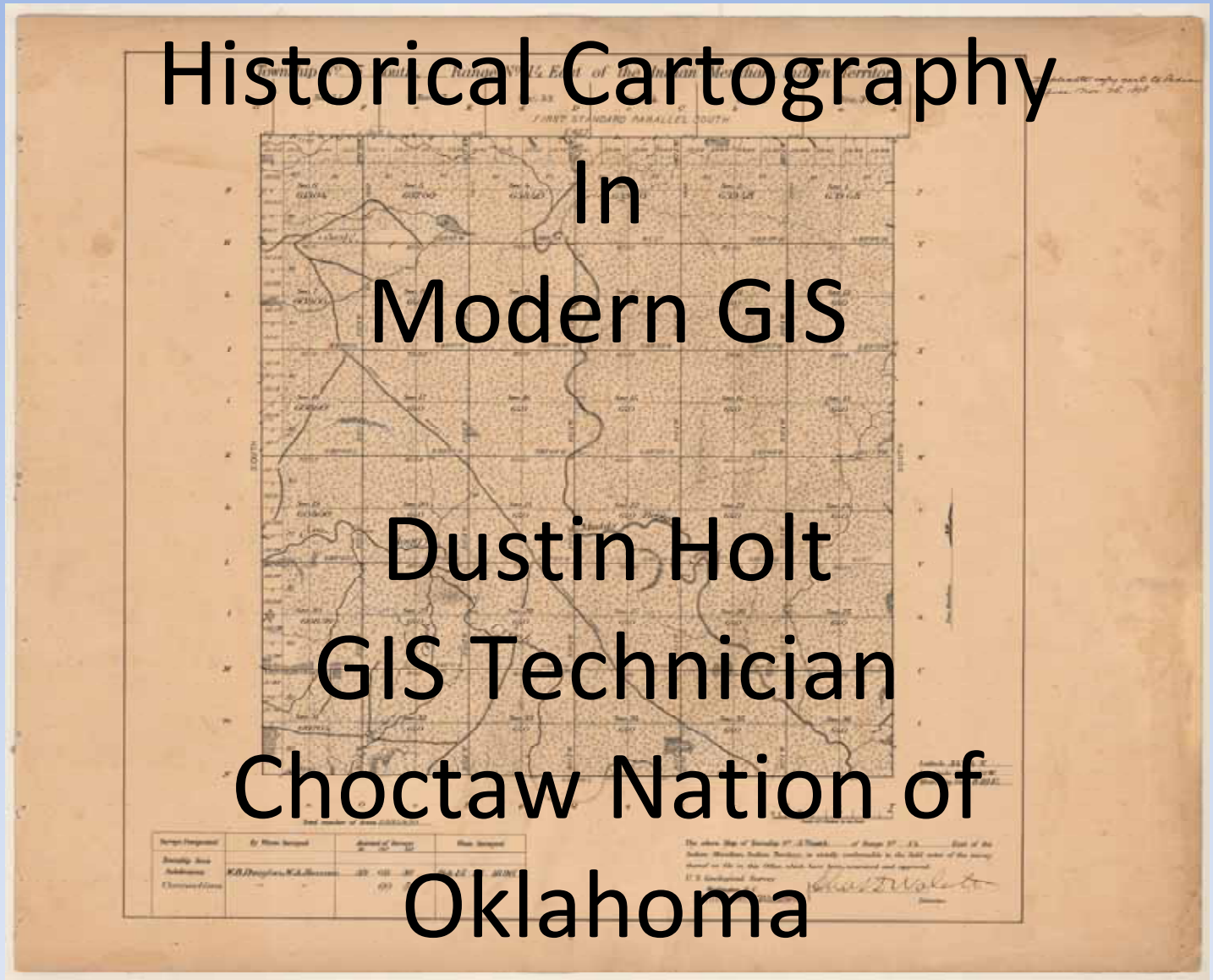
Historical Cartography In Modern GIS



Dustin Holt
GIS Technician
Choctaw Nation of Oklahoma

Oklahoma Indian Territory
(Chickasaw Nation)
Ardmore Quadrangle

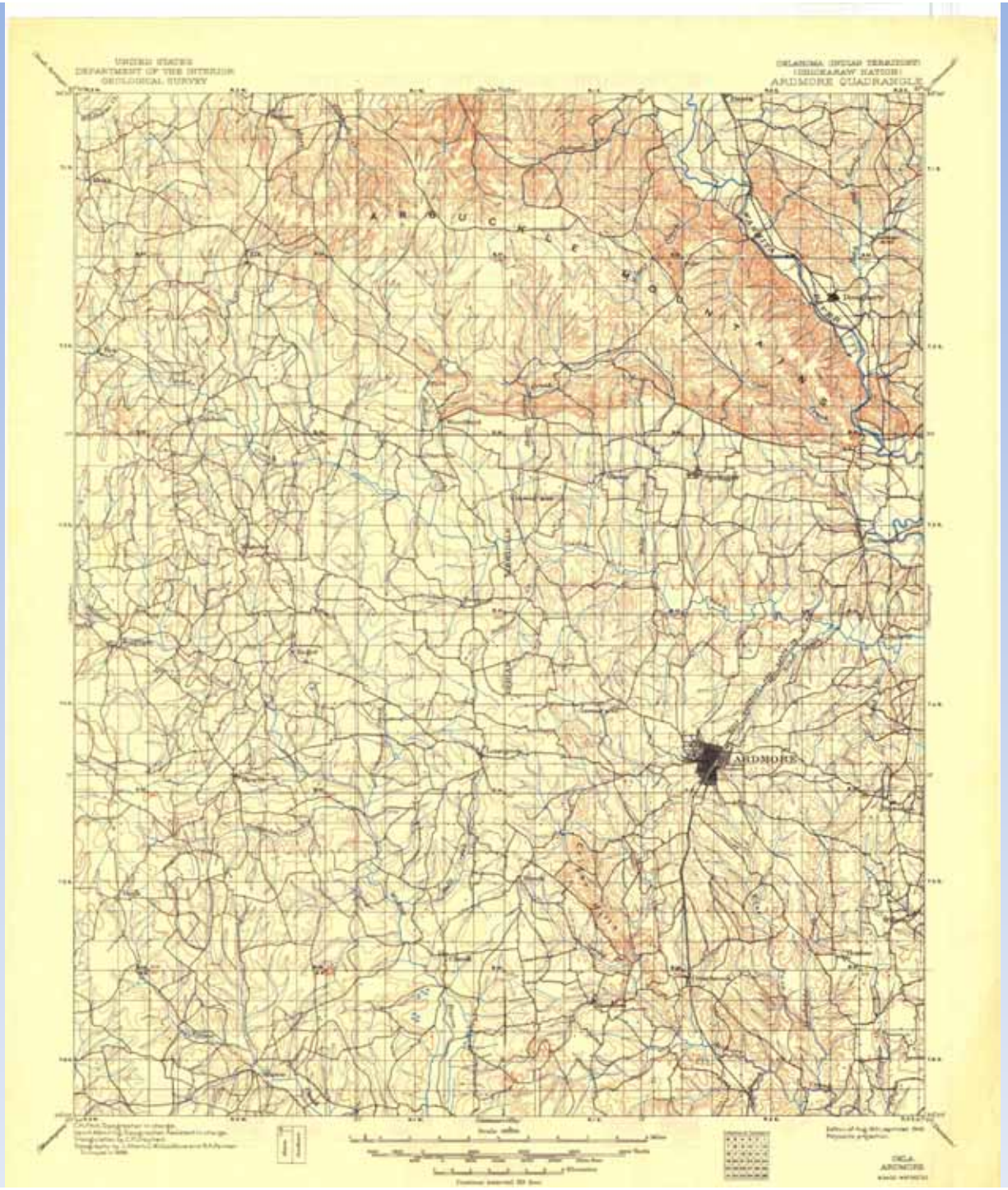
30 Minute 1:125,000

Original Survey 1898

Elevation Data and
Planetable Survey
date unknown

Reprint Year 1949

Projection: Polyconic

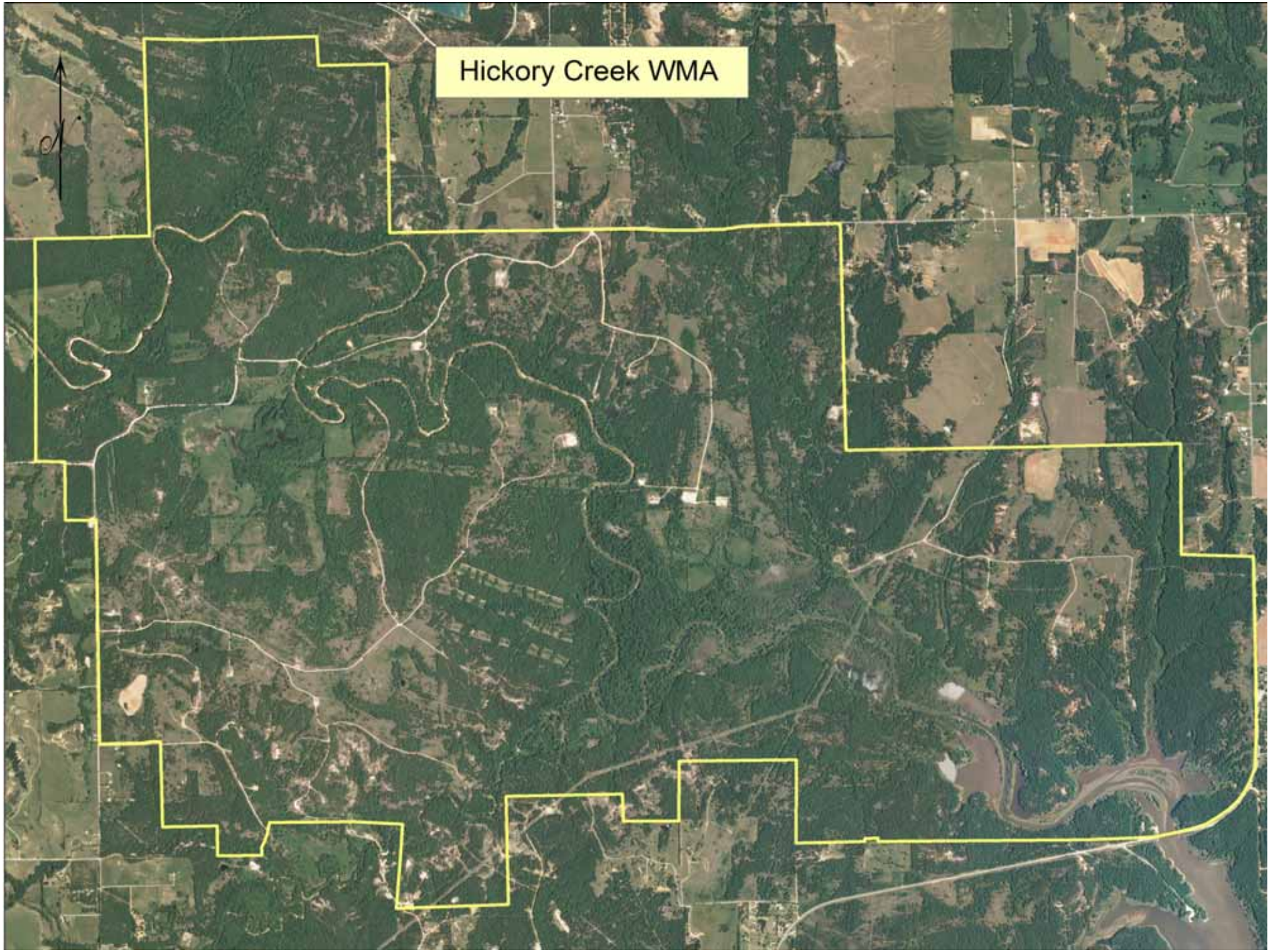


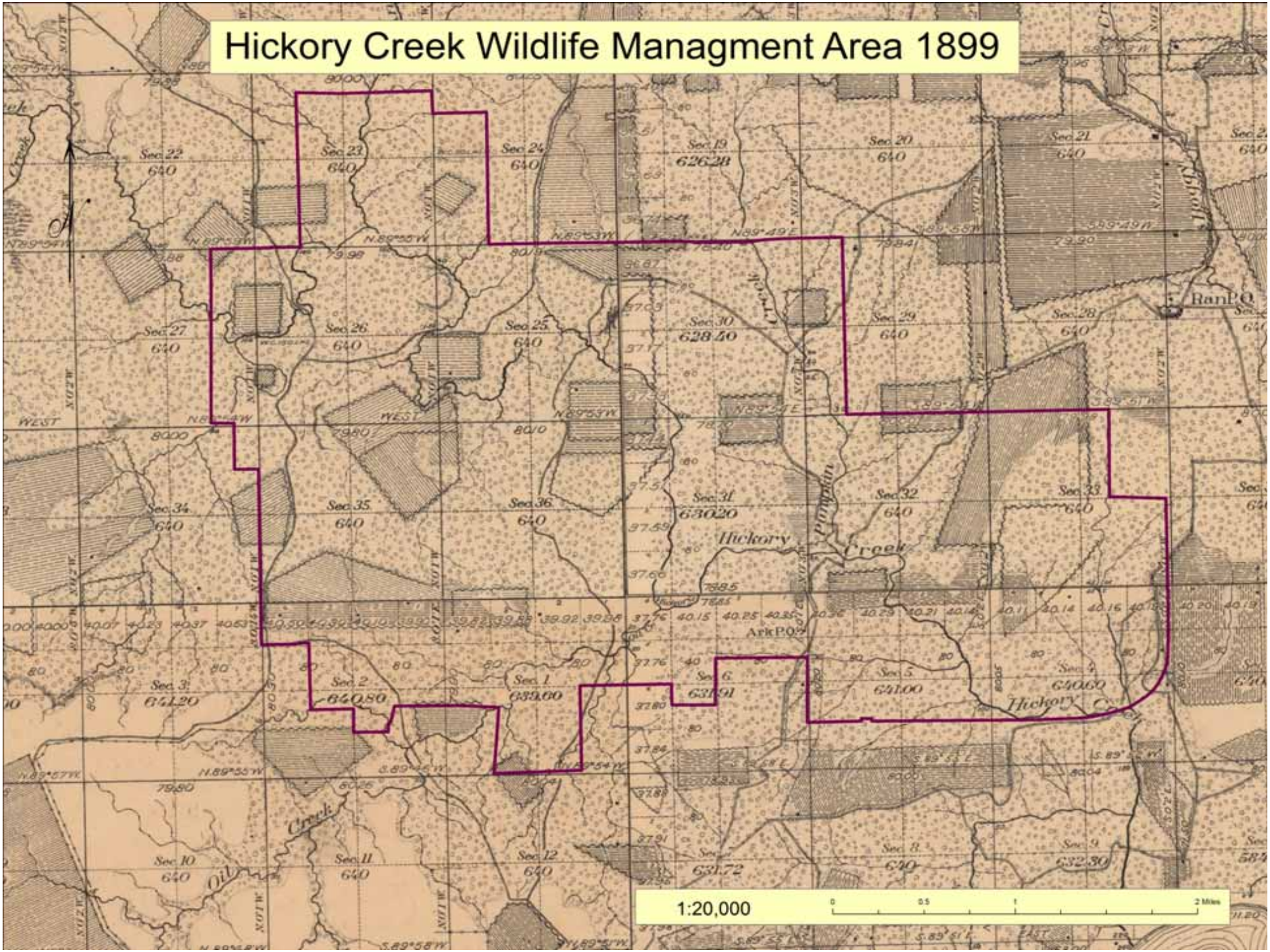
Different versions of the same map were printed in 1901, 1913, 1918, 1931 and 1949.

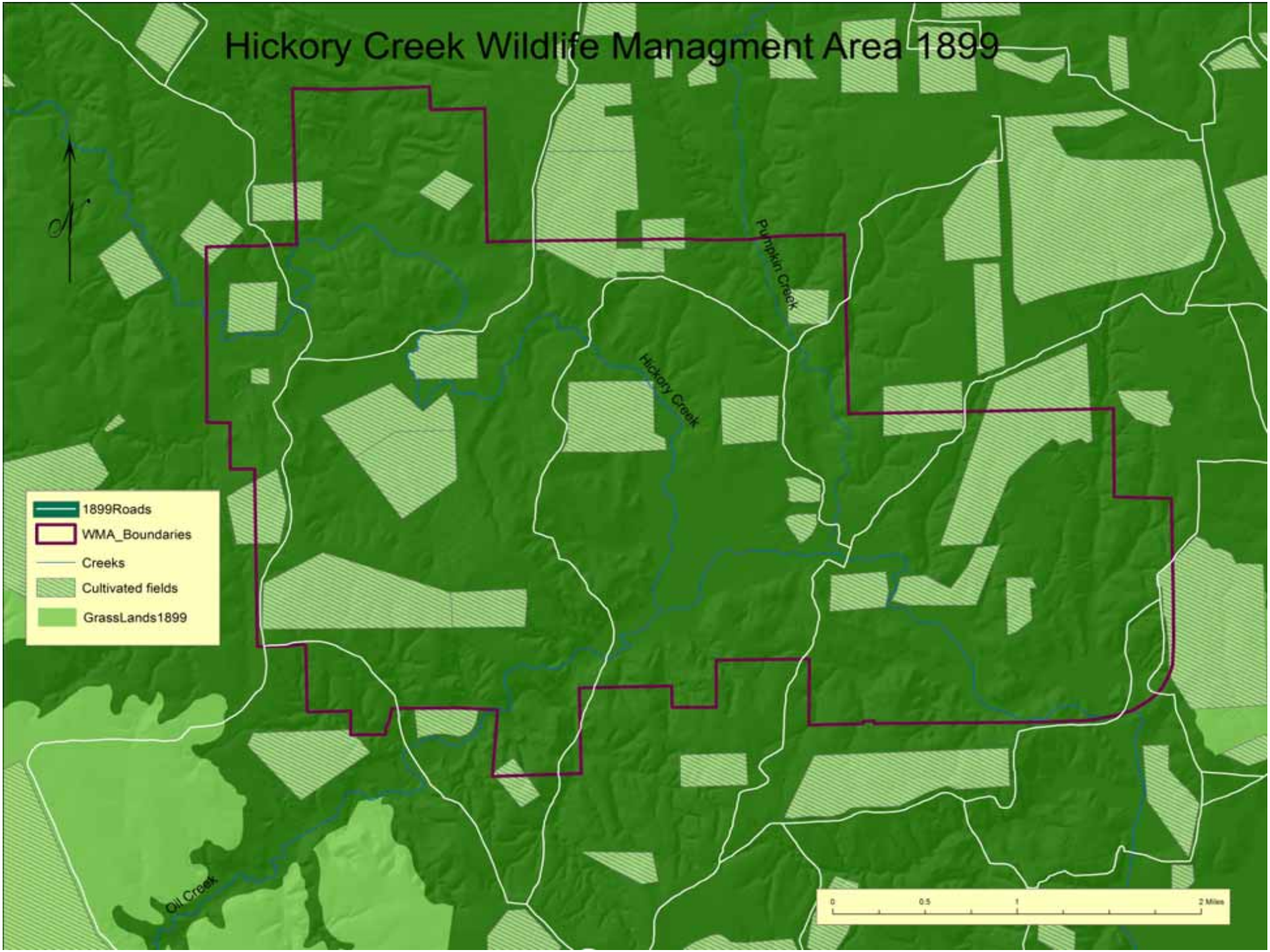
All versions contained the same cultural and landscape features. The only additions from the original section surveys used to create this map is elevation data (bench marks), contour lines and modern grid systems.

Why?

Because the original surveys still had value then and now, above and beyond there historical significance!


Hickory Creek WMA
N


Hickory Creek Wildlife Managment Area 1899
Sec. 22
640
Sec. 23
640
Sec. 24
640
Sec. 19
626.28
Sec. 20
640
Sec. 21
640
Sec. 27
640
Sec. 26
640
Sec. 25
640
Sec. 30
628.40
Sec. 29
640
Sec. 28
640
Ranch
Sec. 34
640
Sec. 35
640
Sec. 36
640
Sec. 31
630.20
Sec. 32
640
Sec. 33
640
Hickory
Creek
Arkansas
Sec. 3
641.20
Sec. 2
640.80
Sec. 1
639.00
Sec. 6
631.91
Sec. 5
641.00
Sec. 4
640.60
Hickory Creek
Oil
Creek
Sec. 10
640
Sec. 11
640
Sec. 12
640
Sec. 8
640
631.72
Sec. 9
632.30
1:20,000
0
0.5
1
2 Miles


Hickory Creek Wildlife Managment Area 1899
N
Pumpkin Creek
Hickory Creek
Oil Creek
1899Roads
WMA_Boundaries
Creeks
Cultivated fields
GrassLands1899
0
0.5
1
2 Miles

287

275

Duplicate sent to Indian Office, August 31, 1899

FIELD NOTES

OF THE SURVEY OF THE

Subdivision Lines

of

Township No. 6 South, Range No. 1 East,

OF THE INDIAN BASE AND MERIDIAN,

INDIAN TERRITORY,

AS SURVEYED BY

F. M. Johnson and J. C. Wilkinson, U. S. Surveyors.

Survey commenced February 14th, 1898.

Survey completed February 18th, 1898

S. 89° 58' E. on a random line, bet. secs. 26 and 35.

Over rolling land through timber.

40.00

Fields notes from 1899 survey

79.80 Intersect N. and S. line 4 lks. S. of cor. of secs. 25, 26, 35 and 36,

Thence I run.

West on a true line, bet. secs. 26 and 35.

Over rolling land, in field

25.80 Drain, course N. E.

39.90 Set an asphalt stone 18 x 12 x 5 ins. 12 ins. in the ground for ¼. Sec. cor. marked ¼. on N. face; dig pits 18 x 18 x 12 ins. E. and W. of stone 3 ft. dist. and raise a mound of earth 3½ ft. base 1½ ft. high N. of cor.

49.80 Leave field and enter timber. Rail fence, bears N. W. and S. E.

55.00 Out-crop asphalt bluff 50 high, bears N. and S.

60.10 Drain, course N.

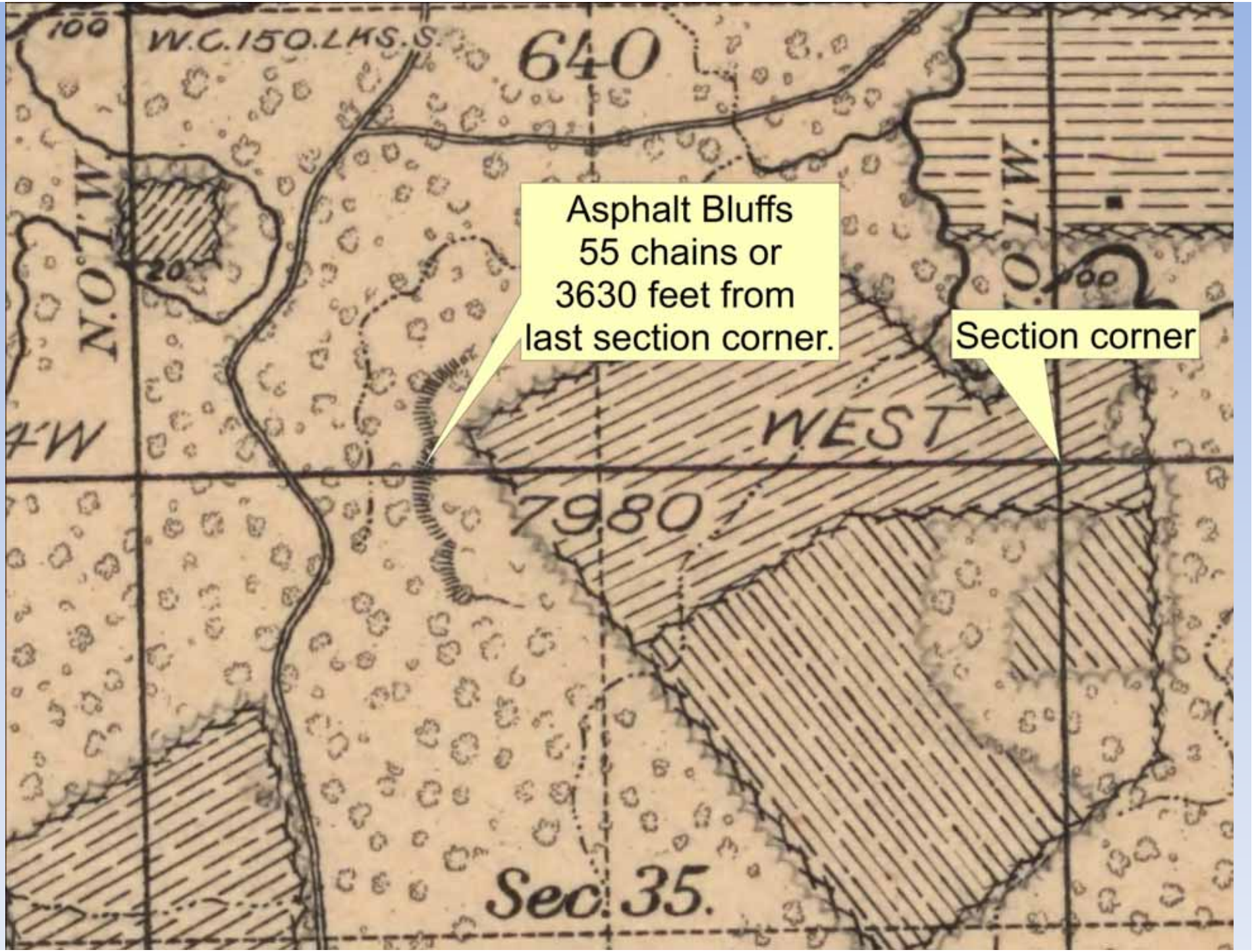
68.20 Road, bears N. W. and S. E.

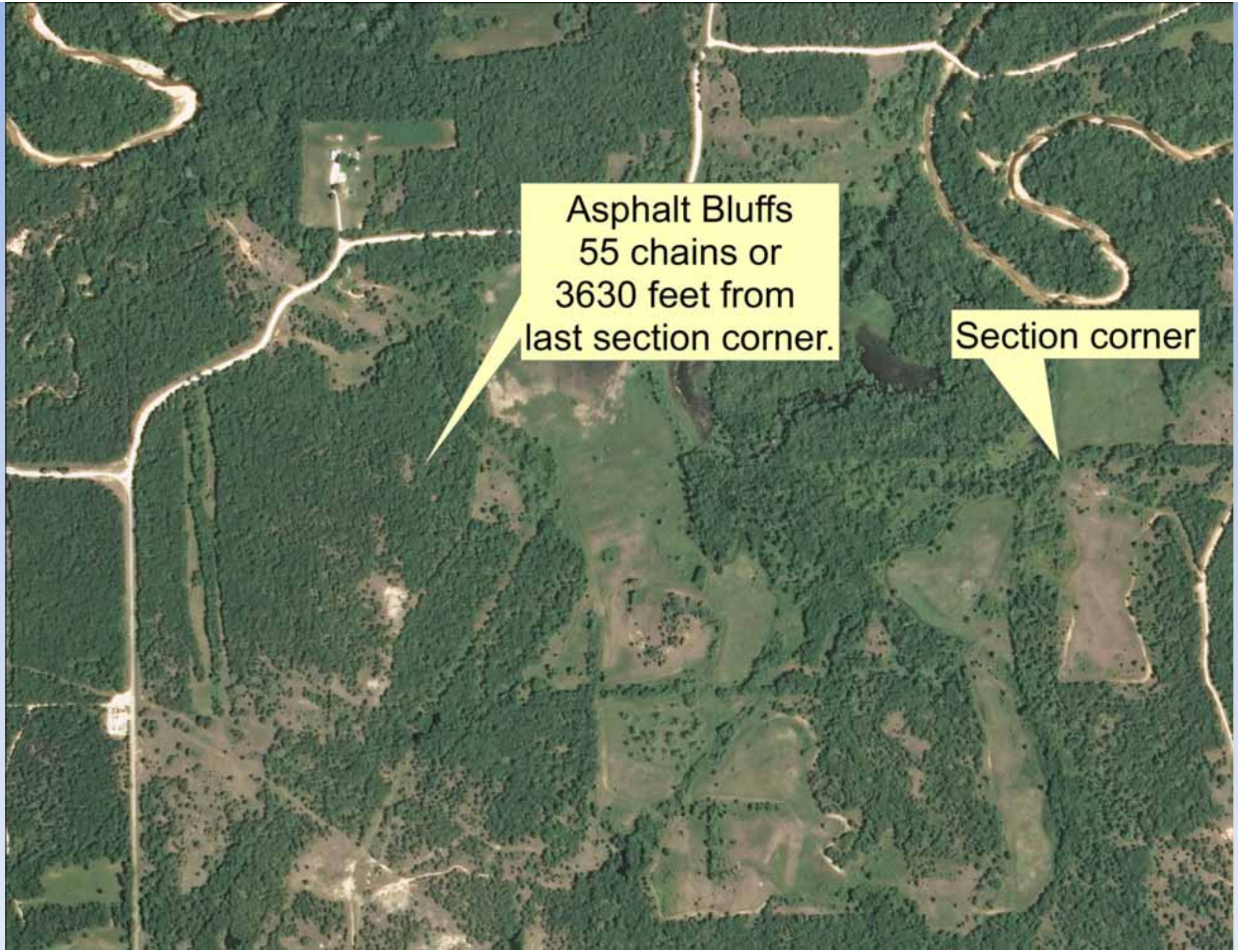
79.80 The cor. of secs,26,27, 34 and 35.

Land, rolling,

Soil, 3rd and 1st. rate.

Timber, oak and hickory.


W.C.150.LKS.S.
640
Asphalt Bluffs
55 chains or
3630 feet from
last section corner.
Section corner
WEST
7980
Sec. 35.

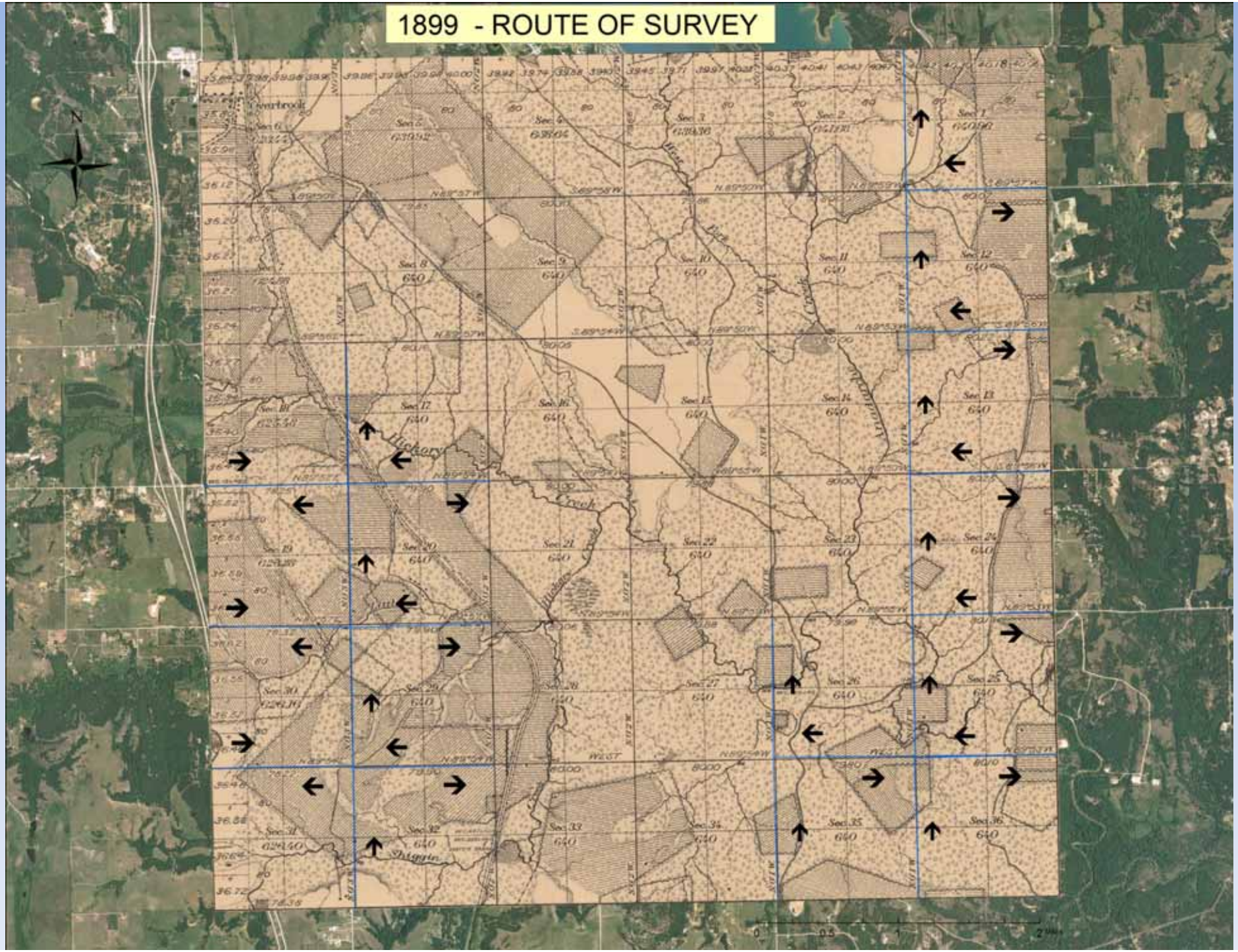

Asphalt Bluffs
55 chains or
3630 feet from
last section corner.
Section corner

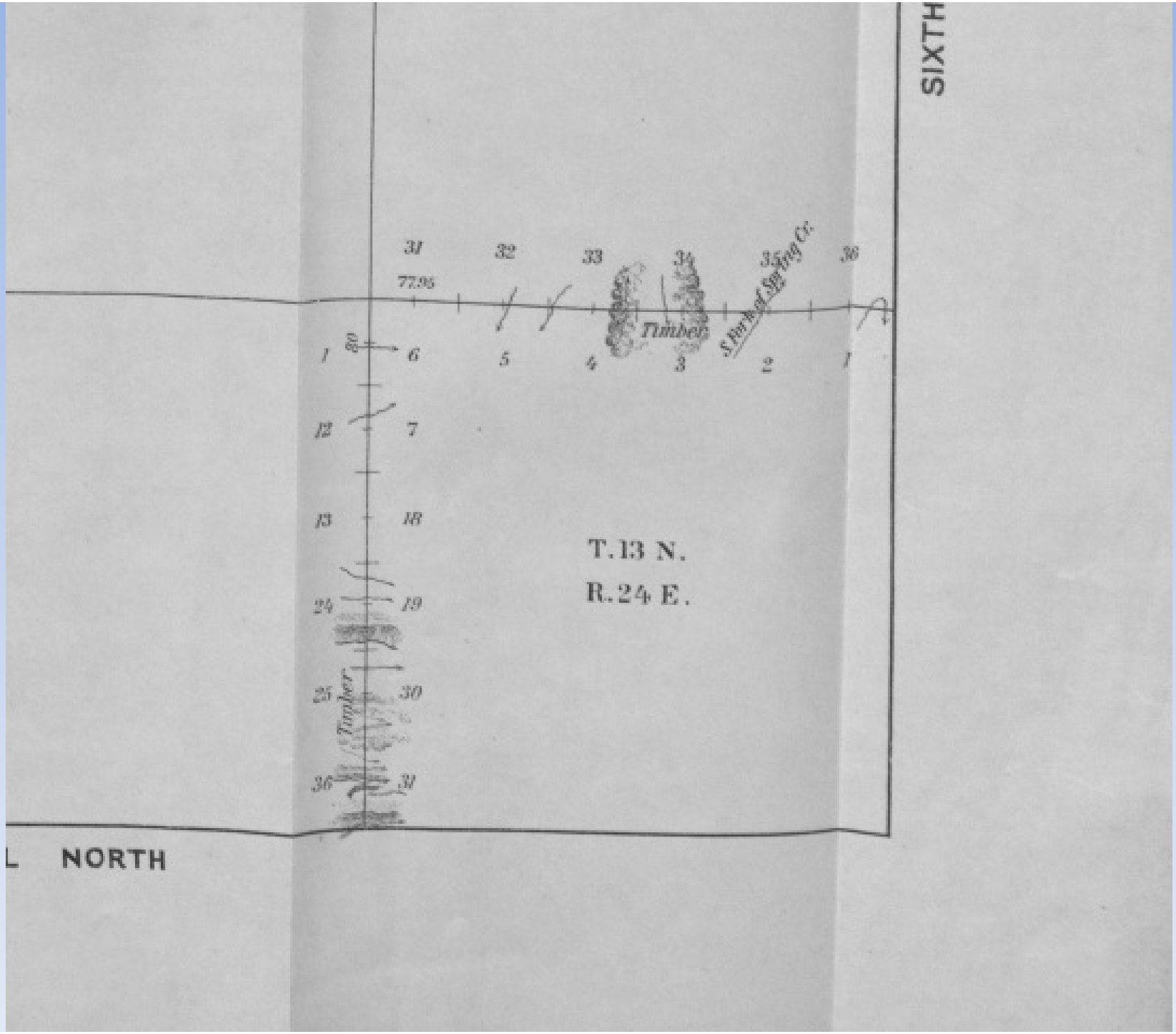
Apart from the historical and academic value, what value do they have today in modern GIS?

Before we can answer that question we have to understand a little more about how they were made.

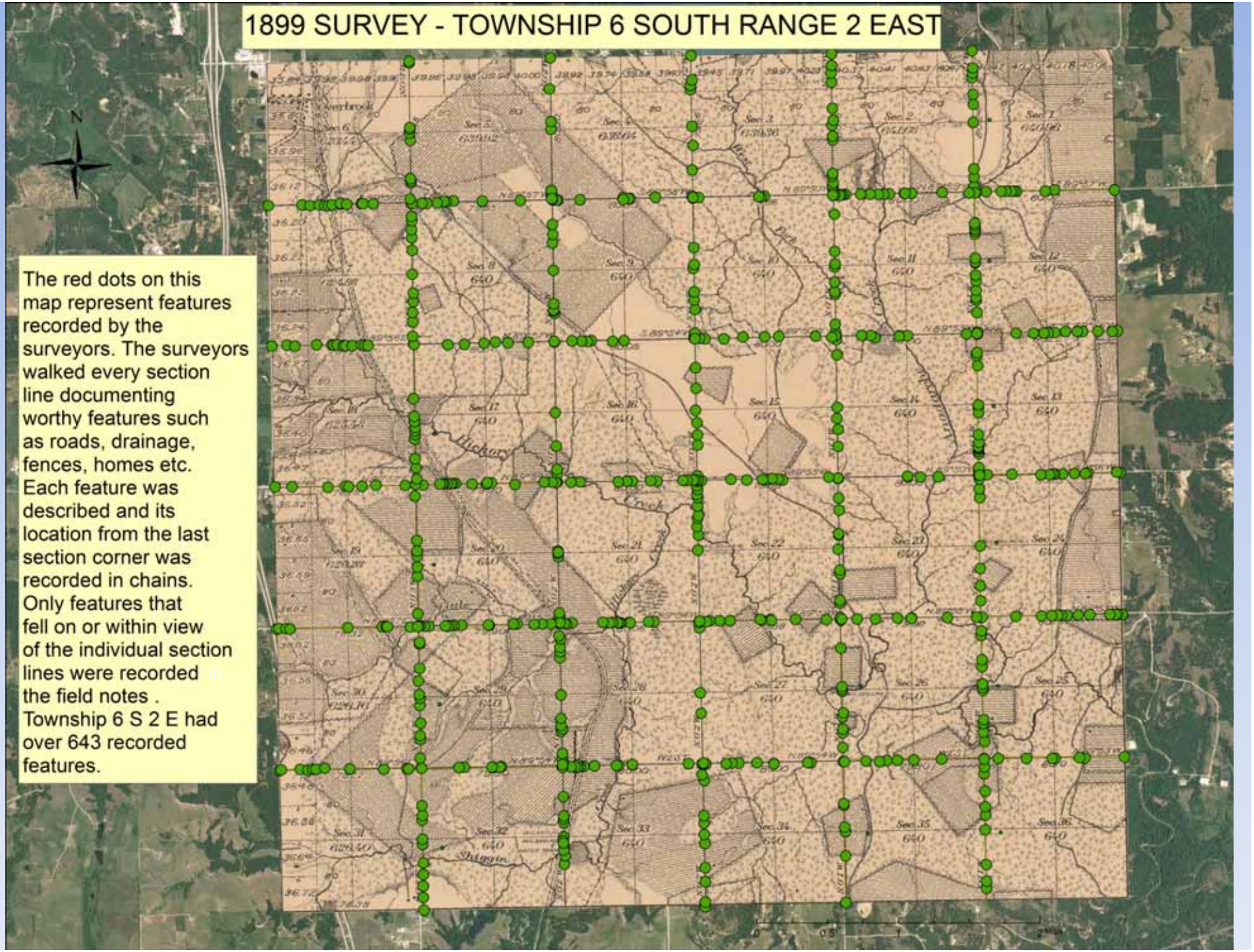
The reason why is that after significance field work I discovered a lot of variations in the accuracy.

We have to go back to the field note and follow in the foot prints of the men who created the surveys.


1899 - ROUTE OF SURVEY
N


SIXTH
31
32
33
34
35
36
77.96
Timber
S. Fork of Spring Cr.
1
6
5
4
3
2
1
12
7
13
18
24
19
25
30
Timber
36
31
T. 13 N.
R. 24 E.
NORTH

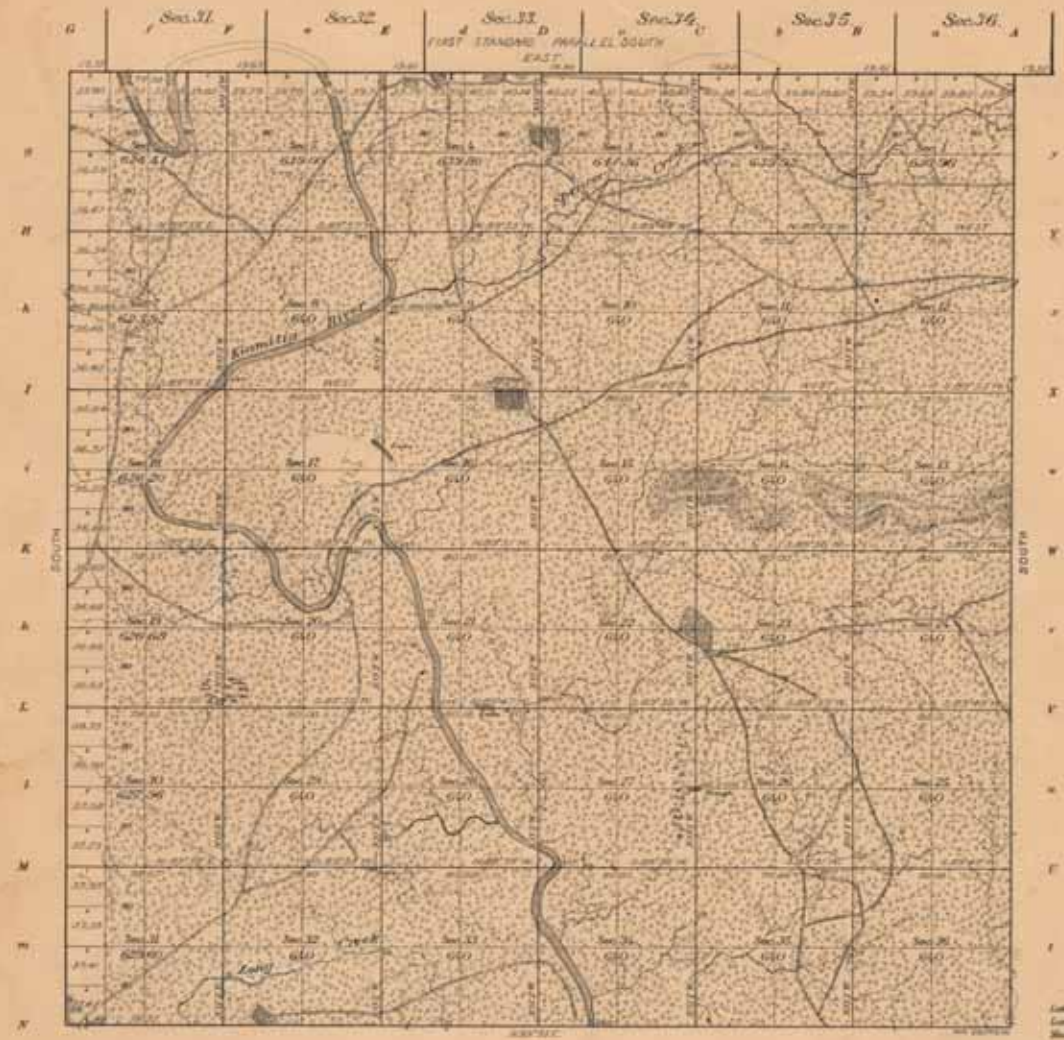
1899 SURVEY - TOWNSHIP 6 SOUTH RANGE 2 EAST



The red dots on this map represent features recorded by the surveyors. The surveyors walked every section line documenting worthy features such as roads, drainage, fences, homes etc. Each feature was described and its location from the last section corner was recorded in chains. Only features that fell on or within view of the individual section lines were recorded in the field notes . Township 6 S 2 E had over 643 recorded features.

Township No. 3 South. Range No. 18 East of the Indian Meridian, Indian Territory.

Prof. copy sent to Muskogee Office Jan. 20, 1899



Latitude 34° 24' N.
Longitude 95° 21' W.
Mean Mag. Decl. 8° 30' E.

Total number of Acres 23,030.81

Surveys Designated	By Whom Surveyed	Amount of Surveys M.	Ch.	Lks.	When Surveyed
Township lines					
Subdivisions	[illegible]	23	22	07	June 2 - 12 1898
Connections	" "	3	3	03	" " " "

The above Map of Township No. 3 South, of Range No. 18 East of the Indian Meridian, Indian Territory, is strictly conformable to the field notes of the survey thereof on file in this Office which have been examined and approved.

U. S. Geological Survey
Washington, D. C.
January 12th, 1899.

Director

Fractional Township No. 8 South. Range No. 22 East of the Indian Meridian, Indian Territory.

Duplicate copy sent to Indian Office, June 9, 1899.

Latitude N. Indp. 33° 53' N.
Longitude 94° 30' W.
Mean Mag. Decl. 7° 22' E.

Land Area 835.88 Acres
Water " 253.83 "
Total number of Acres 1089.71

Surveys Inaugurated	By Whom Surveyed	Approval of Surveys	When Surveyed
Township lines			
Subdivisions	W.H.C.Thorn, W.A.Heaton	21 10 94	Apr. 6 - 12, 1897
Meanders	" "	12 6 29 7 21	

Fractional

The above Map of Township 7° - S. South of Range 7° - 22 East of the Indian Meridian, Indian Territory is strictly conformable to the field notes of the survey thereof on file in this Office, which have been examined and approved.

U. S. Geological Survey
Washington, D.C.
December 18th, 1899.

Charles D. Walcott
Director.

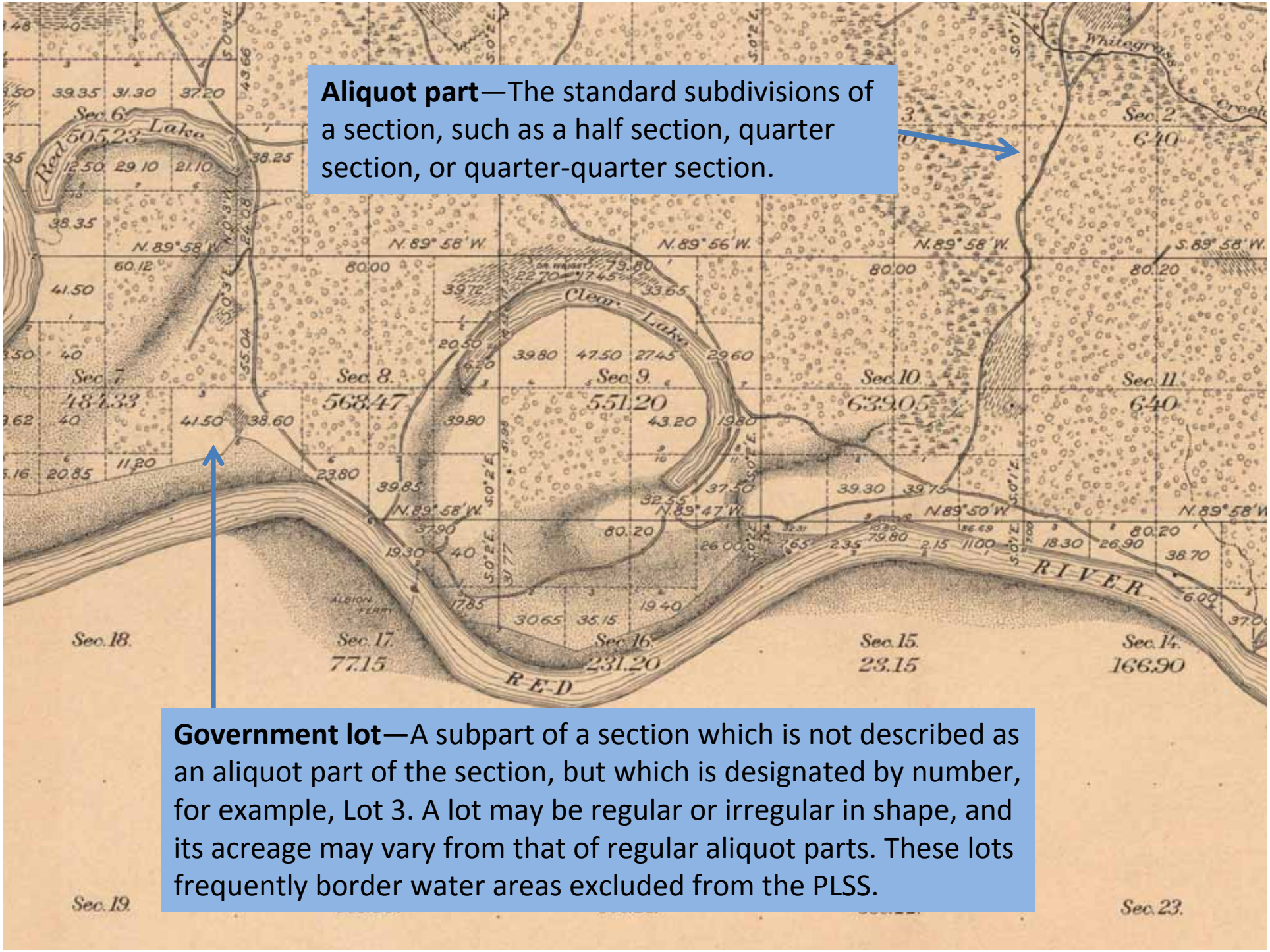

Aliquot part—The standard subdivisions of a section, such as a half section, quarter section, or quarter-quarter section.
Government lot—A subpart of a section which is not described as an aliquot part of the section, but which is designated by number, for example, Lot 3. A lot may be regular or irregular in shape, and its acreage may vary from that of regular aliquot parts. These lots frequently border water areas excluded from the PLSS.
Red Lake
Clear Lake
RIVER
RED
Whitegrass
Sec. 6
Sec. 7
Sec. 8.
Sec. 9
Sec. 10
Sec. 11
Sec. 2
Sec. 18.
Sec. 17.
Sec. 16.
Sec. 15.
Sec. 14.
Sec. 19.
Sec. 23.
568.47
551.20
639.05
640
640
77.15
231.20
23.15
166.90

Exhibit A

All of the following described real estate, lands and premises, situated in the County of Red River, State of Texas, out of the J.P. LINCECUM SURVEY, ABSTRACT NO. 514 and the WILLIAM STONEHAM SURVEY, ABSTRACT NO. 750, described as follows:

BEGINNING at a point on the East line of Lot 5 Sec. 32-8-23E at intersection of the 1898 and 1965 Meander Lines.

Run THENCE along the 1898 Meander Line N 32° E 792 feet;

THENCE N 14° E 726 feet;

THENCE N 3°30' E 1,122 feet;

THENCE N 12°30 W 660 feet;

THENCE N 8°30' E 396 feet;

THENCE N 25° W 660 feet;

THENCE N 40°45' W 132 feet;

THENCE N 07° W 231 feet;

THENCE N 38°30 W 132 feet;

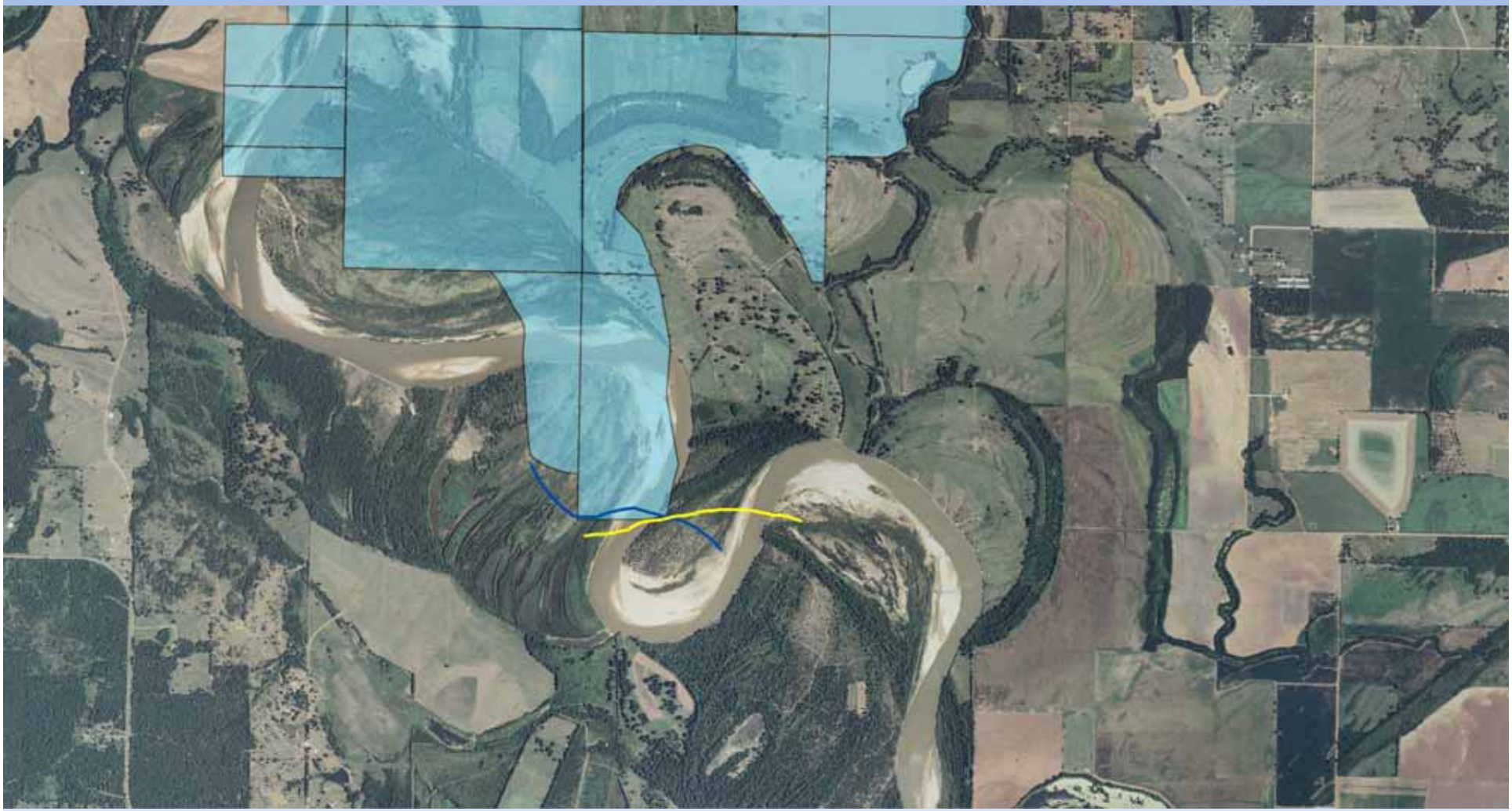
THENCE N 21° W 330 feet;

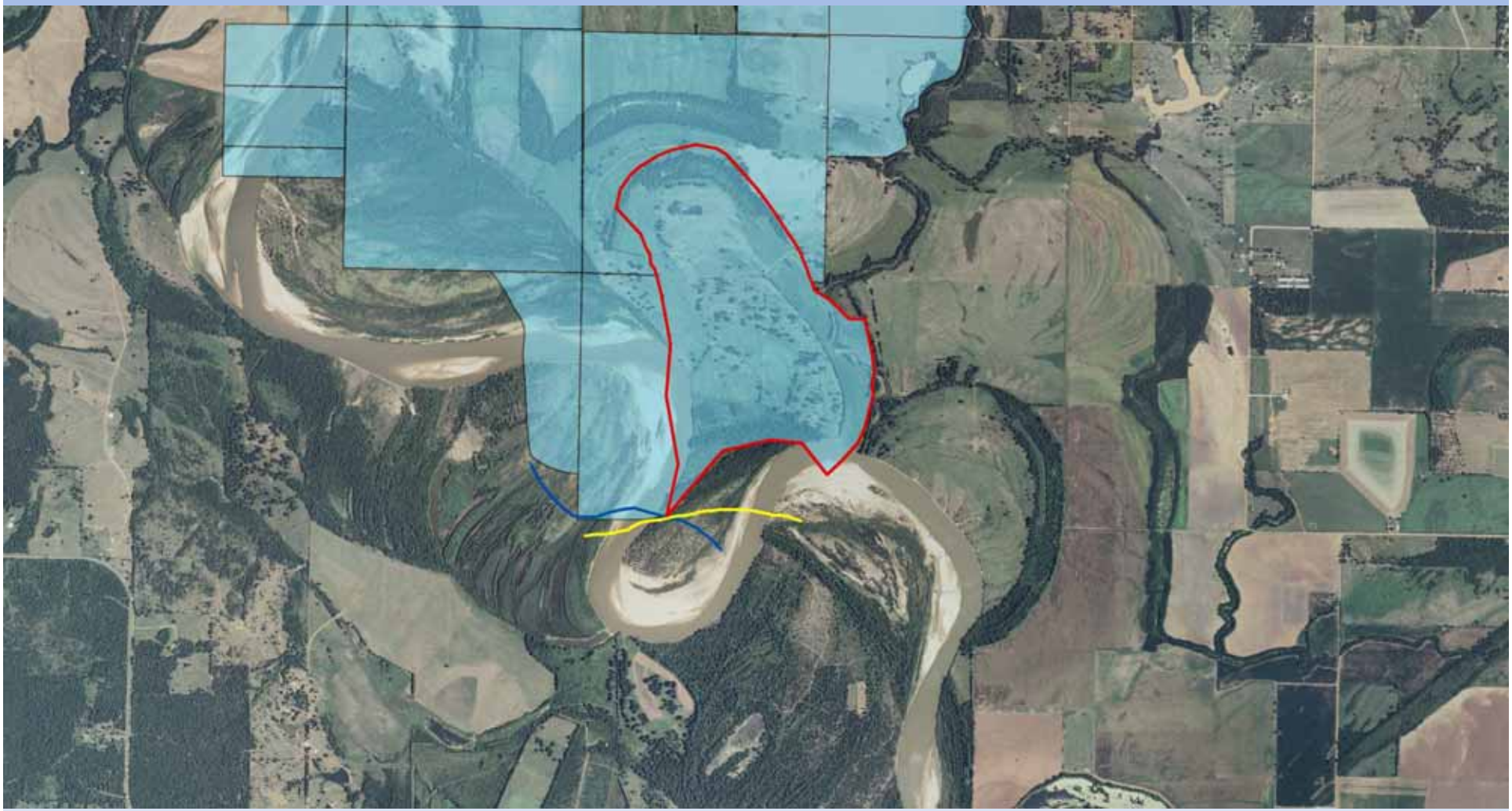
THENCE N 45° W 198 feet;


RIVER
TEXAS
XAS.
Sec. 36.
Sec. 31
143.35
Sec. 32
195.15
Sec. 33.
499.94
Sec. 6.
Sec. 5.
Sec. 4.
532.00
Sec. 3.
603.80
McCulloch P.O.
Horseshoe Lake
OLD CHANNEL
N.89°51'W.
S.0°3'E.
N.0°2'W.
S0°2'E.
West.
Acworth S


Walterhole
Cut-off
APPROXIMATE BOUNDARY
Greenwood
Branch
Horseshoe Lake
Red Lake
31
32
33
34
4
3
Acworth Sch.


1899
1965





Thank You

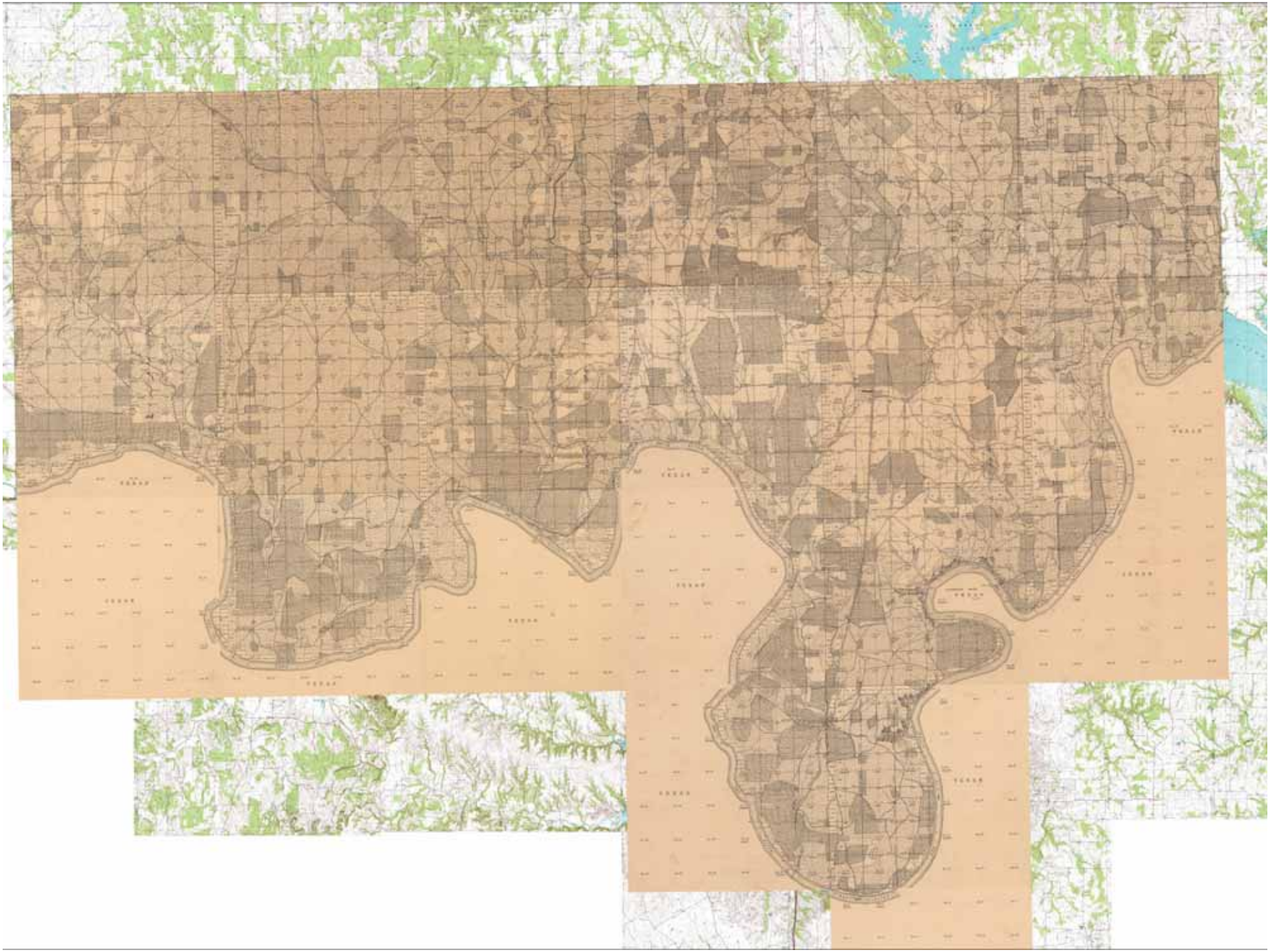
Special that's to Dr. Bruce Hoagland University of Oklahoma College of Atmospheric & Geographic Sciences

East Central University Department of Cartography and Geography

Choctaw Nation of Oklahoma and Brenda Fennel GISP
GIS Supervisor Environmental/GIS office

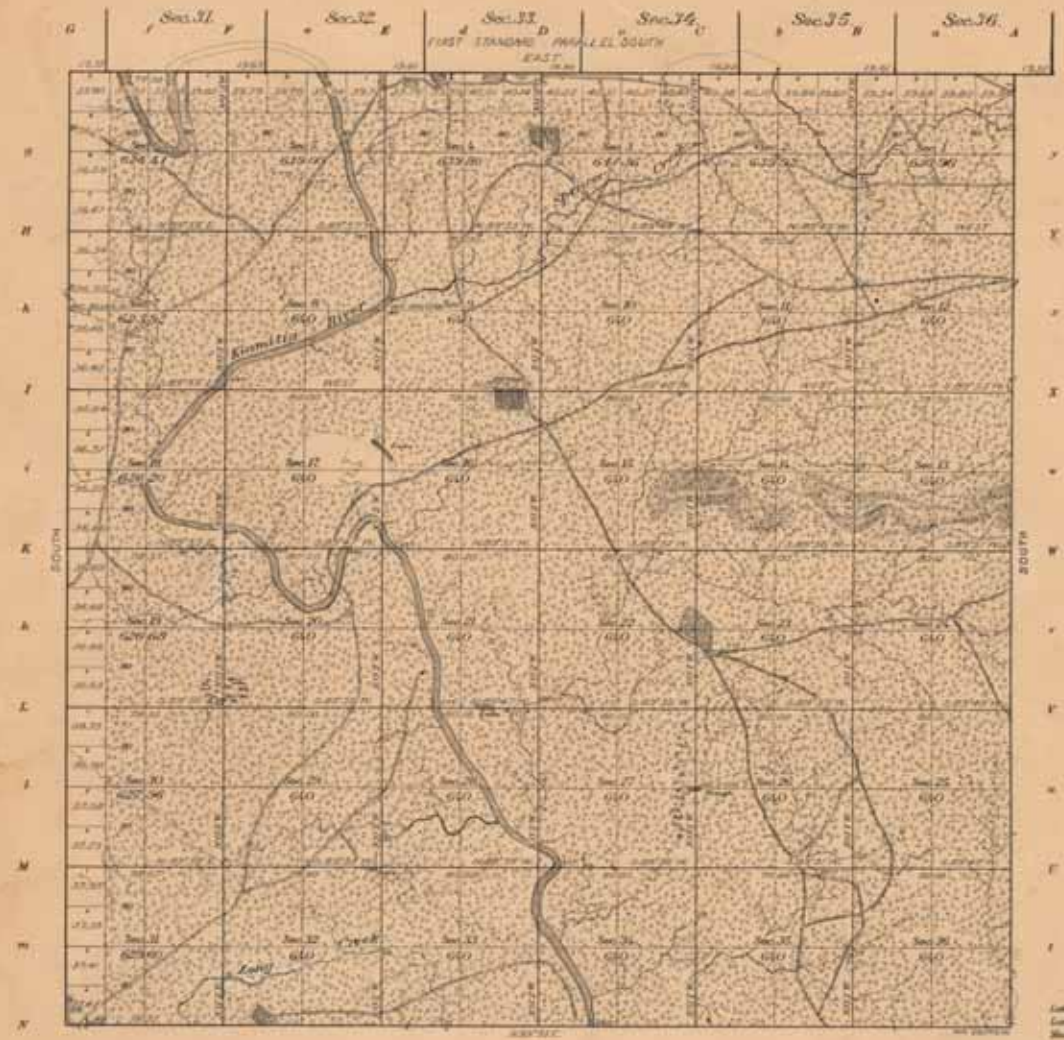
SCAUG

Charles Brady III GIS, Coordinator City of Ardmore



Township No. 3 South. Range No. 18 East of the Indian Meridian, Indian Territory.

Prof. copy sent to Muskogee Office Jan. 20, 1899



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U. S. Geological Survey
Washington, D. C.
January 12th, 1899.

Director