

ORIGINAL

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FIELD NOTES

OF THE

DEPENDENT RESURVEY

OF

A PORTION OF THE ARIZONA-NEW MEXICO STATE LINE
BETWEEN THE 24 MILE CORNER AND THE 31 MILE CORNER,

TOWNSHIPS 37 AND 38 NORTH, RANGE 31 EAST,

AND

UNSURVEYED TOWNSHIP 36 NORTH, RANGE 31 EAST,

OF THE GILA AND SALT RIVER MERIDIAN,

IN THE STATE OF ARIZONA

EXECUTED BY

Alvina A. Begaye, Cadastral Surveyor

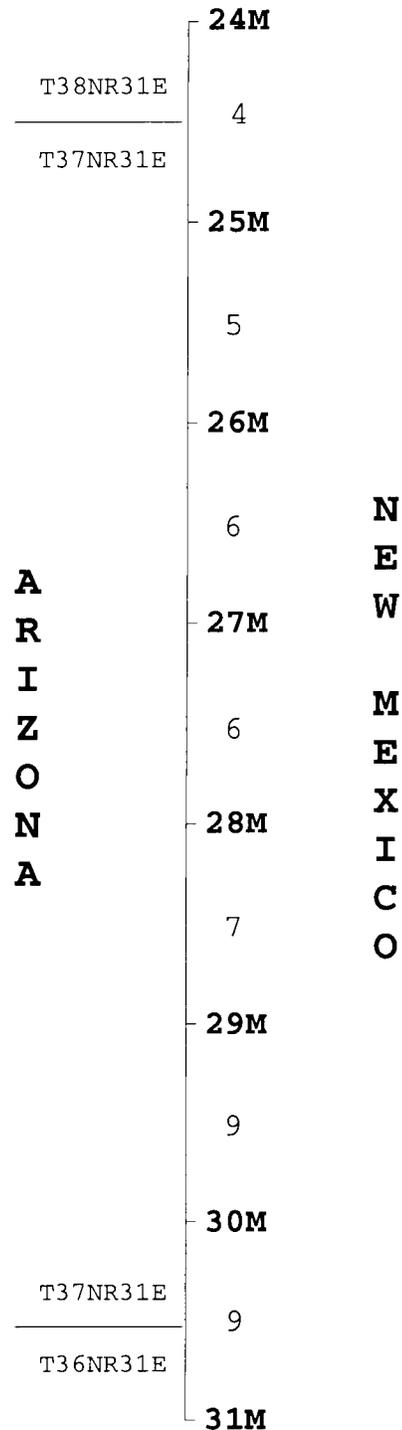
Under Special Instructions dated and approved February 10, 2009, which provided for the surveys included under Group No. 1061, and assignment instructions dated February 10, 2009.

Survey commenced February 17, 2009

Survey completed March 14, 2009

INDEX DIAGRAM

ARIZONA-NEW MEXICO STATE LINE,
TOWNSHIPS 37 AND 38 NORTH, RANGE 31 EAST, AND
UNSURVEYED TOWNSHIP 36 NORTH, RANGE 31 EAST,
GILA AND SALT RIVER MERIDIAN, ARIZONA



**Tps. 37 and 38 N., R. 31 E., and Unsurveyed T. 36 N., R. 31 E.,
Gila and Salt River Meridian, Arizona**

CHAINS

The following field notes describe the dependent resurvey of a portion of the Arizona-New Mexico State Line between the 24 Mile Corner and the 31 Mile Corner, Townships 37 and 38 North, Range 31 East, and unsurveyed Township 36 North, Range 31 East, Gila and Salt River Meridian, Arizona.

The history of surveys pertaining to this survey is as follows:

The west boundary of the New Mexico Territory was surveyed by Chandler Robbins in 1875. A portion of the Arizona-New Mexico Boundary from Four Corners (the monument at the corner common to the states of Arizona, Colorado, New Mexico and Utah) to the 33 Mile Corner was dependently resurveyed by Ty White in 1951. The Ninth Standard Parallel North (south boundary) and the north boundary, Township 37 North, Range 31 East, was surveyed by Ty White in 1951. The Seventh Standard Parallel North (south boundary), Township 29 North, Range 21 West, New Mexico Principle Meridian, was surveyed by Hugh B. Crawford in 1951.

The survey was executed in accordance with the specifications as set forth in the Manual of Instructions for the Survey of the Public Lands of the United States, 1973, and the Special Instructions dated February 10, 2009, for Group No. 1061, Arizona.

The true meridian direction and length of all lines were determined by real time kinematic global positioning system observations using Trimble Navigation 5700 model receivers.

Preliminary to the resurvey, the lines of the prior surveys were retraced and search was made for all corners and other calls of record. Identified corners were remonumented in their original positions. Lost corners were reestablished and remonumented at proportionate positions based on the official record. The retracement data were thoroughly verified and only the true line field notes are given herein.

Geodetic control was derived from Global Positioning System (GPS) static observations post processed by National Geodetic Survey, Online Positioning User Service (OPUS), utilizing Continuously Operating Reference Stations (CORS), MONTICELLOUT2006, AZTEC, and CHACOCNHP_NM2005. The NAD 83 (CORS96)(EPOCH:2002), geographic position of the 24 Mile Corner, is as follows:

Latitude: 36°39'13.22" N. Longitude: 109°02'43.69" W.

The mean magnetic declination is 10 3/4° E.

Dependent Resurvey of a Portion of the Arizona-New Mexico State Line
 Between the 24 Mile Corner and the 31 Mile Corner,
 Tps. 37 and 38 N., R. 31 E., and Unsurveyed T. 36 N., R. 31 E.,
 Gila and Salt River Meridian, Arizona

CHAINS	
	<p style="text-align: center;">Restoring the dependent resurvey executed by Ty White, in 1951</p> <hr style="width: 20%; margin: auto;"/> <p>Beginning at the 24 Mile Cor., monumented with an iron post, 2 1/2 ins. diam., firmly set, projecting 4 ins. above ground, with a mound of stone, 4 ft. base, 1 ft. high, S. of cor., with brass cap mkd.</p> <p style="text-align: center;">24 M ARIZ NM 1875 1951</p> <p>Add the marks 2009 to the brass cap.</p> <p>S. 0°05' W., on the 25th mile of the Arizona-New Mexico State Line.</p> <p>Over rolling land.</p>
19.66	<p>Point for the closing cor. of Tps. 37 and 38 N., R. 31 E., at proportionate dist., there is no remaining evidence of the 1951 cor.</p> <p>Set a stainless steel post, 28 ins. long, 2 1/2 ins. diam., 24 ins. in the ground, with brass cap mkd.</p> <p style="text-align: center;">T 38 N R 31 E CC $\frac{S \ 32 \ }{S \ 5 \ }$ NM T 37 N</p> <p style="text-align: center;">2009</p> <p>Deposit a magnet, in a white plastic case, at the base of the stainless steel post.</p>
20.90	<p>Trail road, bears N. 85° E. and S. 85° W.</p>
39.98	<p>The 24 1/2 Mile Cor., determined on the N. side of an embedded mound of stone, 4 ft. base, 1 ft. high, and in a collar of stone, 3 ft. diam., and is accepted as the best available evidence of the 1951 cor. position.</p> <p>At the corner point</p> <p>Set a stainless steel post, 28 ins. long, 2 1/2 ins. diam., 24 ins. in the ground, encircled with the collar of stone, with brass cap mkd.</p>

Dependent Resurvey of a Portion of the Arizona-New Mexico State Line
 Between the 24 Mile Corner and the 31 Mile Corner,
 Tps. 37 and 38 N., R. 31 E., and Unsurveyed T. 36 N., R. 31 E.,
 Gila and Salt River Meridian, Arizona

CHAINS	
	<p style="text-align: center;">24 1/2 M</p> <p style="text-align: center;">ARIZ NM</p> <p style="text-align: center;">2009</p> <p>Deposit a magnet, in a white plastic case, at the base of the stainless steel post.</p> <p>Rebuild the mound of stone, 3 ft. base, 1 1/2 ft. high, S. of cor.</p> <hr style="width: 30%; margin: 10px auto;"/> <p>S. 0°05' W., beginning new measurement.</p> <p>Over rolling land.</p>
7.70	Navajo Route 33, a graded road, 25 ft. wide, bears N. 55° E. and S. 55° W.
23.70	Trail road, bears East and West.
39.99	<p>The 25 Mile Cor., monumented with an iron post, 2 1/2 ins. diam., firmly set flush with the surface of the ground, with brass cap mkd.</p> <p style="text-align: center;">25 M</p> <p style="text-align: center;">ARIZ NM</p> <p style="text-align: center;">1875</p> <p style="text-align: center;">1951</p> <p>Add the marks 2009 to the brass cap.</p> <hr style="width: 80%; margin: 10px auto;"/> <p>S. 0°05' W., on the 26th Mile of the Arizona-New Mexico State Line.</p>
39.98	<p>The 25 1/2 Mile Cor., monumented with an iron post, 1 in. diam., firmly set, projecting 5 ins. above ground, with brass cap mkd.</p> <p style="text-align: center;">25 1/2 M</p> <p style="text-align: center;">ARIZ NM</p> <p style="text-align: center;">1875</p> <p style="text-align: center;">1951</p> <p>Add the marks 2009 to the brass cap.</p> <hr style="width: 30%; margin: 10px auto;"/> <p>S. 0°05' W., beginning new measurement.</p> <p>Over rolling land.</p>

Dependent Resurvey of a Portion of the Arizona-New Mexico State Line
 Between the 24 Mile Corner and the 31 Mile Corner,
 Tps. 37 and 38 N., R. 31 E., and Unsurveyed T. 36 N., R. 31 E.,
 Gila and Salt River Meridian, Arizona

CHAINS	
39.98	<p>The 26 Mile Cor., monumented with an iron post, 2 1/2 ins. diam., firmly set, projecting 3 ins. above ground, with brass cap mkd.</p>
	<p style="text-align: center;">26 M ARIZ NM 1875 1951</p>
	<p>Add the marks 2009 to the brass cap.</p> <hr/>
	<p>S. 0°05' W., on the 27th Mile of the Arizona-New Mexico State Line.</p>
	<p>Over rolling land.</p>
39.98	<p>The 26 1/2 Mile Cor., monumented with an iron post, 1 in. diam., firmly set, projecting 5 ins. above ground, with brass cap mkd.</p>
	<p style="text-align: center;">26 1/2 M ARIZ NM 1875 1951</p>
	<p>Add the marks 2009 to the brass cap.</p> <hr/>
	<p>S. 0°05' W., beginning new measurement.</p>
	<p>Over rolling land.</p>
20.80	<p>Graded road, 25 ft. wide, bears N. 45° E. and S. 45° W.</p>
39.98	<p>The 27 Mile Cor., monumented with an iron post, 2 1/2 ins. diam., firmly set, projecting 5 ins. above ground, encircled with a collar of stone, 3 ft. diam., with brass cap mkd.</p>
	<p style="text-align: center;">27 M ARIZ NM 1875 1951</p>
	<p>Add the marks 2009 to the brass cap.</p> <hr/>
	<p>South, on the 28th Mile of the Arizona-New Mexico State Line.</p>
	<p>Over rolling land.</p>

Dependent Resurvey of a Portion of the Arizona-New Mexico State Line
 Between the 24 Mile Corner and the 31 Mile Corner,
 Tps. 37 and 38 N., R. 31 E., and Unsurveyed T. 36 N., R. 31 E.,
 Gila and Salt River Meridian, Arizona

CHAINS	
16.88	A brass tablet, 3 ins. diam., set flush in a concrete collar, 6 ins. diam., firmly set flush with the surface of the ground, with top mkd. EL. 5851.18 BIA ROADS 1976 and witnessed by an angle iron, firmly set, projecting 24 ins. above ground, to the W., with illegible marks. The brass tablet is located in the N. right-of-way fence, barbed wire, 5 strand, of Navajo Route 13, parallels highway.
18.40	Navajo Route 13, asphalt pavement, 50 ft. wide, bears East and West.
19.90	A brass tablet, 3 ins. diam., set flush in a concrete collar, 6 ins. diam., firmly set, projecting 2 ins. above ground, with top mkd. EL 5854.73 BIA ROADS 1976 and witnessed by an angle iron, firmly set, projecting 24 ins. above ground, to the W., mkd. E.003+9820. The brass tablet is located in the S. right-of-way fence, barbed wire, 5 strand, of Navajo Route 13, parallels highway.
40.00	The 27 1/2 Mile Cor., monumented with an iron post, 1 in. diam., firmly set, projecting 8 ins. above ground, with brass cap mkd.
	<p style="text-align: center;">27 1/2 M ARIZ NM 1875 1951</p>
	Add the marks 2009 to the brass cap.
	South, beginning new measurement.
	Over rolling land.
40.00	The 28th Mile Cor., monumented with an iron post, 2 1/2 ins. diam., firmly set, 20 ins. below the surface of the ground, with brass cap mkd.
	<p style="text-align: center;">28 M ARIZ NM 1875 1951</p>
	At the corner point
	Reset the iron post, 30 ins. long, 24 ins. in the ground.
	Deposit a magnet, in a white plastic case, at the base of the iron post.
	Add the marks 2009 to the brass cap.
	South, on the 29th Mile of the Arizona-New Mexico State Line.

Dependent Resurvey of a Portion of the Arizona-New Mexico State Line
 Between the 24 Mile Corner and the 31 Mile Corner,
 Tps. 37 and 38 N., R. 31 E., and Unsurveyed T. 36 N., R. 31 E.,
 Gila and Salt River Meridian, Arizona

CHAINS	
	Over rolling land.
21.40	Graded road, 20 ft. wide, bears N. 30° E. and S. 30° W.
39.70	Graded road, 20 ft. wide, bears S. 75° E. and N. 75° W.
40.01	<p>The 28 1/2 Mile Cor., monumented with an iron post, 1 in. diam., firmly set, projecting 3 ins. above ground, with brass cap mkd.</p> <p style="text-align: center;">28 1/2 M ARIZ NM 1875 1951</p>
	Add the marks 2009 to the brass cap.
	<hr/>
	South, beginning new measurement.
	Over rolling land.
2.40	Trail road, bears S. 70° E. and N. 70° W.
2.55	Underground water line, bears S. 75° E. and N. 75° W.
13.35	Trail road, bears N. 70° E. and S. 70° W.
37.49	<p>The witness cor. to the 29 Mile Cor., determined on the N. side of a scattered mound of stone, and in an embedded collar of stone, 3 ft. diam., and is accepted as the best available evidence of the 1951 cor. position.</p> <p>At the corner point</p> <p>Set a stainless steel post, 28 ins. long, 2 1/2 ins. diam., 24 ins. in the ground, over a steel fence post, 5 ft. long, encircled with the embedded collar of stone, with brass cap mkd.</p> <p style="text-align: center;">29 M WC ARIZ NM ↓ 2009</p>
	Deposit a magnet, in a white plastic case, at the base of the stainless steel post.
	Rebuild the mound of stone, 3 ft. base, 2 ft. high, S. of cor.
	<hr/>
	South, beginning new measurement.

Dependent Resurvey of a Portion of the Arizona-New Mexico State Line
 Between the 24 Mile Corner and the 31 Mile Corner,
 Tps. 37 and 38 N., R. 31 E., and Unsurveyed T. 36 N., R. 31 E.,
 Gila and Salt River Meridian, Arizona

CHAINS	
	Over rolling and broken land.
2.50	True point for the 29 Mile Cor., at proportionate dist., falls at the base of the N. bank of a wash, 5 ft. high, bears S. 60° E. and N. 60° W., where it is impracticable to establish a permanent monument.
	South, on the 30th Mile of the Arizona-New Mexico State Line.
	Over rolling and broken land.
2.00	Wash, 50 ft. wide, 5 ft. deep, drains N. 60° W.
8.65	Same wash, 50 ft. wide, 35 ft. deep, drains N. 35° E.
21.40	Same wash, 65 ft. wide, 5 ft. deep, drains N. 5° W.
38.45	Trail road, 15 ft. wide, bears S. 80° E. and N. 80° W.
39.98	The 29 1/2 Mile Cor., monumented with an iron post, 1 in. diam., firmly set, projecting 4 ins. above ground, with brass cap mkd.
	<p style="text-align: center;">29 1/2 M ARIZ NM 1875 1951</p>
	Add the marks 2009 to the brass cap.
	South, beginning new measurement.
31.20	Graded road, 25 ft. wide, bears S. 75° E. and N. 75° W.
35.80	Power line, bears S. 85° E. and N. 85° W.
37.50	Graded road, 25 ft. wide, bears N. 60° E. and S. 60° W.
40.00	The 30 Mile Cor., monumented with an iron post, 2 1/2 ins. diam., firmly set flush with the surface of the ground, encircled with a collar of stone, 3 ft. diam., with brass cap mkd.
	<p style="text-align: center;">30 M ARIZ NM 1875 1951</p>
	Add the marks 2009 to the brass cap.
	South, on the 31st Mile of the Arizona-New Mexico State Line.

Dependent Resurvey of a Portion of the Arizona-New Mexico State Line
 Between the 24 Mile Corner and the 31 Mile Corner,
 Tps. 37 and 38 N., R. 31 E., and Unsurveyed T. 36 N., R. 31 E.,
 Gila and Salt River Meridian, Arizona

CHAINS	
	Over gently rolling land.
19.98	The stan. closing cor. of Tps. 36 and 37 N., R. 31 E., monumented with an iron post, 2 1/2 ins. diam., firmly set flush with the surface of the ground, encircled with a collar of stone, 3 ft. diam., with brass cap mkd.
	SC T 37 N R 31 E CC $\frac{S \ 32}{S \ 5}$ NM T 36 N
	1951
	Add the marks 2009 to the brass cap.
40.00	The 30 1/2 Mile Cor., monumented with an iron post, 1 in. diam., firmly set, projecting 5 ins. above ground, with brass cap mkd.
	30 1/2 M ARIZ NM 1875 1951
	Add the marks 2009 to the brass cap.
	<hr/> South, beginning new measurement.
	Over gently rolling land.
40.00	The 31 Mile Cor., monumented with an iron post, 2 1/2 ins. diam., firmly set, projecting 10 ins. above ground, encircled with a collar of stone, 3 ft. diam., with brass cap mkd.
	31 M ARIZ NM 1875 1951
	Add the marks 2009 to the brass cap.
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Tps. 37 and 38 N., R. 31 E., and Unsurveyed T. 36 N., R. 31 E.,
Gila and Salt River Meridian, Arizona

CHAINS	GENERAL DESCRIPTION
	<p>The area surveyed is near the community of Red Rock, Arizona, on the Navajo Indian Reservation. The land varies from gently rolling to rolling to broken with the drainage being northwesterly.</p> <p>The elevation varies from 5700 to 6100 feet above sea level. The soil is sandy clay; there is no timber, and the vegetation consists of native grasses and sage brush.</p> <p>The main access to the area is provided by Navajo Route 13, a paved road, which crosses the Arizona-New Mexico State Line between the 27 Mile Cor. and the 27 1/2 Mile Cor., with several scattered graded and trail roads throughout the area. The area is used primarily for the grazing of livestock. There is no evidence of any current mining activity.</p> <p>The mean magnetic declination of 10 3/4° E. was derived from the computer program GEOMAGIX, utilizing the World Magnetic Model for Epoch 2005 for the dates of survey.</p>

CERTIFICATE OF SURVEY

I, Alvina A. Begaye, Cadastral Surveyor, HEREBY CERTIFY upon honor, that in pursuance of special instructions bearing date of the 10th day of February, 2009, I have dependently resurveyed a portion of the Arizona-New Mexico State Line between the 24 Mile Corner and the 31 Mile Corner, Tps. 37 and 38 N., R. 31 E., and unsurveyed T. 36 N., R. 31 E., of the Gila and Salt River Meridian in the State of Arizona, which are represented in the foregoing field notes as having been executed by me and under my direction. Said survey has been made in strict conformity with said special instructions, the Manual of Instructions for the Survey of the Public Lands of the United States, 1973, and in specific manner described in the foregoing field notes.

April 30, 2009
(Date)

Alvina A. Begaye
(Cadastral Surveyor)

CERTIFICATE OF APPROVAL

BUREAU OF LAND MANAGEMENT
Washington, D.C.

The foregoing field notes of the dependent resurvey of a portion of the Arizona-New Mexico State Line between the 24 Mile Corner and the 31 Mile Corner, Tps. 37 and 38 N., R. 31 E., and unsurveyed T. 36 N., R. 31 E., Gila and Salt River Meridian, Arizona, executed by Alvina A. Begaye, Cadastral Surveyor, having been critically examined and found correct, are hereby approved.

June 10, 2009
(Date)

Donald A. Bubler
(Chief Cadastral Surveyor of the Unites States)

~~CERTIFICATE OF TRANSCRIPT~~

~~I CERTIFY That the foregoing transcript of the field notes of the above described surveys in Tps. 37 and 38 N., R. 31 E., and unsurveyed T. 36 N., R. 31 E., Gila and Salt River Meridian, Arizona, is a true copy of the original field notes.~~

~~_____
(Date)~~

~~_____
(Chief Cadastral Surveyor of the United States)~~