

FIELD NOTES

OF THE RETRACEMENT OF

part of the Navajo Base Line (part of the South boundaries of Townships 1 North, Ranges 5 and 6 West, of the Navajo Special Base and Meridian, New Mexico)

and of Part of the Arizona-New Mexico State Boundary (87th mile)

AND OF THE SURVEY OF

Tract No. 37

Protestant Episcopal Mission

approximately in Township 27 North, Range 31 East

Of the Gila and Salt River Base and Meridian,

In the State of Arizona

EXECUTED BY

Sidney E Blout, U S Cadastral Engineer,

In the capacity of U. S. Surveyor, under Special Instructions dated October 6, 1920, issued by the United States Surveyor General to govern surveys included in Group No. 113, Arizona, which were approved by the Commissioner of the General Land Office, November 9, 1920, and Assignment Instructions dated June 1, 1921

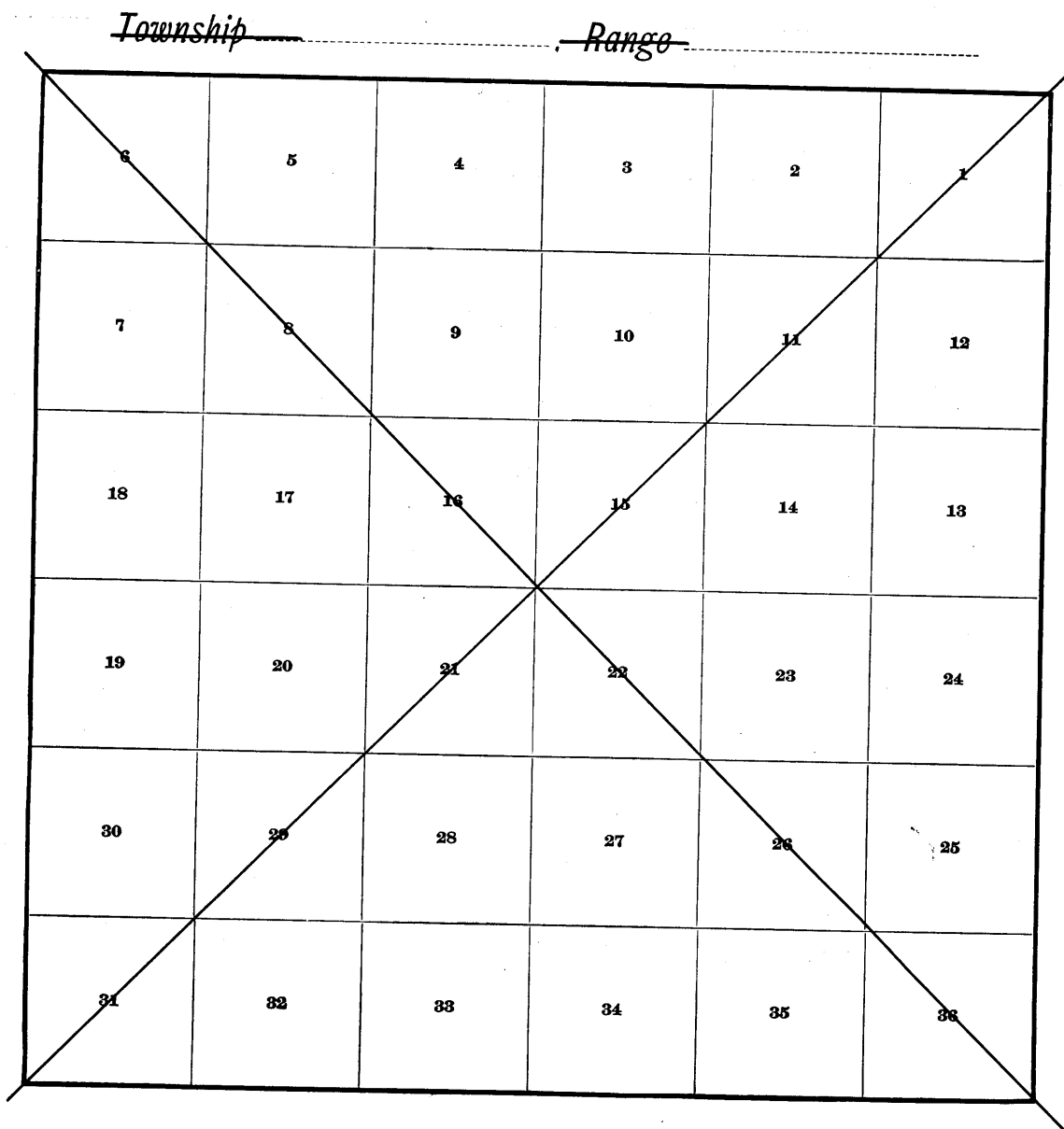
Retracement and Survey commenced May 27, 1921

Retracement and Survey completed June 3, 1921

3502

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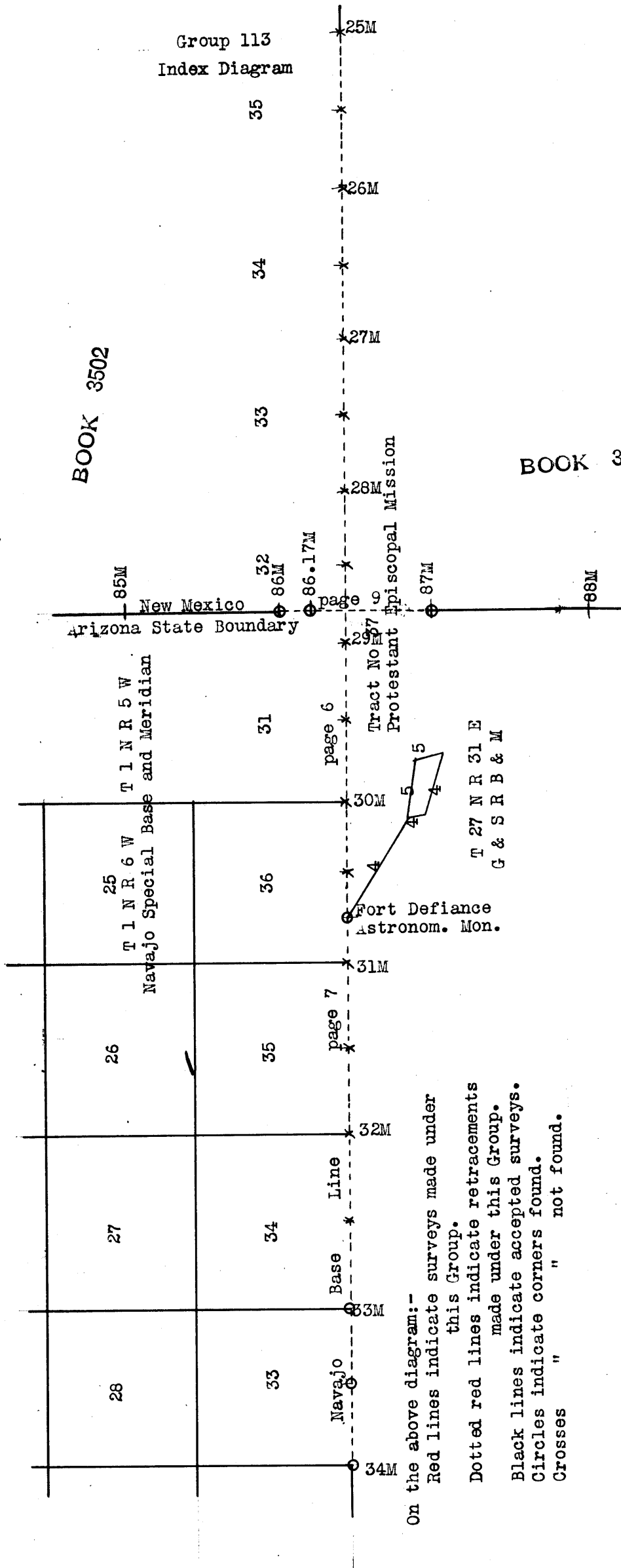
~~INDEX DIAGRAM.~~



Group 113
Index Diagram

BOOK 3502

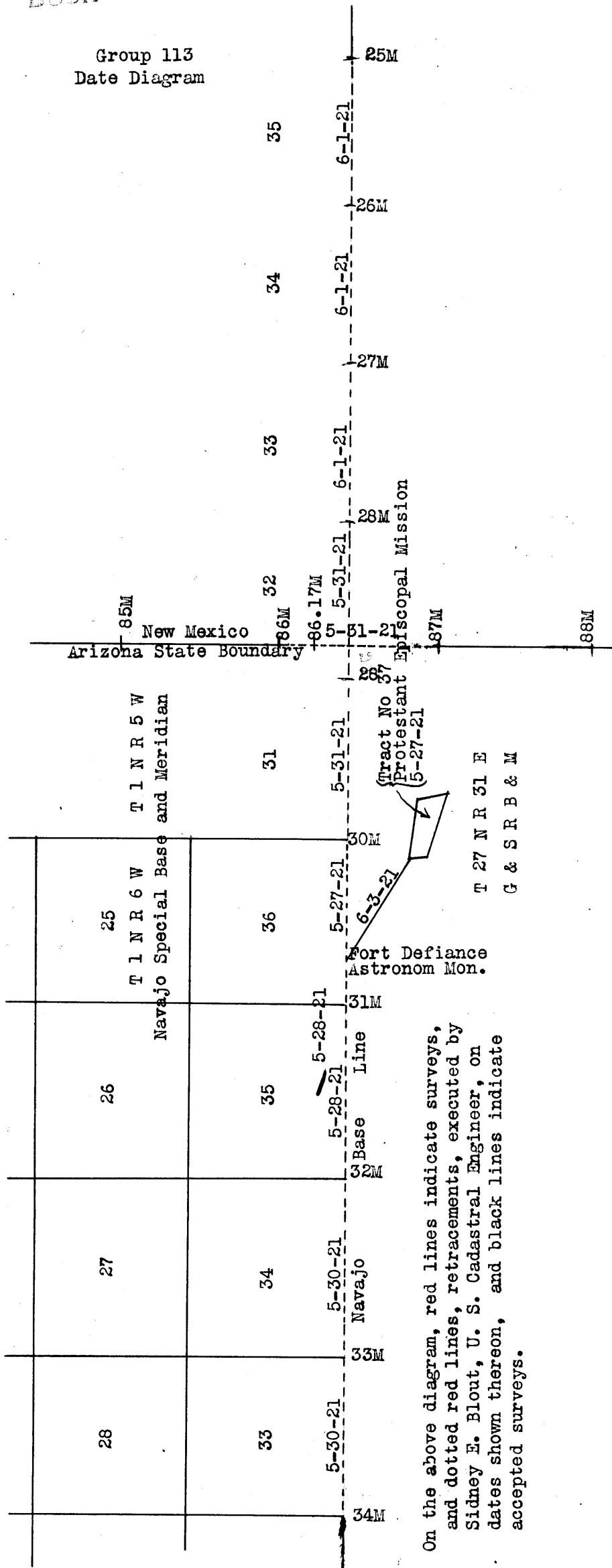
BOOK 3502



On the above diagram:-
 Red lines indicate surveys made under this Group.
 Dotted red lines indicate retracements made under this Group.
 Black lines indicate accepted surveys.
 Circles indicate corners found.
 Crosses " " not found.

Group 113
Date Diagram

BOOK 3502



On the above diagram, red lines indicate surveys, and dotted red lines, retracements, executed by Sidney E. Blout, U. S. Cadastral Engineer, on dates shown thereon, and black lines indicate accepted surveys.

T 27 N R 31 E
G & S R B & M

Tract No. 37 for Protestant Episcopal Mission, approximately in Township 27 North, Range 31 East, G. & S.R. B. & M., Arizona.

Chains.

The steel post 1 in. square, mentioned in the Special Instructions governing this survey, and shown on the accompanying plat, submitted by A. W. Simington, U.S. Indian Allotting Agent, as marking the northwest corner of the tract of land situate in T. 27 N., R. 31 E., G. and S.R. B. & M., unsurveyed, Arizona, which is being used by the Episcopal Church Corporation for Indian Mission Hospital purposes, and designated as Tract No. 37, has been destroyed. The boundaries, however, of the Tract are well defined by lines of fence on the north, south and west, and on the east by the right bank of Black Creek; therefore, establish Cor. No. 1 (NW. cor.) of Tract at the corner post of fence lines defining the north and west boundaries of the Tract, as follows:

Alongside said fence cor. post,
Set an iron post, 3 ft. long, 1 in. in diam., 20 ins. in the ground for cor. No. 1 (NW. cor.) of Tract, marked on brass cap,

T27N R31E

1
MTR 37.

1921

From this cor., the Astronomical monument on the Navajo Base Line near Old Fort Defiance, brs. N. 54° 30' W., 02.42 chs. dist.

The cross on the Mission Chapel brs. S. 28° E.

The cross on the Mission Hospital brs. S. 39½° E.

The chimney on the employe's office building brs. S. 45° E. Thence,

S. 3° 15' E. on true line, on W. bdy. of Tract (Line 1-2), as defined by stone fence on crest of spur, sloping S. Descend gradually.

9.91 Intersection of stone fence forming W. bdy. of Tract with wire fence, forming S. bdy. of Tract.

Alongside of wood post in this fence cor., Set an iron post 3 ft. long, 1 in. in diam., 20 ins. in the ground for Cor. No. 2 (SW. cor.) of Tract, marked on brass cap.

MTR 37

T27N 2
R31E

1921

from which,

The chimney on the employes' office building, brs. N. 40° 20' E.

The cross on the Mission chapel, brs. N. 57° 20' E.

The cross on the Mission Hospital brs. N. 01° 50' E.

Thence,

S. 73° 45' E. on true line on S. bdy. of Tract (Line 2-3) as defined by wire fence line, over hilly land. Desc. 20 ft. over E. slope.

3.34 Road from Mission Hospital to Gallup, New Mexico, brs. N. and S.

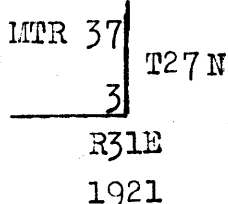
10.25 Wire fence, brs. N. and S. at foot of descent; leave hilly land, brs. N. and S., and enter level sandy bottom land.

34.21 Fence cor. from which fence extends N. 73° 45' W., and N. 12° 15' W. Leave fence line, which has formed the S. bdy. of Tract to this fence cor.

34.85 Intersect right bank of Black Creek, bearing N. 9° 37' W., and S. 9° 37' E., at which point of intersection, set an iron post, 3 ft. long, 1 in. in diam., 20 ins. in the ground for Cor. No. 3 (SE. cor.) of Tract, marked on brass cap,

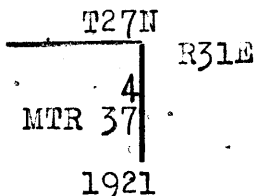
Tract No. 37 for Protestant Episcopal Mission, approximately in Township 27 North, Range 31 East, G. & S.R.B. & M., Arizona.

Chains.



Thence, N. 9° 37' W., on a true line, on E. bdy. of Tract (Line 3-4) as defined by creek bank.

15.79 Over level sandy land, along right bank of Black Creek, thru. greasewood brush undergrowth, 3 ft. high.
At point on right bank of Black Creek, 80 lks. S. 82° 37' E., from fence cor., which is the end of the fence forming N. bdy. of Tract. This bearing is identical with that of said fence; therefore, this point on creek bank is the intersection of the north bdy. of Tract with the creek bank, and the proper point for establishment of the NE. cor. of the Tract.
Set an iron post, 3 ft. long, 1 in. in diam., 20 ins. in the ground, for cor. No. 4 (NE. cor.) of Tract, marked on brass cap,



Thence, N. 82° 37' W., on true line, on N. bdy. of tract (Line 4-1) as defined by wire fence line projected to intersection with right bank of Black Creek.

Over level bottom sandy land.
00.80 Fence cor. from which fence extends S. 12° 15' E. and N. 82° 37' W.; thence along fence line, forming N. bdy. of Tract.
1.60 End of field fence, extending S.
25.45 Leave level bottom land, brs. N. and S.; ascend 25 ft., over E. slope of spur.
31.61 Intersect cor. No. 1 (NW. cor.) of Tract, the place of beginning, hereinbefore described.

Retracement of the Navajo Special Base Line, thru. parts of Rs. 5 and
6 W. of the Navajo Mer. situate in New Mexico and Arizona.

Chains.

The Navajo Special Base Line was surveyed by E.N. Darling, U.S.S. in 1869 and 1870 as S. bdy. of the Navajo Indian Reservation as established by Treaty of June 1, 1868, and no retracement or resurvey of said line is of record in the office of the U.S. Surveyor General at Phoenix, Arizona. The Astronomical Monument to which Tract No. 37 is tied as hereinbefore described, is recorded by Darling as being on the Navajo Special Base Line on the site of Old Fort Defiance. This monument was found by H. F. Robinson, U.S. Indian Service Irrigation Engineer in 1904 to have fallen into Bonita Creek, and he reset the original stone monument 38 lks. E. of its original position, and reported such resetting of the cor. to the U.S. Surveyor General for Arizona, by letter of July 27, 1904. In order to verify the records of the position of this monument, and the identity of the monument found at a point N. 54°30' W., 02.42 chs. dist. from Cor. No. 1 (NW. cor.) of Tract No. 37, retrace the Navajo Special Base Line, as described in the following notes.

The monument found and believed to be the original Astronomical Monument reset by H.F. Robinson in 1904 is a sandstone 30x13x13 ins., loosely set, marked "SB NIR" on N. face, "AM" on W. face, and "X" on top. Reset the stone in same place, 24 ins. in the ground, with markings unchanged.

From this monument,

The SW. cor. of Ft. Defiance Indian School Assembly Hall, brs. N. 3°42' W., 5.96 chs. dist.

A cross (x) and "BR" below cross on face of sandstone ledge on W. side of Bonita Creek, brs. S. 73°45' W., 124 lks. dist.

A statue of the Virgin Mary in a shrine, brs. S. 16°10' W., about 10 chs. dist.

Thence,

East, on a random line, on Navajo Special Base Line, on part of W. half of S. bdy. of sec. 36, T. 1 N., R. 6 W., Navajo Base and Meridian, New Mexico.

24.12 (Record dist.) Diligent search in this vicinity fails to reveal any trace of the original $\frac{1}{4}$ sec. cor. of sec. 36, T. 1 N., R. 6 W., Navajo Base & Meridian, New Mexico.
Set temp. $\frac{1}{4}$ sec. cor.

Thence,

East, on a random line, on E. $\frac{1}{2}$ of S. bdy. of sec. 36, T. 1 N., R. 6 W.

40.00 Diligent search in this vicinity fails to reveal any trace of the original cor. of Ts. 1 N., Rs. 5 and 6 W., Navajo Base and Meridian New Mexico, which was also the 30 mile monument of the S. bdy. of Navajo Indian Reservation by Treaty of June 1, 1868.

Set temp. cor. of Ts. 1 N., Rs. 5 and 6 W.

Thence,

East, on random line, S. of T. 1 N., R. 5 W., searching diligently at record intervals for the original $\frac{1}{4}$ sec. cors. and combined section and mile cors., and setting temp. cors. where no trace of said original cors. can be found. The New Mexico-Arizona State Boundary was surveyed by Chandler Robbins, U.S.S. in 1875, about five years subsequent to the Darling survey of the Navajo Base Line, and the Astronomical Monument is described in the field notes of said State Boundary as being 161.42 chs. W. from a point on State Boundary 32.02 chs. S. of the 86 mile monument thereof. The record distance on the Navajo Base Line from Astronomical Monument to State Boundary, allowing for the movement

Retracement of Navajo Special Base Line, thru. parts of Ranges 5 and 6 West of the Navajo Mer., situated in N.M. and Ariz. 7

Chains.	
	<p>of said monument 38 lks. E., as reported by H.F. Robinson in 1904, will be 161.42 chs. - 0.38 chs. = 161.04 chs., or 96.92 chs. E. from the temp. cor. of T. 1 N., R. 5 and 6 W.</p>
96.92	<p>(161.04 chs. E. of Astronomical Monument) Set stake to mark temporarily the theoretical intersection of the Navajo Base Line with the Arizona-New Mexico State Bdy.</p>
97.41	<p>(161.53 chs. E. of Astronomical Monument) Intersection of random line with State Bdy. at point 19.10 chs. S. 0° 20' E. from Astronomical Monument No. 3 thereon such point of intersection being determined by retracement of the 87th mile of said State Boundary, as hereinafter described.</p>
400.00	<p>Continue line and measurement thru. part of Range 5 West, searching diligently for the original cors. at record intervals. (464.12 chs. E. of Astronomical Monument), Diligent search in this vicinity fails to reveal any trace of the original 25 mile monument of old S. bdy. of Navajo Indian Reservation, identical with cor. of secs. 35 and 36, T. 1 N., R. 5 W., Navajo Meridian, New Mexico. Set temp. cor.</p>
	<p>Having retraced the Navajo Special Base Line for a reasonable distance East from the Astronomical Monument without finding any cors. thereon, discontinue such retracement at this point, and return to the Astronomical Monument.</p>
	<p style="text-align: center;">-----</p> <p>From the Astronomical Monument, West, on random line, on Navajo Special Base line, on part of W. half of S. bdy. of sec. 36, T. 1 N., R. 6 W., Navajo Base and Meridian, New Mexico.</p>
15.88	<p>(Record Dist) Diligent search in this vicinity fails to reveal any trace of the original 31 mile monument of old S. bdy. of Navajo Indian Reservation, identical with cor. of secs. 35 and 36, T. 1 N., R. 5 W., Set temp. cor. of secs. 35 and 36.</p>
	<p>Thence, West, on random line, on Navajo Base Line, searching diligently at record intervals for the original 1/4 sec. and combined mile and sec. cors., setting temp. cors. at such intervals, and find no trace of any old cor.; until, at</p>
195.52	<p>(211.40 chs. W. from Astronomical Monument, and 35.52 chs. W. from temp. cor. of secs. 33 and 34), Fall 80 lks. N. of original 33 mile monument, identical with original cor. of secs. 33 and 34, T. 1 N., R. 6 W., which is a sandstone, 12x10x3 ins., set in a mound of earth and stone, marked "33M" on E. face. The other marks on this stone are illegible. True bearing and length of line from this cor. to the Astronomical Monument are therefore N. 89° 47' E., 211.40 chs., which is 35.52 chs. excess in length over the record.</p>
	<p>From original 33 mile monument, and cor. of secs. 33 and 34, described above,</p>
39.95	<p>West, on random line, on Navajo Base Line, S. of sec. 33 (E. 1/2). Fall 53 lks. N. of the original 1/4 sec. cor. of sec. 33, T. 1 N., R. 6 W., which is a red sandstone, 14x12x3 ins., marked "S" on N. face, set in mound of earth and stone. No accessories. True bearing and length of E. 1/2 of S. bdy. of sec. 33 are therefore N. 89° 15' E., 39.95 chs.</p>
39.50	<p>Thence, West, on random line, on S. bdy. of sec. 33 (W. 1/2). Fall 39 lks. S. of the original 34 mile monument, identical with original cor. of secs. 32 and 33, T. 1 N., R. 6 W.,</p>

Chains.

which is a red sandstone, 12x6x3 ins., marked "34M" set
in a mound of earth and stone. No accessories.
True bearing and length of W. $\frac{1}{2}$ of S. bdy. of sec. 33, are
therefore S. 89° 26' E., 39.50 chs.
Discontinue retracement of the Navajo Special Base Line
at this point.

Retracement of part of Arizona-New Mexico State Bdy. (87th mile) 9

Chains.

The 86th mile monument is a limestone, 14x12x8 ins. projecting 2 ins. above ground, firmly set, marked "86" on N. face; "NM" on E. face, "32 WL" on S. face, and "ARIZ." on W. face. No accessories.

Thence, South, on a random line on 87th mile of the Arizona-New Mexico boundary.

16.17 A point 91 lks. E. of the Astronomical Monument No. 3, which is a sandstone, 16x12x8 ins., firmly set, marked "86.17 35°45' NL" on N. face, "NM" on E. face, "32° WL" on S. face, and "ARIZ." on W. face, and "AS1875" on top. True bearing and dist. from this mon. to the 86 mile mon. are therefore N. 3° 13' E., 16.19 chs.

Continue line and measurement.

35.33 A point 76 lks. E. of stake set on Navajo Special Base Line retraced East from Astronomical Monument at site of Old Fort Defiance, as hereinbefore described.

Continue line and measurement.

82.75 Fall 40 lks. E. of the 87 mile monument, which is a conglomerate sandstone 14x8x7 ins. set in mound of earth, marked "87M" on N. face, "NL" on E. face, "32WL" on S. face, and "ARIZ." on W. face.

True bearing and dist. from this Monument to Astronomical Mon. No. 3 are therefore N. 0° 26' W., 80.58 chs.

Thence,

N. 0° 26' W., on true line, on 87th mile of Arizona-New Mexico State Bdy.

Over rolling land, thru. scattering undergrowth.

47.42 Intersect the random Navajo Special Base Line at 97.41 chs. E. from temp. cor. of Ts. 1 N., Rs. 5 and 6 W. & 161.53 chs. E. from Astronomical Monument on site of Old Fort Defiance.

66.58 (19.16 chs., N. 0° 26' W. from point of intersection of random Navajo Base Line) Intersect Astronomical Monument No. 3 hereinbefore described.

Thence,

N. 3° 13' E., on true line, on 87th mile of State Bdy., measuring from Astronomical Monument No. 3,

Over rolling land, thru. scattering undergrowth.

16.19 (82.75 chs. northing from 87 mile mon.), Intersect the 86 mile monument, hereinbefore described.

Land, rolling.

Soil, sandy, 1st rate.

No timber.

Undergrowth, scattering sage brush.

Good grass.

Boundaries of Tract No.37, in approximately T.27N.R.31E.

Table of Latitudes, Departures and Closing Errors.

Line designated.	True course.	Dist.	Latitudes.		Departures.	
			N.	S.	E.	W.
West boundary, (Line 1-2)	S.3°15'E.	9.91	9.91	9.89	.56	
South boundary (Line 2-3)	S.73°45'E.	34.85		9.75	33.46	
East boundary, (Line 3-4)	N.9°37'W.	15.79	15.57			2.64
North boundary, (Line 4-1)	N.32°37'W.	31.61	4.06			31.35
Totals,			19.63	19.64 19.63	34.02 33.99	33.99
<u>Error in latitude.</u>			0.01			
<u>Error in departure.</u>					0.03	

Area of Tract No. 37 = 40.14 acres.

BOOK 3502

CERTIFICATE OF UNITED STATES CADASTRAL ENGINEER.

I, Sidney E. Blout, U. S. Cadastral Engineer hereby certify upon honor that, in pursuance of special instructions received from the U. S. Surveyor General, for Group 113, Arizona, bearing date of the 6th day of October, 1920, I have well, faithfully, and truly in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, ~~surveyed~~ retraced all those parts or portions of the Arizona-New Mexico State Boundary, and the Navajo Special Base Line; and surveyed all those parts or portions of Tract No. 37, for Protestant Episcopal Mission, situated approximately in Township 27 North, Range 31 East, of the Gila and Salt River Base & Meridian, in the State of Arizona, and by diagram on page 2 hereof the foregoing field notes as having been executed by me, and under my direction; and that all the corners of retracement, and said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General, for Group 113, Arizona, and in the specific manner described in the field notes, and that the foregoing are the original field notes of such retracement and survey.

Phoenix, Arizona,

Date October 21, 1921

Sidney E. Blout
 U. S. Cadastral Engineer.

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix Arizona October 21, 1921.

The foregoing field notes of the ~~survey of~~ retracement of part of the ARIZONA-NEW MEXICO STATE BDY., and part of the NAVAJO BASE LINE; and the Survey of TRACT NO. 37, for PROTESTANT EPISCOPAL MISSION, situated approximately in Township 27 North, Range 31 East, of the Gila and Salt River Base and Meridian, in the State of Arizona,

executed by Sidney E. Blout, U. S. Cadastral Engineer, under his special instructions dated Oct. 6, 1920, for Group 113, Arizona, ~~and~~ having been critically examined, and the necessary corrections and explanations made, the said field notes, and the ^{retracements and} surveys they describe, are hereby approved.

Francis P. Frost
 U. S. Surveyor General.

~~I certify that the foregoing transcript of the field notes of the above described surveys in~~
~~has been correctly copied from the original notes on file in this office.~~

~~U. S. Surveyor General.~~