

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

ORIGINAL

FIELD NOTES

OF

THE DEPENDENT RESURVEY OF

THE UTAH - ARIZONA STATE BOUNDARY LINE,

FROM MILE POST 111 TO MILE POST 112,

A PORTION OF THE SUBDIVISIONAL LINES,

AND

THE METES-AND-BOUNDS SURVEY OF THE PARIA CANYON -

VERMILION CLIFFS WILDERNESS BOUNDARY,

IN

TOWNSHIP 44 SOUTH, RANGE 2 WEST,

OF THE SALT LAKE MERIDIAN  
IN THE STATE OF UTAH

EXECUTED BY

*Jeremy D. Davis*  
*Cadastral Surveyor*

*Under the Supervision of*

*Ronald K. Baugh*  
*Supervisory Cadastral Surveyor*

Under Special Instructions dated *July 20, 2004*, approved *July 20, 2004*, which provided for the surveys included under Group Number *987*, and Assignment Instructions dated *July 20, 2004*, and Reassignment Instructions dated *July 20, 2007*.

Survey Commenced, *August 5, 2004*  
Survey Completed, *April 2, 2008*

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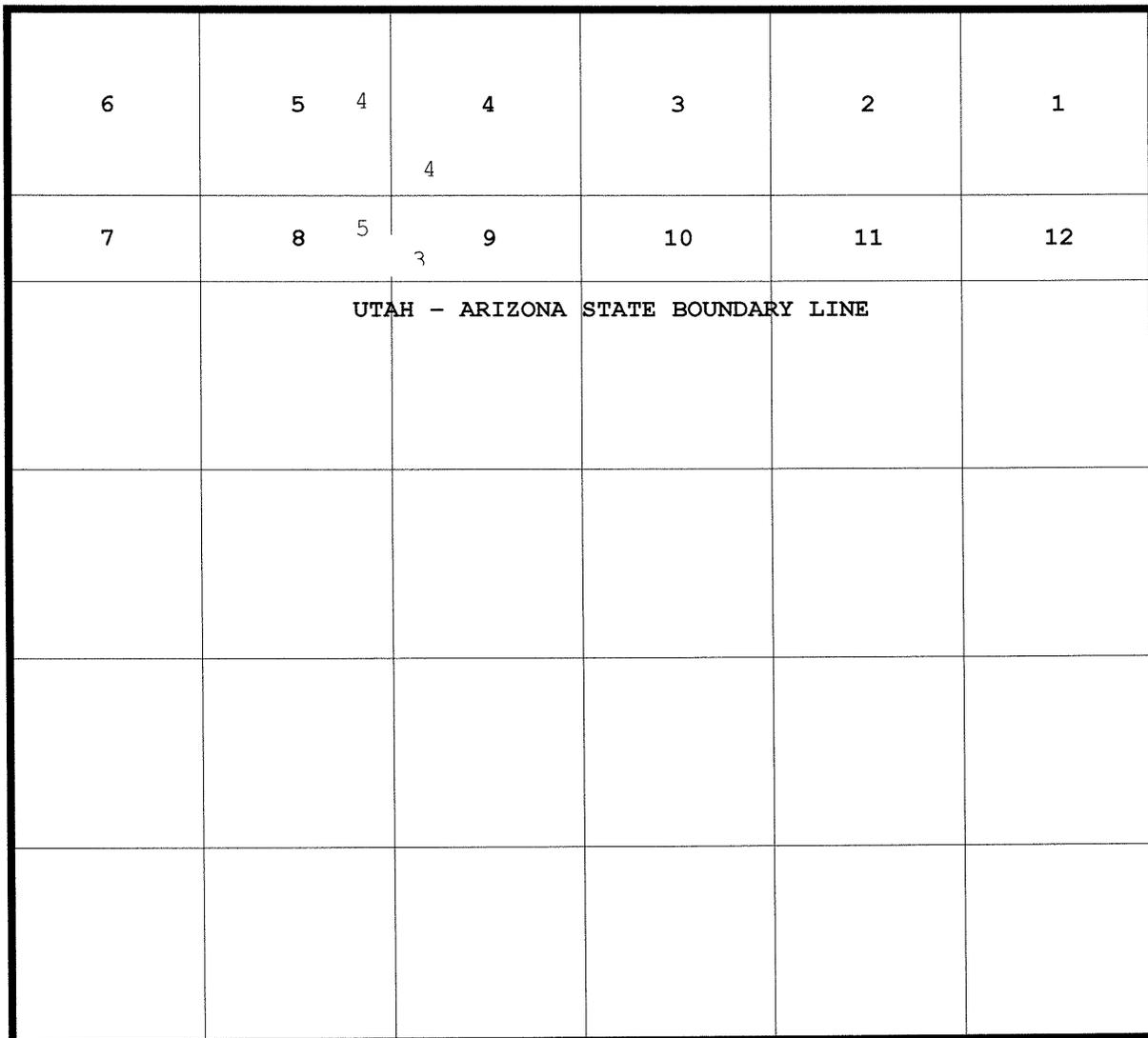
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# INDEX DIAGRAM

Township 44 South, Range 2 West.



Metes-and-Bounds Survey of  
 Paria Canyon - Vermilion Cliffs Wilderness.....5

## TOWNSHIP 44 SOUTH, RANGE 2 WEST, SALT LAKE MERIDIAN, UTAH

The following field notes are those of the dependent resurvey of the Utah - Arizona State Boundary Line from Mile Post 111 to Mile Post 112, a portion of the subdivisional lines, and the metes-and-bounds survey of the Paria Canyon - Vermilion Cliffs Wilderness boundary, in Township 44 South, Range 2 West, Salt Lake Meridian, Utah.

## HISTORY OF SURVEYS

Surveyed by		Retr. or Resurveyed by	
<b>SOUTH BOUNDARY (Utah - Arizona State Boundary Line)</b>			
All	H.B. Carpenter	1901	
All		A. Nelson & H.W. Miller	1917
<b>EAST BOUNDARY</b>			
All	H.W. Miller	1917	
<b>WEST BOUNDARY</b>			
All	H.W. Miller	1917	
<b>NORTH BOUNDARY</b>			
All	A. Nelson & H.W. Miller	1917	
Portion		J.D. Davis & R.K. Baugh	2004-08
		(Concurrently)	
<b>SUBDIVISION</b>			
All	A. Nelson & H.W. Miller	1917	

## TOWNSHIP 44 SOUTH, RANGE 2 WEST, SALT LAKE MERIDIAN, UTAH

This survey is to establish the boundary of the Paria Canyon - Vermilion Cliffs Wilderness, as set forth in Public Law 98-406, and the legal description and map dated September 29, 1986.

**Note:** The angle points in the metes-and-bounds survey of the Paria Canyon - Vermilion Cliffs Wilderness boundary are numbered from one (1) to twelve (12) in the field notes and plat of Township 44 South, Range 2 West, and are for reference purposes only. Monuments in the field bear the marks 'AP' only.

The Paria Canyon - Vermilion Cliffs Wilderness boundary, as determined by the metes-and-bounds survey, is identical to the Grand Staircase-Escalante National Monument boundary.

The survey was executed in accordance with the specifications set forth in the Manual of Surveying Instructions, 1973, and the Special Instructions for Group No. 987, dated July 20, 2004.

The directions of the lines were determined by references to true meridian, established by Global Positioning System (GPS) utilizing Real-Time Kinematic (RTK) techniques throughout the survey. The positional accuracy of this survey complies with the *Standards and Guidelines for Cadastral Surveys Using Global Positioning System Methods*, dated May 9, 2001, Version 1.0. Trimble 5700 and 5800 GPS receivers were used for field collection. Cadastral Measurement Management (CMM) software was the primary software utilized for project calculations.

Preliminary to the resurvey, the lines of the prior surveys were retraced and a 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 was thoroughly verified and only the true line field notes are given herein.

Geodetic control was derived from GPS static observations, post processed by National Geodetic Survey, Online Positioning User Service (OPUS), utilizing Continuously Operating Reference Stations (CORS); KINGMAN CORS ARP, MARYSVALE\_UT2006 CORS ARP, and FLAGSTAFF 1 CORS ARP.

The geographic position of the 112<sup>th</sup> Mile Post on the Utah - Arizona State Boundary Line, as determined by direct RTK methods from the National Geodetic Survey OPUS solution, is as follows:

Latitude: **37° 00' 03.983" N.**

Longitude: **112° 01' 09.894" W.**

N.A.D. 83, Network Accuracy = 0.200 meter at 95% confidence.

DEPENDENT RESURVEY OF THE UTAH - ARIZONA STATE BOUNDARY LINE,  
 FROM MILE POST 111 TO MILE POST 112,  
 TOWNSHIP 44 SOUTH, RANGE 2 WEST, SALT LAKE MERIDIAN, UTAH

CHAINS

Dependent Resurvey of the Utah - Arizona State Boundary Line,  
 from Mile Post 111 to Mile Post 112,  
 T. 44 S., R. 2 W., Salt Lake Meridian, Utah

Reestablishment of the Survey Executed by H.B. Carpenter in 1901,  
 and the Retracement by A. Nelson and H.W. Miller in 1917

Beginning at Mile Post 111, monumented with a sandstone, 15x7x14,  
 inches above the ground, clearly marked UTAH on north, 37 NL on  
 east, ARIZONA on south, and 111 M on west faces.

Corner falls on level ground in sagebrush.

**S. 89°59.7' E.**, between Mile Post 111 and Mile Post 112.

- 22.017** True point for the closing corner of sections 8 and 9, T. 44 S.,  
 R. 2 W., Salt Lake Meridian, Utah, hereinafter described.
- 23.195** Point for Angle Point 12, of the Paria Canyon - Vermilion Cliffs  
 Wilderness boundary, hereinafter described.
- 62.021** True point for the 1/4 section corner of section 9 only, T 44 S.,  
 R. 2 W., Salt Lake Meridian, Utah; not monumented.

From this true point, the amended monument 1/4 section corner,  
 bears North, 0.077 chains dist., monumented with an iron post, 1  
 inch diameter, firmly set, in a mound of stone 3 feet base, 2  
 feet, high, projecting 12 inches above the mound of stone, with  
 brass cap marked as described in the official record of the 1917  
 resurvey.

from which the original bearing trees

A juniper, 14 inches diameter, bears N. 13° E., 49 links  
 dist., scribed 1/4 S9 BT, on an open weathered blaze.

A juniper limb, 8 inches diameter, bears N. 52° W., 60 links  
 dist., scribed 1/4 S9 BT, on an open blaze. (Record: N. 46°  
 W.)

Corner falls on level ground on a high ledge, bears east and  
 west.

- 79.892** Mile Post 112, monumented with a sandstone, 36x10x9, loosely set  
 in a mound of stone, clearly marked UTAH on north face; there are  
 no remaining marks on the stone due to weathering.

Rebuild mound of stone, 4 feet base, 3 feet high, around the  
 marked stone.

Corner falls on top of large spur ridge, bears north and south.

DEPENDENT RESURVEY OF A PORTION OF THE SUBDIVISIONAL LINES,  
TOWNSHIP 44 SOUTH, RANGE 2 WEST, SALT LAKE MERIDIAN, UTAH

CHAINS

Dependent Resurvey of a Portion of the Subdivisional Lines,  
T. 44 S., R. 2 W., Salt Lake Meridian, Utah

Reestablishment of the Survey Executed by A. Nelson and H.W.  
Miller in 1917

From the corner of sections 4, 5, 32, and 33, on the north boundary of the township, as described in the official record of the dependent resurvey of Township 43 South, Range 2 West, surveyed concurrently under this same group number.

S.  $0^{\circ}02.6'$  W., between sections 4 and 5.

- 39.955 The 1/4 section corner of sections 4 and 5, monumented with an iron post, 1 inch diameter, firmly set, projecting 16 inches above the ground, with brass cap marked as described in the official record of the 1917 survey.

from which the original bearing trees

A juniper, 12 inches diameter, bears N.  $55^{\circ}$  W., 93 links dist., scribed 1/4 S5 BT, on a partially healed blaze.  
(Record: 91 links)

A juniper, 13 inches diameter, bears S.  $61^{\circ}$  E., 122 links dist., scribed 1/4 S4 BT, on a partially healed blaze.  
(Record: 117 links)

Raised a mound of stone, 3 feet base to top of brass cap, around the iron post.

Corner falls on a gradual southeast-facing slope in juniper growth.

S.  $0^{\circ}03.0'$  W., beginning new measurement.

- 40.029 The corner of sections 4, 5, 8, and 9, monumented with an iron post, 2 inches diameter, firmly set, projecting 12 inches above the ground, with brass cap marked as described in the official record of the 1917 survey.

A mound of stone, 3 feet base, is located west of the iron post. Corner falls on level ground in sagebrush.

From the witness corner of the 1/4 section corner of sections 4 and 9, monumented with an iron post, 1 inch diameter, firmly set, in a mound of stone 3 feet base, projecting 10 inches above the mound of stone, with brass cap marked as described in the official record of the 1917 survey.

from which the original bearing trees

DEPENDENT RESURVEY OF A PORTION OF THE SUBDIVISIONAL LINES,  
TOWNSHIP 44 SOUTH, RANGE 2 WEST, SALT LAKE MERIDIAN, UTAH

CHAINS

A juniper, 8 inches diameter, bears N. 6° E., 35 links dist.,  
scribed WC 1/4 S4 BT, on a partially healed blaze.

A juniper, 8 inches, diameter, dead and standing, bears S. 21°  
E., 91 links dist., scribed WC 1/4 S9 BT, on an open blaze.

Corner falls on level ground in scattering juniper growth.

N. 89°53.4' W., between sections 4 and 9.

0.960 True point for the 1/4 section corner of sections 4 and 9.

True point falls on rock ledge, where it is not suitable for  
permanent monumentation; not monumented.

34.347 Point for Angle Point 9, of the Paria Canyon - Vermilion Cliffs  
Wilderness boundary, hereinafter described.

41.746 The corner of sections 4, 5, 8, and 9.

S. 0°10.0' E., between sections 8 and 9.

31.547 The closing corner point of sections 8 and 9, monumented with an  
iron post, 2 inches diameter, firmly set, projecting 4 inches  
above the ground, with brass cap marked as described in the  
official record of the 1917 resurvey.

A mound of stone, 3 feet base, is located north of the iron post.

This corner will now function as an offline closing corner.

I add the marks AM 2008 to brass cap.

Corner falls 6 feet east of the east edge of House Rock Road on  
level ground in sagebrush.

31.656 True point for the closing corner of sections 8 and 9, at  
intersection with the Utah - Arizona State Line boundary; not  
monumented.

Metes-and-Bounds Survey of the Paria Canyon -  
Vermilion Cliffs Wilderness Boundary,  
T. 44 S., R. 2 W., Salt Lake Meridian, Utah

From Angle Point 1, identical with Angle Point 75 of T. 43 S., R.  
2 W., on the north boundary of the township, as described in the  
official record of the dependent resurvey of Township 43 South,  
Range 2 West, surveyed concurrently under this same group number.

**Note:** This corner point is the beginning of the boundary parallel  
with, and offset 30 feet westerly of the centerline of a dirt  
road, bears northeasterly and southwesterly; this offset  
continues for the next 11 courses.

S. 6°33.7' W., on line 1 - 2.

METES-AND-BOUNDS SURVEY OF THE PARIA CANYON -  
VERMILION CLIFFS WILDERNESS BOUNDARY,  
TOWNSHIP 44 SOUTH, RANGE 2 WEST, SALT LAKE MERIDIAN, UTAH

## CHAINS

**6.070** Point for Angle Point 2.

Set an aluminum drive rod, 5/8 inch diameter, 30 inches long, 22 inches in the ground, with a 3 1/4 inches diameter aluminum cap marked:



Set a steel fence post alongside the aluminum drive rod.  
Corner falls on level ground in sagebrush.

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**S. 45°04.9' W.**, on line 2 - 3.

**5.084** Point for Angle Point 3.

Set two aluminum drive rods, 5/8 inch diameter, 60 inches long, 58 inches in the ground, with a 3 1/4 inches diameter aluminum cap marked:



Set a steel fence post alongside the aluminum drive rod.  
Corner falls on level ground in sagebrush.

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**S. 26°52.1' W.**, on line 3 - 4.

**15.104** Point for Angle Point 4.

Set an aluminum drive rod, 5/8 inch diameter, 30 inches long, 22 inches in the ground, with a 3 1/4 inches diameter aluminum cap marked:



Set a steel fence post alongside the aluminum drive rod.  
Corner falls on level ground in sagebrush.

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**S. 18°12.3' W.**, on line 4 - 5.

METES-AND-BOUNDS SURVEY OF THE PARIA CANYON -  
 VERMILION CLIFFS WILDERNESS BOUNDARY,  
 TOWNSHIP 44 SOUTH, RANGE 2 WEST, SALT LAKE MERIDIAN, UTAH

## CHAINS

**14.047** Point for Angle Point 5.

Set an aluminum drive rod, 5/8 inch diameter, 30 inches long, 22 inches in the ground, with a 3 1/4 inches diameter aluminum cap marked:



Set a steel fence post alongside the aluminum drive rod.

Corner falls on level ground in sagebrush.

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S. 8°26.4' W., on line 5 - 6.

**13.197** Point for Angle Point 6.

Set an aluminum drive rod, 5/8 inch diameter, 30 inches long, 22 inches in the ground, with a 3 1/4 inches diameter aluminum cap marked:



Set a steel fence post alongside the aluminum drive rod.

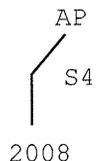
Corner falls on level ground in sagebrush.

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S. 40°42.9' W., on line 6 - 7.

**17.759** Point for Angle Point 7.

Set an aluminum drive rod, 5/8 inch diameter, 30 inches long, 22 inches in the ground, with a 3 1/4 inches diameter aluminum cap marked:



Set a steel fence post alongside the aluminum drive rod.

Corner falls on level ground in sagebrush.

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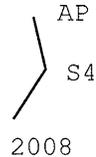
S. 3°24.7' E., on line 7 - 8.

METES-AND-BOUNDS SURVEY OF THE PARIA CANYON -  
VERMILION CLIFFS WILDERNESS BOUNDARY,  
TOWNSHIP 44 SOUTH, RANGE 2 WEST, SALT LAKE MERIDIAN, UTAH

## CHAINS

**11.223** Point for Angle Point 8.

Set an aluminum drive rod, 5/8 inch diameter, 30 inches long, 22 inches in the ground, with a 3 1/4 inches diameter aluminum cap marked:



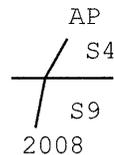
Set a steel fence post alongside the aluminum drive rod.

Corner falls on level ground in sagebrush.

**S. 43°40.5' W.**, on line 8 - 9.

**8.034** Point for Angle Point 9, at intersection with sections 4 and 9.

Set a stainless steel post, 30 inches long, 2 1/2 inches diameter, 26 inches in the ground, with brass cap marked:



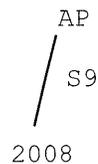
Set a steel fence post alongside the stainless steel post.

Corner falls next to an old corral on level ground.

**S. 15°14.8' W.**, on line 9 - 10, in section 9.

**10.717** Point for Angle Point 10.

Set an aluminum drive rod, 5/8 inch diameter, 30 inches long, 22 inches in the ground, with a 3 1/4 inches diameter aluminum cap marked:



Set a steel fence post 1 feet SW of the aluminum drive rod.

Corner falls on a steep, rocky, west-facing slope.

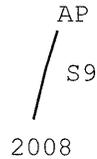
METES-AND-BOUNDS SURVEY OF THE PARIA CANYON -  
 VERMILION CLIFFS WILDERNESS BOUNDARY,  
 TOWNSHIP 44 SOUTH, RANGE 2 WEST, SALT LAKE MERIDIAN, UTAH

## CHAINS

S. 7°35.9' W., on line 10 - 11.

9.262 Point for Angle Point 11.

Set an aluminum drive rod, 5/8 inch diameter, 30 inches long, 22 inches in the ground, with a 3 1/4 inches diameter aluminum cap marked:



Set a steel fence post alongside the aluminum drive rod.

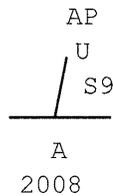
Corner falls on top of small ridge, bears east and west.

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S. 9°46.1' W., on line 11 - 12.

12.299 Point for Angle Point 12, at intersection with the Utah - Arizona State Boundary Line.

Set a stainless steel post, 30 inches long, 2 1/2 inches diameter, 26 inches in the ground, with brass cap marked:



Deposited a magnet enclosed in a plastic case at the base of the stainless steel post.

Set a steel fence post alongside the stainless steel post.

Corner falls 6 feet east of a juniper tree on level ground.

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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**FIELD ASSISTANTS**

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<b>Name</b>	<b>Capacity</b>
Larry Judd	Cadastral Surveyor
Scott Bishop	Cadastral Surveyor
Dale Graff	Cadastral Surveyor
Quade Johnson	Survey Technician

## CERTIFICATE OF SURVEY

I, *Jeremy D. Davis*, Cadastral Surveyor, under the Supervision of *Ronald K. Baugh*, Supervisory Cadastral Surveyor, HEREBY CERTIFY upon honor, that in pursuance of Special Instructions bearing the date of the *July 20, 2004*, I have *dependently resurveyed the Utah-Arizona State Boundary Line from Mile Post 111 to Mile Post 112, a portion of the subdivisional lines, and the metes-and-bounds survey of Paria Canyon-Vermilion Cliffs Wilderness boundary, in Township 44 South, Range 2 West, of the Salt Lake Meridian, in the State of Utah*, 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 Special Instructions, the Manual of Instructions for the Survey of the Public Lands of the United States, and in specific manner described in the foregoing field notes.

*April 28, 2011*

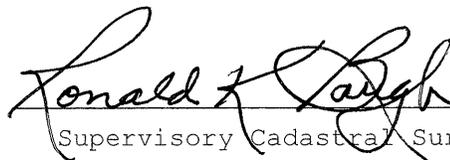
Date



Cadastral Surveyor

*May 04, 2011*

Date



Supervisory Cadastral Surveyor

## CERTIFICATE OF APPROVAL

BUREAU OF LAND MANAGEMENT  
Salt Lake City, Utah

The foregoing field notes of the *dependent resurvey of the Utah-Arizona State Boundary Line from Mile Post 111 to Mile Post 112, a portion of the subdivisional lines, and the metes-and-bounds survey of Paria Canyon - Vermilion Cliffs Wilderness boundary, in Township 44 South, Range 2 West, Salt Lake Meridian, Utah*, executed by *Jeremy D. Davis*, Cadastral Surveyor, under the Supervision of *Ronald K. Baugh*, Supervisory Cadastral Surveyor, having been critically examined and found correct, are hereby approved.

*June 29, 2012*

Date



Chief Cadastral Surveyor for Utah