

2759

BOOK 2759

FIELD NOTES

OF THE ~~RE~~ SURVEY OF THE

SOUTH AND EAST BOUNDARIES OF THE COLORADO RIVER INDIAN RES'N;

and

Survey of

WEST BOUNDARY OF T. 4 N., R. 21 W.

SOUTH BOUNDARY OF T. 4 N., R. 21 W.

WEST BOUNDARY OF T. 4 N., R. 20 W.

WEST BOUNDARY OF T. 3 N., R. 20 W.

SOUTH BOUNDARY OF T. 4 N., R. 20 W.

WITHIN THE COLORADO RIVER INDIAN RESERVATION.

Of the Gila and Salt River Meridian,

In the State of Arizona

EXECUTED BY

GUY P. HARRINGTON

In the capacity of U. S. Surveyor, under instructions dated Nov. 23, 1910,

Commissioner of the General Land Office, to A. F. Dunnington,
issued by the ~~United States Surveyor General to govern surveys included in~~
Topographer in Charge

Group No. _____, which were approved by the Commissioner of the General Land

Office, _____, 1911, pursuant to authority contained in the Act of

Congress dated _____, 1911

Survey commenced January 22, 1912

Survey completed February 16, 1912.

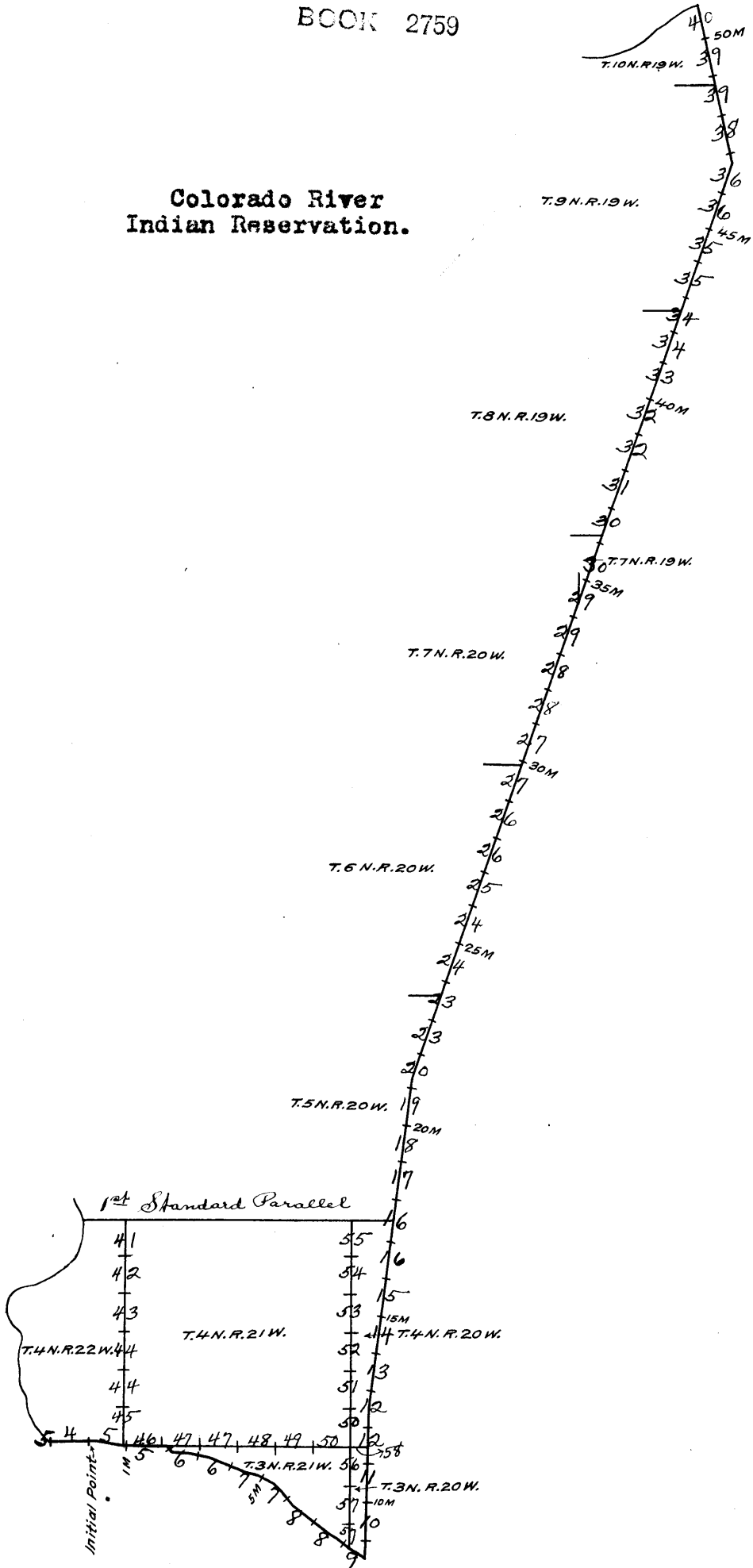
INDEX DIAGRAM.

Township _____, Range _____

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

BOOK 2759

Colorado River
Indian Reservation.



Colorado River Indian Reservation Boundary.

Survey commenced Feb. 9, 1912, by Guy P. Harrington, U. S. Surveyor, and executed with a Young & Sons light mountain transit No. 8394, with solar attachment. The horizontal limb is provided with two double verniers placed opposite each other reading to single minutes of arc, which is also the least count of the verniers of the latitude and declination arcs.

The Executive Order of May 15th, 1876, defines the boundaries of the Colorado River Indian Reservation as follows:

"Beginning at a point where La Paz Arroyo enters the Colorado River and four miles above Ehrenberg; thence with said Arroyo to a point south of the crest of La Paz Mountain; thence with said mountain crest in a northerly direction to the top of Black Mountain; thence in a north-westerly direction over the Colorado River to the top of Monument Peak in the state of California; thence south-westerly in a straight line to the top of Riverside Mountain, California; thence in a direct line toward the place of beginning to the west bank of the Colorado River; thence down said west bank to a point opposite the place of beginning; thence to the place of beginning".

The Executive Order of Nov. 16th, 1874, is identical in wording with the one of 1876, except for that portion of the boundary between Riverside Mountain and the place of beginning.

In 1875, the year between the two Executive Orders, Chandler Robbins, Deputy Surveyor, made a survey of the reservation boundary. He established his initial monument, so he states in his field notes, where the La Paz Arroyo enters the Colorado River. He then states that he followed the arroyo for 8.93 miles and established the southeast corner of the reservation at a point south of the crest of La Paz Mountain. He then runs a traverse line around the base of the mountains and establishes his 13 Mile Post by calculation and states that his 13 Mile Post is 13 miles N. 4° 21' E. of the southeast corner of the reservation. Thirteen miles of the boundary, therefore, was not marked with monuments. The mountains along

Colorado River Indian Reservation Boundary.

this portion of the line have since proved to be very rich in mineral, and since no monuments existed to warn the prospectors and miners, they have encroached, in great numbers, upon the reservation, and in some cases have developed valuable mines. It can readily be seen that any method of establishing this boundary line is going to be met with a great deal of protest on the part of these men.

Wm. Strover, U. S. Surveyor, in 1910 established the south boundary of the reservation in an arroyo just north of the old town of La Paz and $6\frac{1}{2}$ miles north of Ehrenberg. He submitted considerable evidence that this arroyo is La Paz Arroyo, but it seems incredible to believe that this arroyo was the one meant, for certainly the maker of the Executive Order would have spoken of the Arroyo as being $\frac{1}{2}$ mile north of La Paz, instead of referring it to Ehrenberg.

Since Chandler Robbins made his survey near the dates of the Executive Orders, he certainly knew what was La Paz Arroyo at that time, for there were then many people living at La Paz and also at Ehrenberg.

In the Commissioner's letter, "Boundary lines, Colorado River Indian Reservation, Arizona and California" of Jan. 22, 1912, it states:

"It becomes your duty to define with particularity the following points on the earth's surface, viz:

- (1) The arroyo recognized by Robbins in 1875 as the Arroyo La Paz.
- (2) The point in said arroyo, recognized by Robbins as its head and south of the crest of La Paz Mountain.
- (3) The mountain crest presumably to be found due north of the point described in (2), between which two points to run either due North to the crest, thence along said crest until the same culminates in a particular mountain peak known as La Paz Mountain; or, if such crest is found not to have a general northerly trend culminating in such a peak, then to run, from the point described in (2), a straight line to the top of La Paz Mountain.
- (4) A point which Robbins describes in his survey as opposite the northerly end of La Paz Mountain, and where he established his 13th mile corner, between which point and that described in (3) a straight line is to be run for the want of a mountain crest, practically following such direction in its general trend."

I will show, in my field notes, that I have determined

2759

Colorado River Indian Reservation Boundary.

Chains

absolutely the arroyo recognized by Robbins in 1875 as the Arroyo La paz, in which I have established the south boundary of the reservation.

I will also show that I have determined absolutely the point in said arroyo, recognized by Robbins as its head and south of the crest of La Paz Mountains, and have taken said point as the SE. cor. of the reservation.

For the want of a mountain crest with a northerly trend, I have established a straight line from said SE. cor. to the top of La Paz Mountain. I will show that I have determined closely the point, described by Robbins as opposite the northerly end of La Paz mountains, where he established his 13th mile post.

Many persons will state that the mountain taken by me is not La Paz Mountain. I have asked many old-time miners, prospectors and Indians, and they almost all agree as to the peak. The only persons who have stated to me that this peak is not La Paz Mountain, are persons who have located mining claims on the reservation. This mountain peak is N. 1° 33' E. of Chandler Robbins' SE. cor., and the only prominent peak which is within several degrees of being north of said corner. It is the nearest prominent mountain to the old town of La Paz. The old La Paz Placer workings are near the base of it. Wm. Stover took this as La Paz Mountain in 1910. Homer Santee and John Hesse, in their surveys of 1907 and 1909 respectively, ran their lines over the summit of this peak, I having found their monuments.

.....

The iron posts used in the survey of this boundary line are 3 feet long, and are set 26 ins. in the ground. The posts at mile corners are 1 inch in dia., and those at angle points, unless otherwise described, are 1 inch in dia. The posts are filled with cement and fitted with brass caps.

Colorado River Indian Reservation Boundary.

Chains

After diligent search, I fail to find Chandler Robbins' Initial Monument. To be sure of the arroyo followed by Robbins, I run up the arroyo at his reported distances and bearings and find that his line brings me to the head of the arroyo, where I find his SE. cor., hereafter described. At the present time the Arroyo La Paz does not enter the Colorado River, but enters a large slough at the edge of the mesa. This slough is an old channel of the river and is connected with the river about a mile south, the river now being about a mile to the west. Therefore, on a high point of ground, in the Arroyo La Paz, on east bank of slough, set an iron post^(3 ins. dia.) for the Initial Monument, marked Initial Mon C R I R 1912; build a mound of stone 4 ft. base, 3 ft. high, N. of post; from which a palo fierro 14 ins. dia. brs. N. 14 1/2° E., 120 lks. dist., mkd. Initial Mon C R I R B T.

This point is 3 1/2 miles, by wagon wheel measurement, from Ehrenberg Post Office.

The highest point on Riverside Mountain brs. N. 2° 32' W. The Initial Monument, at the mouth of the Arroyo La Paz, is now more than a mile from the Colorado River. The reservation boundary is therefore a line run West from the Initial Point to its intersection with the Colorado River. I interpret the expression "opposite the Initial Point" to mean West of the Initial Point.

.....

Feb. 9, 1912. At 1 p.m., l.m.t., I set off 33° 38' on the lat. arc, 14° 53' S. on the decl. arc, and determine a meridian with the solar, at the Initial Monument.

Thence I run

West along the S. bdy. of the reservation.

Over overflow bottom land, through dense brush.

- 8.50 Slough, 1.00 chs. wide, water 3 ft. deep, brs. N. and S.
- 45.00 Slough, 1.50 chs. wide, water 3 ft. deep, brs. N. and S.
- 80.00 Set an iron post^{for M.P.} mkd. C R I R on N., P L 1912 on S.

and dig pits 36x36x12 ins. N. and S. of post 4 ft. dist.;

Colorado River Indian Reservation Boundary.

Chains

and raise a mound of earth 5 ft. base, 2½ ft. high, E. of cor.

Land, level, subject to overflow (Grazing).
Soil, sandy, 3rd rate.

West along the S. bdy. of the reservation.

9.23 Left bank of Colorado River, course S.

Set an iron post (3 ins. dia.) for meander cor., stamped in cap

M C in W.
C R I R in NE.
P L 1912 in S.

Dig a pit 36x36x12 ins. on line, 3 ft. E. of post, and raise a mound of earth 4 ft. base, 2 ft. high, E. of cor.

Land, level, subject to overflow.
Soil, sandy, 3rd rate.

Feb. 9, 1912.

Feb. 10, 1912. At 8 a.m., l.m.t., I set off 33° 38' on the lat. arc, 14° 36' S. on the decl. arc, and determine a meridian with the solar, at the Initial Monument, previously described.

Thence I run up Arroyo La Paz, along the S. bdy. of the reservation.

S. 80° 10' E., 79.40 chs., To A.P. No. 1, which is the cor. of Tps. 3 and 4 N., Rgs. 21 and 22 W. I add to markings on post - C R I R on N., P L on S., and A P 1 on W. At 9.20 chs., Parker-Khrenberg road, brs. N. and S. Set an iron post mkd. C R I R on N., P L 1912 on S., 9.20 chs. on W., and witness same by a mound of stone 3 ft. base, 2 ft. high, W.

East, 0.60 chs. - Set an iron post for 1 M.P., mkd. 1 M P C R I R on N., P L 1912 on S., and build a mound of stone 3 ft. base, 2 ft. high, W. of post.

Land, level arroyo bottom.
Soil, gravelly, 3rd rate.
Scattered brush of palo verde.

Thence along the S. bdy. of sec. 31, T. 4 N., R. 21 W., (S. bdy. of reservation).

Over level arroyo bottom, through scattered palo verde.

Colorado River Indian Reservation Boundary.

East, 78.55 chs., to A.P. No. 2. Set an iron post mkd. A P 2 C R I R on N., P L on S., and build a mound of stone 3 ft. base, 2 ft. high, NE. of Post.
 At 37.95 chs., the $\frac{1}{4}$ sec. cor. bet. secs. 6 and 31, Tps. 3 and 4 N., R. 21 W., which I additionally mark C R I R on N., and P L on S.
 At 77.95 chs., - true point for cor. of secs. 5, 6, 31 and 32, Tps. 3 and 4 N., R. 21 W.
 At 78.00 chs., - Ehrenberg-Quartzsite Road, brs. N. and S.
 At 78.15 chs., - W.C. to cor. of secs. 5, 6, 31 and 32, which I additionally mark C R I R on N. and P L on S.

S. 71° 30' E., 1.45 chs. - To M.P. No. 2. Set an iron post, mkd. 2 M P C R I R on N., P L on S., and build a mound of stone 3 ft. base, 2 ft. high, W. of post.
 (1912 mkd. in S. of all posts)

Land, level arroyo bottom.
 Soil, gravelly, 3rd rate.
 Scattered brush of palo verde and palo fierro.

 Thence I continue up Arroyo La Paz, along the S. bdy. of the reservation, on 3rd mile.

S. 71° 30' E., 30.32 chs. - Set an iron post for A.P.No.3, mkd. C R I R in N., P L on S., and A P 3 on W., and build a mound of stone 3 ft. base, 2 ft. high, N. of post.

N. 88° 15' E., 49.68 chs. - Set an iron post for M.P.No.3, mkd. 3 M P C R I R on N., P L on S., and build a mound of stone 3 ft. base, 2 ft. high, W. of post.
 (1912 mkd. in S. of all posts)

Land, level arroyo bottom.
 Soil, gravelly, 3rd rate.
 Scattered palo verde and palo fierro.

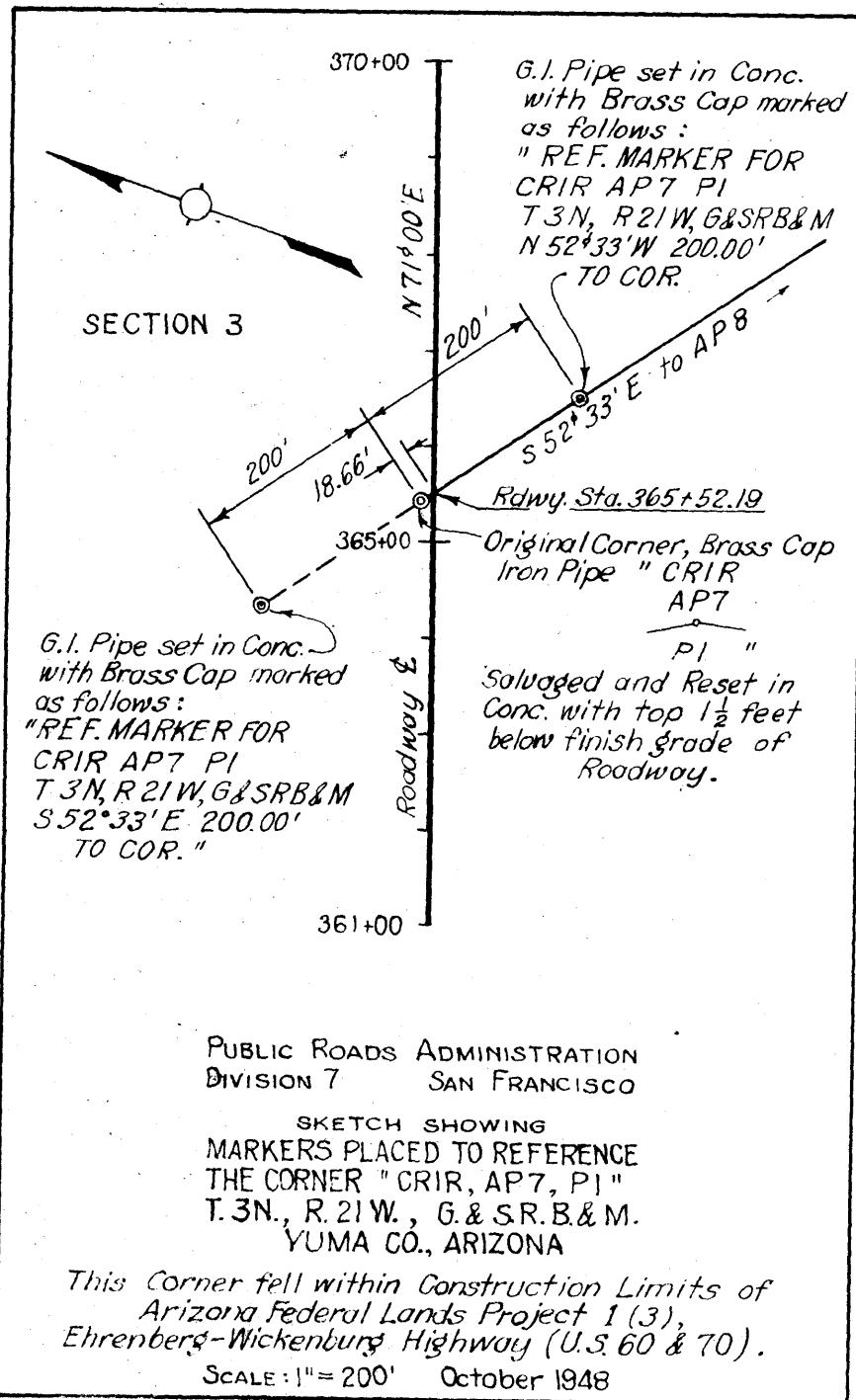
 Thence up Arroyo La Paz, along the S. bdy. of the Reservation, on 4th mile.

N. 88° 15' E., 23.55 chs. - Set an iron post, mkd. C R I R on N., P L 1912 on S., A P 4 on W.; for angle point No.4. Build a mound of stone 3 ft. base, 2 ft. high, N. of cor.

S. 81° 00' E., 26.32 " - Set an iron post, mkd. C R I R on N., P L 1912 on S., A P 5 on W.; for angle point No.5. Build a mound of stone 3 ft. base, 2 ft. high, N. of cor.

S. 63° 30' E., 30.13 " - Set an iron post for 4 M.P., mkd. 4 M P C R I R on N., P L 1912 on S.; and build a mound of stone 3 ft. base, 2 ft. high, W. of post.

7A
BOOK 2759



Colorado River Indian Reservation Boundary

Chains

Land, level arroyo bottom.
Soil, gravelly, 3rd rate.
Scattered palo verde and palo fierro.

Thence up Arroyo La Paz, along the S. bdy. of the reservation, on 5th mile.

S. 63° 30' E., 28.70 chs. - Set an iron post for angle point No.6, mkd. C R I R on N., P L 1912 on S., A P 6 on W., and build a mound of stone 3 ft. base, 2 ft. high, N. of cor.

N. 86° 00' E., 24.62 " - Set an iron post for angle point No.7, mkd. C R I R on N., P L 1912 on S., A P 7 on W., and build a mound of stone 3 ft. base, 2 ft. high, N. of cor.

S. 52° 30' E., 25.23 " - Set an iron post for angle point No.8, mkd. C R I R on NE., P L 1912 on S., A P 8 on NW., and build a mound of stone 3 ft. base, 2 ft. high, NE. of cor.

S. 22° 00' E., 1.45 " - Set an iron post for 5 M.P., mkd. 5 M P C R I R on N., P L 1912 on S.; and build a mound of stone 3 ft. base, 2 ft. high, NW. of post.

Land, level arroyo bottom.
Soil, gravelly, 3rd rate.
Scattered palo verde and palo fierro,

Thence up Arroyo La Paz, along the S. bdy. of the reservation, on the 6th mile.

S. 22° 00' E., 8.80 chs. - Set an iron post for angle point No. 9, mkd. C R I R on E., P L 1912 in S., A P 9 on N.; and build a mound of stone 3 ft. base, 2 ft. high, NE. of cor.

S. 13° 30' E., 12.25 " - Set an iron post for angle point No. 10, mkd. C R I R on E., P L 1912 on S., A P 10 on N.; and build a mound of stone 3 ft. base, 2 ft. high, NE. of cor.

S. 44° 00' E., 16.10 " - Set an iron post for angle point No. 11, mkd. C R I R on NE, P L 1912 on S., A P 11 on NW; and build a mound of stone 3 ft. base, 2 ft. high, NE. of cor.

S. 17° 00' E., 15.00 " - Set an iron post for angle point No. 12, mkd. C R I R on NE, P L 1912 on S., A P 12 on NW.; and build a mound of stone 3 ft. base, 2 ft. high, NE. of cor.

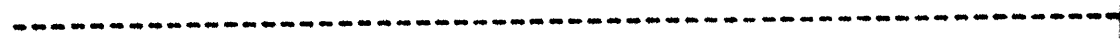
Colorado River Indian Reservation Boundary.

Chains

S. 53° 30' E., 27.25 chs. - Set an iron post for angle point No.13, mkd. C R I R on NE, P L 1912 on S., A P 13 on NW.; and build a mound of stone 3 ft. base, 2 ft. high, NE.of cor.

S. 54° 30' E., 0.60 " - Set an iron post for 6 M.P., mkd. 6 M P C R I R on N., P L 1912 on S.; and build a mound of stone 3 ft. base, 2 ft. high, NW. of post.

Land, level arroyo bottom.
Soil, gravelly and stony, 3rd rate.
Scattered brush of palo fierro and palo verde, ochatilla and giant cactus.



Thence up Arroyo La Paz, along the S. bdy. of the reservation, on the 7th mile.

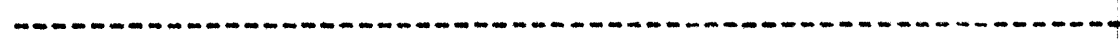
(Arroyo La Paz now has vertical rock walls and is a wide mountain canyon).

S. 54° 30' E., 13.69 chs. - Set an iron post for angle point No. 14, mkd. C R I R on NE, P.L 1912 on S., A P 14 on NW; and build a mound of stone 3 ft. base, 2 ft. high, NE.of cor.

S. 44° 30' E., 19.21 chs. - Set an iron post for angle point No. 15, mkd. C R I R on NE, P L 1912 on S., A P 15 on NW; and build a mound of stone 3 ft. base, 2 ft. high, NE.of cor.

S. 53° 30' E., 47.10 chs. - Set an iron post for 7 M.P., mkd. 7 M P C R I R on N., P L 1912 on S.; and build a mound of stone 3 ft. base, 2 ft. high,NW. of post.

Land, level arroyo bottom.
Soil, rocky, 3rd rate.
Scattered palo verde and palo fierro, cholla and giant cactus.



Thence up Arroyo La Paz, along the S. bdy. of the reservation, on the 8th mile.

S. 53° 30' E., 80.00 chs. - Set an iron post for 8 M.P., mkd. 8 M P C R I R on N., P L 1912 on S.; and build a mound of stone 3 ft. base, 2 ft. high,NW. of post, from which a malpais stone 8x8x10 ins.above ground mkd. 1907 on S., P L on E., S.E. C R I R on NW., and witnessed by a mound of stone 4 ft. base, 4 ft. high, NW., brs. N.65°40'E., 5.07 chs.dist. This cor. is evidently the SE. cor. of the reservation as established by Homer Santee in

Colorado River Indian Reservation Boundary.

Chains

1907, which was rejected. I destroy this cor.

Land, level arroyo bottom.
Soil, rocky, 3rd rate.
Scattered brush of palo verde, palo fierro, cholla and giant cactus.

Thence up Arroyo La Paz, along the S. bdy. of the reservation, on the 9th mile.

S. 53° 30' E., 32.50 chs. - Set an iron post for A.P.No.16, mkd. C R I R on NE, P L 1912 on S.; A P 16 on NW; and build a mound of stone 3 ft. base, 2 ft. high, NE. of post.

S. 65° 00' E., 6.05 " - To the SE. cor. of the reservation as established by Chandler Robbins in 1875, which is a granite boulder 60x40x36 ins. above ground, surrounded by a mound of stone. The cor. is marked C R I R on NW. face, 8.93 Mls. on W. face. ^{1875 on S. face} On one of the rocks in the mound, I find chiseled J.W.Sipes. I find that a man with this name is given by Chandler Robbins as one of his assistants. NW. of and alongside this cor., I set an iron post (3 ins. dia.) 6 ins. to bed rock, marked on cap W C SE COR C R I R A P 17, and build a mound of stone 6 ft. base, 3 ft. high, around the post. This cor. is 8 miles and 38.55 chs. from my initial point, and is at the head of the Arroyo La Paz.

Land, broken washes in arroyo.
Soil, stony, 3rd rate.
Brush, cholla and giant cactus.

This Arroyo at its mouth is about one-half mile wide and has numerous washes down same. I have endeavored to follow the main wash.

All corners established were set on high point in the Arroyo, so that they would not be washed out by heavy rains. Piles of drift and up-rooted trees show that there has been enormous volumes of water coming down this arroyo at times.

From the SE. cor. of the reservation, the crest of La Paz Mountain is invisible. I therefore proceed to a high ridge about 2½ miles northerly, and find that La Paz Mountain is visible from this ridge, but then I am unable to sight the SE. cor. In the course of my subdivision of T. 4 N., R. 21 W., I have taken frequent bearings to La Paz Mountain, and have thus procured its

Colorado River Indian Reservation Boundary.

Chains

location very closely. The SE. cor. of the reservation is also connected with section lines. I, therefore, determine the bearing, by computation, to be N.1°32'E.

I therefore return to the SE. cor. of the reservation, where I set off (on Feb. 11, 1912, at 9 a.m., l.m.t.) 33° 35' on the lat. arc, 14° 17' S. on the decl. arc, and determine a meridian with the solar.

Thence I run

N. 1° 32' E. on a random line, along the E. bdy. of the reservation.

409.64 Falls 11½ lks. W. of the highest point on La Paz Mountain.

This falling calls for a correction of 0° 1' E. ✓

Returning to the SE. cor. of the reservation,

thence I run

N. 1° 33' E. on a true line along the E. bdy. of the Reservation, continuing on the 9th mile.

Over broken, mountainous land, ascending.

0.65 Rocky wash, 25 lks. wide, course SW.

12.30 High rocky ridge, brs. NE. and SW. Thence descend along NW. slope of ridge.

35.10 Enter arroyo, course S. 60° W.

41.45 Set an iron post for 9 M.P., stamped on cap

9 M P C R I R on W.
P L in E.
1912 in S.

Build a mound of stone 3 ft. base, 2 ft. high, S. of post.

Land, broken and mountainous. (Barren).
Soil, stony, 3rd rate.

Thence I run

N. 1° 33' E. on a true line along the E. bdy. of the Reservation, on the 10th mile (continuing in arroyo).

3.50 Leave arroyo, course S. 60° W. Begin ascent of precipitous mountain ridge.

25.75 Rocky wash, course S. 20° E.

30.75 Top of ascent on high rocky ridge, brs. E. and W.

Thence descend precipitous rocky N. slope of ridge.

42.00 Rocky wash, course N. 45° W.

49.60 Rocky wash, course W.

Thence ascend steep SW. slope of mountain ridge.

Colorado River Indian Reservation Boundary

Chains

- 62.40 Summit of high rocky ridge, brs. E. and W.
Thence descend steep NW. slope of ridge.
- 67.40 Rocky wash, course S. 70° W. Thence rocky ascent of ridge.
- 80.00 Set an iron post for 10 M.P., stamped in cap
10 M P C R I R in W.
P L in E.
1912 in S.
Build a mound of stone 3 ft. base, 2 ft. high, S. of post.
Land, broken and mountainous. (Barren).
Soil, stony, 3rd rate.
-
- N. 1° 33' E. on a true line along the E. bdy. of the
Reservation, on the 11th mile.
Continuing steep ascent of ridge.
- 1.30 Top of ascent on high ridge, brs. NW. and SE.
Thence steep descent.
- 11.50 Rocky wash, course N. 75° W.
- 22.00 Rocky wash, course S. 60° W. Thence ascend.
- 26.70 Top of ascent on W. slope of ridge; thence descend.
- 33.10 Rocky wash, course W.
- 37.10 Low ridge, brs. E. and W.
- 41.85 Rocky wash, course W.
- 47.50 Spur, brs. E. and W.
- 50.00 Rocky wash, course W.
- 63.50 Spur brs. NW. and SE.
- 72.20 Rocky wash, course N. 30° W.
- 74.45 Rocky wash, course W.
Begin ascent of steep S. slope of mountain ridge.
- 80.00 Set an iron post for 11 M.P., stamped in cap
11 M P C R I R in W.
P L in E.
1912 in S.
Build a mound of stone 3 ft. base, 2 ft. high, S. of cor.
Land, rugged and mountainous (Barren).
Soil, stony, 3rd rate.
-
- Feb. 11, 1912. At the 11 M.P., I set off 14° 16' S. on
the decl. arc, and at 12h 14m 26s p.m., l.m.t., observe
the sun on the meridian; the resulting lat. is 33° 37',
which is the proper lat.
-

Colorado River Indian Reservation Boundary.

Chains

N. 1° 33' E. on a true line along the E. bdy. of the reservation, on the 12th mile.

Continuing ascent of rugged mountain.

2.40 Rocky ridge, brs. N. 60° W. and S. 60° E.

Thence descend NE. slope of ridge.

28.80 Rocky wash, course E.

35.35 Rocky wash, course E.

42.60 Enter arroyo, course N. 45° E.

48.75 Leave arroyo, course N. 45° E.

Thence ascend precipitous slope of ridge.

58.90 Top of ridge, brs. E. and W.

60.80 Rocky wash, course W.

64.75 Spur, brs. E. and W.

80.00 Set an iron post for 12 M.P., stamped in cap

12 M P C R I R in W.
P L in E.
1912 in S.

Build a mound of stone 3 ft. base, 2 ft. high, S. of cor.

Land, rugged and mountainous. (Barren)
Soil, stony, 3rd rate.

Feb. 12, 1912. At 8 a.m., l.m.t., I set off 33° 38' on the lat. arc, 13° 58' S. on the decl. arc, and determine a meridian with the solar, at the 12 M. P.

Thence I run

N. 1° 33' E. on a true line along the E. bdy. of the reservation, on the 13th mile.

Over rugged mountains.

14.00 Small wash, course N. 45° W.

17.70 Low ridge, brs. E. and W.

19.65 Telephone line, brs. E. and W.

21.65 Set an iron post, mkd. 12 M + 21.65 chs. C R I R on W.,
P L on E., and 1912 in S., to mark the boundary line
at road.

21.70 Ehrenberg-Quartzsite road, brs. E. and W.

21.75 Gonzales Wash, course W.; 25 lks. wide.

Thence ascend over rugged mountains.

34.00 Spur, brs. NE. and SW.

Colorado River Indian Reservation Boundary

Chains

- 40.00 Rocky wash, course W.
 45.10 Bend in wash, course S. 10° W. from N. 20° W.
 53.00 Small wash, course W.
 57.80 Small wash, course S. 45° E.
 74.00 Spur, brs. E. and W.
 76.50 Small wash, course W.
 80.00 Set an iron post for 13 M.P., stamped in cap

13 M P C R I R in W.
 P L in E.
 1912 in S.

Build a mound of stone 3 ft. base, 2 ft. high, S. of cor.

Land, rugged and mountainous. (Barren).
 Soil, stony, 3rd rate.

N. 1° 33' E. on a true line along the E. bdy. of the reservation on the 14th mile.

Over rugged mountains.

- 9.45 Rocky wash, course E.
 18.30 Ridge, brs. NE. and SW.
 22.00 Rocky wash, course W.
 27.20 Rocky wash, which Wm. Stover, U.S. Surveyor, considered as La Paz Arroyo, course S. 65° W.
 28.05 The SE. cor. of the Colorado River Indian Reservation, as established by Wm. Stover, brs. East 52 lks. dist.; which cor. is a malpais stone 12x12x12 ins. above ground, mkd. SE. COR. on SE., C R I R on NW. face, and witnessed by a mound of stone 4 ft. base, 4 ft. high, to SE.; from which a cross on a rock ledge brs. N. 19° 30' W., 45 lks. dist., with marks B O beside cross.

I destroy this cor.

Thence rugged ascent of S. slope of La Paz Mountain.

Colorado River Indian Reservation Boundary.

Chains

48.19 The highest point on La Paz Mountain. This is a point also on Strover's line. I efface the marks made by him. This point is on solid rock. I cut a cross at the exact point, and set an iron post ^{3 ins. dia.} for Angle Point in a mound of stone 6 ft. base, 3 ft. high, stamped on cap

C R I R on W.
P L on E.
A P 18 1912 on S.

I sight a flag at Chandler Robbins' 13 Mile Post, and find that it bears N. 6° 36' E.

Thence I run

N. 6° 36' E. on the 14th mile, along the reservation bdy.

Descending steep N. slope of La Paz Mountain.

31.81 On steep N. slope of La Paz Mountain, set an iron post for 14 Mile Post, stamped in cap

C R I R on W.
P L on E.
14 M P 1912 on S.

Build a mound of stone 3 ft. base, 2 ft. high, on line S. of cor.

Land, rugged, mountainous, - barren.
Soil, stony, 3rd rate.

Note: I destroy all corners set by Wm. Strover for the S. bdy. I also destroy all corners set by Santee in 1907. Hesse, in 1909, sets no corners on the reservation boundary as he alleges in his field notes. His closing corner on the 1st Standard Parallel is set on Santee's line, as followed out by me in destroying his line of corners. A comparison of Hesse's notes with those of Santee, shows too close an agreement in the two. Hesse shows witness corners, drains, etc., almost to a link the same as Santee. I subsequently find an error of 20.00 chs. in the line. There is also an error of 3° 36' in bearing from La Paz Mountain to the old 13 Mile Post. It seems incredible to believe that Hesse could make the same errors Santee did, and get his line with the same bearing and almost the same distance as did Santee, between the SE. cor. and the 13th Mile Post.

Feb. 12, 1912. At the 14 Mile Post, I set off 13° 55' S. on the decl. arc, and at 12h 14m 26s p.m., l.m.t., observe the sun on the meridian; the resulting lat. is 33° 40', which is within one minute of the proper lat.

Thence I run

N. 6° 36' E. on the 15th mile, along the reservation bdy.

Continuing steep descent of N. slope of La Paz Mountain.

15.75 Small wash, course N. 25° E.

60.00 Low ridge, brs. E. and W.

Colorado River Indian Reservation Boundary.

Chains

67.00 Enter arroyo, course W.

75.00 Leave arroyo, course W.

80.00 Set an iron post for 15th Mile Post, stamped on cap

C R I R on W.
P L on E.
15 M P 1912 on S.

Build a mound of stone 3 ft. base, 2 ft. high, on line
SW. of cor.

Land, rugged, mountainous, - barren.
Soil, stony, 3rd rate.

N. 6° 36' E. on the 16th mile, along the reservation bdy.

Leaving steep slope of La Paz Mountain, and entering rolling land.

2.70 Small wash, course N. 35° W.

5.00 Small wash, course W.

7.30 Low ridge, brs. E. and W.

19.50 Small wash, course N. 45° E.

23.20 Low ridge, brs. N. 60° W. and S. 60° E.

26.70 Wash, course N. 20° W.

32.30 Intersect a granite stone 12x12x12 ins. above ground, mkd.

C R I R on W., P L on E., 7 M on S., and witnessed by
a mound of stone 3 ft. base, 2 ft. high, to the West.

I destroy this cor.

44.80 Wash, course N. 80° W.

49.00 Small wash, course W.

52.00 Small wash, course W.

72.25 Intersect a granite stone 12x14x6 ins. above ground, mkd.

C R I R on W., P L on E., 7½ M on S., and witnessed
by a mound of stone 3 ft. base, 2 ft. high, W. of cor.

I destroy this cor.

80.00 Set an iron post for the 16 Mile Post, stamped on cap

C R I R on W.
P L on E.
16 M P 1912 on S.

Build a mound of stone 3 ft. base, 2 ft. high, on line
S. of cor.

Colorado River Indian Reservation Boundary.

Chains

Land, rolling and broken, - barren.
Soil, stony, 3rd rate.

N. 6° 36' E. on the 17th mile, along the reservation bdy.
Over rolling land.

- 4.40 Wash, course W.
9.10 Wash, course W.
18.35 Road, brs. E. and W.
21.60 Wash, course W.
25.80 Wash, course N. 70° W.
33.36 Falls 10 lks. W. of a granite stone, 12x12x8 ins. above
ground, mkd. C R I R on W., P L on E., and S M on S,
Witnessed by a mound of stone, to the West, I destroy
this cor.
35.75 Wash, course W.
40.80 Wash, course N. 30° W.
50.00 Enter large arroyo, course W.
73.40 Falls 15 lks. W. of a silicate stone 10x10x8 ins. above
ground, mkd. C R I R on W., P L on E., W C 8½ M on
S., and witnessed by a mound of stone to the West.
I destroy this cor.
75.00 Leave arroyo, course W.
80.00 Set an iron post for 17th Mile Post, stamped on cap

C R I R on W.
P L on E.
17 M P 1912 on S.

Build a mound of stone 3 ft. base, 2 ft. high, on line
S. of cor.

Land, rolling, - barren.
Soil, gravelly, 3rd rate.

N. 6° 36' E. on the 18th Mile, along the reservation bdy.
Over rolling land.

- 1.35 Wash, course N. 30° W.
5.50 Wash, course W.
16.90 Enter arroyo, course N. 70° W.
25.00 Leave arroyo, course N. 70° W.

Colorado River Indian Reservation Boundary

Chains

33.80 Falls 35 lks. W. of a granite stone 10x12x10 ins. above ground, mkd. C R I R on W., P L. on E., 9 M on S., and witnessed by a mound of stone to the West. I destroy this cor.

35.91 Falls 36 lks. W. of point of old closing cor. on 1 st Standard Parallel, heretofore described in the notes of the Standard Parallel, and destroyed. Hesse reports the reservation bdy. at this point as N. 3° E. It will be noted that this closing cor. is on a line bearing about N. 6° 40' E.. It will also be noted that this line of corners extends to the old 13 Mile Post.

Set an iron post (3 ins. dia.) for ^{standard} C.C. of sec. 32, T.5 N., R. 20 W., stamped in cap

C C P L in E.
S C T 5 N R 20 W S 32 in NW.
T 4 N in SW.
C R I R in W.
1912

6 notches on N. and S. edges
Build a mound of stone 3 ft. base, 2 ft. high, E. of cor.

56.00 Small wash, course N. 30° W.

60.00 Small wash, course N. 30° W.

66.25 Small wash, course N. 40° W.

73.70 Falls 30 lks. W. of a malpais stone, 16x12x10 ins. above ground, mkd. C R I R on W., P L on E., 9½ M on S., and witnessed by a mound of stone to the SW.

I destroy this cor.

76.00 Small wash, course N. 35° W.

80.00 Set an iron post for 18 Mile Post, stamped in cap

C R I R on W.
P L on E.
18 M P 1912 on S.

Build a mound of stone 3 ft. base, 2 ft. high, on line SW. of cor.

Land, rolling, - barren.
Soil, stony, 3rd rate.

Feb. 12, 1912.

Feb. 13, 1912. At 8h 30m a.m., l.m.t., I set off 33° 43' on the lat. arc, 13° 37' S. on the decl. arc, and determine a meridian with the solar, at the 18 Mile Post.

Thence I run

N. 6° 36' E. on the 19th mile, along the reservation bdy.

Over rolling land.

1.00 Enter arroyo, course N. 60° W.

Colorado River Indian Reservation Boundary

Chains

- 7.50 Leave arroyo, course N. 60° W.
- 29.50 Enter arroyo, course N. 65° W.
- 32.65 Falls 32 lks. W. of a silicate stone 14x12x12 ins. above ground, mkd. C R I R on W., P L on E., 10 M W C on S.
I destroy this cor.
- 36.50 Leave arroyo, course N. 65° W.
- 45.00 Small wash, course W.
- 48.30 Old road, brs. N. 60° E. and S. 60° W.
- 55.50 Small wash, course W.
- 58.50 Small wash, course W.
- 63.50 Small wash, course W.
- 73.60 Falls 31 lks. W. of a malpais stone 12x10x10 ins. above ground, mkd. C R I R on W., P L on E., 10½ M on S., and witnessed by a mound of stone to the SW.
I destroy this cor.
- 80.00 Set an iron post for the 19 Mile Post, stamped on cap
C R I R on W.
P L on E.
19 M P 1912 on S.
Build a mound of stone 3 ft. base, 2 ft. high, on line SW. of cor.
Land, rolling, - barren.
Soil, stony, 3rd rate.
-
- N. 6° 36' E. on the 20th mile, along the reservation bdy.
Over rolling land.
- 5.50 Wash, course W.
- 10.00 Road, brs. E. and W.
- 20.00 Wash, course W.
- 30.00 Enter arroyo, course S. 70° W.
- 33.60 Falls 35 lks. W. of a quartz stone 10x10x10 ins. above ground, mkd. C R I R on W., P L on E., 11 M on S., and witnessed by a mound of stone, W. of cor.
I destroy this cor.
- 37.00 Leave arroyo, course S. 70° W.

Colorado River Indian Reservation Boundary

Chains

- 47.00 Wash, course W.
- 52.00 Wash, course W.
- 61.00 Wash, course W.
- 69.00 Wash, course W.
- 73.60 Falls 35 lks. W. of a silicate stone 12x12x10 ins. above ground, mkd. C R I R on W., P L on E., 11½ M on S., and witnessed by a mound of stone to the West.
- I destroy this cor.
- 76.00 Small wash, course W.
- 78.50 Small wash, course N. 70° W.
- 80.00 Set an iron post for 20th Mile Post, stamped on cap
- C R I R on W.
P L on E.
20 M P 1912 on S.
- Build a mound of stone 3 ft. base, 2 ft. high, on line SW. of cor.
- Land, rolling, - barren.
Soil, stony, 3rd rate.
-
- N. 6° 36' E. on the 21st mile, along the reservation bdy.
Over rolling land.
- 4.25 Wash, course N. 40° W.
- 6.25 Wash, course W.
- 10.00 Wash, course N. 35° W.
- 20.00 Wash, course N. 50° W.
- 25.00 Begin ascent of ridge, brs. E. and W.
- 29.50 Top of ascent on low ridge, brs. E. and W.
- Thence descend.
- 33.50 Falls 30 lks. W. of a silicate stone 20x10x10 ins. above ground, mkd. C R I R on W., P L on E., 12 M on S., and witnessed by a mound of stone to the West.
- I destroy this cor.
- 35.00 Bottom of descent in wash, course N. 55° W.
- 36.00 Wash, course N. 60° W.
- 37.50 Wash, course N. 75° W.
- 40.00 Wash, course West.

Colorado River Indian Reservation Boundary

Chains

48.50 Wash, course N. 60° W.

51.50 Wash, course N. 35° W.

53.50 Wash, course N. 65° W.

56.25 Wash, course West.

61.50 Wash, course N. 35° W.

66.75 Wash, course W.

71.00 Wash, course W.

73.45 Falls 15 lks. W. of a malpais stone 14x12x10 ins. above ground, mkd. C R I R on W., P L on E., 12½ M on S., and witnessed by a mound of stone to the West.

I destroy this cor.

76.00 Wash, course N. 40° W.

79.50 Wash, course W.

80.00 Set an iron post for the 21 Mile Post, stamped in cap

C R I R on W.
P L on E.
21 M P 1912 on S.

Build a mound of stone 3 ft. base, 2 ft. high, on line SW. of cor.

Land, rolling, - barren.
Soil, stony, 3rd rate.

N. 6° 36' E. on the 22nd mile, along the reservation bdy.
Over rolling land.

8.50 Wash, course N. 35° W.

20.00 Wash, course N. 30° W.

24.50 Low ridge, brs. E. and W.

29.00 Wash, course N. 15° E.

31.37 Intersect a basaltic rock, 14x12x10 ins. above ground, mkd.

P L on SE., A C on NE., C R I R on W., and witnessed by a mound of stone 6 ft. base, 5 ft. high, W. of stone.

I destroy markings on this rock, and replace with an (3 ins. dia.) iron post, for 19th Angle Point, stamped in cap

C R I R on W.
P L on E.
A P 19 1912 on S.

This is the corner as described by Wm. Stover, in 1910.

Colorado River Indian Reservation Boundary

Chains

I can find no trace of a stone as described by Chandler Robbins for his 13 Mile Post. I decide to accept this cor. as in the position of Chandler Robbins' 13 Mile Post for the following reasons:

In 1875 Chandler Robbins establishes this 13 Mile Post by the result of a traverse from the SE. cor., which is 17 miles and 21 chs. in length, from which he computes the 13 Mile Post to be N. 4° 21' E., 13 miles, from the SE. cor. My survey, by computing one course from my two in running the boundary, obtains N. 4° 36' E., 12 miles and 71.90 chs. It will thus be seen that when the great length of Robbins' traverse, and the roughness of the country is considered, that a close agreement exists between my calculated distance and bearing with that of Robbins. I will subsequently show in my field notes that my distance and bearing from this 13 Mile Post to Black Mountain agrees closely with that reported by Robbins. This cor. is situated at the North end of a range of mountains which is connected with La Paz Mountain. Robbins reports that this cor. is at a point opposite the North end of the La Paz Mountains.

In 1907 Homer Santee, Deputy Surveyor, states that he found traces of an old monument, which he presumed to be the corner set by Deputy Robbins. Santee, without doubt, was the person who established this corner as it existed when Strover found it. In the course of the two surveys made by Santee and Strover, any old monuments found were replaced by new ones. This corner agrees closely with the SE. cor. and Black Mountain, the only two points on the East boundary which can be positively identified. The topographic features agree closely with those reported by Robbins. Santee reports that he found traces of a monument here. Miners and prospectors in this vicinity have regarded this as a point on the reservation bdy., although I could find no one who could state how long it has been in its present position, except that it has been there for several years. The only other method I could have used to establish this corner would have been to have established it at a prorated bearing and distance between Black Mountain and the SE. cor. of the Reservation, the only points on the boundary line which can be positively identified and which are about 40 miles apart. This method might have thrown it to a point which would not be at the North end of the mountain range as stated in Robbins' notes. The fact that this monument has been regarded as a boundary monument for a number of years led me also to decide upon it as a boundary monument and in the position of the 13th Mile Post as established by Robbins. I hold that this corner is as near the position determined by Chandler Robbins as it is possible to obtain the position at this date.

Note: Wm. Strover, U.S. Examiner of Surveys, ran his line at a bearing of N. 4° 02' E. from La Paz Mountain. Consequently his line diverges from mine, and it is impracticable to tie to all of his corners. From a point 1.35 chs., N. 4° 02' E. from his 9 Mile Post, he runs N. 57° 03' E., 33.30 chs. to the old 13 Mile Post, as described by me. It may be noted that in calculating a traverse between his SE. cor. and the 13th Mile Post with his line and my line that the traverse will not close by over a mile.

Colorado River Indian Reservation Boundary.

Chains

Strover reports the distance from his SE. cor. to the top of La Paz Mountain as 31.71 chs. The correct distance is 20.14 chs. The next corner North of Strover's 2 1/2 M.P. is his 4 M.P. He has thus made an error of one mile in distance. The 4 M.P. is just one-half mile N. 4° 02' E., of his 2 1/2 Mile Post. I destroy all of Strover's corners between La Paz Mountain and the old 13 M.P., all of which were found.

From the 19th Angle Point the boundary runs in a straight line to Black Mountain. I cannot sight Black Mountain from the 19th Angle Point. I proceed to a ridge about 5 miles northerly, from which Black Mountain and the A.P. No. 19 are both visible. By repeated trial, I determine a point which is on a line between the two points. At this position, I erect a large flag.

Returning to the 19th A.P., on the evening of Feb. 13, 1912. I observe Polaris at Western Elongation at 9h 52.2m P.M., by my watch which is L.M.T., and mark the line of sight upon the ground.

Feb. 14, 1912. At 8.00 a.m., I turn 1° 24' to the East of the line of observation of Polaris, and mark the meridian thus established by a flag. From this meridian, I turn 18° 20' to the East of the flag set yesterday on line with Black Mountain. La Paz Mountain in turning from this meridian brs. S. 6° 36' W., which checks my solar bearing.

Thence I run N. 18° 20' E. along the reservation bdy., continuing on the 22nd mile.

Over rolling land, (sighting in each set up the flag on line).

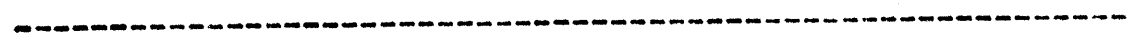
I continue my measurement from the 21 Mile Post.

- 34.50 Enter Tyson Arroyo, course W.
- 43.50 Road, in arroyo, brs. E. and W.
- 52.00 Leave Tyson Arroyo, course W.
- 80.00 Set an iron post for the 22 Mile Post, stamped in cap

C R I R on NW.
P L on SE.
22 M P 1912 on S.

Build a mound of stone 3 ft. base, 2 ft. high, on line SW. of cor.

Land, rolling, - barren.
Soil, stony, 3rd rate.



Colorado River Indian Reservation Boundary.

Chains

N. 18° 20' E. on the 23rd mile, along the reservation bdy.
Over rolling land.

7.00 Enter arroyo, course S. 35° E.

36.00 Leave arroyo, course S. 35° E.

37.10 Falls 142 lks. N. 71° 40' W. of a malpais stone 10x10x8
ins. above ground, mkd. $\frac{1}{2}$ M on S., C R I R on W., P L
on E., W C on top.

This is a corner as set by Strover. I destroy same.

80.00 Set an iron post for the 23 Mile Post, stamped

C R I R on NW.
P L on SW.
23 M P 1912 on S.

Build a mound of stone 3 ft. base, 2 ft. high, on line
SW. of cor.

Land, rolling, - barren.
Soil, stony, 3rd rate.

N. 18° 20' E. on the 24th mile, along the reservation bdy.
Over rolling land.

36.42 Falls 280 lks. N. 71° 40' W. of a lava rock, 12x8x6 ins.
above ground, mkd. C R I R on W., P L on E., mkd. $\frac{1}{2}$ M
on S., and witnessed by pits and mound.

I destroy this cor.

62.00 Wash, course S. 45° E.

76.50 A basaltic stone 12x10x8 ins. above ground, mkd. 12 M on
S., C R I R on W., P L on E., and witnessed by a mound
of stone, W. of cor., brs. S. 71° 30' E., 3.55 chs. dist.

This is Strover's 12 Mile Post, which I destroy.

76.60 Enter arroyo, course E.

80.00 Set an iron post for the 24 Mile Post, stamped in cap

C R I R on NW.
P L on SE.
24 M P 1912 on S.

Build a mound of stone 3 ft. base, 2 ft. high, on line
SW. of cor.

Land, rolling, - barren.
Soil, stony, 3rd rate.

Colorado River Indian Reservation Boundary

Chains

N. 18° 20' E. on 25 the mile, along the reservation bdy.

(sighting flag on line with Black Mountain.

Over rolling land.

- 1.00 Leave arroyo, course N.
- 4.60 Wash, course S. 35° E.
- 11.30 Enter wash, course S. 45° E.
- 14.10 Leave wash, course S. 45° E.
- 36.50 A basaltic stone 12x8x6 ins. above ground, mkd. ½ M on S.,
C R I R on W., P L on E., and witnessed by a mound of
stone, to the West, - brs. S. 71° 40' E., 4.25 chs. dist.
This cor. is Strover's 12½ M. P., which I destroy.
- 45.00 Wash, course S. 75° E.
- 62.60 Low ridge, brs. E. and W.
- 63.00 Wash, course E.
- 70.00 Wash, course E.
- 76.48 A basaltic stone, 10x6x6 ins. above ground, mkd. 13 M. on
S., C R I R on W., P L on E., and witnessed by a mound
of stone to the West, brs. S. 71° 30' E., 4.95 chs. dist.
This is Strover's 13 M.P., which I destroy.
- 80.00 Set an iron post for the 25th M.P., stamped on cap
C R I R on NW.
P L on SE.
25 M P 1912 on S.
Build a mound of stone 3 ft. base, 2 ft. high, on line
SW. of cor.
Land, rolling, - barren.
Soil, stony, 3rd rate.

N. 18° 20' E. on the 26th mile, along the reservation bdy.

Over gently rolling land.

- 36.52 A granite stone 12x10x8 ins. above ground, mkd. ½ M on S.,
C R I R on W., P L on E., and witnessed by a mound of
stone West of cor., brs. S. 71° 45' E., 5.65 chs. dist.
This is Strover's 13½ M.P., which I destroy.
- 59.50 Small wash, course S. 60° E.

Colorado River Indian Reservation Boundary

Chains

76.55 A granite stone 8x6x6 ins., above ground, mkd. 14 M on S., C R I R on W., P L on E., and witnessed by a mound of stone to the West, brs. S. 72° 05' E., 6.35 chs. dist.

This is Strover's 14 M.P., which I destroy.

76.90 Low ridge, brs. E. and W.

79.80 Small wash, course E.

80.00 Set an iron post for the 26th Mile Post, stamped in cap

C R I R on NW.
P L on SE.
26 M P 1912 on S.

Build a mound of stone 3 ft. base, 2 ft. high, on line, SW. of cor.

Land, rolling, - barren.
Soil, sandy and stony, 3rd rate.

N. 18° 20' E, on the 27th mile, along the reservation bdy.
Over rolling land.

6.00 Wash, course S. 45° E.

13.90 Low ridge, brs. E. and W.

21.05 Wash, course E.

22.50 Low ridge, brs. E. and W.

Intersect flag previously set by me.

45.00 Wash, course N. 60° W.

50.50 Low ridge, brs. E. and W.

58.00 Leave rolling land, and enter level mesa, brs. E. and W.

80.00 Set an iron post for the 27 Mile Post, stamped on cap

C R I R on NW.
P L on SE.
27 M P 1912 on S.

Dig pits 36x36x12 ins., NW. and SE. of post, 4 ft. dist., and raise a mound of earth 5 ft. base, 2½ ft. high, SW. of cor.

From this cor., Strover's 15 M.P. brs. S. 47° 25' E.,

8.43 chs. dist. This cor. is a granite stone, 10x8x6 ins. above ground, mkd. 15 M on S., C R I R on W., P L on E., and witnessed by a mound of stone to the West.

I destroy this cor. I find no trace of Strover's 14½ M.P.

Colorado River Indian Reservation Boundary

Chains

Land, rolling, - barren.
Soil, sandy, 3rd rate.

Since this line is a straight line between A.P. 19 and Black Mountain, it will vary in bearing due to convergency at different parts of same. I make note of the change of bearing herein when it has changed a minute, which is at the 27 M.P.

N. 18° 21' E. on the 28th mile, along the reservation bdy.

Over level mesa (using the highest point on Black Mountain as a foresight).

80.00 Set an iron post for the 28 Mile Post, stamped on cap

C R I R on NW.
P L on SE.
28 M P 1912 on S.

Dig pits 36x36x12 ins., NW. and SE. of post, 4 ft. dist., and raise a mound of earth 5 ft. base, 2½ ft. high, SW. of cor.

Land, level mesa, - barren.
Soil, sandy, 3rd rate.

Note: I make diligent search for Strover's cors., but am unable to find any.

N. 18° 21' E. on the 29th mile, along the reservation bdy.

Over level mesa, Black Mountain being my foresight.

80.00 Set an iron post for the 29 Mile Post, stamped in cap

C R I R on NW.
P L on SE.
29 M P 1912 on S.

Dig pits 36x36x12 ins., NW. and SE. of post, 4 ft. dist., and raise a mound of earth 5 ft. base, 2½ ft. high, SW. of cor.

Land, level mesa, - barren.
Soil, sandy, 3rd rate.

After diligent search, I am unable to find any of Strover's cors.

Colorado River Indian Reservation Boundary.

Chains

N. 18° 21' E. on the 30th mile, along the reservation bdy.
Over level mesa.

80.00 Set an iron post for the 30th Mile Post, stamped in cap

C R I R on NW.
P L on SE.
30 M P 1912 on S.

Dig pits 36x36x12 ins., NW. and SE. of post, 4 ft. dist.,
and raise a mound of earth 5 ft. base, 2½ ft. high, SW.
of cor.

After diligent search, I find no trace of Strover's cors.

Land, level mesa.
Soil, sandy, 3rd rate.

Feb. 14, 1912.

Feb. 15, 1912.

N. 18° 21' E. on the 31st mile, along the reservation bdy.
Over nearly level land.

The atmosphere is clear and I can distinguish a mound of
stone on the highest point on Black Mountain, which I
find my line intersects.

33.00 A palo verde post 2 ins. sq., 1½ ft. above ground, mkd.
P L on E., C R I R on W., 22 M on S., and witnessed
by pits and mound, the pits being about half filled with
drift sand, brs. West 43 lks. dist..

This agrees with the description of the 22 M.P. in the
notes of the rejected survey of Homer Santee made in
1907. I destroy this cor.

80.00 Set an iron post for the 31 Mile Post, stamped in cap

C R I R on NW.
P L on SE.
31 M P 1912 on S.

Dig pits 36x36x12 ins., NW. and SE. of post, 4 ft. dist.,
and raise a mound of earth 5 ft. base, 2½ ft. high, SW.
of cor.

After diligent search, I find no trace of Strover's cors.

Land, level mesa, - barren.
Soil, sandy, 3rd rate.

Colorado River Indian Reservation Boundary.

Chains

N. 18° 21' E. on the 32nd mile, along the reservation bdy.
Over level mesa.

I sight on the rock monument on Black Mountain.

33.49 A palo verde post 3 ins. sq., 1 ft. above ground, mkd.
C R I R on W., P L on E., 23 on S., brs. West 39 lks.
dist. I find remains of pits and mound. This is the
23rd M.P. of the rejected survey made by Homer Santee
in 1907. I destroy this cor.

80.00 Set an iron post for the 32nd Mile Post, stamped in cap
C R I R on NW.
P L on SE.
32 M P 1912 on S.

Dig pits 36x36x12 ins., NW. and SE. of post, 4 ft. dist.,
and raise a mound of earth 5 ft. base, 2½ ft. high, SW.
of cor.

After diligent search, I find no trace of corners set by
Strover.

Land, level mesa, - barren.
Soil, sandy, 3rd rate.

N. 18° 21' E. on the 33rd mile, along the reservation
bdy.

Over level mesa, sighting the monument on Black Mountain.

34.03 A palo verde post, 3 ins. sq., 1 ft. above ground, mkd.
C R I R on W., P L on E., 24 M on S., brs. West, 24
lks. dist. I find slight evidence of pits and mound.
This is the 24th M.P. of Santee's rejected survey.
I destroy this cor.

80.00 Set an iron post for the 33rd Mile Post, stamped in cap
C R I R on NW.
P L on SE.
33 M P 1912 on S.

Dig pits 36x36x12 ins., NW. and SE. of post, 4 ft. dist.,
and raise a mound of earth 5 ft. base, 2½ ft. high, on
line SW. of cor.

After diligent search, I find no trace of Strover's cors.

Land, level, - barren.
Soil, sandy, 3rd rate.

Colorado River Indian Reservation Boundary.

Chains

N. 18° 22' E. on the 34th mile, along the reservation bdy.
(The bearing of my line here has changed 01' due to con-
vergency of the meridian).

Over level land.

34.36 A palo verde post 4 ins. sq., 14 ins. above ground, mkd.
C R I R on W., P L on E., and 25 M on S., brs. West
21 lks. dist. I find slight evidence of pits and mound.
This is the 25th M.P. of Santee's rejected survey.
I destroy this cor.

80.00 Set an iron post for the 34th Mile Post, stamped in cap
C R I R on NW.
P L on SE.
34 M P 1912 on S.

Dig pits 36x36x12 ins., NW. and SE. of post, 4 ft. dist.,
and raise a mound of earth 5 ft. base, 2½ ft. high, on
line, SW. of cor.

After diligent search, I find no trace of cors. set by
Strover.

Land, level, - barren.
Soil, sandy, 3rd rate.

N. 18° 22' E. on the 35th mile, along the reservation bdy.

Over nearly level mesa,

I sight the monument on Black Mountain.

34.64 A palo fierro post, 4 ins. sq., 1 ft. above ground, mkd.
C R I R on W., P L on E., and 26 M on S., brs. West 30
lks. dist. I find slight evidence of pits and mound.
This is the 26th M.P. of Santee's rejected survey.
I destroy this cor.

80.00 Set an iron post for the 35th Mile Post, stamped in cap
C R I R on NW.
P L on SE.
35 M P 1912 on S.

Dig pits 36x36x12 ins., NW. and SE. of post, 4 ft. dist.,
and raise a mound of earth 5 ft. base, 2½ ft. high, on
line SW. of cor.

Colorado River Indian Reservation Boundary.

Chains

After diligent search, I find no trace of corners set by Stover.

Land, level, - barren.
Soil, sandy, 3rd rate.

N. 18° 22' E. on the 36th mile, along the reservation bdy.
Over nearly level land.

34.55 Wash, course N. 35° E.

Thence over rolling land, brs. N. 80° W. and S. 80° E.

35.80 A pine post, 4 ins. sq., 1 ft. above ground, mkd. C R I R on W., P L on E., 27 M on S., and W C on N., brs. West 45 lks. dist. I find evidence of pits and mound. This is the W.C. to the 27th M.P. of Santee's rejected survey, which I destroy.

38.40 Small wash, course N. 45° E.

47.40 Small wash, course N. 75° E.

50.05 Small wash, course East.

55.00 Small wash, course N. 65° E.

58.70 Small wash, course East.

63.50 Low ridge, brs. E. and W.

68.35 Wash, course E.

70.95 Wash, course E.

74.50 Low ridge, brs. E. and W.

76.50 Wash, course E.

80.00 Set an iron post for the 36th mile post, stamped in cap

C R I R on NW.
P L on SE.
36 M P 1912 on S.

Build a mound of stone 3 ft. base, 2 ft. high, on line SW. of cor.

After diligent search, I find no corners established by Stover.

Land, level and rolling, - barren.
Soil, sandy and stony, 3rd rate.

N. 18° 22' E. on the 37th mile, along the reservation bdy.
Over gently rolling land.

Colorado River Indian Reservation Boundary.

Chains

- 19.25 Small wash, course E.
- 28.80 Small wash, course N. 35° E.
- 31.75 A palo verde post 4 ins. sq., 1 ft. above ground, mkd.
C R I R on W., P L on E., 28 M on S., brs. West 15 lks.
dist. I find slight evidence of pits and mound.
I destroy this cor.
- 36.00 Small wash, course E.
- 44.50 Small wash, course E.
- 50.50 Low sand ridge, brs. E. and W.
- 67.80 Enter arroyo, course N.
- 80.00 Set an iron post for the 37th Mile Post, stamped in cap
C R I R on NW.
P L on SE.
37 M P 1912 on S., from which
A palo fierro 24 ins. dia. brs. N. 69° 40' W., 41 lks. dist.
Mkd. C R I R 37 M P B T.
Dig pits 36x36x12 ins., NW. and SE. of post, 4 ft. dist.,
and raise a mound of earth 5 ft. base, 2½ ft. high, on
line SW. of cor.
After diligent search, I find no trace of cors. set by
Strover.
Land, rolling, - barren.
Soil, sandy, 3rd rate.
-
- N. 18° 22' E. on the 38th mile, along the reservation bdy.
In arroyo.
- 32.50 A granite stone 8x8x10 ins. above ground, mkd. C R I R on
W., P L on E., 29 on S., and witnessed by a mound of
stone to the SE., brs. West 15 lks. dist. This is the
29 M.P. of Santee's rejected survey, which I destroy.
- 35.50 Leave arroyo, course N.
- 53.55 Enter Bouse
- 80.00 Set an iron post for the 38th mile post, stamped in cap
C R I R on NW.
P L on SE.
38 M P 1912 on S.
Build a mound of stone 2 ft. base, 1½ ft. high, on line
SW. of cor.

Colorado River Indian Reservation Boundary

Chains

After diligent search, I find no trace of cors. set by strover.

Land, rolling, - barren.
Soil, sandy, 3rd rate.

N. 18° 22' E. on the 39th mile, along the reservation bdy.
In Bouse Arroyo.

23.40 Road, brs. N. 65° W. and S. 65° E.

32.80 A pine post 3 ins. sq., 1 ft. above ground, mkd. C R I R on W., P L on E., 30 M on S., and witnessed by pits and mound, brs. West 15 lks. dist. This is the 30th M.P. of Santee's rejected survey, which I destroy.

33.00 Leave Bouse Arroyo, course N.

50.90 Wash, course S. 65° W.

75.90 Wash, course West.

80.00 Set an iron post for the 39 Mile Post, stamped in cap
C R I R on NW.
P L on SE.
39 M P 1912 on S.

Dig pits 36x36x12 ins., NW. and SE. of post, 4 ft. dist., and raise a mound of earth 5 ft. base, 2½ ft. high, on line SW. of cor.

After diligent search, I find no trace of corners set by Strover.

Land, gently rolling, - barren.
Soil, sandy, 3rd rate.

I find my line now bears N. 18° 23' E. on account of convergency of the meridian.

I therefore run

N. 18° 23' E. on the 40th mile, along the reservation bdy.
Over rolling mesa land.

3.37 A granite stone 16x12x10 ins. above ground, mkd. P L on E., C R I R on W., W C ½ on S., and witnessed by pits and mound, brs. S. 24° 12' E., 7.48 chs. This is Strovers W.C. to the 27½ M.P., which I destroy.

3.85 Telegraph line, brs. N. 32° 38' W., and S. 32° 38' E.

Colorado River Indian Reservation Boundary.

Chains

- 4.67 Middle of track of A. T. & S. F. Railroad, brs. N. 32° 38' W., and S. 32° 38' E.
- 32.70 A palo fierro post 3 ins. sq., 1 ft. above ground, mkd. C R I R on W., P L on E., 31 M on S., brs. West 3 lks. dist. This is the 31 Mile Post of Santee's rejected survey, which I destroy.
- 54.00 Wash, course N. 80° W.
- 80.00 A granite stone 12x10x8 ins. above ground, mkd. C R I R on W., P L on E., $\frac{1}{2}$ M on S., and witnessed by pits and mound, brs. S. 77° 20' E., 4.40 chs. dist. This is Strover's 28 $\frac{1}{2}$ M.P., which I destroy.
- Set an iron post for the 40 Mile Post, stamped in cap
- C R I R on NW.
P L on SE.
40 M P 1912 on S.
- Dig pits 36x36x12 ins., NW. and SE. of post, 4 ft. dist., and raise a mound of earth 5 ft. base, 2 $\frac{1}{2}$ ft. high, on line, SW. of cor.
- Land, rolling, mesa, - barren.
Soil, sandy, 2nd rate.
-
- N. 18° 23' E. on the 41st mile, along the reservation bdy.
Over gently rolling mesa.
- 32.90 A pine post 2 ins. sq., 1 ft. above ground, mkd. C R I R on W., P L on E., 32 M on S., brs. West, 8 lks. dist. This is the 32 M. P. of Santee's rejected survey, which I destroy.
- 40.00 A basaltic stone 12x8x6 ins. above ground, mkd. C R I R on W., P L on E., 29 M on S., with pits and mound, brs. S. 78° E., 4.06 chs. This is Strover's 29 M.P. which I destroy.
- 80.00 Set an iron post for the 41 Mile Post, stamped in cap
- C R I R on NW.
P L on SE.
41 M P 1912 on S.
- Dig pits 36x36x12 ins., NW. and SE. of post, 4 ft. dist., and raise a mound of earth 5 ft. base, 2 $\frac{1}{2}$ ft. high, on

Colorado River Indian Reservation Boundary.

Chains

line, SW. of cor.

A granite stone 8x8x6 ins. above ground, mkd. C R I R on W., P L on E., 1/2 M on S., brs. S. 78° 20' E., 3.91 chs. dist. This is Strover's 29 1/2 M.P., which I destroy.

Land, rolling mesa, - barren.
Soil, sandy, 3rd rate.

N. 18° 23' E. on the 42nd mile, along the reservation bdy.
Over level land.

80.00 Set an iron post for the 42 Mile Post, stamped in cap

C R I R on NW.
P L in SE.
42 M P 1912 on S.

Dig pits 36x36x12 ins., NW. and SE. of post, 4 ft. dist., and raise a mound of earth 5 ft. base, 2 1/2 ft. high, on line, SW. of cor.

A pine post 4 ins. sq., 2 1/2 ft. above ground, mkd. C R I R on W., P L on E., 1/2 M on S., brs. S. 78° 10' E., 3.29 chs. dist. I find evidence of pits and mound. This is Strover's 30 1/2 M.P., which I destroy. I could find no trace of Strover's 30 M.P., or of Santee's cors.

Land, rolling mesa, - barren.
Soil, sandy, 2nd rate.

N. 18° 23' E. on the 43rd mile, along the reservation bdy.
Over level mesa.

My line continues to intersect the monument on highest point of Black Mountain.

40.00 A pine post 3 ins. sq., 1 1/2 ft. above ground, mkd. C R I R

on W., P L on E., 31 M on S., brs. S. 79° E., 2.80 chs. dist. I find evidence of pits and mound. This is Strover's 31 M.P., which I destroy.

80.00 Set an iron post for 43 Mile Post, stamped in cap

C R I R on NW.
P L on SE.
43 M P 1912 on S.

Colorado River Indian Reservation Boundary.

Chains

Dig pits 36x36x12 ins., NW. and SE. of post, 4 ft. dist., and raise a mound of earth 5 ft. base, 2½ ft. high, on line, SW. of cor.

A granite stone, 14x10x8 ins., above ground, mkd. C R I R on W., P L on E., ½ on S., and witnessed by pits and mound, brs. S. 81° E., 2.46 chs. dist. This is Strover's 31½ M.P., which I destroy.

Land, rolling, - barren.
Soil, sandy, 3rd rate.

N. 18° 23' E. on the 44th mile, along the reservation bdy.

Over rolling land.

40.00 A granite stone 14x12x10 ins. above ground; mkd. C R I R on W., P L on E., 32 M on S., and witnessed by pits and mound, brs. S. 85° E., 2.11 chs. dist. This is Strover's 32 M.P., which I destroy.

80.00 Set an iron post for the 44 Mile Post, stamped in cap
C R I R on NW.
P L on SE.
44 M P 1912 on S.

Dig pits 36x36x12 ins., NW., and SE. of post, 4 ft. dist., and raise a mound of earth 5 ft. base, 2½ ft. high, on line SW. of cor.

A granite stone 16x12x10 ins. above ground, mkd. C R I R on W., P L on E., ½ M on S., and witnessed by pits and mound, brs. East 1.75 chs. dist. This is Strover's 32½ M.P., which I destroy.

Land, level mesa, - barren.
Soil, sandy, 2nd rate.

N. 18° 23' E. on the 45th mile, along the reservation bdy.

Over level mesa.

40.00 A granite stone 16x12x10 ins. above ground, mkd. C R I R on W., P L on E., 33 M on S., and witnessed by pits and mound, brs. East 1.45 chs. dist. This is Strover's

Colorado River Indian Reservation Boundary.

Chains

33 M.P., which I destroy.

80.00 Set an iron post for the 45 Mile Post, stamped in cap

C R I R on NW.
P L on SE.
45 M P 1912 on S.

Dig pits 36x36x12 ins., NW. and SE. of post, 4 ft. dist.,
and raise a mound of earth 5 ft. base, 2½ ft. high, on
line, SW. of cor.

A granite stone 12x10x8 ins. above ground, mkd. C R I R
on W., P L on E., ½ M on S., brs. N. 76° E., 1.16 chs.
dist. This is Strover's 33½ M.P., which I destroy.

Land, level mesa, - barren.
Soil, sandy, 2nd rate.

N. 18° 23' E. on the 46th mile, along the reservation bdy.
Over gently rolling mesa.

31.20 Road, brs. E. and W.

36.50 Road, brs. N. 75° W. and S. 75° E.

Al. Goodwin's saloon, brs. East, 4 chs. dist.

40.00 A granite stone, 14x12x10 ins. above ground, mkd. C R I R
on W., P L on E., 34 M on S., brs. N. 60° E., 95 lks.
dist. This is Strover's 34 M.P., which I destroy.

76.25 Wash, course E. Thence steep ascent of S. slope of Black
Mountain.

80.00 Set an iron post for the 46 Mile Post, stamped in cap

C R I R on NW.
P L on SE.
46 M P 1912 on S.

Build a mound of stone 3 ft. base, 2 ft. high, on line
SW. of cor.

Land, level and broken, - barren.
Soil, sandy and stony, 3rd rate.

N. 18° 23' E. on the 47th mile, along the reservation bdy.
Continuing steep ascent of S. slope of Black Mountain.

4.40 Side hill wash, course S. 35° E.

Colorado River Indian Reservation Boundary.

Chains

32.26 The highest point on Black Mountain, where I intersect a mound of stone 8 ft. base, and 8 ft. high. On the East and at base of mound I find a malpais stone 24x22x20 ins. mkd. P L on E., C R I R on W., A C 38.13 M on S. This stone was probably marked by Santee in 1907, or by Robbins in 1875. It is impossible to tell by which one. At the base and center of the mound and in solid rock, I find a U. S. G. S. triangulation tablet. I set a 3 inch iron post mkd. C R I R on W., P L on E., A.P. 20 on S., on solid bed rock, in center of a mound of stone. I rebuild the mound as it was when I found it, 8 ft. base, 8 ft. high. This is an angle point on the Reservation bdy. and is designated as A.P. 20.

Feb. 15, 1912. At A. P. 20, at 9h 44.3m P.M., by my watch which is l.m.t., I observe Polaris at Western Elongation and mark the direction of my sight upon the ground.

Feb. 16, 1912. At 8 A.M., I turn $1^{\circ} 24'$ to the East of the line of observation of Polaris. From this meridian I determine the bearing of the line to Monument Peak to be N. $13^{\circ} 03'$ W. I backsight on flag at the 45 Mile Post and find the bearing of the line to be S. $18^{\circ} 24'$ W. This is the correct back bearing of this section of line, the bearing from the Southerly end being N. $18^{\circ} 23'$ E.

Thence I run

N. $13^{\circ} 03'$ W. along the reservation bdy. on the 47th mile. Descending steep N. slope of Black Mountain.

47.74 Set an iron post for the 47 Mile Post, stamped in cap

C R I R on SW.
P L on NE.
47 M P 1912 on S.

Build a mound of stone 3 ft. base, 2 ft. high, on line SE. of cor.

Land, broken slope of Black Mountain, - barren.
Soil, stony, 3rd rate.

Colorado River Indian Reservation Boundary.

Chains

- N. 13° 03' W. along the reservation bdy., on the 48th mile.
- Continuing rocky descent of Black Mountain.
- 4.80 Wash, course N. 75° W.
Thence over rolling land.
- 25.00 Wash, course N. 65° W.
- 33.32 A granite stone 16x12x10 ins. above ground, mkd. P L on E., C R I R on W., 35 M on S., brs. East 10 lks. dist. This is Strover's 35 M.P., which I destroy. It will be noted that an error has developed between Strover's corners.
- 41.85 Road, brs. N. 45° E. and S. 45° W.
- 54.75 Enter plowed field, brs. E. and W.
- 58.60 Leave plowed field, brs. E. and W.
- 59.50 Road, brs. N. 70° W. and S. 70° E.
- 60.35 Strover's monument to mark road, brs. W., 10 lks. dist.
I destroy same.
- 67.20 Set an iron post marked C R I R on W., P L on E.,
47 + 67.20 on S. Mound of stone 3 ft. base, 2 ft. high,
S. of post, to mark the reservation bdy. at road.
- 67.35 Well travelled road, brs. E. and W.
- 73.40 A granite stone 12x10x8 ins. above ground, mkd. P L on E., C R I R on W., $\frac{1}{2}$ M on S., and witnessed by a mound of stone to E., brs. East 5 lks. dist. This is Strover's 35 $\frac{1}{2}$ M.P., which I destroy.
- 80.00 Set an iron post for the 48 Mile Post, stamped in cap
C R I R on SW.
P L on NE.
48 M P 1912 on S.
Build a mound of stone 3 ft. base, 2 ft. high, on line
SE. of cor.
Land, rolling, - barren.
Soil, sandy, 3rd rate.
-

Colorado River Indian Reservation Boundary.

Chains

N. 13° 03' W. along the reservation bdy. on the 49th mile.
Over rolling land.

33.44 A granite stone 12x12x8 ins. above ground, mkd. C R I R
on W., P L on E., 36 M on S., and witnessed by a mound
of stone to the East, brs. West, 5 lks. dist. I destroy
this cor.

40.10 Wash, course N. 45° E.

44.60 Wash, course N. 25° E.

47.60 Wash, course N. 75° W.

48.60 Enter arroyo, course W.

80.00 Set an iron post for the 49 Mile Post, stamped in cap

C R I R on SW.
P L on NE.
49 M P 1912 on S.

Build a mound of stone 3 ft. base, 2 ft. high, on line
SE. of cor.

Land, rolling, - barren.
Soil, stony, 3rd rate.

N. 13° 03' W. on the 50th mile, along the reservation bdy.
Over rolling land, in arroyo.

17.80 Dim road, brs. N. 65° W. and S. 65° E.

30.00 Leave arroyo, course S. 70° W.

33.60 A granite stone 16x12x10 ins. above ground, mkd. C R I R
on W., P L on E., 37 M on S., and witnessed by pits
and mound, brs. East 15 lks. dist. This is Strover's
37 M.P., which I destroy.

36.85 Wash, course N. 80° W.

54.70 Wash, course N. 45° W.

73.75 Intersect a granite stone 14x12x10 ins. above ground,
mkd. C R I R on W., P L on E., $\frac{1}{2}$ M on S., and witness-
ed by pits and mound. This is Strover's 37 $\frac{1}{2}$ M.P., which
I destroy.

80.00 Set an iron post for the 50th mile post, stamped in cap

C R I R on SW.
P L on NE.
50 M P 1912 on S.

Dig pits 36x36x12 ins., NE. and SW. of post, 4 ft. dist.,

Colorado River Indian Reservation Boundary

Chains

and raise a mound of earth 5 ft. base, 2½ ft. high, on line, SE. of cor.

Land, rolling, - barren.
Soil, sandy, 3rd rate.

N. 13° 03' W. on the 51st mile, along the reservation bdy.
Over rolling land.

33.43 Intersect a granite stone, 12x10x8 ins. above ground, mkd. C R I R on W., P L on E., 38 M on S., and witnessed by pits and mound. This is Wm. Strover's 38 Mile Post, which I destroy.

56.10 Telephone line, brs. N. 75° W. and S. 75° E.

58.75 Road, brs. N. 75° W. and S. 75° E.

59.00 Left bank of Colorado River, course S. 70° W.

Set an iron post (3 ins. dia.) for meander cor., stamped in cap

C R I R on W.
P L on E.
M C on N.
1912 on S.

Dig a pit 36x36x12 ins. on line, 8 ft. SE. of post, and raise a mound of earth 4 ft. base, 2 ft. high, SE. of cor.

Land, rolling, - barren.
Soil, sandy, 2nd rate.

Feb. 16, 1912.

From this M.C. the line is carried across the Colorado River and into California, by R. A. Farmer, Topographer.

G U Y P. H A R R I N G T O N

U. S. Surveyor.

West Boundary of T. 4 N., R. 21 W.

Chains

Survey commenced Jan. 22, 1912, by Guy P. Harrington, U. S. Surveyor, and executed with Young & Sons light mountain transits Nos. 8388 and 8394, with solar attachments. The horizontal limbs are provided with two double verniers placed opposite each other, reading to single minutes of arc, which is also the least count of the verniers of the latitude and declination arcs.

The iron posts used in the following surveys are 3 feet long, and set 26 ins. in the ground. The posts at $\frac{1}{4}$ sec. cors. and section cors. at ^{or} 1 inch in diameter, and those at township cors., ^{and closing tp. cors.,} 3 inches in diameter. The posts are filled with cement and fitted with brass caps.

Jan. 22, 1912. At my camp which is in Sec. 24, T. 4 N., R. 22 W., lat. 33° 40' N., long. 114° 29' W., at 11h 19.6m, l.m.t., observe Polaris at western elongation, and mark the line of sight on the ground.

Jan. 23, 1912. I turn 1° 24' to the East of the line of observation of Polaris, and preserve the meridian thus established for tests of solar instruments.

Jan. 22, 1912. At 8.30 a.m., l.m.t., I set off 33° 43' on the lat. arc, 19° 50' S. on the decl. arc, and determine a meridian with the solar, at the closing cor. of T. 4 N., Rgs. 21 and 22 W., on the 1st Standard Parallel N., previously described.

Thence I run

S. bet. secs. 1 and 6.

Over rolling land, through brush.

- 1.75 Dry slough, 50 lks. wide, brs. E. and W.
- 11.00 Dry slough, 30 lks. wide, brs. E. and W.
- 21.00 Open slough of stagnant water, brs. E. and W.
- 25.00 Dry slough, 20 lks. wide, brs. N. 65° E. and S. 65° W.
- 28.00 Small stream, 10 lks. wide, course W.
- 40.00 Set an iron post for the $\frac{1}{4}$ sec. cor. bet. secs. 1 and 6, stamped in cap

West Boundary of T. 4 N., R. 21 W.

Chains

$\frac{1}{4}$ S 1 in W. half
 S 6 in E. half
 1912 in S.

Dig pits 18x18x12 ins. N. and S. of post 3 ft. dist.;
 and raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high,
 W. of cor.

- 43.00 Open slough of stagnant water, 20 lks. wide, brs. N.20°W.
 and S. 10° E.
- 44.00 Open slough of stagnant water, 30 lks. wide, brs. N. 30° E.
 and S. 10° W.
- 47.00 Open slough of stagnant water, 60 lks. wide, brs. N.30°E.
 and S. 20° W.
- 64.00 Open slough of stagnant water, 50 lks. wide, brs. N.30°E.
 and S. 10° W.
- 80.00 Set an iron post for the cor. of secs. 1, 6, 7 and 12,
 stamped in cap

T 4 N S 6 in NE. quadrant
 R 21 W S 7 in SE. quadrant
 S 12 in SW. quadrant
 R 22 W S 1 in NW. quadrant
 1912 in S.
 5 notches on S. and 1 notch on N. edge

Dig pits 18x18x12 ins. in each sec. $5\frac{1}{2}$ ft. dist., and
 raise a mound of earth 4 ft. base, 2 ft. high, W. of
 cor.

Land, rolling (Grazing). Subject to overflow.
 Soil, adobe, 2nd rate.
 Brush, thick arrow weed and scattered mesquite.

South bet. secs. 7 and 12.

Over rolling land, through brush.

- 40.00 Set an iron post for the $\frac{1}{4}$ sec. cor. bet. secs. 7 and 12,
 stamped in cap

$\frac{1}{4}$ S 12 in W. half
 S 7 in E. half
 1912 in S.

Dig pits 18x18x12 ins. N. and S. of post 3 ft. dist.;
 and raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high,
 W. of cor.

- 54.00 Open slough of stagnant water, 20 lks. wide, brs. N.35°E.
 and S.30°W.
- 56.50 Enter open slough of stagnant water, brs. N.40°E. and
 S. 40° W.
- 61.50 Leave slough, brs. N. 40° E. and S. 35° W.
- 75.00 Open slough of stagnant water, 75 lks. wide, brs. N.65°E.
 and S. 60° W.
- 80.00 Set an iron post for the cor. of secs. 7, 12, 13 and 16,
 stamped in cap

West Boundary of T. 4 N., R. 21 W.

Chains

T 4 N S 7 in NE. quadrant
 R 21 W S 18 in SE. "
 S 13 in SW. "
 R 22 W S 12 in NW. "
 1912 in S.
 4 notches on S. and 2 notches on N. edge,

from which

A mesquite 10 ins. dia. brs. S. 79°45'W., 61 lks. dist.
 Mkd. T 4 N R 22 W S 13 B T.
 A mesquite 10 ins. dia. brs. S. 76° E., 98 lks. dist.
 Mkd. T 4 N R 21 W S 18 B T.

Dig pits 18x18x12 ins. in each sec. 5½ ft. dist.; and
 raise a mound of earth 4 ft. base, 2 ft. high, W. of
 cor.

Land, rolling. (Grazing).
 Soil, adobe, 2nd rate.
 Brush, thick arrow weed, and scattered mesquite and quail.

 South bet. secs. 13 and 18.

Over rolling land, through brush.

16.00 Open slough of stagnant water, brs. E. and W.; 30 lks. wide.

40.00 Set an iron post for the ¼ sec. cor. bet. secs. 13 and 18,
 stamped in cap

¼ S 13 in W. half
 S 18 in E. half
 1912 in S.

Dig pits 18x18x12 ins. N. and S. of post 3 ft. dist.;
 and raise a mound of earth 3½ ft. base, 1½ ft. high,
 W. of cor.

43.75 Road, brs. N. 20° E. and S. 20° W.

80.00 Set an iron post for the cor. of secs. 13, 18, 19 and 24,
 stamped in cap

T 4 N S 18 in NE. quadrant
 R 21 W S 19 in SE. "
 S 24 in SW. "
 R 22 W S 13 in NW. "
 1912 in S.
 3 notches on N. and S. edge

Dig pits 18x18x12 ins. in each sec. 5½ ft. dist.; and
 raise a mound of earth 4 ft. base, 2 ft. high, W. of
 cor.

Land, rolling. (Grazing).
 Soil, adobe, 2nd rate.
 Brush, thick arrow weed and scattered mesquite and quail.

 Jan. 22, 1912. At the cor. of secs. 13, 18, 19 and 24, I
 set off 19° 49' S. on the decl. arc, and at 12h 11m 27s
 p.m., l.m.t., observe the sun on the meridian; the re-
 sulting lat. is 33° 40'; which is the proper lat.

West Boundary of T. 4 N., R. 21 W.

Chains

South bet. secs. 19 and 24.

Over rolling land, through brush.

23.00 Leave river bottom; begin ascent to mesa, brs. N. 10° E. and S. 10° W.

38.00 Small wash, course W.

39.00 Road, brs. E. and W.

40.00 Set an iron post for the 1/4 sec. cor. bet. secs. 19 and 24, stamped in cap

1/4 S 24 in W. half
S 19 in E. half
1912 in S.

Build a mound of stone 2 ft. base, 1 1/2 ft. high, W. of cor.

46.00 Enter arroyo, course W.

51.00 Leave arroyo, course W.

52.00 Top of ascent on mesa, brs. N. 10° E. and S. 10° W.

60.00 Enter arroyo, course W.

78.75 Leave arroyo, course W.

80.00 Set an iron post for the cor. of secs. 19, 24, 25 and 30, stamped in cap

T 4 N S 19 in NE. quadrant
R 21 W S 30 in SE. quadrant
S 25 in SW. quadrant
R 22 W S 24 in NW. quadrant
1912 in S.

2 notches on S. and 4 notches on N. edge

Dig pits 18x18x12 ins. in each sec. 5 1/2 ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high, W. of cor.

Land, rolling. (Grazing).

Soil, sandy and adobe, 2nd rate.

Brush, thick arrow weed and scattered mesquite, 80.00 chs.

South bet. secs. 25 and 30.

Over rolling land.

15.00 Small wash, course W.

23.50 Enter arroyo, course W.

35.00 Leave arroyo, course W.

40.00 Set an iron post for the 1/4 sec. cor. bet. secs. 25 and 30, stamped in cap

1/4 S 25 in W. half
S 30 in E. half
1912 in S.

Build a mound of stone 2 ft. base, 1 1/2 ft. high, W. of cor.

West Boundary of T. 4 N., R. 21 W.

Chains

50.00 Enter arroyo, course W.

60.00 Leave arroyo, course W.

80.00 Set an iron post for the cor. of secs. 25, 30, 31 and 36, stamped in cap

T 4 N S 30 in NE. quadrant
 R 21 W S 31 in SE. quadrant
 S 36 in SW. quadrant
 R 22 W S 25 in NW. quadrant
 1912 in S.
 1 notch on S. and 5 notches on N. edge

Dig pits 18x18x12 ins. in each sec. 5½ ft. dist.; and raise a mound of earth 4 ft. base, 2 ft. high, W. of cor.

Land, rolling. (Grazing).

Soil, sandy, 2nd rate.

Brush, scattered sage, greasewood and palo verde, 80.00 chs.

 South bet. secs. 31 and 36.

Over rolling land.

33.00 Enter arroyo, course W.

40.00 Set an iron post for the ¼ sec. cor. bet. secs. 31 and 36, stamped in cap

¼ S 36 in W. half
 S 31 in E. half
 1912 in S., from which

A palo fierro, 12 ins. dia. brs. S. 57° 15' E., 147 lks. dist. Mkd. ¼ S 31 B T.

A palo verde 14 ins. dia. brs. S. 30° 15' W., 260 lks. dist. Mkd. ¼ S 36 B T.

Build a mound of stone 2 ft. base, 1½ ft. high, W. of cor.

64.75 Leave arroyo, course W.

77.30 Road, brs. E. and W. (Very dim)

78.50 Enter La Paz Arroyo, course N. 85° W.

80.00 Set an iron post for the cor. of Tps. 3 and 4 N., Rgs. 21 and 22 W., stamped in cap

T 4 N S 31 in NE. quadrant
 R 21 W S 6 in SE. quadrant
 T 3 N S 1 in SW. quadrant
 R 22 W S 36 in NW. quadrant
 1912 in S.
 6 notches on E., W., N. and S. edges,

from which

A palo fierro 24 ins. dia. brs. S. 51° 45' E., 178 lks. dist. Mkd. T 3 N R 21 W S 6 B T.

A palo fierro 10 ins. dia. brs. S. 53° W., 127 lks. dist. Mkd. T 3 N R 22 W S 1 B T.

A palo fierro 12 ins. dia. brs. N. 56° 15' W., 138 lks. dist. Mkd. T 4 N R 22 W S 36 B T.

West Boundary of T. 4 N., R. 21 W.

Chains

A palo fierro 10 ins. dia. brs. N. 71° 15' E., 169 lks.
dist. Mkd. T 4 N R 21 W S 31 B T.

Build a mound of stone 2 ft. base, 1½ ft. high, S. of cor.
This cor. is Angle Point No.1, on S. bdy. of reservation.
Land, rolling. (Grazing).

Soil, sandy, 2nd rate.

Brush, scattered sage and greasewood, 80.00 chs.

Timber, scattered palo verde and palo fierro in arroyo.

Jan. 22, 1912.

South Boundary of T. 4 N., R. 21 W.

Jan. 30, 1912. At 8.30 a.m., l.m.t., I set off 33° 37'
on the lat. arc, 17° 52' S. on the decl. arc, and deter-
mine a meridian with the solar, at the cor. of Tps. 3
and 4 N., Rgs. 21 and 22 W., previously described. (This
is also A.P. No.1, on S.bdy. of Colorado River Indian Res'n)

Thence I run

East on a true line bet. secs. 6 and 31.

Over rolling land, through arroyo.

5.80 Leave arroyo, course N. 85° W.

18.80 Enter arroyo, course S. 86° W.

38.55 Set an iron post for the ¼ sec. cor. bet. secs. 6 and 31,
stamped in cap

¼ S 31 in N. half
S 6 1912 in S. half, from which

A palo fierro 8 ins. dia. brs. S. 41° 30' W., 124 lks.
dist. Mkd. ¼ S 6 B T.

A palo verde 6 ins. dia. brs. N. 4° 45' W., 106 lks.
dist., Mkd. ¼ S 31 B T.

Build a mound of stone 2 ft. base, 1½ ft. high, N. of
cor.

77.60 Ehrenberg-Quartzsite telephone line, brs. N. 60° E. and
S. 60° W.

78.55 Allowing for convergency of meridian; point for cor. of
secs. 5, 6, 31 and 32, falls in middle of Ehrenberg-
Quartzsite Road, brs. N. 60° E. and S. 60° W.

78.75 Set an iron post for W.C. to the cor. of secs. 5, 6, 31
and 32, stamped in cap

T 4 N S 32 in NE. quadrant
R 21 W S 5 in SE. quadrant
T 3 N S 6 in SW. quadrant
S 31 in NW. quadrant

W C 1912 in S.
5 notches on E. and 1 notch on W. edge

Build a mound of stone 2 ft. base, 1½ ft. high, W. of
cor.

South boundary of T. 4 N., R. 21 W.

Chains

Land, rolling. (Barren).
Soil, sandy and rocky, 3rd rate.
Scattered palo verde and palo fierro in arroyo.

From the true point for the cor. of secs. 5, 6, 31 and 32,
I run

East on a true line bet. secs. 5 and 32.

Over rolling land, through arroyo.

.20 The W.C. to the cor. of secs. 5, 6, 31 and 32.
11.65 Leave arroyo, course S. 85° W.

30.00 Small wash, course N. 45° W.

40.00 Set an iron post for the 1/4 sec. cor. bet. secs. 5 and 32,
stamped in cap

1/4 S 32 in N. half
S 5 1912 in S. half

Build a mound of stone 2 ft. base, 1 1/2 ft. high, N. of
cor.

60.35 Small wash, course S. 55° W.

78.00 Small wash, course S. 45° W.

80.00 Set an iron post for the cor. of secs. 4, 5, 32 and 33,
stamped in cap

T 4 N S 33 in NE. quadrant
R 21 W S 4 in SE. "
T 3 N S 5 in SW. "
S 32 in NW. "

1912 in S.
4 notches on E. and 2 notches on W. edge

Build a mound of stone 2 ft. base, 1 1/2 ft. high, W. of
cor.

Land, rolling. (Barren)
Soil, sandy and rocky, 3rd rate.
Scattered palo verde and palo fierro, in arroyo.

East on a true line bet. secs. 4 and 33.

Over rolling land.

14.00 Small wash, course S. 80° W.

20.00 Small wash, course S. 65° W,

40.00 Set an iron post for the 1/4 sec. cor. bet. secs. 4 and 33,
stamped in cap

1/4 S 33 in N. half
S 4 1912 in S. half

Build a mound of stone 2 ft. base, 1 1/2 ft. high, N. of
cor.

41.00 Small wash, course S. 45° W.

59.00 Small wash, course S. 30° W.

South Boundary of T. 4 N., R. 21 W.

Chains

76.00 Begin ascent of low out bank.

80.00 Top of ascent on mesa, brs. E. and W.

Set an iron post for the cor. of secs. 3, 4, 33 and 34, stamped in cap

T 4 N S 34 in NE. quadrant
R 21 W S 3 in SE. "
T 3 N S 4 in SW. "
S 33 in NW. "
1912 in S.
3 notches on E. and W. edges

Build a mound of stone 2 ft. base, 1½ ft. high, W. of cor.

Land, rolling and broken (Barren).
Soil, sandy and rocky, 3rd rate.

Jan. 30, 1912. At this cor., I set off 17° 51' S. on the decl. arc, and at 12h 13m 19s p.m., l.m.t., observe the sun on the meridian; the resulting lat. is 33° 37', which is the proper lat.

East on a true line bet. secs. 3 and 34.

Over broken land.

6.85 Wash, course S. 75° W.

31.95 Wash, course S. 45° W.

37.70 Wash, course S. 60° W.

40.00 Set an iron post for the ¼ sec. cor. bet. secs. 3 and 34, stamped in cap

¼ S 34 in N. half
S 3 1912 in S. half

Build a mound of stone 2 ft. base, 1½ ft. high, N. of cor.

40.25 Wash, course S. 60° W.

41.45 Small wash, course N. 65° W.

52.10 Small wash, course N. 40° W.

56.30 Small wash, course N. 80° W.

Begin ascent of low ridge.

63.60 Top of ascent on low ridge, brs. NE. and SW.

Thence descend to draw.

70.00 Drain, course S. Thence ascend W. slope of low ridge.

73.50 Top of ascent on ridge, brs. NE. and SW.

Thence descend E. slope.

80.00 Set an iron post for the cor. of secs. 2, 3, 34 and 35, stamped in cap

South Boundary of T. 4 N., R. 21 W.

Chains

T 4 N S 35 in NE. quadrant
R 21 W S 2 in SE. "
T 3 N S 3 in SW. "
S 34 in NW. "

1912 in S.
2 notches on E. and 4 notches on W. edge

Build a mound of stone 2 ft. base, 1½ ft. high, W. of cor.

Land, rolling. (Barren).
Soil, rocky, 3rd rate.

East on a true line bet. secs. 2 and 35.

Over rolling, broken land, continuing descent.

00.25 Wash, course S.

7.50 Enter arroyo, course N. 50° W., from E.

13.00 Ehrenberg-Quartzsite Road, brs. N.60°W. and S.70°E.

40.00 Set an iron post for the ¼ sec. cor. bet. secs. 2 and 35, stamped in cap

¼ S 35 in N. half
S 2 1912 in S. half, from which

A palo fierro 12 ins. dia. brs. N. 55° W., 15 lks. dist.
Mkd. ¼ S 35 B T.

Build a mound of stone 2 ft. base, 1½ ft. high, N. of cor.

41.00 Same road, brs. N.87°E. and S.87°W.

57.00 Same road, brs. N.60°W. and S.60°E.

65.00 Leave arroyo, course W.

70.00 Enter same arroyo, course S. 85° W.

70.75 Same road, brs. N. 75° E. and S. 75° W.

80.00 Set an iron post for the cor. of secs. 1, 2, 35 and 36, stamped in cap

T 4 N S 36 in NE. quadrant
R 21 W S 1 in SE. "
T 3 N S 2 in SW. "
S 35 in NW. "

1912 in S.
1 notch on E. and 5 notches on W. edge ,

from which

A palo fierro 8 ins. dia. brs. N. 70° W., 17 lks. dist.
Mkd. T 4 N R 21 W S 35 B T.

A palo fierro 10 ins. dia. brs. N. 55° 15' E., 132 lks. dist.
Mkd. T 4 N R 21 W S 36 B T.

Build a mound of stone 2 ft. base, 1½ ft. high, W. of cor.

Land, rolling and broken. (Barren).
Soil, sandy and rocky, 3rd rate.
Scattered palo fierro and palo verde in arroyo.

South Boundary of T. 4 N., R. 21 W.

Chains

East on a true line bet. secs. 1 and 36.

Over rolling, broken land, continuing in arroyo.

13.00 Leave arroyo, course N. 80° W.

37.00 Wash, course S. 15° W.

40.00 Set an iron post for the ¼ sec. cor. bet. secs. 1 and 36, stamped in cap

¼ S 36 in N. half
S 1 1912 in S. half

Build a mound of stone 2 ft. base, 1½ ft. high, N. of cor.

44.50 Small draw, course N. 20° W.
Thence ascent steep W. slope of ridge.

53.00 Top of ascent on ridge, brs. N. 45° W. and S. 45° E.
Thence descend along N. slope of ridge.

60.00 Foot of descent in draw, course N.
Thence ascend broken W. slope.

65.00 Small draw, course N. 65° W.

76.50 Top of mountain spur, brs. N. 45° W. and S. 45° E.
Continue ascent along W. slope.

80.00 Set an iron post for the cor. of Tps. 3 and 4 N., Rgs. 20 and 21 W., stamped in cap

T 4 N S 31 in NE. quadrant
R 20 W S 6 in SE. "
T 3 N S 1 in SW. "
R 21 W S 36 in NW. "
1912 in S.

6 notches on E., W., N. and S. edges

Build a mound of stone 2 ft. base, 1½ ft. high, S. of cor.

Land, rolling and broken (Barren).
Soil, stony, 3rd rate.

Jan. 30, 1912.

West Boundary of T. 4 N., R. 20 W.

From the cor. of Tps. 3 and 4 N., Rgs. 20 and 21 W., above described, I run

North bet. secs. 31 and 36.

Over rough, mountainous land.

5.50 Low ridge, brs. N. 65° W. and S. 65° E.

8.00 Wash, course N. 45° W.

12.50 Ridge, brs. N. 45° W. and S. 45° E.

West Boundary of T. 4 N., R. 20 W.

Chains

- 22.25 Road, brs. N. 80° E. and S. 75° W.
- 23.50 Wash, course N. 45° E.
- 24.50 Road, brs. E. and W.
- 26.00 Wash, course S. 75° E.
- 30.00 Summit of ridge, brs. S. 75° E. and N. 75° W.
- 31.50 Wash, course S. 75° E.
- 38.50 Summit of ridge, brs. S. 70° E., and N. 70° W.
- 40.00 Set an iron post for the $\frac{1}{4}$ sec. cor. bet. secs. 25 and 30, stamped in cap

$\frac{1}{4}$ S 25 in W. half
 S 30 in E. half
 1912 in S.

Build a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

- 44.50 Wash, course S. 80° E.
- 49.50 Summit of ridge, in low saddle, brs. N. 60° E. and S. 60° W.
- 59.00 Summit of round hill.
- 62.75 Summit of ridge, brs. E. and W.
- 74.00 Wash, course N. 30° W.
- 79.05 Set an iron post for W.C. to the cor. of secs. 19, 24, 25 and 30, stamped in cap

T 4 N S 19 in NE. quadrant
 R 20 W S 30 in SE. "
 S 25 in SW. "
 R 21 W S 24 in NW. "
 W C 1912 in S.

2 notches on S. and 4 notches on N. edge

Build a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

- 80.00 True point for the cor. of secs. 19, 24, 25 and 30, falls in bottom of deep gulch, course N. 30° W.

Land, rough and barren, - mountainous.
Soil, rocky, 3rd rate.

Jan. 31, 1912. At this cor., I set off 17° 34' S. on the decl. arc, and at 12h 13m 29s p.m., l.m.t., observe the sun on the meridian; the resulting lat. is 33° 39', which is the proper lat.

North bet. secs. 19 and 24.

Over rough, mountainous land.

- 5.50 Wash, course W.
- 7.10 Begin steep ascent, brs. E. and W.
- 17.10 Summit of high ridge, brs. E. and W.
Thence descend N. slope.

West Boundary of T. 4 N., R. 20 W.

Chains	
26.00	Foot of descent, brs. E. and W.
26.90	Rocky wash, course W.
33.05	Wash, course S. 10° W.
36.00	Low ridge, brs. E. and W.
40.00	Set an iron post for the $\frac{1}{4}$ sec. cor. bet. secs. 19 and 24, stamped in cap
	$\frac{1}{4}$ S 24 in W. half S 19 in E. half 1912 in S.
	Build a mound of stone 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
45.75	Wash, course W.
46.10	Wash, course W.
51.50	Ridge, brs. E. and W.
57.30	Wash, course N. 60° W.
59.15	Wash, course S. 45° W.
61.65	Wash, course S. 60° W.
64.10	Wash, course S. 65° W.
70.75	Side hill ridge, brs. E. and W.
80.00	Set an iron post for the cor. of secs. 13, 18, 19 and 24, stamped in cap
	T 4 N S 18 in NE. quadrant R 20 W S 19 in SE. quadrant S 24 in SW. quadrant R 21 W S 13 in NW. quadrant 1912 in S. 3 notches on N. and S. edge
	Build a mound of stone 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.
	Land, broken and mountainous. (Barren). Soil, rocky, 4th rate.

	North bet. secs. 13 and 18.
	Over rolling land, descending.
17.00	Foot of descent; thence over rolling mesa.
17.85	Wash, course W.
26.55	Wash, course N. 70° W.
31.10	Small wash, course W.
36.50	Wash, course E.
40.00	Set an iron post for the $\frac{1}{4}$ sec. cor. bet. secs. 13 and 18, stamped in cap
	$\frac{1}{4}$ S 13 in W. half S 18 in E. half 1912 in S.

West Boundary of T. 4 N., R. 20 W.

Chains

Build a mound of stone 2 ft. base, 1½ ft. high, W. of cor.

- 45.05 Wash, course W.
- 52.55 Wash, course N. 40° E. Thence ascend steep rocky hill.
- 58.00 Summit of ridge, brs. N. 70° W. and S. 70° E.
- 60.95 Draw, course N. 55° E.
- 66.00 Draw, course N. 45° E. Thence ascend steep rocky slope.
- 72.20 Summit of ascent, brs. NE. and SW.
- 80.00 Set an iron post for the cor. of secs. 7, 12, 13 and 18, stamped in cap

T 4 N S 7 in NE. quadrant
 R 20 W S 18 in SE. quadrant
 S 13 in SW. quadrant
 R 21 W S 12 in NW. quadrant
 1912 in S.
 4 notches on S. and 2 on N. edge

Build a mound of stone 2 ft. base, 1½ ft. high, W. of cor.

Land, rolling mesa and hilly. (Barren).
Soil, rocky, 4th rate.

Jan. 31, 1912.

Feb. 1, 1912. At 8 a.m., l.m.t., I set off 33° 42' on the lat. arc, 17° 20' S. on the decl. arc, and determine a meridian with the solar, at the cor. of sec. 7, 12, 13 and 18.

Thence I run

North bet. secs. 7 and 12.

Descending rocky N. slope.

- 7.00 Foot of descent, brs. NW. and SE. Thence over nearly level mesa.
- 17.85 Wash, course N. 30° W.
- 18.00 Enter arroyo, course N. 48° W.
- 40.00 Set an iron post for the ¼ sec. cor. bet. secs. 7 and 12, stamped in cap
 - ¼ S 12 in W. half
 - S 7 in E. half
 - 1912 in S.
- Build a mound of stone 2 ft. base, 1½ ft. high, W. of cor.
- 40.25 Leave arroyo, course N. 45° W.
- 46.55 Enter arroyo, course N. 45° W.
- 61.90 Leave arroyo, course N. 45° W.
- 65.00 Road, brs. S. 75° E. and N. 75° W.

West Boundary of T. 4 N., R. 20 W.

Chains

76.30 Small wash, course N. 50° W.

80.00 Set an iron post for the cor. of secs. 1, 6, 7 and 12, stamped in cap

T 4 N S 6 in NE. quadrant
R 20 W S 7 in SE. quadrant
S 12 in SW. quadrant
R 21 W S 1 in NW. quadrant
1912 in S.

5 notches on S. and 1 notch on N. edge

Dig pits 18x18x12 ins. in each sec. 5½ ft. dist.; and raise a mound of earth 4 ft. base, 2 ft. high, W. of cor.

Land, gently rolling mesa and rocky ridge. (Barren).
Soil, stony, 4th rate.

Feb. 1, 1912. At this cor., I set off 17° 16' S. on the decl. arc, and at 12h 13m 39s p.m., l.m.t., observe the sun on the meridian; the resulting lat. is 33° 42', which is within one minute of the proper lat.

North bet. secs. 1 and 6.

Over gently rolling mesa.

11.55 Small wash, course N. 40° W.

14.25 Small wash, course N. 30° W.

25.00 Small wash, course S. 65° W.

26.75 Small wash, course W.

32.00 Small wash, course W.

40.00 Set an iron post for the ¼ sec. cor. bet. secs. 1 and 6, stamped in cap

¼ S 1 in W. half
S 6 in E. half
1912 in S.

Dig pits 18x18x12 ins. N. and S. of post 3 ft. dist.; and raise a mound of earth 3½ ft. base, 1½ ft. high, W. of cor.

48.50 Small wash, course N. 60° W.

53.15 Small wash, course W.

58.65 Small wash, course N. 65° W.

71.50 Small wash, course N. 30° E.

80.00 Intersect the 1st Standard Parallel N., 1.12 chs. W. of the standard ¼ sec. cor. of sec. 31, T. 5 N., R. 20 W., previously described.

Set an iron post for C.C. of Tps. 4 N., Rgs. 20 and 21 W., stamped in cap

T 4 N R 21 W S 1 in SW. quadrant
R 20 W S 6 in SE. quadrant
C C 1912 in S.
6 notches on E., W. and S. edges

West Boundary of T. 4 N., R. 20 W.

Chains

Build a mound of stone 2 ft. base, 1½ ft. high, S. of cor.

Land, gently rolling. (Barren.)
Soil, sandy and rocky, 3rd rate.
Timber, scattered chapparal.

Feb. 1, 1912.

West Boundary of T. 3 N., R. 20 W.

Feb. 13, 1912. At 7.30 a.m., l.m.t., I set off 33° 37' on the lat. arc, 13° 36' S. on the decl. arc, and determine a meridian with the solar, at the cor. of Tps. 3, and 4 N., Rgs. 20 and 21 W., previously described.

Thence I run

South bet. secs. 1 and 6.

Over broken, mountainous land, ascending.

- 1.50 Low round spur of ridge, brs. E. and W.
- 5.50 Wash, course W.
- 9.50 Top of main ridge, brs. E. and W.
Thence along side hill.
- 13.90 Small wash, course W.
- 18.20 Low side hill summit, brs. E. and W.
- 29.40 Wash, course W.
- 40.00 Set an iron post for the ¼ sec. cor. bet. secs. 1 and 6, stamped in cap

¼ S 1 in W. half
S 6 in E. half
1912 in S.

Build a mound of stone 2 ft. base, 1½ ft. high, W. of cor.

- 44.50 Ridge, brs. E. and W.
- 56.75 Rocky gulch, course N. 45° W.
- 66.40 Low side hill summit, brs. E. and W.
- 70.35 Wash, course E.
- 80.00 Set an iron post for the cor. of secs. 1, 6, 7 and 12, stamped in cap

T 3 N S 6 in NE. quadrant
R 20 W S 7 in SE. "
S 12 in SW. "
R 21 W S 1 in NW. "
1912 in S.

5 notches on S. and 1 notch on N. edge

Build a mound of stone 2 ft. base, 1½ ft. high, W. of cor.

West Boundary of T. 3 N., R. 20 W.

Chains

Land, mountainous (Barren).
Soil, rocky, 4th rate.

South bet. secs. 7 and 12.

Over rocky, mountainous land, ascending.

27.60 Top of ridge, hrs. E. and W.

40.00 Set an iron post for the $\frac{1}{4}$ sec. cor. bet. secs. 7 and 12,
stamped in cap

$\frac{1}{4}$ S 12 in W. half
S 7 in E. half
1912 in S.

Build a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of
cor.

49.50 Deep rocky gulch, course W.

71.40 Rounding mountain top, hrs. NW. and SE.

80.00 Set an iron post for the cor. of secs. 7, 12, 13 and 18,
stamped in cap

T 3 N S 7 in NE. quadrant
R 20 W S 18 in SE. "
S 13 in SW. "
R 21 W S 12 in NW. "
1912 in S.

4 notches on S. and 2 notches on N. edge

Build a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of
cor.

Land, rugged and mountainous. (Barren).
Soil, rocky, 4th rate.

South bet. secs. 13 and 18.

Over broken, mountainous land.

.84 Small wash, course N. 45° W.

4.05 Top of ridge, hrs. E. and W.

7.45 Wash, course W.

12.45 Rounding ridge, hrs. E. and W.

40.00 Set an iron post for the $\frac{1}{4}$ sec. cor. bet. secs. 13 and 18,
stamped in cap

$\frac{1}{4}$ S 13 in W. half
S 18 in E. half
1912 in S.

Build a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, W. of
cor.

54.28 Intersect the S. bdy. of the reservation 1.46 chs. S. 53°
30' E. of the 8 Mile Post.

Set an iron post for C.C. of Tps. 3 S., Rgs. 20 and 21 W.,
stamped in cap

West Boundary of T. 3 N., R. 20 W.

C C C R I R in N.
T 3 N R 20 W S 18 in NE.
R 21 W S 13 in NW.
P L 1912 in S.

Build a mound of stone 2 ft. base, 1 1/2 ft. high, N. of cor.

Land, mountainous. (Barren).
Soil, rocky, 4th rate.

Feb. 13, 1912.

South Boundary of T. 4 N., R. 20 W.

From the cor. of Tps. 3 and 4 N., Rgs. 20 and 21 W., previously described, I run

East bet. secs. 6 and 31.

Ascending rugged West slope.

- 8.10 Small side-hill wash, course N. 45° W.
 - 15.50 Main mountain crest, brs. N. 15° W. and S. 15° E.
 - 26.00 Wash, course N.
 - 29.70 High ridge, brs. N. and E.
 - 32.00 Small side-hill wash, course N.
 - 36.95 Intersect the E. bdy. of the reservation at a point 33.75 chs. N. 1° 33' E. of the 11 Mile Post.
- Set an iron post for the C.C. of Tps. 3 and 4 N., R. 20 W., stamped in cap

C C C R I R in W.
T 4 N R 20 W S 31 in NW.
T 3 N S 6 in SW.
P L in E.
1912 in S.

Build a mound of stone 2 ft. base, 1 1/2 ft. high, W. of cor.

Land, mountainous. (Barren).
Soil, rocky, 4th rate.

Feb. 13, 1912.

Guy P. Harrington,
U. S. Surveyor.

Washington, D.C., July 14 1914.

I hereby certify that the survey of the foregoing exterior lines within the Colorado River Indian Reservation, Arizona, was made under my direction and supervision, and to the best of my knowledge and belief the field work was executed in strict accordance with the instructions given me dated Nov. 23, 1910, and the Manual of Surveying Instructions, and that these field notes are a correct representation thereof.

A. F. Drumming
Topographer in Charge.