

1985

## Keith County, Nebraska, Map Series

Robert F. Diffendal Jr.

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KEITH COUNTY, NEBRASKA  
MAP SERIES



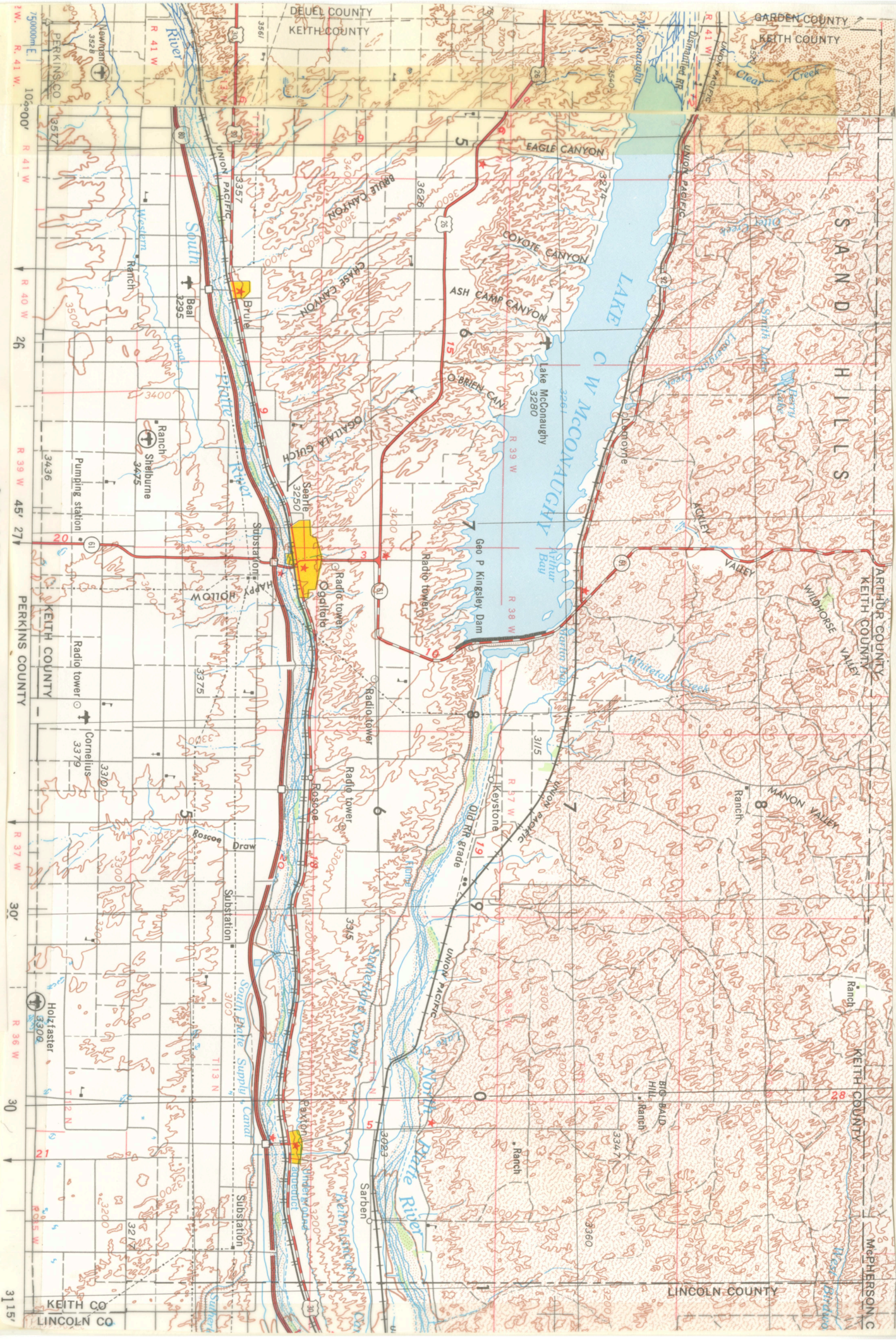
PREPARED BY  
NEBRASKA GEOLOGICAL SURVEY STAFF  
CONSERVATION AND SURVEY DIVISION, IANR  
UNIVERSITY OF NEBRASKA-LINCOLN

1985

R. F. Diffendal, Jr. et al.

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2. Index of 7.5' Topographic Quadrangles and Township Boundaries--R. F. Diffendal, Jr.
3. Generalized Soils Map--M. Kuzila and J. Culver
4. Approximate Loess Thickness--R. F. Diffendal, Jr.
5. Bedrock Geologic Map--R. F. Diffendal, Jr.
6. Volcanic Ash Localities--R. F. Diffendal, Jr.
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16. Configuration of Top of Cretaceous--H. M. DeGraw
17. Configuration of Top of Niobrara Fm.--H. M. DeGraw
18. Configuration of Base of Greenhorn Limestone--H. M. DeGraw
19. Configuration of Top of Permian System--R. R. Burchett
20. Structural Contours on Top of Stone Corral--R. R. Burchett
21. Structural Contours on Top of Pennsylvanian System--R. R. Burchett
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23. Configuration of Top of Precambrian--R. R. Burchett and M. P. Carlson
24. Geothermal Projected Temperatures on Top of Dakota Group--D. Eversoll and W. Gosnold
25. Bouguer Gravity Anomaly Map--R. R. Burchett and T. Eversoll

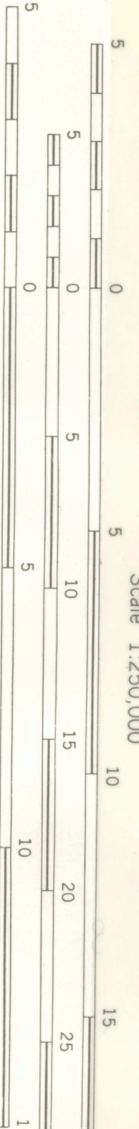


Scale 1:250,000

20 Statute Miles

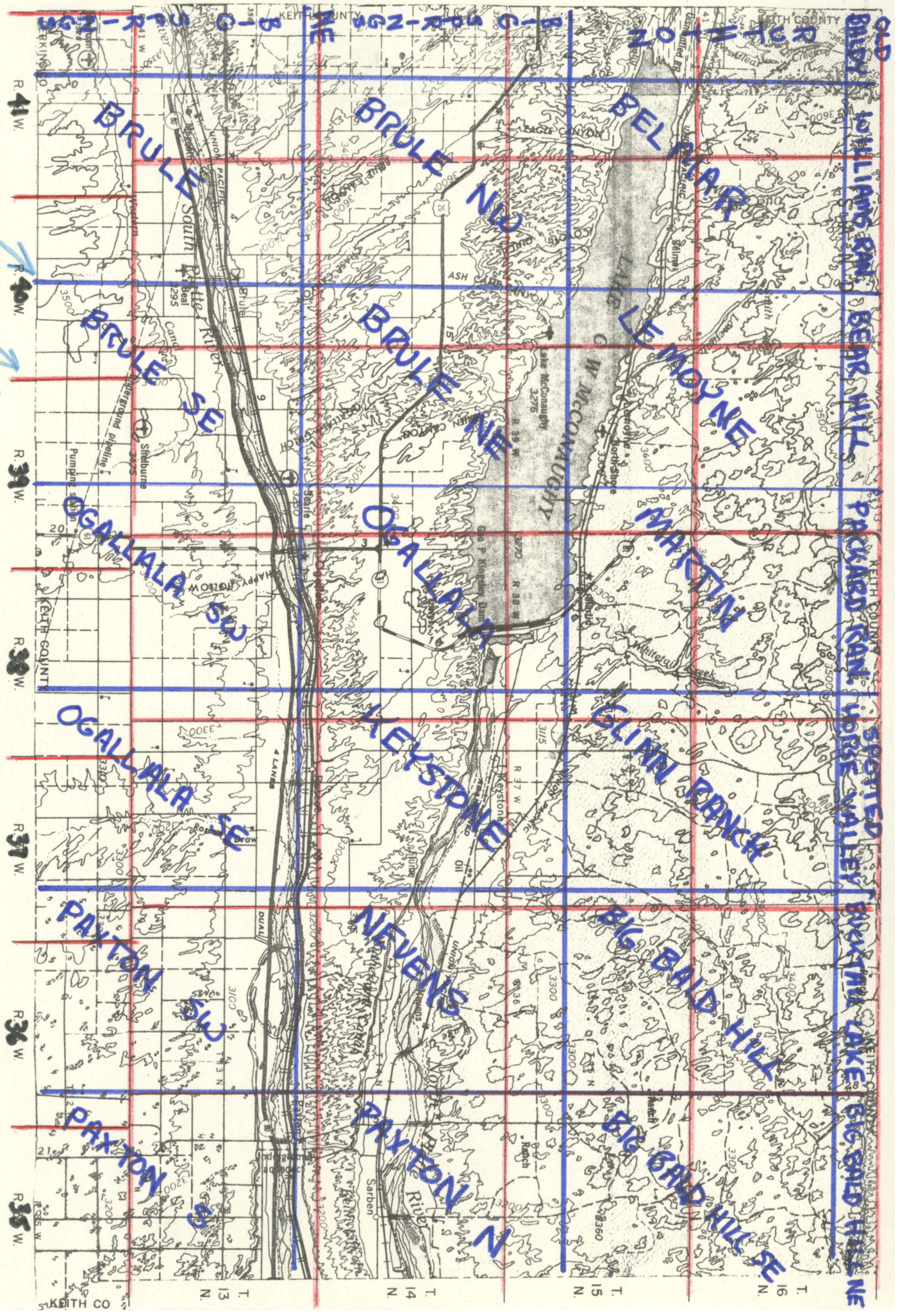
30 Kilometres

15 Nautical Miles



CONTOUR INTERVAL 100 FEET

Keith County  
Topography



Bold Line  
Narrower  
Topographic Quadrangles

R. F. Diffendal, Jr.  
25 March 1985

# SOIL LEGEND

9

**BRIDGET-TRIPP-CHEYENNE ASSOCIATION:** Deep and moderately deep over sand and gravel, nearly level to gently sloping, well drained, loamy soils formed in colluvium, alluvium, loess, and alluvium over sand and gravel on foot slopes and terraces: Torriorthentic Haplustolls, coarse-silty; Aridic Haplustolls, coarse-silty; Aridic Haplustolls, fine-loamy over sandy or sandy skeletal.

16

**CANYON-ROSEBUD-ROCK OUTCROP ASSOCIATION:** Shallow and moderately deep, gently sloping to very steep, excessively and well drained, loamy soils formed in weathered sandstone and areas of rock outcrop on uplands: Ustic Torriorthents, loamy, shallow; Aridic Argiustolls, fine-loamy.

17

**CARUSO-SILVER CREEK-HUMBARGER ASSOCIATION:** Deep, nearly level, moderately well and somewhat poorly drained, loamy soils and silty saline-alkali soils formed in alluvium on bottomlands and terraces: Fluvaquentic Haplustolls, fine-loamy; Typic Natraquolls, fine; Cumulic Haplustolls, fine-loamy.

20

**COLBY-CANYON ASSOCIATION:** Deep and shallow, gently sloping to very steep, somewhat excessively and excessively drained, silty soils formed in loess and loamy soils formed in weathered sandstone on uplands: Ustic Torriorthents, fine-silty; Ustic Torriorthents, loamy, shallow.

30

**DIX-ALTVAN ASSOCIATION:** Shallow and moderately deep over gravelly sand, nearly level to steep, well and excessively drained loamy soils formed in sandy and gravelly sediments and loamy sediments over sand and gravel on uplands and terraces: Torriorthentic Haplustolls, sandy-skeletal; Aridic Argiustolls, fine-loamy over sandy or sandy-skeletal.

41

**GOTHENBURG-PLATTE ASSOCIATION:** Shallow over sand and gravel, nearly level and very gently sloping, poorly and somewhat poorly drained, sandy and loamy soils formed in sandy and loamy alluvium underlain by sand and gravel on bottomlands: Typic Psammaquents; Mollic Fluvaquents, sandy.

66

**JAYEM-HAXTUN-ROSEBUD ASSOCIATION:** Deep and moderately deep, nearly level to gently sloping, well drained, loamy soils formed in eolian sand, loam, and weathered sandstone on uplands: Aridic Haplustolls, coarse-loamy; Pachic Argiustolls, fine-loamy; Aridic Argiustolls, fine-loamy.

67

**JAYEM-KEITH ASSOCIATION:** Deep, nearly level to gently sloping, well drained, loamy and silty soils formed in eolian sand, loam, and loess on uplands: Aridic Haplustolls, coarse-loamy; Aridic Argiustolls, fine-silty.

74

**KUMA-KEITH-GOSHEN ASSOCIATION:** Deep, nearly level and very gently sloping, well drained, silty soils formed in loess on uplands and in upland swales: Pachic Argiustolls, fine-silty; Aridic Argiustolls, fine-silty; Pachic Argiustolls, fine-silty.

78

**LAS-LAS ANIMAS-McCOOK ASSOCIATION:** Deep, nearly level, somewhat poorly and well drained, loamy soils formed in alluvium on bottomlands: Aquic Ustifluvents, fine-loamy; Typic Fluvaquents, coarse-loamy; Fluventic Haplustolls, coarse-silty.

80

**LAWET-WANN-LEX ASSOCIATION:** Deep and moderately deep over sand and gravel, nearly level, poorly and somewhat poorly drained, loamy soils formed in alluvium on bottomlands: Typic Calciaquolls, fine-loamy; Fluvaquentic Haplustolls, coarse-loamy; Fluvaquentic Haplaquolls, fine-loamy over sandy or sandy skeletal.

104

**OTERO-MITCHELL-BRIDGET ASSOCIATION:** Deep, nearly level to moderately steep, well drained, loamy and silty soils formed in loamy sediments, weathered siltstone and colluvium and alluvium on foot slopes and terraces: Ustic Torriorthents, coarse-loamy; Ustic Torriorthents, coarse-silty; Torriorthentic Haplustolls, coarse-silty.

110

**ROSEBUD-ALLIANCE-KUMA ASSOCIATION:** Moderately deep and deep, nearly level to gently sloping, well drained, loamy and silty soils formed in weathered sandstone and loess on uplands: Aridic Argiustolls, fine-loamy; Aridic Argiustolls, fine-silty; Pachic Argiustolls, fine-silty.

128

**ULYSSES-KEITH-COLBY ASSOCIATION:** Deep, very gently sloping to steep, well and somewhat excessively drained, silty soils formed in loess on uplands: Aridic Haplustolls, fine-silty; Aridic Argiustolls, fine-silty; Ustic Torriorthents, fine-silty.

133

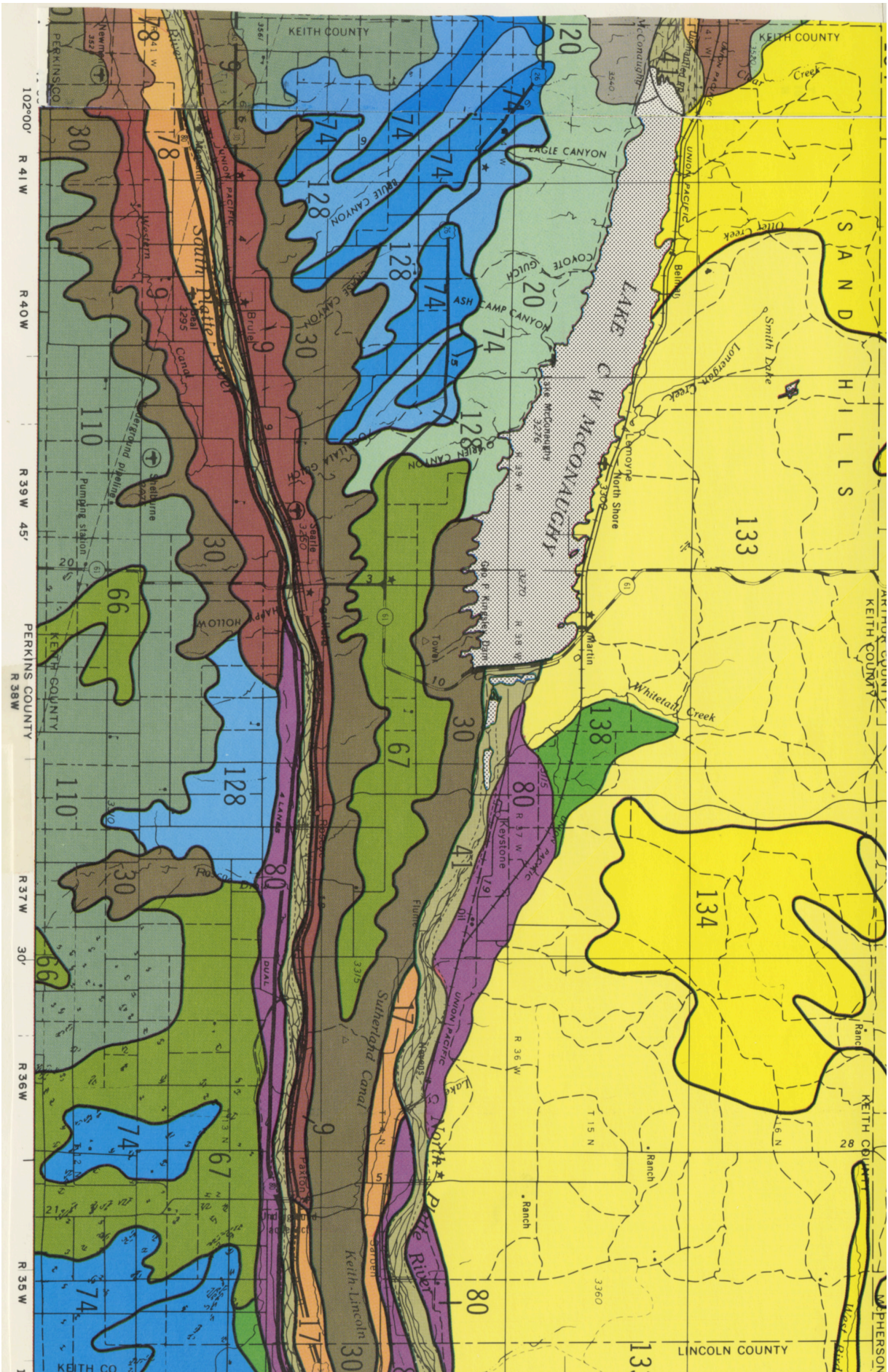
**VALENTINE ASSOCIATION:** Deep, gently sloping to very steep, excessively drained, sandy soils formed in eolian sand on uplands: Typic Ustipsamments.

134

**VALENTINE ASSOCIATION, Hilly and Rolling:** Deep, strongly sloping to very steep, excessively drained, sandy soils formed in eolian sand on uplands: Typic Ustipsamments.

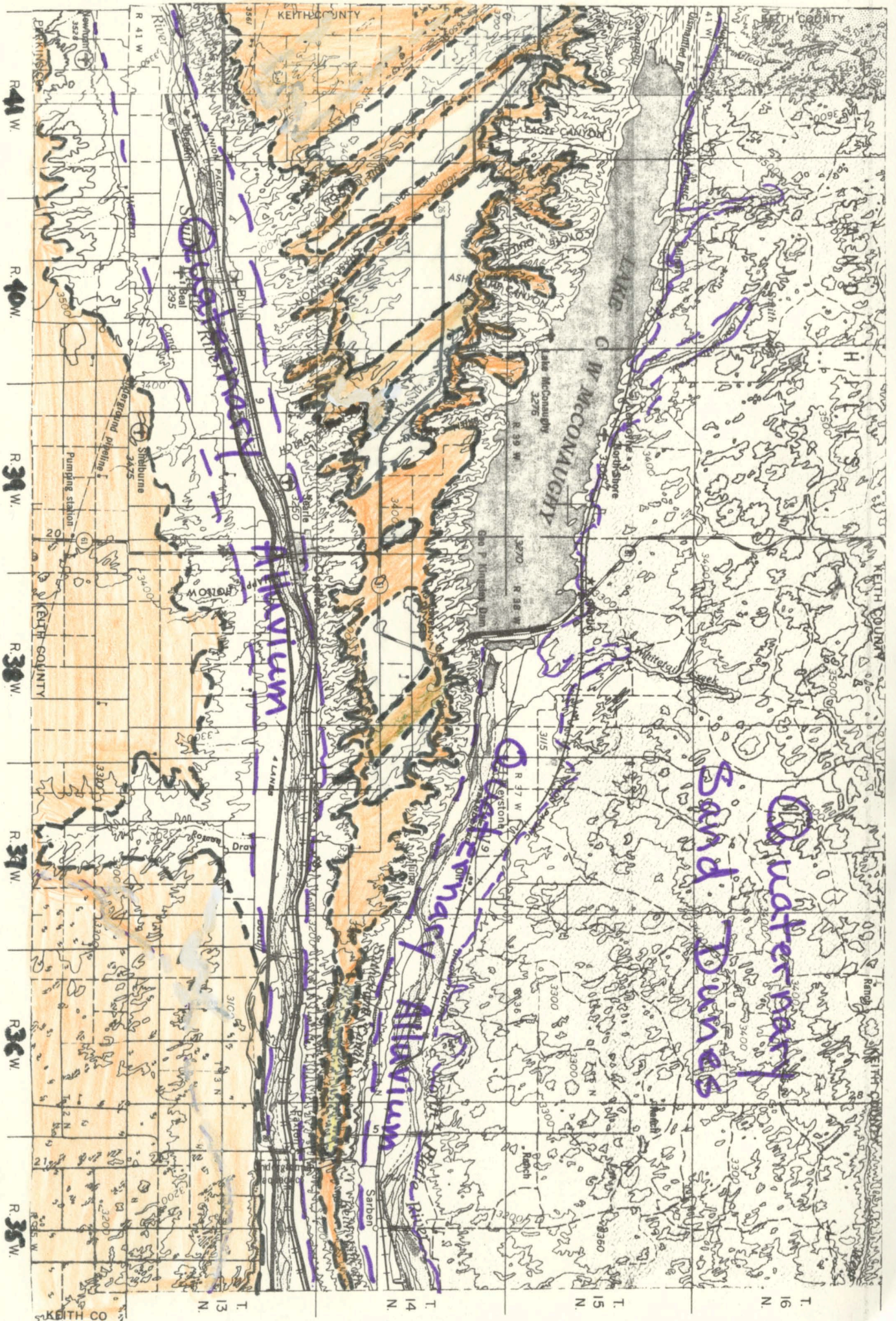
138

**VALENTINE-HERSH ASSOCIATION:** Deep, nearly level to moderately steep, excessively and well drained, sandy and loamy soils formed in eolian sand and loam on uplands: Typic Ustipsamments; Typic Ustorthents, coarse-loamy.



Generalized Soils Map - Keith County





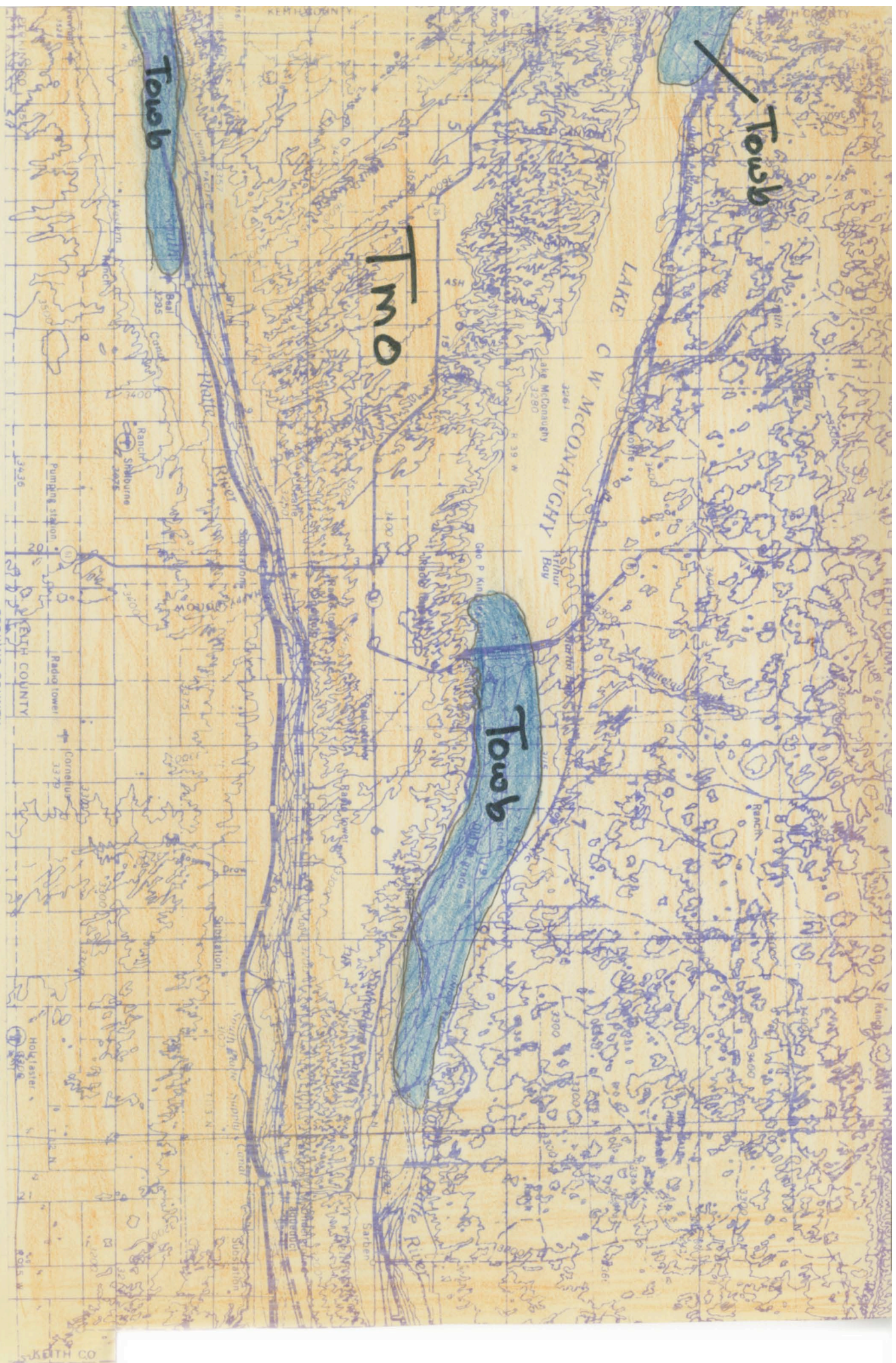
Approximate Loess Thicknesses



Scale



R.F. Diffendal, Jr.  
25 March 1985



Bedrock Geologic Map  
of Keith County

**Tmo**

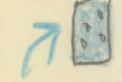
Ogallala Group - Ash Hollow Fm.

Unconformity

White River Group - Brule Fm. - Whitney Member

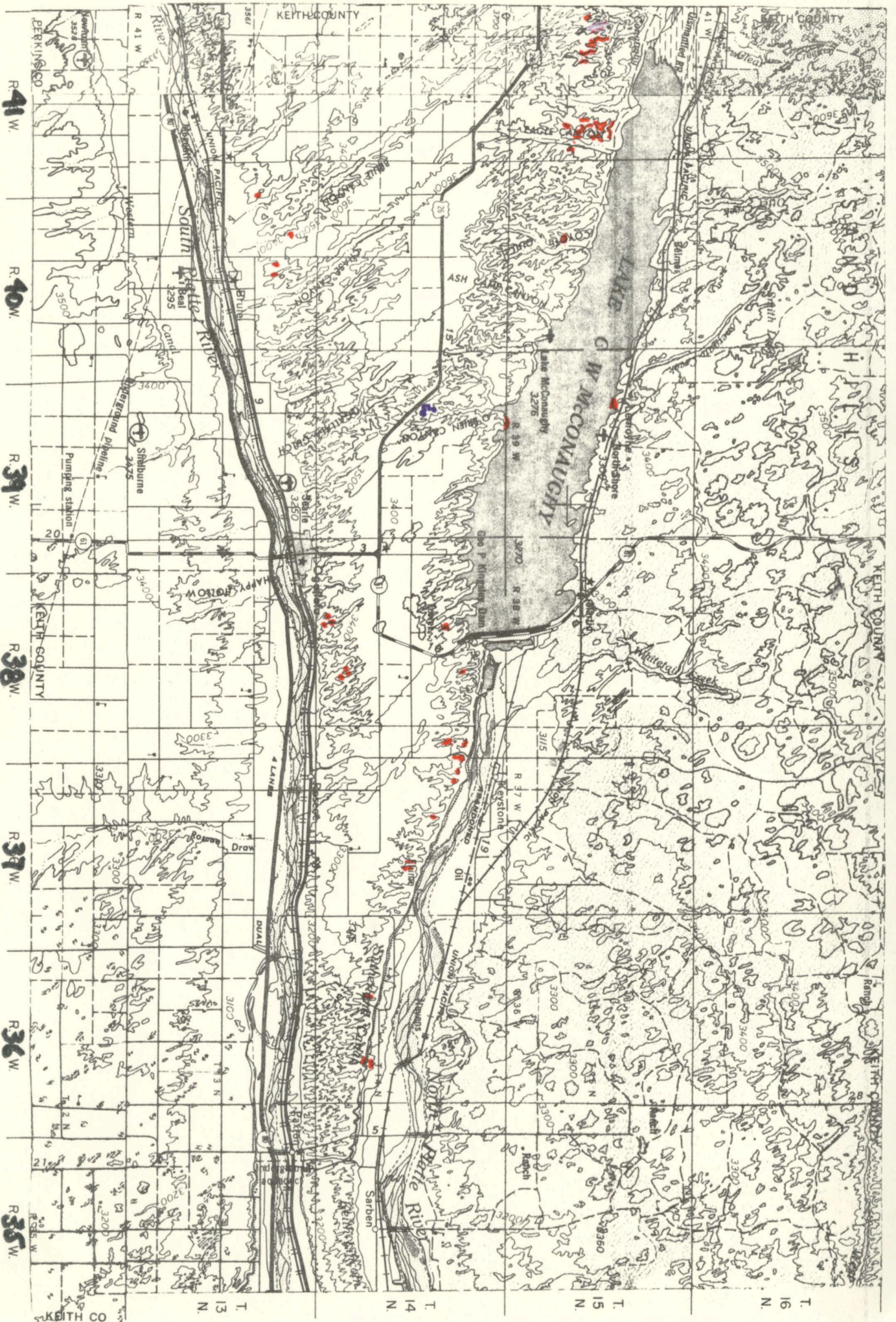
Miocene Ser.  
Oligocene Ser.

**Towb**

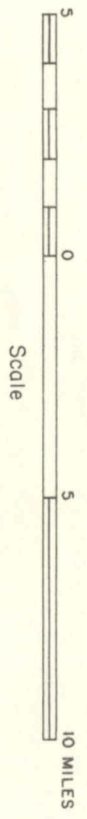


Use coarse stipple pattern.

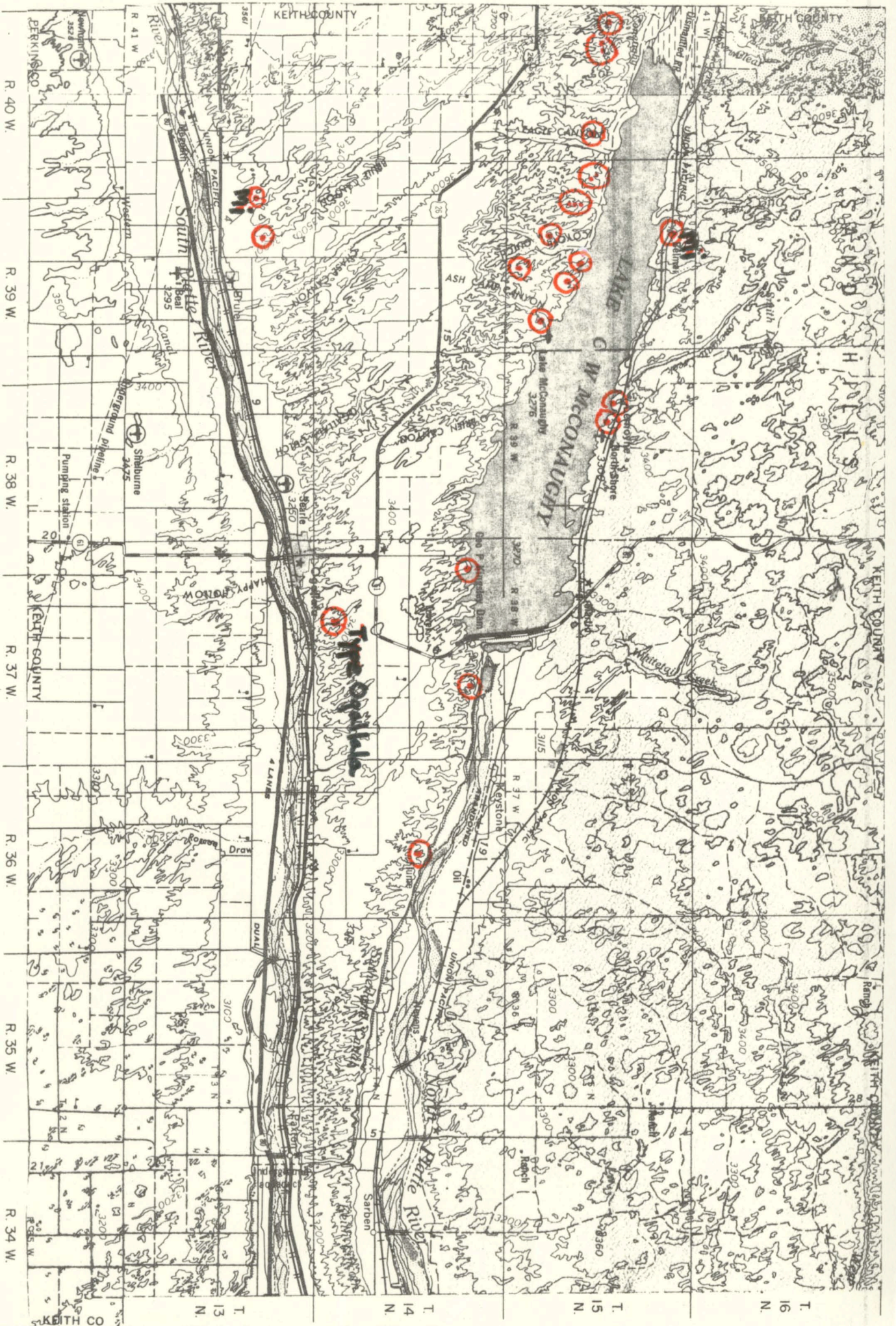
R.F. Diefendal, Jr 3/25/85



Volcanic Ash Localities ~ = Ogalala Ash ~ = Quaternary Ash



R.F. Diffendal, Jr.  
25 March 1985



Dqllata Faunal Sites



Macrofauna

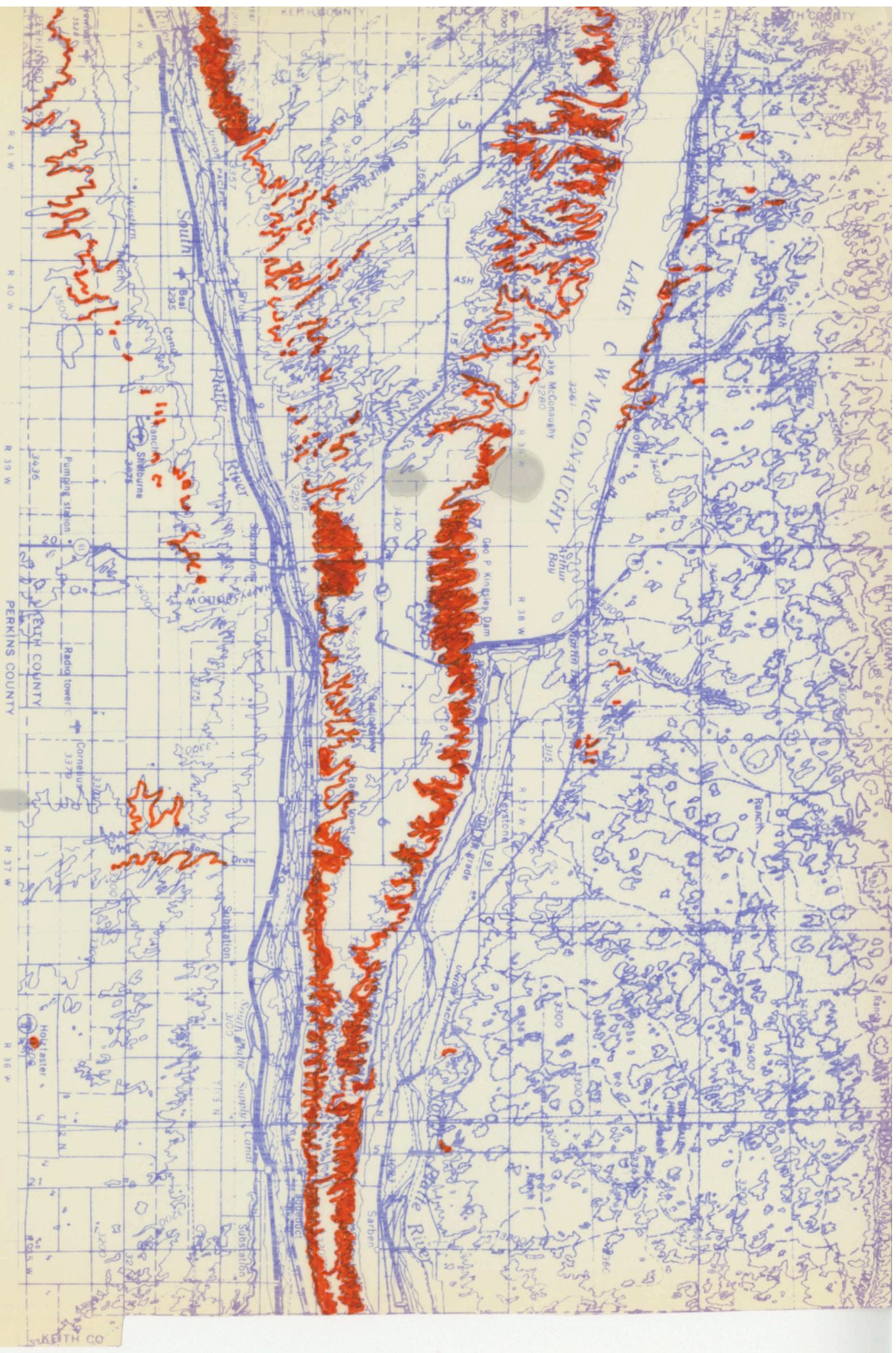



Microfauna

Scale





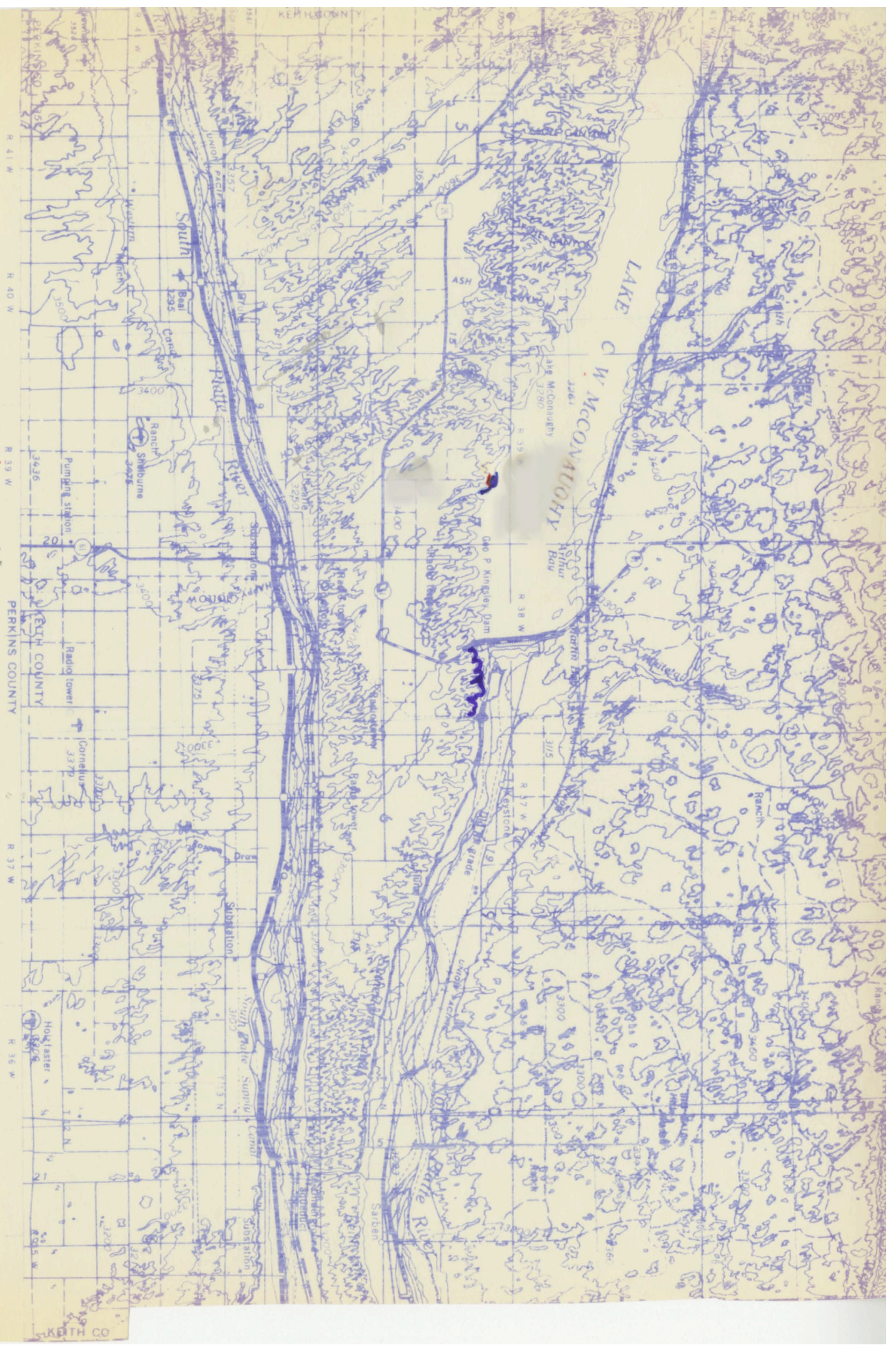
R. F. Duffendal, Jr.  
28 March 1985



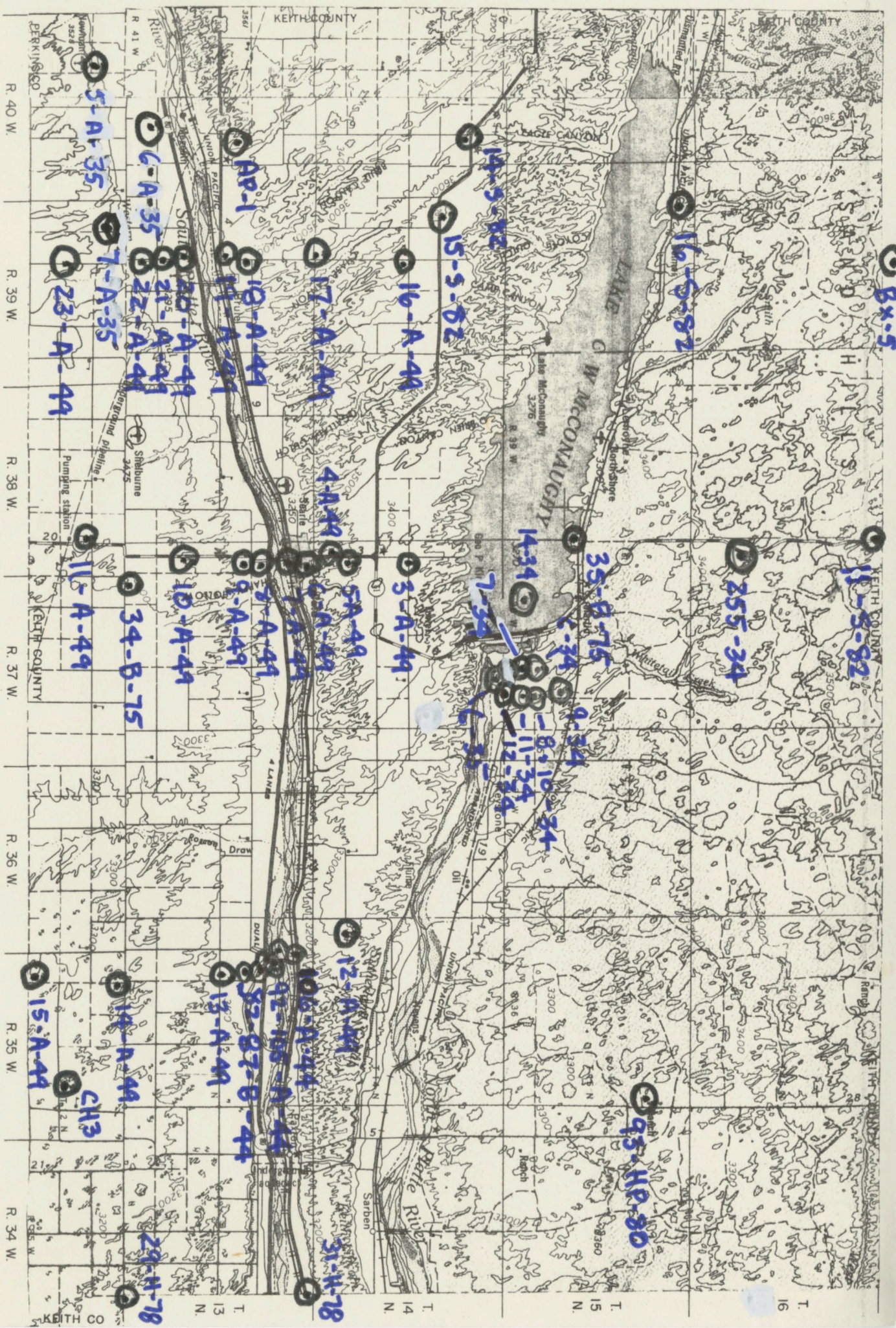
 Outcrop - Ogallala Group  
 Ash Hollow Formation (Includes Pierre Sand and Gravel)

R. F. Diffendal, Jr 3/25/88

 **Outcrop - Arklese Group, Goring Formation**  
 **Outcrop - White River Group**  
 Brule Formation  
 Whitney Member



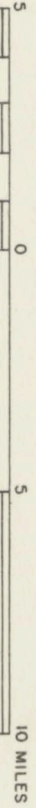
R.F. Dffendal, Jr 3/25/85



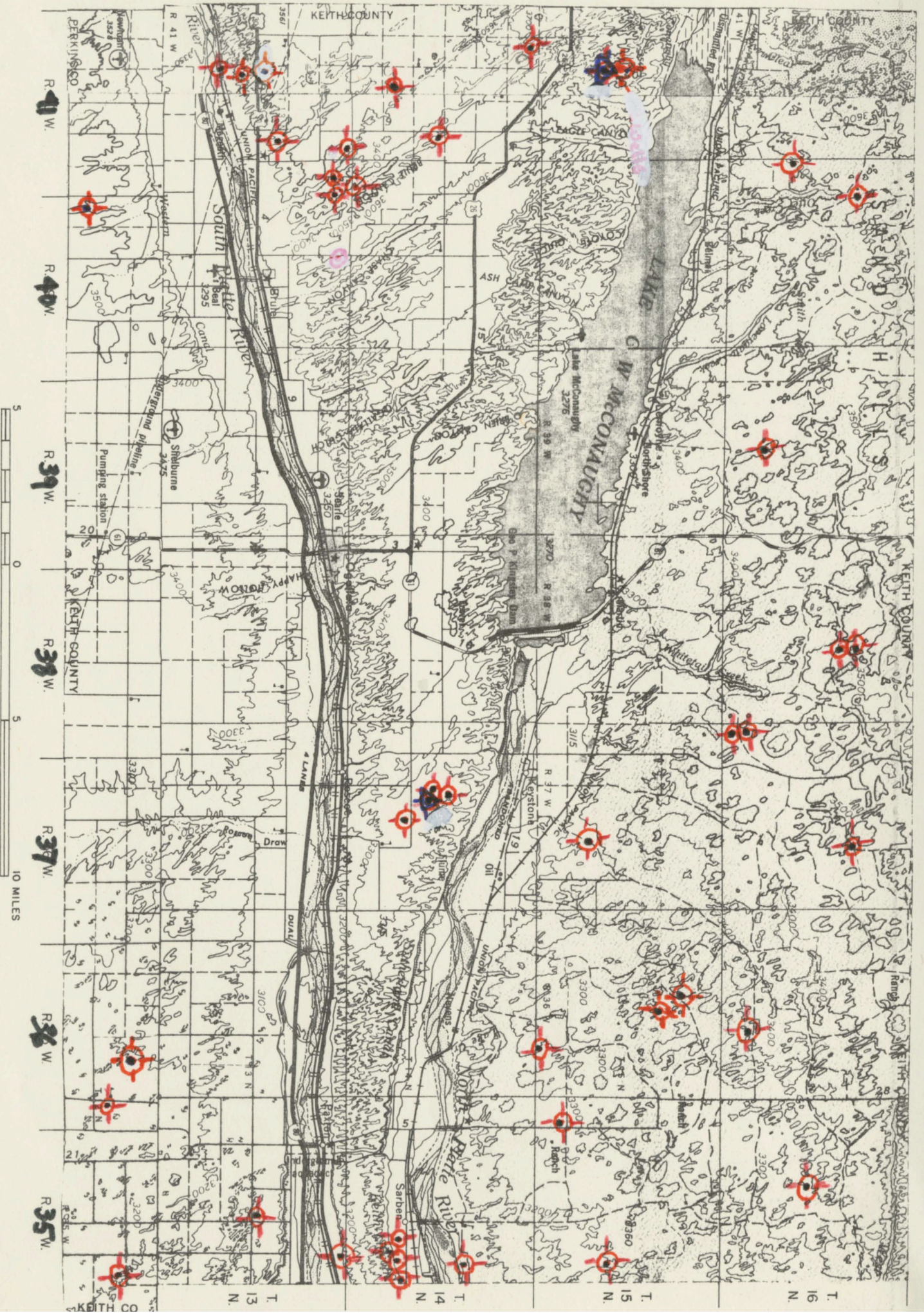
⊙ = Test Hole




3 Oil Tests with Samples and E-logs. Included



Scale



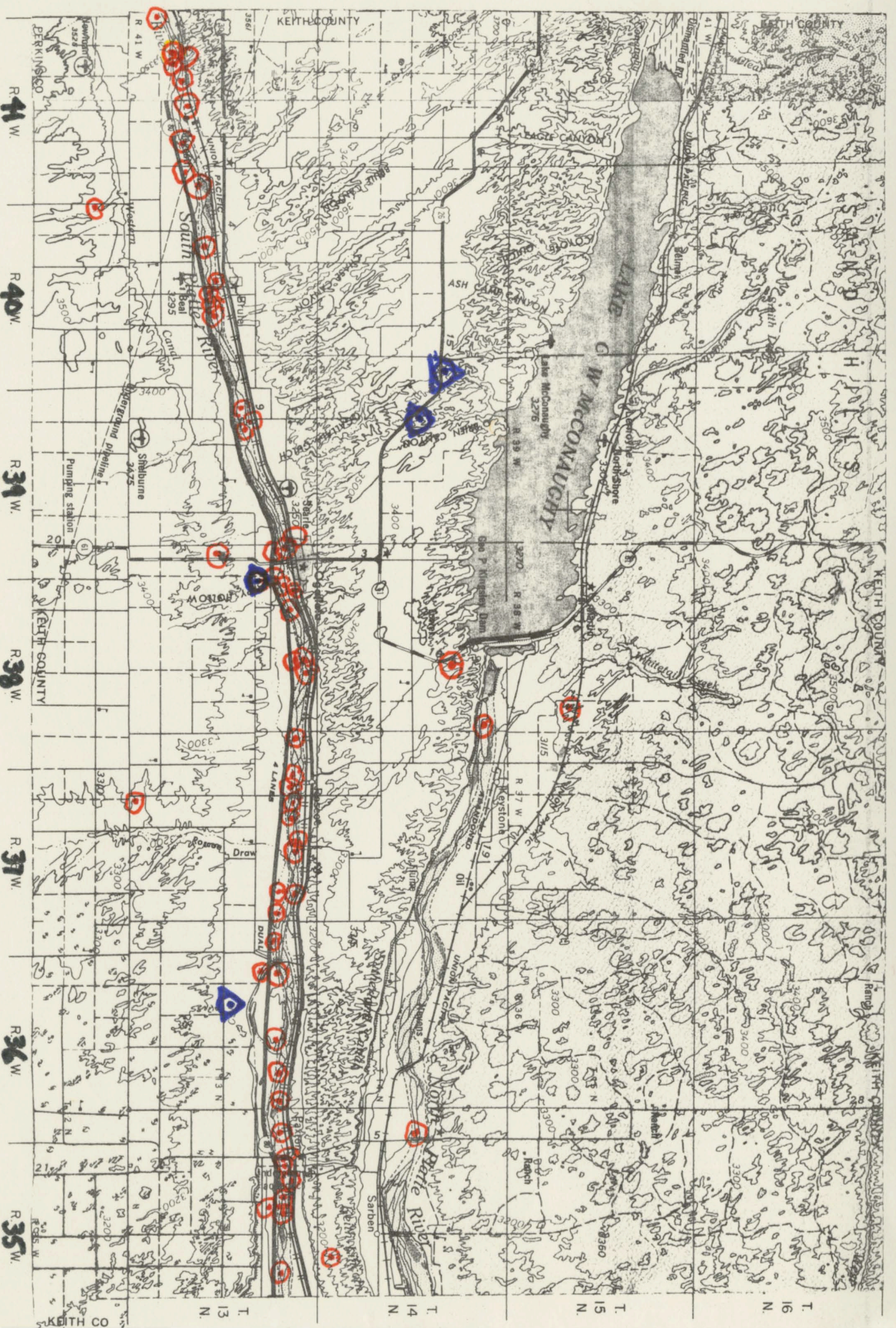
R.F. Diffendal, Jr  
25 March 1985



 = Oil and/or Gas Test (Dry Hole)  
 = Gas  
 = Water  
 R.F. Duffendal, Jr  
 25 March 1985

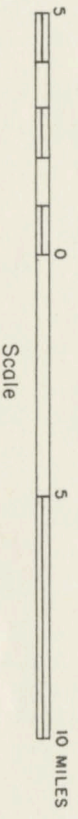
 \* SI  






Keith County  
Mineral Resource Localities

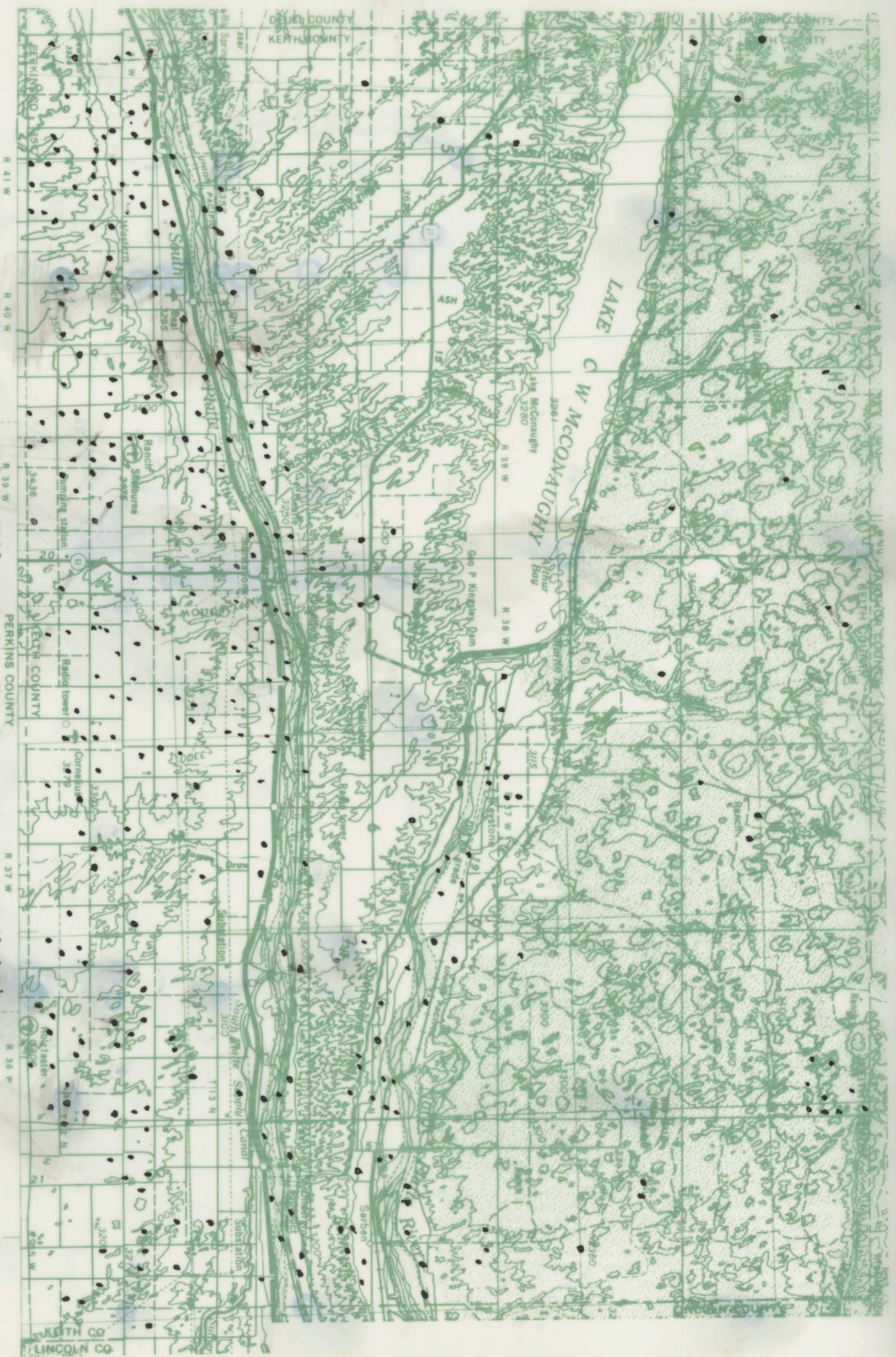
○ = Sand and Gravel  
△ = Silt



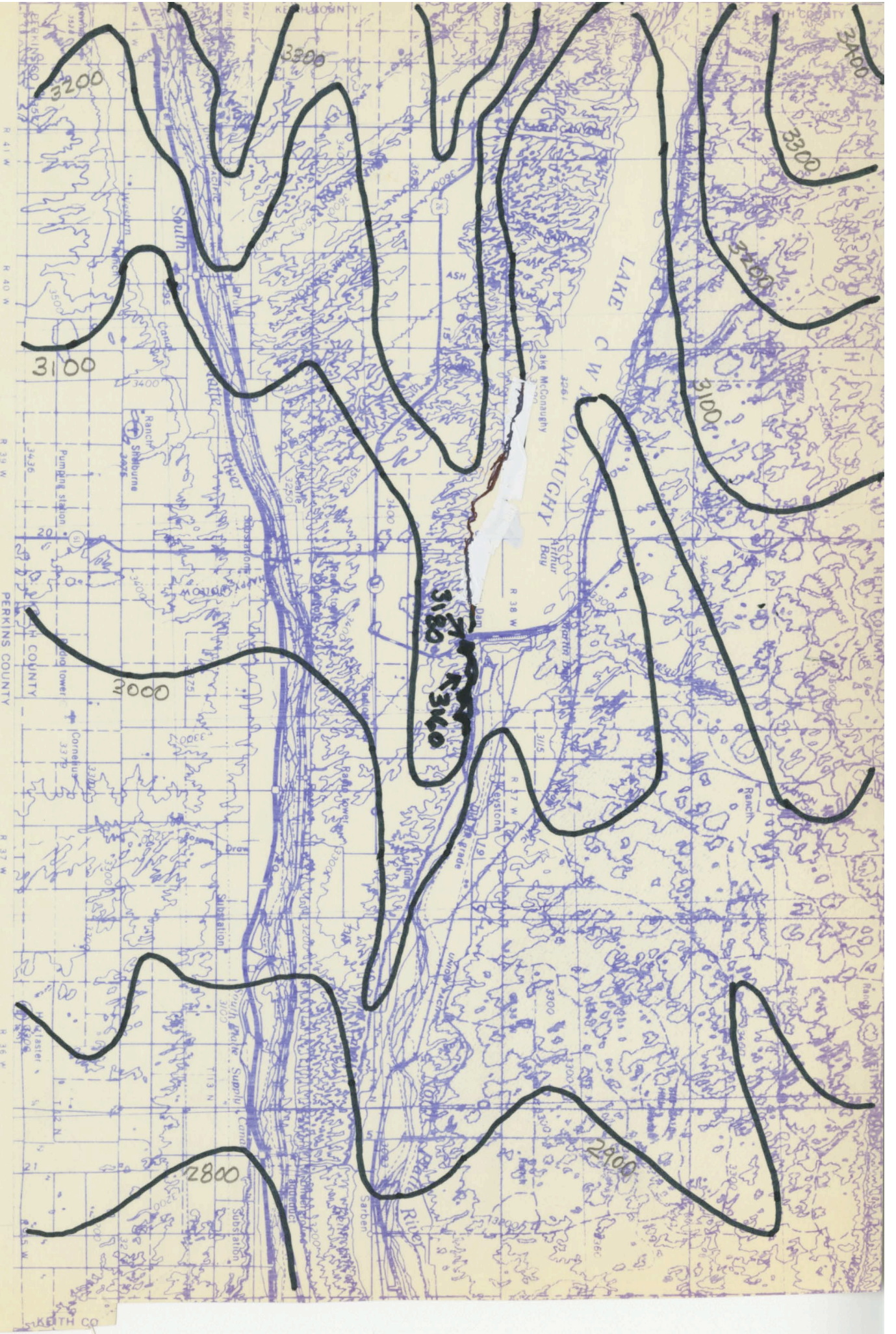
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28 March 1985

KEITH COUNTY REGISTERED IRRIGATION WELLS

• = Well site

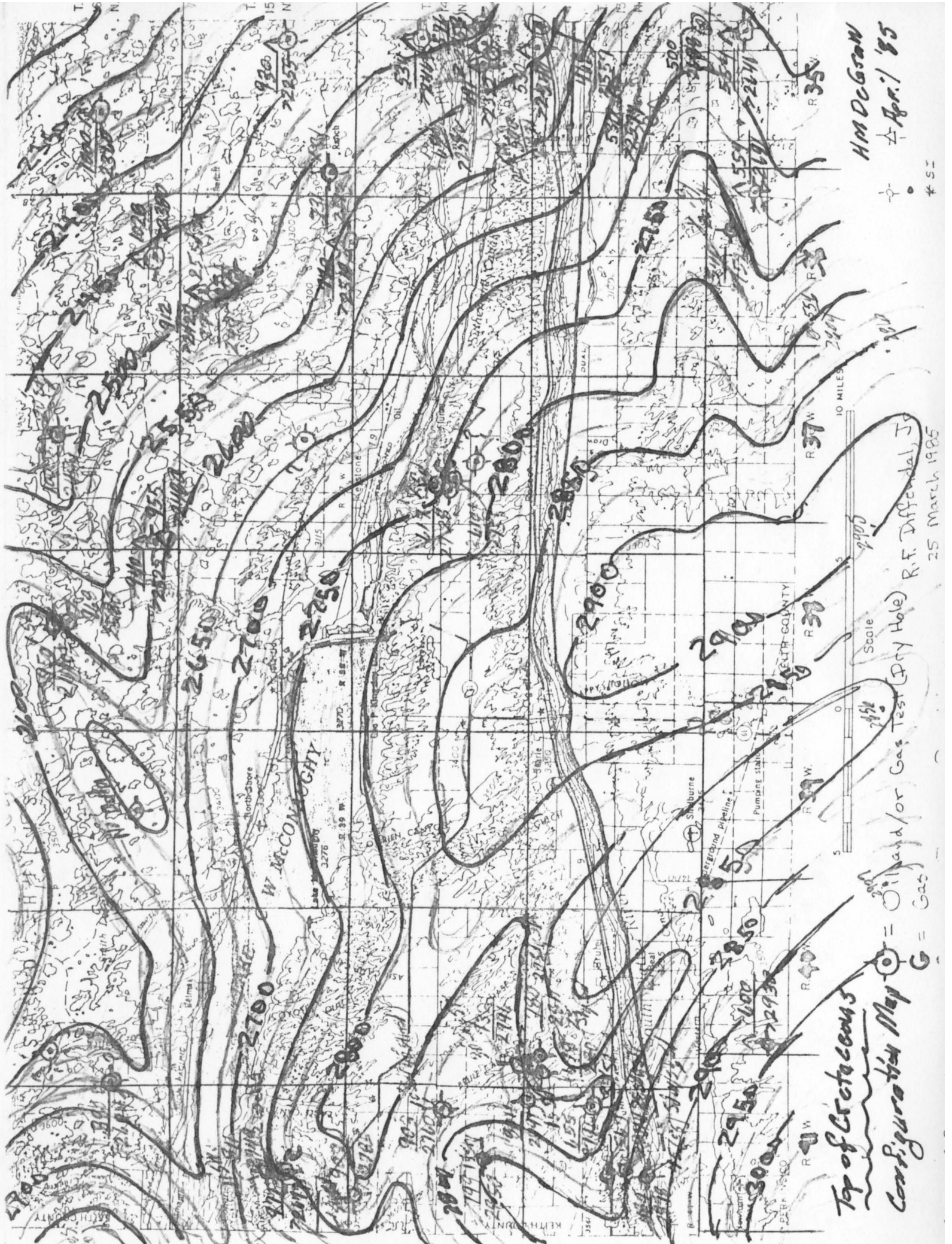






Configuration - Top of the Pre-Ogallala (Brule Fm.) White River Group  
 Contour Interval = 100'

R.F. Diffendel, Jr. 3/25/85



HM DeGroot  
 Apr. 1 '85

# 52

10 MILES  
 Scale

Oil and/or Gas Test (Dry Hole) = = Oil  
 Gas Test (Dry Hole) = = Gas

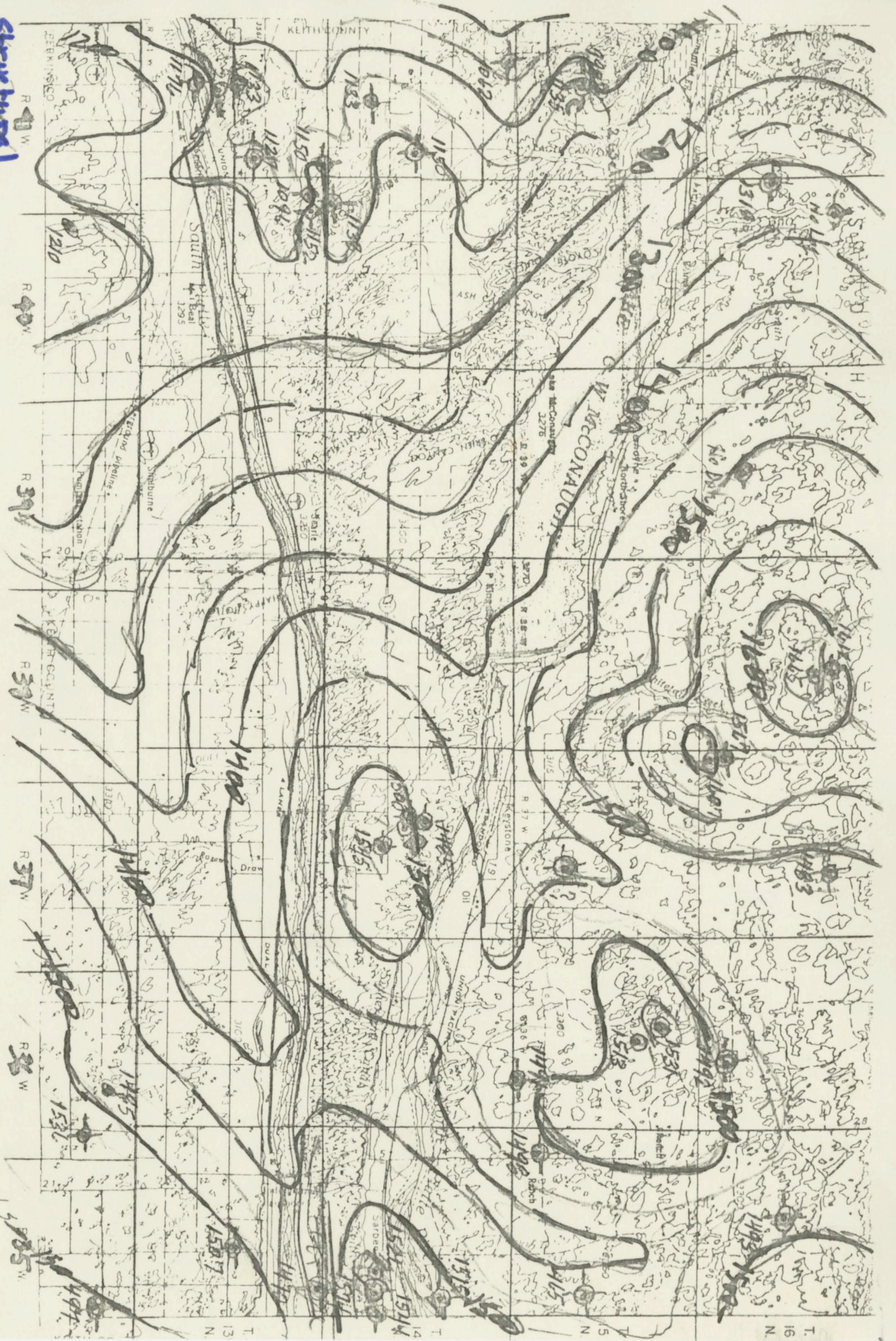
Top of Cretaceous  
 Configuration Map

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 25 March 1985

**Structural**

**Configuration**

**Top of Niobrara Fm.**



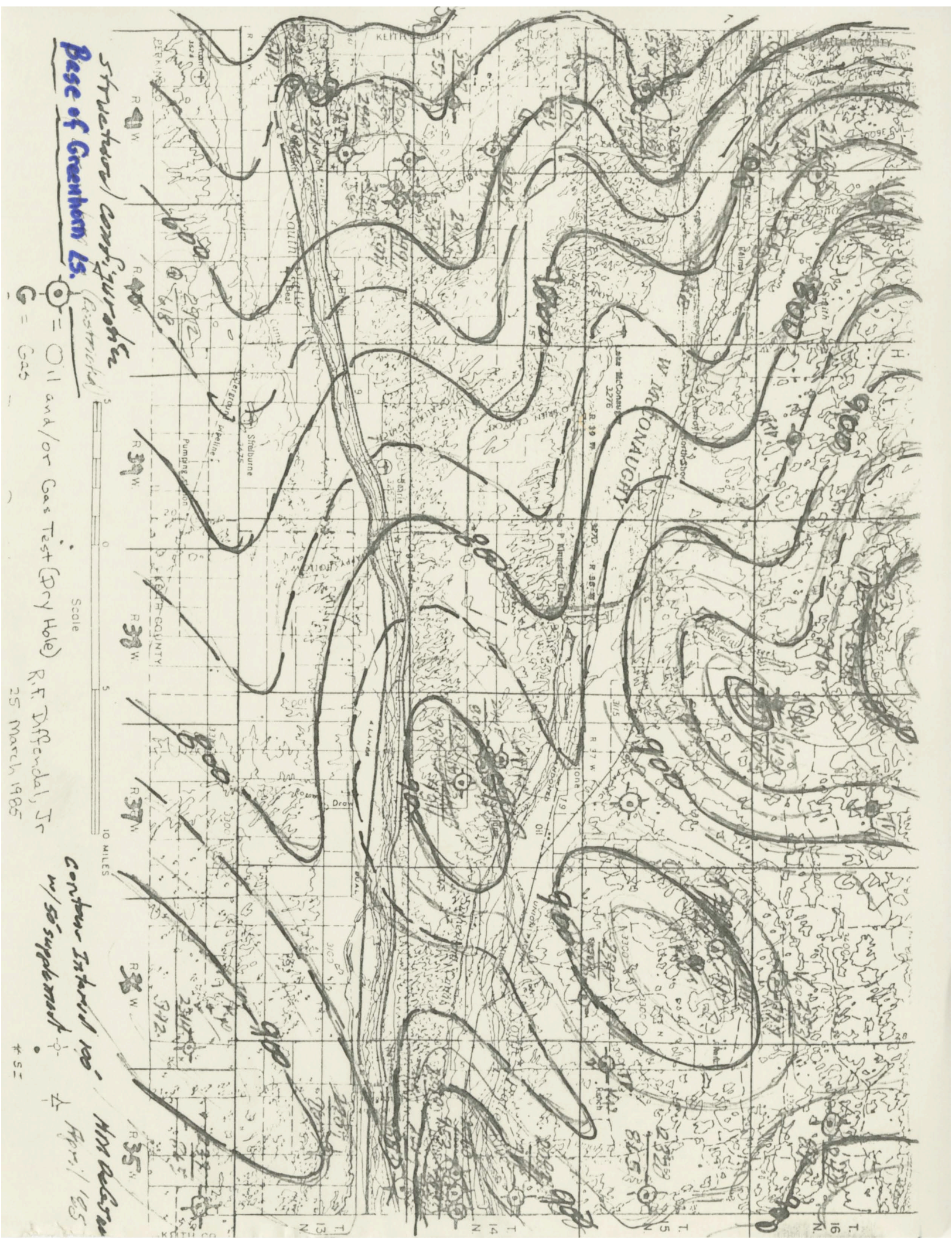
= Oil and/or Gas Test (Dry Hole)  
 = Gas

Scale  
 0 5 10 MILES

R.F. Duffendal, Jr  
 25 March 1985

Contour Interval 100  
 w/ super marks 50  
 contour

\* S. April '85  
 W.M. DaCosta



*Structure Configuration*  
*Base of Greenhorn LS.*

○ = Oil and/or Gas Test (Dry Hole)  
 G = Gas

Scale  
 0 5 10 MILES

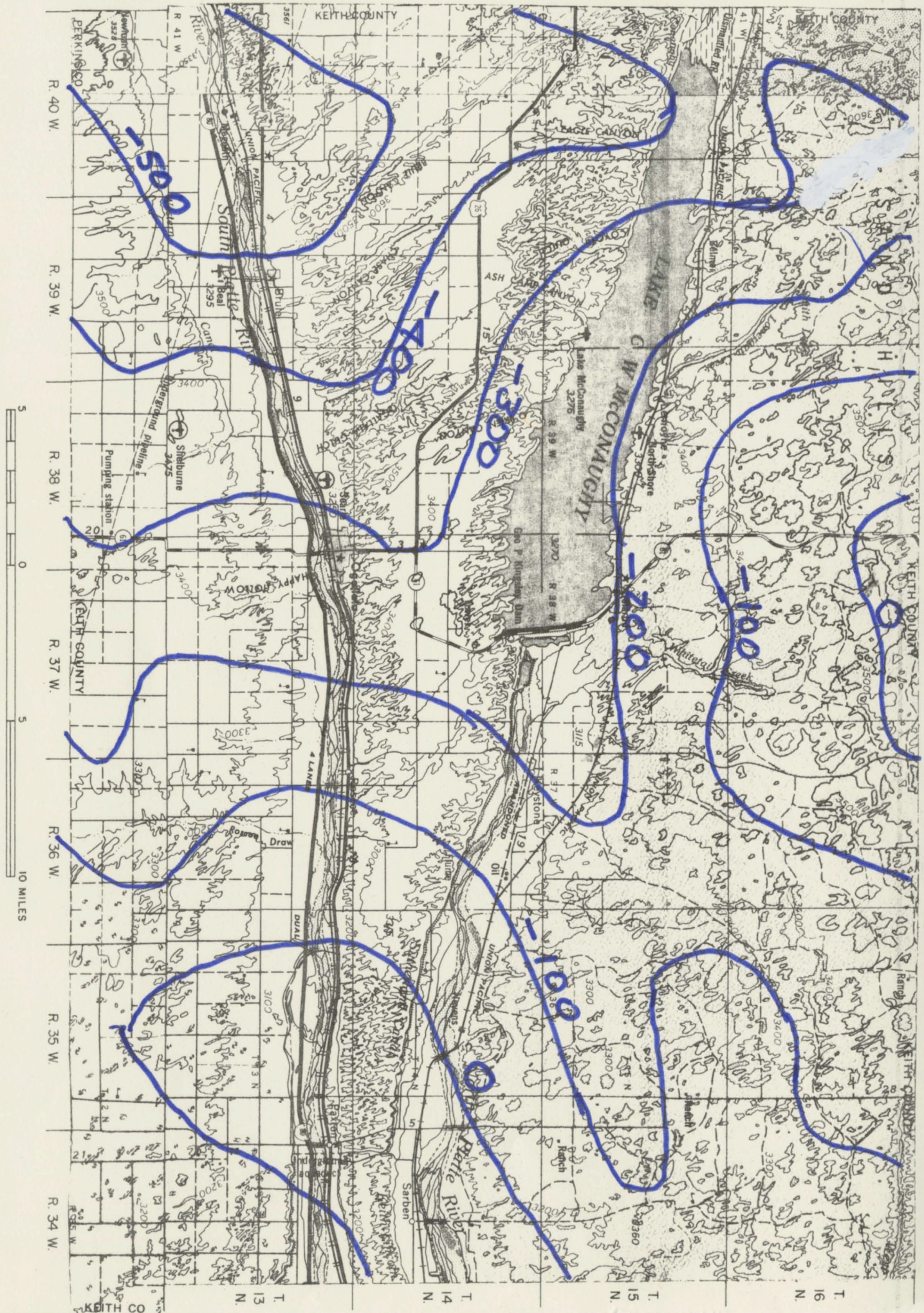
R.F. Duffendal, Jr  
 25 March 1985

*Confour Interval 100  
 w/ 50' supplemant*

*HM Adams  
 April 1985*

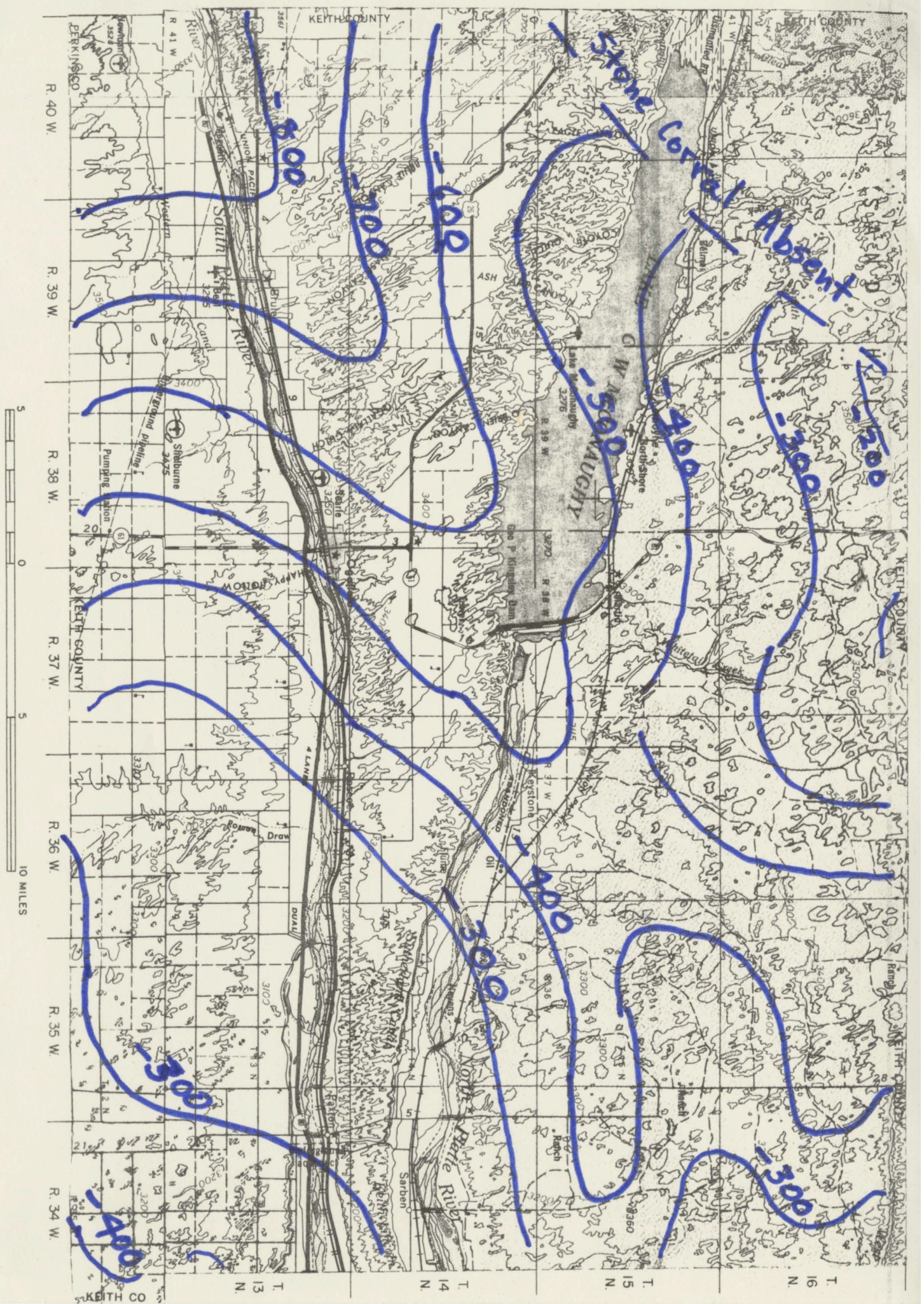
\* 5 \*

Keith County - Configuration of the Top of the Permian system - After Burchett (1981)  
Permian Surface Referred to Mean Sea Level

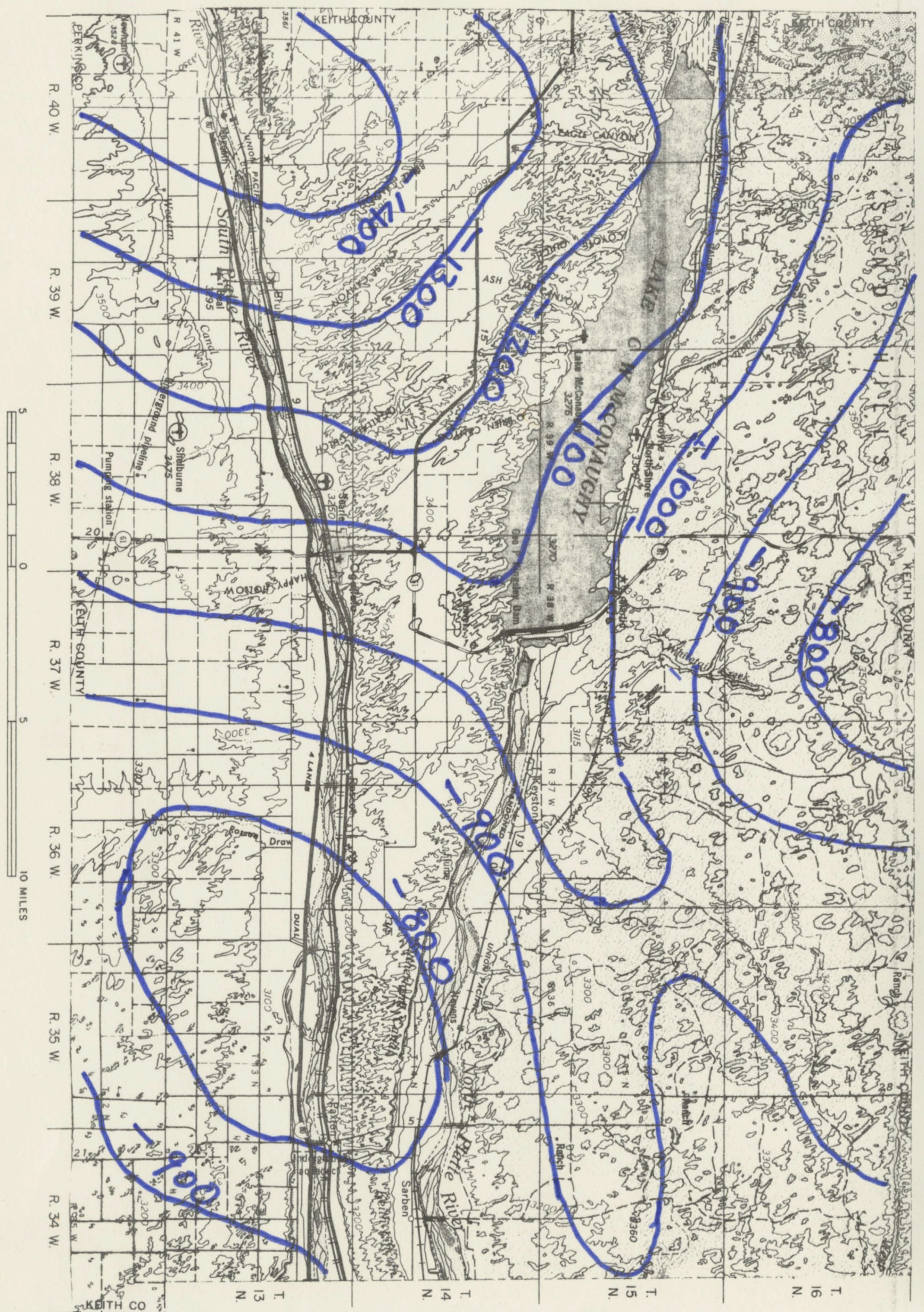




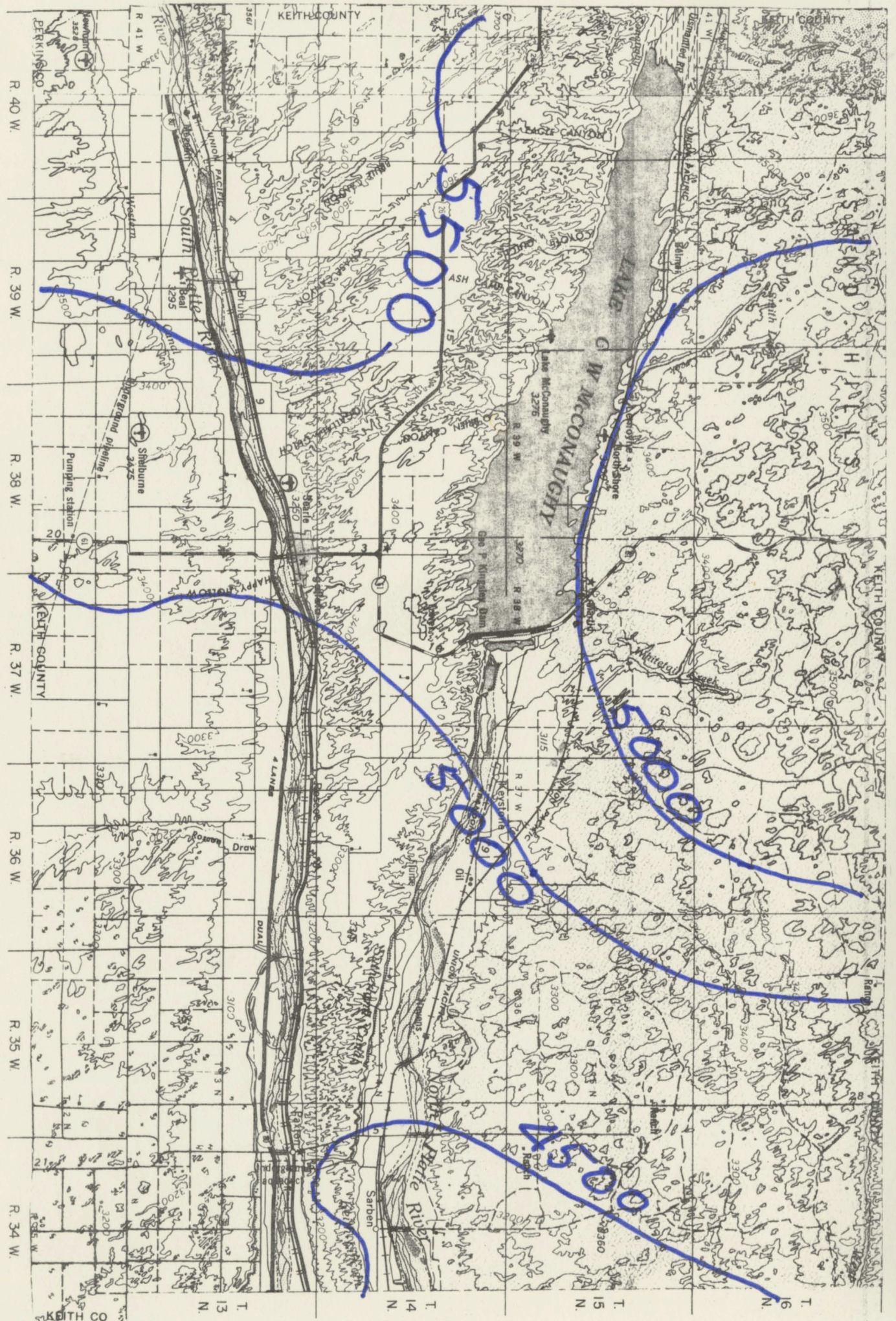
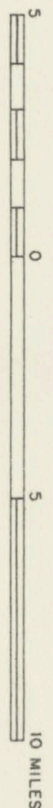
Keith County - Structure Contour Map - Top of Stone Corral (Permian) - After Burchett (1981)  
 Stone Corral Surface Referred to Mean Sea Level



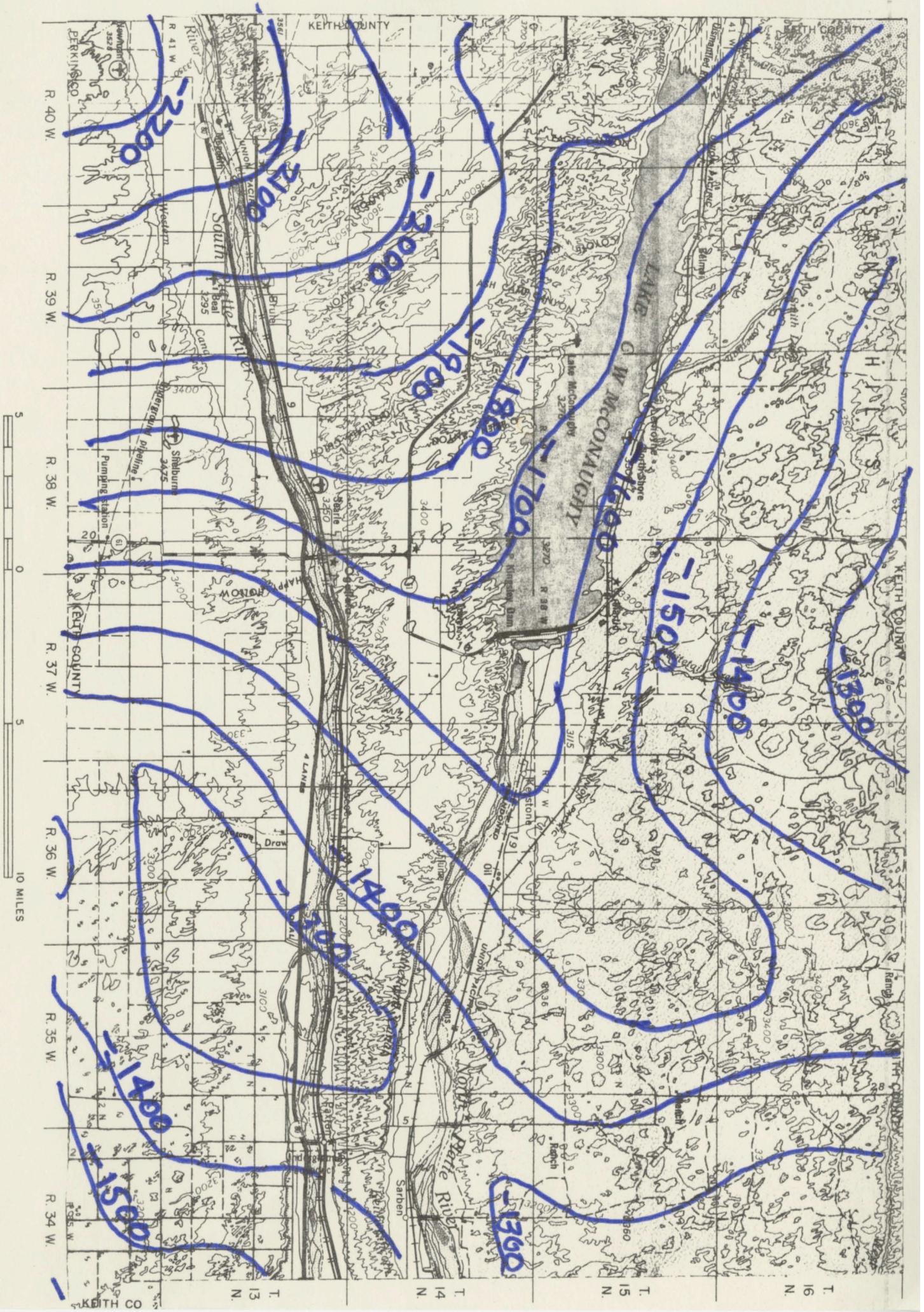
Keith County - Structural Contour Map - Top of the Pennsylvanian System -  
After Burchett (1981) - Surface Referred to Mean Sea Level



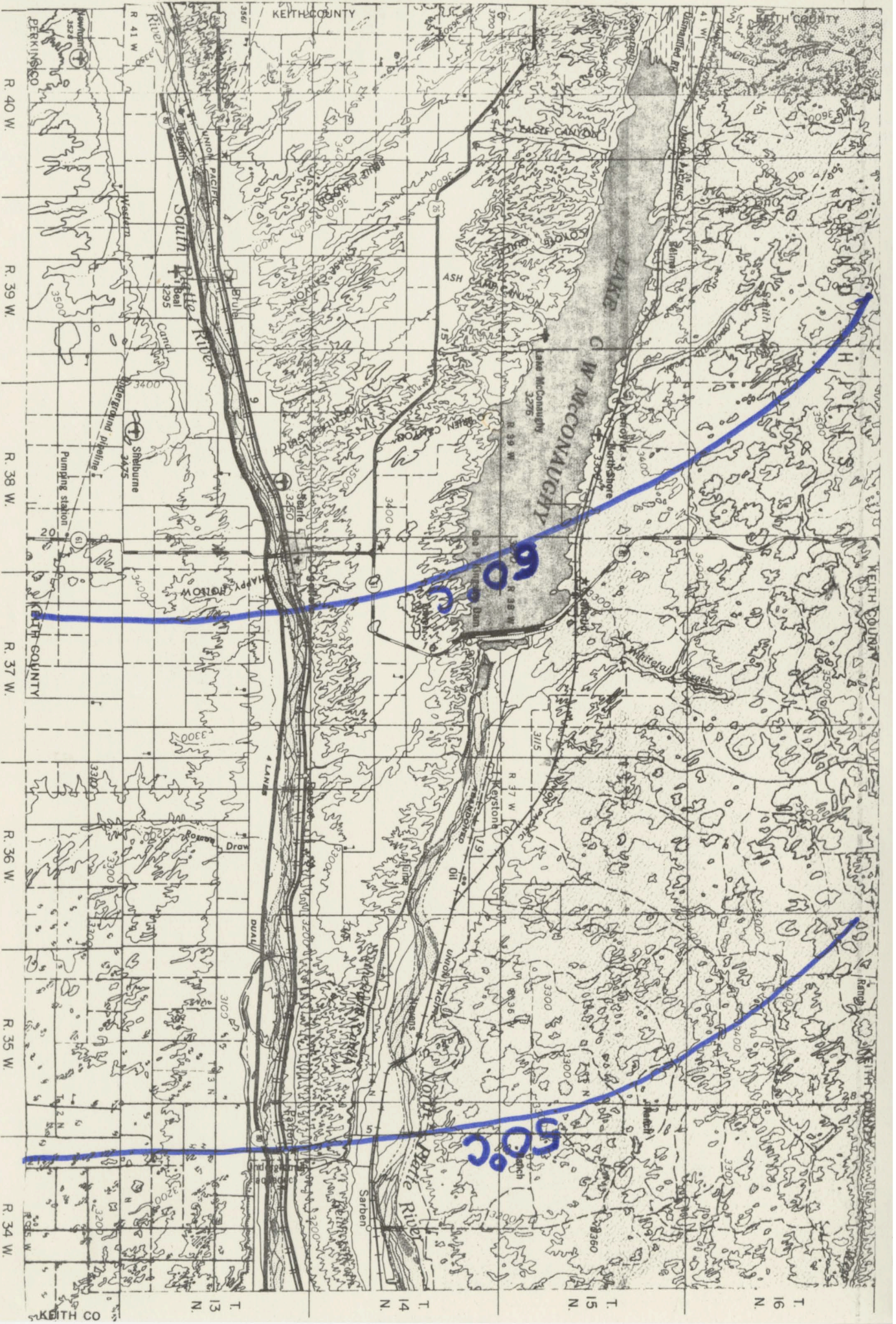
Keith County - Depth to Precambrian Surface - Contour Interval = 500'

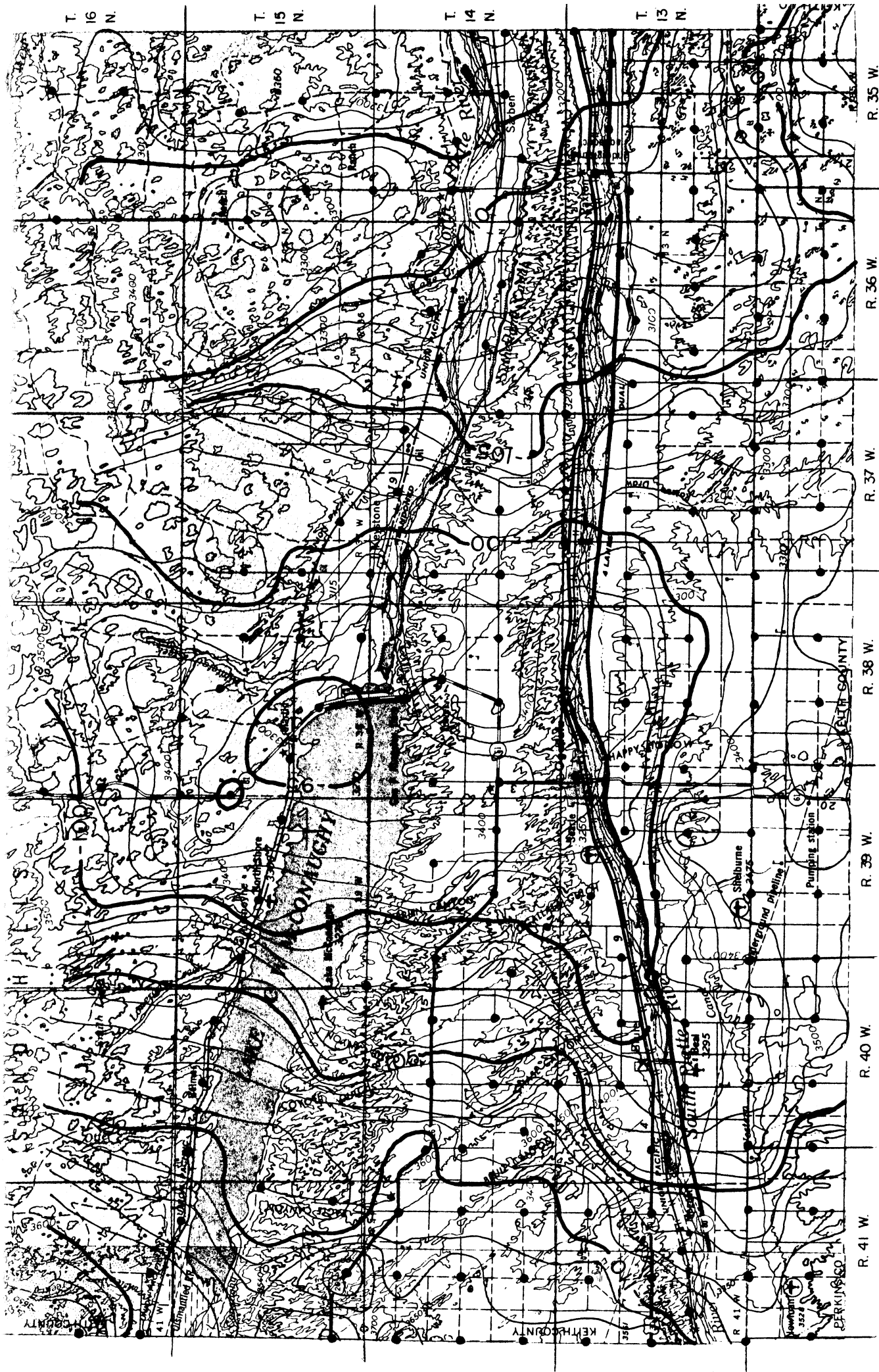


Keith County - Configuration of the Precambrian Surface - After Burchett and Carlson (1981)  
Precambrian Surface Referred to Mean Sea Level



Geothermal Map of Keith County - Projected Temperature Contours on Top of Dakota Group (Cretaceous)  
GEOTHERMAL





R. R. Burchett  
25 March 1985

Bouguer Gravity Anomaly Map of Keith County