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6-19-63.

*triplicate notes to  
National Park Service  
Southwest Region  
Santa Fe, N. M.*

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FIELD NOTES

of a

TIE

between

Cor. 4, Betatakin Ruin

in

Sections <sup>17</sup>~~18~~ and <sup>20</sup>~~19~~

Township 38 North, Range 17 East (unsurveyed)

and

U.S.C. & G.S. Triangulation Station COAL MINE

in

Section 10

Township 36 North, Range 17 East (unsurveyed)

Of the Gila and Salt River Meridian,

In the State of Arizona

EXECUTED BY

Boyd S. Owens, Cadastral Surveyor

Under special instructions dated October 18, 1962, which provided  
for the surveys included under Group No. 384, approved October 18, 1962  
and assignment instructions dated October 18, 1962

Survey commenced October 25, 1962

Survey completed October 30, 1962

BOOK 4657

# 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

16-56770-1

Tie, Betatakin Ruin to U.S.C. & G.S.  
Triangulation Station "Coal Mine."

## Chains

The boundaries of the Betatakin Ruin within the Navajo National Monument, Arizona, were surveyed in 1909 by W. B. Douglass.

The following notes are those of a tie between corner No. 4 of the Betatakin Ruin and U.S.C. & G.S. triangulation station Coal Mine.

A Wild T-16 theodolite, Serial No. 54498, was used to turn the angles for the triangulation and traverse lines used to make the tie.

The survey was made in accordance with the specifications set forth in the Manual of Surveying Instructions, 1947, and the Special Instructions dated October 18, 1962.

The geographic position of Cor. No. 4 of the Betatakin Ruin is: Latitude  $36^{\circ}40'54.717''$  North and Longitude  $110^{\circ}32'24.241''$  West.

Corner No. 4 of the Betatakin Ruin is monumented by a sandstone, 18 x 14 x 4 ins., firmly set, marked and witnessed as described in the official record.

Thence,

S.  $15^{\circ}31'26.4''$  E.

779.55 (51,450.30 ft.) Triangulation station Coal Mine, monumented by a standard bronze tablet, set in a concrete monument, mkd.

COAL MINE

1951

from which

R. Ms. 1 and 2 were found as described in the official record.

A drill hole was found where the azimuth mark tablet had been set, direction  $257^{\circ}36'27.4''$  about 3/4 mile.

Cor. No. 4 of the Betatakin Ruin bears N.  $15^{\circ}29'45.8''$  W., 779.55 chs. (51,450.30 ft.) Sea level measurement, 779.32 chs., (51,434.86 ft.)

Geodetic position given for triangulation station Coal Mine is: Latitude  $36^{\circ}32'44.597''$  N. and Longitude  $110^{\circ}29'35.691''$  W. The station is shown in section 10, T. 36 N., R. 17 E., G&SRM, Arizona, on Protraction Diagram No. 35 revised March 14, 1963.

The Betatakin Ruins are shown in sections ~~18~~<sup>19</sup> and ~~19~~<sup>20</sup>, T. 38 N., R. 17 E., G&SRM, Arizona, on Protraction Diagram No. 35, revised March ~~4~~, 1963.

14



CERTIFICATE OF CADASTRAL SURVEYOR

BOOK 4657

I, Boyd S. Owens, HEREBY CERTIFY upon honor that, in

pursuance of special instructions bearing date of the 18th day of October, 1962.

I have surveyed a tie between Cor. No. 4 of the Betatakin Ruin within the Navajo National Monument, sections <sup>18</sup> and <sup>20</sup> 18 and 19, T. 38 N., R. 17 E. (unsurveyed), and U.S.C. & G.S. triangulation station COAL MINE in Section 10, T. 36 N., R. 17 E. (unsurveyed)

of the G. & S. R. Meridian, in the State of Arizona, which are represented in the foregoing field notes as having been executed by me and under my direction; and that said survey has been made in strict conformity with said instructions, the Manual of Instructions for the Survey of the Public Lands of the United States, and in the specific manner described in the foregoing field notes.

January 4, 1963  
(Date)

Boyd S. Owens  
(Cadastral Surveyor)

(Date)

(Cadastral Surveyor)

CERTIFICATE OF APPROVAL

BUREAU OF LAND MANAGEMENT,

Washington, D. C., MAY 7 1963, 1963

The foregoing field notes of the survey of a tie between Cor. No. 4 of the Betatakin Ruin within the Navajo National Monument, sections <sup>18</sup> and <sup>20</sup> 18 and 19, T. 38 N., R. 17 E. (unsurveyed), and U.S.C. & G.S. triangulation station COAL MINE in section 10, T. 36 N., R. 17 E., (unsurveyed), G. & S. R. Meridian, Arizona.

executed by Boyd S. Owens, Cadastral Surveyor

having been critically examined and found correct, are hereby approved.

[Signature]  
(Cadastral Engineering Staff Officer)  
Chief, Division of Engineering

CERTIFICATE OF TRANSCRIPT

I CERTIFY that the foregoing transcript of the field notes of the above-described surveys in \_\_\_\_\_, is a true copy of the original field notes.

(Date)

(Cadastral Engineering Staff Officer)