

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ORIGINAL

FIELD NOTES

OF

THE INVESTIGATIONAL RETRACEMENT OF A PORTION OF THE SOUTH BOUNDARY
(EIGHTH STANDARD PARALLEL SOUTH)

THE DEPENDENT RESURVEY OF

A PORTION OF THE SUBDIVISIONAL LINES,

A PORTION OF THE SUBDIVISION LINES IN SECTIONS 28 AND 29,

A PORTION OF THE 1899 MEANDER LINES, AND

A PORTION OF THE 1979-81 MEANDER LINES OF THE RIGHT BANK
OF THE SAN JUAN RIVER,

AND

THE ORIGINAL SURVEY OF

A PORTION OF THE SUBDIVISIONAL LINES,

A PORTION OF THE MEANDER LINES OF THE LEFT BANK
OF THE SAN JUAN RIVER,

THE 1937 DIGITIZED PHOTOGRAMMETRIC MEANDER LINE, AND

A PORTION OF THE CENTER LINE OF 1899 RIVER CHANNEL, (AUXILIARY MEANDER LINE),

IN

TOWNSHIP 40 SOUTH, RANGE 22 EAST

OF THE SALT LAKE MERIDIAN
IN THE STATE OF UTAH

EXECUTED BY

Jerry L. Thomas
Cadastral Surveyor

Under special instructions dated *September 18, 1998*, approved *September 18, 1998*, which provided for the surveys included under Group Number *890*, and assignment instructions dated *September 18, 1998*

Survey commenced *September 18, 1998*
Survey completed *April 21, 1999*

INDEX DIAGRAM

Township 40 South , Range 22 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
	10 10	7 7			
30	9 29	6 28	27	26	25
	8 8	5 5	4		
31	8 32	4 33	3 34	35	36
	3 3	3 2	2		

The Subdivision of Section 28.....Page 10
 The Subdivision of Section 29.....Page 11
 The Retracement of 1899 Right Bank Meanders.....Page 14
 The Retracement of the Current Right Bank Meanders.....Page 16
 The Survey of the Current Left Bank Meanders.....Page 17
 The Survey of the Auxiliary Meander.....Page 19
 The Unsurveyed 1937 Photogrammetric Meanders.....Page 24

TOWNSHIP 40 SOUTH, RANGE 22 EAST, SALT LAKE MERIDIAN, UTAH

CHAINS

The following field notes are those of the investigational retracement of a portion of the south boundary (Eighth Standard Parallel South), the dependent resurvey of a portion of the subdivisional lines, a portion of the subdivision lines in sections 28 and 29, a portion of the 1899 meander lines, and a portion of the 1979-81 meander lines of the right bank of the San Juan River, and the survey of a portion of the subdivisional lines, a portion of the meander lines of the left bank of the San Juan River, the 1937 digitized photogrammetric meander line, and a portion of the center line of the 1899 river channel of the San Juan River (Auxiliary Meander Line), in Township 40 South, Range 22 East, Salt Lake Meridian, Utah.

History of Surveys

	Surveyed by		Retr. or Resurveyed by	
SOUTH BOUNDARY (Eighth Standard Parallel South)				
All	Nelson and Yundt	1953		
EAST BOUNDARY (Colorado Guide Meridian)				
Portion	F. Dickert	1878		
Portion			A.D. Ferron	1883
Portion			Page and Lentz	1899
Portion			A. Nelson	1953
Portion			J.L. Thomas	1979-1981
WEST BOUNDARY				
Portion	A.D. Ferron	1883		
Portion			Page and Lentz	1899
Portion			A. Nelson	1953
Portion			J.L. Thomas	1979-1981
NORTH BOUNDARY				
All	A.D. Ferron	1883		
All			Page and Lentz	1899
All			Miller and Thomas	1912
All			J.L. Thomas	1979-1981
SUBDIVISION				
Portion	Page and Lentz	1899		
Portion	J.L. Thomas	1979-1981	J.L. Thomas	1979-1981
MEANDERS OF THE SAN JUAN RIVER				
Right bank	Page and Lentz	1899		
Right bank	J.L. Thomas	1979-1981		

DEPENDENT RESURVEY OF A PORTION OF THE SOUTH BOUNDARY (EIGHTH STANDARD PARALLEL SOUTH), T. 40 S., R. 22 E., SALT LAKE MERIDIAN, UTAH

CHAINS

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. 890, dated September 18, 1998.

A portion of the directions of lines and the distances were determined by the Global Positioning System, using relative positioning techniques, and references to true meridians established on line by hour angle observations of the sun and Polaris. These lines were carried forward by sustained angulations, being supplemented by other observations taken throughout the progress of a portion of the survey. A portion of the distances were determined by electronic measurement.

The geographic position of the U.S. Geological Survey Triangulation Station "BLUFF" as published by the National Geodetic Surveys, is as follows:

Latitude 37° 19' 23.773" N. Longitude 109° 29' 26.918" W. N.A.D. 1983

The geographic position of the SE corner of section 33, which will also function as a B.L.M. Control Station, determined by G.P.S., using relative positioning techniques, from U.S. Geological Survey Triangulation Station "BLUFF", is as follows:

Latitude 37° 15' 30.984" N. Longitude 109° 29' 39.923" W. N.A.D. 1983

The mean magnetic declination as projected from the U.S. Geological Survey "Magnetic Declination Map of 1990" is: 12°E

Investigational Retracement Survey of a Portion of the Eighth Standard Parallel South, along the South boundary of the Township 40 South, Range 22 East, Salt Lake Meridian, Utah.

Reestablishment of the Survey Executed by
Nelson and Yundt in 1953

From the standard corner of sections 33 and 34, on the Eighth Standard Parallel South, monumented with an iron post, 2 1/2 inches diameter, firmly set, projecting 3 inches above ground, with brass cap marked as described in the official record of the 1953 survey of the Eighth Standard Parallel South through T. 40 S., R. 22 E.

N. 89° 57' 50" W., with the Retracement Survey, along the south boundary of section 33.

40.017 The standard 1/4 section corner of section 33 on the Eighth Standard Parallel South, monumented with an iron post, 2 1/2 inches diameter firmly set, projecting 10 inches above ground, with brass cap marked as described in the official record of the 1953 survey of the Eighth Standard Parallel South through T. 40 S., R. 22 E.

N. 89° 57' 50" W., with the Retracement Survey, along the south boundary of section 33.

SURVEY OF A PORTION OF THE SUBDIVISIONAL LINES,
T. 40 S., R. 22 E., SALT LAKE MERIDIAN, UTAH

CHAINS

40.019 The standard corner of sections 32 and 33, on the Eighth Standard Parallel South, monumented with an iron post, 2 1/2 inches diameter, firmly set, projecting 4 inches above ground, with brass cap marked as described in the official record of the 1953 survey of the Eight Standard Parallel South through T. 40 S., R. 22 E.

N. 89° 58' 30" W., with the Retracement Survey, along the south boundary of section 32.

40.020 The standard 1/4 section corner of section 32 on the Eighth Standard Parallel South, monumented with an iron post, 2 1/2 inches diameter, firmly set, projecting 8 inches above ground, with brass cap marked as described in the official record of the 1953 survey of the Eighth Standard Parallel South, through T. 40 S., R. 22 E.

N. 89° 58' 30" W., with the Retracement Survey, along the south boundary of section 32.

39.995 The standard corner of sections 31 and 32, on the Eighth Standard Parallel South, monumented with an iron post, 2 1/2 inches diameter, firmly set, projecting 2 inches above ground, with brass cap marked as described in the official record of the 1953 survey of the Eight Standard Parallel South through T. 40 S., R. 22 E.

Survey of a Portion of the Subdivisional Lines,
T. 40 S., R. 22 E., Salt Lake Meridian, Utah

From the standard corner of sections 33 and 34, on the Eighth Standard Parallel South, heretofore described.

N. 0° 02' 00" W., between sections 33 and 34.

Over rolling land.

7.000 Dirt road, well maintained, bears east and west.

40.000 Point for the 1/4 section corner of sections 33 and 34.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

T40S R22E
1/4
S33 | S34
1998

75.000 Dirt road along south end of cultivated land, bears east and west; enter cultivated land.

SURVEY OF A PORTION OF THE SUBDIVISIONAL LINES,
T. 40 S., R. 22 E., SALT LAKE MERIDIAN, UTAH

CHAINS

80.000 Point for the corner of sections 27, 28, 33, and 34.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

T40S R22E	
S28	S27
S33	S34
1998	

Corner is located in cultivated land.

N. 0° 02' 00" W., between sections 27 and 28.

Over cultivated land.

31.868 Point for the meander corner of sections 27 and 28, along the left bank of the San Juan River.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

T40S R22E	
MC	
S28	S27
1998	

From this point, the meander corner of sections 27 and 28, bears N. 2° 22' 50" E., 5.435 chains distance, along the right bank of the San Juan River. This meander corner was originally established in 1899 by Page and Lentz and then reestablished in 1979-81 by J. L. Thomas, at record bearing and distance from the 1/4 section corner of sections 27 and 28. The official record describes an iron post 2 1/2 inches in diameter being set at S. 00° 02' 00" E., 3.00 chains, from the 1/4 section corner. No remaining evidence of the monumented meander corner was found, and it was determined that it was impracticable to establish a permanent monument due to erosion.

From the standard corner of sections 32 and 33, on the Eighth Standard Parallel South, heretofore described.

N. 0° 03' 00" W., between sections 32 and 33.

Over rolling land.

6.500 Dirt road, well maintained, bears east and west.

40.000 Point for the 1/4 section corner of sections 32 and 33.

SURVEY OF A PORTION OF THE SUBDIVISIONAL LINES,
T. 40 S., R. 22 E., SALT LAKE MERIDIAN, UTAH

CHAINS

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

T40S R22E
1/4
S32 | S33
1998

80.000 Point for the corner of sections 28, 29, 32, and 33.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 2 ins. in the ground, in a mound of stone, 4 foot base to top, with aluminum cap marked:

T40S R22E
S29 | S28
S32 | S33
1998

From the corner of sections 27, 28, 33, and 34.

N. 89° 57' 50" W., between sections 28 and 33.

Over rolling land.

40.021 Point for the 1/4 section corner of sections 28 and 33, falls on face of ledge and cannot be monumented.

42.021 Point selected for the witness corner.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 16 inches in the ground, in a mound of stone, 4 foot base to top, with aluminum cap marked:

WC
T40S R22E
1/4 $\frac{S28}{S33}$ \rightarrow
1998

80.042 The corner of sections 28, 29, 32, and 33.

N. 0° 03' 00" W., between sections 28 and 29.

Descend over broken northwest slope.

15.436 Point for the meander corner of sections 28 and 29, along the left bank of the San Juan River, and the southerly boundary of Tract No. 38.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, 24 inches in the ground, with aluminum cap marked:

SURVEY OF A PORTION OF THE SUBDIVISIONAL LINES,
T. 40 S., R. 22 E., SALT LAKE MERIDIAN, UTAH

CHAINS

T40S R22E
MC

S29 | S28
1998

Raise a mound of stone, 2 1/2 foot base, 1 1/2 foot high, southeast of the corner.

27.680 Point for the meander corner of sections 28 and 29, along the right bank of the San Juan River. This point will also function for the south boundary of Tract 37, and the north boundary of Tract 38. It was determined impracticable to establish a permanent monument, due to erosion.

40.000 Point for the 1/4 section corner of sections 28 and 29.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

T40S R22E
1/4
S29 | S28
1998

49.816 Point for the closing corner of sections 28 and 29 at the intersect with the auxiliary meander line, the northerly boundary of Tract No. 37 and the Navajo Indian Reservation Boundary.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

T40S R22E
S29 S28

C | C
NAV IR
1998

Thence N. 5° 35' 40" E., between sections 28 and 29.

3.528 Point for the original meander corner of sections 28 and 29, at the intersect with the adjusted 1899 meander line of the right bank of the San Juan River.

Set an aluminum post, 30 ins. long, 2 1/2 ins. diam., 24 ins. in the ground, with aluminum cap marked:

T40S R22E
S29 | S28

MC
1998

Corner is located 2 1/2 feet south of corner of fences extending east and northwest.

DEPENDENT RESURVEY OF A PORTION OF THE SECTION LINE
BETWEEN SECTIONS 28 AND 29, T. 40 S., R. 22 E.,
SALT LAKE MERIDIAN, UTAH

CHAINS

Dependent Resurvey of a Portion of the Section Line
Between Sections 28 and 29, T. 40 S., R. 22 E., Salt Lake Meridian, Utah.

Reestablishment of the Survey Executed by
Page and Lentz in 1899, and the
Resurvey Executed by J.L. Thomas in 1979-81

From the original meander corner of sections 28 and 29, at intersect with the adjusted 1899 meander line of the right bank of the San Juan River.

N. 0° 03' 00" W., between sections 28 and 29.

Asc. over NW slope.

26.800 The corner of sections 20, 21, 28, and 29, marked with a hole in center of mound of stone. The aluminum post monumented in the 1979-81 resurvey has been removed and there is no remaining evidence of the original post.

At the corner point Set an aluminum post, 30 ins. long, 2 1/2 ins. diam., 16 ins. in the ground, in a mound of stone, with aluminum cap marked:

T40S	R22E
S20	S21
S29	S28
1998	

From this corner, U.S. Geological Survey triangulation station "BLUFF", bears N.25°56'40"E. (forward bearing) and S.25°57'30"W. (back bearing), 218.692 chains distance.

From the point for the 1/4 section corner of sections 21 and 28, monumented with an iron post 2 1/2 inches diameter, firmly set and projecting 6 inches above the ground, with brass cap marked as described in the official record of the 1979-81 resurvey

N. 89° 46' 00" W., along the section line between sections 21 and 28.

19.979 The W 1/16 section corner of sections 21 and 28, monumented with a 2 1/2 inch aluminum post firmly set and projecting 4 inches above a mound of stone, with aluminum cap marked as described in the official record of the 1979-81 survey.

N. 89° 46' 00" W., continue along the section line between sections 21 and 28.

19.980 The corner of sections 20, 21, 28, and 29.

SURVEY OF A PORTION OF THE SUBDIVISIONAL LINES,
T. 40 S., R. 22 E., SALT LAKE MERIDIAN, UTAH

CHAINS

Survey of a Portion of the Subdivisional Lines,
T. 40 S., R. 22 E., Salt Lake Meridian, Utah

From the standard corner of sections 31 and 32, heretofore described.

N. 0° 03' 00" W., between sections 31 and 32.

Over rolling and broken land.

16.000 Dirt road, unimproved, bears east and west.

40.000 Point for the 1/4 section corner of sections 31 and 32.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

T40S	R22E
1/4	
S31	S32
1998	

80.000 Point for the corner of sections 29, 30, 31, and 32.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, on solid bedrock, over a magnet, in a mound of stone, 4 1/2 foot base to top, with aluminum cap marked:

T40S	R22E
S30	S29
S31	S32
1998	

From the corner of sections 28, 29, 32, and 33.

N. 89° 58' 30" W., between sections 29 and 32.

Over rolling land.

40.000 Point for the 1/4 section corner of sections 29 and 32.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

T40S	R22E
1/4	S29
	S32
	1998

DEPENDENT RESURVEY OF A PORTION OF THE SECTION LINE
BETWEEN SECTIONS 29 AND 30, T. 40 S., R. 22 E.,
SALT LAKE MERIDIAN, UTAH

CHAINS

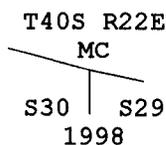
80.000 The corner of sections 29, 30, 31, and 32.

N. 0° 03' 00" W., between sections 29 and 30.

Over ledgey broken land.

11.509 Point for the meander corner of sections 29 and 30, along the left bank of the San Juan River.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:



From this point, the meander corner of sections 29 and 30, bears N. 6° 13' 30" E., 4.132 chains distance, along the right bank of the San Juan River. It was determined that it was impracticable to establish a permanent monument due to erosion.

Dependent Resurvey of a Portion of the Section Line
Between Sections 29 and 30, T. 40 S., R. 22 E.,
Salt Lake Meridian, Utah

Reestablishment of the Survey Executed by
Page and Lentz in 1899, and the
Resurvey Executed by J.L. Thomas in 1979-81

From the point for the meander corner of sections 29 and 30, along the right bank of the San Juan River, it is determined that it was impracticable to establish a permanent monument due to erosion.

N. 0° 03' 00" W., along the section line between sections 29 and 30.

6.284 Point for the original meander corner of sections 28 and 29, at the intersect with the adjusted 1899 meander line of the right bank of the San Juan River. No remaining evidence of the monumented meander corner was found; not monumented.

24.286 Point for the 1/4 section corner of sections 29 and 30; not monumented.

44.286 The N 1/16 section corner of sections 29 and 30, monumented with an aluminum post, 2 1/2 inches diameter, set flush with ground, with aluminum cap marked as described in the

DEPENDENT RESURVEY OF A PORTION OF THE SUBDIVISIONAL LINES
OF SECTION 28, T. 40 S., R. 22 E., SALT LAKE MERIDIAN, UTAH

CHAINS

official record of the 1979-81 survey.

64.286 The section corner of sections 19, 20, 29 and 30, monumented with an iron post, 2 1/2 inches in diameter, firmly set, projecting 4 inches above ground with brass cap marked as described in the official record of the 1979-81 survey.

From the corner of sections 20, 21, 28 and 29.

N. 89° 34' 30" W"., between sections 20 and 29.

39.933 The 1/4 section corner of sections 20 and 29, marked by a cross (x) carved into solid sandstone surface and surrounded by a mound of stone. The iron post has been removed.

At the cross (X) set a rebar 5/8 inches diam., in a drill hole, with aluminum cap marked:

	T40S R22E
1/4	<u>S20</u>
	S29
	1998

Raise a mound of stone 3 1/2 feet base, by 2 feet high, north of the corner.

S. 89° 17' 50" W., between sections 20 and 29.

19.971 The W 1/16 section corner of sections 20 and 29, monumented with an iron post, 2 1/2 ins. diam., firmly set, projecting 4 ins. above ground, with brass cap marked as described in the official record of the 1979-81 survey.

S. 89° 18' 10" W., between sections 20 and 29.

19.979 The section corner of sections 19, 20, 29 and 30.

Dependent Resurvey of a Portion of the Subdivisional Lines
of Section 28, T. 40 S., R. 22 E., Salt Lake Meridian, Utah

Reestablishment of the Subdivisional Survey
executed by J.L. Thomas in 1979-81

From the W 1/16 section corner of sections 21 and 28.

S. 0° 03' 00" E., on the N - S center line of the NW 1/4 of section 28.

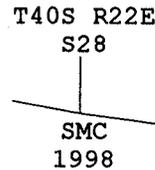
33.013 Point for the special meander corner at the intersect with the adjusted original meander line

DEPENDENT RESURVEY OF A PORTION OF THE SUBDIVISIONAL LINES
OF SECTION 29, T. 40 S., R. 22 E., SALT LAKE MERIDIAN, UTAH

CHAINS

of 1899.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

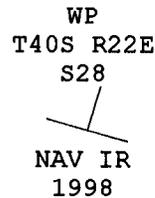


Corner is located 3 1/2 feet east of N and S fence line.

S. 19° 28' 50" W., on a partition line.

3.463 Point for the witness point at the intersect with the auxiliary meander line.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground and in a collar of stone, with aluminum cap marked:



Corner is located 1 foot east of a N and S fence line.

Dependent Resurvey of a Portion of the Subdivisional Lines
of Section 29, T. 40 S., R. 22 E., Salt Lake Meridian, Utah

Reestablishment of the Subdivisional Survey
executed by J.L. Thomas in 1979-81

From the 1/4 section corner of sections 20 and 29.

S. 0° 03' 00" E., on the N - S center line of section 29.

Over gentle rolling land.

12.037 Point for the special meander corner at the intersect with the adjusted original meander line of 1899.

DEPENDENT RESURVEY OF A PORTION OF THE SUBDIVISIONAL LINES
OF SECTION 29, T. 40 S., R. 22 E., SALT LAKE MERIDIAN, UTAH

CHAINS

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

SMC
T40S R22E
S29

1998

Corner is located 1 foot east of a N and S fence line.

S. 23° 13' 40" E., on a partition line.

3.463 Point for the witness point at the intersect with the auxiliary meander line.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

WP
T40S R22E
S29

NAV
IR
1998

Corner is located 1 foot east of a N and S fence line.

From the W 1/16 section corner of sections 20 and 29.

S. 0° 03' 00" E., on the N - S center line of the NW 1/4 of section 29.

Over gentle rolling land.

13.100 Center of paved road, bears N. 79° E. and S. 79° W.

13.600 Right-of-way fence, barbed wire, bears N. 79° E. and S. 79° W.

20.000 Point for the NW 1/16 section corner of section 29, at intersect with the E-W center line of the NW 1/4 of section 29.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 26 inches in the ground, with aluminum cap marked:

DEPENDENT RESURVEY OF A PORTION OF THE SUBDIVISIONAL LINES
OF SECTION 29, T. 40 S., R. 22 E., SALT LAKE MERIDIAN, UTAH

CHAINS

NW 1/16 S29
1999

Corner is located about 4 feet west of N and S fence line.

35.917 Point for the special meander corner of section 29, at intersect with the unsurveyed 1937 photogrammetric meander of the San Juan River.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

T40S R22E
S29
—|—
SMC
1998

From this corner, the special meander corner bears S.0°03'E., 20.223 chains distance, established by J. L. Thomas in 1981, monumented with an aluminum post 2 1/2 inches diameter, and aluminum cap flush with the ground, marked as described in the 1979-81 official record, no longer functions as a special meander corner and is marked on the cap "AM" (Amended Monument).

Over gentle rolling land.

Thence, S. 4° 53' 30" E., on a partition line between privately owned land on the west and the publicly owned land on the east.

32.706 Point selected for the witness special meander corner.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

WC
T40S R22E
S29
—|—
SMC
1998

32.806 True point for the special meander corner at the intersect with the present right bank of the San Juan River, falls in an area subject to heavy erosion and is unsafe to monument.

From the N 1/16 section corner of sections 29 and 30.

N. 89° 18' 20" E., on the E - W center line of the NW 1/4 of section 29.

Over cultivated land.

RETRACEMENT SURVEY, IN SECTIONS 28, 29, AND 30, OF THE
ADJUSTED MEANDERS OF THE ORIGINAL 1899 SURVEY OF THE
RIGHT BANK OF THE SAN JUAN RIVER.

CHAINS

- 19.977** The NW 1/16 section corner of section 29.
- 28.472** Point for the special meander corner at the intersect with the adjusted original 1899 meander of the San Juan River; not monumented.

Thence, S. 49° 16' 00" E., on a partition line.

- 3.463** Point for the witness point at the intersect with the auxiliary meander line; not monumented.

Retracement survey, in sections 28, 29, and 30, of the
Adjusted meanders of the original 1899 survey of the right bank of the
San Juan River

From the point for the meander corner on the section line of sections 27 and 28 on the right bank of the San Juan River, not monumented.

Thence downstream with the retracement survey of the adjusted meander of the 1899 survey of the right bank of the San Juan River.

N. 77°01'40" W., 12.732 chs.

N. 88°47'50" W., 19.563 chs.

N. 85°16'50" W., 11.529 chs. At 4.398 chs. on this course, the special meander corner at the point of intersect with the unsurveyed 1937 photogrammetric meander line of the right bank of the San Juan River, identical to the easterly zero point used for proportionment of partition lines; not monumented.

N. 72°31'20" W., 4.694 chs.

N. 70°31'10" W., 19.727 chs. At 12.748 chs. on this course, the special meander corner at the intersect with the N-S center line of the NW 1/4 of section 28.

N. 73°31'20" W., 13.982 chs. The original meander corner at the intersect with the section line of sections 28 and 29.

Thence in section 29.

N. 35°04'50" W., 6.491 chs.

N. 83°40'10" W., 9.381 chs.

RETRACEMENT SURVEY, IN SECTIONS 28, 29, AND 30, OF THE
ADJUSTED MEANDERS OF THE ORIGINAL 1899 SURVEY OF THE
RIGHT BANK OF THE SAN JUAN RIVER.

CHAINS

N. 60°07'20" W., 18.465 chs.

N. 83°25'10" W., 7.734 chs.

S. 66°46'20" W., 11.230 chs. At 3.481 chs. on this course, the special meander corner at the intersect with the N-S center line of section 29.

S. 40°44'00" W., 18.729 chs. At 6.663 chs. on this course, the point at the intersect with the E-W center line of the NW 1/4 of section 29; not monumented.

S. 1°33'00" W., 13.203 chs. At 6.863 chs. on this course, the point at the intersect with the unsurveyed 1937 photogrammetric meander line; not monumented.

S. 34°15'20" E., 8.912 chs.

S. 20°43'10" W., 3.748 chs.

S. 52°15'00" W., 11.583 chs. At 4.962 chs. on this course, the 1979-81 amended special meander corner monument "AM".

S. 83°18'20" W., 9.182 chs.

N. 61°42'30" W., 6.388 chs. Point for the meander corner at the intersect with the section line of sections 29 and 30, not monumented.

Thence in section 30.

N. 89°08'10" W., 6.293 chs.

N. 40°32'40" W., 1.952 chs.

N. 73°52'30" W., 4.248 chs.

N. 51°52'20" W., 11.393 chs. Point for the special meander corner at the intersect with the unsurveyed 1937 photogrammetric meander line of the right bank of the San Juan River, identical to the westerly zero point used for proportionment of the partition lines; not monumented.

Retracement survey of the meanders of the right bank of the San Juan River, through a portion of T. 40 S., R. 22 E., Salt Lake Meridian, Utah

Reestablishment of the Survey Executed
by J.L. Thomas in 1979-81

RETRACEMENT SURVEY OF THE RIGHT BANK OF THE SAN JUAN RIVER,
THROUGH A PORTION OF T. 40 S., R. 22 E., SALT LAKE MERIDIAN, UTAH

CHAINS

From the point for the meander corner of sections 27 and 28 on the right bank of the San Juan River, not monumented, heretofore described.

Thence, with the meanders of the present right bank of the San Juan River through section 28.

S. 76° 05' W., 11.29 chains

N. 76° 06' W., 11.29 chains

N. 75° 14' W., 9.36 chains

S. 41° 57' W., 3.74 chains

S. 89° 44' W., 12.73 chains

The special meander corner at the intersect with the partition line from Angle Point Number 1 on the auxiliary meander line; hereinafter described.

At 2.60 chains on this course, the special meander corner of section 28, at the extension of a partition line, that bears N. 4° 05' 30" W., for 4.049 chains to the intersect of the 1899 meander line and the 1937 unsurveyed photogrammetric meander line of the San Juan River, which will also function as a special meander corner and the easterly zero point used for proportionment of the partition lines. These two special meander corners were not monumented.

S. 83° 57' W., 24.66 chains

S. 63° 05' W., 2.88 chains

S. 34° 28' W., 4.70 chains

S. 73° 58' W., 4.50 chains

Point for the meander corner at the intersect of the section line of sections 28 and 29; not monumented.

Thence in section 29, continue measurement.

S. 73° 58' W., 9.95 chains

N. 85° 22' W., 6.95 chains

S. 60° 15' W., 5.08 chains

S. 64° 01' W., 10.51 chains

MEANDERS OF THE LEFT BANK OF THE SAN JUAN RIVER,
THROUGH T. 40 S., R. 22 E., SALT LAKE MERIDIAN, UTAH

CHAINS

S. 51° 02' W., 10.48 chains

N. 83° 47' W., 11.38 chains

S. 78° 25' W., 8.65 chains

At 3.67 chains on this course, the special meander corner of section 29, at intersect with the partition line connecting Angle Point Number 11, hereinafter described.

And at 7.10 chains on this course, the special meander corner of section 29, at intersect with the partition line connecting the special meander corner on the N - S center line of the NW 1/4 of section 29, heretofore described.

S. 80° 23' W., 4.31 chains

N. 85° 03' W., 7.49 chains

N. 64° 54' W., 10.51 chains

Point for the meander corner of sections 29 and 30; not monumented.

Thence in section 30, continue measurement.

N. 64° 54' W., 0.25 chains

N. 71° 05' W., 27.65 chains

At 24.47 chains on this course, the special meander corner of section 30, at the extension of a partition line, that bears N. 18° 55' E., 8.495 chains to the intersect of the 1899 right bank meander line and the unsurveyed 1937 photogrammetric meander of the San Juan River, which will also function as a special meander corner. These two special meander corners were not monumented.

Survey of the meanders of the Left Bank of the San Juan River,
through a portion of T. 40 S., R. 22 E., Salt Lake Meridian, Utah

From the meander corner of sections 27 and 28, on the left bank of the San Juan River heretofore described.

Thence, with the meanders of the present left bank of the San Juan River through section 28.

S. 73° 18' W., 16.98 chains

S. 87° 55' W., 6.31 chains

N. 77° 54' W., 5.72 chains

MEANDERS OF THE LEFT BANK OF THE SAN JUAN RIVER,
THROUGH T. 40 S., R. 22 E., SALT LAKE MERIDIAN, UTAH

CHAINS

N. 62° 45' W., 7.64 chains

N. 77° 35' W., 4.49 chains

S. 89° 53' W., 4.00 chains

S. 89° 45' W., 12.94 chains

At 2.33 chains on this course, the special meander corner of section 28, at intersect with the partition line from Angle Point Number 1. Not monumented.

S. 53° 46' W., 13.57 chains

S. 35° 56' W., 2.56 chains

S. 46° 26' W., 6.17 chains

S. 28° 29' W., 2.72 chains

S. 88° 31' W., 5.56 chains

The meander corner of sections 28 and 29.

Thence in section 29.

N. 85° 52' W., 7.34 chains

N. 75° 02' W., 13.56 chains

N. 88° 58' W., 3.54 chains

S. 62° 56' W., 3.44 chains

S. 41° 12' W., 11.81 chains

N. 81° 32' W., 4.10 chains

N. 89° 58' W., 5.52 chains

S. 82° 56' W., 18.16 chains

At 8.87 chains on this course, point for the special meander corner of section 29, at intersect with the partition line from Angle Point Number 11; not monumented.

N. 76° 56' W., 18.07 chains

The meander corner of sections 29 and 30.

Thence in section 30.

N. 72° 16' W., 33.65 chains

SURVEY OF THE AUXILIARY MEANDER LINE OF THE SAN JUAN RIVER,
THROUGH A PORTION OF T. 40 S., R. 22 E., SALT LAKE MERIDIAN, UTAH

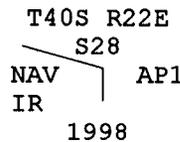
CHAINS

Survey of the Auxiliary Meander line
of the San Juan River in Sections 28 and 29,
T. 40 S., R. 22 E., Salt Lake Meridian, Utah

NOTE: The auxiliary meander line is an establishment of the center line of the old 1899 channel of the San Juan River, defined by the distance (3.463 chains), half way between a cottonwood tree "L5TC" that predates the 1899 meander line survey, as determined by tree boring, and perpendicular to the original 1899 meander line.

Beginning at Angle Point Number 1, determined by the intersect of the auxiliary meander line and the 1937 unsurveyed photogrammetric meander line of the right bank of the San Juan River in section 28.

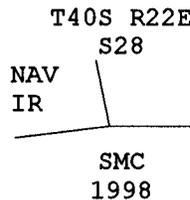
Set an aluminum post, 30 inches long, 2 1/2 inches diameter over a magnet, 24 inches in the ground, with aluminum cap marked:



S. 4° 04' 40" E., on a partition line between the Navajo Indian Reservation and publicly owned lands in section 28.

1.950 Point for the special meander corner at the intersect with the present right bank of the San Juan River in section 28.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, 24 ins. in the ground, with aluminum cap marked:



Continuing measurement across the San Juan River.

6.307 Point for the special meander corner at the intersect with the present left bank of the San Juan River, not monumented.

From Angle Point Number 1.

Thence, N. 72° 31' 19" W., on the auxiliary meander Line.

SURVEY OF THE AUXILIARY MEANDER LINE OF THE SAN JUAN RIVER,
THROUGH A PORTION OF T. 40 S., R. 22 E., SALT LAKE MERIDIAN, UTAH

CHAINS**2.828** Angle Point Number 2.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter 24 inches in the ground, with aluminum cap marked:

T40S R22E
S28
AP 2
NAV
IR
1998

Thence, N. 70° 31' 05" W.

12.809 Point for the witness point of section 28, at the intersect of the partition line from the intersect of the N - S center line of the NW 1/4 of section 28 and the 1899 meander line.**19.697** Angle Point Number 3.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

T40S R22E
S28
AP 3
NAV
IR
1998

Thence, N. 73° 31' 19" W.

13.225 The closing corner of sections 28 and 29.

Continuing in section 29.

15.099 Angle Point Number 4.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

T40S R22E
S29
AP 4
NAV
IR
1998

SURVEY OF THE AUXILIARY MEANDER LINE OF THE SAN JUAN RIVER,
THROUGH A PORTION OF T. 40 S., R. 22 E., SALT LAKE MERIDIAN, UTAH

CHAINS

Thence, N. 35° 04' 47" W.

6.135 Angle Point Number 5.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

T40S R22E
S29
AP 5
NAV
IR
1998

Thence N. 83° 40' 05" W.

8.539 Angle Point Number 6.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

T40S R22E
S29
AP6
NAV
IR
1998

Thence, N. 60° 07' 13" W.

6.404 Intersect the line perpendicular to the original 1899 meander line and the cottonwood tree "L5TC". The northeasterly side of the cottonwood tree "L5TC" bears S.29°52'47" W., 3.463 chains distance. The cottonwood tree is 55 inches diameter and the tree was bore dated to 1827.

18.473 Angle Point Number 7.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

T40S R22E
S29
AP7
NAV
IR
1998

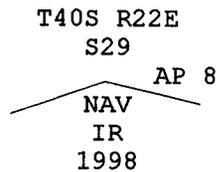
SURVEY OF THE AUXILIARY MEANDER LINE OF THE SAN JUAN RIVER,
THROUGH A PORTION OF T. 40 S., R. 22 E., SALT LAKE MERIDIAN, UTAH

CHAINS

Thence, N. 83° 25' 01" W.

6.098 Angle Point Number 8.

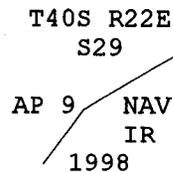
Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:



Thence, S. 66° 46' 23" W.

2.559 Point for the witness point on the auxiliary meander line, at the intersect of the partition line from the intersect of the N - S center line of section 29 and the 1899 meander line.**9.507** Angle Point No. 9.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet and 6 inches below surface of ground, with aluminum cap marked:



Corner is located in a cultivated field.

Thence, S. 40° 44' 03" W.

5.862 Point for the witness point at the intersect of the partition line projected from the intersect of the E - W center line of the NW 1/4 of section 29 and the 1899 original meander line; not monumented.**16.695** Angle point No. 10.

Set an aluminum post, 30 inches, 2 1/2 inches diameter, over a magnet, and 6 inches below surface of ground, with aluminum cap marked:

SURVEY OF THE AUXILIARY MEANDER LINE OF THE SAN JUAN RIVER,
THROUGH A PORTION OF T. 40 S., R. 22 E., SALT LAKE MERIDIAN, UTAH

CHAINS

T40S R22E
S29
AP10 / NAV
IR
1998

Corner is located in cultivated field.

Thence, S. 1° 33' 00" W.

- 5.049** Angle Point No. 11, at the intersect with the auxiliary meander line and the 1937 unsurveyed photogrammetric meander line of the right bank of the San Juan River in section 29.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, over a magnet, 24 inches in the ground, with aluminum cap marked:

T40S R22E
S29
AP11 / NAV
IR
1998

Corner is located 4 feet north of an E and W fence line.

Thence, S. 3° 58' 30" E., on a partition line between the Navajo Indian Reservation and publicly owned accretion lands.

- 32.479** Point selected for the witness special meander corner.

Set an aluminum post, 30 inches long, 2 1/2 inches diameter, 24 ins. in the ground, with aluminum cap marked:

WC
T40S R22E
S29
↓ NAV IR
SMC
1998

- 32.579** Point for the special meander corner at the intersect with the present right bank of the San Juan River, falls in an area subject to heavy erosion, and is unsafe to monument.

Continuing measurement across the San Juan River.

THE INFORMATIVE DIGITIZED TRAVERSE OF THE
UNSURVEYED 1937 PHOTOGRAMMETRIC RIGHT BANK LINE OF
THE SAN JUAN RIVER.

CHAINS

36.253 Point for the special meander corner at the intersect with the left bank meander line of the San Juan River, falls in an area subject to heavy erosion, and is unsafe to monument.

The Informative digitized Traverse of the
Unsurveyed 1937 Photogrammetric Right Bank Meander Line of
the San Juan River

From the intersect point with the adjusted 1899 original meanders, in section 30, designated as a special meander corner and acting as the westerly zero point used for proportionment of partition lines; heretofore described not monumented. Note that the following traverse legs are combined for ease of notation within these field notes, and that the distance used for proportionment was 3566.01 ft. from this point to the intersect with the auxiliary meander line in section 29, designated as AP11, heretofore described.

S.67°55'36"E., 4.038 chains

S.45°27'09"E., 4.038 chains

S.57°20'24"E., 4.038 chains

N.61°06'00"E., 4.038 chains

N.31°21'53"E., 4.038 chains

N.49°51'00"E., 4.038 chains

N.47°55'03"E., 8.077 chains

N.56°31'50"E., 8.077 chains

N.82°36'20"E., 8.077 chains

N.81°51'04"E., 1.088 chains

Intersect the N-S center line of the NW 1/4 of section 29, heretofore described.

N.82°25'38"E., 2.949 chains

At 0.422 chs. on this course intersect the Adjusted 1899 original meander line; not monumented.

N.83°19'04"E., 0.984 chains

Intersect the auxiliary meander line in section 29, designated as AP11, heretofore described. Note that the following traverse legs are combined for ease of notation within these field notes, and that the distance used for proportionment was 7190.53 ft. from this point to the intersect with the adjusted original 1899 meander in section 28; not monumented.

THE INFORMATIVE DIGITIZED TRAVERSE OF THE
UNSURVEYED 1937 PHOTOGRAMMETRIC RIGHT BANK LINE OF
THE SAN JUAN RIVER.

CHAINS

N.76°55'45"E., 3.058 chains

N.75°51'53"E., 4.038 chains

N.89°01'15"E., 4.038 chains

N.79°41'42"E., 8.077 chains

S.76°13'16"E., 4.038 chains

N.81°12'33"E., 4.038 chains

S.75°29'41"E., 8.077 chains

S.61°59'02"E., 4.038 chains

S.28°56'11"E., 4.038 chains

S.40°27'02"E., 4.038 chains

S.55°22'59"E., 8.077 chains

S.70°19'47"E., 8.077 chains

S.83°26'56"E., 4.038 chains

N.78°36'39"E., 8.077 chains

N.69°54'54"E., 8.077 chains

N.69°34'15"E., 8.077 chains

N.65°13'09"E., 4.038 chains

N.76°20'51"E., 1.903 chains

Intersect the auxiliary meander line in section 28, designated as AP1. Note that the following traverse legs are combined for ease of notation within these field notes, and that the distance used for proportionment was 677.70 ft. from this point to the special meander corner, identical to the easterly zero point at the intersect with the adjusted original 1899 meander in section 28; not monumented.

N.77°20'28"E., 2.136 chains

N.78°03'30"E., 8.076 chains

The special meander corner at the intersect with the adjusted original 1899 meander in section 28, heretofore described. Also acting as the easterly zero point used for proportionment of partitions lines.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FIELD ASSISTANTS

Name	Capacity
Daniel W. Webb	Chief Cadastral Surveyor, Utah
Ronald K. Baugh	Supervisory Cadastral Surveyor
Mark Smirnov	Cadastral Surveyor
Scott Loveless	Office of the Solicitor, Attorney - Advisor
William Olver	Cadastral Surveyor
M. Ross Workman	Cadastral Surveyor
Steve Oatman	Survey Technician
Scott Zufelt	Survey Aid

CERTIFICATE OF SURVEY

I, *Jerry L. Thomas, Cadastral Surveyor*, hereby certify upon honor that, in pursuance of special instructions bearing the date of the *18th day of September, 1998*, I have *executed an investigational retracement of a portion of the south boundary (Eighth Standard Parallel South), a dependent resurvey of a portion of the subdivisional lines, a portion of the subdivision lines in sections 28 and 29, a portion of the 1899 meander lines, and a portion of the 1979-81 meander lines of the right bank of the San Juan river, and the original survey of a portion of the subdivisional lines, a portion of the meander lines of the left bank of the San Juan River, the 1937 digitized photogrammetric meander line, and a portion of the center line of the 1899 river channel of the San Juan River (Auxiliary Meander Line), in Township 40 South, Range 22 East,*

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.

August 24, 2000
Date

Jerry L. Thomas
(Cadastral Surveyor)

Date

(Cadastral Surveyor)

CERTIFICATE OF APPROVAL

BUREAU OF LAND MANAGEMENT
Salt Lake City, Utah

The foregoing field notes of the *investigational retracement of a portion of the south boundary (Eighth Standard Parallel South), a dependent resurvey of a portion of the subdivisional lines, a portion of the subdivision lines in sections 28 and 29, a portion of the 1899 meander lines, and a portion of the 1979-81 meander lines of the right bank of the San Juan river, and the original survey of a portion of the subdivisional lines, a portion of the meander lines of the left bank of the San Juan River, the 1937 digitized photogrammetric meander line, and a portion of the center line of the 1899 river channel of the San Juan River (Auxiliary Meander Line), in Township 40 South, Range 22 East,*

executed by *Jerry L. Thomas, Cadastral Surveyor*

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

September 8, 2000
Date

Daniel W. Webb
(Chief Cadastral Surveyor for Utah)