3509

BOOK 3509

FIELD NOTES

OF THE RETRACEMENT AND SURVEY OF

Part of the Boundary of the Hualpai Indian Reservation,

AND OF THE SURVEY OF

Part of the West Boundary, and

Part of the Subdivision Lines of

TOWNSHIP 32 NORTH, RANGE 6 WEST.

Of the __Gila and Salt River Base and__ *Meridian,*

In the State of __Arizona__

EXECUTED BY

Dupree R. Averill, U. S. Surveyor,

and

James C. O'Brien, U. S. Transitman,

In the capacity of U. S. Surveyor s., under Special Instructions dated __February 24__ *,* 19__ *,*

issued by the United States Surveyor General to govern surveys included in Group

No. __105, Arizona__ *, which were approved by the Commissioner of the General Land*

Office, __March 8__ *, 1920 , and Assignment Instructions dated* __March 27__ *, 1920*

April 15, 1920 , and
June 23, 1921.

Retracement & *Survey commenced* __June 23, 1920, and July 2, 1921.__

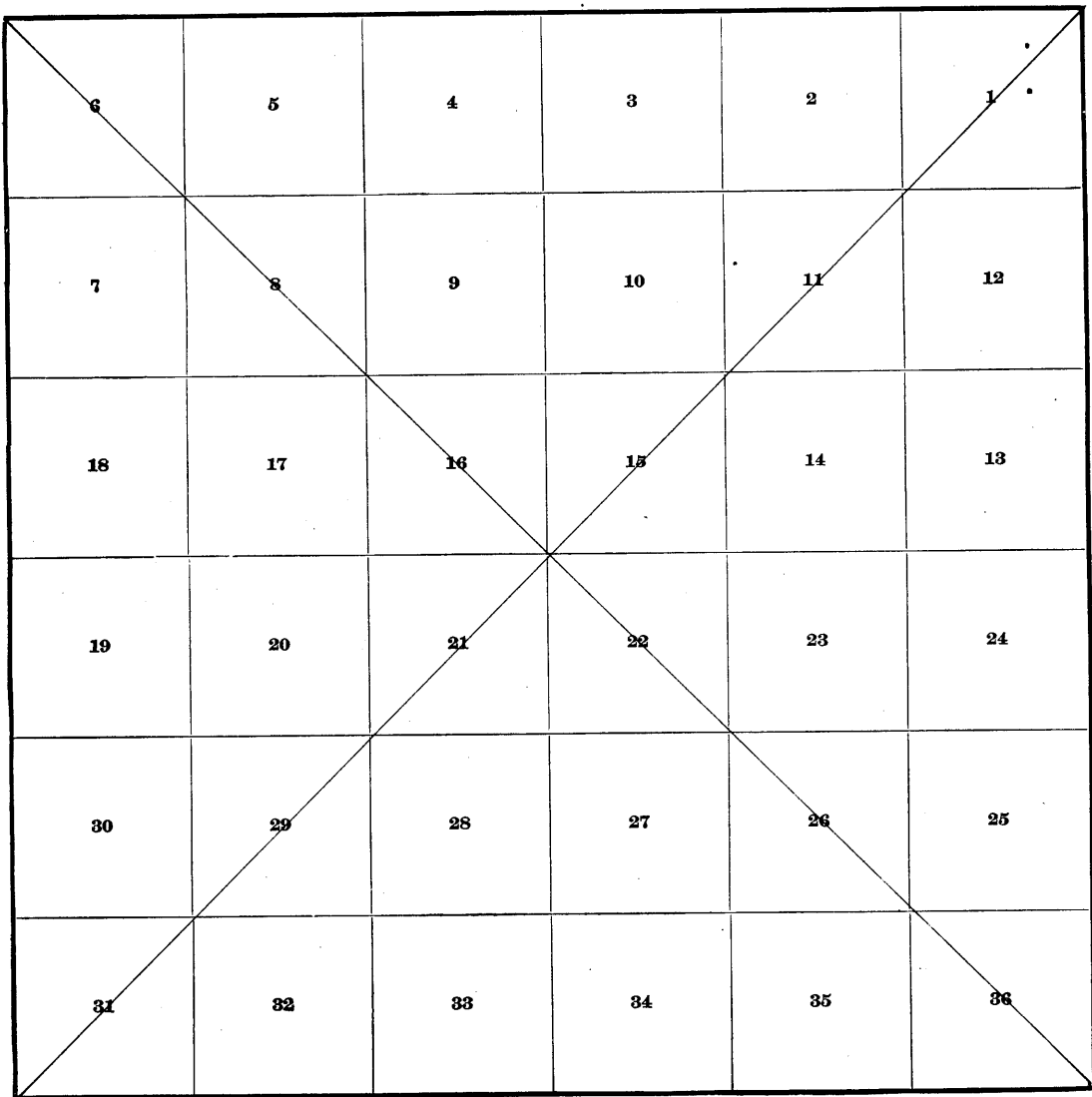Retracement & *Survey completed* __Aug. 26, 1920, and July 4, 1921.__
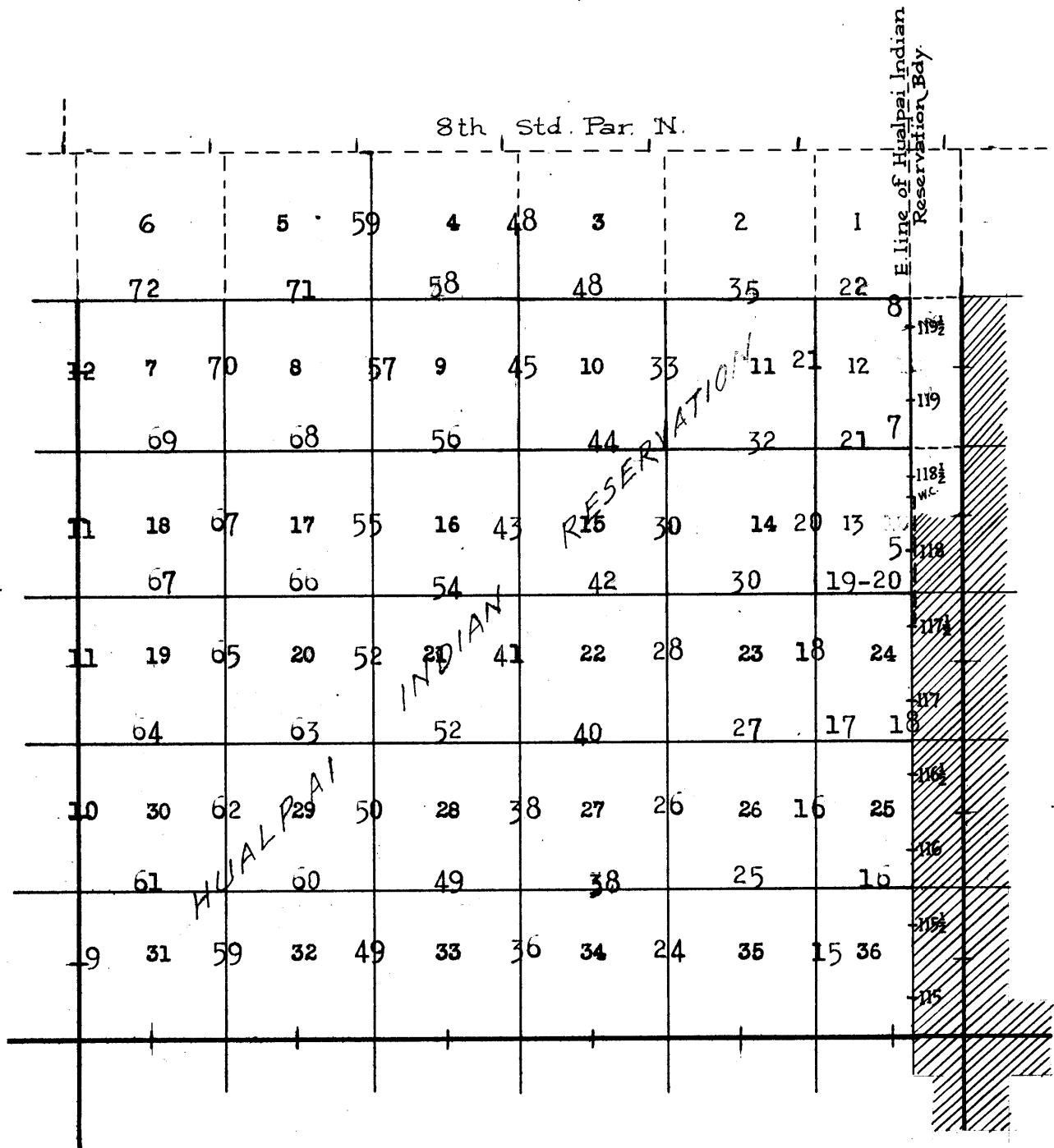
6—151

130

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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

3509   BOOK 3509

INDEX DIAGRAM

TOWNSHIP 32 NORTH, RANGE 6 WEST,

8th . Std . Par. N.

E line of Hualpai Indian Reservation Bdy.

RESERVATION

INDIAN

HUALPAI

| 6 | | 5 · 59 | 4 | 48 | 3 | | 2 | | 1 |
| 72 | | 71 | 58 | | 48 | | 35 | | 22 |

8

119½

| 12 | 7 | 70 | 8 | 57 | 9 | 45 | 10 | 33 | 11 21 | 12 |

119

| 69 | | 68 | | 56 | | 44 | | 32 | | 21 | 7 |

118½
wc.

| 11 | 18 | 67 | 17 | 55 | 16 | 43 | 15 | 30 | 14 20 | 13 |

5 118

| 67 | | 66 | | 54 | | 42 | | 30 | | 19-20 |

117¾

| 11 | 19 | 65 | 20 | 52 | 21 | 41 | 22 | 28 | 23 18 | 24 |

117

| 64 | | 63 | | 52 | | 40 | | 27 | | 17 18 |

116¾

| 10 | 30 | 62 | 29 | 50 | 28 | 38 | 27 | 26 | 26 16 | 25 |

116

| 61 | | 60 | | 49 | | 38 | | 25 | | 16 |

115¾

| 9 | 31 | 59 | 32 | 49 | 33 | 36 | 34 | 24 | 35 | 15 36 |

115

──────── **Lines surveyed under this Group.**

‒ ‒ ‒ ‒ ‒ Lines retraced under this group.

──────── **Accepted surveys.**   ‒ ‒ ‒ ‒ ‒ ‒ Unsurveyed

//////// **Areas surveyed as per accepted plats on file.**

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BOOK "G"

DATE DIAGRAM

TOWNSHIP 32 NORTH, RANGE 6 WEST,

6	5	4	3	2	1
8-26-20 **7** 8-26-20	7-14-20 **8** 7-12-20	7-19-20 **9**	7-2-21 **10** 7-16-20	7-2-21 **11** 7-4-21	7-3-21 **12** 119½ 119 7-3-21
8-26-20 **18** 8-25-20	7-17-20 **17**	7-17-20 **16** -10-20	7-20-20 **15**	**14**	118½ **13** W.C. 118
7-10-20 **19** 8-24-20	7-10-20 **20** 7-9-20	7-16-20 **21**	7-14-20 **22**	6-25-20 **23**	6-23-20 117½ **24**
7-8-20 **30**	**29** 7-8-20	7-13-20 **28** 7-12-20	7-13-20 **27** 6-22-20	6-24-20 **26**	6-23-20 **25**
7-8-20 **31**	7-12-20 **32**	6-22-20 7-21-20 **33**	7-14-20 **34**	6-24-20 **35**	6-23-20 **36**

Accepted survey — Indian Reservation boundary
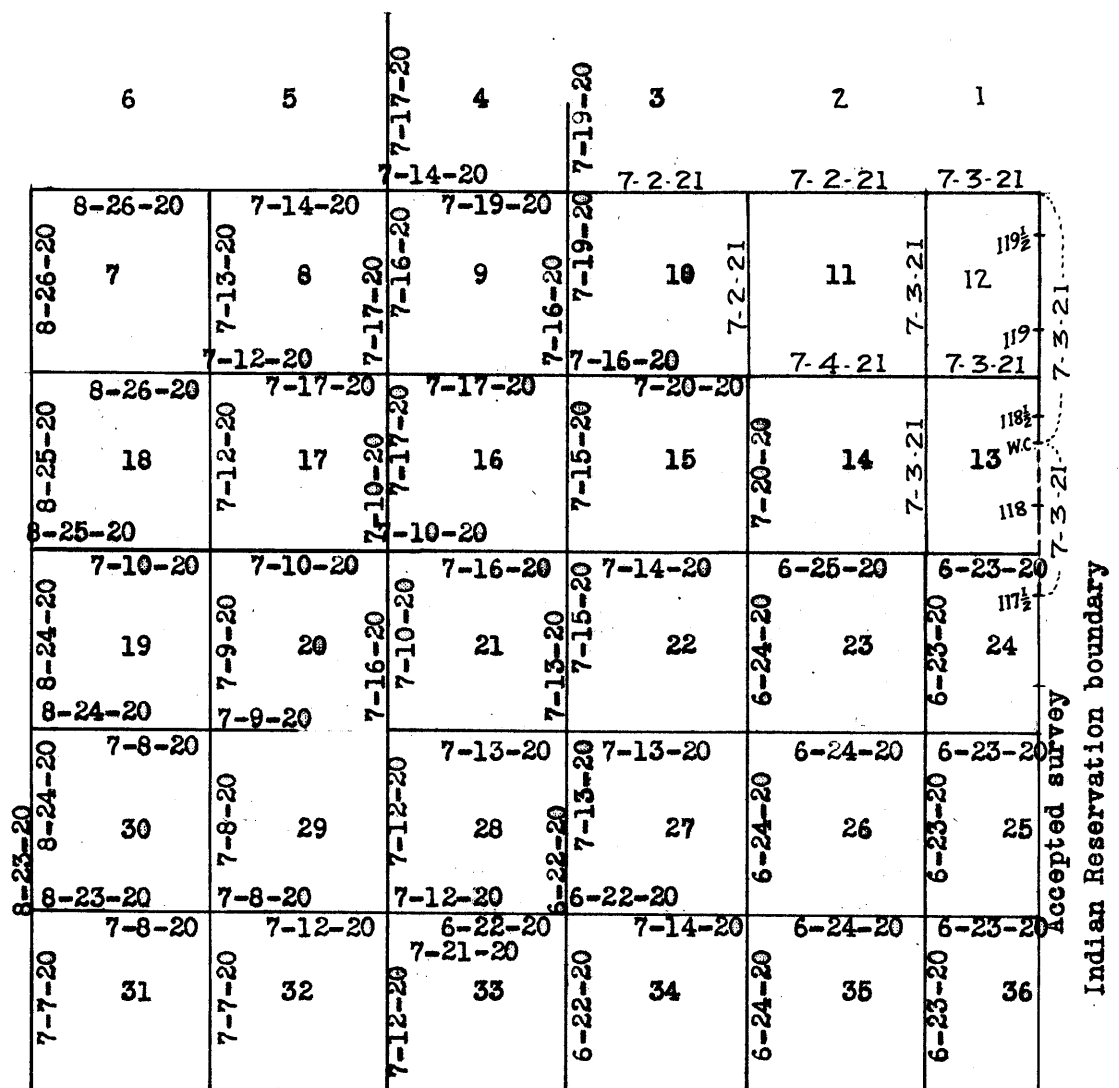
See Book "E" for dates of execution of survey of this line.

Dotted Red lines indicate retracements and
Solid Red lines on above diagram indicate surveys executed by Dupree
R. Averill, U. S. Surveyor, on dates shown thereon.

Blue lines on above diagram indicate surveys executed by James
C. O'Brien, U. S. Transitman, on dates shown thereon.

Retracement and survey hereinafter described, executed
on dates shown on diagram on page 2 hereof, by Dupree
R.Averill, U.S.Surveyor, and James O.O'Brien,U.S.Tran-
sitman, using respectively Buff solar transit No.9223,
and Young and Sons mountain transit No.8541. Each
instrument is equipped with full vertical circle,and
the Smith solar attachment; unless otherwise specified
all azimuth determinations are accomplished with the
solar attachments.

FIELD TEST OF INSTRUMENTS
Preliminary to 1920 work.

June 20, 1920: We examine the adjustment of each instru-
ment, and correct all errors; then, to test the solar
apparatus by comparing its indications from observa-
tions made during a.m. and p.m. hours with a meridian
established by Polaris observation, proceed with each
instrument as follows:
In camp in SE.¼ of sec.14, T.31 N., R.7 W., Gila and Salt
River Base and Meridian, Arizona,in latitude 36°04½'
N., and longitude, 113°00'W. at 7h.37.9m.a.m.,l.m.t.,
observe Polaris at upper culmination, making four ob-
servations, two each with the telescope in direct and
reversed positions, and mark the mean point in the
line thus determined on a peg driven firmly in the
ground 5 chs.N.
At 8h.00m.a.m.,l.m.t., set off 36° 04½'N.on the lat.arc;
23°27'N. on the decl.arc, and determine a meridian
with the solar, which agrees with the true meridian.
At app.noon,with the lat.arc unchanged, observe the sun
on the meridian; the resulting reading of the decl.
arc is 23° 27'N., which agrees with the computed
declination of the sun.
At 4h.00m.p.m.,l.m.t., with the lat.arc unchanged, set
off 23°27½'N. on the decl.arc, and determine a meri-
dian with the solar,which agrees with the true meri-
dian.
As all of the solar observations made with both instru-
ments,during the usual hours of solar work come within
1'30" of the true meridian, We conclude that the
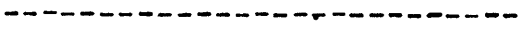adjustments of the instruments are satisfactory.

FIELD TEST OF YOUNG AND SONS TRANSIT NO. 8541.
Preliminary to work in 1921 by Dupree R. Averill,U.S.S.

July 1, 1921. I examine the adjustment of the instrument,
and correct all errors; then, to test the solar appa-
ratus by comparing its indications from observations
made during a.m. and p.m. hours with a meridian es-
tablished by Polaris Observation, proceed as follows:
In camp near the center of sec.15, T.32 N.,R.o W.,Gila
and Salt River Base and Meridian, Arizona,in latitude
36°10'N., longitude,112°55'W., at oh.56.3m. a.m.,l.m.
t., I observe Polaris at upper culmination making four
observations, two each with the telescope in direct
and reversed positions, and mark the mean point in
the line thus determined,on a peg driven firmly in
the ground 5 chs. N.
At 8h.00m.a.m.,l.m.t., I set off 30°10'N.on the lat.arc;
23°08'N. on the decl.arc, and determine a meridian
with the solar, which I find to agree with the true
meridian.
At app.noon, with the lat.arc unchanged, I observe the

sun on the meridian; the resulting reading of the
decl.arc is 23° 07' N., which agrees with the computed
declination of the sun.
At 4h.00m.,p.m.,l.m.t., with the lat.arc unchanged,I set
off 23°07'N. on the decl. arc, and determine a meridian
with the solar, which I find to agree with the true
meridian.
As all of the solar observations during the usual hours
of solar work come within 1'30"of the true meridian,I
conclude that the adjustments of the instrument are
satisfactory.

Unless otherwise specified all measurements are made
with a Lufkin steel tapes, 5 chains in length, com-
pared with a Chesterman standard steel tape and found
correct.
The measurements are made on the slope, the vertical
angle determined, and the slope measurements properly
reduced to true horizontal distances.

| Chains.	
	The portion of the boundary of the Hualpai Indian Reser- vation retraced as hereinafter described, was surveyed by Albert T. Colton, U.S.D.S., in 1900, and no retrace- ment or resurvey of such portion of the line is of record.
	— — — — — — — — — — — — — — — — —
	The 117½ mile monument is a limestone 10x0x0 ins. above ground, firmly set, marked HIR 117½ M on W. face, and PL on E. face, and witnessed by a mound of stone N. of mon. and two bearing trees as follows:
	A cedar, 14 ins. in diam., S.77½°W., 75 lks. dist.,
	A cedar, 6 ins. in diam., N.50°W., 73 lks. dist.
	Each of the bearing trees marked HIR 117½ BT.
	Thence,
	North, on a random line, on N.½ of 118th mile.
	Over rolling and broken land, thru. scattering timber and undergrowth, descending gradually over E. slope, on W. side of gulch, course N.
17.20	Intersect the closing cor. of those portions of secs. 13 and 24, situated outside the Reservation, which was established by William H. Thorn, U.S.S. in 1917.
	This cor. is an iron post, 2 ins. in diam., firmly set in a mound of stone, properly marked on brass cap, and witnessed by a mound of stone E. of cor. No bearing trees.
	Continue line and measurement.
	Descend 75 ft., over E. slope, to
27.20	Gulch, course N.5°W.. Descend 02 ft., over W. slope, to
39.90	Intersect the 118 mile monument, which is a sandstone, 10x10x8 ins. above ground, firmly set, marked H I R 118 M on W. face and P L on E. face, and witnessed by a mound of stone, N. of mon. No bearing trees.
	This monument is in bottom of same gulch, 100 lks. wide, course E. from SW. At about 2 chs. E., the gulch, turns N.
	True course and dist. of N.½ of 118th mile are therefore North, 39.90 chs.
	Land, rolling and broken.
	Soil, rocky and gravelly, 3rd rate.
	Timber, scattering cedar.
	Undergrowth, scattering sage brush.
	Poor grass.
	— — — — — — — — — — — — — — — — — — — —
	From 118 mile monument,
	North, on random line, on part of the S.½ of 119th mile,
	Over mountainous land, thru. scattering undergrowth, along the sides of the gulch noted in the N.½ of the 118th mile.
	Descend 135 ft., over E. slope, to
5.00	Same gulch, course N.15°W., Descend 125 ft., over NW. slope, to
27.90	Intersect the witness cor. to the 118½ mile point, which is a sandstone boulder, 5x4x4 ft. above ground, marked with a cross (x) on N. face, H I R Cor. o WC on W. face, and PL on E. face, and witnessed by a mound of stone, S. of cor. No bearing trees.
	The true course and dist. of the Reservation bdy. from 118 mile mon. to this W.C. are therefore North, 27.90 chs.
	This witness cor. is at the top of high steep cliffs, bear- ing NE. and SW., facing NW. rendering continuation of chaining on the line impracticable. The original sur- vey of the Reservation boundary described this point as the terminus of the line; however, it becomes necessary in the proper execution of the survey of the subdivision lines of that portion of T.32 N., R.o W.

6.

Chains.

situated inside the Hualpai Indian Reservation, to extend the survey of the Reservation bdy.farther north, which extension survey is hereinafter described.
Land,broken and mountainous.
Soil, rocky, 4th rate.
Timber, none.
Undergrowth, scattering sage brush and cactus.
No grass.

Chains.	
	The following notes describe the extension of the survey of the East bdy. of the Hualpai Indian Reservation, in order to properly close the survey of those portions of secs.12 and 13, T32 N., R.6 W., situated inside the Reservation.

———————————

From the witness cor. to the 118½ mile monument,herein-
 before described, which is 27.90 chs.N.of the 118th
 mile mon.,
North, on true line, completing survey of the 119th mile.
Over mountainous land, thru. scattering undergrowth.
Descend over high cliffs, facing NW. Chaining being im-
 practicable, triangulate as described, as follows,and
 as shown on the diagram hereon:
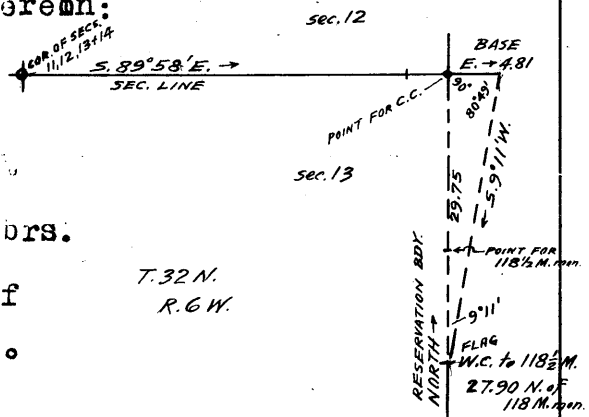
Leave flag at witness cor.
From a point N.of flag and
 S.89°58'N.of cor.of secs.
 11,12,13 and 14,measure a
 Base East 4.81 chs.
From East end of Base, flag brs.
 S.9°11'W.
Vertical angle from W. end of
 base to flag = + 35½°.
Included angles are 80°49',9°
 11' and 90°00', the sum of
 which is 180°00'.
Triangulated dist. on Reservation bdy. is obtained by
Tang. 80°49' x Base or 6.18559 x 4.81 = 29.75 chs.

12.10	118½ mile point is inaccessible.
29.75	Triangulation point, also point for closing cor.of secs. 12 and 13.
	This point is 1400 ft. below witness cor. to 118½ mile mon.
	Continue line and measurement by chaining.
	Ascend 106 ft.,over west slope.
42.15	Spur,slopes NW. Descend 155 ft.,over N.slope.
45.25	Gulch, course NW. Ascend 195 ft., over SW.slope,to
52.10	(80.00 chs.N. from 118 mile mon.), Set an iron post, 3 ft.long, 2 ins. in diam., on cross (x) on surface rock, and raise a mound of stone, 4½ ft. base. 30 ins. high around post,for 119 mile mon,, with brass cap, marked

HIR
119M | P L

1921

Land, broken and mountainous.
Soil,rocky,4th rate.
Timber, none.
Undergrowth, scattering sage brush and cactus.
No grass.

————————————————————————————————————

	From 119th mile monument,
	North, on true line,on part of120th mile.
	Over mountainous land, thru. scattering undergrowth.
	Ascend 41 ft.,over SW. slope.
2.00	Spur,slopes NW. Descend 490 ft., over N.slope,to
36.00	Gulch, course SW. Ascend 120 ft., over S.slope,to
40.00	Set an iron post, 3 ft.long, 1 in.in diam., 6 ins. in the ground over cross (x) marked on bed rock, and raise a mound of stone, 3½ ft. base, 26 ins.high,for 119½ mile monument, with brass cap, marked

Survey of part of the
Boundary of the Hualpai Indian Reservation.

Chains.	

HIR
119½M | P L

1921

	Ascend 106 ft. over SE.slope,to
43.40	Spur,slopes SW. Desc.176 ft. over NW.slope.
47.90	Gulch, course W. Ascend 260 ft.,over SW.slope,to
57.05	(80.00 chs.N. from closing cor. of secs. 12 and 13),Set

temp. closing cor. of secs.1 and 12, T.32 N.,R.6 W.
Discontiue the survey of the Reservation bdy. at this
point, as no other lines surveyed under this group in-
tersect the Reservation bdy. N.of this point.
Land, mountainous.
Soil,rocky, 4th rate.
Timber, none.
Undergrowth, scattering sage brush and cactus,
No grass.

- -

Chains.	
	From the cor. of Ts. 31 and 32 N., Rs. 6 and 7 W., described in Book "E,"
	North, on true line, bet. secs. 31 and 30.
	Over rolling land, thru. scattering timber and undergrowth.
	Descend 10 ft., over N. slope.
2.50	Draw, course W. Ascend 55 ft., over S. slope.
25.00	Descend 105 ft., over N. slope.
37.60	Draw, course NW. Ascend 20 ft., over SW. slope, to
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 8 ins. in the ground to bed rock, supported in a mound of stone, for ¼ sec. cor., marked on brass cap,

¼

S36 | S31

1920
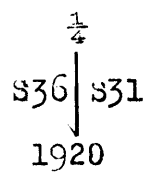
and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.

Continue over rolling land, thru. scattering timber and undergrowth.

Ascend 46 ft., over W. slope, to rim of canyon.

| 48.90 | Triangulation point. |
| 49.05 | E. rim of Mohawk Canyon, brs. NE. and SW. Leave rolling, and enter mountainous land. The line beyond this point passes over steep high cliffs on E. wall of Mohawk Canyon, and chaining is impracticable; therefore, triangulate as described as follows, and as shown on the diagram hereon: |
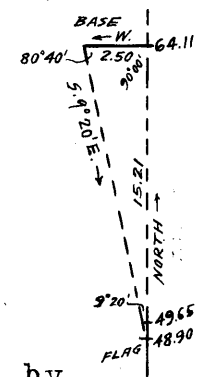
Set flag at 48.90 ch. station.

From point ahead on Tp. bdy., measure a Base west 2.50 chs. which is as long a base as it is practicable to chain.

From W. end of Base, flag brs. S. 9°20' E.

Included angles are 80°40', 90°00' and 9°20', the sum of which is 180° 00'.

Triangulated dist. on Tp. bdy. is obtained by Tang. 80°40' x Base or 6.08444 x 2.50 = 15.21 chs., which added to 48.90 chs. gives 64.11 chs. N. from Tp. cor. for the position of the triangulation point.

| 64.11 | Triangulation point. Continue steep descent over cliffs facing NW. Chaining is impracticable; therefore make another triangulation as described as follows, and as shown on the diagram hereon: |
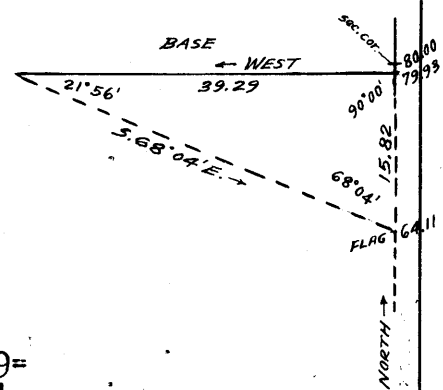
Set flag at 64.11 ch. station.

From point ahead on Tp. bdy., measure a Base, West 39.29 chs.

From W. end of Base, the flag at 64.11 ch. station, brs. S. 68°04' E.

Included angles are 21°56', 90° 00' and 68°04', the sum of which is 180°00'.

Triangulated dist. on Tp. bdy. is obtained by Tang. 21°56' x Base or .40207 x 39.29 = 15.82 chs., which added to 64.11 chs. gives 79.93 chs. N. from Tp. cor. for the position of the triangulation point.

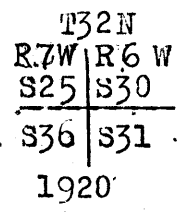| 79.93 | Triangulation point about 500 ft. below rim of canyon. |
	Continue line and measurement by chaining.
	Descend 15 ft., over NW. slope, to
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., on surface rock, deposit a stone marked with a cross (x) at base of post, and raise a mound of stone around post,

Chains.	
	for cor.of secs. 25, 30, 31 and 36, marked on brass cap,

<div align="center">

T32N

R.7W | R 6 W

S25 | S30

─────────

S36 | S31

1920

</div>

Land, S.49 chs., rolling; remainder, mountainous.
Soil, on rolling land, gravelly, 3rd rate; on mountainous
    land, rocky, 4th rate.
Timber, scattering cedar and pine.
Undergrowth, scattering sagebrush, dogwood and scrub
    cedar.
Fair grass, on rolling land.

North, on true line, bet. secs. 25 and 30.
Over mountainous land, thru. scattering timber and under-
    growth, along E. wall of Mohawk Canyon.
Descend 680 ft., over broken NW.slope.

31.50	Gulch, course NW. Ascend 25 ft.over SW. slope.
37.20	Descend 23 ft., over NW. slope, to
40.00	Set an iron post, 3 ft. long, 1 in. diam., on surface rock, in a mound of stone, for $\frac{1}{4}$ sec.cor., marked on brass cap,

<div align="center">

$\frac{1}{4}$

S25 | S30

|

1920

</div>

from which,
    A pine, 6 ins.in diam., brs.S.30$\frac{1}{4}$°E., 227 lks.
        dist., marked $\frac{1}{4}$ S 30 BT.
    A pine, 8 ins. in diam., brs.N.61$\frac{1}{4}$°W., 16 lks.
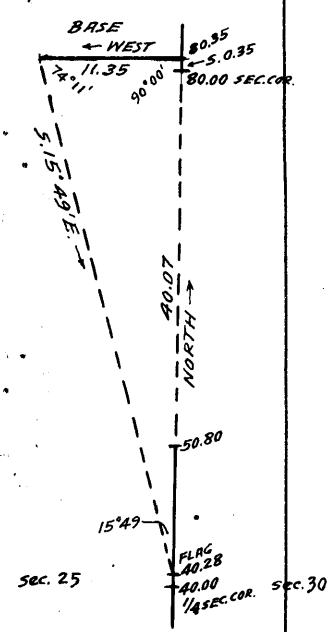   dist., marked $\frac{1}{4}$ S 25 BT.
Continue over mountainous land, thru. scattering timber
    and undergrowth, along E.wall of Mohawk Canyon.
Descend slightly over NW.slope, to top of cliff.

40.28	Triangulation point.
40.88	Top of cliff, brs.E.and NW.facing N.and NE.
	Descend 290 ft., over face of cliff to
50.80	Gulch, course NW. Ascend over steep broken SW.slope, across cliffs, which render continuation of chaining impracticable.

Triangulate as described as follows, and as shown on the
    diagram hereon:
Set flag at 40.28 ch. station.
From a point ahead on Tp.bdy.
    beyond and above top of cliffs,
    measure a Base West 11.35 chs.
From W.end of Base, flag brs.S.15°
    49'E.
Included angles are 74°11', 90°00'
    and 15° 49', the sum of which
    is 180°00'.
Triangulated dist. on Tp.bdy. is
    obtained by,
Tang. 74°11' x Base or 3.53001 x 11.35
    = 40.07 chs., which added to 40.28
    chs. gives 80.35 chs. N.from cor.
    of secs. 25,30,31 and 36 for the
    position of the triangulation
    point.
Thence,
South, 0.35 chs.to

Chains.	
80.00	Set an iron post, 3 ft.long, 2 ins. in diam.,over cross (x) marked on surface rock, and raise a mound of stone around post, for cor.of secs.19,24,25 and 30, marked on brass cap,

<pre>
                    T32N
               R7W R6W
               S24 | S19
               ─────────
               S25 | S30

                    1920
</pre>

Land,mountainous.
Soil,rocky, 4th rate.
Timber, scattering cedar and pine.
Undergrowth, scattering sage brush,dogwood and scrub cedar.
No grass.

North, on true line, bet. secs. 19 and 24.
Over mountainous land, thru. scattering timber and under-
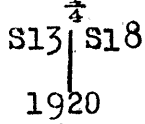   growth, along E. wall of Mohawk Canyon.
Descend 20 ft., over NW.slope.

9.20	Wash, course SW. Ascend 205 ft., over S.slope.
27.50	Spur, slopes W. Desc. 72 ft., over NW.slope.
32.40	Wash, course W. Ascend 63 ft.,over S.slope,to
40.00	Set an iron post, 3 ft.long, 1 in. in diam.,8 ins. in the ground, to bed rock, deposit a stone,marked with a cross (x) at base of post,and raise a mound of stone around post, for ¼ sec.cor., marked on brass cap,

<pre>
                   ¼
               S24 | S19

                  1920
</pre>

Descend 17 ft.,over N.slope.

43.00	Wash, course W. Ascend 45 ft.,over S.slppe.
46.90	Spur, slopes W. Descend 75 ft.,over N.slope.
57.30	Wash, course W. Ascend 95 ft.,over S.slope.
61.30	Spur, slopes W. Descend 125 ft., over N.slope.
69.40	Wash, course W. Ascend 30 ft., over S.slope.
74.78	Spur, slopes W. Descend 20 ft., over N.slope,to
80.00	Set an iron post, 3 ft.long, 2 ins. in diam.,over cross (x) marked on surface rock, and raise a mound of stone around post, for cor.of secs.13,18,19 and 24, marked on brass cap,

<pre>
                    T32N
               R7W | R6W
               S13 | S18
               ─────────
               S24 | S19

                    1920
</pre>

Land,mountainous.
Soil,rocky, 4th rate.
Timber, scattering cedar and pine.
Undergrowth, scattering sage brush and scrub cedar.
No grass.

North,on true line, bet. secs.13 and 18.
Over mountainous land, thru.scattering timber and under-
    growth, along E. wall of Mohawk Canyon.
Descend 46 ft.,over NW.slope,to

4.00	Wash, course NW. Descend 195 ft., over NW.slope,to
14.30	Gulch, course NW. Ascend 90 ft.,over SW.slope.
17.80	Point of spur,slopes W. Descend 150 ft.,over NW.slope.
25.67	Gulch, course NW. Ascend 158 ft.,over SW.slope,to
40.00	Set an iron post, 3 ft.long, 1 in. in diam.,over cross (x) on surface rock,and raise a mound of stone around

12   Part of West boundary of Township 32 North, Range 6 West.

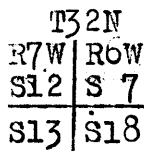| Chains.	
	post, for ¼ sec.cor., marked on brass cap,
	$\frac{1}{4}$
	S13│S18
	1920
	Continue over mountainous land, thru. scattering timber and undergrowth, along E.wall of Mohawk Canyon.
	Ascend 50 ft.,over SW.slope,to
49.80	Spur,slopes W. Descend 25 ft.,over N.slope to S. rim of gulch.
56.10	Triangulation point.
58.10	S. rim of gulch, brs.E.and W. The sides of this gulch are too steep and broken to permit of chaining; therefore, triangulate across the gulch, as described as follows, and as shown on the diagram hereon:
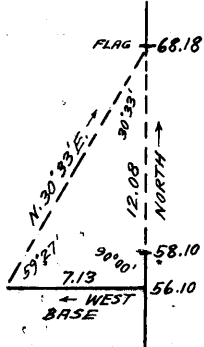
From 56.10 ch.station on Tp.bdy., measure a Base,West 7.13 chs. Set flag ahead on Tp.bdy.at N. rim of gulch.
From W.end of Base,flag brs.N. 30°33'E.
Included angles are 59°27',30° 33' and 90°00', the sum of which is 180°00'.
Triangulated dist. on Tp.bdy.is obtained by

Tang.59°27'x Base or 1.69428 x 7.13 = 12.08 chs.,which added to 56.10 chs. gives 68.18 chs. N.of the cor.of secs.13,18,19 and 24, for the position of the flag point at N. rim of gulch.

63.00	(Approximate) Bottom of gulch, course W. Ascend about 300 ft., over steep S.slope,to
68.18	Flag point of above described triangulation at N. rim of gulch, bearing E. and W.
	Descend 40 ft.,over NW.slope, to
80.00	Set an iron post 3 ft.long, 2 ins. in diam.,over cross (x) marked on surface rock, and raise a mound of stone around post, for cor.of secs.7,12, 13 and 18, marked on brass cap,

T32N
R7W│R0W
S12│S 7
S13│S18
1920

from which,
A pine, 24 ins. in diam.,brs.N.18½°E.,56 lks. dist., marked T32N R0W S7 BT.
A pine, 7 ins. in diam.,brs.N.83½°W.,38 lks. dist., marked T32N R7W S12 BT.

Land,mountainous.
Soil,rocky, 4th rate.
Timber, scattering cedar and pine.
Undergrowth, scattering sagebrush and scrub cedar.
No grass.

North, on true line, bet. secs.7 and 12.
Over mountainous land,thru.scattering timber and undergrowth, along E.wall of Mohawk Canyon.
Descend 70 ft., over NW.slope.

7.90	Wash, course W. Ascend 75 ft., over SW.slope,to
19.60	Descend 25 ft.,over NW.slope,to
31.97	Top of cliff, brs.E.and W.,facing N.
	Set an iron post, 3 ft.long, 1 in. in diam.,over cross (x) marked on surface rock, and raise a mound of stone around post for witness cor. to the ¼ sec.cor., marked on brass cap,

E0...

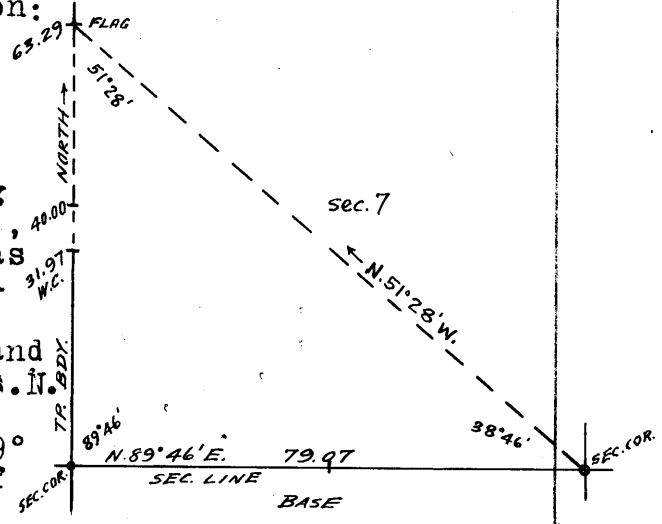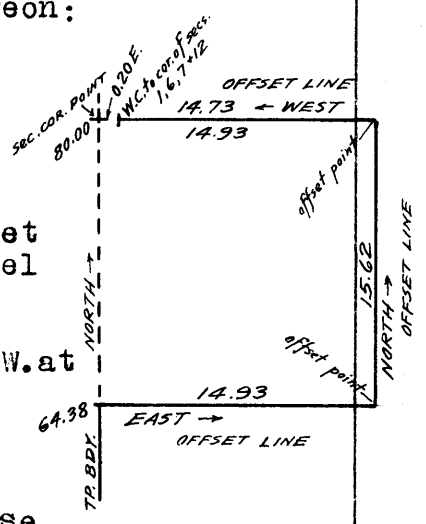| Chains.	
	W C $\frac{1}{4}$
	S12	S 7
	1920
	The line beyond this point passes over high, precipitous cliffs, rendering chaining impracticable; therefore, triangulate and offset, as described as follows, and as shown on the diagram hereon:
	Set flag ahead on Tp.bdy.at top of cliffs, facing SW.
	After survey of Subdivision line bet. secs. 7 and 18, T.32 N.,R.6 W.,determining the same to be N.89° 46'E., 79.07 chs.,use said line as a base for this triangulation.
	From the cor.of secs.7,8,17 and 18, the flag on Tp.bdy.brs.N. 51°28'W.
	Included angles are 38°46',89° 46' and 51°28', the sum of which is 180°00'.
	Triangulated dist.on Tp.bdy.from cor.of secs.7,12,13 and 18 to flag is obtained by $\frac{\text{sine } 38°46' \text{ x Base}}{\text{sine } 51°28'}$ or $\frac{.62615 \text{ x } 79.07}{.78225}$ = 63.29 chs.
40.00	Point for ¼ sec.cor. falls on N.face of cliffs, bearing E.and W., and is inaccessible.
45.00	(Approximate) Bottom of deep gulch, course W. Ascend over steep SW.slope, broken by a series of cliffs.
63.29	Flag point of above described triangulation at top of cliffs, brs.NW. and SE., facing SW.
	Continue line and measurement, by chaining.
	Ascend 15 ft., over SW. slope,to
64.38	Top of cliffs, bearing NE. and SW., facing NW. The Tp.bdy. beyond this point passes over a deep gulch, the sides of which are broken by precipitous cliffs, and chaining is impracticable; therefore, complete the measurement of this mile by an offset line, as described as follows,and as shown on the diagram hereon:
	From 64.38 ch.station on Tp.bdy.,
	East, 14.93 chs.on offset line into sec.7,ascending 35 ft.along S.slope of spur,to offset point. Thence,
	North,15.62 chs.on offset line in sec.7 parallel to Tp.bdy. Asc.20 ft.,over S.slope to top of spur,sloping W.at 4.90 chs.N.of offset point. Descend 60 ft.,over N. slope from top of spur to bottom of gulch,course W.at 9.40 chs.N.of offset point. Ascend 55 ft.,over W.slope,from bottom of gulch, to offset point. Thence
	West,14.73 chs. on offset line, 80 chs.N.of E.and W.line thru.cor.of secs.7,12,13 and 18 on W bdy. of Tp.
	Descend 120 ft. over W.slope,to top of cliffs,bearing N.and SE.,facing W. and SW. at 14.73 chs.W.from offset point,and

14   Part of West boundary of Township 32 North, Range 6 West.

Chains.	
	0.20 chs. E. from true point for cor. of secs. 1,6,7 and 12, Impracticable to continue offset line.
80.00	The true point for cor. of secs. 1,6,7 and 12, falls on the face of cliffs, and is inaccessible; therefore, at the above described terminus of the offset line, which is 0.20 chs. E. of said sec. cor. point.
	Set an iron post 3 ft. long, 2 ins. in diam., over cross (x) marked on surface rock, and raise a mound of stone, around post, for witness cor. to cor. of secs. 1,6,7 and 12, marked on brass cap,

```
                    T32N
              R7W | R6W
        WC    S 1 | S 6
             .S12 | S 7
                  1920
```

Land, mountainous.
Soil, rocky, 4th rate.
Timber, scattering, cedar.
Undergrowth, scattering sage brush and scrub cedar.
No grass.

- -

Chains.	
	From the cor.of secs.1,2, 35 and 36,on S.bdy.of Tp., described in Book "E,"
	N.0°01'W., bet. secs.35 and 36.
	Over gently rolling land, thru. scattering timber and undergrowth. Descend very gradually over N.slope,to
10.50	Leave rolling land and timber, brs.E.and W. Thence over level land.
40.00	Set an iron post, 3 ft.long, 1. in. in diam., 20 ins. in the ground, for ¼ sec.cor.,marked on brass cap,

$$\overset{\frac{1}{4}}{\underset{1920}{\text{S35}|\text{S36}}}$$
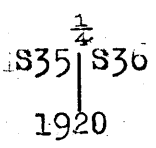
from which,

A cedar,10 ins. in diam.,brs.S.12°E.,34 lks.
dist.,marked ¼ S 36 BT.
A cedar, 14 ins. in diam.,brs.N.48°W.,692 lks.
dist., marked ¼ S 35 BT.

	Continue over level land, thru. very scattering timber and undergrowth.
78.00	Small grove of pine and cedar trees, brs.W.2 chs.dist.
80.00	Set an iron post, 3 ft.long, 2 ins.in diam.,20 ins.in the ground, and raise a mound of earth around post, for cor.of secs. 25,26, 35 and 36, marked on brass cap,

$$\begin{array}{c|c}
\text{T32N} & \text{R6 W} \\
\text{S26} & \text{S25} \\
\hline
\text{S35} & \text{S36} \\
\end{array}$$
1920
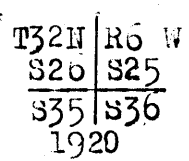
from which,
A cedar,12 ins. in diam., brs. N.44°E.,443 lks.
dist.,marked T 32 N R6 W S25 BT.
A cedar,6 ins.in diam., brs.S.2°E., 387 lks.
dist.,marked T32N R6W S36 BT.
A cedar, 10 ins. in diam.,brs.S.74°W.,489 lks.
dist.,marked T32N R6W S35 BT.
and dig a pit,18x18x12 ins., NW.of cor.3 ft.dist.
Land,gently rolling and level.
Soil,gravelly loam, 2nd and 3rd rate.
Timber, pine and cedar.
Undergrowth, scattering sage brush.
Fair grass.

The subdivision lines of that portion of the S.½ of T.
32 N.,R.6 W.,situated outside the Hualpai Indian
Reservation, were surveyed in March and April, 1917,
by William H.Thorn. U.S.S., who surveyed the lines
W. from the sec.cors.on the E. boundary of the Tp.,
and established closing cors. at the points of in-
tersection on the boundary of the Reservation.
The following notes describe the survey of the comple-
tion of such lines,beginning at the closing cor.on
the H.I.R. boundary.

The closing cor. of that portion of the N.½ of secs.25 &
36,situated outside the H.I.R.is an iron post,2 ins.in dia.
firmly set in ground, and in mound of stone,properly
marked on brass cap, and witnessed by two properly
marked bearing trees,
A cedar, N.68°E.,312 lks.dist., and a
A cedar, S.31½°E.,153 lks. dist.
This closing cor. is of record as being established on
the H.I.R.boundary at 34.48 chs. W.from cor.of secs.
25,30, 31 and 36,on the E. bdy.of the Tp.
Change the marking on the brass cap, to read:

16   Part of Subdivision lines of T.32 N., R. 6 W.

Chains.	
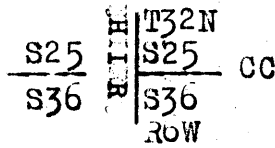
$$\frac{S25}{S36} \Bigg| \frac{\text{T32N} \; S25}{\text{S36}} \; CC$$

R6W

1917

This closing cor. now refers to areas on both sides of
   the Reservation Bdy.
Thence,
West, on a random line, between those portions of secs.
   25 and 36, situated inside the Hualpai Indian Reserva-
   tion.

5.52	(40.00 chs. W.from sec.cor.on E.bdy.of Tp.) Set temp.¼ sec.cor.
45.48	(79.96 chs.W.from sec.cor. on E. bdy.of Tp.) Fall 7 lks. S.of the cor. of secs.25,26, 35 and 36.

True course and length of sec.line back to point for ¼
   sec.cor. are therefore, S.89°54' E., 39.98 chs.
From cor. of secs.25,26,35 and 36,
S.89°54' E., on a true line, bet. secs.25 and 36 (W.½).
Over nearly level land, thru. very scattering timber and
   undergrowth.

12.40	Enter small grove of cedar trees.
16.00	Leave grove.
39.98	(Midpoint of line, bet. secs. 25 and 36, due W.of C.C.), Set an iron post, 3 ft.long, 1 in. in diam., 12 ins. in the ground to bed rock, supported in a mound of stone, for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4} \frac{\text{S 25}}{\text{S 36}}$$

1920
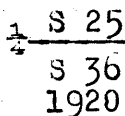
from which,
    A cedar, 12 ins. in diam., brs.N.33½°E.,169
      lks.dist., marked ¼ S 25 BT.
    A cedar, 10 ins. in diam.; brs.S.27°E.,308
      lks.dist., marked ¼ S 36 BT.
Thence,
East, on a true line bet. those parts of E ½ of secs.
   25 and 36, situated inside the H.I.R.
Over nearly level land, thru. very scattering timber and
   undergrowth.

5.50	Intersect the closing cor.of secs.25 and 36 on the bdy. of the Hualpai Indian Reservation, hereinbefore de- scribed.

Land, nearly level.
Soil,gravelly loam, 2nd rate.
Timber, very scattering cedar and pine.
Undergrowth,scattering sage brush.
Fair grass.

- -
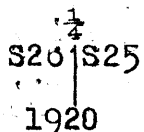
N.0° 01' W., bet. secs. 25 and 26.
Over nearly level land, thru. very scattering timber and
   undergrowth.
Descend very gradually over N.slope.

|	
30.00	South edge of wash, brs.NW. and SE. Thence across wash.
35.00	Center of wash, course NW.
40.00	N.edge of wash, brs.NW. and SE. Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground, for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4}$$

S26|S25

1920

from which,

Chains.	
	A cedar, 8 ins. in diam., brs.S.81½°E.,149 lks.
	dist., marked ¼ S 25 BT.
	A cedar, 18 ins. in diam., brs.N.11½°W.,324 lks.
	dist., marked ¼ S 26 BT.
	Leave wash, and nearly level land, and enter rolling land,
	continuing thru. scattering timber and undergrowth.
	Ascend 55 ft.,over SW.slope.
49.00	Top of ascent; descend 75 ft.,over NW.slope.
68.20	Wash, course NW. Ascend 90 ft., over NW.slope,to
80.00	Set an iron post, 3 ft.long, 2 ins. in diam., 7 ins.in
	the ground to bed rock, deposit stone marked with a
	cross (x) at base of post, and raise a mound of stone
	around post, for cor.of secs.23,24, 25 and 26, marked
	on brass cap,

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        T32N | R 6W
         S23 | S24
         ─────────
         S26 | S25
           1920
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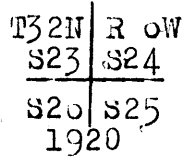
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from which,
        A cedar, 18 ins. in diam., brs.N.83°E.,589 lks.
            dist., marked T32N R6W S24 BT.
        A pine,8 ins.in diam.,brs.S.13°E.,259 lks.
            dist., marked T32N R6W S25 BT.
        A cedar, 10 ins. in diam., brs.N.34°W.,206 lks.
            dist., marked T32N R6W S23 BT.
Land,S.½ nearly level; N.½ rolling.
Soil,gravelly, 2nd and 3rd rate.
Timber, scattering cedar and pine.
Undergrowth, scattering sage brush.
Fair grass.
```

```
The closing cor. of those portions of secs.24 and 25,
    situated outside the Hualpai Indian Reservation is an
    iron post 2 ins. in diam., firmly set in ground and
    in mound of stone, properly marked on brass cap, and
    witnessed by one properly marked bearing tree, a cedar,
    S.33¾°E., 399 lks.dist., and a mound of stone E.of
    cor.
This closing cor. is of record as being established on
    the H.I.R. boundary 34.31 chs. W.from the cor. of
    secs. 19,24, 25 and 30,on the E. bdy.of the Tp.
Change the marking on the brass cap to read:
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            | T32N
       S24  | S24  CC
      ──────H────── 
       S25 R| S25
            | R6W
           1917
```
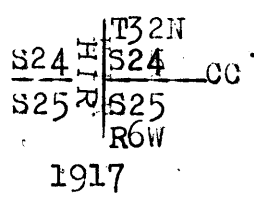
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This closing cor.now refers to areas on both sides of
    the Reservation Bdy.
Thence,
West, on random line,bet. those portions of secs.24 and
    25, situated inside the Hualpai Indian Reservation.
```

5.69	(40.00 chs.W.from sec.cor. on E. bdy.of Tp.) Set temp.
	¼ sec.cor.
45.05	(79.96 chs.W.from sec.cor.on E.bdy.of Tp.) Fall 9 lks.
	S.of the cor. of secs. 23,24,25 and 26.
	True course and length of sec.line back to the point
	for ¼ sec.cor. are therefore S. 89°52'E.,39.98 chs.
	From cor. of secs.23,24, 25 and 26,
	S.89°52'E., on a true line, bet. secs.24 and 25 (W.½).
	Over gently rolling land, thru. very scattering timber and
	undergrowth. Descend slightly over NE.slope,to
4.80	Head of wash,course NW. Thence along N.slope, with
	slight change in elevation.

Chains.	
16.00	Wash, course NE. Continue over E.slope.
21.00	Enter small grove of cedar trees.
23.50	Wash, course NW. Leave grove: Ascend gradually over NW. slope, to
39.98	(Midpoint of line, bet.secs.24 and 25, due west of C.C.), Set an iron post, 3 ft.long, 1 in. in diam., 26 ins.in the ground, for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4} \; \frac{\text{S } 24}{\text{S } 25}$$
$$1920$$

from which,
      A cedar, 10 ins. in diam., brs.S.58 lks.dist.,
          marked ¼ S 25 BT.
      A cedar, 16 ins. in diam., brs.N.80¼°W.,320
          lks.dist., marked ¼ S 24 BT.

Thence,
East,on a true line, bet. those parts of N.½ of secs.24
    and 25, situated inside the H.I.R.
Over gently rolling land, thru. scattering timber and
    undergrowth. Ascend slightly over NW.slope,to

5.67	Intersect the closing cor. of secs.24 and 25,on the bdy. of the Hualpai Indian Reservation, hereinbefore described.
	Land,gently rolling.
	Soil,gravelly, 2nd and 3rd rate.
	Timber, very scattering cedar.
	Undergrowth, scattering sage brush.
	Fair grass.

N.0°01'W.,bet. secs.23 and 24.
Over rolling land, thru. very scattering timber and under-
    growth.
Descend 50 ft.,over N.slope,to

7.90	Wash, course W.from SE. Ascend slightly over W.slope,to
17.30	Descend 120 ft., over NW.slope.
37.00	Wash, course NW. Thence over W.slope, with slight change in elevation.
40.00	Set an iron post, 3 ft.long, 1 in. in diam., 20 ins. in the ground, to bed rock, deposit stone marked with a cross (x) at base of post, and raise a mound of stone around post, for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4}$$
$$\text{S23} \mid \text{S24}$$
$$1920$$

Continue over rolling land, thru. very scattering timber
    and undergrowth. Desc. 20 ft.,over W.slope.

47.40	Small rocky wash,course W. Leave rolling and enter broken land. Asc.85 ft.,over broken S.slope,to
54.00	Top of cliff, 25 ft.high, brs.NE. and SW. facing SE.
55.50	Top of cliff, 25 ft. high, brs. NE. and SW.facing NW. Descend 100 ft.,over NW.and W.slopes,to
60.40	Base of cliff, 20 ft.high, brs.SE.and NW.facing SW.From top of cliff, descend 30 ft.along broken W.slope,to
80.00	Set an iron post, 3 ft.long, 2 ins. in diam., 6 ins, in the ground to bed rock, deposit stone marked with a cross (x)at base of post, and raise a mound of stone around post, for cor.of secs.13,14,23 and 24, marked on brass cap,

$$\text{T32N} \mid \text{R6 W}$$
$$\frac{\text{S14} \mid \text{S13}}{\text{S23} \mid \text{S24}}$$
$$1920$$

from which,

Chains.

A cedar, 12 ins. in diam., brs.N.18°E.,103 lks.
  dist., marked T32N R6W S13 BT.
A pine,14 ins.in diam.,brs.S.10½°E.,328 lks.
  dist. marked T32N R6W S24 BT.
A pine, 12 ins.in diam., brs.S.16°W.,360 lks.
  dist., marked T32N R6W S23 BT.
Land, rolling and broken.
Soil,rocky, 3rd and 4th rate.
Timber, very scattering cedar and pine.
Undergrowth, scattering sage brush.
Poor grass.

The closing cor.of those portions of secs.13 and 24, situ-
  ated outside the Hualpai Indian Reservation is an iron
  post, 2 ins.in diam., projecting 12 ins. above ground,
  firmly set, properly marked on brass cap, and witnessed
  by a mound of stone E.of cor.   No bearing trees.
This closing cor.is of record as being established on the
  H.I.R. bdy. at 34.15 chs.W. from cor.of secs.13,18,19
  and 24 on the E. bdy. of the Tp.
Change the marking on the brass cap to read:
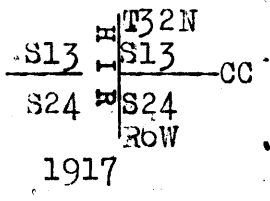
```
              T32N
   S13   ⌐ H S13 ─CC
              ⌐
   S24   ⌐ R S24
              R6W
        1917
```

This closing cor. now refers to areas on both sides of
  the Reservation bdy.
Thence,
West,on a random line, bet. those portions of secs.13 and
  24, situated inside the Hualpai Indian Reservation.

5.85 | (40.00 chs.from sec.cor.on E.bdy.of Tp.)Set temp.¼ sec.cor.
45.55 | (79.70 chs.W.from sec.cor.on E.bdy.of Tp.) Fall 5 lks.S.
of the cor. of secs. 13,14,23 and 24).
True course and length of sec.line back to point for ¼
  sec.cor. are therefore, S.89°56'E., 39.85 chs.
From cor.of secs.13,14,23 and 24,
S.89°56'E., on a true line, bet. secs.13 and 24 (W.½).
Over broken land, thru. very scattering timber and under-
  growth.
Ascend 40 ft.,over W.slope,to

2.20 | Top of cliff, 25 ft.high, brs.N.and S. facing W. Ascend
slightly to
3.50 | Top of ascent, brs.N.and S. Descend slightly over E.slope,
to
8.40 | W. edge of ravine, brs.N.and S. Descend 122 ft.,over bro-
ken E.slope,to
14.60 | Bottom of ravine,course N. Asc.155 ft.,over W.slope,to E.
edge of ravine.
20.40 | Cliff, 40 ft.high,brs.N.and S. facing W.
21.00 | E.edge of ravine,brs.N.and S. Leave broken and enter
gently rolling land,over N.slope,with slight change
in elevation.
39.85 | (Midpoint of line, bet. secs.13 and 24, due west of C.C.)
Set an iron post,3 ft.long,1 in.in diam.,14 ins.in the
  ground to bed rock, supported in a mound of stone, for
  ¼ sec.cor., marked on brass cap,

```
        S 13
   ¼  ──────
        S 24
        1920
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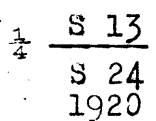
from which,
A cedar, 6 ins. in diam., brs.S.14½°W., 431 lks.
  dist. marked ¼ S 24 BT.
A cedar,12 ins.in diam., brs.N. 63°W.,367 lks.
  dist., marked ¼ S 13 BT.
Thence,

Chains.	20	Part of Subdivision lines of Township 32 North, Range 6 West.

East, on true line, bet. those parts of E.half of secs.
  13 and 24, situated inside the H.I.R.
Over genly rolling land, thru. very scattering timber and
  undergrowth, along N.slope, with slight change in ele-
  vation.

1.50 W. rim of gulch, brs.N.and S. Leave gently rolling and
  enter broken land. Descend 40 ft., over E.slope, to

5.70 Intersect the closing cor. of secs.13 and 24 on the bdy.
  of the Hualpai Indian Reservation, hereinbefore de-
  scribed.
Land, broken and rolling.
Soil,gravelly and rocky, 3rd and 4th rate.
Timber very scattering cedar.
Undergrowth, scattering sage brush.
Poor grass.

- -

N.0° 01' W., bet. secs.13 and 14.
Over broken land, thru. scattering undergrowth. Descend
  gradually along W. slope, to

10.00 Foot of W.slope, brs. NE. and SW.   Thence over nearly
  level bench to

17.06 E. rim of canyon, brs.E.and W.   At about 5 chs.W.of line,
  this rim turns to SW. into head of canyon, and at
  about 5 chs.E. turns to SE. as W.edge of ravine,course
  NW.
The sec.line beyond this point passes over steep N.slope,
  broken by cliffs on E.wall of canyon, and chaining is
  impracticable;   therefore, triangulate as described
  as follows, and as shown on the diagram hereon:
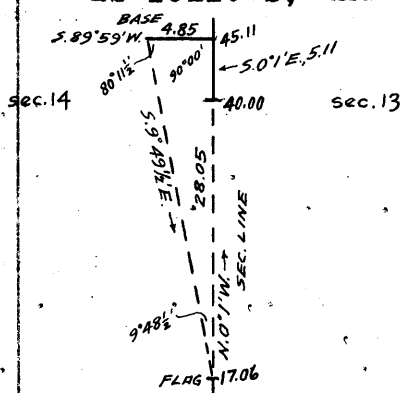
Set flag at 17.06 cht.station.
From a point ahead on sec.line
  on E.wall of canyon,measure
  a Base, S.89°59'W., 4.85 chs.
From W.end of Base,flag brs.S.
  9°49½'E.
Included angles are 80°11½',90°
  00' and 9°48½'E., the sum of
  which is 180°00'.
Triangulated dist. on sec.line
  is obtained by

Tang. 80°11½' x Base or 5.78437 x 4.85 = 28.05 chs.,which
  added to 17.06 chs.gives 45.11 chs. N.0°1'W. from cor.
  of secs.13,14,23 and 24, for the position of the
  triangulation point.

37.00 (Approximate) Bottom of ravine, course NW.   Ascend over
  steep W. slope on E. wall of canyon.
From triangulation point at 45.11 ch.station, chain meas-
  urement.
S.0°1'E., 5.11 chs. to

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 6 ins.in
  the ground to bed rock, deposit stone marked with a
  cross (x) at base of post, and raise a mound of stone
  around post, for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4}$$

S14 | S13

1921

Continue over broken and mountainous land,thru. scatter-
  ing undergrowth, along E. wall of canyon. Descend 210
  ft., over NW.slope, to wash.

45.11 Triangulation point.

58.00 Enter wash, 2 chs.wide,course N.from SW. in bottom of
  canyon.
Descend 05 ft. in bottom of wash, to

65.00 Leave wash,course NE. from S.   Thence over W.wall of

| Chains.	
	canyon. Ascend 20 ft.,over SE.slope.
72.30	Spur,slopes NE. Desc. 20 ft., over N.slope.
76.00	Gully course E. Ascend 40 ft. over SE. slope, to
80.00	Set an iron post, 3 ft.long, 2 ins. in diam., over cross

(x) marked on surface rock, and raise a mound of stone
around post for cor.of secs. 11,12, 13 and 14, marked
on brass cap,
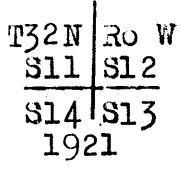
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        T32N │Ro W
        S11  │S12
        ─────┼─────
        S14  │S13
          1921
```

Land,broken and mountainous.
Soil,rocky, 4th rate.
Timber, none.
Undergrowth, scattering sage brush, catclaw, mesquite and
    Spanish bayonet.
No grass.

S.89°58'E., on a true line, bet. secs.12 and 13.
Over broken and mountainous land, thru. scattering under-
    growth.
Descend 70 ft., over NE.slope.

5.10	Wash, 2 chs.wide, course NE. in bottom of canyon. Ascend
	178 ft., over NW.slope.
25.10	Spur,slopes NW. Descend 145 ft.,over NE.slope.
31.40	Wash, 1 ch.wide, course NW. in bottom of canyon. Ascend
	90 ft., over W.slope,to
40.00	Set an iron post, 3 ft.long, 1 in. in diam., 8 ins. in

the ground to bed rock, deposit stone marked with
a cross (x) at base of post, and raise a mound of
stone around post, for ¼ sec.cor., marked on brass cap,

```
        ¼  S 12
        ───────
           S 13
          1921
```
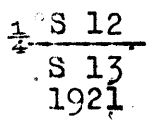
Continue over broken and mountainous land, thru.scatter-
    ing undergrowth.
Ascend 140 ft., over NW.slope,to

45.70	Intersect the bdy.of the Hualpai Indian Reservation, 22.35

chs.S. of the 119 mile monument,hereinbefore described.
At point of intersection which falls on surface rock,
    mark a cross (x), and over same set an iron post 3 ft.
    long, 2 ins. in diam., supported in a mound of stone,
   for closing cor. of secs. 12 and 13, marked on brass
    cap,
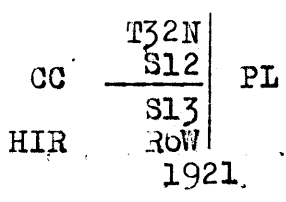
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              T32N│
        CC  ──S12──  PL
              S13 │
        HIR   RoW │
              1921
```

Land,broken and mountainous.
Soil,rocky, 4th rate.
Timber, none.
Undergrowth, scattering sage brush, catclaw,cacti,Spanish
    bayonet, mesquite and broomweed.
No grass.

N.0°01'W., bet. secs.11 and 12.
Over broken and mountainous land, thru.scattering under-
    growth, along W.wall of canyon.
Ascend 15 ft.,over SE.slope.

2.40	Point of spur,slopes E. Descend 100 ft.,over NE.slope.

152

22 Part of Subdivision lines of Township 32 North, Range 6 West.
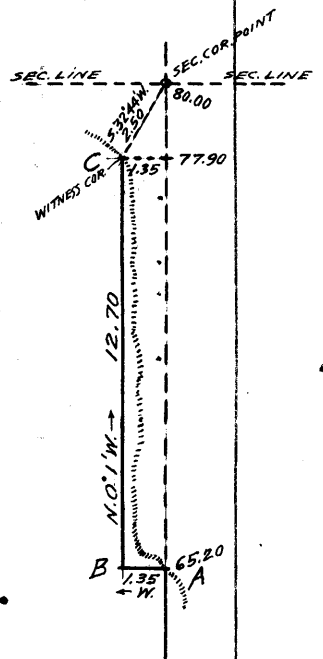
| Chains.	
7.00	Gulch, course E.. Ascend 123 ft., over SE.slope, to
28.56	Point of spur, slopes NE. Descend 100 ft., over NE.slope.
40.00	Set an iron post, 3 ft.long, 1 in. in diam., 8 ins. in the ground to bed rock, deposit marked stone, marked with a cross (x) at base of post, and raise a mound of stone around post, for ¼ sec.cor., marked on brass cap,

<div align="center">

¼

S11 | S12

1921

</div>
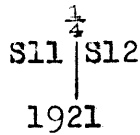
Continue over broken and mountainous land, thru.scattering undergrowth, along W.wall of canyon.
Descend 162 ft., over NE.slope, to

65.20	Head of gulch, course NE. The sec.line beyond this point passes over cliffs near W. rim of canyon, bearing N. and S., and chaining is impracticable; therefore, avoid the face of these cliffs,and obtain the measurement of this portion of the line by means of offset, as described as follows, and as shown on the diagram hereon:

From 65.20 ch. station on section line
 indicated on diagram at "A."
West,1.35 chs.on offset line into
            sec.11 to offset point
            "B."
            Thence,
N.0°1'W.,12.70 chs.on offset line in
            sec.11,parallel to sec.
            line. Ascending 113 ft.
            over SE.slope to point
            "C" which is at bend in
            rim of canyon from S.to W.
            Owing to cliffs N.and E.of
            point "C,it is impracticable
            to chain measurement to any
            closer proximity to the point
            for cor.of secs.1,2,11 and 12.
            Said sec.cor.point being inac-
            cessible, establish witness cor.
            thereto at point "C," as
            follows:
Set an iron post, 3 ft.long, 2 ins.in diam., over cross
            (x) marked on surface rock, and raise a mound of stone
            around post, for witness cor. to cor.of secs.1,2,11
   and 12, marked on brass cap,

<div align="center">

	WC.
T32N	R6W
S 2	S 1
S11	S12

1921

</div>
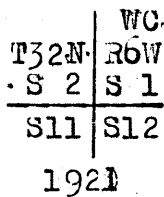
77.90	Inaccessible point on face of cliffs, 1.35 chs.E. of wit- ness cor. to cor.of secs.1,2,11 and 12,described above.
80.00	True point for sec.cor. falls on face of cliffs,and is inaccessible. Witness cor.described above brs.S.32° 44'W., 2.50 chs. dist.

Land,broken and mountainous.
Soil,rocky, 4th rate.
Timber, none.
Undergrowth, scattering sage brush,Spanish bayonet,mes-
    quite,catclaw and cactus.
No grass.

From true point for cor.of secs.1,2,11 and 12,
S.89°58'E., on true line, bet. secs.11 and 12.

Chains.

Over very broken and mountainous land, thru. scattering
undergrowth. The line for nearly its entire length
passes over cliffs and gulches on wallsof a canyon,
rendering chaining of measurement impracticable; there-
fore, obtain measurement by traverse and triangulation
as described as follows, and as shown on the diagrams
hereon:
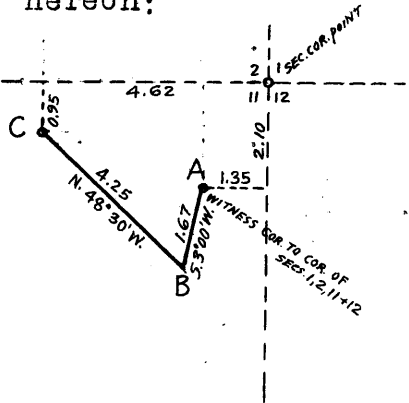
To secure a suitable point from
which to triangulate, begin
at the witness cor. to cor.
of secs.1,2,11 and 12, indi-
cated on diagram at "A."
Thence,
S.3°00'W.,1.67 chs. on traverse
in sec.11 to point "B."
Thence,
N.48°30'W., 4.25 chs. to point
"C," which is plainly vis-
ible from the temp. closing
cor.of secs.1 and 12 on the bdy.of the Hualpai Indian
Reservation, and also, from the S.end of a base meas-
ured on the Reservation bdy. as hereinafter described.
The computed westing of the traverse"ABC" = 3.27 chs.
The computed northing of same   = 1.15 chs.
The westing and northing of a tie from point "A" to sec.
cor. point is 1.35 chs., and 2.10 chs. respectively;
therefore, the westing and northing of a tie from
point "C" to sec.cor.point is 4.62 chs., and 0.95 chs.
respectively,
Point "C" is therefore 0.95 chs.S. from a point on sec.
line extended thru. point for cor.of secs.1,2,11 and
12, at 4.62 chs. N. 89° 58'W. from said sec.cor.point.
Triangulate measurement from traverse point "C," to a
point S.89° 58'E.,therefrom, on the bdy.of the Hualpai
Indian Reservation, as follows:
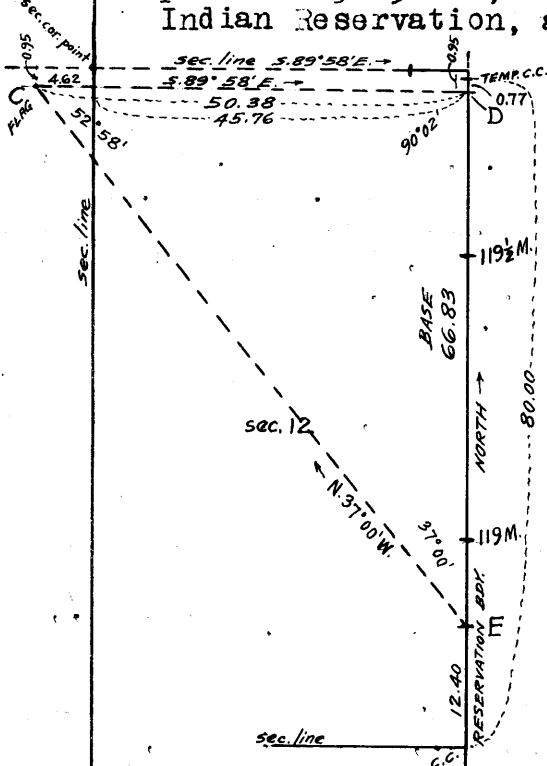
Leave flag at traverse point "C."
At point "D,"on H.I.R.bdy.,bear-
ing S.89°58'E.from "C" is
0.77 chs.S.from the temp.
closing cor. of secs.1 and 12,
previously set at 80.00 chs.
N.from closing cor.of secs.
12 and 13, as hereinbefore
described, and is therefore
79.23 chs. N.from the latter.
From point"E" on H.I.R.bdy.on
top of spur,12.40 chs.N.from
closing cor.of secs.12 and 13,
the flag at traverse point"C"
brs.N.37°00'W.
The length of the Base "DE" is
79.23 chs. - 12.40 chs.=66.83
chs.
Included angles of the triangle
"CDE" are 52°58',90°02' and
37°00', the sum of which is
180°00'.
Triangulated distance from "C" to "D" is obtained by

$$\frac{\text{sine } 37°00' \times \text{Base}}{\text{sine } 52°58'} \quad \text{or} \quad \frac{.60182 \times 66.83}{.79829} = 50.38 \text{ chs.}$$

Line "CD" being parallel to and 0.95 chs.S.of sec.line
bet.secs. 1 and 12, and 4.62 chs. in excess of length
over said sec. line the true length of said sec.line is
50.38 chs.- 4.62 chs.= 45.76 chs.
The approximate positions of the topographical features
on the sec.line measured from the true point for cor.
of secs.1,2,11 and 12 are as follows:

10.00 (Approx.) Bottom of deep gulch, course NE. into canyon.

24 Part of Subdivision lines of Township 32 North, Range 6 West.

Chains.	
17.00	(Approx.) Bottom of canyon, course NW. Ascend along N. side of gulch, course W. From triangulation point "D," chain measurement, North, 0.95 chs. to point for closing cor. of secs. 1 and 12. Thence chain measurement. N. 89°58'W., 7.76 chs. on sec. line, to
38.00	Head of gulch, course W. Thence, S. 89°58'E., on sec. line, bet. secs. 1 and 12, continuing measurement from point for cor. of secs. 1, 2, 11 and 12. Ascend 40 ft., over SW. slope, to
40.00	Set an iron post, 3 ft. long, 1 in. in diam., over cross (x) marked on surface rock, and raise a mound of stone, around post, for ¼ sec. cor., marked on brass cap,

$$\frac{1}{4} \frac{\text{S } 1}{\text{S } 12}$$
1921

Continue over mountainous land, thru. scattering undergrowth.
Ascend 125 ft., over SW. slope, to

| 45.70 | Intersect the bdy. of the Hualpai Indian Reservation, 17.83 chs. N. of the 119½ mile monument, hereinbefore described.
At point of intersection,
Set an iron post, 3 ft. long, 2 ins. in diam., over cross (x) marked on surface rock, and raise a mound of stone around post, for closing cor. of secs. 1 and 12, marked on brass cap, |

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          T32N
    CC ────S 1──── PL
          S12
          HIR
          RoW
          1921
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This closing cor. is 18 lks. N. of the temp. closing cor. set at 80.00 chs. N. of closing cor. of secs. 12 and 13, as hereinbefore described in notes of survey of Reservation bdy.; therefore, the distance between the closing cors. is 80.18 chs.
Land, broken and mountainous.
Soil, rocky, 4th rate.
Timber, none.
Undergrowth, scattering sage brush, Spanish bayonet and cactus.
No grass.

- -

	From the cor. of secs. 2, 3, 34 and 35 on S bdy. of Tp., described in Book "E," N. 0°01'W., bet. secs. 34 and 35. Over rolling land, thru. very scattering timber and undergrowth. Descend 25 ft., over NE. slope, to
2.50	Draw, course NW. Descend 50 ft. over W. slope, to
10.00	Same draw, course NE. Desc. 150 ft., over E. slope, to
31.00	Same draw, course NW. Ascend 14 ft., over SW. slope.
33.00	Point of spur, slopes W. Desc. 23 ft., over NW. slope.
34.30	Draw, course W. Ascend 83 ft., over SW. slope, to
39.10	Thence along W. slope, with slight change in elevation.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 12 ins. in the ground to bed rock, deposit stone, mkd. with a cross (x) at base of post, and raise a mound of stone around post, for ¼ sec. cor., marked on brass cap,

Chains.	

$\frac{1}{4}$

S34|S35

1920

Continue over rolling land, thru. very scattering timber
and undergrowth, along W. slope, with slight change in
elevation.

45.00 Leave rolling, and enter broken land. Descend 30 ft.,
over NE. slope, to

50.00 S. rim of gulch, brs. NW. and SE. Bottom of gulch in
horseshoe bend of same, brs. E. 1 ch. dist.
Descend 45 ft., over S. bank of gulch, to

53.90 Bottom of same gulch, full of boulders, course W. Ascend 82
ft., over N. bank of gulch, to

57.50 N. rim of gulch, brs. NE. and SW. Leave broken and enter
rolling land. Ascend 100 ft., over SW. slope, to

80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 20 ins. in
the ground, for cor. of secs. 26, 27, 34 and 35, marked
on brass cap,

T32N | R6 W
S27 | S26
S34 | S35
1920

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

Land, rolling and broken.
Soil, gravelly, 3rd rate.
Timber, very scattering cedar and pine.
Undergrowth, scattering sagebrush.
Fair grass.

- -

S. 89°50' E., on a random line, bet. secs. 26 and 35.

40.00 Set temp. ¼ sec. cor.
80.00 Intersect the cor. of secs. 25, 26, 35 and 36.
Thence,
N. 89°50' W., on a true line, bet. secs. 26 and 35.
Over gently rolling land, thru. scattering undergrowth.
Descend very gradually over NW. slope.

4.00 Enter small grove of cedar trees.

11.00 Leave grove.

31.30 Shallow wash, course NW. Asc. gradually over NE. slope, to

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in
the ground, for ¼ sec. cor., marked on brass cap,

¼ S 26
S 35
1920

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

Continue over gently rolling land, thru. scattering under-
growth. Asc. slightly over NE. slope, to

50.00 Top of low divide, brs. NW. and SE. Descend very gradually
over SW. slope,

64.00 Enter scattering timber.

67.00 Ascend slightly over NE. slope, to

80.00 The cor. of secs. 26, 27, 34 and 35.

Land, gently rolling.
Soil, gravelly, 2nd and 3rd rate.
Timber, cedar and pine where noted.
Undergrowth, scattering sage brush.
Fair grass.

- -

Chains.	
	N.0°01'W., bet. secs. 26 and 27.
	Over gently rolling land, thru. very scattering timber and undergrowth. Descend 60 ft., over NE.slope, to
14.00	Shallow draw, course NE. Descend 35 ft., over NE.slope, to
25.00	Gulch, full of boulders, course NE. Leave gently rolling, and enter broken land. Descend 40 ft., over NE.slope, to
31.30	Gulch, full of boulders, course NW. Ascend 42 ft., over SW.slope.
36.60	Descend 60 ft., over NW.slope, to
39.50	Gulch, course W. Ascend 9 ft., over S.slope, to
40.00	Set an iron post, 3 ft.long, 1 in. in diam., 6 ins. in the ground to bed rock, supported in a mound of stone, for ¼ sec.cor., marked on brass cap,

$$S27 \mid S26$$

$$\frac{1}{4}$$

1920

from which,

A pine, 14 ins. in diam., brs. S.27°E., 103 lks.
  dist., marked ¼ S 26 BT.
A pine, 16 ins. in diam., brs. S.50°W., 190 lks.
  dist., marked ¼ S 27 BT.

Continue over broken land, thru. very scattering timber and undergrowth. Ascend 21 ft., over SW.slope.

41.11	Point of spur, slopes W. Desc. 44 ft., over NW.slope, to
46.00	Rim rock, brs.NE. and SW. Descd 48 ft., over NW.slope, to
49.00	Thence over nearly level bench to,
58.20	E. rim of side canyon forming also part of the east rim of National Canyon. The sec. line beyond this point passes over precipitous bluffs bearing N.and S.facing W. on E.wall of canyon. Chaining is impracticable on sec.line; therefore obtain continuation of measurement by offset line as described as follows, and as shown on the diagram hereon:
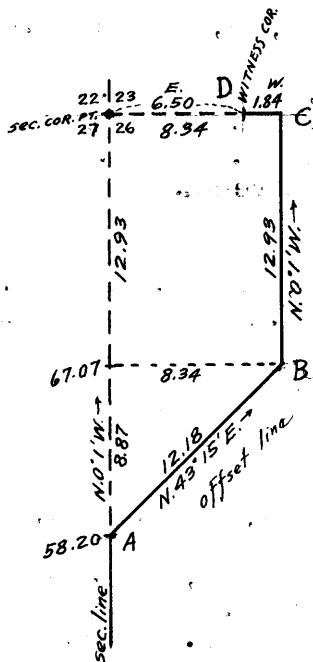
From 58.20 ch. station on sec. line indicated on diagram at "A,"

N.43°15'E., 12.18 chs. on offset line into sec.26 along near rim of canyon to offset point "B."

The northing and easting of "A-B" are 8.87 chs. and 8.34 chs. respectively; therefore offset point "B,"is 8.34 chs. E. of 67.07 ch.station on sec.line, or 12.93 chs. S.from E.and W.line thru.point for cor.of secs.22,23,26 and 27.

From offset point "B," N.0°1'W., 12.93 chs.on offset line in sec.26 parallel to sec.line along near rim of canyon to intersection with E.and W.line thru.point for sec.cor. at point "C."

Offset point "C" is 8.34 chs. E.from true point for cor. of secs. 22,23,26 and 27. Thence

West, 1.84 chs.on offset line to point "D" which is 6.50 chs. E.from sec.cor.point, and is on the E.rim of canyon at the closest accessible point to sec.cor.point. Discontinue offset line at point "D," and at same point,

Set an iron post, 3 ft.long, 2 ins.in diam., 6 ins.in the ground to bed rock, supported in a mound of stone for witness cor.to cor.of secs.22,23,26 and 27,

Chains.	
	marked on brass cap,

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              T32N │ R 6W
         WC  ─S22─┼─S23─
              S27 │ S26
              1920
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from which,

  A pine, 6 ins. in diam., brs.S.3½° E.,75 lks.
    dist., marked WCT32N R6W S26BT.
 and raise a mound of stone, 2 ft.base,1½ ft.high,W.of
 cor.

80.00 True point for cor.of secs. 22,23,26 and 27, falls on
 face of cliff on E.wall of National Canyon,and being
 inaccessible is witnessed 6.50 chs. E. by the W.C.de-
 scribed above.
Land, rolling,broken and mountainous.
Soil,gravelly and rocky,3rd and 4th rate.
Timber, very scattering cedar and pine.
Undergrowth, scattering sage brush.
No grass.

From true point for cor.of secs.22,23, 26 and 27,
S.89°50'E., on a random line, bet. secs.23 and 26.
Measurement of 6.50 chs. determined by offset thru.sec.26,
 as hereinbefore described.

0.50 A point on E. rim of canyon, 2 lks. S.of the witness cor.
 to cor.of secs.22, 23,26 and 27, which is E.of cor.
 point.
Continue line and measurement, bychaining.
40.00 Set temp.¼ sec.cor.
79.98 Intersect the cor.of secs. 23,24, 25 and 26.
Thence,
N.89°50'W.,on a true line, bet. secs.23 and 26.
Over rolling land, thru. scattering timber and undergrowth.
Descend 115 ft. over NW.slope.
15.00 Draw, course N. Ascend 50 ft., over NE.slope.
20.00 Descend 52 ft.,over NW.slope.
29.50 Draw, course NW. Ascend 46 ft.,over NE.slope,to
39.99 Set an iron post, 3 ft.long, 1 in. in diam., 10 ins.in
 the ground, to bed rock, supported in a mound of
 stone, for ¼ sec.cor., marked on brass cap,

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         ¼─S 23─
           S 26
           1920
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from which,

  A cedar, 10 ins. in diam., brs.N.6°E.,270 lks.
   dist.,marked ¼ S 23 BT.
  A pine, 14 ins. in diam., brs.S.49½°W. 215 lks.
   dist., marked ¼ S 26 BT

Continue over rolling land, thru. scattering timber and
 undergrowth. Ascend 40 ft.,over NE.slope.
43.50 Descend 35 ft., over NW.slope.
55.50 Shallow wash, course NE. Ascend 60 ft., over E.slope,to
73.48 A point on E.rim of National Canyon, 2 lks.S.of the wit-
 ness cor. to the cor.of secs. 22,23,26 and 27,herein-
 before described. Discontinue chaining. Measurement
 to sec.cor.point by offset line, thru.sec.26, as here-
 inbefore described.
79.98 True point for cor.of secs.22,23,26 and 27 falls on
 face of cliffs on E.wall of National Canyon.
Land, rolling, except W. 0.50 chs., which is mountainous.
Soil,gravelly and rocky, 2nd and 3rd rate.
Timber, scattering pine and cedar.
Undergrowth, scattering sage brush.
Fair grass.

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BOOK 3509

28   Part of Subdivision Lines of Township 32 North, Range 6 West.

Chains.

N.0°1'W., bet. secs. 22 and 23.
Over mountainous land, across face of cliffs, bearing N.
     and S.facing W. on E.wall of National Canyon.
Chaining of measurement along the sec.line is impracti-
     cable, and it becomes necessary to measure the entire
     line by means of a traverse line along E.rim of canyon
     thru.sec.23, as described as follows, and as shown on
     the diagram hereon:
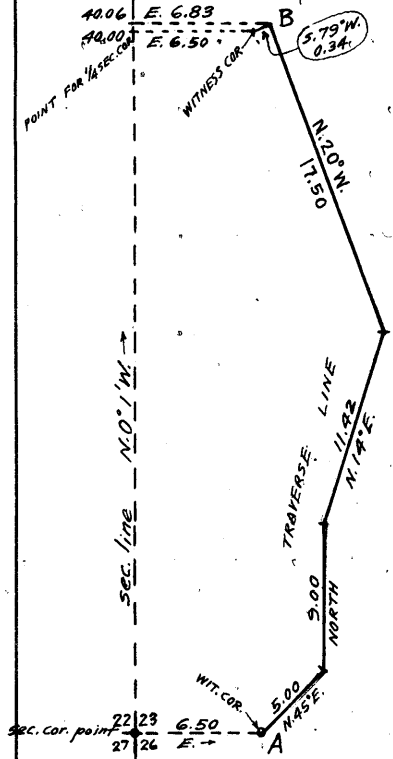
From witness cor.to cor.of secs.22,
     23,26 and 27,which is 6.50 chs.E.
     of true sec.cor.point,and is
     marked on diagram at "A."
N.45°E.,5.00 chs.   Thence,
North,9.00 chs.   Thence,
N.14°E.11.42 chs.   Thence,
N.20°W.,17.50 chs.to point "B,"which
                    by computation of the
                    traverse is found to
                    be 6.83 chs.E.of
                    point on sec.line,
                    40.06 chs.N.0°1'W.
                    from sec.cor.point.
The point for ¼ sec.cor.falls on face
     of cliffs,and is inaccessible,and
     the nearest point thereto at which
     it is practicable to establish wit-
     ness cor. is at the E.rim of National
     Canyon due E.of true cor.point.
     From traverse point "B,"
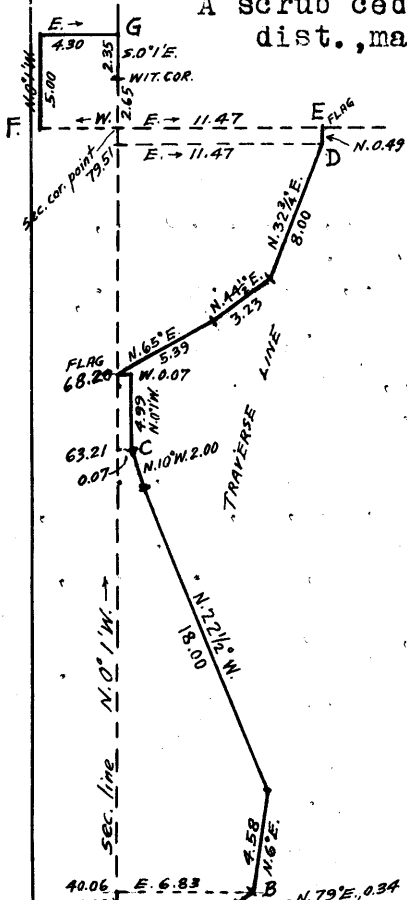   S.79°W.,0.34 chs.to point on
     E.rim of National Canyon, 6.50 chs.
E.of true point for ¼ sec.cor. and set an iron
post 3 ft.long, 1 in. in diam., 6 ins. in the ground
to bed rock, supported in a mound of stone, for wit-
ness cor.to the ¼ sec.cor., marked on brass cap,

WC   S22|S23

1920

from which,
     A pine,6 ins.in diam.,brs.N.11°E.,45 lks.
          dist., marked WC¼ S23 BT.
     A scrub cedar,8 ins.in diam.,brs.S.45°E.,50 lks.
          dist.,marked WC ¼ S23 BT.

Thence
N.79°E.,0.34 chs.returning to
                    point "B."Thence
N.6°E.,4.58 chs.   Thence,
N.22½°W.,18.00 chs. Thence
N.10°W.,2.00 chs.to point "C,"
                    which by compu-
                    tation of the
                    traverse is
                    found to be 0.07
                    chs.E.from 63.21
                    ch.point on sec.
                    line.
Thence,
N.0°1'W.,4.99 chs.parallel to sec.
                    line.
Thence,
West,0.07 chs.to point on sec.line
                    68.20 chs.N.0°1'
                    W.from the point
                    for cor.of secs.
                    22,23,26 and 27.
                    This is the only
                    point on the sec.

| Chains.	
	line that is accessible, as the rim of the canyon brs. NE.from here, and the portion of the sec.line N. of this point passes over steep broken cliffs.
	Leave flag here for the purpose of securing alinement through the section cor.point in locating the witness cor. to cor.of secs.14,15,22 and 23, as hereinafter described.
	Thence,
	N.65°E., 5.39 chs. Thence,
	N.44½°E., 3.23 chs. Thence
	N.32¾°E., 8.00 chs. to point "D," which by computation of the traverse is 11.47 chs.E. from 79.51 ch. point on sec.line.
	Thence,
	North 0.49 chs. to point "E," which is 11.47 chs.E.from point for cor. of secs.14,15,22 and 23.
	Set flag at point "E," for the purpose of securing alinement through the section cor.point in locating the witness cor. to cor.of secs.14,15,22 and 23, as hereinafter described.
	The nearest accessible point to the sec.cor.point at which the witness cor.thereto can be established is at the foot of a bluff N.thereof. This point is so situated that a triangulated measurement to same cannot be obtained; therefore, determine its bearing and distance from the sec.cor.point in the following manner:
	From point "F," bearing West from flag at point "E," N.0°1'W.,5.00 chs.parallel to extension of sec.line.
	Thence,
	East, 4.30 chs. to point "G,"bearing N.0°1'W.from flag at traverse point at 68.20 ch.station on line between secs.22 and 23,and is therefore on said sec.line extended 5.00 chs.N.0°1'W.from true point for cor of secs. 14,15, 22 and 23. Thence,
	S.0°1'E.,2.35 chs. to point for witness cor.in crack in foot of cliff 450 ft.high,bearing SW. and N.,facing NW. This point is 768 ft. below point "E," on line bet.secs. 14 and 23.
	Set an iron post, 3 ft.long, 2 ins. in diam., on surface rock, supported in a mound of stone, for witness cor. to cor.of secs. 14,15, 22 and 23, marked on brass cap,

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T32N  R6 W
S15 | S14
S22 | S23
   W C
  1920
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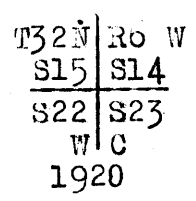
	and raise a mound of stone, 3 ft.base, 2 ft.high,W. of cor. 20 ft. dist., which is as close to W.C.as it is practical to secure a suitable place to erect the mound.
68.20	Point in E. rim of National Canyon, brs.N.65°E. and S.1° E. Descend over precipitous cliffs facing NW.
80.00	True point for cor.of secs.14,15, 22 and 23 falls on face of cliff, and is inaccessible; therefore, a witness cor.to this cor. is established at 2.65 chs.N.0° 1'W. herefrom, as described above.
	Land, mountainous.
	Soil,rocky, 4th rate.
	Timber, very scattering cedar and pine.
	Undergrowth, scattering sage brush.
	No grass.

30 Part of Subdivision lines of Township 32 North Range 6 West.

Chains.	
	From true point for cor.of secs.14,15,22 and 23, S.89°50'E., on a random line, bet. secs. 14 and 23. Measurement by traverse of 11.47 chs. E. as hereinbefore described.
11.47	A point 3 lks.S.of terminus of traverse thru. sec.23. Continue line and measurement by chaining.
40.00	Set temp.¼ sec.cor.
80.20	Fall 5 lks.S. of the cor.of secs.13,14,23 and 24. Thence, N.89°52'W., on a true line, bet. secs.14 and 23. Over roughly rolling and broken land, thru. scattering timber and undergrowth. Descend 110 ft.,over W.slope.
10.00	Ravine, course NW. near head of canyon. Ascend 175 ft., over E.slope,to
16.00	W. rim of ravine, brs.NW.and S. Leave roughly rolling and broken land, and enter gently rolling land. Ascend 50 ft.,over NE.slope.
20.00	Descend slightly over NW.slope.
37.50	Shallow wash, course N. Ascend slightly over N.slope,to
40.10	Set an iron post, 3 ft.long, 1 in. in diam.,6 ins.in the ground to bed rock, deposit stone marked with a cross (x) at base of post, and raise a mound of stone around post, for ¼ sec.cor., marked on brass cap,

<div style="text-align:center">

¼ S 14

S 23

1920

</div>

Chains.	
	Continue over gently rolling land, thru. very scattering timber and undergrowth, along N.slope;ascending slightly to
48.00	Wash, course NW. turns to NE., a short distance N.of line. Descend 20 ft.,over N.slope,to
60.50	Shallow wash, course NW.,thence NE. Ascend 45 ft.,over E. slope,to
68.73	E. rim of National Canyon, brs.N.and SW. Descend over high,precipitous cliffs, measurement to sec.cor.point by traverse, hereinbefore described.
80.20	The true point for cor.of secs.14,15,22 and 23,falls on face of cliff,and is inaccessible. W.C.2.65 chs.N.0°1' W.,hereinbefore described. Land,roughly and gently rolling,broken and mountainous. Soil,rocky, 4th rate. Timber, very scattering cedar and pine. Undergrowth, scattering sage brush. Poor grass.

Chains.	
	From the true point for cor.of secs.14,15,22 and 23, N.0°1'W., bet. secs. 14 and 15. Over broken mountainous land, thru. very scattering timber and undergrowth, along face of cliffs on E.wall of National Canyon. Measurement of 2.65 chs.by traverse as hereinbefore described in notes of survey of line bet.secs.22 and 23.
2.65	The witness cor. to cor.of secs. 14,15, 22 and 23,hereinbefore described,at foot of cliff. Continue line and measurement by chaining. Along foot of cliffs, facing W.
5.00	Discontinue chaining, as the line beyond this point, passes over W.face of cliffs. Triangulate as described as follows, and as shown on the diagram hereon. From witness cor. to cor.of secs. 14,15,22 and 23, measure a Base,West,25.00 chs. Set flag ahead at base of

Chains.

cliffs, and bearing N.1°
35'W., from witness cor.
From W. end of base, flag
bears N. 31° 35½' E.
Included angles are 58°24½'
33°10½' and 88°25', the
sum of which is 180°00'.
Triangulated distance from
W.C. to flag is obtained
by

$$\frac{\text{sine } 58°24\frac{1}{2}' \text{ x Base}}{\text{sine } 33°10\frac{1}{2}'} \text{ or}$$

$$\frac{.85180 \text{ x } 25.00}{.54720} = 38.92 \text{ chs.}$$

the latitude and departure of which
which are 38.91 chs., and 1.08
chs. respectively.
The departure of the same dist.
on the sec.line is 0.01 chs.
Flag is therefore 1.07 chs.W.of
41.56 ch.station on sec.line.
The point for ¼ sec.cor.is inaccessible; therefore,to
locate witness cor.thereto as near as practicable,
proceed as follows.
From flag point of above described triangulation,
S.22°E., 1.68 chs. along base of cliffs to a point 0.44
chs.West from true point for ¼ sec.cor., and set an
iron post, 3 ft.long, 1 in. in diam., 14 ins. inthe
ground to bed rock, supported in a mound of stone
for witness cor. to the ¼ sec.cor., marked on brass
cap,

$$\frac{1}{4}$$

S15 | S14   WC

1920

and raise a mound of stone, 2 ft.base, 1½ ft.high,W.
of cor.
A spring near bottom of National Canyon,brs.N.81¾°W.
This W.C. is at head of small gully, course W.
True point for ¼ sec.cor.is inaccessible.
W.C. 0.44 chs.W., as described above.
The sec.line continues over face of cliffs N.of this
point, rendering chaining impracticable; therefore,
to avoid the cliffs,obtain measurement by traverse
around base of same,thru.sec.15,as described as fol-
lows, and as shown on the diagram hereon:
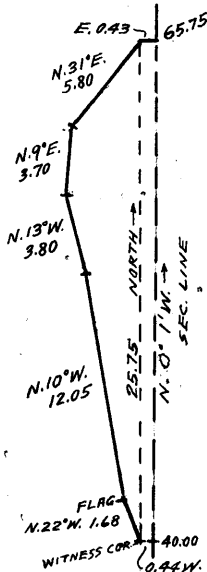
From W. C. to ¼ sec.cor.,
N. 22°W., 1.68 chs.,returning to flag
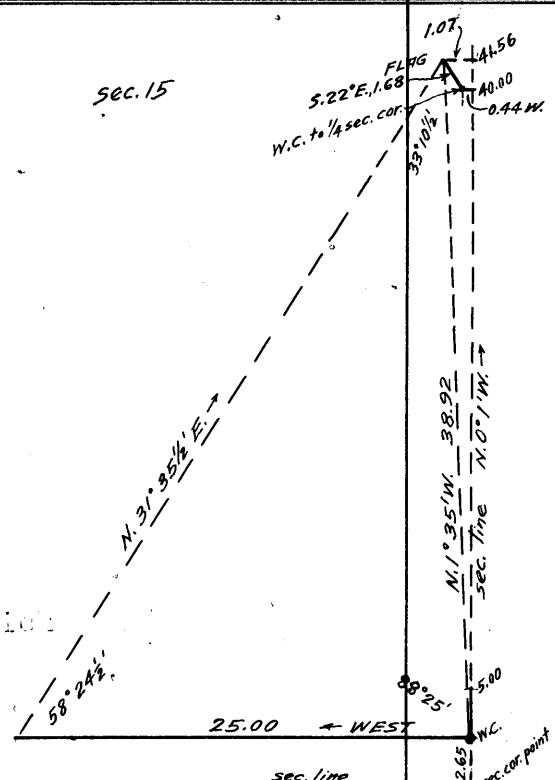point of triangula-
tion.

Thence,
N.10°W.,12.05 chs.
Thence,
N.13°W.,3.80 chs.
Thence
N.9°E., 3.70 chs.
Thence,
N.31°E.,5.80 chs. to a point 25.75
chs. due North from W.C. to ¼ sec.
cor.
The W.C. being 0.44 chs.W.of true
point for ¼ sec.cor., and the
departure of the sec. line in
25.75 chs. being 0.01 chs., the

49.00

traverse point 25.75 chs.N. of W.C. is therefore 0.43
chs. W.of 65.75 ch.point on sec.line.

162

From traverse point,
East, 0.43 chs. to point on sec.line at

65.75   Base of cliffs, bearing E.and SW. facing N. and NW.
Thence on sec. line, continuing measurement.
Descend 505 ft.,over steep N.slope,to

80.00   Set an iron post, 3 ft.long, 2 ins. in diam.,15 ins.in
the ground to bed rock, supported in a mound of stone,
for cor.of secs. 10,11,14 and 15, marked on brass cap,

T32N	R 6W
S10	S11
S15	S14
1920	

and raise a mound of stone, 2 ft.base, 1½ ft.high,W.of
cor.
Land,mountainous.
Soil,rocky, 4th rate.
Timber, very scattering cedar and pine.
Undergrowth, scattering sage brush.
No grass.

S.89°52'E., on a random line, bet. secs.11 and 14.

40.00   Set temp.¼ sec.cor.

40.50   Foot of cliffs, facing NW. The line beyond this point
passes over high,precipitous cliffs on the sides of a
spur sloping NE. between two canyons, rendering chain-
ing on the E.½ of the line impracticable.
Triangulate the measurement of the remainder of the line
as described as follows,and as shown on the diagram
hereon:
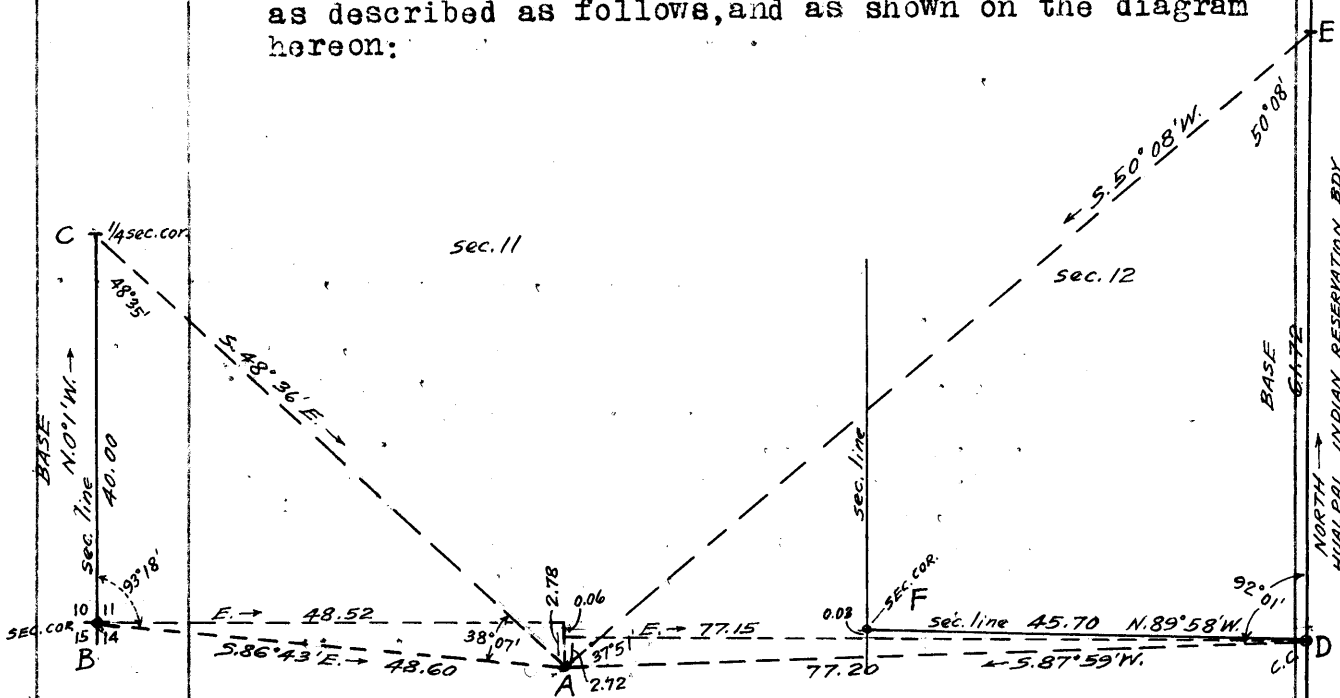
Set flag on the top of spur, at point "A."
From cor. of secs.10,11,14 and 15,designated as "B"
measure a Base on sec.line,N.0°1'W.,40.00 chs. to
¼ sec.cor. of secs.10 and 11, designated as "C."
Bearing "CA"= S.48°36'E. Bearing "BA"= S.86°43'E.
Vertical angle "B" to "A" = + 21½°.
From closing cor.of secs.12 and 13 on the H.I.R.bdy.
designated as "D," measure a Base,North 61.72 chs.on
the Reservation Bdy. to point "E."
Bearing "EA"= S.50°08'W. Bearing "DA"= S.87°59'W.
Included angles of triangle "ABC" are 38°07',93°18' and
48°35', the sum of which is 180°00'.
Included angles of triangle "ADE"are 37°51',92°01' and
50°08', the sum of which is 180°00'.
Triangulated distance from "B" to "A" is obtained by

Chains.	

$$\frac{sine\ 48°35'\ x\ Base}{sine\ 38°07'}\quad or\quad \frac{.74992\ x\ 40.00}{.61726} = 48.60\ chs.$$

Triangulated distance from "A" to "D" is obtained by

$$\frac{sine\ 50°08'\ x\ Base}{sine\ 37°\ 51'}\quad or\quad \frac{.76754\ x\ 61.72}{.61360} = 77.20\ chs.$$

Latitude and departure of "BA" = 2.78 chs.S. and 48.52 chs. E.

Latitude and departure of "AD"=2.72 chs.N.and 77.15 chs.E.

Latitude and departure of line from "D" to cor.of secs. 11,12,13 and 14,designated on diagram as "F" = 0.03 chs.N. and 45.70 chs.W.

The computed latitude and departure of a line "BF" are therefore 0.03 chs. S. and 79.97 chs. E., which gives for the sec.line bet. secs.11 and 14, a true course and length of N.89° 59' W., 79.97 chs.

The random sec. line projected S.89°52'E. to

79.97 Fall 16 lks.S.of cor. of secs.11,12, 13 and 14.

Thence,

N.89°59'W., on a true line, bet. secs.11 and 14.

Over mountainous land, thru. scattering undergrowth.

Ascend over rock slides and precipitous cliffs facing E.

Measurement by triangulation for 39.47 chs. by the triangulation hereinbefore described.

29.00 (Approx.) Top of high rocky spur, sloping NE. between two side canyons breaking into National Canyon.

Descend over cliffs,facing NW. Descend about 700 ft. to ¼ sec.cor.

From a point 8 lks.N. of the temp.¼ sec. cor.

Chain measurement,S.89°59'E.,0.50 chs.to

39.47 Foot of cliffs, brs.NE. and SW.

Thence,

N.89°59' W., continuing measurement from cor.of secs.11, 12,13 and 14.

39.98½ Set an iron post, 3 ft.long, 1 in. in diam., 10 ins. in the ground, to bed rock, deposit a stone, marked with a cross (x) at base of post, and raise a mound of stone around post, for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4}\ \frac{S\ 11}{S\ 14}$$
$$1921$$

Continue over broken and mountainous land, thru. scattering undergrowth, over E.wall of side canyon.

Descend 545 ft.,over NW.slope.

68.77 Bottom of side canyon, course N.

Ascend 120 ft.,over NE.slope,to

75.00 Ascend 45 ft.,over N.slope,to

79.97 The cor.of secs.10,11,14 and 15.

Land,broken and mountainous.

Soil,rocky, 4th rate.

Timber, none.

Undergrowth, scattering sagebrush, catclaw,mesquite and Spanish bayonet.

No grass.

- -

N.0°1'W., bet. secs.10 and 11.

Over broken and mountainous land, thru.scattering undergrowth.

Descend 155 ft., over steep N.slope,to

14.80 Foot of steep descent, brs.NW.and SE.

Descend 50 ft., over NE.slope to ¼ sec.cor., over rolling bench, bearing N.and S.

The rim of a side canyon bearing N.and S. is about 5 chs.E.of line.

34 Part of Subdivision lines of Township 32 North, Range 6 West.

Chains.	
40.00	Set an iron post, 3 ft.long, 1 in. in diam.,over cross (x) marked on surface rock,and raise a mound of stone around post,for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4}$$

S10 | S11

1921
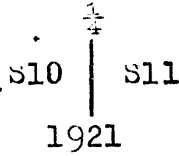
Continue over rolling bench, thru. scattering undergrowth. Descend 105 ft.,over NE.slope to top of cliffs.

77.00	Set an iron post 3 ft.long, 2 ins. in diam.,6 ins.in the ground to bed rock, deposit stone marked with a cross (x) at base of post, and raise a mound of stone around post for witness cor.to cor.of secs.2,3,10 and 11, marked on brass cap,

W | C
T32N | R6W
S 3 | S 2
S10 | S11
1921
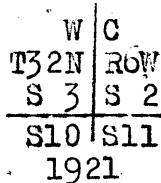
78.24	Top of cliffs, bearing NE. and SW., facing NW. Steep descent over these cliffs renders continuation of chaining impracticable.
80.00	True point for cor.of secs.2,3,10 and 11,falls on face of cliffs overlooking bottom of National Canyon, course NE., which brs.NW.from this point about 15 chs.dist.
	Land, broken, rolling and mountainous.
	Soil, rocky, 4th rate.
	Timber, none.
	Undergrowth, scattering sage brush, cactus, catclaw, mesquite and Spanish bayonet.
	No grass.

From true point for cor.of secs.2,3,10 and 11, S.89°59'E., on random line, bet. secs.2 and 11. The beginning of the random line passes over precipitous cliffs, near the mouth of a side canyon, course N., breaking into National Canyon. The point for cor.of secs. 2,3, 10 and 11 being inaccessible,obtain the measurement of a portion of the line bet. secs. 2 and 11 by traverse and triangulation as described as follows, and as shown on the diagram hereon:
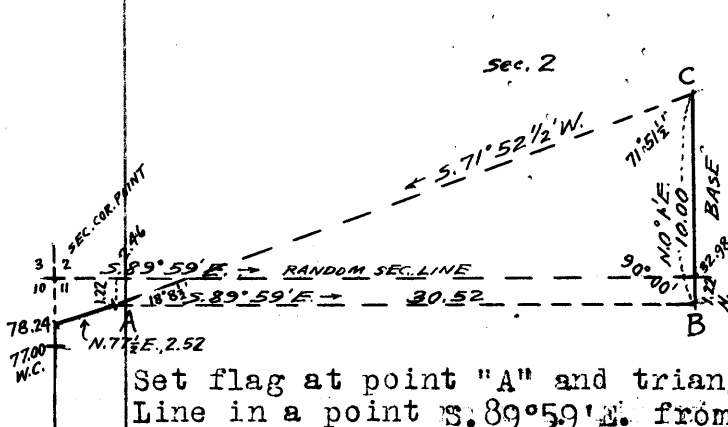
From 78.24 chs. station on line bet.secs.10 and 11, N.77½°E.,2.52 chs.across point of bench to W.rim of side canyon at point designated as "A"on diagram.
This point is therefore 1.22 chs.S.of 2.46 ch. station on random sec. line.

Set flag at point "A" and triangulate across side canyon. Line in a point S.89°59'E. from flag at "B," and, measure a Base,N.0°1'E.,10.00 chs. therefrom. From N. end of Base, flag brs.S.71°52½'W. Included angles are 71°51½',90°00' and 18°8½', the sum of which is 180°00. Triangulated distance across side canyon from "A" to "B" is obtained by Tang. 71°51½' x Base or 3.05199 x 10.00 = 30.52 chs. From point "B." North, 1.22 chs. to point on random sec.line at

BOOK

Chains.	
32.98	Thence, S.89°59'E., on random line, bet. secs.2 and 11, continuing measurement from point for cor.of secs.2,3, 10 and 11.
40.00	Set temp.¼ sec.cor.
60.66	W.rim of gorge, brs.SE.and NW. Chain measurement across gorge is impracticable,and no portion of the remainder of the random sec.line can be chained owing to cliffs; therefore, obtain measurement to the point for cor.of secs.1,2,11 and 12 by triangulation,and offset as described as follows, and as shown on the diagram hereon:
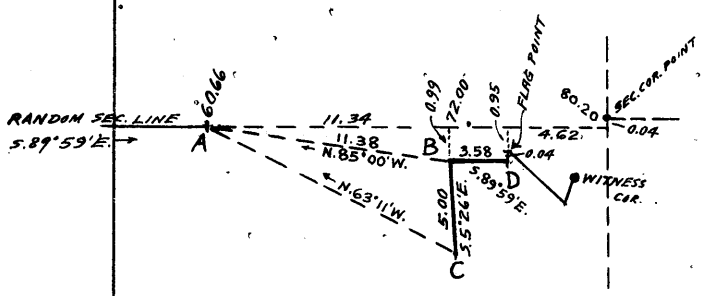
Set flag at 60.66 ch.station on random line indicated on diagram at "A."
From point "B," near E.rim of gorge,measure a Base, S.5°26'E.,5.00 chs. to point "C."
Bearing "B-A"= N.85°00'W.
Bearing "C-A"= N.63°11'W.
Included angles of triangle "ABC" are 21°49',100°26' and 57°45', the sum of which is 180°00'.

Triangulated dist."A-B" is obtained by
$$\frac{\text{sine } 57°45' \times \text{Base}}{\text{sine } 21°49'} \text{ or } \frac{.84573 \times 5.00}{.37164} = 11.38 \text{ chs.}$$

Latitude and departure of "A-B" = 0.99 chs.S. and 11.34 chs. E. Point "B" is therefore 0.99 chs.S. of 72.00 ch.station on random line. From point "B,"
S.89°59'E., 3.58 chs.to point "D," which is 0.04 chs.S.of the flag point of the triangulation used in obtaining the measurement of line bet. secs.1 and 12, as hereinbefore described.
This flag point is indicated on above diagram at "E,"and is 0.95 chs.S. and 4.02 lks.W.from the true point for cor.of secs.1,2,11 and 12.
The length of random line bet. secs.2 and 11 is therefore 72.00 chains + 3.58 chs. + 4.02 chs. = 80.20 chs.
The falling of the random line extended is 0.99 chs.- 0.95 chs.= 0.04 chs.S. of the point for cor.of secs. 1,2,11 and 12.

| 80.20 | Fall 4 lks.S.of the true point for cor.of secs.1,2,11 and 12,on face of cliffs, which is inaccessible. Witness cor. hereinbefore described brs.S.32°44'W.,2.50 chs. |

From true point for cor.of secs. 1,2,11 and 12,
S.89°58'W.,on true line, bet. secs. 2 and 11.
Over broken,mountainous land, thru.scattering undergrowth, along right or E.wall of National Canyon.
Measurement of 19.54 chs.by offset and triangulation, as hereinbefore described.
Approximate positions of the topographical features on the true line, are as follows:
Ascend along NE.face of cliffs,to

4.75	Thence along N.face of cliffs, near top of same.
9.00	Descend over NW.face of cliffs.
15.00	Bottom of gorge,course N.into National Canyon.
	Ascend about 300 ft.,over NE.face of cliffs,to
19.54	Triangulation point at W. rim of gorge, bearing NW.and SE.

Thence continue line and measurement, by chaining.
Over broken N.slope, with slight change in elevation.

| 40.10 | Set an iron post, 3 ft.long, 1 in. in diam.,over cross (x) marked on surface rock, and raise a mound of stone around post, for ¼ sec.cor., marked on brass cap, |

$$\frac{1}{4} \frac{\text{S 2}}{\text{S 11}}$$

1921

36   Part of Subdivision lines of Township 32 North, Range 6 West.

| Chains.	
	Continue over broken and mountainous land, thru. scattering undergrowth, over broken N.slope, with slight change in elevation.
47.22	Offset point.
52.00	E. rim of side canyon, brs, NE. and S. Line beyond this point passes over side canyon, course N.
	Measurement to sec.cor. point by offset, triangulation and traverse, from 47.22 ch. station, as hereibefore described.
	Descend about 500 ft. over cliffs facing W.
65.00	(Approximate) Bottom of side canyon, course N. into National Canyon. Ascend over cliffs, facing NE.
79.00	(Approx.) Descend over cliffs, facing NW.
80.20	True point for cor. of secs. 2,3,10 and 11, falls on face of cliffs facing NW., and is inaccessible. Witness cor. 3.00 chs. S.0°1'E., hereinbefore described.
	Land, broken and mountainous.
	Soil, rocky, 4th rate.
	Undergrowth, scattering sage brush, cactus, mesquite and Spanish bayonet.
	No grass.
	The line bet. secs.2 and 3 passes over National Canyon, and owing to the extremely broken and mountainous character of the surface is impracticable of survey. The bottom of National Canyon course NE. is about 20 chs. N.from the point for cor.of secs. 2,3,10 and 11.

	From the cor. of secs. 3,4, 33 and 34, on S. bdy.of Tp., described in Book "E,"
	N.0°02'W., bet. secs.33 and 34.
	Over nearly level land, thru. scattering timber and undergrowth.
40.00	Set an iron post, 3 ft.long, 1 in. in diam., 22 ins. in the ground to bed rock, supported in a mound of stone for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4}$$

S33 | S34

1920
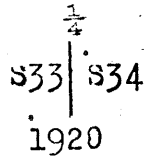
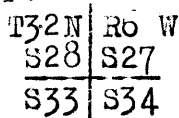|	from which,
	A pine,18 ins. in diam.,brs.S.75¼°E.,151 lks. dist., marked ¼ S 34 BT.
	A pine,10 ins. in diam.,brs.N.44°W.,78 lks. dist., marked ¼ S 33 BT.
	Thence over gently rolling land, thru. scattering timber and undergrowth, descending gradually along E.slope, from E. rim of National Canyon, which brs.N.and S.,at about 15 chs.W.of Line.
70.50	Shallow draw, course E. Ascend slightly over SE.slope.
75.00	Descend slightly over NW.slope.
80.00	Set an iron post, 3 ft.long, 2 ins. in diam.,6 ins.in the ground to bed rock, deposit stone,marked with a cross (x) at base of post, and raise a mound of stone around post, for cor.of secs. 27,28, 33 and 34, marked on brass cap,

T32N | R6 W
S28 | S27
S33 | S34

1920

|	from which,
	A pine,14 ins. in diam.,brs.S.59¼°E.,443 lks. dist., marked T32N R6W S34 BT.
	A cedar, 8 ins.in diam.,brs.S.50°W.,197 lks. dist., marked T32N R6W S33 BT.
	A pine, 12 ins. in diam., brs.N.4°W.,412 lks. dist.,marked T32N R6W S28 BT.

Chains.

Land, nearly level and gently rolling.
Soil, gravelly, 2nd and 3rd rate.
Timber, scattering cedar and pine.
Undergrowth, scattering sage brush.
Fair grass.

S.89°50'E., on a random line, bet. secs. 27 and 34.

7.09 W. rim of side canyon, brs. N. and S. The remainder of the
line passes over cliffs on the walls of this canyon;
and chaining is impracticable; therefore, triangulate
as described as follows, and as shown on the diagram
hereon:
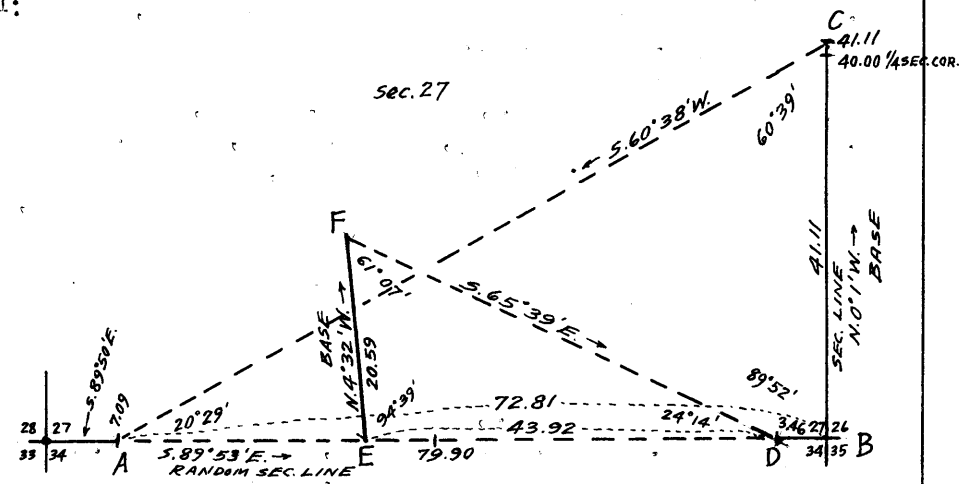
From 7.09 ch. station indicated on diagram at "A," the
bearing to the cor. of secs. 26, 27, 34 and 35, indicated
at "B," is S.89° 53'E., which is the true bearing of
the sec. line.
From point "B," measure a Base N.0°1'W., 41.11 chs. on
sec. line, bet. secs. 26 and 27 to point "C."
Bearing of "C-A" = S.60°38'W.
Included angles of triangle "ABC" are 20°29', 89°52'
and 60°39', the sum of which is 180°00'.
Triangulated dist. "A-B" is obtained by

$$\frac{sine\ 60°39'\ x\ Base}{sine\ 29°29'}\ or\ \frac{.87164\ x\ 41.11}{.49217} = 72.81\ chs.,$$

which added to 7.09 chs. gives 79.90 chs. as the to-
tal length of the sec. line bet. secs. 27 and 34.
From point "B" chain measurement,
N.89°53'W., 3.46 chs. to point "D" on E. rim of side can-
yon, and set flag for triangulation to locate point for
½ sec. cor.
From point "E," on W. wall of side canyon, bearing N.89°53'W.
from point "D," measure a Base, N.4°32'W., 20.59 chs.
to point "F."
Bearing of "F-D" = S.65°39'E.
Included angles of triangle "DEF" are 24°14', 94°39' and
61°07', the sum of which is 180°00'.
Triangulated dist. "D-E" is obtained by

$$\frac{sine\ 61°07'\ x\ Base}{sine\ 24°14'}\ or\ \frac{.87501\ x\ 20.59}{.41045} = 43.92\ chs.,$$

which added to 3.46 chs. gives 47.38 chs. N.89°53'W.
from point "B" for the position of point "E" on true
line.
79.90 chs. - 47.38 chs. = 32.52 chs. S.89°53'E. from the
cor. of secs. 27, 28, 33 and 34 for the position of
point "E" on random line.

32.52 Triangulation point.
Thence,
S.89°53'E., on random line, continuing measurement by
chaining.

39.95 Set temp. ½ sec. cor.
Continue line and measurement, by triangulation to

76.44 Triangulation point.
Continue line and measurement by chaining to

38   Part of Subdivision lines of Township 32 North, Range 6 West.

Chains.	
79.90	Intersect the cor.of secs.26, 27, 34 and 35. Thence, N.89°53' W., on a true line, bet. secs. 27 and 34. Over gently rolling land, thru. scattering timber and undergrowth. Descend slightly over SW.slope,to
3.40	E. rim of side canyon, brs.NW. and S. Leave gently rolling and enter broken and mountainous land. Leave timber. Discontinue chaining. Triangulate to ¼ sec.cor. Descend 897 ft.over cliffs facing W. to
15.00	(Approx.) Foot of cliffs, brs.N. and S. Descend 285 ft., over W.slope,to
22.00	(Approx.) Bottom of side canyon, course NW. Heads about 30.00 chs.SE. and joins National Canyon about 2 miles NW. Ascend 100 ft., over NE.slope,to
39.95	Set an iron post, 3 ft.long, 1 in. in diam., 10 ins.in the ground to bed rock, supported in a mound of stone for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4} \frac{\text{S } 27}{\text{S } 34}$$
1920

	From this cor., a bend in the bottom of side canyon,from NW. to N.,brs.North, 7 chs.dist., at which point it is 105 ft. below ¼ sec.cor. The W. rim of side canyon brs.E.and W., at about 20 chs. S., at which point it is about 1300 ft. above ¼ sec.cor. Foot of cliffs from W. rim, brs.E.and W. at about 10 chs.S., and about 350 ft. above ¼ sec.cor. From ¼ sec.cor., continue line and measurement, by chaining. Descend about 125 ft.,over NW.slope,to gulch.
47.38	Triangulation point. Discontinue chaining. Continue line and measurement by triangulation.
52.00	(Approx.) Gulch, course NE. Ascend about 425 ft.,over E.slope,to
60.00	(Approx.) Foot of cliffs, bearing N.and S. Ascend about 625 ft., over face of cliffs,to
72.79	Triangulation point at W. rim of side canyon, bearing N.and S. Leave broken and mountainous land, and enter gently rolling land and scattering timber. Continue line and measurement by chaining. Ascend 30 ft.,over SE.slope,to
79.90	The cor.of secs.27,28, 33 and 34. Land,gently rolling, broken and mountainous. Soil,rocky, 4th rate. Timber, scattering cedar and pine where noted. Undergrowth, scattering sage brush. No grass.

	N.0°2'W., bet. secs.27 and 28. Over gently rolling land, thru. scattering timber and undergrowth. Descend gradually over NW.slope,to
10.00	Ledge of rock, 20 ft.high, bearing E. and W.facing N. From foot of ledge, descend gradually over N.slope,to
15.50	E. rim of National Canyon, brs.NE. and SW. Leave gently rolling, and enter broken and mountainous land,over NW.slope, on E.wall of National Canyon.Descend 75 ft.to
20.00	Discontinue chaining on sec.line at this point,owing to cliffs, and continue measurement by traverse,and triangulate as described as follows, and as shown on the diagram hereon:

Chains.	
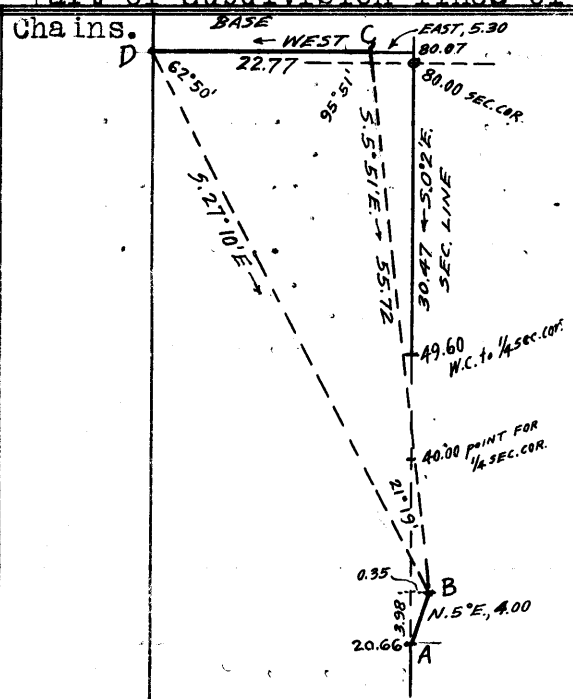
From 20.00 ch.station on sec.
line indicated on diagram at
"A,"
N.5°E., 4.00 chs. on traverse into
sec.27 to point
"B."
It being imprac-
ticable to con-
tinue traverse
owing to cliffs,
set flag at this
point,and trian-
gulate.
From point "C," measure a Base,
West,22.77 chs. to point "D."
Bearing "C-B" = S.5°51'E.
Bearing "D-B" = S.27°10'E.
Included angles of triangle"BCD"
are 21°19', 95°51' and 62°50',
the sum of which is 180°00'.

Triangulated dist. from "B" to "C" is obtained by

$$\frac{sine\ 62°50'\ x\ Base}{sine\ 21°19'}\ or\ \frac{.88968\ x\ 22.77}{.36352} = 55.72\ chs.,the$$

latitude and departure of which is 55.43 chs. N.,and
5.68 chs. W.
The latitude and departure of "A-B" = 3.98 chs. N. and
0.35 chs.E.
The latitude and departure of line "A-B-C" is therefore
59.41 chs. N. and 5.33 chs.W.
20.66 chs. + 59.41 chs. = 80.07 chs.
The departure of the sec.line in 59.41 chs.= 0.03 chs.W.
Point "C" is therefore 5.30 chs.W. from 80.07 ch. station
on sec.line extended thru. sec.cor.point.

40.00	True point for ¼ sec.cor. falls on face of cliffs, and is inaccessible.

From point "C" chain measurement,
East, 5.30 chs. to sec.line. Thence chain measurement,
S.0°2'E., 30.47 chs. on sec.line to

49.60	Foot of cliffs,400 ft.high, bearing NE. and SW.,facing NW.

As this is the nearest accessible point to the true
point for ¼ sec.cor., set an iron post, 3 ft.long,1
in. in diam.,over cross (x),marked on surface rock,and
raise a mound of stone around post for witness cor.to
¼sec.cor.,marked on brass cap,

S28 | S27
WC
1920

Thence,
N.0°2'W., bet. secs.27 and 28, continuing measurement
from cor.of secs. 27, 28, 33 and 34, by chaining.
Over broken mountainous land, thru. scattering timber
and undergrowth,along E.wall of National Canyon.
Descend 160 ft.,over NW.slope, to gulch.

52.00	Rock cliff,20 ft.high, brs.NE. and SW.
63.00	Gulch, course W. Ascend 60 ft.,over SW. slope.
69.00	Descend 260 ft., over NW. slope,to
80.00	Set an iron post, 3 ft. long, 2 ins. in diam.,6 ins. in the ground to bed rock, supported in a mound of stone, for cor. of secs. 21,22,27 and 28, marked on brass cap,

T32N | R6 W
S21 | S22
S28 | S27
1920

from which,

40   Part of Subdivision lines of Township 32 North, Range 6 West.

Chains.	
	A pine, 8 ins. in diam.,brs.N.69¼°E.,112 lks. dist.,marked T32N R6W S22 BT.
	A pine, 10 ins. in diam.,brs.S.31°E.,103 lks. dist.,marked T32N R6W S27 BT.
	A pine,16 ins. in diam.,brs.S.64°W.,48 lks. dist.,marked T32N R6W S28 BT.
	A pine,12 ins. in diam.,brs.N.29½°W.196 lks. dist., marked T32N R6W S21 BT.

This cor.is on a small spur, sloping NW.
Land, S.15½ chs. gently rolling; remainder,broken and
     mountainous.
Soil,rocky, 4th rate.
Timber, scattering cedar and pine.
Undergrowth, scattering sage brush.
No grass.

Flag on witness cor. to cor.of secs. 22,23,26 and 27
     (6.50 chs.E. of cor.point) being visible,
     S.39°56'E., on random line, bet. secs. 22 and 27.

40.00	Set temp.¼ sec.cor.
73.90	Foot of cliffs, bearing N. and S. facing W. Steep ascent of these cliffs renders chaining impracticable;therefore triangulate as described as follows, and as shown on the diagram hereon:
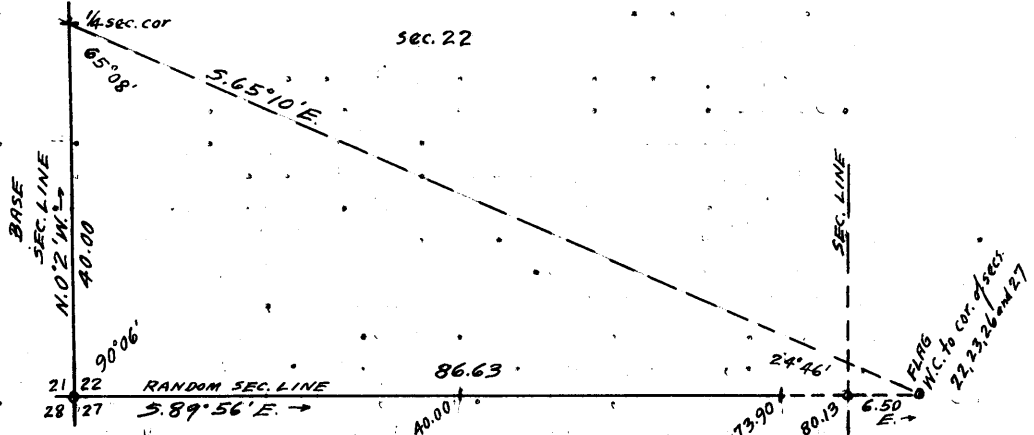
From the cor. of secs. 21,22,27 and 28,measure a Base,
     N.0°2'W., 40.00 chs.
From N. end of Base, flag on W. C. to cor.of secs.22,23,
     26 and 27, brs.S.65°10'E.
Included angles are 65°08', 24°46' and 90°06', the sum
     of which is 180°00.
Triangulated distance from cor.of secs. 21,22,27 and 28,
     to the W.C. to cor.of secs.22,23,26 and 27 is ob-
     tained by

$$\frac{\text{sine }65°08'\text{ x Base}}{\text{sine }24°46'}\text{ or }\frac{.90729\text{ x }40.00}{.41892}=86.63\text{ chs.}$$

The W.C. being 6.50 chs. E.of cor.point, the distance
     to the cor.point is 86.63 chs.- 6.50 chs.= 80.13 chs.

80.13	The true point for cor.of secs. 22,23,26 and 27 falls on face of cliffs, and is inaccessible.

Thence,
N.89°56'W., on true line, bet.secs. 22 and 27.
Over broken, mountainous land, thru scattering timber
     and undergrowth, across side canyon, breaking into
     National Canyon.
Measurement of 6.23 chs. by triangulation.
Descend 450 ft.,over cliffs facing W.

6.23	Foot of cliffs, bears N. and S.

Continue line and measurement by chaining.
Descend 720 ft. over broken W.slope, to bottom of canyon.

|	
40.06½	Set an iron post, 3 ft.long, 1 in. in diam., 8 ins. in the ground to bed rock, supported in a mound of stone, for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4}\quad\frac{\text{S 22}}{\text{S 27}}$$
1920

Part of Subdivision lines of Township 32 North, Range 6 West.   **41**
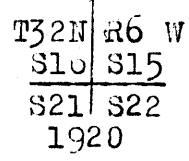
Chains.	
	and raise a mound of stone, 2 ft.base,1½ ft.high, N. of cor.
	Continue over broken, mountainous land, thru.scattering timber and undergrowth.
40.65	Bottom of side canyon, course NW. into National Canyon. Ascend 340 ft., over broken E.slope on W.wall of side can-yon.
62.00	Top of small peak on top of spur, sloping N. Descend 40 ft., over W.slope, to
64.15	Gulch, course N. Descend 40 ft., over N.slope, to
70.15	Gulch, course N. Ascend 20 ft.over NE.slope.
74.00	Point of spur, slopes N. Desc. 45 ft., over NW.slope.
75.00	Gulch, course N. Ascend 20 ft., over E.slope.
77.00	Spur, slopes N. Descend 80 ft., over W.slope.
79.00	Gulch, course NW. from S. near head. Ascend 20 ft.,over NE.slope, to
80.13	The cor.of secs. 21,22,27 and 28 on small spur, sloping NW.
	Land, broken and mountainous.
	Soil, rocky, 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth, scattering sage brush.
	No grass.

	N.0°2'W., bet. secs.21 and 22.
	Over broken and mountainous land, thru. scattering timber and undergrowth, on E.wall of National Canyon. Descend 25 ft., over N.slope, to
2.50	Gulch, course NW. Descend 200 ft., over NW. slope, to
40.00	Set an iron post, 3 ft.long, 1 in. in diam., over cross (X) marked on surface rock, supported in a mound of stone, for ¼ sec.cor., marked on brass cap,

¼
S21 | S22

1920
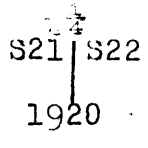
from which,
    A pine, 6 ins.in diam., brs.S.62°E., 85 lks.
      dist., marked ¼ S 22 BT.
    A pine, 8 ins. in diam.,brs.S.50½°W., 125 lks.
      dist., marked ¼ S 21 BT.

	Continue over broken and mountainous land, thru. scattering timber and undergrowth. Descend 60 ft., over NW.slope, to
44.00	Top of cliffs, bearing NE. and SW. facing NW. Descend 300 ft., over face of cliffs, to
53.00	Gulch, course NW. near mouth. Ascend 45 ft.,over SW.slope.
57.50	Descend 165 ft., over NW.slope, to
64.60	Bottom of side canyon, course W. joins bottom of National Canyon, 2.00 chs.W.of line. Descend 30 ft., over broken W.slope, to
73.00	E. edge of bottom of National Canyon, brs.NE. and SW. Thence across bottom of canyon, course N.5° E.
80.00	W.edge of bottom of National Canyon, at foot of bluff 20 ft. high, bearing NE. and SW.
	Set an iron post, 3 ft.long, 2 ins.in diam.,over cross (x) marked on surface rock, supported in a mound of stone, for cor.of secs.15,16,21 and 22, marked on brass cap,

T32N | R6 W
S16 | S15
S21 | S22
1920

from which,
    Mark a cross (x) and BO above cross on face of
   cliff N.44½°E.,104 lks.dist.

42   Part of Subdivision lines of Township 32 North, Range 6 West.

Chains.	

Mark a cross (x) and BO above cross on face of
cliff, S.53¼°E.,176 lks.dist.
Mark a cross (x) and BO above cross,on face of
cliff S.45° W. ½ lk.dist.
Mark a cross (x) and BO above cross on face of
cliff N.48½°W., 38 lks.dist.
Land,broken and mountainous.
Soil,rocky, 4th rate.
Timber, scattering cedar and pine.
Undergrowth, scattering sage brush.
No grass.

S.89°56' E., on random line, bet. secs.15 and 22.

1.00   Base of cliff,over the face of which chaining is imprac-
ticable; therefore, triangulate the measurement from
sec.cor. to top of said cliff, as described as fol-
lows, and as shown on the diagram hereon:
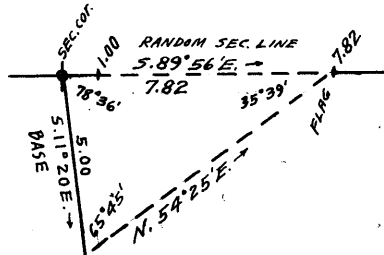
Set flag on random sec.line at
top of cliff.
From sec.cor.,measure a Base,S.
11°20'E.,5.00 chs.
From S.end of Base,flag brs.N.
54°25'E.
Vertical angle from sec.cor.to
flag = + 41°.
Included angles are 65°45' 78°36'
and 35°39', the sum of which
is 180°00'.
Triangulated measurement on ran-
dom sec.line is obtained by

$$\frac{sine\ 65°\ 45'\ x\ Base}{sine\ 35°39'}\ or\ \frac{.91176\ x\ 5.00}{.58283} = 7.82\ chs.$$

7.82   Triangulation point at top of cliff.
Continue line and measurement by chaining.

40.00   Set temp.¼ sec.cor.
The point for cor.of secs.14,15,22 and 23 being inaccess-
ible and witnessed 2.65 chs.N.0°1'W., as hereinbefore
described, measure remainder of random line by offset
into sec.15, as described as follows,and as shown on
the diagram hereon:
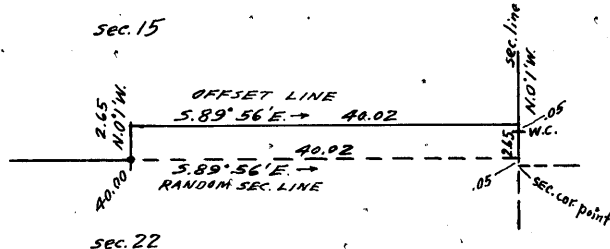
From temp.¼ sec.cor.,
N.0°1'W.,2.05 chs.Thence
S.89°56'E.,40.02 chs.,
parallel to random
line to a point 5 lks.
N.of the witness cor.
to cor.of secs.14,15,
22 and 23,

which would be the falling of the random line at the
sec.cor.point.

80.02   Fall 5 lks.N.of the witness cor.to cor.of secs.14,15,22
and 23.
From true point for cor.of secs.14,15,22 and 23,
N.89°54'W., on true line, bet. secs.15 and 22.
Over broken and mountainous land, thru. scattering tim-
ber and undergrowth,over E.wall of National Canyon.
The point for sec.cor.being inaccessible, measure the
E.½ of line bet. secs. 15 and 22 by offset, as de-
scribed as follows,and as shown on the diagram hereon:
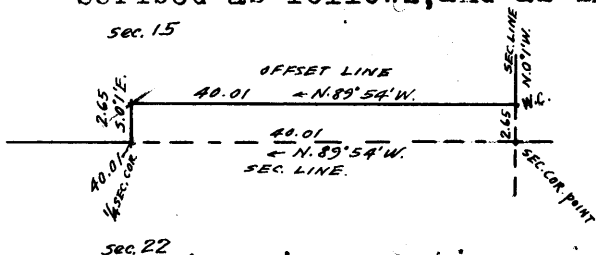
From witness cor.to cor.
of secs.14,15,22 and 23
(2.65 chs.N.0°1'W.from
cor.point),
N.89°54'W.,40.01 chs.par-
allel to true line,bet.
secs.15 and 22. Thence
S.0°1'E.,2.65 chs.to
midpoint on true sec.
line.

Chains.	
	The approximate positions of topographical features and elevations on the true sec.line in the E.half thereof are as follows:
	From sec.cor. point,
	Descend about 200 ft. over NW.face of cliffs, to
4.00	(Approx.) Base of cliffs, brs.NE. and SW. Descend about 200 ft.,over W. slope,to
12.80	(Approx.) Gulch, course N. Descend over N.slope,to
14.00	(Approx.) Gulch, course N. Ascend 60 ft., over NE.slope, to
16.60	(Approx.) Spur, slopes NW. Descend 700 ft.,over broken W. slope,to
40.01	Offset point. Set an iron post, 3 ft.long, 1 in. in diam., 6 ins. in the ground, to bed rock, supported in a mound of stone, for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4} \frac{S\ 15}{S\ 22}$$
1920

	Thence,
	N.89°54'W., on true line, bet. secs.15 and 22, continuing measurement from true point for cor.of secs.14,15,22 and 23.
	Descend 90 ft.,over W.slope,to
49.00	Gulch, course NW. Ascend 60 ft.,over NE.slope,to
52.00	Rim of bench, brs.NW. and SE. Thence over rolling sur- face of bench, near rim of same, bearing E.and W. at about 3 chs.N.of line.
72.20	Triangulation point. Rim of bench, brs.NE. and SW.Leave bench. Descend 450 ft. over face of cliff,bearing NE. and SW. facing NW.
	Measurement to sec.cor.by triangulation hereinbefore described.
79.00	Foot of cliff, and E. edge of bottom of National Canyon, brs.NE. and SW. Thence across bottom of canyon, course N. 5° E.
80.02	The cor.of secs.15,16,21 and 22, at W. edge of bottom of National Canyon, bearing NE. and SW.
	Land,broken and mountainous.
	Soil,rocky, 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth, scattering sagebrush.
	No grass.

	N.0°2'W., bet. secs.15 and 16.
	Over broken and mountainous land,thru.scattering timber and undergrowth, along foot of cliffs,at W.side of bottom of National Canyon. Descend gradually to
19.00	Leave bottom of canyon. Ascend 125 ft.,over SE.slope.
25.00	Point of spur,slopes E. Descend 150 ft.,over broken NE. slope,to
37.00	Gulch, course SE. Ascend 50 ft.,over S.slope,to
40.00	Set an iron post, 3 ft.long, 1 in. in diam.,4 ins.in the ground, to bed rock, supported in a mound of stone, for ¼ sec.cor., marked on brass cap,

$$\frac{\frac{1}{4}}{S16 \mid S15}$$
1920

	and raise a mound of stone, 2 ft. base, 1½ ft.high,W. of cor.
	Continue over broken and mountainous land, thru.scatter- ing timber and undergrowth. Ascend 223 ft.,over cliffs facing S.
44.90	Top of cliffs, bears E. and W. Thence over rolling and broken surface of bench in W.wall of National Canyon.

44 Part of Subdivision lines of Township 32 North, Range 6 West.

chains.	
	Descend 75 ft. over N½.slope, to
80.00	Set an iron post, 3 ft.long, 2 ins.in diam.,4 ins.in the ground, to bed rock, deposit a stone,marked with a cross (x) at base of post,and raise a mound of stone around post for cor.of secs. 9,10,15 and 16, marked on brass cap,

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        T32N | R6 W
        S 9  | S10
        S16  | S15
           1920
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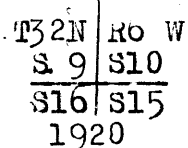
from which,
            A cedar, 10 ins. in diam.,brs.S.6°E.,394 lks. dist., marked T32N R6W S15 BT.
            A cedar, 10 ins. in diam.;brs.S.33½°W.,369 lks. dist., marked T32N R6W S16 BT.

Land,S.45 chs.broken and mountainous; remainder,rolling bench.
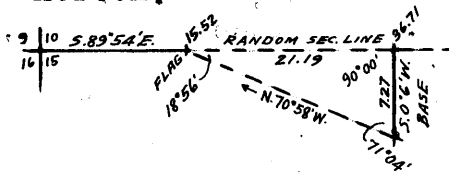Soil,rocky, 4th rate.
Timber, scattering pine and cedar.
Undergrowth, scattering sage brush and mesquite.
Fair grass on bench.

|	
	S.89°54'E., on a random line, bet. secs.10 and 15.
15.52	Top of cliffs facing E. Steep descent from this cliff renders chaining impracticable; therefore, triangulate as described as follows, and as shown on the diagram hereon:

Set flag at 15.52 ch.station. From a point ahead on random sec.line,measure a Base S.0°6'W.,7.27 chs. From S. end of Base,flag brs.N.70°58'W.

Included angles are 71°04',18°56' and 90°00', the sum of which is 180°00'.
Triangulated dist. on random sec.line is obtained by Tang. 71°04'x Base or 2.91523 x 7.27 = 21.19 chs.,which added to 15.52 chs. gives 36.71 chs. S.89°54'E. from sec.cor. for the position of the triangulation point

36.71	Triangulation point at point in rim of cliff facing NE. and NW. It is impracticable to chain measurement on random line E. from this point; therefore offset as described as follows, and as shown on the diagram hereon:
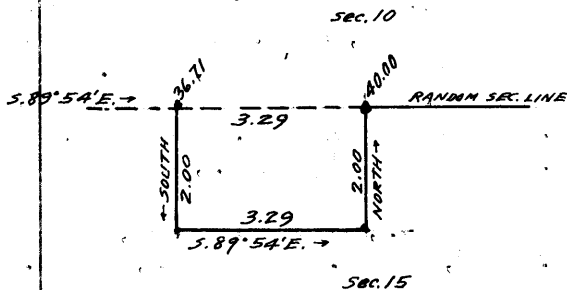
From 36.71 ch.station,
South,2.00 chs.on offset line into sec.15.
Thence,
S.89°54'E.,3.29 chs.on offset line in sec.15,parallel to random sec.line.
Thence,
North, 2.00 chs.on offset line returning to point

|	on random sec.line at
40.00	Set temp.¼ sec.cor.
	Continue measurement on random line.
80.10	Fall 5 lks. N.of the cor.of secs.10,11,14 and 15. Thence, N.89°52'W., on true line, bet. secs.10 and 15. Over broken and mountainous land, thru. scattering timber and undergrowth,over E.wall of National Canyon. Descend 20 ft.,over W.slope,to
1.00	Gulch, course NW. Ascend 35 ft., over NE.slope.
2.50	Descend 220 ft.,over NW.slope,to
25.00	Rim of gulch, brs. NW. and SE. Descend 225 ft. to

Chains.	
32.60	Gulch, course W. from SE. Ascend 40 ft.,over broken N. slope,on S.side of gulch.
40.05	Set an iron post, 3 ft. long, 1 in. in diam.,6 ins.in the ground to bed rock, supported in a mound of stone, for ¼ sec.cor., marked on brass cap,

$$\frac{¼ \quad S\ 10}{S\ 15}$$
$$1920$$

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

To avoid cliffs in rim of gulch beyond this cor.offset as described as follows, and as shown on the diagram hereon:
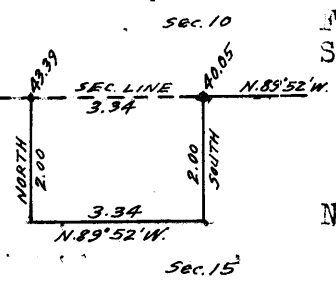
From ¼ sec.cor.
South, 2.00 chs.   Ascending over N. slope to a point 0.20 chs.S.from rim of gulch.
Thence,
N.89°52'W.,3.34 chs.parallel to sec.line and along rim of gulch,bearing E.and W.

Thence,
North,2.00 chs., returning to point on sec.line,at

|	
43.39	Point in rim of gulch, at top of cliff,facing NE. and NW.
	Descend over cliffs, facing NW. and W.
	Measurement of 21.19 chs. by triangulation,hereinbefore described.
54.00	(Approx.) Bottom of National Canyon, course N.
	Ascend over cliffs facing E.
64.58	Triangulation point at top of cliffs, bearing N. and S., facing E.
	Leave mountainous land, and enter rolling bench in W.wall of National Canyon.
	Continue line and measurement by chaining.
	Descend 15 ft. over S.slope,to
71.20	Gulch, course SE. Ascend 52 ft.,over NE.slope,to
80.10	The cor.of secs.9,10,15 and 16.
	Land,broken and mountainous,and rolling bench.
	Soil,rocky, 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth, scattering sage brush.
	Fair grass on bench.

- -

N.0°2'W., bet. secs. 9 and 10.
Over rolling bench in W.wall of National Canyon, thru. scattering timber and undergrowth. Descend gradually over NE. slope.

32.01	Rim of bench, brs.NE. and SW. Leave bench,and descend. over cliffs facing N. Chaining is impracticable; therefore, triangulate as described, as follows, and as shown on the diagram hereon:
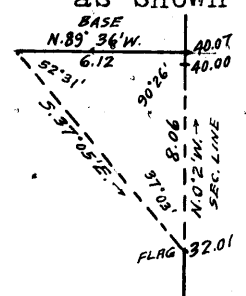
Set flag at 32.01 ch.station.
From a point ahead on sec.line,near foot of cliffs,measure a Base, N.89°30'W.,6.12 chs.
From W.end of base,flag brs.S.37°05' E.
Included angles are 52°31',90° 26' and 37°03', the sum of which is 180°00'.

Triangulated dist. on sec.line is obtained by

$$\frac{\text{sine } 52°31' \times \text{Base}}{\text{sine } 37° 03'} \quad \text{or} \quad \frac{.79353 \times 6.12}{.60251} = 8.06 \text{ chs.},$$

which added to 32.01 chs. gives 40.07 chs. N.0°2'W. from sec.cor. for the position of the triangulation

16 Part of Subdivision lines of Township 32 North, Range 6 West.

Chains.	
	point at foot of cliffs. From 40.07 ch.station, chain measurement, S.0°2'E., 0.07 chs. to
40.00	Set an iron post, 3 ft.long, 1 in. in diam., 4 ins. in the ground to bed rock, supported in a mound of stone, for ¼ sec.cor., marked on brass cap,

$$S\ 9\ \tfrac{1}{2} \mid S10$$
$$1920$$

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

Beyond this point, the sec.line crosses a ravine, the sides of which are broken by precipitous cliffs, rendering chaining of measurement on sec.line impracticable.

Triangulate as described, as follows, and as shown on the diagram hereon:
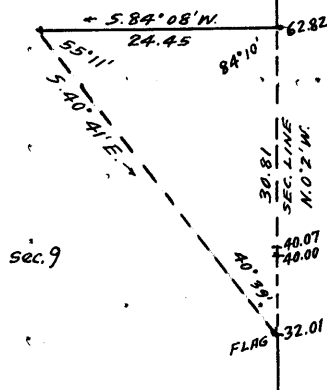
From point ahead on sec.line at N.rim of ravine,measure a base S.84°08'W.,24.45 chs.

From W.end of base,flag at 32.01 ch.station on sec.line,brs.S. 40°41' E.

Included angles are 55°11',84° 10' and 40°39', the sum of which is 180°00'.

Triangulated dist.on sec.line is obtained by

$$\frac{\text{sine } 55°11' \times \text{Base}}{\text{sine } 40°39'} \text{ or } \frac{.82098 \times 24.45}{.65144} = 30.81 \text{ chs.},$$

which added to 32.01 chs. gives 62.82 chs.,N.0°2'W. from cor.of secs. 9,10,15 and 16, for the position of the triangulation point.

48.00	(Approx.) Bottom of ravine,course NE. to junction with bottom of National Canyon, about 40 chs.dist. Ascend over cliffs, facing SE.
62.82	Triangulation point at top of cliffs, bearing NE.and SW. Continue line and measurement, by chaining. Ascend 60 ft.,over SE.slope.
69.75	Descend 40 ft.,over NE.slope.
75.80	Gulch, course E. Ascend 50 ft., over S.slope.
79.00	Spur,slopes E. Descend 10 ft.,over N.slope,to
80.00	Set an iron post, 3 ft.long, 2 ins. in diam., 15 ins. in the ground, to bed rock, supported in a mound of stone, for cor.of secs. 3,4,9 and 10, marked on brass cap,

$$
\begin{array}{c|c}
\text{T32N} & \text{R6W} \\
\hline
S\ 4 & S\ 3 \\
\hline
S\ 9 & S10 \\
\end{array}
$$
$$1920$$

from which,
A pine, 6 ins.in diam.,brs.N.19°E.,345 lks. dist.,marked T32N R6W S3 BT.
A pine, 6 ins.in diam.,brs.S.82½°E.,503 lks. dist., marked T32N R6W S10 BT.

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

Land,broken and mountainous, and rolling bench.
Soil,rocky, 4th rate.
Timber, scattering pine and cedar.
Undergrowth, scattering sage brush,soapweed and Spanish bayonet.
Fair grass on bench.

Chains.

S.89°52'E., on a random line, bet.secs.3 and 10.
This line passes over cliffs,on the walls of National
   Canyon,and chaining is impracticable; therefore trian-
   gulate the measurement of the entire mile, and trans-
   entire mile and a measurement... to the 4 sec.cor.
   to the 4 sec.cor.as described for:
   as follows, and
   as shown on
   the diagram
   hereon:
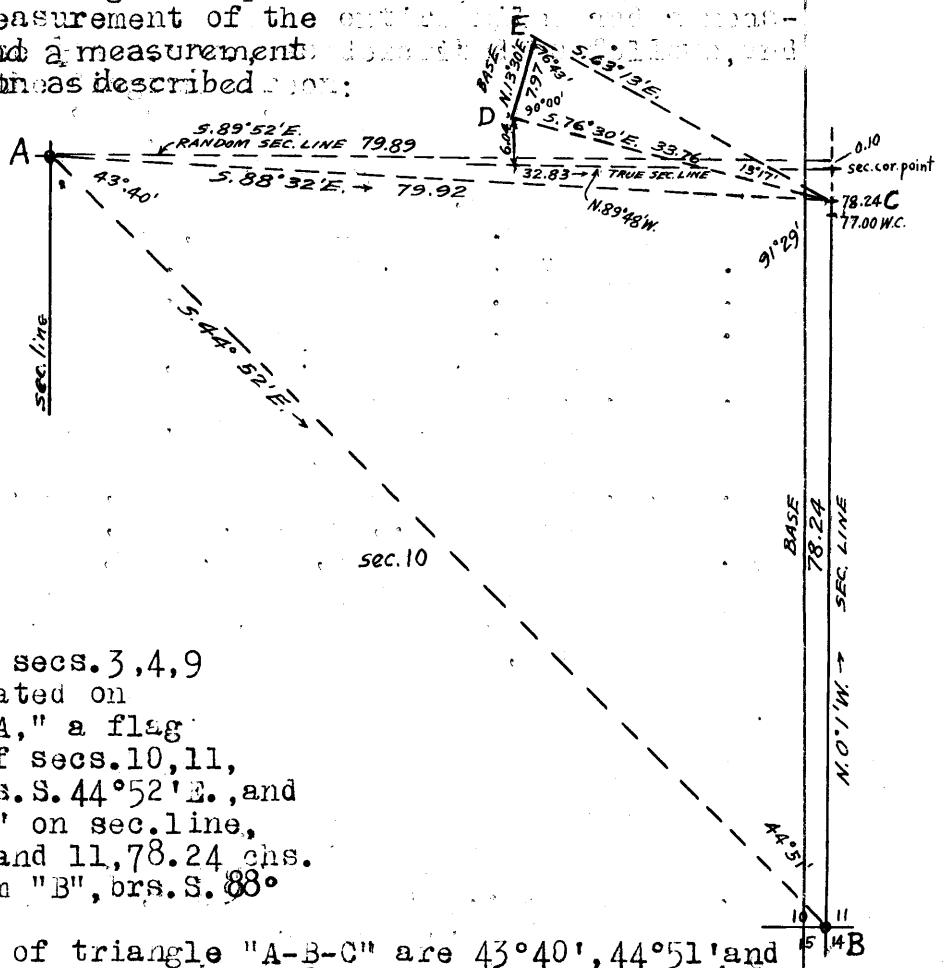
From the cor.of secs.3,4,9
   and 10,indicated on
   diagram at "A," a flag
   "B" at cor.of secs.10,11,
   14 and 15 brs.S.44°52'E.,and
   a flag at "C" on sec.line,
   bet.secs.10 and 11,78.24 chs.
   N.0°1'W. from "B",brs.S.88°
   32'E.
Included angles of triangle "A-B-C" are 43°40',44°51'and
   91°29' the sum of which is 180°00'.
Triangulated measurement of "A-C" is obtained by
$$\frac{\text{sine } 44°51' \text{ x base}}{\text{sine } 43°40'} \text{ or } \frac{.70525 \text{ x } 78.24}{.69046} = 79.92 \text{ chs.}$$

   the latitude and departure of which is 2.04 chs.,S.and
   79.89 chs.E.
Point "C"being 1.70 chs. s.of true point for cor.of secs.
   2,3,10 and 11, the falling of a random line due east
   bet.secs. 3 and 10 would fall 0.28 chs.(2.04- 1.76)
   N.of the sec.cor.point.
The latitude of a random line S.89°52'E.,is 0.18 chs.S.;
   therefore,the falling of the random line will be 0.10
   chs.(0.28- 0.18)N.of the sec.cor.point.
The true course and length of the sec.line,bet. secs.3
   and 10 are therefore N.89°48'W.,79.89 chs.
To locate the point for ¼ sec.cor.,proceed as follows:
From a point "D" in gulch,course E. near its junction
   with bottom of National Canyon,point "C" brs. S.76°30'
   E.
From point "D," measure a base,N.13°30'E.,7.97 chs. to
   point "E."
Bearing of "E-C"= S.63° 13'E.
Vertical angle from "D" to "C."= + 18°50'.
Included angles of triangle "C-D-E" are 13°17', 90°00'
   and 76°43', the sum of which is,180°00'.
Triangulated measurement of "C-D" is obtained by
Tang.76°43' x base or 4.2358 x 7.97 = 33.76 chs., the
   latitude and departure of which are 7.83 chs.N. and
   32.83 chs.W.
The latitude of the section line N.89°48'W.,32.83 chs.
   is 0.08 chs. N., which added to 1.76 chs.(point "C"to
   sec.cor.point) gives 1.84 chs.N. as the latitude of
   a line from point "C" to a point on sec.line S.from
   point "D."
7.88 chs.- 1.84 chs.= 6.04 chs., which is the distance
   from point "D" to 32.83 chs. station on sec.line.

79.89   Fall 10 lks.N.of the true point for cor.of secs.2,3,10

48   Part of Subdivision lines of Township 32 North, Range 6 West.

Chains.	
	and 11, witnessed 3.00 chs, S.0°1'E., as hereinbefore described.
	The cor. point is on NW. face of cliff.
	Thence,
	N.89°48'W., on true line, bet. secs. 3 and 10.
	Over extremely broken and mountainous land.
	Measurement of mile, and E. 32,83 chs. by triangulation hereinbefore described.
	Descend about 600 ft. over cliffs to bottom of National Canyon.
	Over NW. face of cliffs, to
10.00	(Approx.) Thence over NE. face of cliffs, to
20.00	(Approx.) Thence over NW. face of cliffs. to
28.00	(Approx.) Base of cliffs bears NE. and SW. Descend about 130 ft. over NW. slope, to
32.83	E. edge of bottom of National Canyon, brs. NE and SW. Chain measurement on sec. line, from this point to ¼ sec. cor. Thence across bottom of National Canyon, course NE.
34.43	W. edge of bottom of canyon, brs. NE. and SW. Ascend 50 ft., over E. slope, to
39.94½	Set an iron post, 3 ft. long, 1 in. in diam., over cross (x), marked on surface rock, and raise a mound of stone around post, for ¼ sec. cor., marked on brass cap,
	¼ S 3
	S 10
	1921
	Discontinue chaining.
	Ascend about 200 ft., over E. slope, to
50.00	(Approx.) Foot of cliffs, bear NE. and SW. Ascend about 700 ft., over SE. face of cliffs, to
60.00	(Approx.) Top of cliffs, brs. NE. and W. Ascend along broken S. slope, to
70.00	(Approx.) Gulch, course SE. from W. Ascend in gulch, to
78.00	(Approx.) Head of same gulch, course E. Ascend to
79.89	The cor. of secs. 3,4,9 and 10.
	Land, broken and mountainous.
	Soil, rocky, 4th rate.
	Timber, none.
	Undergrowth, scattering sage brush.
	No grass.

|	
	N.0°02'W., on true line, bet. secs. 3 and 4 (S.½).
	Over broken and rolling land, thru scattering timber and undergrowth, on a bench in W. wall of National Canyon. Ascend 25 ft., over S. slope.
3.00	Spur, slopes E. Descend 55 ft., over N. slope.
7.00	Gulch, course E. Descend slightly over E. slope, to
21.00	Gulch, course E. Ascend slightly over E. slope, to
25.50	Gulch, course SE. Descend slightly over E. slope, to
26.00	Gulch, course E. Ascend slightly over E. slope.
36.50	Gulch, course E. Ascend 52 ft., over S. slope, to
40.00	Set an iron post, 3 ft. long, 1 in. in diam., over cross (x) marked on surface rock, and raise a mound of stone around post, for ¼ sec. cor., marked on brass cap,
	¼
	S 4	S 3
	1920
	from which,
	A cedar, 10 ins. in diam., brs. S.12°E., 48 lks. dist., marked ¼S 3 BT.
	Land, broken and rolling.
	Soil, rocky, 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth, scattering sagebrush and yucca. Poor grass.

Chains.	
	From the cor. of secs. 4,5,32 and 33, on S. bdy. of Tp., described in Book"E,"
	N.0°03'W.,bet.secs.32 and 33.
	Over broken and mountainous land, thru. scattering timber and undergrowth, along W.wall of National Canyon. Desc. 25 ft.,over NE.slope.
3.50	Gulch, course E. Ascend 60 ft., over SE.slope,to
5.50	Ascend slightly over E.slope.
11.20	Descend 95 ft.,over NE.slope.
19.00	Gulch, course E. Ascend 35 ft.,over SE.slope.
29.60	Point of spur, slopes E. Descend 80 ft., over NE.slope.
34.40	Gulch, course E. Ascend 15 ft., over SE.slope.
36.50	Descend 45 ft., over NE.slope,to
40.00	Set an iron post, 3 ft.long, 1 in. in diam., 10 ins. in the ground, to bed rock, supported in a mound of stone, for $\frac{1}{4}$ sec.cor., marked on brass cap,

$$\frac{1}{4}$$

S32 | S33

1920
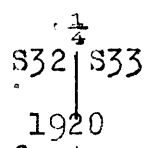
	and raise a mound of stone, 2 ft.base,1$\frac{1}{2}$ ft.high,W. of cor.
	Continue over broken and mountainous land,thru.scattering timber and undergrowth,along W.wall of National Canyon. Descend slightly to
40.50	Gulch, course E. Ascend 25 ft.,over S.slope.
41.50	Spur,slopes E. Descend 70 ft.,over N.slope.
45.00	Gulch, course E. Descend 12 ft.over E.slope,to
48.00	Gulch, course E. Ascend 65 ft.,over S.slope.
51.00	Point of spur, slopes E. Descend 100 ft.,over NE. slope.
67.00	Gulch, course E. Ascend 15 ft.,over S.slope.
69.00	Descend 70 ft.,over NE.slope.
78.00	Gulch, course E. for about 1.00 ch.,thence NE. Ascend 25 ft.,over SE.slope,to
80.00	Set an iron post, 3 ft.long, 2 ins.in diam.,over cross (x) marked on surface rock, supported in a mound of stone, for cor.of secs.28,29, 32 and 33,marked on brass cap,

T32N | R6 W

S29 | S28

S32 | S33

1920
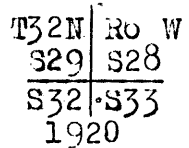
from which,
        A pine, 12 ins. in diam.,brs.N.34°E.,45 lks.
            dist.,marked T32N R6W S28 BT.
        A pine, 12 ins. in diam., brs.N.27°W., 205 lks.
            dist.,marked T32N R6W S29 BT.
Land,broken and mountainous.
Soil,rocky,4th rate.
Timber, scattering cedar and pine.
Undergrowth, sage brush and yucca.
Poor grass.

	East, on a random line, bet. secs.28 and 33.
	Flag at E. rim of National Canyon, due West of cor.of secs.27,28, 33 and 34 being visible.
40.00	Set temp.$\frac{1}{4}$ sec.cor.
	Beyond this point, the line passes over high,precipitous cliffs on E.wall of National Canyon, and chaining is impracticable; therefore,triangulate as described as follows,and as shown on the diagram hereon:

Set flag ahead on random
line at E. rim of
canyon.
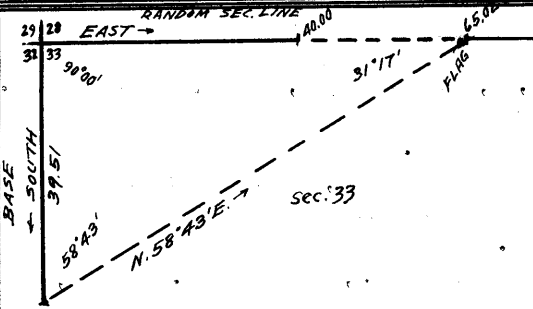
Chains.	
	From cor.of secs.28,29,32 and 33, measure a Base South, 39.51 chs. From S. end of Base, flag brs. N.58°43'E. Included angles are 58°43', 90°00' and 31°17', the sum of which is 180°00'.
	Triangulated dist. on random line is obtained by Tang.58° 43' x Base or 1.64579 x 39.51 = 65.02 chs.
65.02	Flag point of above described triangulation, at E. rim of National Canyon. Continue line and measurement by chaining.
80.36	Intersect the cor.of secs. 27,28; 33 and 34. Thence, West, on true line, bet. secs.28 and 33. Over gently rolling land, thru. scattering timber and undergrowth. Descend 24 ft., over NW.slope.
7.00	Wash, course NW. near head. Ascend slightly over E. slope, to
15.34	Triangulation point at E. rim of National Canyon, brs. N. and S. Leave gently rolling, and enter broken and mountainous land. Descend over high, precipitous cliffs, bearing N. and S., facing W. Measurement by triangulation to ¼ sec.cor.
40.18	Set an iron post, 3 ft.long, 1 in. in diam., on surface rock, supported in a mound of stone, for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4} \frac{\text{S 28}}{\begin{array}{c}\text{S 33}\\1920\end{array}}$$

	and raise a mound of stone, 2 ft.base, 1½ ft.high, N. of cor. Continue line and measurement by chaining, over broken and mountainous land, thru. scattering timber and undergrowth, on E.wall of National Canyon. Descend 105 ft., over W.slope, to
45.35	Enter gulch, course W. from SE. Descend 200 ft.in this gulch, to
62.85	Leave gulch, course NW. from E. Desc. 30 ft., over NW. slope, to
67.85	Gulch, course NW. Descend 20 ft., over N.slope, to
71.85	Bottom of National Canyon, 40 lks.wide, course N. Ascend 60 ft., over NE.slope, to
76.85	Gulch, course NE. Ascend 40 ft., over SE.slope, to
80.36	The cor.of secs.28,29, 32 and 33. Land, E.15 chs., gently rolling, remainder broken and mountainous. Soil, rocky, 4th rate. Timber, scattering cedar and pine. Undergrowth, scattering sage brush. Poor grass.
	N.0°3' W., bet. secs. 28 and 29. Over broken and mountainous land, thru. scattering timber and undergrowth, along W. wall of National Canyon. Descend 40 ft., over NE.slope.
5.00	Ascend 60 ft., over SE.slope.
15.50	Point of spur, slopes E. Descend 75 ft., over NE.slope.
21.10	Gulch, course E. Ascend 65 ft., over SE.slope,
25.00	Descend 40 ft., over NE. slope.
28.50	Gulch, course E. Ascend 35 ft., over SE.slope.
30.00	Rim of bench, brs. NE. and SW. Thence over point on bench. Ascend slightly over E. slope, to
40.00	Set an iron post, 3 ft.long, 1 in. in diam., 4 ins. in the ground to bed rock, supported in a mound of stone,

Chains.	
	for ¼ sec.cor., marked on brass cap,

<p style="text-align:center">
¼
S29│S28
│
1920
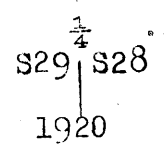</p>

from which,
A pine, 8 ins.in diam.,brs.N.o2°E.,258 lks.dist.,
marked ¼S 28 BT.
A pine, 6 ins.in diam.,brs.S.29¾°W.,197 lks.dist.,
marked ¼ S 29 BT.
Continue over broken and mountainous land,thru.scatter-
ing timber and undergrowth, along W.wall of National
Canyon.

|	
40.50	Leave bench. Descend 40 ft.over NE.slope,to
42.50	Wash,1.00 ch.wide, course E. Ascend 35 ft.,over E.slope.
56.00	Descend 55 ft.,over NE.slope.
63.00	Gulch, course NE. Ascend 50 ft.,over SE.slope.
66.50	Top of cliff, 15 ft.high, brs.NE and SW. at point of spur,sloping NE. Descend 70 ft.over N.slope.
68.70	Gulch, course E. Asc.115 ft.,over S.slope.
·75.00	Point of spur,slopes SE. Descend 30 ft.,over E.slope,to
80.00	Set an iron post, 3 ft.long, 2 ins. in diam.,8 ins.in the ground, to bed rock, deposit stone marked with a cross (x) at base of post, and raise a mound of stone around post, for cor.of secs. 20,21, 28 and 29,marked on brass cap,

<p style="text-align:center">
T32N│R6 W
S20│S21
─────
S29│S28
1920
</p>
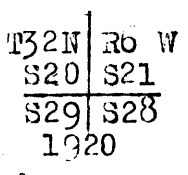
from which,
A cedar, 10 ins. in diam.,brs.S.25°W.,7 lks.
dist.,marked T32N R6W S29 BT.
Land,broken and mountainous.
Soil,rocky, 4th rate.
Timber, scattering pine and cedar.
Undergrowth, scattering sage brush.
Poor grass.

East,on a random line, bet. secs.21 and 28.

24.51	Top of cliffs, bearing NE. and SW.facing SE. The line beyond this point passes over cliffs on W.wall of National Canyon, and chaining is impracticable;there- fore,triangulate as described as follows,and as shown on the diagram hereon:
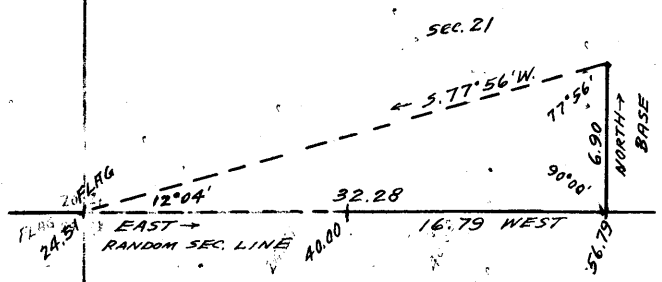
Set flag at 24.51 ch.sta-
tion on random line.
From a point ahead on ran-
dom line on E.wall of
National Canyon, measure
a Base North,6.90 chs.,
which is as long a base
as it is practicable to
chain.
From N. end of base, flag brs. S.77°56'W.
Included angles are 77°56',90°00' and 12°04', the sum
of which is 180°00'.
Triangulated dist. on random line is obtained by
Tang. 77°56'x Base or 4.67786 x 6.90 chs.= 32.28 chs.,
which added to 24.51 chs. gives 56.79 chs. E.from sec.
cor. for the position of the triangulation point on
random line, from which chain measurement,West,16.79
chs.to

40.00	Set temp.¼ sec.cor.
	Thence,

52. Part of Subdivision lines of Township 32 North, Range 6 West.

Chains.	
	East, on random line, continuing measurement from cor. of secs. 20, 21, 28 and 29.
56.79	Triangulation point.
80.32	Fall 9 lks. N. of the cor. of secs. 21, 22, 27 and 28.
	Thence,
	N.39°50'W., on a true line, bet. secs. 21 and 28.
	Over broken and mountainous land, thru. scattering timber and undergrowth. Descend 55 ft., over W. slope.
2.30	Gulch, course NW. near head. Ascend 100 ft., over NE. slope.
5.00	Spur, slopes NW. Descend 300 ft., over W. slope.
23.53	Triangulation point in gulch, course NW.
	Continue chain measurement to ¼ sec. cor.
	Ascend 212 ft., over NE. slope.
37.80	Descend 15 ft., over NW. slope, to
40.16	Set an iron post, 3 ft. long, 1 in. in diam., 10 ins. the ground to bed rock, supported in a mound of stone, for ¼ sec. cor., marked on brass cap,

¼ — S 21
—————
S 28
1920

	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
	Continue over broken and mountainous land, thru. scattering timber and undergrowth.
	Descend over NW. slope to bottom of canyon.
	Measurement to top of cliffs on W. wall of canyon by triangulation hereinbefore described.
43.00	(Approx.) Bottom of National Canyon, course NE. Ascend about 475 ft., over cliffs facing SE.
55.81	Triangulation point at top of cliffs, bearing NE. and SW.
	Thence over rolling bench. Ascend 25 ft., over SE. slope.
61.52	Descend 18 ft., over SW. slope.
65.30	Gulch, course SE. near head. Ascend 30 ft., over SE. slope.
66.40	Descend slightly over SW. slope.
72.82	Gulch, course S., near head. Ascend 75 ft., over SE. slope, to
80.32	The cor. of secs. 20, 21, 28 and 29.
	Land, broken and mountainous.
	Soil, rocky, 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth, scattering sage brush.
	Poor, grass.

- -

	N.0°3'W., bet. secs. 20 and 21.
	Over broken and mountainous land, thru. scattering timber and undergrowth, along W. wall of National Canyon.
	Ascend 50 ft., over SE. slope.
3.20	Point of spur, slopes E. Descend 30 ft., over NE. slope.
11.10	Gulch, course E. Ascend slightly over E. slope, to
13.50	Gulch, course E. Asc. 23 ft., over SE. slope.
15.00	Descend 16 ft. over NE. slope.
22.00	Gulch, course E. Ascend 390 ft., over SE. slope, to
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 14 ins. in the ground to bed rock, supported in a mound of stone for ¼ sec. cor., marked on brass cap,

¼
S20 | S21

1920

	and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	The foot of cliffs, bearing NE. and SW. facing SE. is about 3 chs. NW. of this cor.
	Beyond this cor., the line passes over cliffs, about

Chains.	
	300 ft. high, and chain measurement is impracticable; therefore, triangulate as described as follows, and as shown on the diagram hereon:

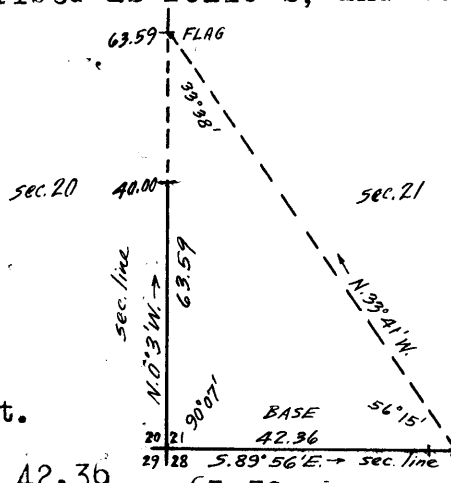Set flag ahead on sec.line at
top of cliffs.
From cor.of secs.20,21,28 and 29,
measure a base S.89°56'E.,
42.36 chs. on the sec.line
bet. secs.21 and 28.
From E.end of base,flag brs.N.
33°41'W.
Included angles are 50°15',90°
07' and 33°38', the sum of
which is 180°00'.
Triangulated dist. on sec.line,bet.
secs.20 and 21 is obtained by

$$\frac{\text{sine } 50°15' \times \text{Base}}{\text{sine } 33°38'} \text{ or } \frac{.83147 \times 42.36}{.55388} = 63.59 \text{ chs.}$$

54.00 (Approx.) Foot of cliffs, 300 ft. high,bearing NE. and
SW,
Ascend over SE. face of cliffs.

63.59 Flag point of above described triangulation at top of
cliffs, bearing NE. and SW., facing SE. forming W.rim
of National Canyon.
Continue line and measurement by chaining.
Leave broken and mountainous land, and enter rolling land.
Ascend 60 ft., over SE.slope,to

80.00 Set an iron post, 3 ft.long, 2 ins. in diam., on surface
rock, supported by a mound of stone, for cor.of secs.
16,17,20 and 21, marked on brass cap,

```
         T32N | R6 W
         S17  | S16
         S20  | S21
          1920
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from which,
A pine,10 ins. in diam., brs.N.66¾°E., 219 lks.
dist.,marked T32N R6W S16 BT.
A pine,8 ins. in diam.,brs.S.26¾°E.,294 lks.
dist., marked T32N R6W S21 BT.
A pine,6 ins. in diam.,brs.S.14½°W.,271 lks.
dist., marked T32N R6W S20 BT.
A pine,13 ins. in diam.,brs.N.32¼°W., 90 lks.
dist., marked T32N R6W S17 BT.
Land,broken and mountainous,on S.63½ chs. Remainder,
rolling.
Soil,rocky, 4th rate.
Timber, scattering cedar and pine.
Undergrowth, scattering sage brush.
Poor grass.

- -

8.30 S.89°56'E.,on a random line, bet. secs.16 and 21,
W. rim of National Canyon, brs.N.and S.   Steep descent
over cliffs beyond this point renders continuation
of chaining impracticable; therefore, triangulate as
described as follows and as shown on the diagram
hereon:
From cor.of secs.16,17,20 and 21, a flag at 44.90 ch.
station on line bet. secs.
15 and 16;brs.N.60°46'E.
cor.of secs.15,16,21 and
22 is not visible from
W.end of sec.line;there-
fore set flag at top
of cliffs about 8 chs.
due W.from said cor.
This flag brs.S.89°
57'E.,which is the   true bearing of the sec.line,bet.
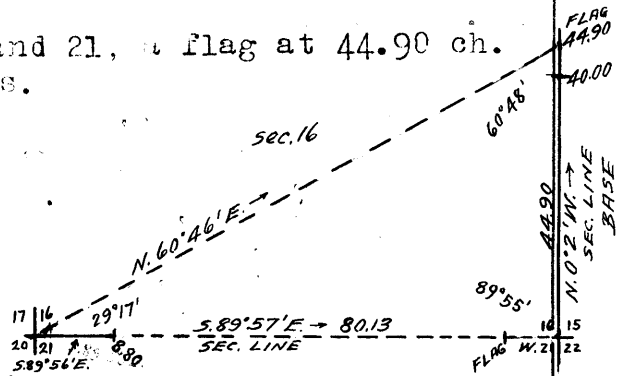
chains.	54 Part of Subdivision lines of Township 32 North, Range 6 West.
	secs. 16 and 21.

The included angles are therefore 29° 17', 60°48' and
89°55'.., the sum of which is 180°00'.
Triangulated measurement of the entire length of the sec.
line is obtained by

$$\frac{\text{sine } 60°48' \text{ x Base}}{\text{sine } 29° 17'} \text{ or } \frac{.87292 \text{ x } 44.90}{.48913} = 80.13 \text{ chs.}$$

To obtain the measurement from top of cliffs to cor. of
secs. 15,16,21 and 22, triangulate as described as fol-
lows, and as shown on the diagram hereon:
From flag W. of cor., measure a
Base, S.4°40'E.,2.79 chs. along
top of cliffs.
From SE. end of Base, the bearing
to sec.cor. is N.70°23' E.
Vertical angle from flag to cor.
is - 40°.
Included angles of the triangle are 75°03',85°20' and 19°
37', the sum of which is 180°00'.
Triangulated measurement from flag to sec.cor. is ob-
tained by

$$\frac{\text{sine } 75°03' \text{ x Base}}{\text{sine } 19°37'} \text{ or } \frac{.96615 \text{ x } 2.79}{.33573} = 8.03 \text{ chs.}$$

The true course of the section line being found by trian-
gulation to be S.89°57'E., the random line S.89°50'E.
would at

80.13 Fall 2 lks.S. of the cor.of secs.15,16,21 and 22 in bot-
tom of National Canyon.
Thence,
N.89°57'W., on true line, bet. secs.16 and 21.
Over broken and mountainous land, thru. scattering tim-
ber and undergrowth, on W.wall of National Canyon.
Measurement of 8.03 chs. by triangulation, hereinbefore
described.
Ascend 340 ft., over E.face of cliffs to

8.03 Triangulation point at top of cliffs, bearing North and
S.5°E. facing E.
Continue line and measurement by chaining.
Ascend 250 ft. over E.slope, to

40.06½ Set an iron post, 3 ft.long, 1 in. in diam., 4 ins. in
the ground to bed rock supported in a mound of stone
for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4} \text{ S 16}$$
S 21
1920

from which,
A pine, 8 ins. in diam.,brs.N.69°E.,271 lks.
dist., marked ¼ S 16 BT.
A pine,8 ins. in diam.,brs.S.70°E.,329 lks.
dist., marked ¼ S 21 BT.
Discontinue chaining.
Continue over broken and mountainous land, thru.scatter-
ing timber and undergrowth on W.wall of National Can-
yon.
Measurement by triangulation to W. rim of canyon.
Ascend 1400 ft.,over face of cliffs,to

71.33 W. rim of National Canyon brs.N.30°W. and S.
Leave broken and mountainous land,and enter rolling land.
Chaining measurement to sec.cor.
Ascend 62 ft.,over E.slope,to

80.13 The cor.of secs.16,17,20 and 21.
Land,broken,mountainous and rolling.
Soil,rocky, 4th rate.
Timber, scattering cedar and pine.
Undergrowth, scattering sagebrush,mesquite and yucca.
Poor grass.

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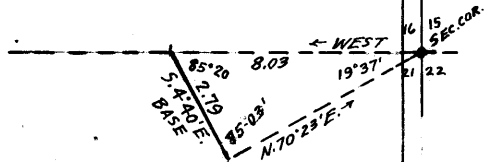
Chains.	
	N.0°3'W., bet. secs.16 and 17.
	Over gently rolling land, thru. scattering timber and undergrowth.
	Descend 40 ft., over NE.slope, to
16.49	W. rim of National Canyon, brs.N.60°E. and W.
	Leave gently rolling land, and enter broken and mountainous land in National Canyon.
	Descent over high precipitous cliffs beyond this point, renders chaining impracticable; therefore, triangulate as described as follows, and as shown on the diagram here on:
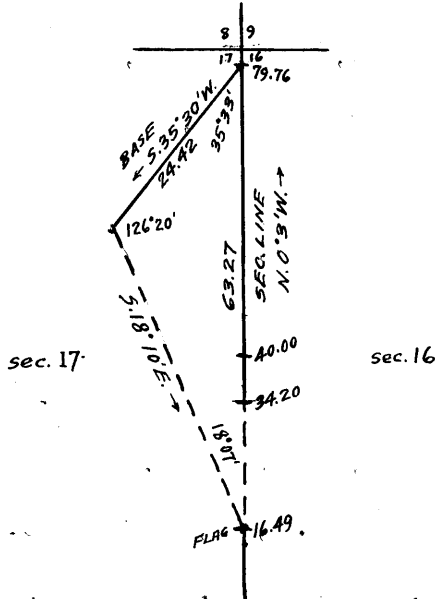
Set flag at 16.49 ch.station.
From point ahead on section line, measure a Base S.35° 30'W., 24.42 chs.

From SW.end of Base,flag brs. S.18°10'E.

Included angles are 126°20', 35°33' and 18°07',the sum of which is 180°00'.

Triangulated dist.on sec.line is obtained by
$$\frac{\text{sine } 126°20' \times \text{Base}}{\text{sine } 18°07'}$$
or
$$\frac{.80558 \times 24.42}{.31095} = 63.27 \text{ chs.}$$

	which added to 16.49 chs. gives 79.76 chs.,N.0°3'W. from cor.of secs. 16,17,20 and 21 for the position of the triangulation point.
	Thence,
	S.0°3'E., chaining measurement,and returning on section line,to
34.20	Foot of cliffs, brs.NE. and SW. facing NW., 770 ft. below W. rim of National Canyon at 16.49 ch. station.
	Thence,
	N.0°3'W., on section line, continuing measurement from cor.of secs. 16,17, 20 and 21.
	Over W. wall of National Canyon.
	Descend 194 ft.,over broken NW.slope,to
40.00	Set an iron post, 3 ft.long, 1 in. in diam., 6 ins.in the ground to bed rock,supported in a mound of stone, for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4}$$

S 17 | S16

1920
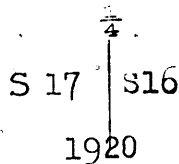
|	
	and raise a mound of stone, 2 ft.base, 1½ ft. high, W.of cor.
	Continue over broken and mountainous land, thru.scattering timber and undergrowth, on W. wall of National Canyon.
	Descend 350 ft., over NW. slope.
55.00	Gulch, course NE.
	Ascend 40 ft., over SE. slope.
60.00	Descend 70 ft., over NE.slope.
69.50	Gulch, course E.
	Ascend 25 ft., over SE.slope.
71.00	Descend 45 ft., over NE.slope.
76.50	Gulch, course E.
	Ascend 16 ft.,over SE.slope to sec.cor.

56 Part of Subdivision lines of Township 32 North, Range 5 West.

Chains.	
79.76	Triangulation point.
80.00	Set an iron post, 3 ft.long, 2 ins. in diam., 10 ins. in the ground to bed rock, supported in a mound of stone, for cor.of secs.8,9, 16 and 17, marked on brass cap,

<div align="center">

T32N | R6 W
S 8 | S 9
S17 | S16

1920

</div>
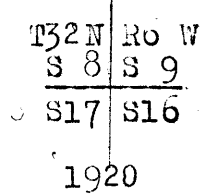
and raise a mound of stone, 2 ft.base, 1½ ft. high,W. of cor.

Land, S.10½ chs. rolling; remainder,broken and mountainous.

Soil,rocky, 4th rate.

Timber, scattering cedar and pine.

Undergrowth, scattering sagebrush, mesquite and yucca.

Poor grass.

S.89°57'E., on a random line, bet. secs.9 and 16.

40.00	Set temp.¼ sec.cor.
80.40	Fall 2 lks.N.of the cor.of secs.9,10,15 and 16. Thence,

N.89°56'W. on a true line, bet. secs.9 and 16.

Over gently rolling land, thru. scattering timber and undergrowth,on bench on W.wall of National Canyon.

Ascend gradually over N.E.'slope,to

40.20	Set an iron post, 3 ft.long, 1 in. in diam., over cross (x) marked on surface rock, supported in a mound of stone, for ¼ sec.cor., marked on brass cap,

<div align="center">

S 9
¼ ――――――
S 16
1920

</div>
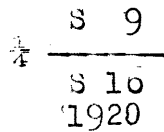
from which,

A pine, 12 ins. in diam., brs.N.4¼°E., 514 lks. dist., marked ¼ S 9 BT.

Continue over gently rolling land, thru. scattering timber and undergrowth, on bench in W. wall of National Canyon.

Ascend 20 ft.,over N.E.slope.

40.40	Point of spur, slopes N. Leave gently rolling land and bench,and enter broken and mountainous land.

Descend 80 ft.,over NW.slope.

54.00	Gulch, course NE.

Ascend 60 ft., over SE.slope.

58.75	Point of small spur, slopes S.

Descend 30 ft.,over SW.slope.

60.50	Gulch, course SE.

Ascend 306 ft.,over N.E.slope,to

77.00	Spur,slopes S. 85°E.

Ascend 55 ft.,over S.slope,to

80.40	The cor.of secs. 8,9,16 and 17.

Land, E.40½ chs.,rolling; remainder,broken and mountainous.

Soil,gravelly and rocky, 3rd and 4th rate.

Timber, scattering cedar and pine.

Undergrowth,scattering sage brush.

Fair grass on bench.

--

ROCK

Chains.	
	N.0°03'W.,bet. secs.8 and 9.
	Over broken and mountainous land, thru. scattering timber and undergrowth,along W.Wall of National Canyon.
	Ascend 55 ft.over S.slope.
2.10	Spur,slopes E. Desc. 35 ft., over N.slope.
5.00	Gulch, course E. Ascend 53 ft.,over SE.slope.
9.00	Descend 10 ft.,over NE. slope.
15.00	Gulch, course E. Ascend 73 ft.,over S.slope.
18.57	Spur,slopes E. Descend 109 ft.,over N.slope.
31.00	Gulch, course E. Ascend slightly over E.slope,to
34.00	Gulch, course E. Ascend 60 ft.,over SE.slope,to
40.00	Set an iron post, 3 ft.long, 1 in.in diam., 6 ins.in the ground to bed rock, supported in a mound of stone,for ¼ sec.cor., marked on brass cap,

¼

S 8 | S 9

1920

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

Continue over broken and mountainous land,thru.scattering timber and undergrowth,on W.wall of National Canyon. Ascend gradually over SE.slope on bench,to

| 55.75 | Foot of cliffs. brs.NE. and SW., facing SE. |
| | Chain measurement over the face of these cliffs is impracticable; therefore, triangulate as described as follows, and as shown on the diagram hereon: |
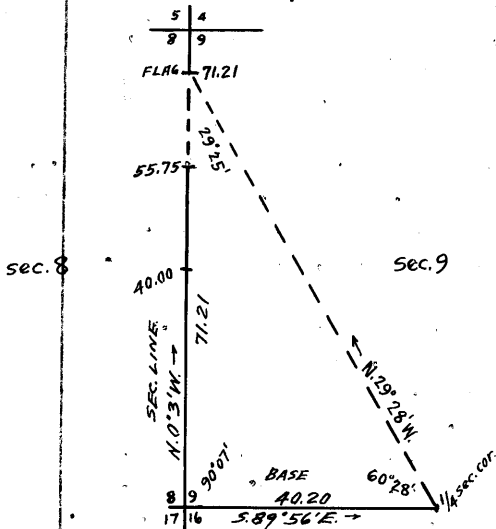
Set flag ahead on sec.line,at top of cliffs.

From the cor.of secs.8,9,16 and 17, measure a Base on sec.line, bet.secs.9 and 16, S.89°56' E.,40.20 chs.to ¼ sec.cor. thereon.

From E.end of Base,flag brs. N.29°28'W.

Included angles are 60°28',90° 07' and 29°25', the sum of which is 180°00'.

Triangulated dist.on sec.line bet.secs.8 and 9 is obtained by

$$\frac{\text{sine } 60°28' \times \text{Base}}{\text{sine } 29°25'} \quad \text{or} \quad \frac{.87007 \times 40.20}{.49116} = 71.21 \text{ chs.}$$

71.21	Flag point of above described triangulation at top of cliffs, bearing NE. and SW., facing SE., and forming W.rim of National Canyon.
	Leave broken and mountainous land,and enter rolling land.
	Continue line and measurement by chaining.
	Ascend 15 ft. over SE.slope.
75.30	Low spur,slopes NE. Descend 15 ft.,over NW.slope,to
80.00	Set an iron post, 3 ft.long, 2 ins. in diam.,14 ins.in the ground to bed rock, supported in a mound of stone, for cor.of secs.4,5,8 and 9, marked on brass cap,

T32N | R6W

S 5 | S 4

S 8 | S 9

1920

from which,

A pine, 8 ins.in diam.,brs.N.0¼°E.,111 lks. dist., marked T32N R6W S4 BT.

A pine,10 ins.in diam.,brs.S.29¼°E.,47 lks. dist., marked T32N R6W S9 BT.

A pine,15 ins.in diam.,brs.S.56½°W.,188 lks. dist., marked T32N R6W S8 BT.

A pine,6 ins.in diam.,brs.N.58½°W.,180 lks. dist., marked T32N R6W S5 BT.

58 Part of Subdivision lines of Township 32 North, Range 6 West.

Chains.	
	Land, broken, ... mountainous and rolling. Soil, gravelly and rocky, 3rd and 4th rate. Timber, scattering cedar and pine. Undergrowth, scattering sage brush.. Poor grass.

- -

	S.89°56'E., on a random line, bet. secs.4 and 9.
14.43	W.rim of National Canyon, brs.N.and SW. Steep descent over cliffs beyond this point renders chaining imprac- ticable; therefore, triangulate as described as fol- lows, and as shown on the diagram hereon:
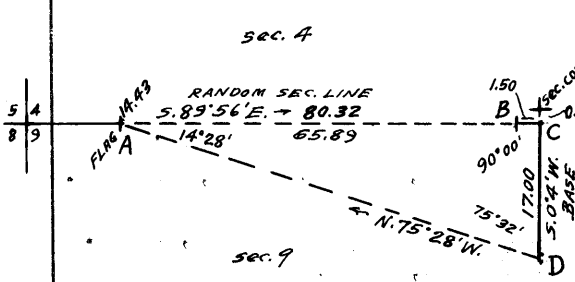
Set flag at 14.43 ch. station on random sec.line indicated on diagram at "A."

Set another flag "B" at a point ahead on random sec. line.

From flag "B" chain measurement, S.89°56'E.,1.50 chs. to point "C," which is 0.21 chs.S. of the cor.of secs.3,4,9 and 10.

From point "C," measure a Base S.0°4'W.,17.00 chs, to point "D."
Bearing "D-A" = N.75°28' W.
Included angles are 75°32', 14°28' and 90°00', the sum of which is 180°00'.
Triangulated distance on random sec.line "A" to "C" is obtained by
Tang.75°32' x Base or 3.87601 x 17.00 = 65.89 chs.,which added to 14.43 chs. gives 80.32 chs. as the total length of random line, bet. secs.4 and 9.

80.32	Fall 21 lks.S. of the cor.of secs.3,4,9 and 10. Thence, S.89°55'W., on true line, bet. secs.4 and 9. Over broken and mountainous land, thru. scattering timber and undergrowth, over W.wall of National Canyon. Ascend 40 ft., over NE.slope.
1.50	Spur,slopes SE. Descend 25 ft.,over SW.slope.
12.83	Gulch, course SE. Ascend 50 ft.,over NE.slope.
20.85	Spur,slopes SE. Descend 23 ft.,over SW.slope.
21.50	Gulch, course SE. Ascend 110 ft.,over SE.slope.
30.00	Descend 140 ft.over SW. slope.
37.50	Gulch, course SE. Ascend 55 ft., over SE.slope,to
40.10	Gulch, course SE. Set an iron post, 3 ft.long, 1 in. in diam., 6 ins. in the ground, to bed rock, supported in a mound of stone, for ¼ sec.cor., marked on brass cap,

$$\frac{\frac{1}{4} \; S \; 4}{\begin{array}{c} S \; 9 \\ 1920 \end{array}}$$

and raise a mound of stone, 2 ft.base,1½ ft.high,N.of cor.
Continue over broken and mountainous land,thru.scattering timber and undergrowth on W.wall of National Canyon.
Ascend 110 ft.,over E.slope,to

|	
46.50	Base of cliffs,about 600 ft.high,brs.N.and S. Discontinue chaining.Measurement by triangulation to
65.89	Triangulation point at top of cliffs,bearing N.and SW. facing E.and SE.,forming W.rim of National Canyon. Leave broken and mountainous land,and enter rolling land. Ascend 35 ft.,over E.slope.
73.00	Spur,slopes N.from SW. Desc.25 ft. over NW.slope,to
80.32	The cor.of secs.4,5,8 and 9. Land, broken,mountainous and rolling.Soil,rocky,4th rate. Timber,scattering cedar and pine. Undergrowth,scattering sage brush. Poor grass.

- -

Chains,	
	N.0°03'W., bet. secs. 4 and 5.
	Over rolling land, thru. scattering timber and under-
	growth.
	Descend 40 ft., over NW.slope.
23.60	Draw, course NE. Ascend 45 ft., over SE.slope, to
40.00	Set an iron post, 3 ft.long, 1 in. in diam.,6 ins.in the
	ground to bed rock, supported in a mound of stone,
	for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4}$$

S 5 | S 4

1920
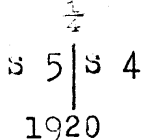
from which,
  A pine, 8 ins. in diam., brs. S.77½°E.,47 lks.
      dist., marked ¼ S 4 BT.
  A pine, 10 ins. in diam.,brs. S.83°W., 223 lks.
      dist., marked ¼ S 5 BT.
Continue over rolling land, thru. scattering timber and
  undergrowth. Ascend 20 ft., over SE.slope.

45.00	Spur,slopes NE. Desc.210 ft.,over N.slope.
68.10	Wash, course NE. Ascend 45 ft., over SW. slope,to
80.00	Set an iron post, 3 ft.long, 2 ins. in diam.,6 ins. in
	the ground to bed rock, supported in a mound of stone
	for temporary closing cor. of secs.4 and 5, marked
	on brass cap,

S 5 | S 4
T32N | R6 W
C | C
1920
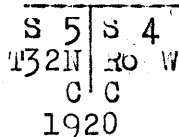
from which,
  A pine, 14 ins. in diam., brs. S.39°E.,217 lks.
      dist., marked T32N R6W S4 CC BT.
  A pine, 9 ins. in diam.,brs. S.37½°W.,99 lks.
      dist., marked T32N R6W S5 CC BT.
Note: This cor. is set at theoretical intersection with
  8th. Standard Parallel North (unsurveyed).

Land, rolling.
Soil,gravelly and rocky, 3rd and 4th rate.
Timber, scattering cedar and pine.
Undergrowth, scattering sage brush.
Poor grass.

From the cor. of secs. 5,6, 31 and 32, on S.bdy.of Tp.,
  described in Book "E,"
N.0°03'W., bet. secs. 31 and 32.
Over rolling and mountainous land, thru. scattering
  timber and undergrowth. Ascend 10 ft., over SE.slope.

1.50	Spur,slopes NE. Desc.67 ft.,over NW. slope.
11.90	Gulch, course E. Ascend 63 ft.,over S.slope.
19.90	Spur slopes NE. Descend 60 ft.,over NW.slope.
29.80	Wash,course E. Asc. 25 ft.,over S.slope.
34.80	Spur,slopes E. Desc. 25 ft.,over N.slope.
39.70	Wash, course E. Ascend slightly over S.slope,to
40.00	Set an iron post, 3 ft.long, 1 in in diam., on surface
	rock, supported in a mound of stone, for ¼ sec.cor.,
	marked on brass cap,

$$\frac{1}{4}$$

S31 | S32

1920
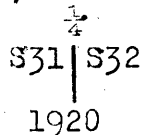
from which,
  A cedar, 18 ins. in diam.,brs. N.23½°E.,67 lks.

190

BOOK 350

60   Part of Subdivision lines of Township 32 North, Range 6 West.

Chains.	
	dist., marked ¼ S 32 BT.
	A pine, 17 ins. in diam., brs. S.45°W.,107 lks.
	dist., marked ¼ S 31 BT.
	Continue over rolling and mountainous land, thru. scattering timber and undergrowth.
	Ascend 70 ft., over S. slope.
49.90	Spur, slopes E. Descend 110 ft., over N. slope.
63.40	Wash, course NE. Asc. 40 ft., over SE. slope.
69.70	Spur, slopes E. Desc. 80 ft. over N. slope.
70.60	Wash, course SE. Asc. 35 ft., over SW. slope, to
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., on surface rock, supported in a mound of stone, for cor. of secs. 29, 30, 31 and 32, marked on brass cap,

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               T32N | R6 W
                S30 | S29
                --------
                S31 | S32
                  1920
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from which,
    A cedar, 7 ins. in diam., brs. N.53°E.,93 lks.
        dist., marked T32N R6W S29 BT.
    A cedar, 33 ins. in diam., brs. S.54°E.,162 lks.
        dist., marked T32N R6W S32 BT.
    A cedar, 8 ins. in diam., brs. S.67°W.,182 lks.
        dist., marked T32N R6W S31 BT.
    A pine, 13 ins. in diam., brs. N.33½°W.,59 lks.
        dist., marked T32N R6W S30 BT.
Land, rolling and mountainous.
Soil, gravelly loam, 3rd rate.
Timber, scattering cedar and pine.
Undergrowth, scattering sage brush and dogwood.
Fair grass.

- -

	S. 89°50'E., on a random line, bet. secs. 29 and 32.
31.05	W. rim of National Canyon, bearing N. and S. The line beyond this point passes over E. face of cliffs, and chaining is impracticable; therefore, triangulate as described as follows, and as shown on the diagram hereon:
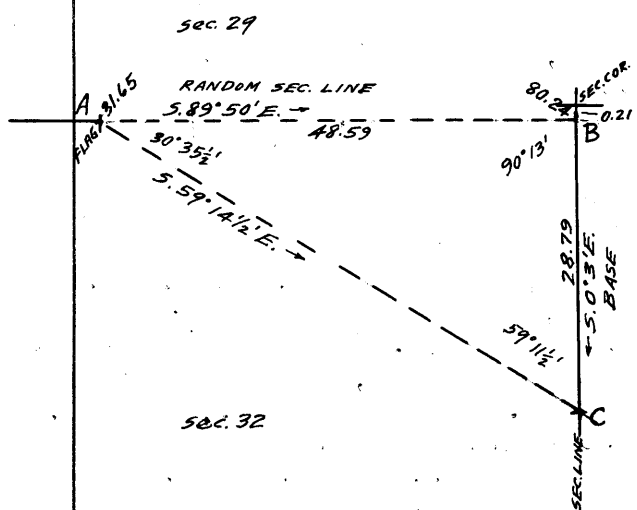
Set flag at 31.05 ch. station on random sec. line, indicated on diagram at "A."
Set another flag "B" at 0.21 chs. S. of the cor. of secs. 28, 29, 32 and 33, and bearing S. 89°50'E. from "A."
From point "B" measure a Base, S. 0°3'E., 28.79 chs. on sec. line bet. secs. 32 and 33 to point "C."
Bearing "A-C"= S. 59°14½'E. Included angles are 30° 35½', 90°13' and 59°11½', the sum of which is 180° 00'.

Triangulated dist. on random sec. line is obtained by

$$\frac{\text{sine } 59°11\frac{1}{2}' \times \text{Base}}{\text{sine } 30°35\frac{1}{2}'} \text{ or } \frac{.85888 \times 28.79}{.50891} = 48.59 \text{ chs.,}$$

which added to 31.05 gives 80.24 chs. as the total length of the random line.

|	
40.00	Point for temp. ¼ sec. cor. falls on face of cliffs and is inaccessible.
80.24	Fall 21 lks. S. of the cor. of secs. 28, 29, 32 and 33.
	Thence,
	N. 89°59'W., on a true line, bet. secs. 29 and 32.
	Over broken and mountainous land, thru. scattering timber

Chains.	
	and undergrowth, on W. wall of National Canyon.
	Measurement to W.C. to ¼ sec.cor. by triangulation, Asc. about 675 ft.,over steep broken E.slope,to
30.50	(Approx.) Foot of cliffs, brs.N.and S. Ascend about 1000 ft.,over face of cliffs to W. rim of canyon.
40.12	True point for ¼ sec.cor. falls on face of cliffs,and is inaccessible; therefore, at
48.59	W. rim of National Canyon, brs.N.and S. This being the nearest accessible point to the point for the ¼ sec.cor.
	Set an iron post, 3 ft.long, 1 in. in diam.,on surface rock, supported in a mound of stone,for witness cor. to ¼ sec.cor., marked on brass cap,

$$\frac{1}{4}\ \frac{\text{S 29}}{\text{S 32}}\ \text{WC}$$
$$1920$$

	and raise a mound of stone, 2 ft.base, 1½ ft. high, N. of cor.
	Ascend 25 ft.,over NE.slope.
52.00	Point of spur, slopes N. Desc.113 ft., over NW.slope.
56.34	Gulch, course NE. Asc. 220 ft., over E.slope.
70.40	Spur,slopes SE. Desc.64 ft., over SW.slope,to
80.24	The cor,of secs. 29,30, 31 and 32.
	Land,broken and mountainous.
	Soil,rocky,4th rate.
	Timber, scattering cedar and pine.
	Undergrowth, scattering sage brush.
	Poor grass.

	N.89°50'W., on a random line, bet. secs.30 and 31.
18.35	Top of ridge, brs.N° and SW. The line beyond this point passes over very precipitous broken slopes;therefore, discontinue chaining, and triangulate the measurement of the remainder of the line, as described as follows, and as shown on the diagram hereon:
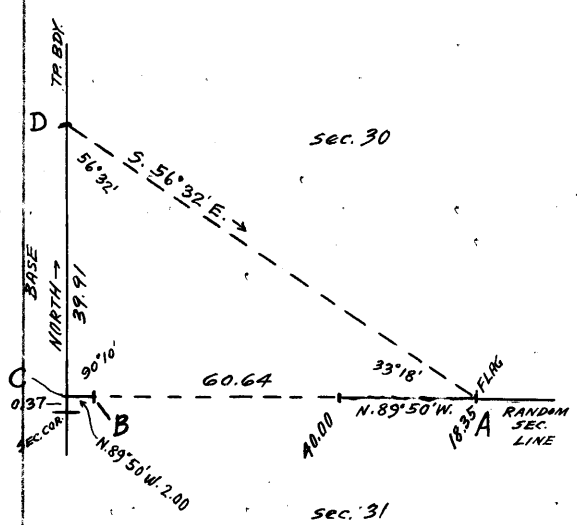
Set flag on random sec.line at 18.35 ch.station, indicated on diagram at"A."
Set another flag ahead on random line at "B."
From "B"measure N.89°50' W.,2.00 chs.to point"C" which is 0.37 chs.N.of the cor.of secs.25,30, 31 and 36 on W.bdy.of Tp. or the falling of the random line projected,
The true return course of the sec.line is therefore N.89°54'E.
From point "C" measure a Base,North 39.91 chs. on the Tp.bdy.to point "D."
Bearing "D-A" is S.56°32'E.

	Included angles of triangle "A-C-D" are 33°18',90°10' and 56°32', the sum of which is 180°00'.
	Triangulated measurement from "A" to "C" is obtained by

$$\frac{\text{sine }56°32'\ \times\ \text{Base}}{\text{sine }33°18'}\ \text{or}\ \frac{.83421\ \times\ 39.91}{.54902}\ =\ 60.64\ \text{chs.,which}$$

	added to 18.35 chs. gives 78.99 chs. as the total length of the line bet.secs.30 and 31.
78.99	Fall 37 lks.N.of the cor.of secs.25,30,31 and 36,on W.bdy. of Tp., hereinbefore described.
	Thence,
	N.89°54'E., on a true line, bet. secs.30 and 31.
	Over broken and mountainous land, thru. scattering timber and undergrowth,on E.wall of Mohawk Canyon. Chaining

62 Part of Subdivision lines of Township 32 North, Range 6 West.

Chains.	
	measurement to ¼ sec.cor.
	Ascend 86 ft., over W.slope.
2.00	Spur, slopes N. Desc. 380 ft., over E.slope.
16.60	Gulch, course N. Asc. 70 ft., over W.slope.
26.15	Spur, slopes N. Desc. 135 ft., over E.slope.
30.26	Gulch, course N.20°W. Asc. 270 ft., over W.slope, to
38.99	Set an iron post 3 ft.long, 1 in.in diam., 6 ins. in the ground, to bed rock, deposit stone marked with a cross (x) at base of post, and raise a mound of stone around post, for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4} \frac{\text{S 30}}{\text{S 31}}$$
1920

	Discontinue chaining. Continue over broken and mountainous land, thru.scattering timber and undergrowth.
	Measurement by triangulation. Ascend over steep W.slope, to
41.00	(Approx.) Foot of cliffs, bearing N.and SW.,facing W.Asc. over face of cliffs, to
46.00	(Approx.) Top of cliffs,bearing N.and SW.forming E.rim of Mohawk Canyon.
	Ascend over W.slope,to
60.04	Triangulation point at top of ridge, bearing N.and SW.Continue line and measurement by chaining. Desc.190 ft., over SE.slope.
70.50	Gulch, course S. Ascend 40 ft.,over SW.slope,to
78.99	The cor.of secs.29,30,31 and 32.
	Land, broken and mountainous.
	Soil, rocky, 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth, scattering sage brush.
	Poor grass.

- -

	N.0°03'W., bet. secs.29 and 30.
	Over mountainous land, thru. scattering timber and undergrowth.
	Ascend 90 ft.,over SW.slope.
14.90	Spur,from SW. forks and slopes E. and SE. Desc.53 ft., over N.slope.
31.35	Gulch, course SE.
	Enter dense timber. Ascend 110 ft.,over SE.slope,to
40.00	Set an iron post, 3 ft.long, 1 in. in diam., 14 ins. in the ground, to bed rock, supported in a mound of stone, for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4}$$
S30 | S29

1920

from which,
    A pine, 10 ins. in diam.,brs.N.02½°E., 84 lks.
       dist., marked ¼ S 29 BT.
    A pine,12 ins.in diam., brs.N.74°W.,107 lks.
       dist., marked ¼ S 30 BT.

	Leave mountainous,and enter rolling land. Continue thru. dense timber and scattering undergrowth, descending very gradually over E.slope,to
80.00	Set an iron post, 3 ft.long, 2 ins. in diam., 12 ins.in the ground to bed rock, supported in a mound of stone, for cor.of secs.19,20,29 and 30, marked on brass cap,

T32N | R6 W
S19 | S20
S30 | S29
1920

from which,
    A pine,14 ins.in diam.,brs.N.30½°E.,96 lks.
       dist.,marked T32N R6W S20 BT.

64 Part of Subdivision lines of Township 32 North, Range 6 West.

| Chains.	
57.45	Spur, slopes NE. Desc. 37 ft., over NW.slope, to
65.45	Draw, course N. Asc. 46 ft., over E.slope, to
80.44	The cor.of secs.19,20,29 and 30.
	Land, E. 43½ chs., broken and mountainous; remainder, rolling.
	Soil, gravelly and rocky, 2nd, 3rd and 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth, scattering sage brush.
	Fair grass in W.½.

S.89°54'W., on a random line, bet. secs.19 and 30.

| 15.21 | E.rim of Mohawk Canyon, brs.N.and S. The random line beyond this point passes over cliffs, which renders chaining impracticable. Triangulate the measurement of the remainder of the line, as described as follows, and as shown on the diagram hereon: |
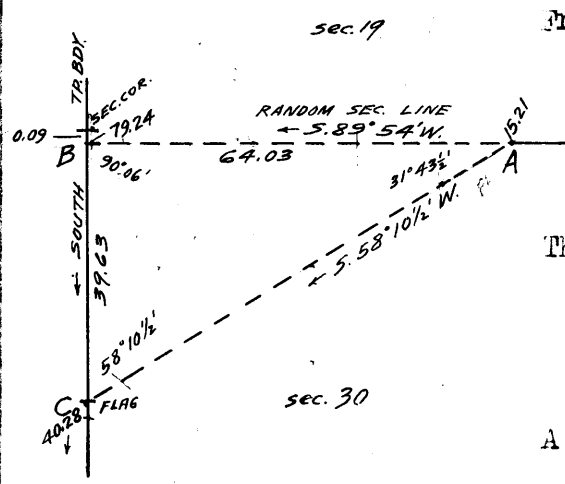
From 15.21 ch.station on random sec.line, indicated on diagram at "A," a flag "B" which is 0.09 chs.S.of the cor.of secs.19,24,25, and 30 on W.bdy.of Tp., brs.S. 89°54'W.from "A."

The random line extended would therefore fall 0.09 chs.S. of the sec.cor, giving a true return course for the sec.line bet. secs.19 and 30, of N.89°58'E.

A flag "C" at 40.28 ch.station on Tp.bdy.bet.secs.25 and 30 gives a base for this triangulation "B-C" South, 39.63 chs.

Bearing "A-C" = S.58°10½'W.

Included angles of triangle "A-B-C" are 31°43½', 58°10½', and 90°06', the sum of which is 180°00'.

Triangulated dist. on random line from "A" to "B" is obtained by

$$\frac{\text{sine } 58°10½' \times \text{Base}}{\text{sine } 31°43½'} \text{ or } \frac{.84900 \times 39.03}{.52584} = 64.03 \text{ chs., which}$$

added to 15.21 chs. gives 79.24 chs. as the total length of random line, bet. secs.19 and 30.

79.24	Fall 9 lks.S. of the cor. of secs.19,24,25 and 30, on W. bdy.of Tp., hereinbefore described.
	Thence,
	N.89°58'E., on a true line, bet. secs.19 and 30.
	Over broken and mountainous land, thru. scattering timber and undergrowth, on E.wall of Mohawk Canyon.
	Chaining measurement to ¼ sec.cor.
	Ascend 25 ft., over W.slope.
1.80	Spur, slopes S.from NE. Desc. 100 ft., over E.slope.
16.70	Gulch, course SW. Asc.303 ft., over W.slope, to
39.24	Set an iron post, 3 ft.long, 1 in. in diam., over cross (x) marked on surface rock, and raise a mound of stone around post, for ¼ sec.cor., marked on brass cap,

<div align="center">

¼ S 19

S 30

1920

</div>

| | Discontinue chaining. Continue over broken and mountainous land, thru. scattering timber and undergrowth on E.wall of Mohawk Canyon. Measurement to E.rim by triangulation. Ascend over steep W.slope, to |
| 43.00 | (Approx.) Foot of cliffs, brs.N.and S. Ascend over W.face of cliffs, to |

Part of Subdivision lines of Township 32 North, Range 6 West. 63

Chains.	
	A cedar, 14 ins. in diam., brs.S.30°E., 36 lks. dist., marked T32N R6W S29 BT.
	A pine, 6 ins. in diam., brs.S.65½°W., 75 lks. dist., marked T32N R6W S30 BT.
	A pine,10 ins. in diam.,brs.N.74°W.,148 lks. dist., marked T32N R6W S19 BT.

Land, S.½ mountainous; N.½ rolling.
Soil, gravelly and rocky, 2nd and 3rd rate.
Timber, cedar and pine, scattering and dense as noted.
Undergrowth, scattering sage brush and dogwood.
Fair grass.

30.95   S.89°59'E., on a random line, bet. secs.20 and 29.
W. rim of National Canyon, brs.NE. and S.15°E., The remainder of the line passes over a series of cliffs, facing E., and chaining of such portion of the line is impracticable. Triangulate as described as follows, and as shown on the diagram hereon:
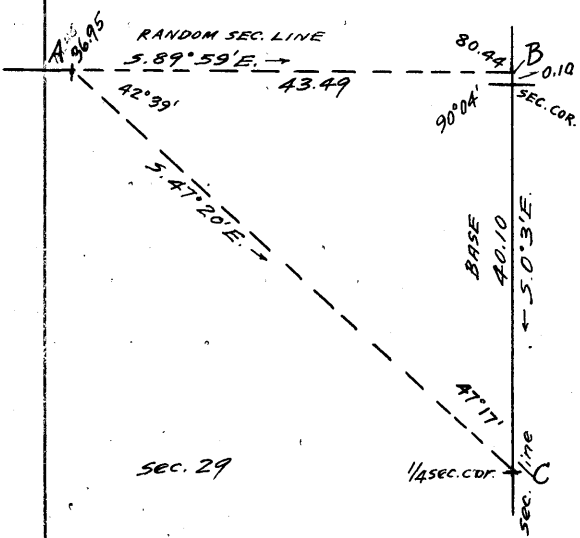
From 36.95 ch. station indicated at "A," a flag "B" at 10 lks. N. of the cor. of secs.20,21,28 and 29, brs. S.89°59'E.
The random line extended will therefore fall 10 lks. N. of said sec.cor., giving a true return course for the sec.line N.89°55'W.
A flag set at the ¼ sec.cor. of secs.28 and 29, brs. S. 47°20'E., and gives a Base "B-C" S.0°3'E.40.10 chs.
Included angles of triangle "A-B-C" are 42°39', 90°04' and 47°17', the sum of which is 180°00'.

Triangulated dist. on random line from "A" to "B" is obtained by

$$\frac{\text{sine } 47°17' \times \text{Base}}{\text{sine } 42°39'} \text{ or } \frac{.73472 \times 40.10}{.67752} = 43.49 \text{ chs.,}$$

which added to 36.95 chs. gives 80.44 chs. as the total length of random sec.line.

80.44   Fall 10 lks. N. of the cor. of secs. 20,21, 28 and 29.
Thence,
N.89°55'W., on a true line, bet. secs.20 and 29.
Over broken and mountainous land, thru scattering timber and undergrowth, on W. wall of National Canyon.
Ascend about 1350 ft., over cliffs to W.rim of canyon.
Measurement by triangulation.

40.22   True point for ¼ Sec.cor. falls on face of cliff; therefore, at

43.49   Triangulation point at W. rim of National Canyon, brs.NE. and S.15°E.
Set an iron post, 3 ft.long, 1 in. in diam., over cross (x) marked on surface rock, and raise a mound of stone around post, for witness cor. to the ¼ sec.cor., marked on brass cap,

$$\frac{¼ \quad S \: 20}{S \: 29} \quad WC$$
$$1920$$

Leave broken and mountainous land, and enter rolling land.
Continue line and measurement by chaining.
Descend 50 ft., over NW.slope.

40.15   Draw, course NE. Asc.114 ft., over SE.slope,

| Chains.	
64.03	Triangulation point at E. rim of Mohawk Canyon, brs. N. and S. Leave broken and mountainous land, and enter rolling land. Continue line and measurement by chaining. Ascend 60 ft., over W. slope.
74.20	Ridge, brs. N. and S. Desc. 15 ft., over E. slope, to
79.24	The cor. of secs. 19, 20, 29 and 30. Land, W. 64 chs. mountainous; remainder rolling. Soil, rocky, 4th rate. Timber, scattering cedar and pine. Undergrowth, scattering sage brush. Poor grass.

N. 0°03'W., bet. secs. 19 and 20.
Over rolling land, thru. scattering undergrowth.
Descend 25 ft., over E. slope, to

12.40	Draw, course E. Ascend 20 ft., over S. slope.
20.00	Spur, slopes E. Descend 45 ft., over N. slope.
23.90	Draw, course E. Ascend 35 ft., over SE. slope, to
40.00	Set an iron post, 3 ft. long, 1 in. in diam., on surface rock, supported in a mound of stone for ¼ sec. cor., marked on brass cap,

$$\frac{1}{4}$$

S19 | S20

1920
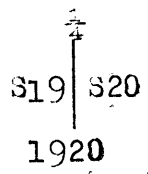
from which,
        A pine, 10 ins. in diam., brs. N. 87°E., 106 lks.
            dist., marked ¼ S 20 BT.
        A pine, 9 ins. in diam., brs. N. 15¾°W., 82 lks.
            dist., marked ¼ S 19 BT.
Continue over rolling land, thru. scattering undergrowth.
Enter scattering timber. Asc. 17 ft., over S. slope.

45.00	Spur, slopes E. Leave rolling, and enter mountainous land. Desc. 150 ft., over N. slope.
57.20	Gulch, course E. Asc. 70 ft., over S. slope.
64.65	Spur, slopes E. Desc. 140 ft., over N. slope.
72.70	Gulch, course E. Asc. 135 ft., over S. slope, to
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 20 ins. in the ground, to bed rock, supported in a mound of stone, for cor. of secs. 17, 18, 19 and 20, marked on brass cap,

T32N | R6 W
S18 | S17
S19 | S20
1920
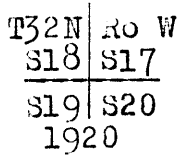
from which,
        A pine, 15 ins. in diam., brs. N. 9¼°E., 86 lks.
            dist., marked T32N R6W S17 BT.
        A pine, 9 ins. in diam., brs. S. 80¾°E., 25 lks.
            dist., marked T32N R6W S20 BT.
        A pine, 12 ins. in diam., brs. S. 50½°W., 157 lks.
            dist., marked T32N R6W S19 BT.
        A pine, 8 ins. in diam., brs. N. 88¾°W., 146 lks.
            dist., marked T32N R6W S18 BT.
Land, S. 45 chs. rolling; remainder, mountainous.
Soil, gravelly and rocky, 3rd rate.
Timber, scattering cedar and pine, where noted.
Undergrowth, scattering sage brush and dogwood.
Poor grass.

S. 89°55'E., on a random line, bet. secs. 17 and 20.

40.00	Set temp. ¼ sec. cor.

60 Part of Subdivision lines of Township 32 North, Range 6 West.

Chains.	
80.00	Fall 12 lks.N. of the cor.of secs.16,17,20 and 21. Thence, N.89°50'W., on a true line, bet. secs.17 and 20. Over gently rolling land, thru. scattering timber and undergrowth. Asc. gradually over NE.slope.
20.00	Descend 65 ft.,over NW.slope.
30.70	Draw, course N. Asc. 50 ft., over E.slope.
35.00	Spur,slopes N. Desc.15 ft., over W.slope,to

40.00	Set an iron post, 3 ft.long, 1 in. in diam.,on surface
	  rock, supported in a mound of stone, for ¼ sec.cor.,
	  marked on brass cap,

$$\frac{1}{4}\ \underline{S\ 17}$$
$$S\ 20$$
$$1920$$

from which,
    A pine, 9 ins. in diam., brs.N.28¼°E.,204 lks.
        dist., marked ¼ S 17 BT.
    A pine, 8 ins. in diam.,brs.S.53°E.,167 lks.
        dist., marked ¼ S 20 BT.
Leave rolling; and enter mountainous land. Continue thru.
    scattering timber and undergrowth.
Descend 90 ft., over W.slope.

49.90	Gulch, course N. Ascend 83 ft.,over E.slope.
52.60	Spur, slopes N. Desc.113 ft.,over W.slope.
59.50	Gulch, course N. Asc. 40 ft.,over SE.slope.
61.30	Spur,slopes NE. Desc.30 ft.,over NW.slope.
65.30	Gulc., course NE. Asc.170 ft., over SE.slope,to
80.00	The cor.of secs.17,18,19 and 20.

Land,E.½ gently rolling. W.½ mountainous.
Soil,E.½,gravelly,2nd rate; W.½,rocky, 4th rate.
Timber, scattering cedar and pine.
Undergrowth, scattering sage brush and dogwood.
Fair grass in E.½.

| 25.58 | S.89°58'W., on a random line, bet. secs.18 and 19.
E.rim of Mohawk Canyon,brs.N.20°E. and S.45°W. The line
  beyond this point passes over cliffs facing W.,and
  chaining is impracticable.
Triangulate the measurement of the remainder of the
  random sec.line as described as follows, and as shown
  on the diagram hereon: |
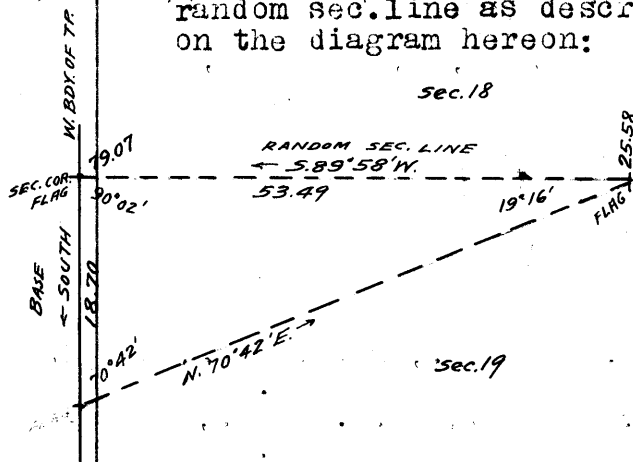
From 25.58 ch.station on ran-
dom sec.line,a flag on the
cor.of secs. 13,18,19 and 24,
on W bdy.of Tp.is visible,
and brs.S.89°58'W.
The random line extended will
  therefore intersect said sec.
  cor.,giving a true return
  course for the sec.line of N.
  89°58'E.
From cor.of secs.13,18,19 and
  24,measure a Base,South,18.70
  chs.on Tp.bdy.
From S.end of Base,flag at 25.58 ch.station on sec.line,
  bet.secs.18 and 19, brs.N. 70°42'E.
Included angles are 70°42';90°02' and 19°16', the sum
  of which is 180°00'.
Triangulated dist.on random sec.line is obtained by
  $$\frac{\text{sine }70°42' \times \text{Base}}{\text{sine }19°16'} \text{ or } \frac{.94380 \times 18.70}{.32997} = 53.49 \text{ chs.,which}$$
  added to 25.58 chs. gives 79.07 chs.,as the total
  length of the sec.line, bet. secs.18 and 19.

| 79.07 | Intersect the cor.of secs.13,18,19 and 24 on W. bdy.of
  Tp.,hereinbefore described.
Thence, |

Chains.	
	N.39°58'E., on a true line, bet. secs. 18 and 19.
	Over broken and mountainous land, thru. scattering timber and undergrowth, on E. wall of Mohawk Canyon.
	Chaining measurement to ¼ sec.cor. Descend 25 ft., over NE.slope.
3.00	Gulch, course NW. Ascend 80 ft., over W.slope.
7.44	Spur, slopes NW. Descend 60 ft., over NE.slope, to
11.10	Gulch, course NW. Ascend 210 ft., over NW.slope, to
29.70	Gulch, 20 ft. deep, course N.20°W. Ascend 120 ft., over NW. slope, to
35.00	Gulch, course NW. Ascend 175 ft., over W.slope, to
39.07	Set an iron post, 3 ft.long, 1 in. in diam., 16 ins. in the ground to bed rock, deposit stone marked with a cross (x) at base of post, and raise a mound of stone around post, for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4} \quad \frac{S\ 18}{S\ 19}$$
$$1920$$

	Discontinue chaining.
	Continue over broken and mountainous land, thru. scattering timber and undergrowth, on E.wall of Mohawk Canyon.
	Ascend over steep W.slope, to
45.00	(Approx.) Foot of cliffs, brs.N. and S.
	Ascend over W.face of cliffs, to
53.49	Triangulation point at E. rim of Mohawk Canyon, brs.N.20° E. and S.45°W. Leave broken and mountainous land, and enter rolling land.
	Continue line and measurement by chaining.
	Descend 40 ft., over E. slope.
65.57	Draw, course S. Ascend 75 ft., over SW.slope.
74.00	Point of spur, slopes S. Descend 30 ft., over SE.slope, to
79.07	The cor. of secs. 17,18,19 and 20.
	Land, W. 53½ chs. broken and mountainous; remainder rolling.
	Soil, rocky, 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth, scattering sage brush.
	Poor grass.

	N.0°03'W., bet. secs. 17 and 18.
	Over rolling land, thru. scattering timber and undergrowth.
	Ascend 23 ft., over S.slope.
4.00	Spur, slopes E. Desc. 45 ft., over N.slope.
13.90	Draw, course E. Asc. 20 ft., over SE.slope.
25.00	Point of spur, slopes NE. Desc. 23 ft., over N.slope.
30.50	Draw, course E. Ascend 23 ft., over SE.slope, to
40.00	Set an iron post, 3 ft.long, 1 in. in diam., 15 ins. in the ground, to bed rock, supported in a mound of stone, for ¼ sec.cor., marked on brass cap,

$$\frac{1}{4}$$
$$S18 \mid S17$$
$$1920$$

	from which,
	A pine, 12 ins. in diam., brs.S.58¼°E., 26 lks. dist., marked ¼ S 17 BT.
	A cedar, 15 ins. in diam., brs.S.82½°W., 109 lks. dist., marked ¼ S 18 BT.
	Continue over rolling land, thru. scattering timber and undergrowth.
	Ascend 74 ft., over SE.slope.
49.90	Ridge, brs. NE. and SW. Desc.100 ft., over NW.slope, to
80.00	Set an iron post, 3 ft.long, 2 ins. in diam., on surface

98 Part of Subdivision lines of Township 32 North, Range 6 West.

Chains.	
	rock, supported in a mound of stone, for cor.of secs. 7,8, 17 and 18, marked on brass cap,

```
            T32N  Ro W
             S 7 | S 8
            ─────┼─────
            S18  | S17
              1920
```

and raise a mound of stone, 2 ft.base, 1½ ft.high, W. of cor.
Land, rolling.
Soil,gravelly and rocky, 2nd and 3rd rate.
Timber, scattering cedar and pine.
Undergrowth, scattering sage brush.
Fair grass.

- -

	S.89°50'E., on a random line, bet. secs.8 and 17.
40.00	Set temp. ¼ sec.cor.
52.66	Top of cliffs, brs.N. and SW. The remainder of the random line passes over high,precipitous cliffs,facing E. Chaining being impracticable, triangulate as described as follows, and as shown on the diagram hereon:
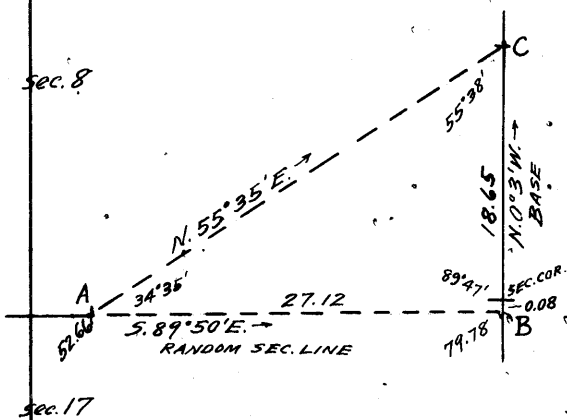
From 52.66 ch.station,on random line indicated on diagram at "A," a flag "B," which is 0.08 chs.S.of the cor.of secs.8,9,16 and 17, brs.S.89°50'E.

The random line extended will therefore fall 8 lks.S.of said sec.cor.,giving a true bearing for the sec.line, N.89°53'W.

From point "B,"measure a Base N.0° 3'W. ,18.65 chs.on the sec.line bet.secs.8 and 9, to point "C."

Bearing "A-C" = N.55° 35' E.
Included angles of triangle "A-B-C" are 34°35', 55°38' and 89°47', the sum of which is 180°00'.
Triangulated measurement of "A-B" is obtained by

$$\frac{\sin 55°38' \times \text{Base}}{\sin 34° 35'} \text{ or } \frac{.82544 \times 18.65}{.56760} = 27.12 \text{ chs.,}$$

which added to 52.66 chs. gives 79.78 chs. as the total length of the random sec.line.

79.78	Fall 8 lks. S.of cor.of secs.8,9,16 and 17.
	Thence;
	N.89°53'W., on a true line, bet. secs.8 and 17.
	Over broken and mountainous land, thru. scattering timber and undergrowth on W.wall of National Canyon.
	Measurement of 27.12 chs. by triangulation.
	Ascend about 300 ft.,over E.slope,to
12.00	(Approx.) Foot of cliffs, facing E. Ascend about 900 ft. over cliffs, to
27.12	Triangulation point at top of cliffs, bearing N.and S. 40°W. Continue line and measurement by chaining.
	Ascend 34 ft.,over E.slope.
29.77	West rim of National Canyon, brs. N.and SW. Leave broken and mountainous land,and enter rolling land. Desc. 44 ft.,over W.slope.
37.75	Draw, course N. Asc.15 ft.,over E.slope,to
39.89	Set an iron post, 3 ft.long, 1 in. in diam., 8 ins.in the ground to bed rock, supported in a mound of stone,for ¼ sec.cor., marked on brass cap,

```
        ¼  S 8
          ─────
           S 17
           1920
```
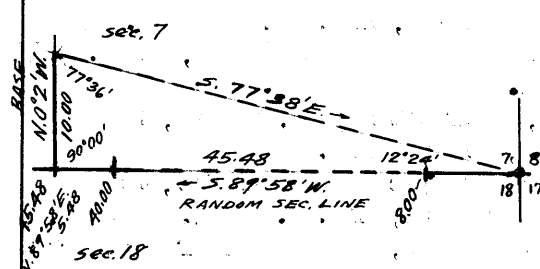
199

BOOK 3509

Part of Subdivision lines of Township 32 North, Range 6 West.   69.

Chains.	
	from which,
	A pine, 8 ins. in diam., brs. S.21¼°W., 100 lks.
	dist., marked ¼ S 17 BT.
	A pine, 9 ins. in diam., brs. N.41¼°W., 130 lks.
	dist., marked ¼ S 8 BT.
	Continue over rolling land, thru. scattering timber and
	undergrowth. Asc. 30 ft., over SE. slope.
45.00	Spur, slopes NE. Desc. 30 ft., over NW. slope.
51.50	Draw, course NE. Ascend 25 ft., over SE. slope.
57.00	Spur, slopes NE. Desc. 15 ft., over NW. slope.
62.80	Head of draw, course NE. Asc. 50 ft., over E. slope.
78.50	Ridge, brs. N. and S. Desc. 42 ft., over W. slope, to
79.78	The cor. of secs. 7, 8, 17 and 18.
	Land, E. 30 chs., broken and mountainous; remainder, roll-
	ing.
	Soil, gravelly and rocky, 3rd and 4th rate.
	Timber, scattering cedar and pine.
	Undergrowth, scattering sage brush and dogwood.
	Fair grass in W. half.
	--
	S.89°58'W., on a random line, bet. secs. 7 and 18.
8.00	E. rim of Mohawk Canyon, brs. NE. and SW. Beyond this point,
	the line passes over cliffs, facing NW., rendering con-
	tinuation of chaining impracticable. Triangulate as
	described as follows, and as shown on the diagram
	hereon:
	From a point ahead on random
	line, measure a Base, N.0°2'
	W., 10.00 chs.
	From N. end of base, a flag on
	the cor. of secs. 7, 8, 17 and
	18, brs. S.77°38'E.
	Included angles of the triangle
	are 77°36', 12°24' and 90°00',
	the sum of which is 180°00'.
	Triangulated measurement on random line is obtained by
	Tang. 77°36' x Base or 4.54826 x 10.00= 45.48 chs.
	From triangulation point at 45.48 ch. station on random
	line, chain measurement N.89°58'E., 5.48 chs. to
40.00	Set temp. ¼ sec. cor.
	Thence,
	S.89°58'W., on random line, continuing measurement from
	cor. of secs. 7, 8, 17 and 18.
45.48	Triangulation point. Continue chaining.
79.07	Fall 28 lks. N. of the cor. of secs. 7, 12, 13 and 18, on W. bdy.
	of Tp., hereinbefore described.
	Thence,
	N.89°46'E., on true line, bet. secs. 7 and 18.
	Over rolling land, thru. scattering timber and undergrowth,
	on E. wall of Mohawk Canyon.
	Ascend 110 ft., over gentle NW. slope, to
33.59	Triangulation point on spur, slopes NW. Desc. 30 ft., over
	NE. slope; continue chaining.
38.60	Wash, course NW. Ascend slightly over NW. slope, to
39.07	Set an iron post, 3 ft. long, 1 in. in diam., 10 ins. in the
	ground to bed rock, supported in a mound of stone, for
	¼ sec. cor., marked on brass cap,
	¼ S 7
	S 18
	1920
	from which,
	A pine, 14 ins. in diam., brs. N.17½°W., 184 lks.
	dist., marked ¼ S 7 BT.
	A pine, 8 ins. in diam., brs. S.68¼°W., 260 lks.
	dist., marked ¼ S 18 BT.
	Continue over rolling land, thru. scattering timber and
	undergrowth on E. wall of Mohawk Canyon. Asc. 150 ft.
	over W. slope, to
55.00	Foot of cliffs, brs. NE. and SW. Discontinue chaining,
	Measurement by triangulation to top of cliffs.
	Leave rolling and enter mountainous land; ascend over
	face of high precipitous cliffs.

70   Part of Subdivision lines of Township 32 North, Range 6 West.

chains.	
71.07	E. rim of Mohawk Canyon, brs. NE. and SW. Leave mountainous, and enter rolling land. Asc. gradually over W. slope, to
79.07	The cor. of secs. 7, 8, 17 and 18.

Land, rolling and mountainous.
Soil, gravelly and rocky, 3rd and 4th rate.
Timber, scattering cedar and pine.
Undergrowth, scattering sage brush. Fair grass on rolling surface.

N. 0°3'W., bet. secs. 7 and 8.
Over rolling land, thru. scattering timber and undergrowth.
Ascend 40 ft., over W. slope, to

| 6.70 | E. rim of Mohawk Canyon, brs. NE. and SW. |

The line beyond this point passes over cliffs on E. wall of Mohawk Canyon, rendering chaining on the sec. line impracticable; therefore, obtain measurement of such portion of the line by an offset line, as described as follows, and as shown on the diagram hereon:

From 6.70 ch. station on sec. line indicated on diagram at "A,"
East; on offset line into sec. 8; ascending slightly over NW. slope, to

| 3.16 | Offset point "B," Thence, |

N: 0°3'W., on offset line in sec. 8, parallel to sec. line, measuring from point "B."
Over rolling land. Desc. gradually over NW. slope, to

| 2.00 | E. rim of Mohawk Canyon, brs. NE. and W. Leave rolling and enter mountainous land, on E. wall of Mohawk Canyon. |

Descend 155 ft., over steep N. slope, to

| 7.00 | Gulch, course W., near head. |

Ascend 105 ft., over steep SW. slope, to

| 21.40 | E. rim of Mohawk Canyon, brs. S. 20°E. and N. 40°W. |

Leave mountainous land, and enter rolling land.
Ascend 15 ft., over W. slope, to

| 27.80 | Offset point "C." Thence, |

West, on offset line in sec. 8.
Descend 15 ft., over W. slope, to

| 3.16 | Offset point "D" on sec. line at |

E. rim of Mohawk Canyon, brs. NW. and SE.
Thence,
N. 0°3'W., bet. secs. 7 and 8.
Continuing measurement from cor. of secs. 7, 8, 17 and 18.
Over rolling land, thru. scattering timber and undergrowth. Ascend 20 ft., over W. slope, to

| 34.50 | |
| 40.00 | Set an iron post, 3 ft. long, 1 in. in diam., 8 ins. in the ground to bed rock, supported in a mound of stone, for ¼ sec. cor., marked on brass cap, |

S 7 | ¼ | S 8

1920

from which,
A pine, 8 ins. in diam., brs. N. 2°E., 13 lks. dist., marked ¼ S 8 BT.
A pine, 6 ins. in diam., brs. S. 47½°W., 169 lks. dist., marked ¼ S 7 BT.
Continue over rolling land, thru. scattering timber and undergrowth.
Descend very gradually over W. slope, to sec. cor.

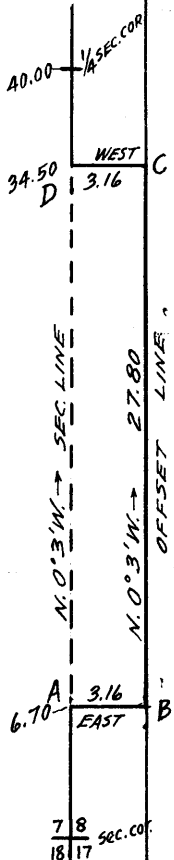| 55.00 | Leave scattering timber, brs. NE. and SW. |
| 70.00 | Enter dense timber, brs. SE. and SW. |
| 80.00 | Set an iron post, 3 ft. long, 2 ins. in diam., 18 ins. in the ground, to bed rock, supported in a mound of stone, for cor. of secs. 5, 6, 7 and 8, marked on brass cap, |

T32N R6 W
S 6 | S 5
S 7 | S 8
1920

from which,

Chains.	
	A pine, 6 ins. in diam., brs. N.40¾°E., 37 lks. dist., marked T32N R6W S5 BT.
	A pine, 8 ins. in diam., brs. S.30¼°E., 57 lks. dist., marked T32N R6W S8 BT.
	A pine, 12 ins. in diam., brs. S.67¼°W., 230 lks. dist., marked T32N R6W S7 BT.
	A pine, 8 ins. in diam., brs. N.70°W., 190 lks. dist., marked T32N R6W S6 BT.

Land, rolling and mountainous.
Soil, gravelly, 2nd rate on rolling portion; rocky, 4th rate on mountainous.
Timber, cedar and pine, scattering and dense.
Undergrowth, scattering sage brush and dogwood.
Fair grass on rolling land.

- -

S.89°53'E., on a random line, bet. secs. 5 and 8.

40.00   Set temp. ¼ sec. cor.

80.00   Fall 7 lks. N. of the cor. of secs. 4, 5, 8 and 9,
Thence,
N.89°50'W., on a true line, bet. secs. 5 and 8.
Over gently rolling land, thru. dense timber and scattering undergrowth.
Ascend slightly over N. slope, to

40.00   Set an iron post, 3 ft. long, 1 in. in diam., on surface rock, supported in a mound of stone, for ¼ sec. cor., marked on brass cap,

$$\frac{1}{4} \, S \mid \frac{5}{8}$$
$$S \mid 8$$
1920

from which,
A pine, 11 ins. in diam., brs. S.33¾°W., 09 lks. dist., marked ¼ S.8 BT.
A pine, 8 ins. in diam., brs. N.57¼°W., 163 lks. dist., marked ¼ S.5 BT.
Continue over gently rolling land, thru. dense timber and scattering undergrowth.
Descend 60 ft., over W. slope.

79.00   Draw, course N. Ascend 11 ft., over E. slope, to

80.00   The cor. of secs. 5, 6, 7 and 8.
Land, gently rolling.
Soil, gravelly, 2nd and 3rd rate.
Timber, dense cedar and pine.
Undergrowth, scattering sage brush and scrub cedar.
Fair grass.

- -

S.89°46'W., on a random line, bet. secs. 6 and 7.

6.55   E. rim of Mohawk Canyon, brs. N.50°E. and S.25°W.
Beyond this point, the line passes over cliffs on E. wall of Mohawk Canyon, and chaining is impracticable.
Triangulate as described as follows, and as shown on the diagram hereon:
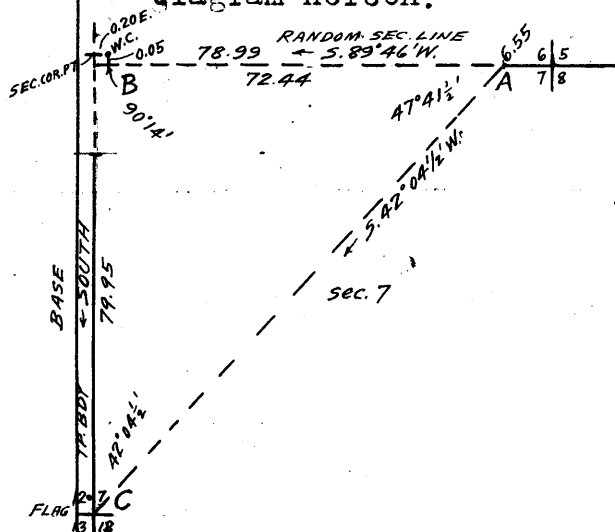
From 6.55 ch. station on random line, indicated on diagram at "A," a flag "B," at 0.05 chs. S. of the W.C. to cor. of secs. 1, 6, 7 and 12, on W. bdy. of Tp., brs. S.89°46'W.
The witness cor. is set 0.20 chs. E. of the true cor. point as hereinbefore described.
The random line extended will therefore fall 5 lks. S. of the true cor. point, giving a true return course

202

BOOK 3606

72 Part of Subdivision lines of Township 32 North, Range 6 West.

chains.	
	for the sec.line, bet.secs. 6 and 7, of N.89°48'E.
	A flag "C" on the cor. of secs.7,12,13 and 18, on the W. bdy.of the Tp.,brs.S.42°04½'W. from "A," and gives a Base "B-C" for this triangulation of South,79.95 chs.
	Included angles of triangle "A-B-C" are 47°41½',90°14' and 42°04½', the sum of which is 180°00'.
	Triangulated measurement on random sec.line is obtained by
	$$\frac{\text{Sine } 42°04\tfrac{1}{2}' \times \text{Base}}{\text{sine } 47°41\tfrac{1}{2}'} \text{ or } \frac{.67010 \times 79.95}{.73953} = 72.44 \text{ chs.,}$$
	which added to 6.55 chs.gives 78.99 chs.as the total length of line bet. secs. 6 and 7.
78.99	Fall 5 lks.S. of the true point for cor.of secs.1,6,7 and 12, on W. bdy.of Tp.
	Thence, N.89°48'E., on true line, bet. secs.6 and 7.
	Over mountainous land, thru. scattering undergrowth.
	Measurement of 0.20 chs. by offset, hereinbefore described, in notes of survey of W. bdy.of Tp.
	Ascend over W. face of cliffs on E. wall of Mohawk Canyon.
0.20	Witness cor. (E.of cor.point) to cor.of secs.1,6,7 and 12, hereinbefore described, at top of cliffs,bearing N. and SE.
	Continue line and measurement, by chaining.
	Ascend 250 ft.,over steep broken W.slope,to
38.99	Set an iron post, 3 ft.long, 1 in. in diam., on surface rock, supported in a mound of stone, for ¼ sec.cor., marked on brass cap,
	¼ $\dfrac{\text{S } 6}{\text{S } 7}$ 1920
	Discontinue chaining.
	Continue over broken and mountainous land,thru.scattering undergrowth,on E. wall of Mohawk Canyon.
	Measurement to E. rim of canyon by triangulation.
	Ascend over steep W.slope,to
63.00	(Approx.) Foot of cliffs, brs.NE. and SW.
	Ascend over NW. face of cliffs, to.
72.44	Triangulation point at E. rim of Mohawk Canyon, bearing N.50°E. and S.25° W.
	Leave broken and mountainous land, and enter rolling land and scattering timber.
	Continue line and measurement by chaining.
	Descend 30 ft., over SE.slope,to
78.99	The cor.of secs.5,6,7 and 8.
	Land, W. 72 chs. broken and mountainous; remainder,rolling.
	Soil,rocky, 4th rate,
	Timber, scattering cedar and pine in E.6¼ chs.only.
	Undergrowth, scattering sage brush.
	Poor grass.

The continued satisfactory adjustment of the solar apparatus during the survey of this township in 1920 is indicated from field tests, as described in Book "H."

NOTE:
    It was impracticable to complete the survey of the north tier of sections in this township, owing to the extremely rough and mountainous nature of the surface therein.

Boundaries of that portion of T.32 N.,R.6 W.,sur-
veyed under Group No.105,Arizona,(inside the
Hualpai Indian Reservation.

- - - - - - - - -

Latitudes, departures, and closing errors.

- - - - - - - - -

Line designated.	True course.	Dist.	Latitudes.		Departures.	
			N.	S.	E.	W.
South boundary,	West, N.89°50'W.	5.43 439.40	1.28			5.43 439.40
West boundary,	North,	400.00	400.00			
Subdivisional boundary,	N.89°48'E.	78.99	.28		78.99	
	S.89°50'E.	80.00		.23	80.00	
	N.89°55'E.	80.32	.12		80.32	
	S.89°48'E.	79.89		.28	79.89	
	N.89°58'E.	80.20	.05		80.20	
	S.89°58'E.	45.76		.03	45.76	
Bdy. of Hualpai Indian Res.	South, S.0°4'E.	377.73 22.06		377.73 22.06	.02	
Convergency,					.41	
Totals,			401.73 400.33	400.33	445.59 444.83	444.83
Error in latitude,			1.40			
Error in departure,					0.76	

GENERAL DESCRIPTION.

The portion of this township surveyed as described in
the foregoing field notes lies entirely within the
Hualpai Indian Reservation in the NE.cor.thereof,near
the south upper rim of the Colorado River Canyon. The
surface of the central ranges of sections,and the
northeast quarter of the township,is broken and moun-
tainous, lying on the walls of National Canyon.
The surface of the greater part of the west range of secs.
is broken and mountainous,lying on the E.wall of
Mohawk Canyon. Between the two canyons, the surface
is rolling, and the southeast part of the township
has a gently rolling surface, with a small strip of
level land, near the S. bdy.of the Tp.
The National Canyon, course N.and NE. drains all of the
township into the Colorado River, with the exception
of the W. range of sections, where the drainage is
into the Mohawk Canyon in T.32 N.,R.7 W.
The soil in the canyons is mostly rocky,4th rate,tho.
there are benches in the canyon walls where a gravelly,
3rd rate soil is found. The remainder of the township
has a gravelly loam, 2nd and 3rd rate.
Most of the township has a scattering growth of pine and
cedar timber. There are scattered areas in the west
half where the growth is dense. In National Canyon,
in the northeastern part there is a large area devoid
of timber.

There is a scattering undergrowth of sage brush, scrub cedar,
   dogwood and cactus in nearly all parts.
Outside of the canyons, there is a fair growth of grass.
There is a spring in the NW.$\frac{1}{4}$ of sec.15, with which excep-
   tion there is no permanent flowing water in the Tp.
There are no settlers or improvements, and no indications
   of valuable mineral.
There are no roads.

- -

4—680

FIELD ASSISTANTS.

to James C. O'Brien, U. S. Transitman

NAMES.	CAPACITY.
Rolla Puzey	1st Chainman
T. E. Sheffield	2nd Chainman
Victor Hansen	Cornerman
Willard C. Anderson	Cornerman
H. J. McKenzie	Axman
Hugh Bowers	Flagman

6—2764

BOOK 3509

76

CERTIFICATE OF UNITED STATES TRANSITMAN.

I, __James C. O'Brien, U. S. Transitman__ , hereby certify upon honor that, in pursuance

of special instructions received from the U. S. Surveyor General, for __Group 105, Arizona,__

bearing date of the __24th__ day of __February__ , 19__21__ , I have well, faithfully, and truly

in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instruc-

tions, and the laws of the United States, surveyed all those parts or portions of __the West boundary, and__

__Subdivision lines of__

__Township 32 North, Range 6 West,__

of the __Gila and Salt River__

__Base and__ Meridian, in the State of __Arizona__ , which are represented in

the foregoing field notes, __and by diagram on page 2 hereof__ as having been executed by me, and under my direction; and that all the corners of

said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instruc-

tions, and the special written instructions of the U. S. Surveyor General, for __Group 105, Arizona,__

and in the specific manner described in the field notes, and that the foregoing are the original field notes of

such survey.

Place __Phoenix, Arizona,__

Date __May 6, 1922.__

__James C. O'Brien, (deceased)__
U. S. Transitman
by __C.E. Stanton__
APPROVAL. Asst.Supervisor of Surveys.
District No.5.

Office of the United States Surveyor General,

_____, 191

The foregoing field notes of the survey of _____

executed by _____

under his special instructions dated _____, 191 , having been

critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys

they describe, are hereby approved.

_____
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.

6—2764

4—680

FIELD ASSISTANTS.

to Dupree R. Averill, U. S. Surveyor

NAMES.	CAPACITY.
Howard D. Hickman	1st Chainman
J. S. Dameron	1st Chainman
Max Dessau	1st and 2nd Chainman.
Jeffery Brewer	2nd Chainman.
Forrest Nimmo	Cornerman.
Henry McKelvey	Cornerman.
Anthony Mendillo	Axman.
Roy Hume	Axman.
Hugh Bowers	Axman.
Frank L. Mills	Flagman.

6—2764

CERTIFICATE OF UNITED STATES SURVEYOR.

I, __Dupree R. Averill_____, U. S. Surveyor, hereby certify upon honor that, in pursuance

of special instructions received from the U. S. Surveyor General, for ____Group 105, Arizona,_____

bearing date of the _____24th_____ day of __February_____, 1920 , I have well, faithfully, and truly

in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instruc-

tions, and the laws of the United States, retraced and surveyed all those parts or portions of the _____

__Boundary of the Hualpai Indian Reservation; and surveyed all_____

__those parts or portions of the Subdivision lines of_____

TOWNSHIP 32 NORTH, RANGE 6 WEST,_____

_____ of the Gila and Salt River

Base and _____ Meridian, in the State of __Arizona_____, which are represented in

the foregoing field notes, and by diagram on page 2 hereof as having been executed by me, and under my direction; and that all the corners of

said survey have been retracement and established and perpetuated in strict accordance with the Manual of Surveying Instruc-

tions, and the special written instructions of the U. S. Surveyor General, for ____Group 105, 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.

Place - __Phoenix, Arizona,____

Date - __July 15, 1921.____

Dupree R. Averill

U. S. Surveyor.

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,
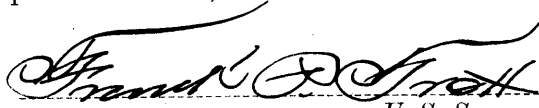
_Phoenix Arizona, May 13,_____, 1922

The foregoing field notes of the retracement and survey of part of the

Boundary of the Hualpai Indian Reservation, and of the survey of part

of the Subdivision lines of

TOWNSHIP 32 NORTH, RANGE 6 WEST,

of the Gila and Salt River Base and Meridian, in the State of Arizona,

executed by **Dupree R. Averill, U. S. Surveyor, and James C. O'Brien, U. S. Transitman,**

under special instructions dated _____February 24, 1920 for Group 105, Ariz. , having been

critically examined, and the necessary corrections and explanations made, the said field notes, and the retracements & surveys

they describe, are hereby approved.

Frank P. Trott

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__