

Book 1A.

BOOK 2084

2084

FIELD NOTES

OF THE SURVEY OF THE

2084

2084

*Petrament of the North and East boundaries
of Twp. 31 North, Range No. 11 E.*

2084

*of the Gila & Salt River Base and Meridian,
in the Territory of Arizona*

AS SURVEYED BY

Sidney E. Blount, United States *Examiner of Surveys* Deputy Surveyor,

Under his *Instruction* *Contract No.*, dated *Oct 2nd*, 1907

Survey commenced *Novem ber 12*, 1907

Survey completed *Novem ber 18th*, 1907

6-151

2084

2084

2084

PA

BOOK 2084

NAMES AND DUTIES OF ASSISTANTS.

J. G. Kent	Comptroller
F. L. Warner	Chairman
P. J. Kline	Chairman
Norman Oliver	Woundman
H. L. Nay	Flagman

X
13

BOOK 2084

INDEX DIAGRAM.

Township 31 North, Range 11 East

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

Meanders Page

PRELIMINARY OATHS OF ASSISTANTS.

WE, _____ and _____

do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will level the chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; that we will report the true distances to all notable objects, and the true lengths of all lines that we assist in measuring, to the best of our skill and ability, and in accordance with instructions given us, in the survey of _____

_____, Chainman.

_____, Chainman.

Subscribed and sworn to before me this _____
day of _____, 190 _____ }



WE, _____ and _____

do solemnly swear that we will well and truly perform the duties of moundmen in the establishment of corners, according to the instructions given us, to the best of our skill and ability, in the survey of _____

_____, Moundman.

_____, Moundman.

Subscribed and sworn to before me this _____
day of _____, 190 _____ }



WE, _____ and _____

do solemnly swear that we will well and truly perform the duties of axmen in the establishment of corners and other duties, according to instructions given us, to the best of our skill and ability, in the survey of _____

_____, Axman.

_____, Axman.

Subscribed and sworn to before me this _____
day of _____, 190 _____ }



I, _____, do solemnly swear that I will well and truly perform the duties of flagman according to instructions given me, to the best of my skill and ability, in the survey of _____

_____, Flagman.

Subscribed and sworn to before me this _____
day of _____, 190 _____ }



14
C

Retracement and Recovery of the N. End of T. 31 N. R. 11 E. 14
C

Chains

Survey commenced Nov 12th 1907, and executed with a Young and Sons light mountain transit N^o 10 with solar attachment. The horizontal limb is provided with two double verniers, placed opposite to each other reading to single minutes of arc, which is also the least count of the verniers of the latitude and declination arcs.

Determine the adjustments of the transit and correct the level and collimation errors, then to test the solar apparatus, by comparing its indications resulting from solar observations made during a.m. and p.m. hours, with a true meridian determined by observation on Polaris & proceed as follows:

At the Western Navajo Indian School building situated at Rama City Arizona, near the $\frac{1}{4}$ sec. cor. bet. sec 20 and 29 Twp. 32 N. R. 11 E., Latitude $36^{\circ} 10' N.$ Longitude $111^{\circ} 15' W.$, I set off $36^{\circ} 10' N.$ on the lat. arc $17^{\circ} 32' S.$ on the decl. arc and at $3^{\text{h}} 44^{\text{m}}$ p.m. l.m.t. determine a meridian with the solar, and mark a point in the direction thus determined, by a tack driven in a stake set firmly in the ground 5 chs N. of my instrument.

At $6^{\text{h}} 28^{\text{m}}$ p.m. l.m.t. by my watch which is correct local mean time, I observe Polaris in accordance with instructions in the Manual, and mark the direction thus determined, by a tack driven in a peg set in the ground 5 chs N. of my instrument.

Custom. l.m.t. of Obs. Nov 12 th	$6^{\text{h}} 28^{\text{m}}$
Equivalent to time Nov. 11 th	30 28
U.C. Polaris Nov 1 st	$10^{\text{h}} 46^{\text{m}}$
Reduction to Nov 11 th subtract	$39^{\text{m}} 3^{\text{s}}$
U.C. Polaris Nov 11 th	$10^{\text{h}} 06^{\text{m}} 9^{\text{s}}$
Hourangle Polaris at Obs.	Subtract 10 02.9
Subtract from	06.9
Pure Argument for Table VII	2.1
Azimuth of Polaris at Observation	3.35
	3.31
	$1^{\circ} 12' E.$
	$1^{\circ} 14' E.$
November 12 th 1907	

Retracements and Resurvey of the N. Boundary of P. 31 N., R. 11 E.
Chains

Nov. 13th At 6^h 45^m a.m. I lay off the azimuth of Polaris $12^{\circ} 45'$ to the West and mark the meridian thus determined, by a tack driven in the stake at last corner on which the meridian falls 0.4 ins E. of the point determined by the solar
 At 8^h 44^m a.m. l.m.t. I set off $36^{\circ} 10' 14''$ on the lat. arc, $17^{\circ} 45'$ S. on the decl. arc and determine a meridian with the solar, and mark a point thereof, by a nail driven in the stake already set 5 chs. N. of my instrument.
 This point, falls 0.3 ins E. of the point determined by the Polaris observation.
 The Solar apparatus by p.m. and a.m. observations define positions for meridians, respectively about $0^{\circ} 21''$ W. and $0^{\circ} 15''$ E. of the meridian established by the Polaris observation, therefore I conclude that the adjustments of the instruments are satisfactory.

November 13th 1907

November 17th 1907. I set off $36^{\circ} 08'$ N. on the lat. arc. $18^{\circ} 39\frac{1}{2}'$ S. on the decl. arc. and, ^{ah 1^h 45^m pm l.m.t.} determine a meridian with the solar at the cor. of Pps. 31 and 32 N. R's 10 and 11 E. which is a blue lime stone, $11 \times 5 \frac{1}{2}$ ins above ground. firmly set. marked 32 N. on N.E. 11 E. on S.E. 31 N. on S.W. and 10 E. on N.W. faced. with 6 notches on N.E. S and W. edged, with pits $2 \frac{1}{2} \times 2 \frac{1}{2} \times$ 12 ins. on line. N.E. and W. of stone 4 ft. and S. 8 ft. dist. with mound of earth 5 ft. base. $2 \frac{1}{2}$ ft. high S. of cor. Three I run

East. Both sec 6 and 31.

Over level bottom land along Monocacy Wash.

34.26 Wire fence bears 1110° W. and 310° E.

38.48 Wall 5 lbs N. of the $\frac{1}{4}$ sec. cor. which is a blue lime stone $8 \times 4 \times 6$ ins above ground firmly set. marked and witnessed as described in the original field notes;

Course of lime back to the Pp. Cor. $1189^{\circ} 56' W.$

From the $\frac{1}{4}$ sec Cor. I run

East. Both sec 6 and 31.

7.75 Irrigating ditch. flows S.W.

29.24 Wire fence bears N and S.

32.00 Monocacy Wash 2 chs. wide Course S.W.

Retacement and Recovery of the N. Boundary of Twp. 31 N. R. 11 E.
Chains

40.00	Pall 6 lbs N. of the cor. of sec. 5, 6, 31 and 32 which is a lime stone $10 \times 10 \times 5$ ins above ground, firmly set, marked R 11 E. on N.E., R 11 E. on S.E., T 31 N. on S.W. T 32 N. on N.W. faces, with 5 notches on E. and 1 notch on W. edges, Pits $18 \times 18 \times 12$ ins in each sec 5 $\frac{1}{2}$ ft. deep. Mound of earth 4 ft. base, 2 ft. high W. of cor. Course of line back to the $\frac{1}{4}$ sec cor. at $89^{\circ} 55' W.$ Length of mile 78.48 chd.
-------	---

	East Bch. secs 5 and 32. Over level bottom land Wire fence b/w N and S Wire fence b/w N.E. and S.W. Lean bottom land b/w N.E. and S.W. Around N.W. slope over stony hilly land. b/w N.E. and S.W. Intersect the $\frac{1}{4}$ sec. cor. which is a lime stone $9 \times 5 \times 7$ ins above ground, marked and witnessed as described in the original field notes. Course of line back to the sec. cor. Wash. From the $\frac{1}{4}$ sec cor. Draw East Bch. secs. 5 and 32 Top of ridge b/w N.E. and S.W. desc steeply. Pall 9 lbs N. of the witness cor. to cor. of sec. 4, 5, 32 and 33, which is a blue lime stone $8 \times 8 \times 7$ ins. above ground, firmly set, marked and witnessed as described in the original field notes. Course of line back to the $\frac{1}{4}$ sec. cor. at $89^{\circ} 52' W.$ Length of mile 79.92 chd.
--	---

	East Bch. secs. 4 and 33, from the W.C. to cor. of sec. 4, 5, 32 and 33 - Over level bottom land. Left bank of Moenofie Wash b/w N.W. and S.E. At point in Wash corner N.W. Left bank of Moenofie Wash b/w N.E. and S.W. Over level bottom land. Cross Moenofie Wash 250 lbs wide banks 20 ft. high. Course N.W. Pall 6 lbs N. of the $\frac{1}{4}$ sec. cor. which is a lime
--	---

17

*Retracement and Resurvey of the N. Body of Pt. 31 N. R. 11 E
Sedona*

- Stone 8x7x4 ins. above ground, firmly set, marked and witnessed as described in the original field notes
 Course of line back to the Witness Cov. to cov.
 of sec's 4, 5, 32 and 33. N $89^{\circ}55'W$.
 From the $\frac{1}{4}$ sec. cov. I run
 East bot. sec's 4 and 33.
 18.93 Right bank of Moncopia Wash bear N and S.
 19.00 A point in Center of wash course S.
 21.00 Left bank of Moncopia Wash bear N and S. - thence
 over level land.
 27.50 Level level bottom land bear N.E. and S.W. ascend
 abruptly over or W. slope of ridge.
 29.25 Top of abrupt ascent on bluff 50 ft. above Creek
 bottom, thence over broken stony land.
 31.50 Begin steep descent over N.E. slope ridge
 37.50 Foot descent in Moncopia Wash in land. from
 N.E. to N.W.
 40.26 Intersect the cov. of sec's 3, 4, 33 and 34 which
 is a blue lime stone 7x7x4 ins above ground firmly
 set, marked and witnessed as described in
 the original field notes.
 Course of line back to the $\frac{1}{4}$ sec. cov. West.
 Length of mile 80.50 ch.

November 17th 1907

- November 18th Ah. 7^h 45^m a.m. L. m. l. D. set off.
 36° 08' N. on the lat arc. 19° 00' S. on the decl. arc
 and determine a meridian with the solar at the
 cov. of sec's 3, 4, 33 and 34. Then I run
 East Bank sec's 3 and 34. Over level bottom
 land along Moncopia Wash.
 1.75 Center of Wash 125 lbs. wide. Banks 20 ft. high.
 Course N.W.
 3.05 Wire fence bear N.W. and S.E.
 3.45 Road leads to Pala Ariz. bear N.W. and S.E.
 3.60 Wire fence bear N.W. and S.E.
 12.00 Point of sandstone bluffs bear N.W. and S.E. ascend
 30.00 Top of ridge bear N.E. and S.W.
 40.00 Wall 14 lbs. S of the $\frac{1}{4}$ sec. cov. which is a lime
 stone 7x6x6 ins. above ground, firmly set, marked and
 witnessed as described in the original field
 notes

Preliminary and Resurvey of the N. Body of Pt. 31 N. R. 11 E.
Chains

	Course of line back to the sec. cor. S $89^{\circ}48'W$. From the $\frac{1}{4}$ sec. cor. I run. East Beh. sec. 3 and 34
2.60	Top of round knoll 200 ft in diameter 20 ft high.
5.20	Point of sandstone ridge bears N and S.
6.60	Road leads to Pula Ariz. bears N.E. and S.W.
11.00	Center of Monocofie Wash 200 lbs. wide. Banks 20 ft high course S.W.
17.75	Center of Monocofie Wash 200 lbs wide. Banks 20 ft high Course N.W.
26.50	Monocofie Wash 250 lbs. wide banks 20 ft. high Course S.W.
32.70	Center of Monocofie Wash, 150 lbs. wide. Banks 20 ft high Course N.W.
35.60	Road to Pula Ariz. bears N.W. and S.E., Lean bottom land bears N.W. and S.E. ascend steep S.W. slope over sand stone bluffs.
37.50	Top of rim rock 100 ft above Monocofie Wash bears N.W. and S.E. ascend gradually.
38.75	Top of spur bears N and S. descend gradually.
39.78	Pall 29 lbs N. of the Cor. of sec. 2. 3. 34 and 35 which is a lime stone 7x5x6 ins above ground firmly set, marked and witnessed as described in the original field notes Course of line back to the $\frac{1}{4}$ sec. cor. N $89^{\circ}35'W$ Length of mile 79.78 chs.

	East Beh. Sec 2 and 35 Over stony hilly land. Dry ravine course S.W. ascend.
3.60	Dry ravine course S.W. ascend.
6.10	Top of ridge bears N.E. and S.W. desc. gradually
13.20	Dry ravine course S.W. ascend gently on rolling land.
18.80	Road leads to Pula Ariz. bears N.E. and S.W.
40.01	Pall 22 lbs S. of the $\frac{1}{4}$ sec. cor. which is a lime stone 8x6x6 ins above ground firmly set, marked and witnessed as described in the original field notes Course of line back to the sec. cor. S $89^{\circ}41'W$ From the $\frac{1}{4}$ sec. cor. I run.
	East Beh. sec 2 and 35
39.98	Pall 11 lbs N. of the Cor. of sec. 1. 2 35 and 36 which is

Retracement and Resurvey of the N. Bdry. of Pts. 31 & P. 911 E.
Chains

at the lime stone 18x8x4 ins. loosely set. marked. 32 N on N.E. 11 E. on S.E. 31 N on S.W. faces with 1 notch on S and 5 notches on W. edges, with trace of pits and mound of earth.

To establish this cor. in its original position as follows. Set the same stone, 14 ins in the ground. Dig pits 18x18x12. ins in each rec. 5 $\frac{1}{2}$ ft. dist. and raise a mound of earth 4 ft. base 2 ft. high. W. of cor.

Course of line back to the $\frac{1}{4}$ sec. cor or 89° 51' W.
Length of mile 79.99 chs.

East Bch sec. 1 and 36.

- 2.00 Descend S.E. Slope over broken stony land into the Moncupic Wash.
- 22.00 Cross the Moncupic Wash. 200 lbs wide 20 ft. deep
Course South
- 33.00 The point for Witness corner to $\frac{1}{4}$ sec cor. falls on a sand bar. in the Moncupic Wash., make diligent search for cor. but am unable to find any trace of the same. Therefore I. continue my line
East bch sec 1 and 36. in wash.
- 45.00 Leave Wash Course S.W.
- 46.00 Set a lime stone 12x8x6 ins 8 ins in the ground, for Witness cor to the $\frac{1}{4}$ sec cor. which falls on the bed. of the Moncupic Wash. marked
W.C. "H" on N. face. Dig pits 18x18x12 ins. Equal. W. of stone 3 ft. dist. and raise a mound. of earth 3 ft. base 1 $\frac{1}{2}$ ft. high. N. of cor.
- 66.20 Rovine at foot of Sand. stone Cliff. Course N.W.
sec.
- 66.50 Top of cliff 40 ft. above ravine bears N.W. and S.E.
ascend gradually over stony land.
- 68.50 Top of stony ridge bears N.W. and S.E. dec.
- 80.08 Fall 10 lbs. S. of the cor. of Pts. 31 and 32 or P's 11 and 12 E. which is a lime stone, 16x12x4
ins. loosely set, marked. 32 N on N.E. 12 E. on S.E.
31 N on S.W. and 11 E on N.W. faces with 6 notches
on N.E. S and W. edges. No cor. accessories.
To establish this cor in its original position as follows: Set the same stone 12 ins in the

Retacement and Resurvey of the N. Bdy of Pt. 31 N. R. 11 E.
Chains

ground and raise a mound of stone 3 ft base
2 ft. high S. of cor. Post impracticable
Come of line back to the cor. of sec 1, 2, 35 and
36. S 89° 56' W.
Length of mld 80.08 ch.

At the above described Pt. Cor. Det off
 $19^{\circ} 4\frac{1}{2}'$ S. on the decl. arc. and at $11^{\circ} 45'$ m
a.m. l.m. l. observe the sun on the meridian
and obtain on the lat arc a reading of
 $36^{\circ} 07 + 5r$ which is about the proper
latitude of the place

November 18th 1907

Retracement of the East Body of Mts. 31 N. R 11 E.

Retracements commenced Nov. 18th 1907 and executed with a Young and Son's light mountain transit No. 10. with cedar attachment. The horizontal limb is provided with two double verniers placed opposite to each other reading to single minutes of arc. which is also the least count of the verniers of the latitude and declination arcs.

I, knowing from recent observations that the instrument is in good adjustment, proceed as follows:

Nov. 18th 1907. Decl. off. $36^{\circ} 08' 07''$ on the lat. arc $19^{\circ} 05' 3.$ on the decl. arc. and ab. $12^h 45' 00''$ p.m. limb declination a meridian with the solar at the Cov. of Mts. 31 and 32 N. R's 11 and 12 E. previously described. Then Drift South. on E Body. of Mt. Between 1 and 6. Over low sand ridges covered with scattering mesquino bush.

37.75 Begin steep descent on S.W. slope

40.00 Intersect the $\frac{1}{4}$ sec. cov. which is a sand stone $18 \times 7 \times 6$ ins. above ground firmly set, marked $\frac{1}{4}$ on W. face, with fist 18 ins. sq. 1 ft. deep N. and 3 of stone 2 ft. high and mound of earth 3 ft. face $1\frac{1}{2}$ ft. high W. of cov.

Course of line back to the Mt cov. North of cov. Drift

South Beh. sec 1 and 6.

00.50 Descend ravine course N. 30° W. ascend steep N. slope

2.00 Top of steep ascent on South side of ravine, about 75 ft. above $\frac{1}{4}$ sec. cov. Then over low sand hills intersect the cov. of sec 1, 6, 7 and 12. which is a blue lime stone $10 \times 6 \times 6$ ins. above ground. firmly set. marked and situated as described in the original field notes

Sandy bottom

Soil sandy and stony 3rd. and 4th rate

No timber

Course of line back to the $\frac{1}{4}$ sec cov North length of mile 80.50 chs

South Beh. sec. 7 and 12. Over low rolling

Petacement of the East Boundary of Pp. 31CN. R9 11E.
Chains

	sand hills covered with scattering guadwood bush and bunch grass
13.00	Top of sand ridge bears N.W. and S.E.
40.00	Intercept the $\frac{1}{4}$ sec. cor. which is a lime stone $12 \times 8 \times 7$ ins above ground firmly set, marked and situated as described in the original field notes Course of line back to the sec. cor. North From the cor. I continue my line South Bch. sec. 7 and 12
27.00	Road from Oracle Ariz to Nuba Ariz bears N.W. and S.E. stone along road.
35.10	Leave road bears N.W. and S.E.
40.00	Gall 1 lb. E of the cor. of sec. 7, 12, 13 and 18 which is a lime stone $8 \times 6 \times 4$ ins above ground. firmly set, marked and situated as described in the original field notes Layd billy. Soil sandy 3 rd note - No timber
	Course of line back to the $\frac{1}{4}$ sec. cor. N \circ 01 E. Length of mile 80.00 ch.

	South Bch. sec. 13 and 18, Over low rolling sand hills covered with scattering guadwood bush and bunch grass.
40.00	Intercept the $\frac{1}{4}$ sec. cor. which is a blue lime stone $7 \times 7 \times 4$ ins above ground firmly set, marked and situated as described in the original field notes. Course of line back to the sec. cor. North From the $\frac{1}{4}$ sec. cor. I continue my line South Bch. sec. 13 and 18
40.00	Intercept the cor. of sec. 13, 18, 19 and 24 which is a lime stone $10 \times 6 \times 5$ ins above ground firmly set, marked and situated as described in the original field notes Layd billy Soil sandy 3 rd note - No timber

23
Retracement of the East Boundary of Pt. 31 N. R 11 E.
Chains

Course of line back to the 1/4 sec. corner North
Length of mile 80.00 chs
Nov 18th 1907

For authority for red ink corrections
see letter of Nov. 16 - 1908

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.**LIST OF NAMES.**

A list of the names of the individuals employed by _____

_____, United States Deputy Surveyor, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of _____

showing the respective capacities in which they acted:

_____, *Chairman.*

_____, *Chairman.*

_____, *Moundman.*

_____, *Moundman.*

_____, *Axman.*

_____, *Axman.*

_____, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted _____

_____, United States Deputy Surveyor, in surveying all those parts or portions of the _____

of the _____

meridian, _____ of _____, which are represented in the foregoing field notes as having been surveyed by him and under his direction; and that said survey has been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the corner monuments established, according to the instructions furnished by the United States Surveyor

General for _____

_____, *Chairman.*

_____, *Chairman.*

_____, *Moundman.*

_____, *Moundman.*

_____, *Axman.*

_____, *Axman.*

_____, *Flagman.*

Subscribed and sworn to before me this _____
day of _____, 190 _____ }



FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, _____, United States Deputy Surveyor, do solemnly swear that, in pursuance of a contract received from _____, United States Surveyor General for _____, bearing date of the _____ day of _____, 190_____, I have well, faithfully, and truly, in my own proper person, and in strict conformity with the instructions furnished by the United States Surveyor General for _____, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of _____
of the _____
meridian, in the _____ of _____, which are represented in the foregoing field notes as having been surveyed by me, and under my direction; and I do further solemnly swear that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the United States Surveyor General for _____ and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

United States Deputy Surveyor.

Subscribed by said _____, and sworn to before me }
this _____ day of _____, 190_____



APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Arizona, Oct. 27, 1908
The foregoing field notes of the survey of _____
~~the retracement of the north line
of the boundaries of Section 31 North, Range 21 East,
of the Gila and Salt River Base and Meridian in
the Territory of Arizona~~

executed by *Odney E. Blunt, United States Examiner of Surveys*
under his contract No. 1907, dated *October 2nd*, 1907, having been
critically examined, and the necessary corrections and explanations made, the said field notes, and the
surveys they describe, are hereby approved.

Frank D. Ingalls
United States 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.

United States Surveyor General.