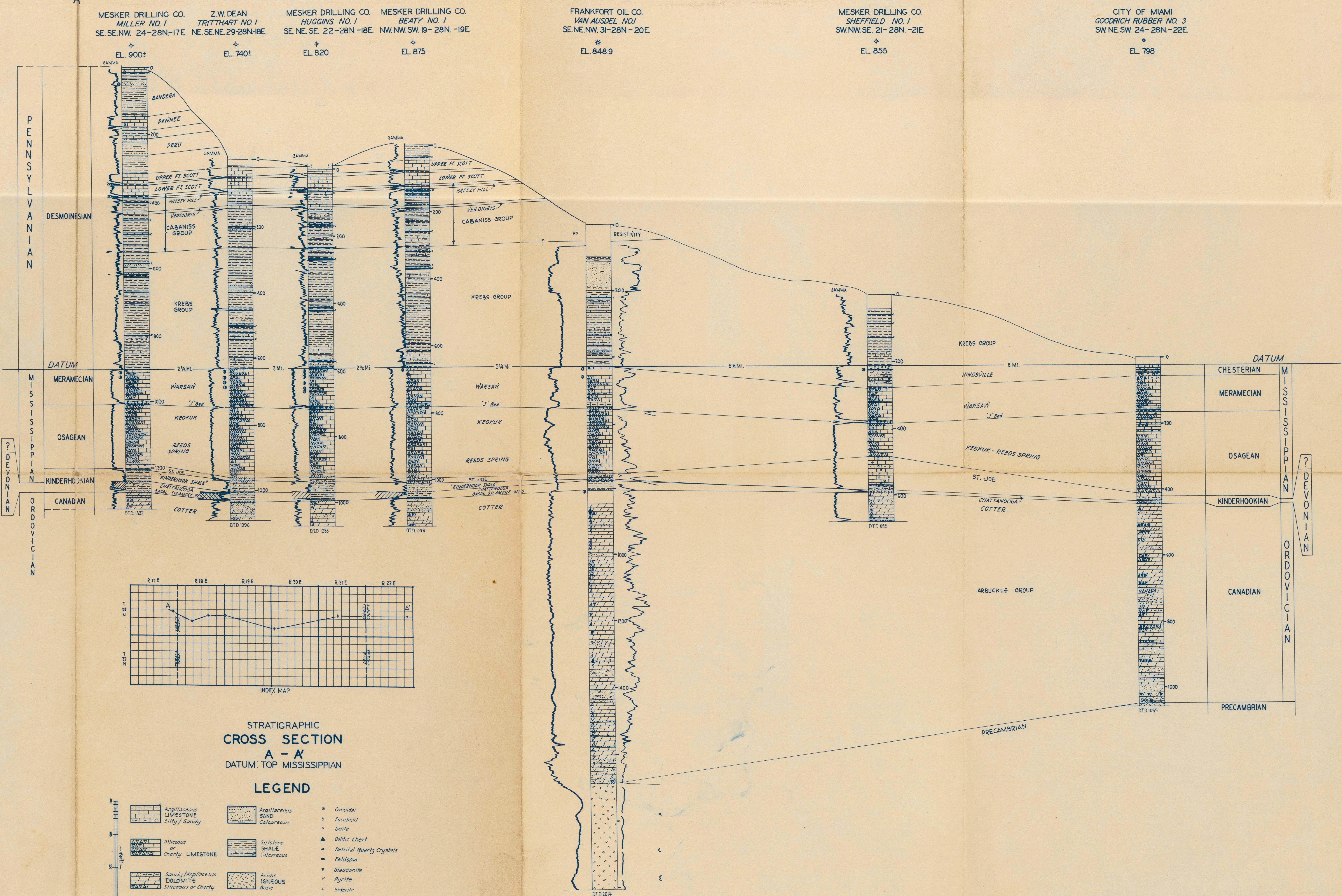


A'



STRATIGRAPHIC
CROSS SECTION
A - A'
DATUM: TOP MISSISSIPPIAN

LEGEND

- | | | | | | |
|--|-------------------------------|--|----------------------|--|--------------------------|
| | Argillaceous Limestone | | Argillaceous SAND | | Grinoid |
| | Silty/Sandy Limestone | | Calcareous SAND | | Fusulinid |
| | Siliceous or Cherty Limestone | | Siltstone SHALE | | Oolite |
| | Sandy (Argillaceous) Dolomite | | Siltstone SHALE | | Oolitic Chert |
| | Siliceous or Cherty Dolomite | | Siltstone SHALE | | Detrital Quartz Crystals |
| | No Samples | | Acidic IGNEOUS Basic | | Feldspar |
| | | | | | Glauconite |
| | | | | | Pyrite |
| | | | | | Siderite |
| | | | | | Questionable sample |

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B
SHELL OIL COMPANY
M. PARRIS NO. 1-W
SW. 25-25N-16E.
EL. 622

H. L. LEAK
COX NO. 1-A
29-26N-18E.
EL. 800±

MAJOR OIL COMPANY
CONDRY NO. 1
SW. NE. 27-26N-18E.
EL. 904

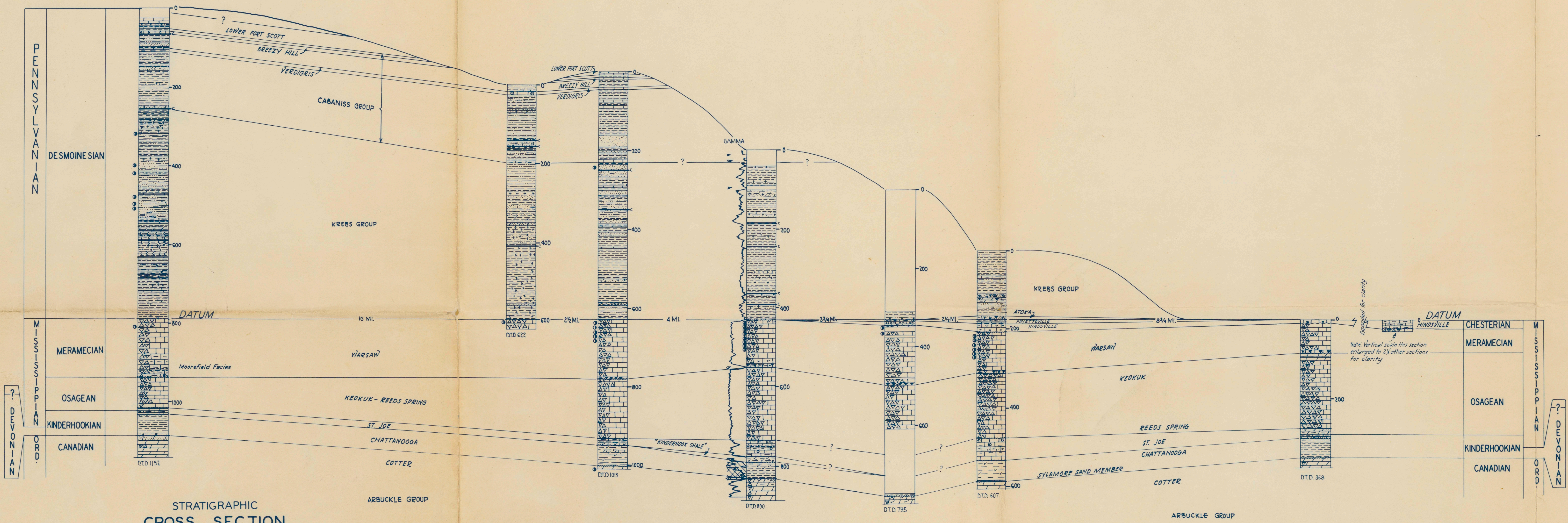
MESKER DRILLING CO.
BEISLEY NO. 1
NE. NE. SW. 20-26N-19E.
EL. 767

W. D. FLOURNEY
HARPER NO. 1
3-25N-19E.
EL. 725±

HYER
APPLEGATE NO. 1-A
SW. SE. NE. 12-25N-19E.
EL. 710±

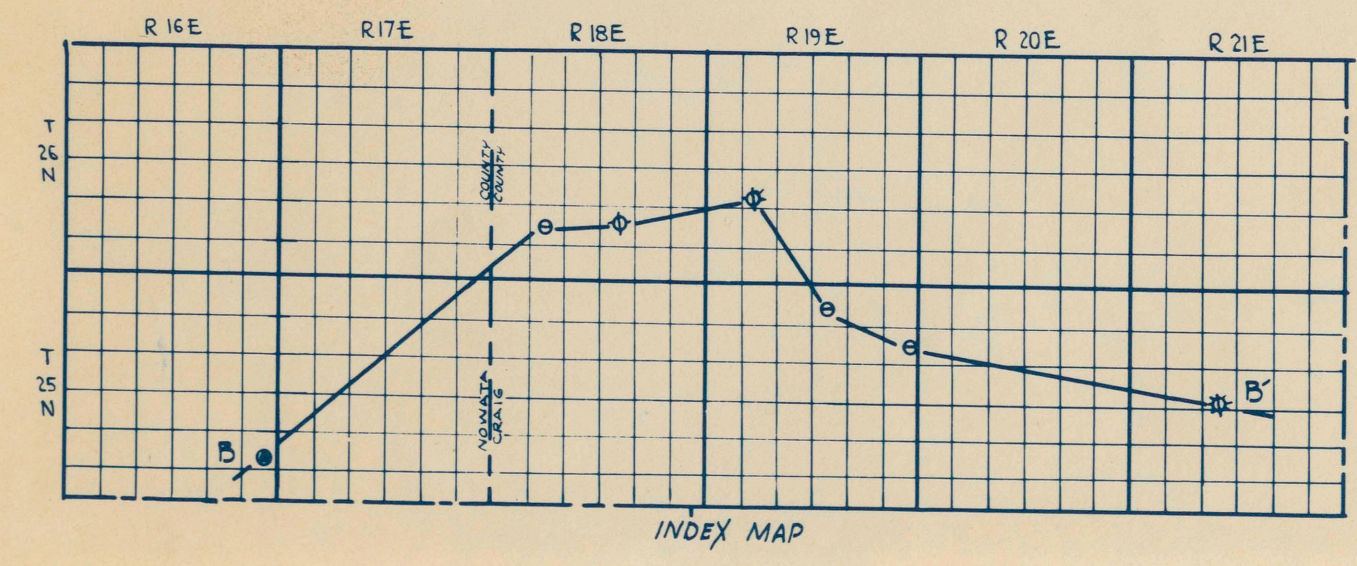
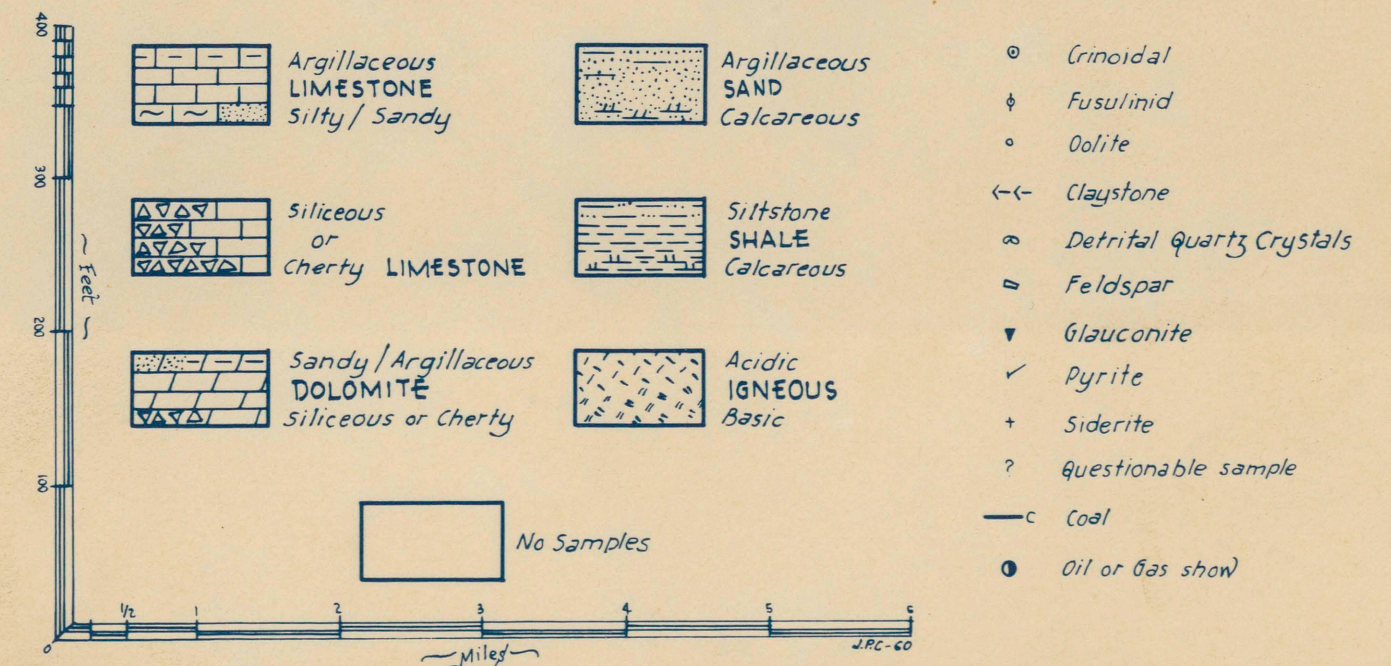
J. CHARLES
TUCKER NO. 1
SE. SW. SE. 16-25N-21E.
EL. 745

B'
MEASURED SECTION
NO. 167
SE. 16-25N-21E.
+



STRATIGRAPHIC
CROSS SECTION
B - B'
DATUM: TOP MISSISSIPPIAN

LEGEND



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UNIVERSITY OF OKLAHOMA

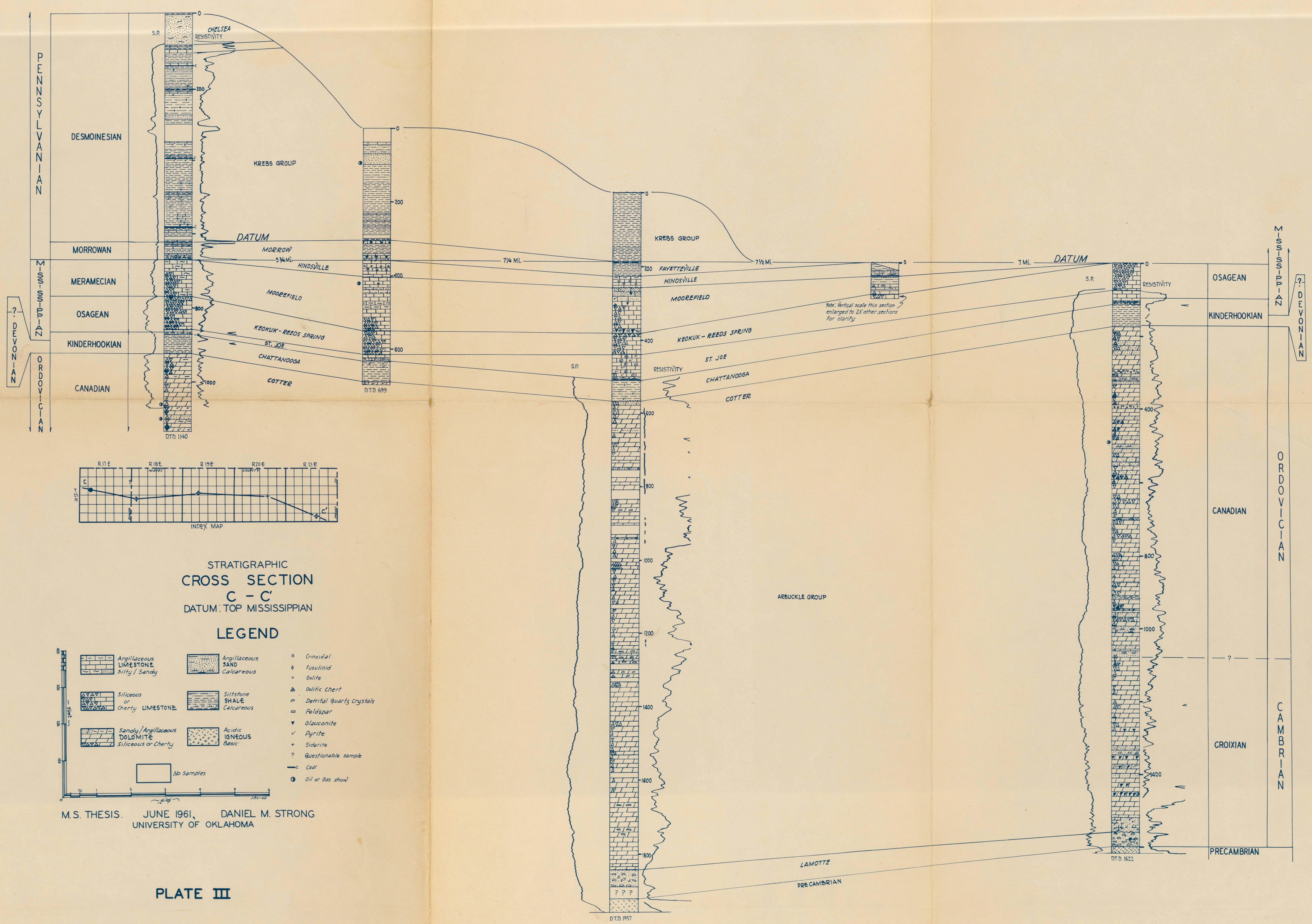
C
 GULF OIL CORP.
 W.M. SMITH NO. 15
 NE. SW. NW. 17-23N-17E.
 EL. 771

SERVICE DRILLING COMPANY
 CLIFTON NO. 1
 SW. SW. NE. 19-23N-18E.
 EL. 710±

LEE MILLIGAN
 LEE NO. 1
 SE. SE. SE. 17-23N-19E.
 EL. 700±

MEASURED SECTION
 NO. 165
 SE. NE. NE. 22-23N-20E.
 +

C'
 L. MILLER
 KNIGHT NO. 1
 NE. SW. NE. 34-23N-21 E.
 EL. 651



STRATIGRAPHIC
 CROSS SECTION
 C - C'
 DATUM: TOP MISSISSIPPIAN

LEGEND

- | | | | | | |
|--|-------------------------------|--|-----------------------------|--|--------------------------|
| | Argillaceous LIMESTONE | | Argillaceous SAND | | Crinoidal |
| | Silty/Sandy LIMESTONE | | Calcareous SAND | | Fusulinid |
| | Siliceous or Cherty LIMESTONE | | Siltstone SHALE | | Balite |
| | Sandy/Argillaceous DOLOMITE | | Siltystone SHALE Calcareous | | Oolitic Chert |
| | Siliceous or Cherty DOLOMITE | | Acidic IGNEOUS Basic | | Detrital Quartz Crystals |
| | No Samples | | Feldspar | | Glauconite |
| | | | Pyrite | | Siderite |
| | | | Questionable sample | | Coal |
| | | | Oil or Gas show | | |

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D
 YOUNG & CARTER
 STATE LIFE NO. 1
 NW. NW. NW. 35-20N-16E.

A.T. CAMPBELL
 RUPPEL NO. 1
 23-19N-17E.

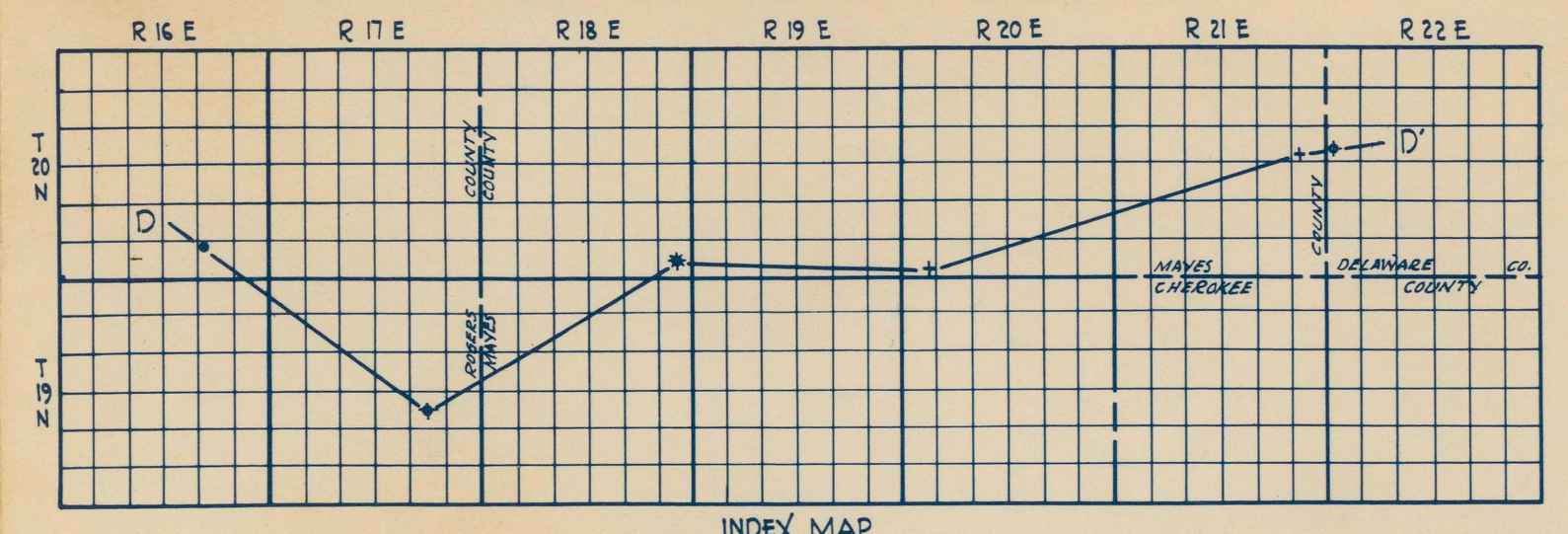
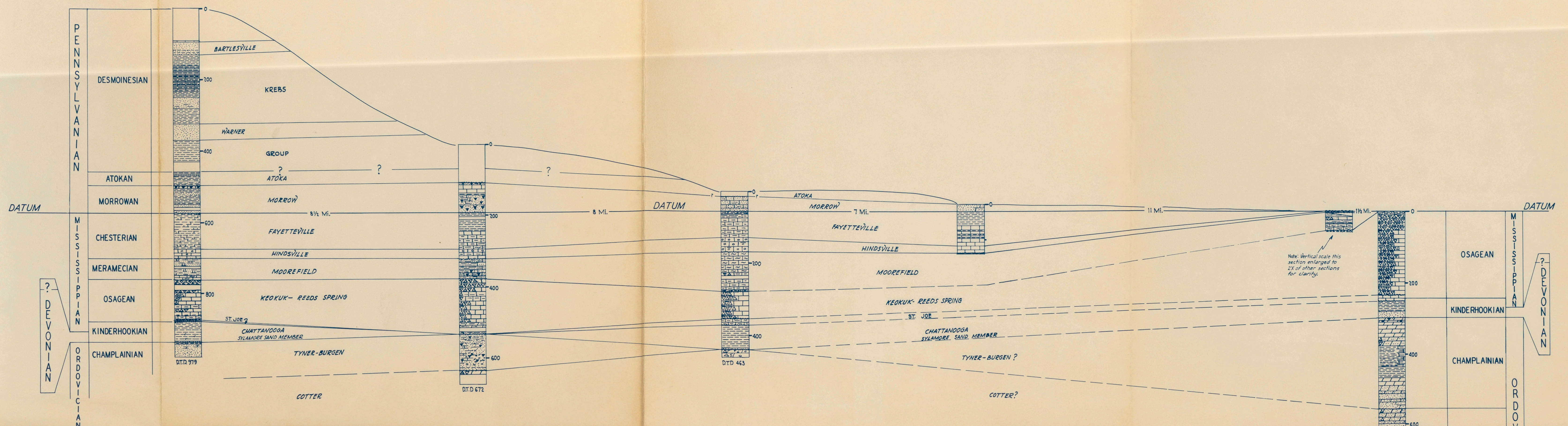
GARDNER
 GILBERT NO. 1
 NW. NW. SE. 36-20N-18E.

MEASURED SECTION
 NO. 143
 SE. 31-20N-20E.

MEASURED SECTION
 RCS NO. 1
 SW. SW. 13-20N-21E.

M.&F. OIL COMPANY
 RANSOM NO. 1
 SW. NW. SW. 18-20N-22E.

D'



STRATIGRAPHIC
 CROSS SECTION
 D - D'
 DATUM: TOP MISSISSIPPIAN

LEGEND

- | | | |
|--|---------------------------------|--------------------------|
| Argillaceous LIMESTONE
Silty/Sandy | Argillaceous SAND
Calcareous | Crinoidal |
| Siliceous or Cherty LIMESTONE | Siltstone SHALE
Calcareous | Fusulinid |
| Sandy/Argillaceous DOLOMITE
Siliceous or Cherty | ACIDIC IGNEOUS
Basic | Dolitic Chert |
| No Samples | | Detrital Quartz Crystals |
| | | Feldspar |
| | | Glauconite |
| | | Pyrite |
| | | Siderite |
| | | Questionable sample |
| | | Coal |
| | | Oil or Gas show |

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E

Z.W. DEAN
TRITTHART NO. 1
NE. SE. NE. 29-28N-18E
EL. 740±

CARTER OIL COMPANY
WILKERSON NO. 1
NW. NE. NW. 14-27N-18E
EL. 813

FRANKFORT OIL CO.
BLUE JACKET NO. 1
NW. NW. NW. 4-26N-19E
EL. 835±

MESKER DRILLING CO.
BEISLEY NO. 1
NE. NE. SW. 20-26N-19E
EL. 767

LEE MILLIGAN
LEE NO. 1
SE. SE. SE. 17-23N-19E
EL. 700±

E. K. McLENNAN
TROGDON NO. 1
NW. SW. NW. 33-22N-18E
EL. 675±

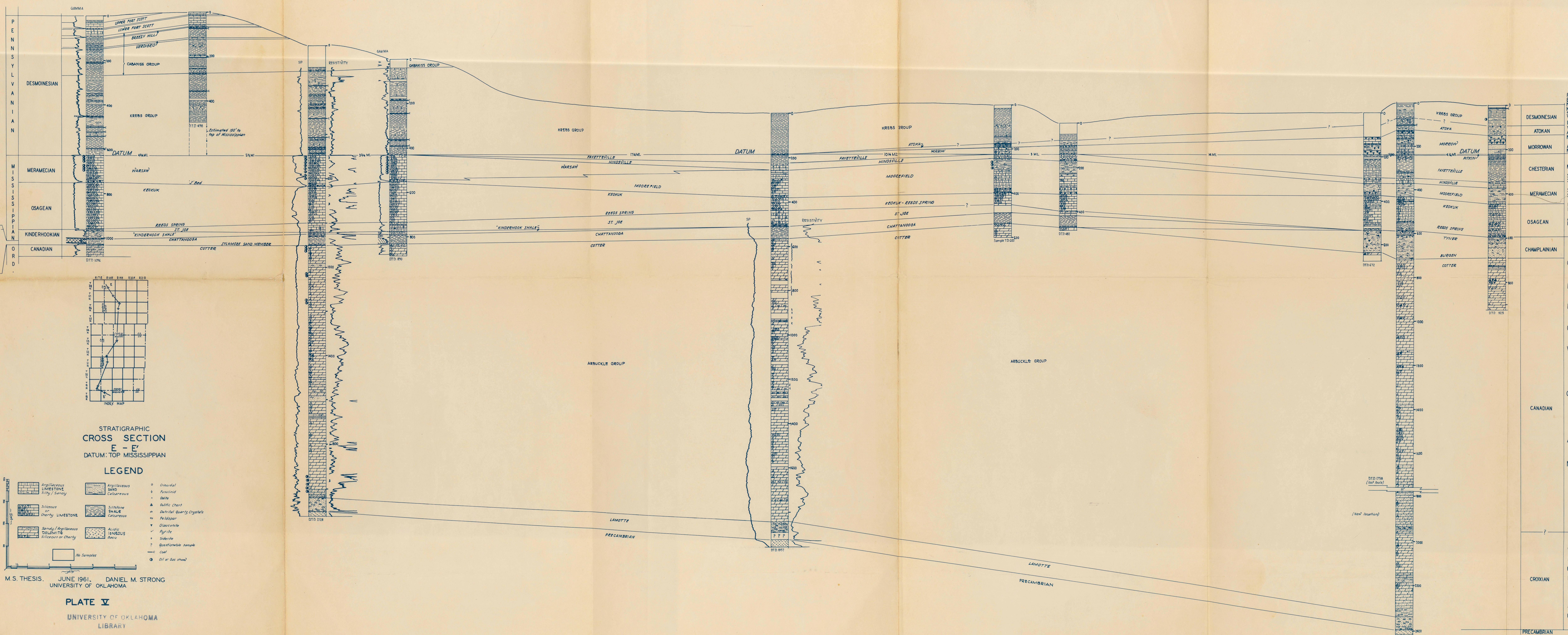
A. E. SUMMERS
J. D. ALLEN NO. 1
NE. NE. 16-21N-18E
EL. 650±

A. T. CAMPBELL
RUPPEL NO. 1
23-19N-17E
EL. 610±

REED
KOENIG NO. 1
NW. SE. SE. 27-19N-17E
EL. 575±

A. T. CAMPBELL
JOHN WELDON NO. 1
SW. SW. NE. 5-18N-18E
EL. 608

E'



STRATIGRAPHIC
CROSS SECTION
E - E'
DATUM: TOP MISSISSIPPIAN

- LEGEND**
- | | | |
|---|-------------------------------|--------------------------|
| Argillaceous LIMESTONE | Argillaceous SAND Silty/Sandy | Crinoidal |
| Siliceous or Cherty LIMESTONE | Siltstone SHALE Calcareous | Fusulinid |
| Sandy/Argillaceous DOLomite Siliceous or Cherty | Acidic IGNEOUS Gneiss | Dolitic Chert |
| No Samples | | Detrital Quartz Crystals |
| | | Feldspar |
| | | Glauconite |
| | | Pyrite |
| | | Siderite |
| | | Questionable sample |
| | | Coal |
| | | Oil or Gas show |

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F

MESKER DRILLING CO
SHEFFIELD NO. 1
SW NW SE. 21-28N-21E.
EL. 855

PARKER-RICH
DUNBAR NO. 1
SE. SE. SE. 27-27N-21E.
EL. 750±

3-B OIL
HELMICK NO. 1
NW NW 12-26N-21E.
EL. 750±

MEASURED SECTION
NO. 167
SE. SE. SE. 16-23N-21E.
+

J. CHARLES
TUCKER NO. 1
SE. SW SE. 16-25N-21E.
EL. 745

DYE-HENRY
FRANK ROSS NO. 1
NW SW NE. 20-24N-21E.
EL. 856

W. W. PECK
SLOAN NO. 1
NE. NW. NE. 3-23N-21E.
EL. 810±

L. MILLER
KNIGHT NO. 1
NE. SW. NE. 34-23N-21E.
EL. 651

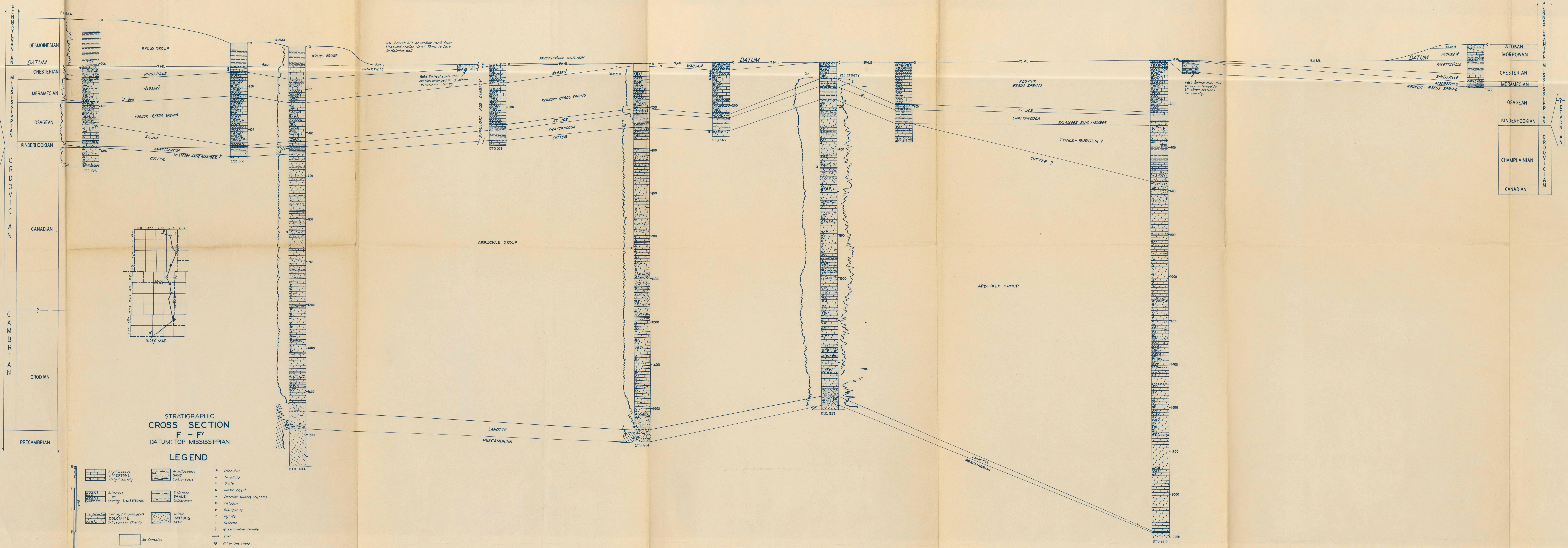
MEASURED SECTION
NO. 159
SE. NE. 16-22N-21E.
+

M & F OIL COMPANY
RANSOM NO. 1
SW NW SW. 18-20N-22E.
EL. 100±

MEASURED SECTION
RCS NO. 1
SW SW. 13-20N-21E.
+

MEASURED SECTION
NO. 138
NW NW. 32-19N-20E.
+

F'

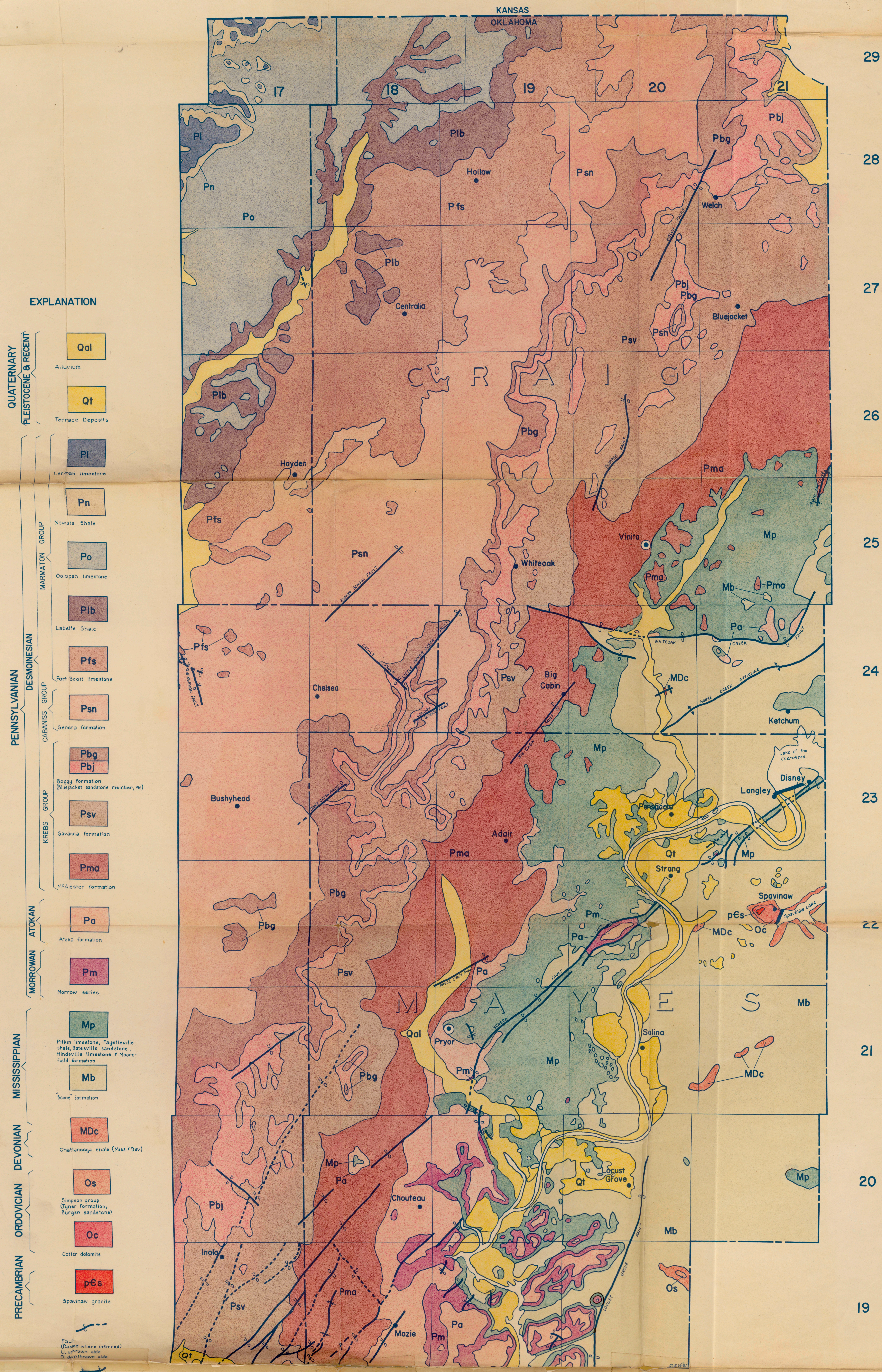


STRATIGRAPHIC
CROSS SECTION
F - F'
DATUM: TOP MISSISSIPPIAN

LEGEND

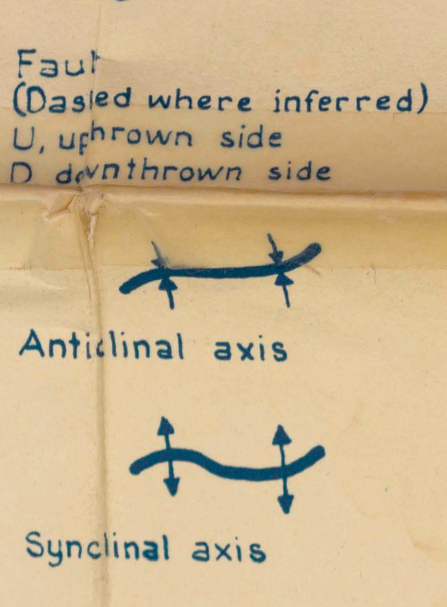
- | | | |
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EXPLANATION

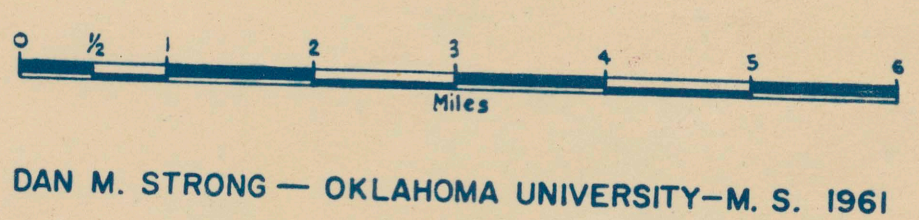
- QUATERNARY**
FLEISTOCENE & RECENT
- Qal**
Alluvium
 - Qt**
Terrace Deposits
- PENNSYLVANIAN**
- DESMOINESIAN**
- Pn**
Novata shale
 - Po**
Oologah limestone
 - Plb**
Labette shale
 - Pfs**
Fort Scott limestone
 - Psn**
Seneca formation
- CABANISS GROUP**
- Pbg**
Pbj
Boggy formation (Bluejacket sandstone member, P₈)
- KREBS GROUP**
- Psv**
Savanna formation
 - Pma**
M¹Alester formation
- ATOKAN**
- Pa**
Atoka formation
- MORROWAN**
- Pm**
Morrow series
- MISSISSIPPIAN**
- Mp**
Pitkin limestone, Fayetteville shale, Batesville sandstone, Hindsville limestone & Moorefield formation
 - Mb**
Boone formation
- DEVONIAN**
- MDc**
Chattanooga shale (Miss. f. Dev.)
- ORDOVICIAN**
- Os**
Simpson group (Tyner formation, Burgen sandstone)
 - Oc**
Cotter dolomite
- PRECAMBRIAN**
- pEs**
Spavinaw granite



GENERALIZED GEOLOGIC MAP

OF
CRAIG, MAYES AND EASTERN NOWATA AND ROGERS COUNTIES, OKLAHOMA

Modified from the GEOLOGIC MAP OF THE STATE OF OKLAHOMA by Hugh D. Miser. Structural revisions taken from Oklahoma Geological Survey, Bulletin 77 by George G. Huffman, and unpublished Master of Science theses (University of Oklahoma) by the following authors: Louis P. Chrisman, Charles D. Claxton, William P. Gruman, Clarence Lohman, Jr., Richard S. Stringer, and Jack L. Tillman.

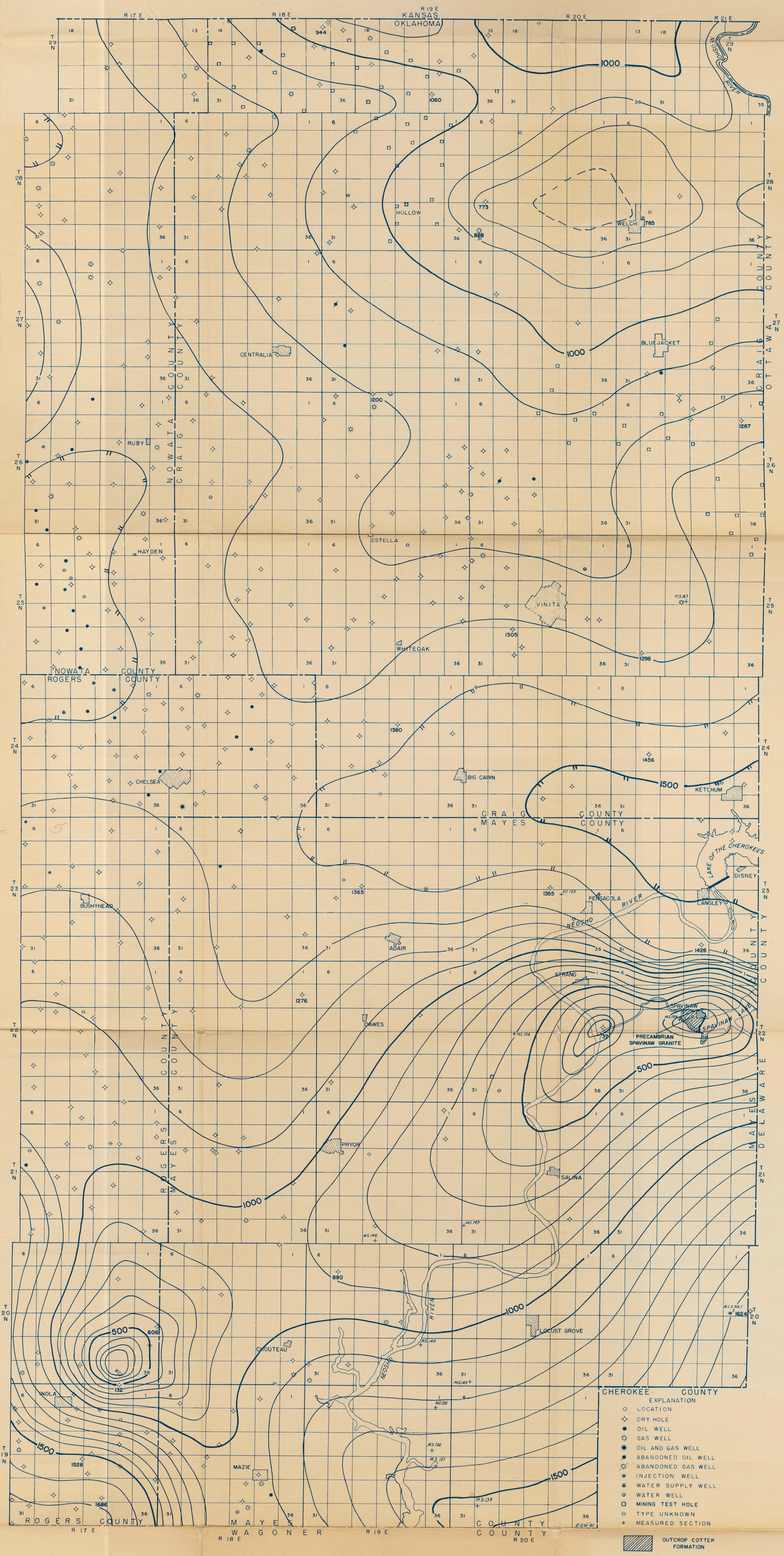


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PLATE VII

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 LIBRARY

29
 28
 27
 26
 25
 24
 23
 22
 21
 20
 19

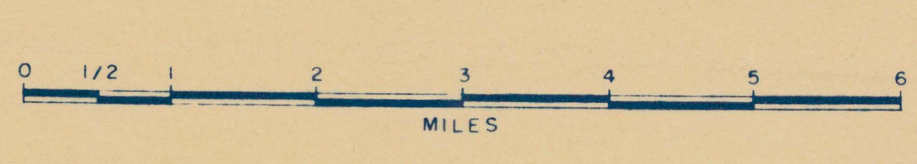


- EXPLANATION
- LOCATION
 - ◇ DRY HOLE
 - OIL WELL
 - ☆ GAS WELL
 - ★ OIL AND GAS WELL
 - ABANDONED OIL WELL
 - ☆ ABANDONED GAS WELL
 - ⊙ INJECTION WELL
 - ⊕ WATER SUPPLY WELL
 - ⊖ WATER WELL
 - MINING TEST HOLE
 - ⊙ TYPE UNKNOWN
 - ⊕ MEASURED SECTION
- ▨ OUTCROP COTTER FORMATION

ISOPACH MAP
"ARBUCKLE" GROUP
 (BASE OF LAMOTTE TO TOP OF COTTER)

CRAIG, MAYES
 AND
 EASTERN NOWATA AND ROGERS COUNTIES, OKLAHOMA

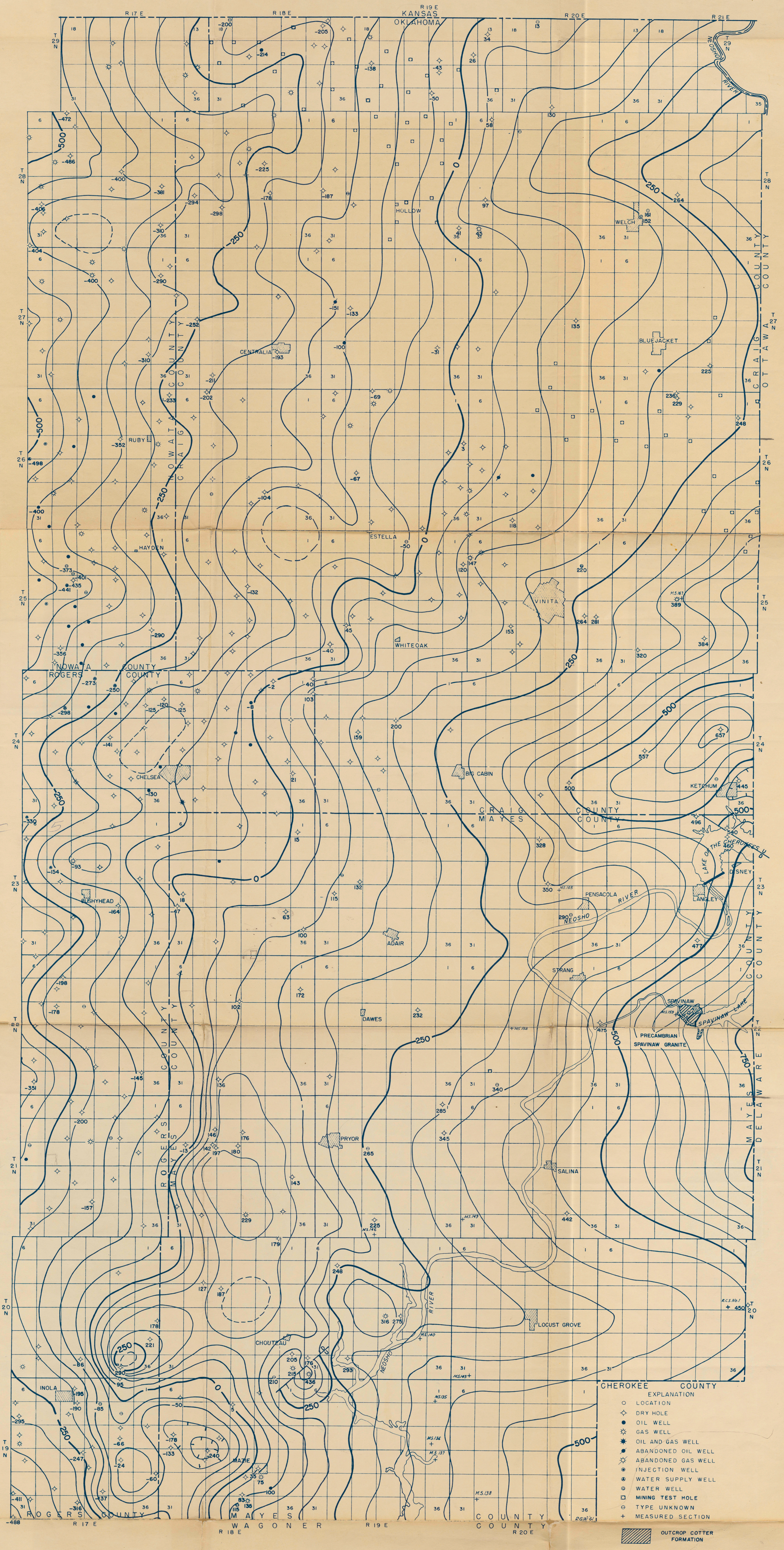
CONTOUR INTERVAL = 100 FEET



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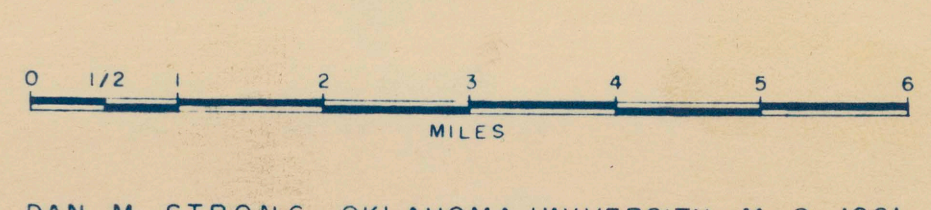
PLATE VIII

UNIVERSITY OF OKLAHOMA
 LIBRARY

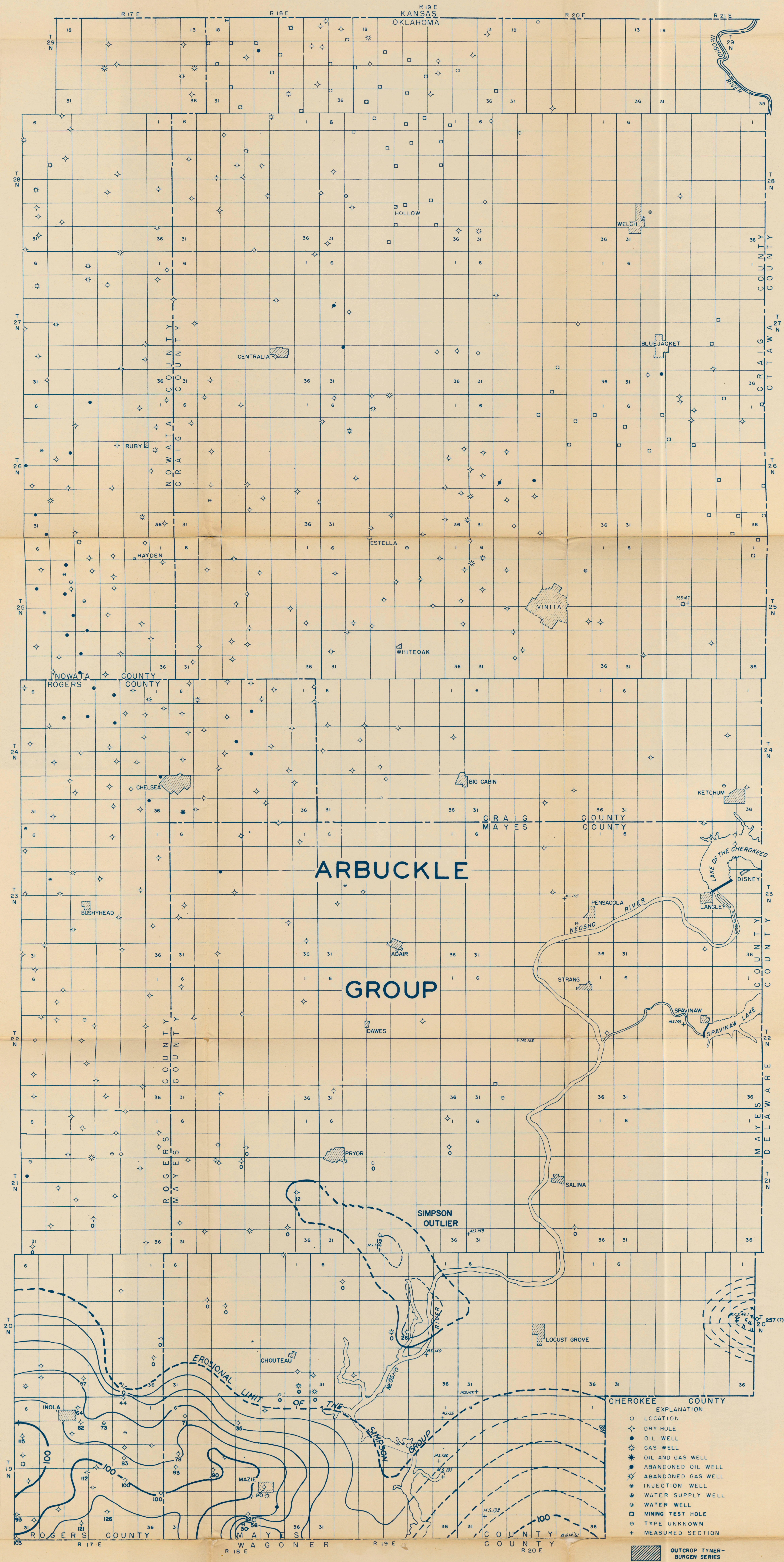


**STRUCTURAL CONTOUR MAP
TOP ARBUCKLE GROUP**

CRAIG, MAYES
AND
EASTERN NOWATA AND ROGERS COUNTIES, OKLAHOMA
CONTOUR INTERVAL = 50 FEET



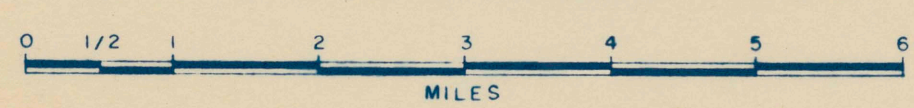
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ISOPACH MAP SIMPSON GROUP

CRAIG, MAYES
AND
EASTERN NOWATA AND ROGERS COUNTIES, OKLAHOMA

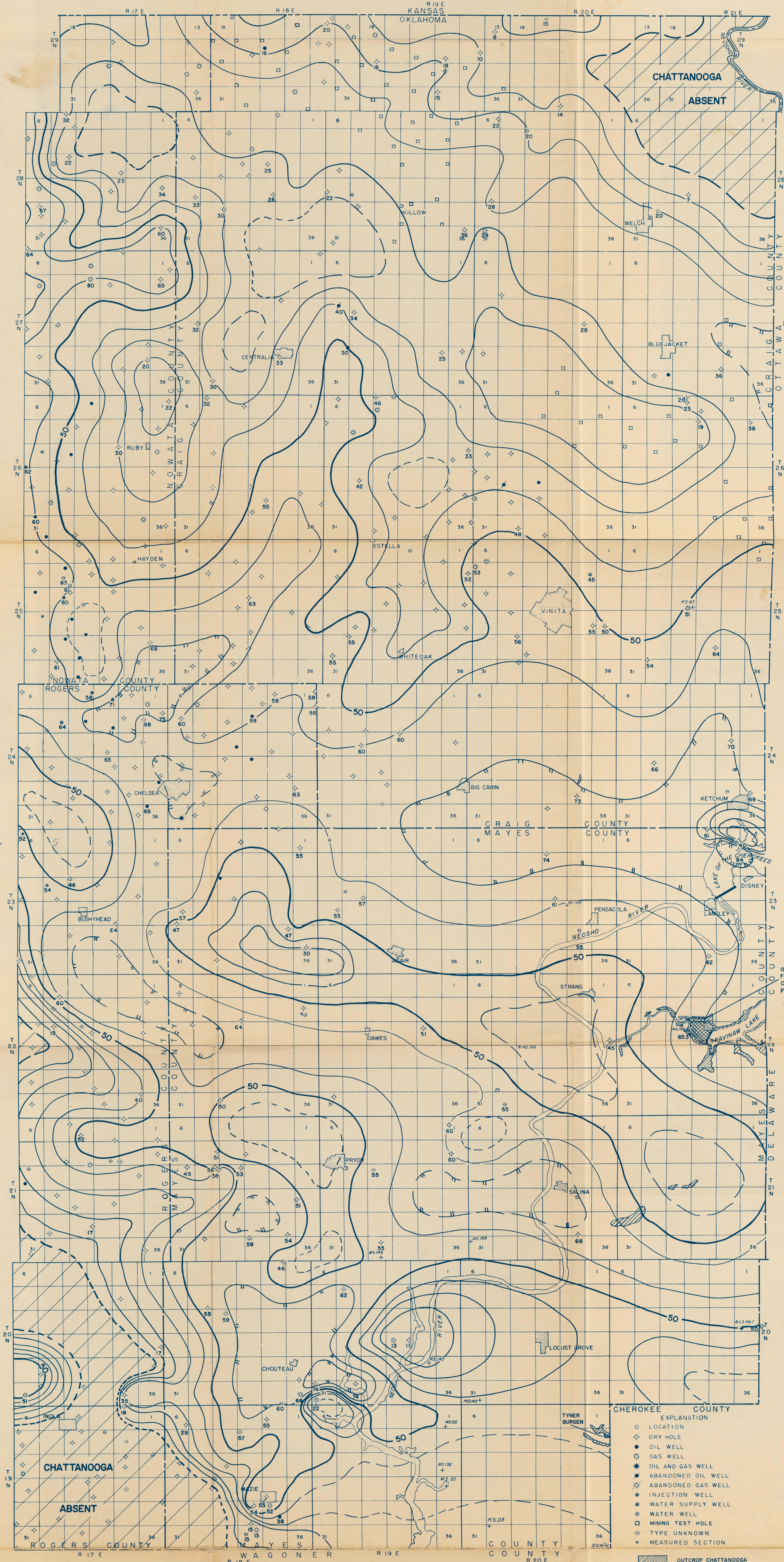
CONTOUR INTERVAL = 20 FEET
T.20 N. R.21 E. CONTOUR INTERVAL = 50 FEET



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PLATE I

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OUTCROP OF THE FOLLOWING PRE-CHATTANOOGA FORMATIONS:
 COTTER DOLOMITE
 SPAVINAW GRANITE

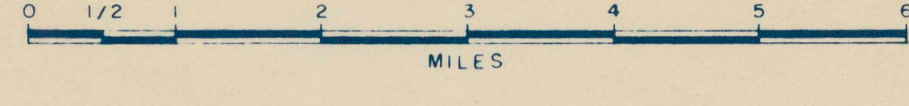
- EXPLANATION**
- LOCATION
 - ◇ DRY HOLE
 - OIL WELL
 - ⊙ GAS WELL
 - ⊛ OIL AND GAS WELL
 - ⊙ ABANDONED OIL WELL
 - ⊙ ABANDONED GAS WELL
 - ⊙ INJECTION WELL
 - ⊙ WATER SUPPLY WELL
 - ⊙ WATER WELL
 - ⊙ MINING TEST HOLE
 - ⊙ TYPE UNKNOWN
 - ⊙ MEASURED SECTION

- ▨ OUTCROP CHATTANOOGA FORMATION
- ▩ OUTCROP PRE-CHATTANOOGA FORMATIONS

ISOPACH MAP CHATTANOOGA FORMATION

CRAIG, MAYES
AND
EASTERN NOWATA AND ROGERS COUNTIES, OKLAHOMA

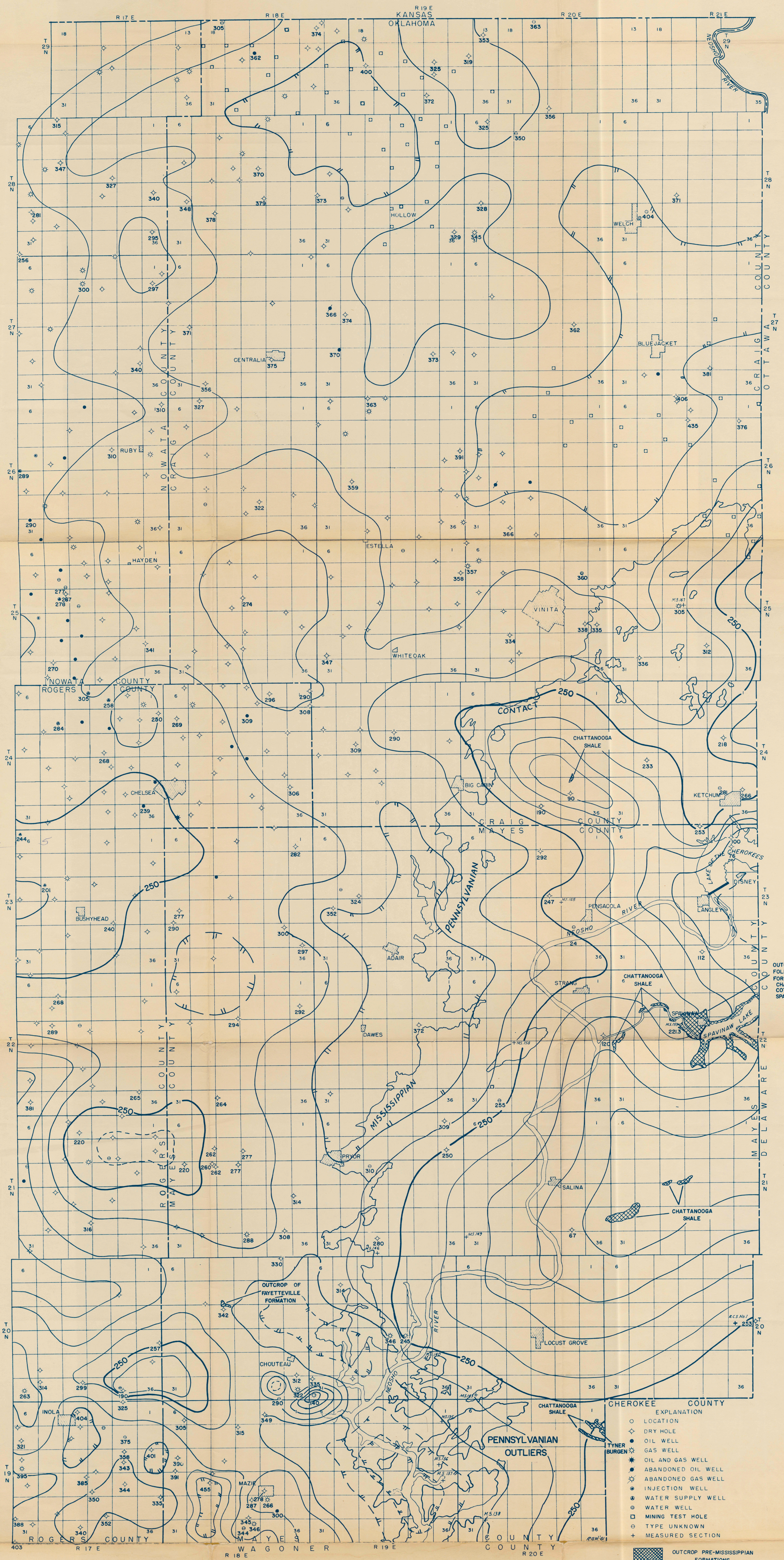
CONTOUR INTERVAL = 10 FEET



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PLATE XI

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OUTCROP OF THE FOLLOWING FORMATIONS: CHATTANOOGA SHALE, COTTER DOLOMITE, SPAVINAW GRANITE

- EXPLANATION
- LOCATION
 - ◇ DRY HOLE
 - OIL WELL
 - ◆ GAS WELL
 - ★ OIL AND GAS WELL
 - ABANDONED OIL WELL
 - ◆ ABANDONED GAS WELL
 - ⊙ INJECTION WELL
 - ⊕ WATER SUPPLY WELL
 - ⊖ WATER WELL
 - MINING TEST HOLE
 - ⊙ TYPE UNKNOWN
 - ⊕ MEASURED SECTION

ISOPACH MAP
MISSISSIPPIAN SYSTEM
 (POST CHATTANOOGA)

CRAIG, MAYES
 AND
 EASTERN NOWATA AND ROGERS COUNTIES, OKLAHOMA

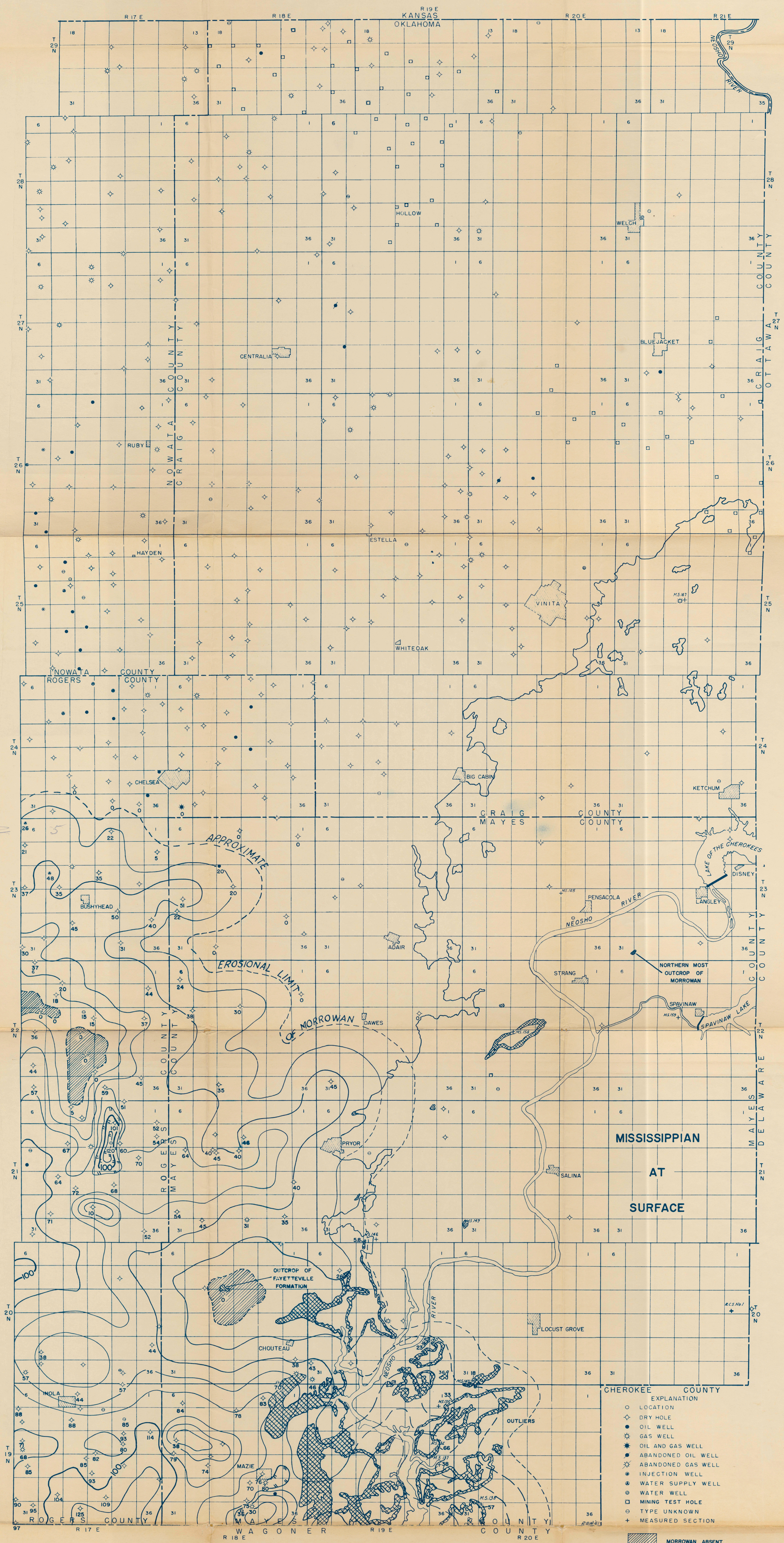
CONTOUR INTERVAL = 50 FEET

0 1 2 3 4 5
 MILES

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PLATE XII

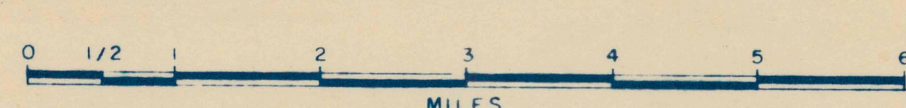
UNIVERSITY OF OKLAHOMA
 LIBRARY



**ISOPACH MAP
MORROWAN SERIES**

CRAIG, MAYES
AND
EASTERN NOWATA AND ROGERS COUNTIES, OKLAHOMA

CONTOUR INTERVAL = 20 FEET

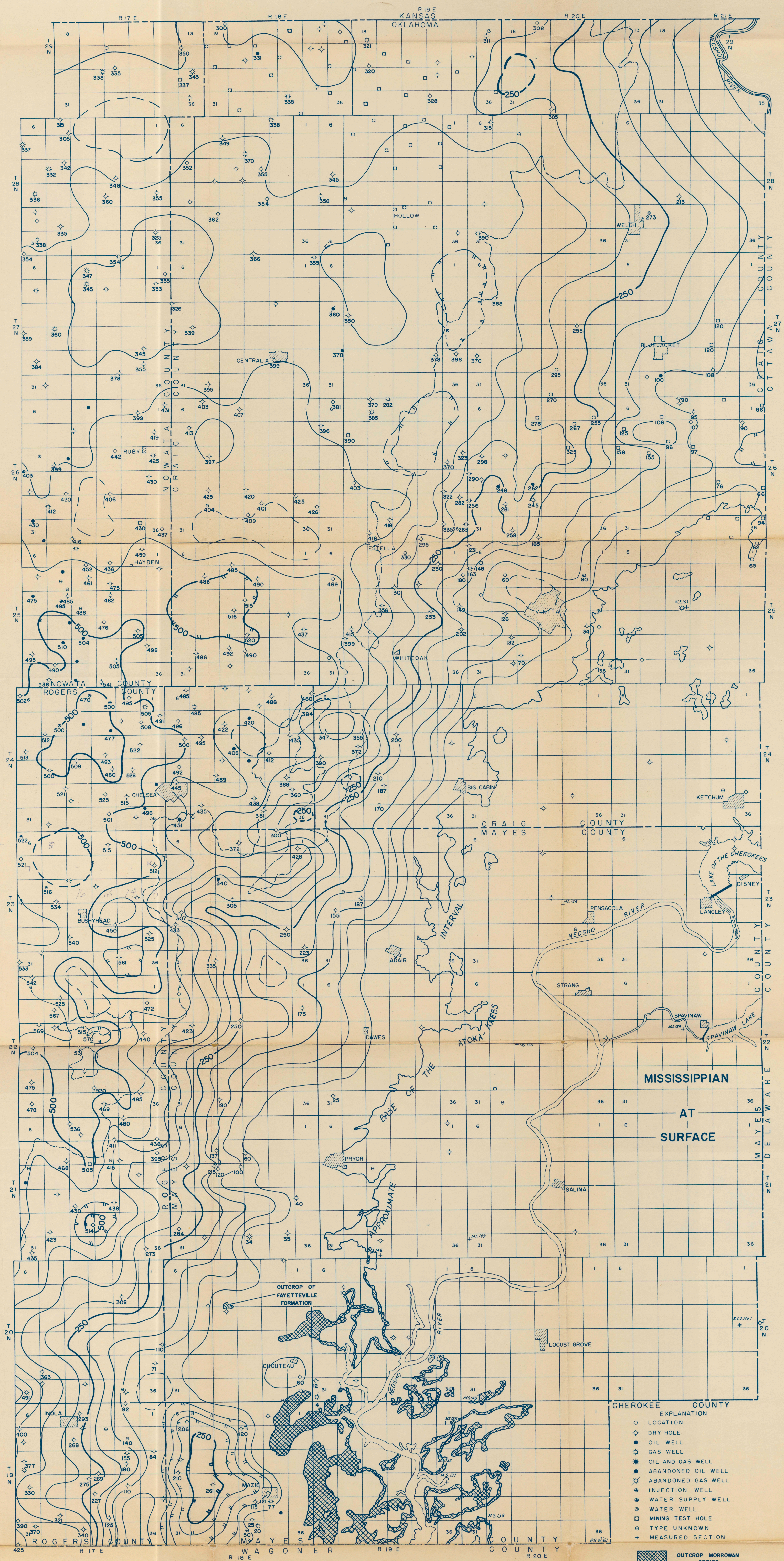


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PLATE XIII

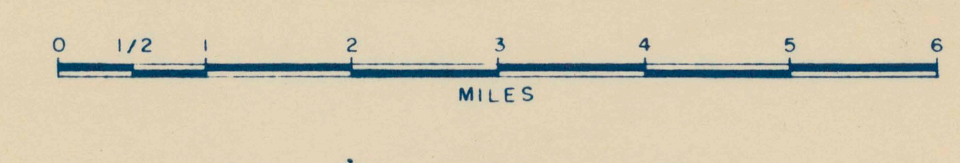
UNIVERSITY OF OKLAHOMA
LIBRARY

- EXPLANATION**
- LOCATION
 - ◊ DRY HOLE
 - OIL WELL
 - ★ GAS WELL
 - ✱ OIL AND GAS WELL
 - ⊙ ABANDONED OIL WELL
 - ⊙ ABANDONED GAS WELL
 - ⊙ INJECTION WELL
 - ⊙ WATER SUPPLY WELL
 - ⊙ WATER WELL
 - ⊙ MINING TEST HOLE
 - ⊙ TYPE UNKNOWN
 - + MEASURED SECTION
- ▨ MORROWAN ABSENT
- ▩ OUTCROP OF MORROWAN SERIES

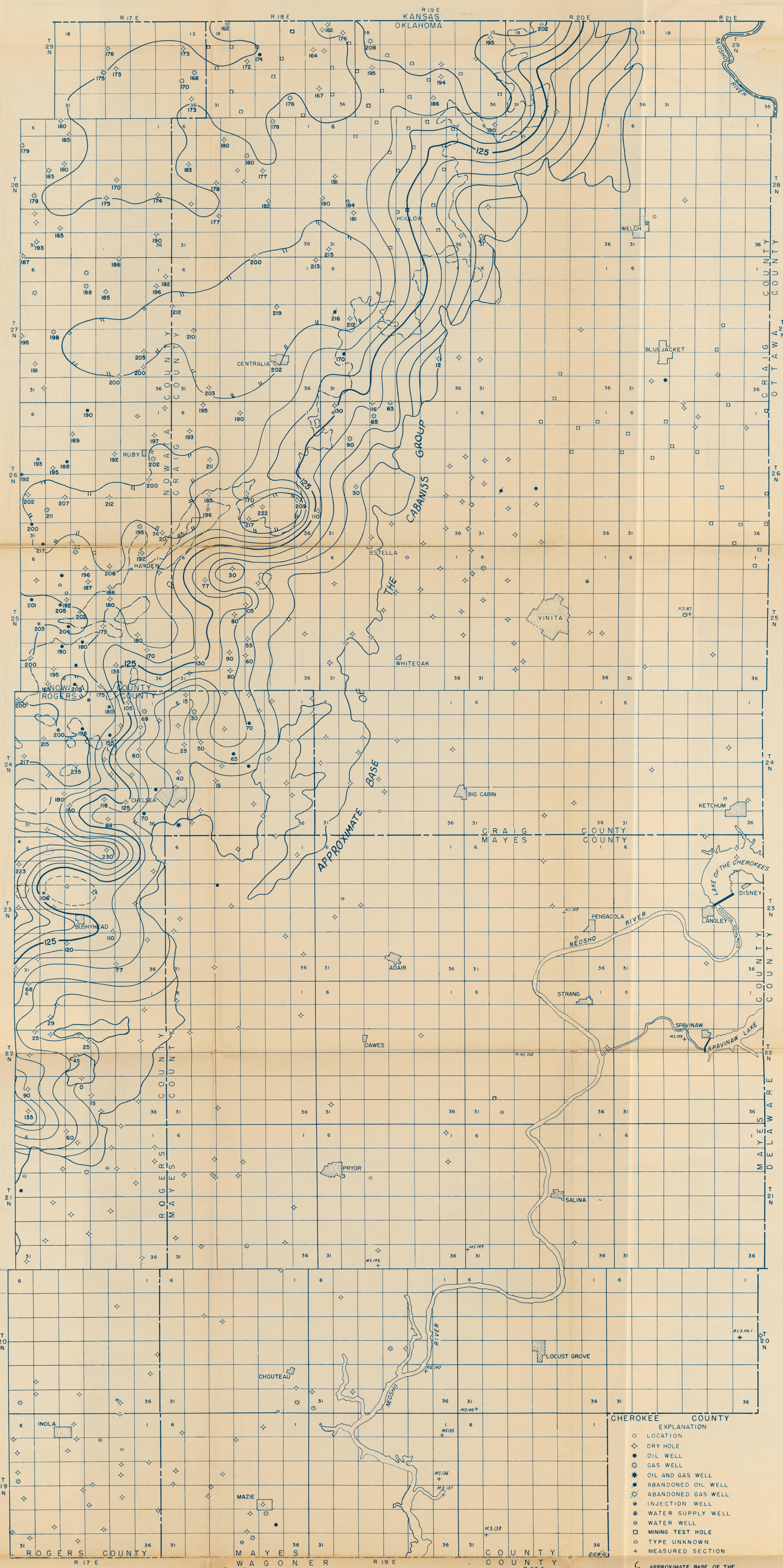


- EXPLANATION**
- LOCATION
 - ◇ DRY HOLE
 - OIL WELL
 - ☆ GAS WELL
 - ★ OIL AND GAS WELL
 - ABANDONED OIL WELL
 - ☆ ABANDONED GAS WELL
 - ⊙ INJECTION WELL
 - ⊕ WATER SUPPLY WELL
 - ⊖ WATER WELL
 - MINING TEST HOLE
 - TYPE UNKNOWN
 - ⊕ MEASURED SECTION
- ▨ OUTCROP MORROWAN SERIES
- ⋯ APPROXIMATE BASE OF THE CABANISS GROUP

ISOPACH MAP
BASE OF ATOKA FORMATION TO
BASE OF TIAWAH LIMESTONE
 (ATOKA-KREBS INTERVAL)
 CRAIG, MAYES
 AND
 EASTERN NOWATA AND ROGERS COUNTIES, OKLAHOMA
 CONTOUR INTERVAL = 50 FEET



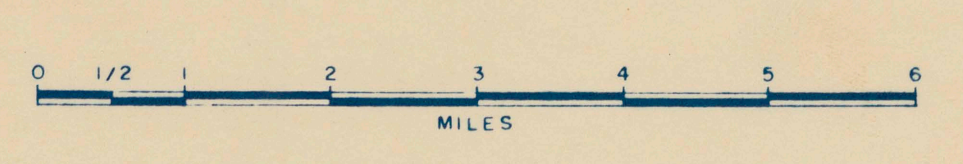
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- EXPLANATION
- LOCATION
 - ◇ DRY HOLE
 - OIL WELL
 - ★ GAS WELL
 - ✱ OIL AND GAS WELL
 - ⊙ ABANDONED OIL WELL
 - ⊙ ABANDONED GAS WELL
 - ⊙ INJECTION WELL
 - ⊙ WATER SUPPLY WELL
 - ⊙ WATER WELL
 - ⊙ MINING TEST HOLE
 - ⊙ TYPE UNKNOWN
 - + MEASURED SECTION
- APPROXIMATE BASE OF THE
FORT SCOTT LIMESTONE

ISOPACH MAP
BASE TIAWAH LIMESTONE TO
BASE FORT SCOTT LIMESTONE
 (CABANISS GROUP)
 CRAIG, MAYES
 AND
 EASTERN NOWATA AND ROGERS COUNTIES, OKLAHOMA

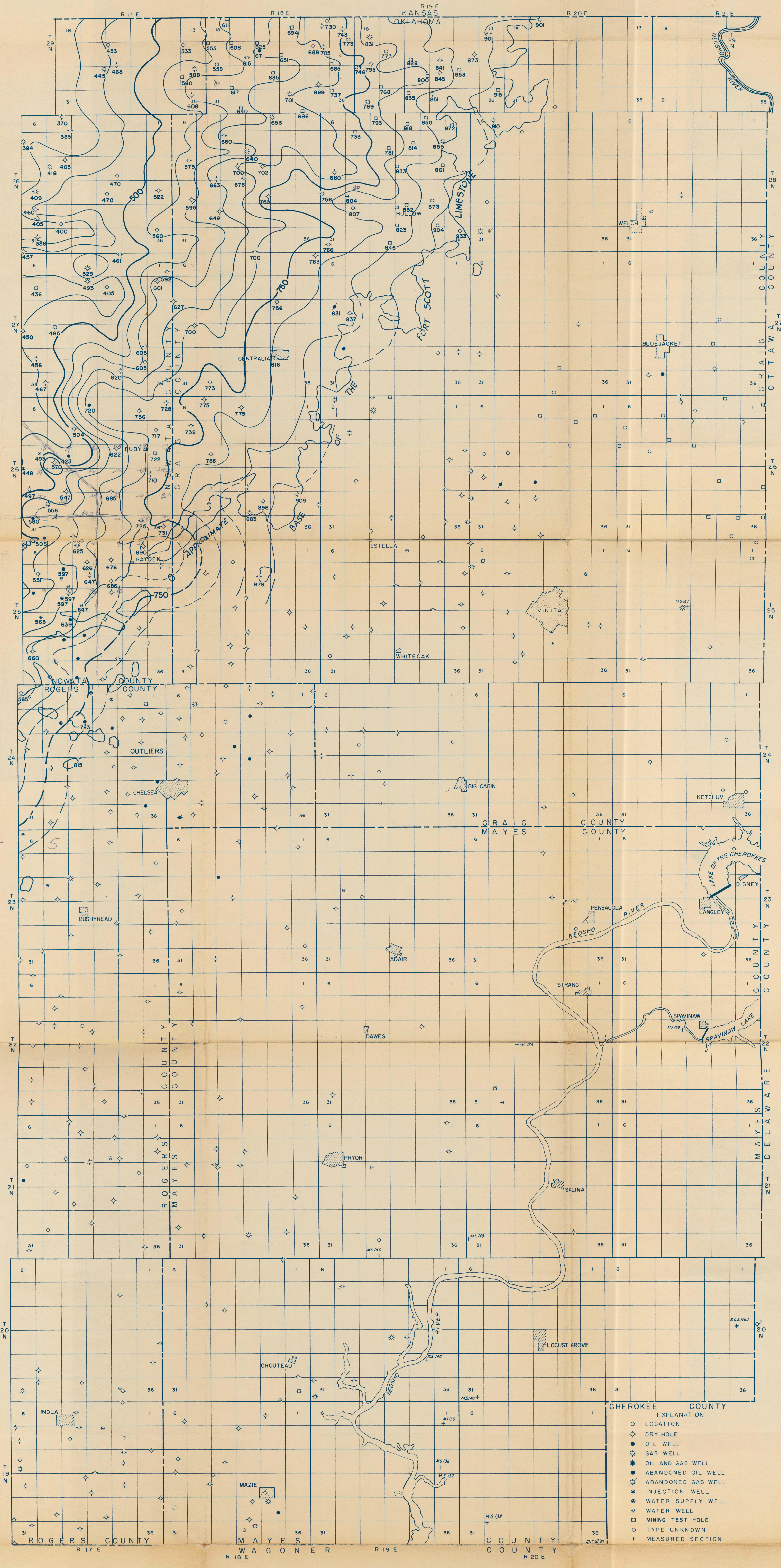
CONTOUR INTERVAL = 25 FEET



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PLATE XV

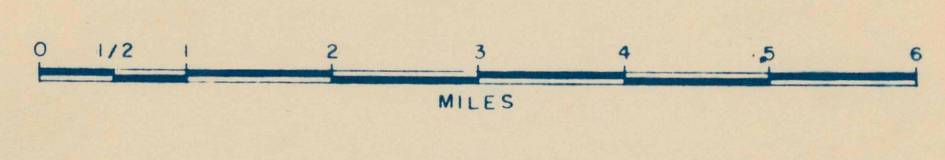
UNIVERSITY OF OKLAHOMA
LIBRARY



**STRUCTURAL CONTOUR MAP
BASE FORT SCOTT LIMESTONE**

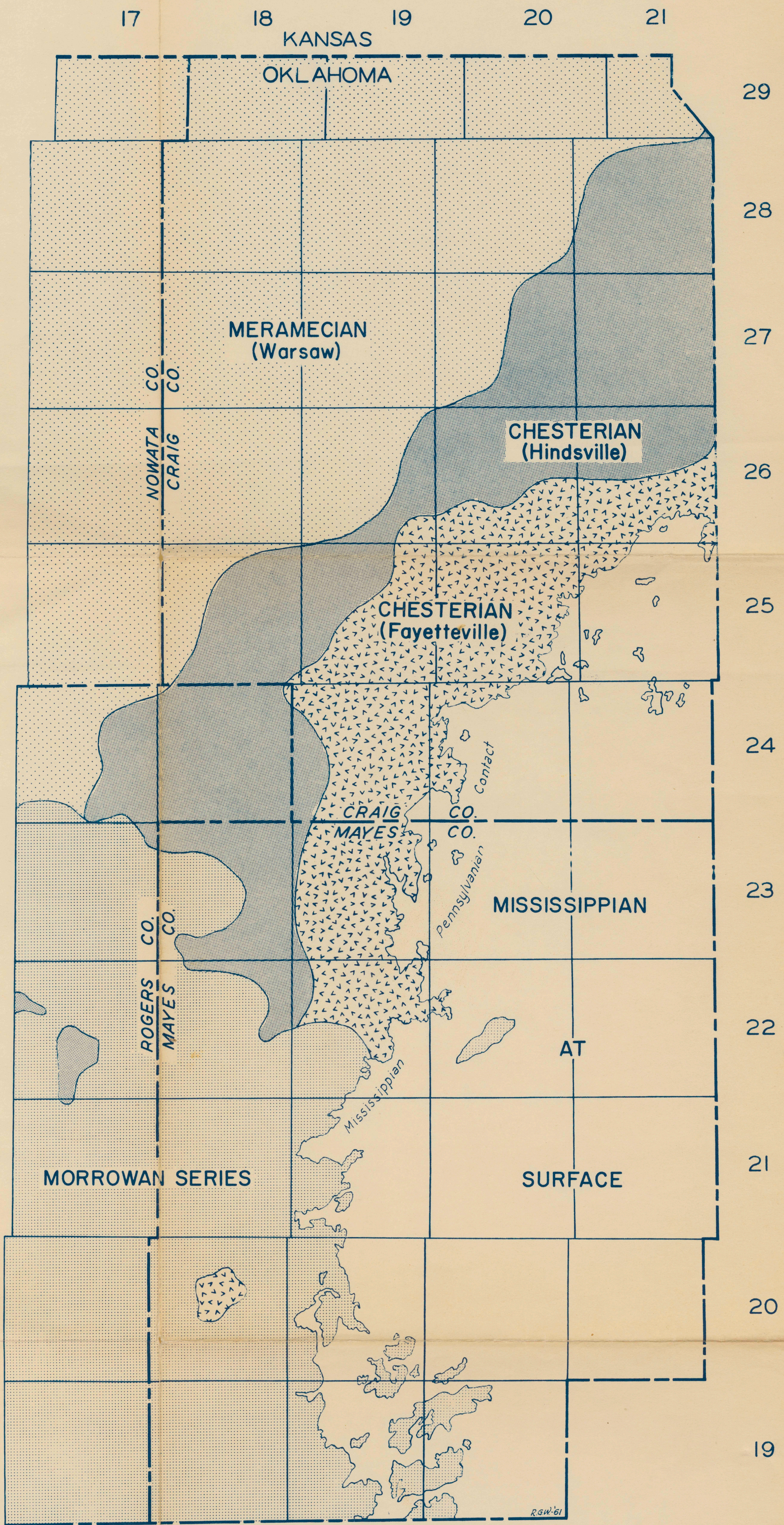
CRAIG, MAYES
AND
EASTERN NOWATA AND ROGERS COUNTIES, OKLAHOMA

CONTOUR INTERVAL = 50 FEET



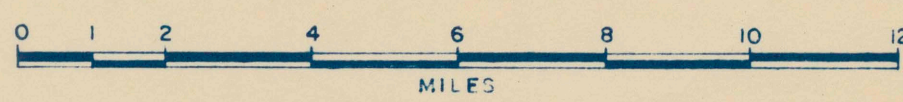
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PLATE **XVI**
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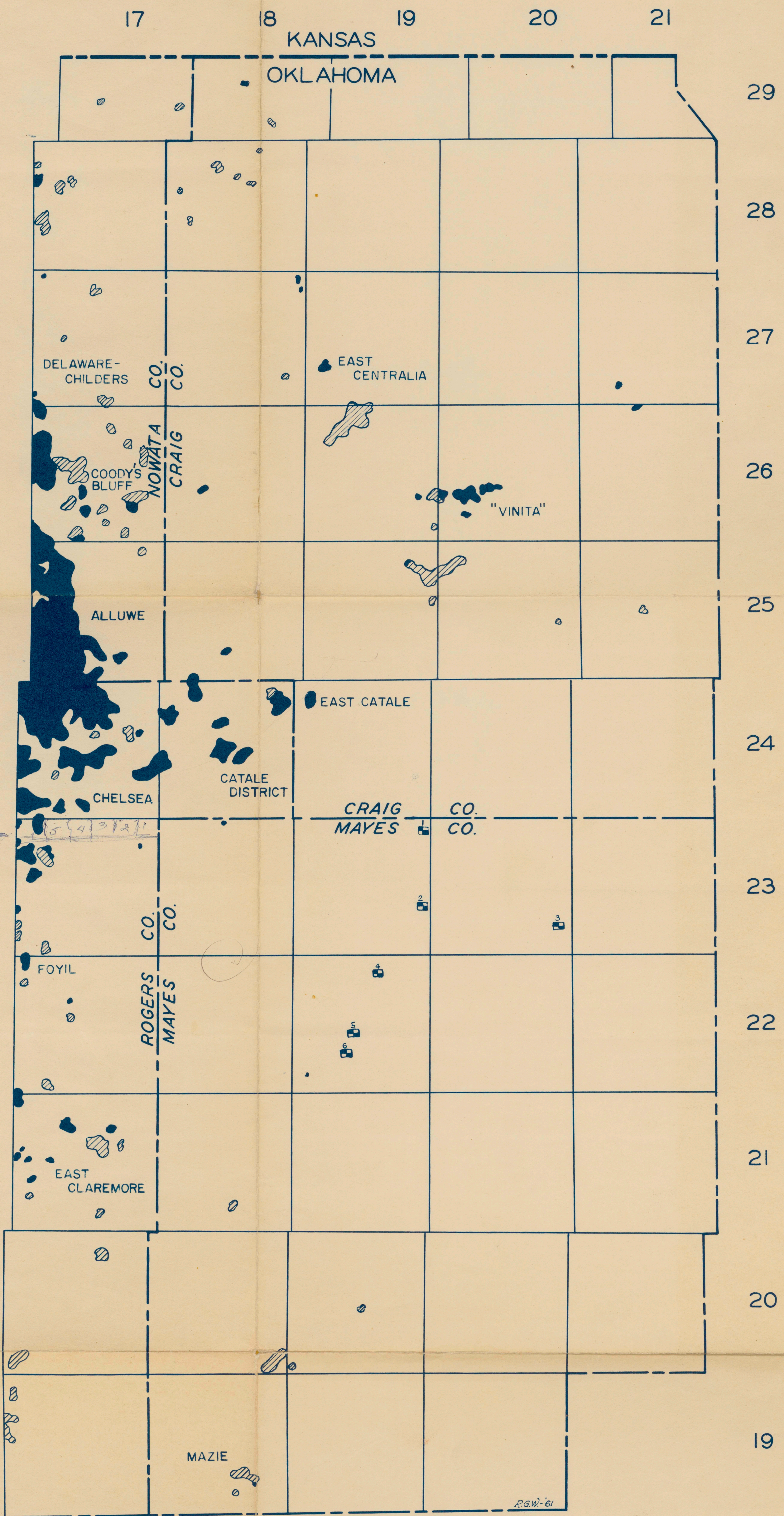
- MISSISSIPPIAN
 - CHESTERIAN (Hindsville)
 - CHESTERIAN (Fayetteville)
- PENNSYLVANIAN
 - MORROWAN SERIES
 - MERAMECIAN (Warsaw)

SUBSURFACE DISTRIBUTION
 OF
PRE-ATOKAN FORMATIONS
 CRAIG, MAYES
 AND
 EASTERN NOWATA AND ROGERS COUNTIES, OKLAHOMA





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PLATE XVII

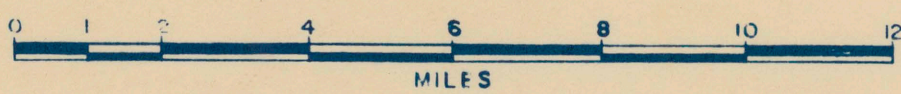


Modified from Oil and Gas Map by E.C. Jacobson

-  GAS
-  OIL
-  SEEP

AREAS OF OIL AND GAS PRODUCTION

CRAIG, MAYES
AND
EASTERN NOWATA AND ROGERS COUNTIES, OKLAHOMA



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PLATE XVIII

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