

At 4389 vrs we placed five small rocks on the line for reference.

At 4599 vrs passed another small circle of rocks, 8 vrs east:

At 6266 vrs ran 47 vrs west and made a small rock mound for the NE corner Sur. 18 in Blk. 351, 3 miles and 566 vrs south and 47 west of the SE. Cor. 334 the point called for by field notes and map. (SE Cor. 334)

From this rock mound the monument on San Jacinto, Pk. bears N. 59-40' E

Peak of Cienegant bears N 35-10' E.

Pointed Peak in Mexico S. 2-15' W.

High Point on north end Black Hills bears N 69-45' E.

This rock mound is on the east side of a draw 190 vrs east of the road from Daly's Ranch where it runs along a narrow ridge just before it drops down into the valley. This is the same road that runs by the large rock mnd and stake described above at 3274 vrs. S. of Cor. of 334.

At this point we noted a change of 15' in the reading of the needle. We had a front sight on a peak in Mexico, which we had carried some 3 miles, so we had a good check on our course. We set the solar at 8 A.M. local time, and the needle gave a reading of 11-00' E.

We now ran east 1900 vrs and placed a small rock mound in a sandy draw surrounded by sand hills, for the NE. Cor. Sur. 18, and marked an 8 inch mesquite with a cross and hack above and below, brg. N. 60½ E 41 vrs:

Later on our rodman in riding back found a rock mound north of our corner, and we connected it. Running west 140 vrs and north 350 vrs we found a rock mound on the north side of a sandy creek bed, and another rock mound 100 steps south of it, and another 100 steps north of it, both in the sand hills. Turning west from the rock mound by the creek bed, we ran 235 vrs west and reached another rock mnd 4 varas south, on west 243 vrs 478 vrs in all, we found another rock mound 3 varas north. These rock mounds had evidently been placed here for some purpose, but there was no mark to show for what they were intended..

Running east from the NE. Cor. 18 as above located,

At 260 vrs on top of rise crossed R.R. right-of-way out out:

At 780 vrs a rock mnd and stake pulled down, 34 vrs south of our line on running north 550 vrs and west 205 vrs found a small rock mnd returning to line:

At 968 vrs. cross line of R.R. stakes running N. 60-30' E.

At 1568 varas reach line of location shown in yellow on R.R. sketch runs N 27- 20' E.

At 1710 vrs reach line of stakes shown in red on sketch, runs N. 32-50' E.

At 2034 vrs first bench:

At 2221 vrs edge of creek bluff:

Returning to the line of stakes in red, we measured the angle made by the tangent with our land line and found it 122-50', comparing this with the angle given on R.R. sketch between red line and north line 19, it was

found to be given as 12-19' a diff. of 1-31'. On R.R. sketch the variation is given as 10-36', compared with our var. 12-06' diff. 1-30' which fits nicely, but the angle mrkd 121-19' on R.R. sketch measures with the protractor 126 (?).

We ran 1508 varas south along the red line at S. 32-50' W. but found no stakes numbered or marked by which to locate our position on the line.

We returned to our crossing of the yellow line at 1568 vrs and running along it found the stake at P.C. & P.T., and some numbered stakes which showed that the PC was the one given in the R.R. sketch and marked PC 186 X 11, and PT 194 X 61. Measuring back we found that our land line crossed at 181 X 16. Here we set a stake so mrkd, and set another stake west on our line to give course.

We figured from R.R. sketch that the N. line of 19, as located by the R.R. Co. 191 X 29 with a var of 10-36' would cross the line of yellow 318.6 vrs north and 176.4 east of where our line crossed, and would make an angle of 121-19' with the red line, and so platted it on our sketch, but thus the location would just touch the SE. Cor. 18, whereas it is platted on R.R. sketch as running across this corner of the land, as located on R.R. sketch. This position of the survey would place its line at an angle of five degrees with the meridian, an almost impossible position under any theory of survey. It was impossible to tell from the R.R. sketch which position was intended as the R.R. location.

I have shown in our sketch the actual position of the lines of R.R. stakes on the ground as we found them, and their relative position to the lines of Sur. 18 as we find it, and have sketched in the two positions of 18 given on R.R. sketch as position claimed for 18 by the R.R. Co. The one based on the calls, the other as platted on the R.R. Sketch.

We returned to the NW Cor. of 18 as above located and ran west,

At 485 vrs we passed a large rock mnd 3.7 vrs south:

At 1024 vrs a rock mnd 3 vrs south:

At 2501 vrs a rock mnd vrs north:

At 6154 vrs a rock mnd 127 vrs south:

At 5369, 6148 & 6968 we took bearings on Kleimans store in Presidio, and at the two latter stations on the cupola, or ventilator on top of a ~~new~~ new store owned by Henry Penitas (? a Mexican:

At 9350 vrs we reached a point 150 varas south of the Astronomical Point:

We had no copy of Maj. Emory's report as to location of this point, but had field notes given by Mr. Thompson for the point which he states Mr. Russell had shown him as the spot where it was established, Mr. Russell being present at the time. He calls for a chappell in Mexico S 5 E and the west point of the Chinatis N 19 $\frac{3}{4}$  W.

The SW. Cor. of River survey #4, Larkin Landren, calls for the Astro. Pt. N. 81 E. 570 vrs, but the bearing tree for this corner has disappeared.

The SW Cor. River survey #190 J. Burgess calls for the Asto. Pt. N 30 W 3920 vrs. The bearing at this corner has disappeared, but the claim is made that the position of the corner has been kept up and can be identified by witnesses.

On inquiry we were shown an old corral on a hill near a adobe house and were told that the Astro. Point was supposed to have been established in this corral. At a point about 3 vrs from the SW post of the old corral the bearings given by Mr. Thompson fitted with a variation of 11-35' but the call for the west point of the Chinatis was indefinite, we could not be certain which point of the mountains was intended.

About ten steps east of this point was a rock mound and stake recently put up.

On further inquiry we found an old Mexican, Ankell (?) Rodriguez, who said that he remembered the boundary commission establishing the point and had seen the surveyors, both Mexican and American go to it time and again and set flags on the hills from that point. He said there was a pile of rock in which a cross was cut and that it was all burried under ground. He took us to a point some 300 to 400 varas south west of the corral at which we were and showed us a spot about two varas east of the east wall of a pen or corral in front of an old adobe house where Ignacio Gonzales was living, but which was known as the Hi Kelly house. Here we dug down some 18" and found the rocks with the large rock marked with a cross.

We marked a three inch mesquite as a bearing standing N.14-05' W. 32.4 vrs. The chappel in Mexico read S 5 E with a var. of 11-55', and Peak on Cienega Mt. N.45-30' E, we could not see the west part of the Chinatis as they were hidden by the wall of the pen. The new store bore S.69-45' E.

I went to see Mr. Daly who said he was in Presidio when the boundary survey was being made and that the point we described in front of Hi Kelly's house was the spot where the point had been fixed by Maj. Emory, that Larkin was living there at the time and he Daly had frequently had his attention called to the spot when visiting Larkin Landren. He stated that Maj. Livermore came to Presidio later on and he had helped to dig up the rock to look for a cottonwood log said to have been burried there in 1853 by Maj. Emory, but it had disappeared.

These facts and testimony seemed to us to satisfactorily identify the rocks we were shown as the so called Astronomical Point established by Maj. Emory, as called for in the field notes of the earlier River surveys and definitely fixing their location.

On inquiry we found that the south line of the Larkin Landren Sur.4 was claimed to be about where the rocks identified as the Astronomical point would place it, and that the SW. Cor. of 190 was claimed where J.R. Marmion had located it years ago from the Astro. Point. This being the case, the other River surveys take course and distance according to the Marmion survey as accepted by the Gen. Land Office. This location is dotted on the sketch attached to this report.

This completed the connections and lines I was instructed to run, and as it was almost impossible to get mail in and out without serious delay I returned to make this report instead of holding the outfit for further instructions as at first intended.

Respectfully,

Alpine, Tex.,

Aug. 20, 1909.

R. S. Dod,

State Sur.

*Received and filed in General Land Office  
on August 24th, 1909. (See letter Index)*

Sketch File No. 37

Presidio County

Dated Filed Aug. 24th, 1909.

Filed August 20, 1909 193

J. H. Walker, Comm.

File Clerk

Descriptive: see Presidio Co. Rolloed Sk.  
and Report - apart of this - also  
office sketch approved by J. T.  
Robison of Oct. 1909.

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State Sur.

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