

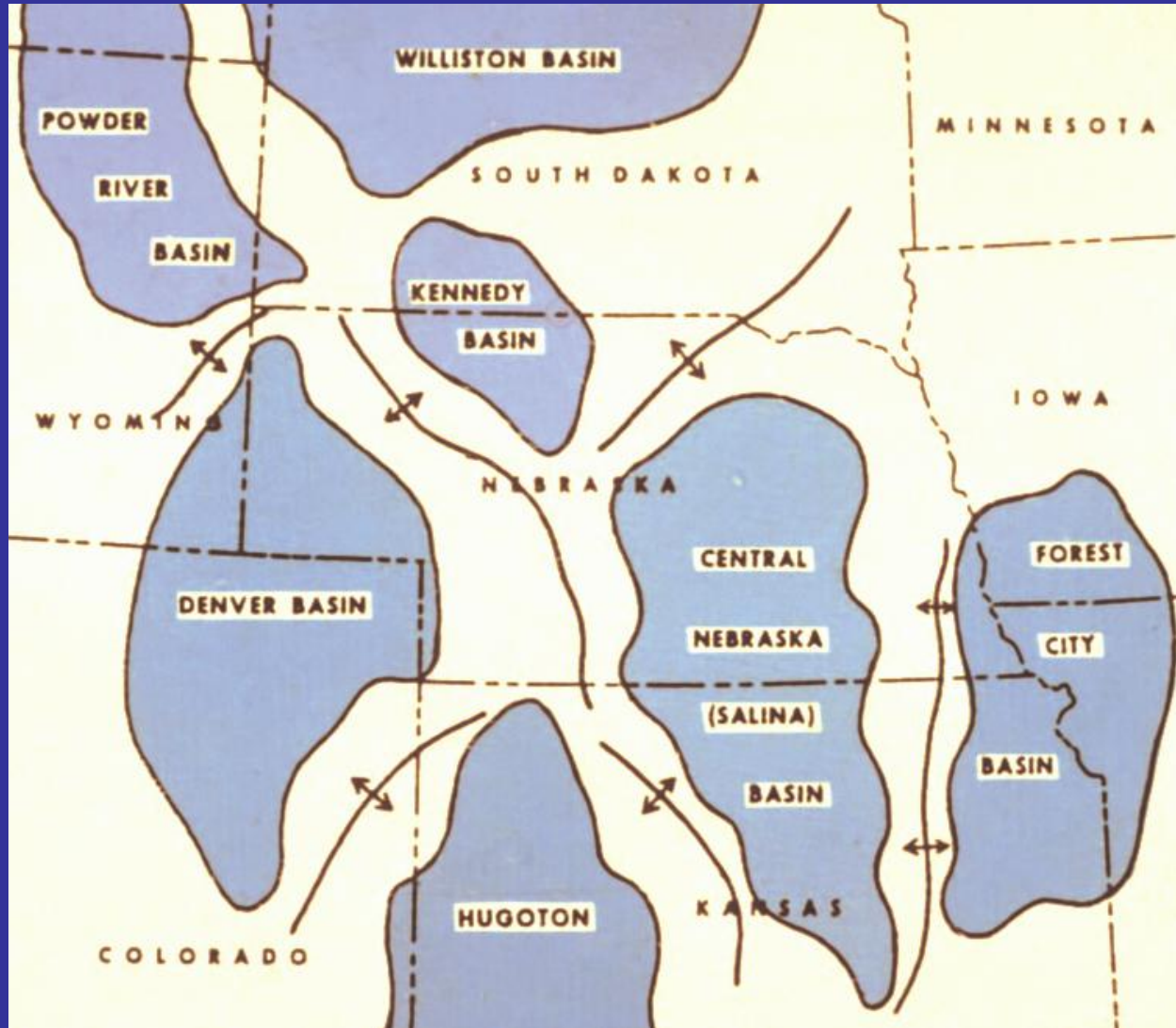
**Renewed Interest
in the
Alliance Salt Basin
Northern Panhandle of Nebraska**

William H. Sydow

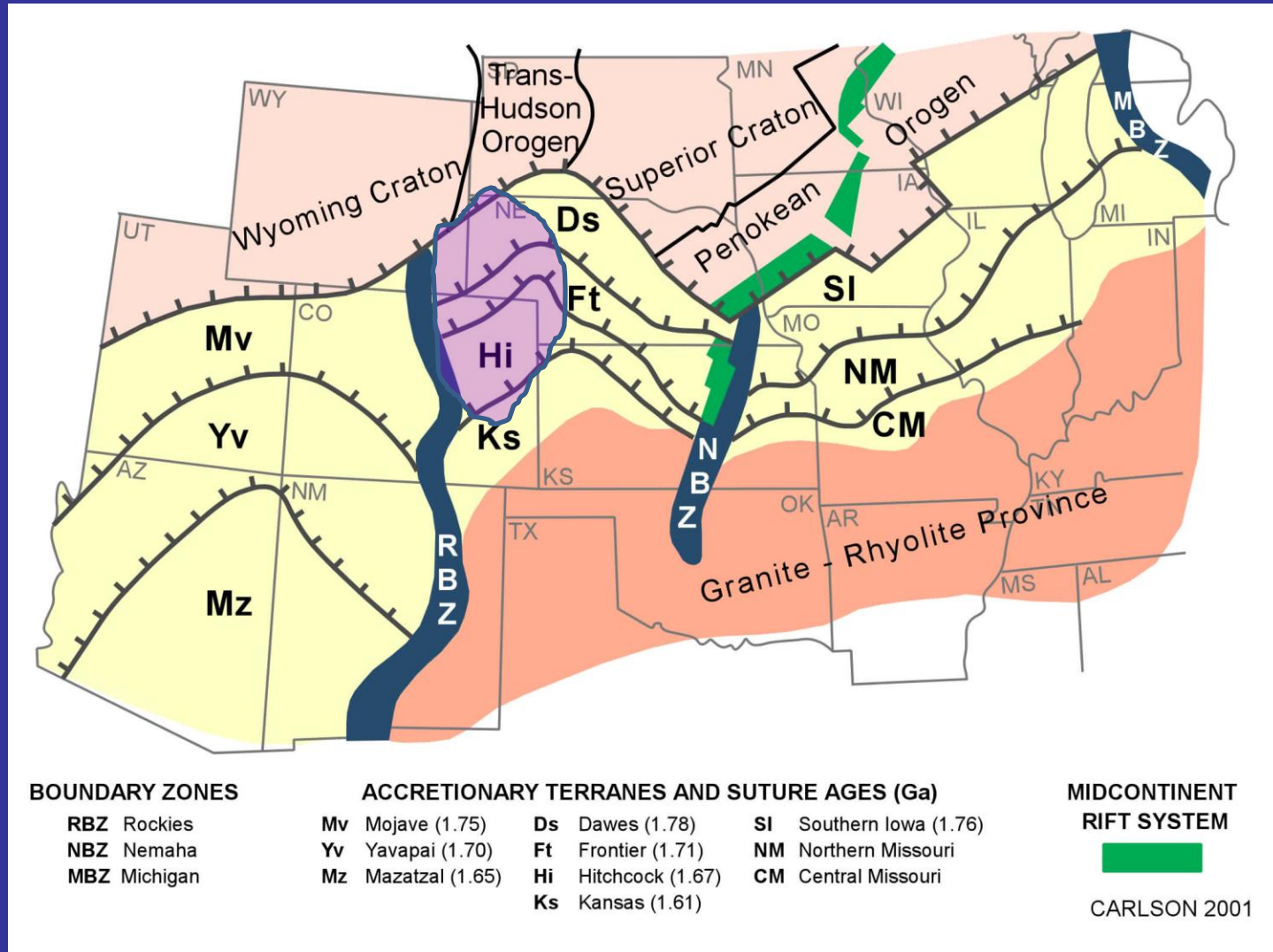
Director

Nebraska Oil and Gas Conservation Commission

Regional Structural Features



Regional Precambrian Terranes



Regional Structural Framework

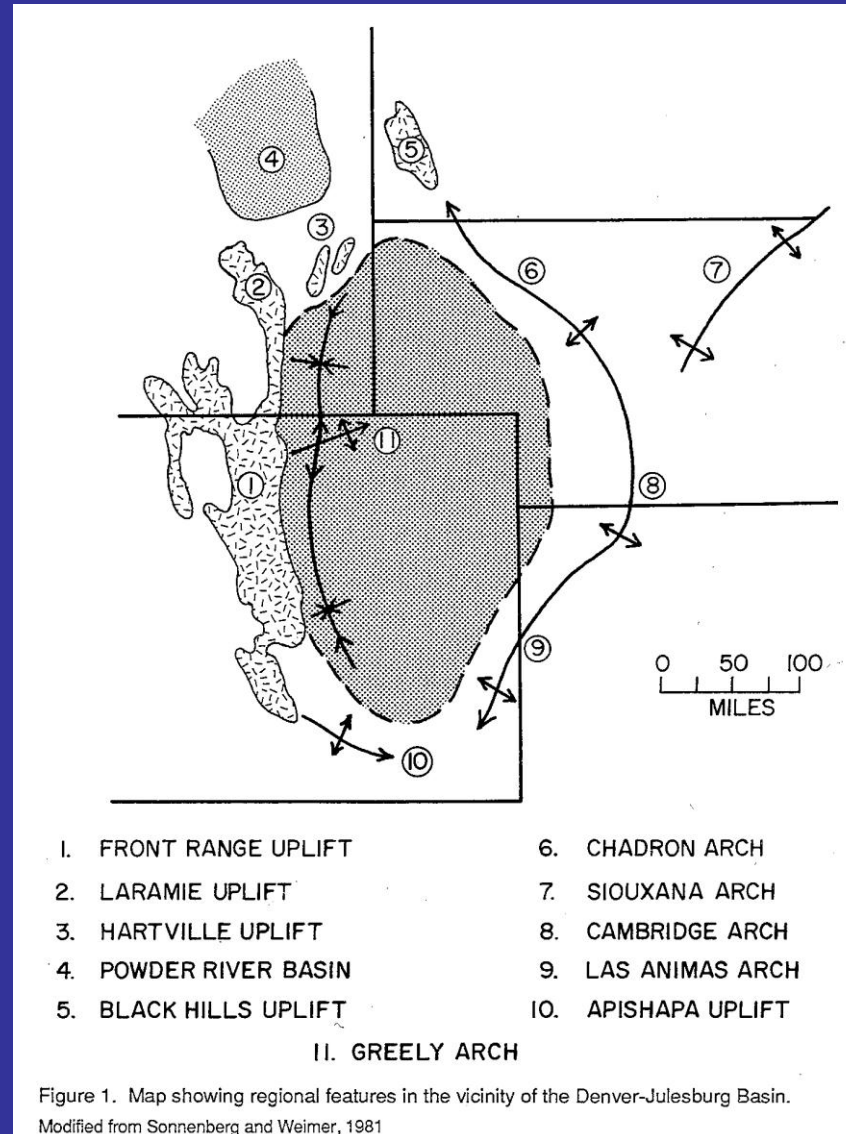
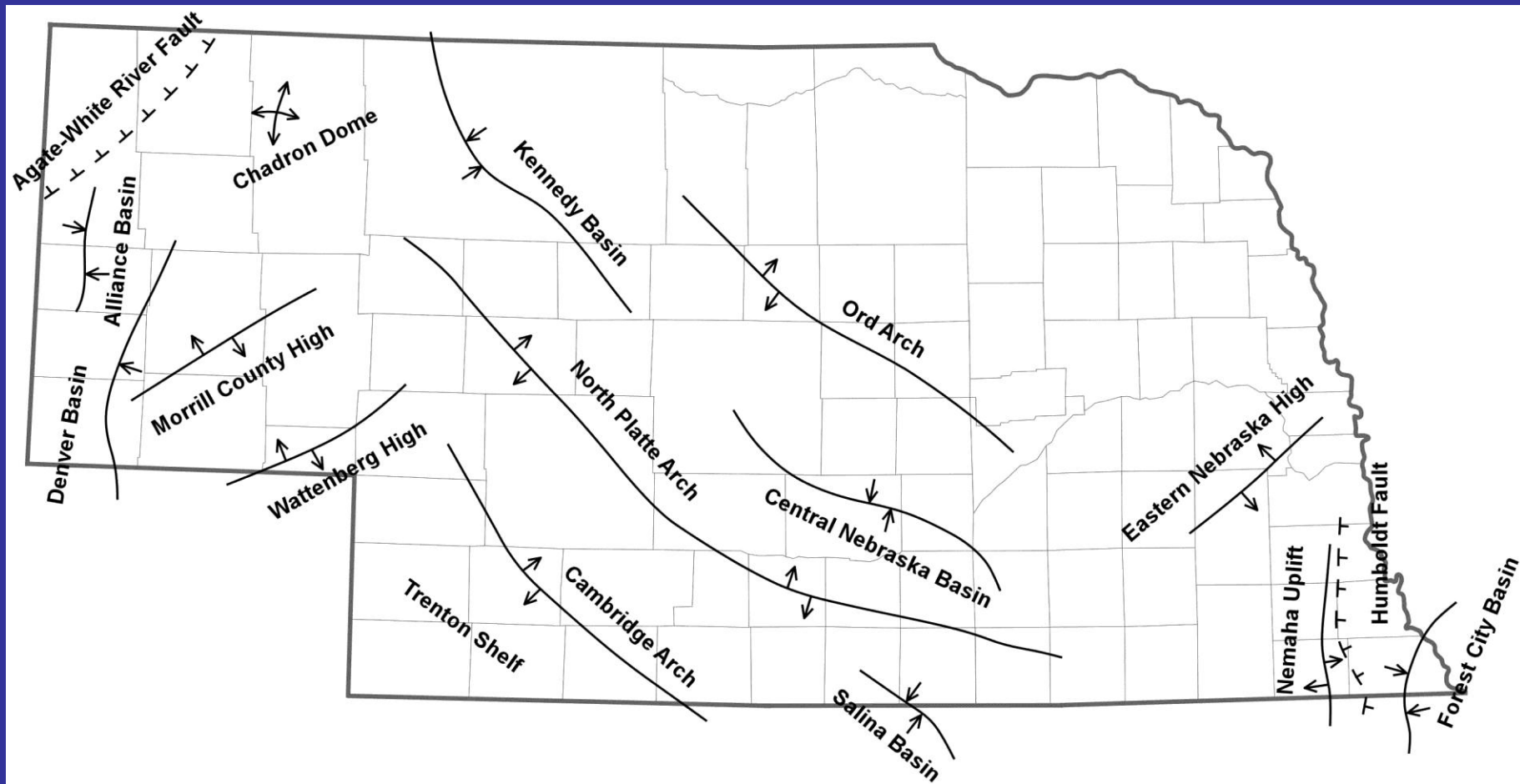


Figure 1. Map showing regional features in the vicinity of the Denver-Julesburg Basin.
Modified from Sonnenberg and Weimer, 1981

Nebraska Structural Features

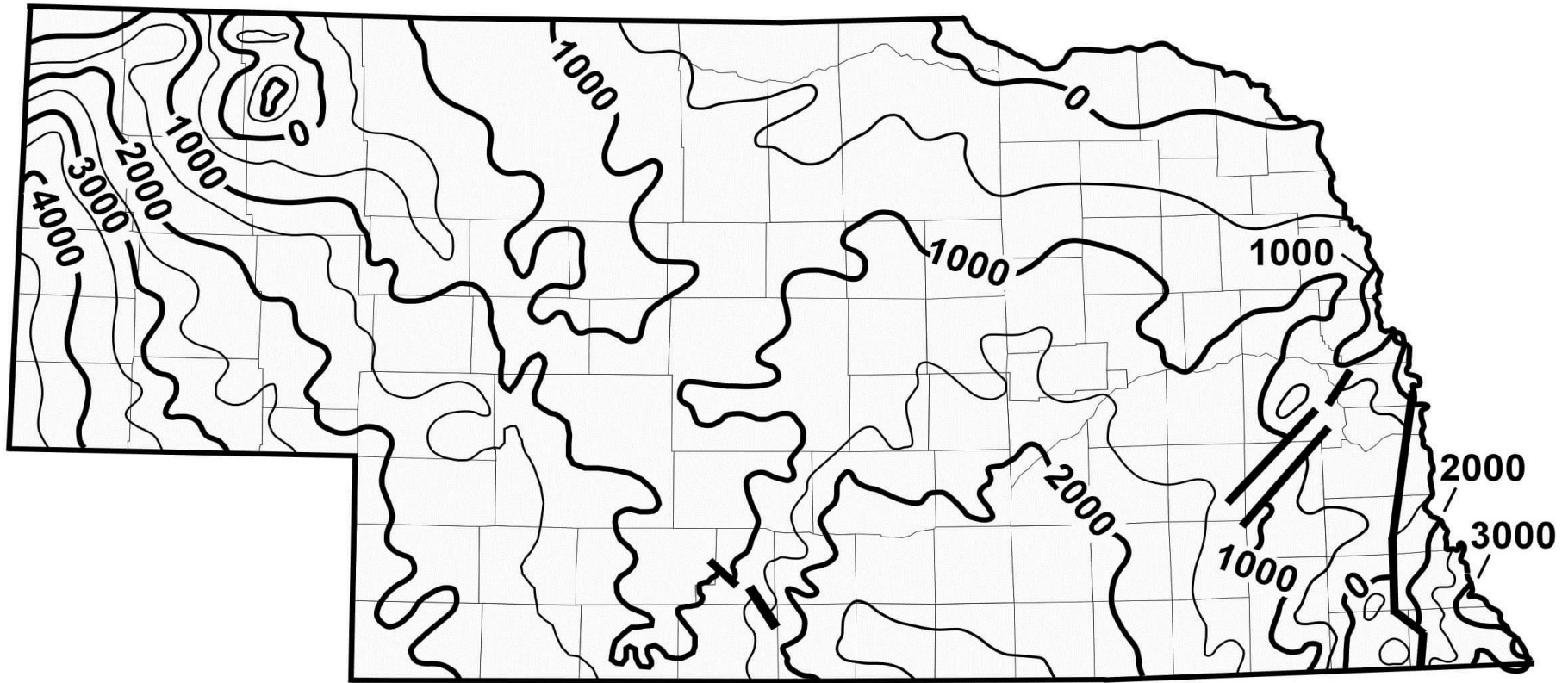


General Stratigraphic Column

TERTIARY	White River	Ogallala
		Hemingford
		Arkaree
		Brule
		Chadron
CRETACEOUS	Fox Hills	
	Pierre	Transition Zone
		Parkman
		Sharon Springs
	Niobrara	Smokey Hill
		Fort Hays
		Codell
	Carlile	
	Greenhorn	
	Graneros	Belle Fourche
		X Bentonite
	Dakota D	
	Huntsman	
	Dakota J	
Skull Creek		
Lakota		
JUR	Morrison	
	Sundance	

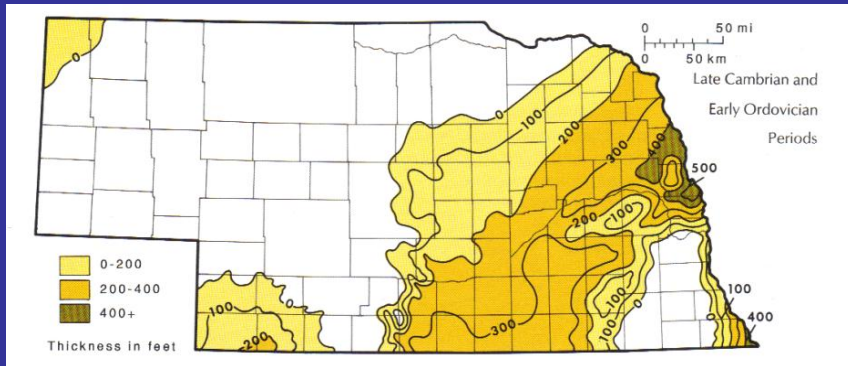
JUR	Morrison	
	Sundance	
TR	Spearfish	
PERMIAN	Guadalupe	Ervay
		Forelle
		Glendo
		Minnekahta
		Opeche
	Leonard	Blaine
		Flowerpot
	Cedar Hills - Lyons	
	Stone Corral	
	Ninnescah	
	Wolfcamp	Chase
	Council Grove	
Admire		
PENNSYLVANIAN	Virgil	Wabaunsee
		Shawnee
	Missouri	Lansing
	Des Moines	Marmaton
		Cherokee
	Atoka	
	Precambrian	

Precambrian Configuration

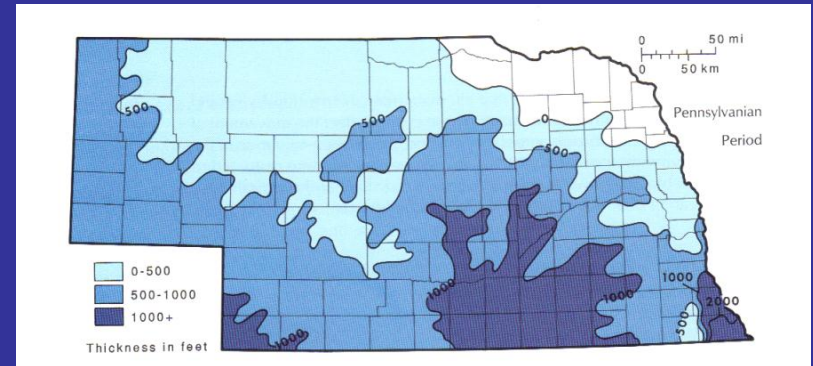


Carlson, 2000

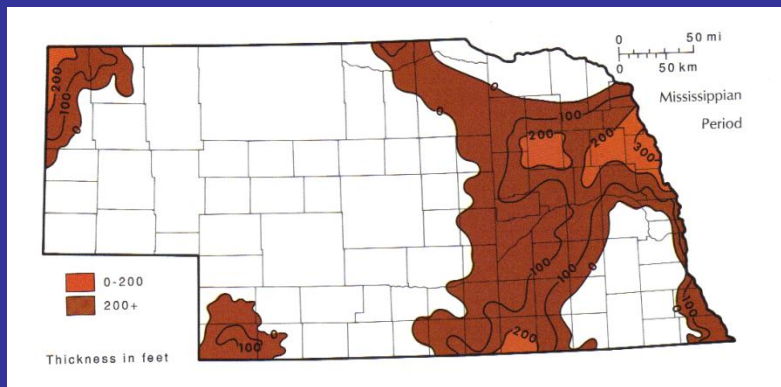
Period Isopach Maps



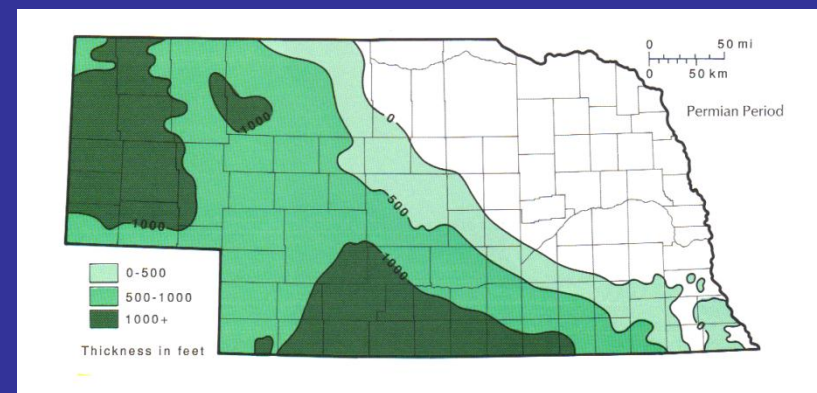
Cambrian and Ordovician



Pennsylvanian



Mississippian



Permian

Permian System Isopach

Mullen Creek-Nash Fork Shear Zone/Whalen-Wheatland System/
Agate-White River Fault

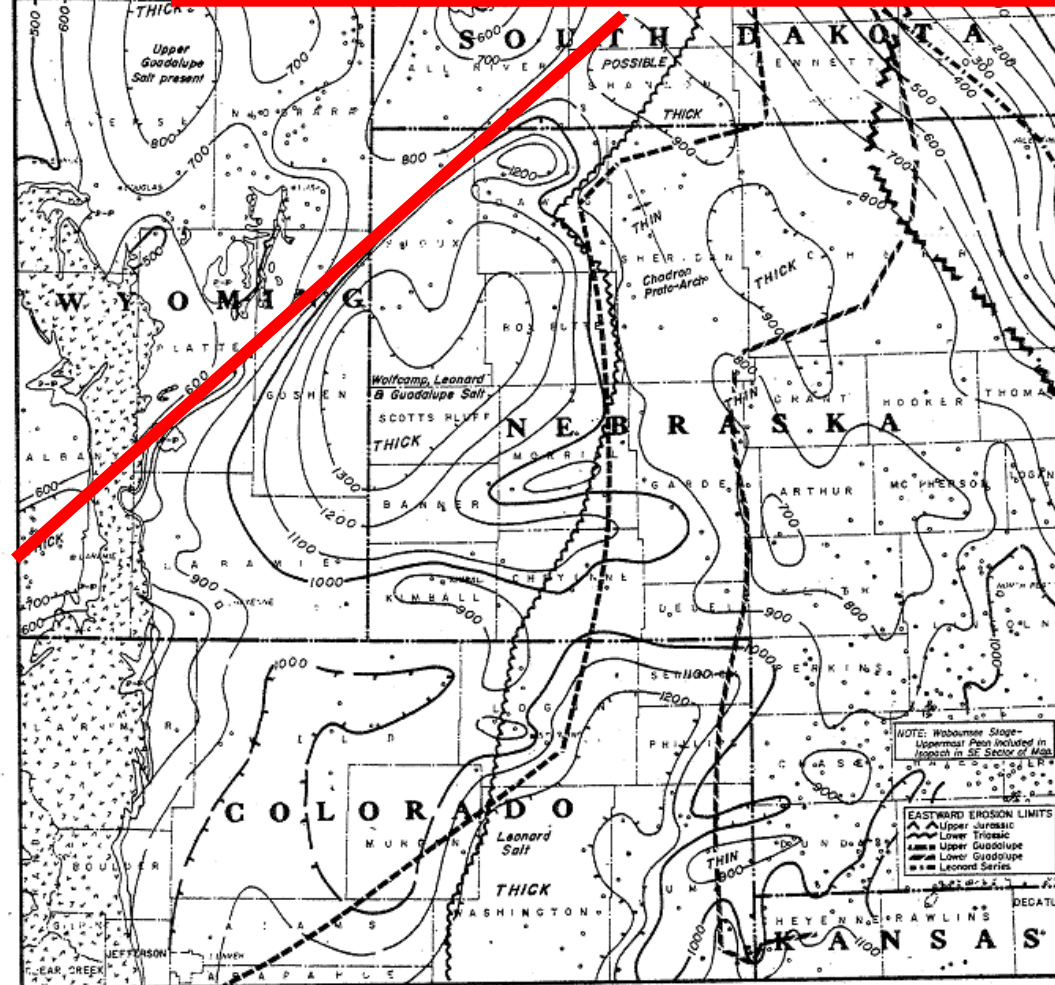
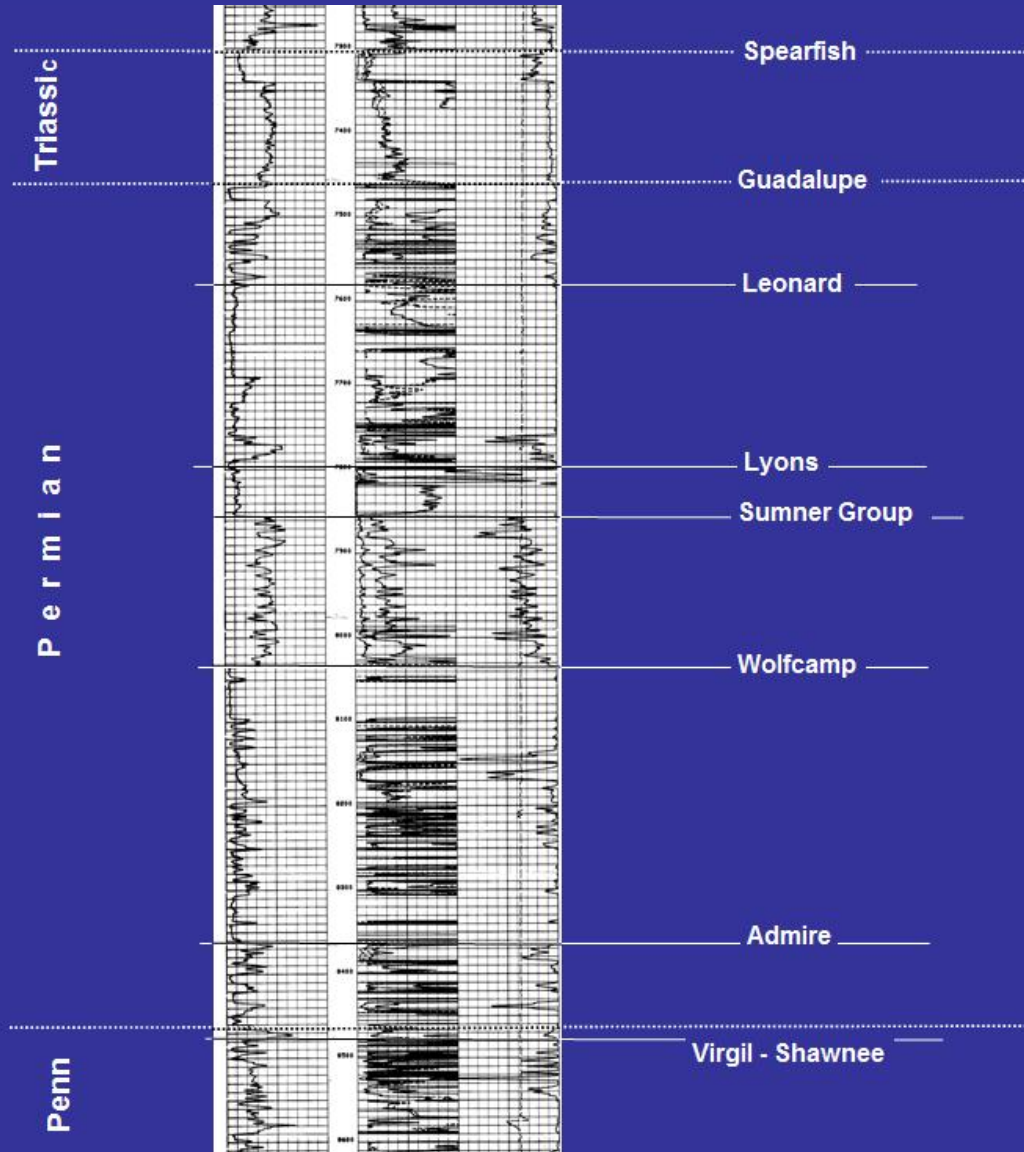


Fig. 4 GENERALIZED PERMIAN SYSTEMIC ISOPACHS

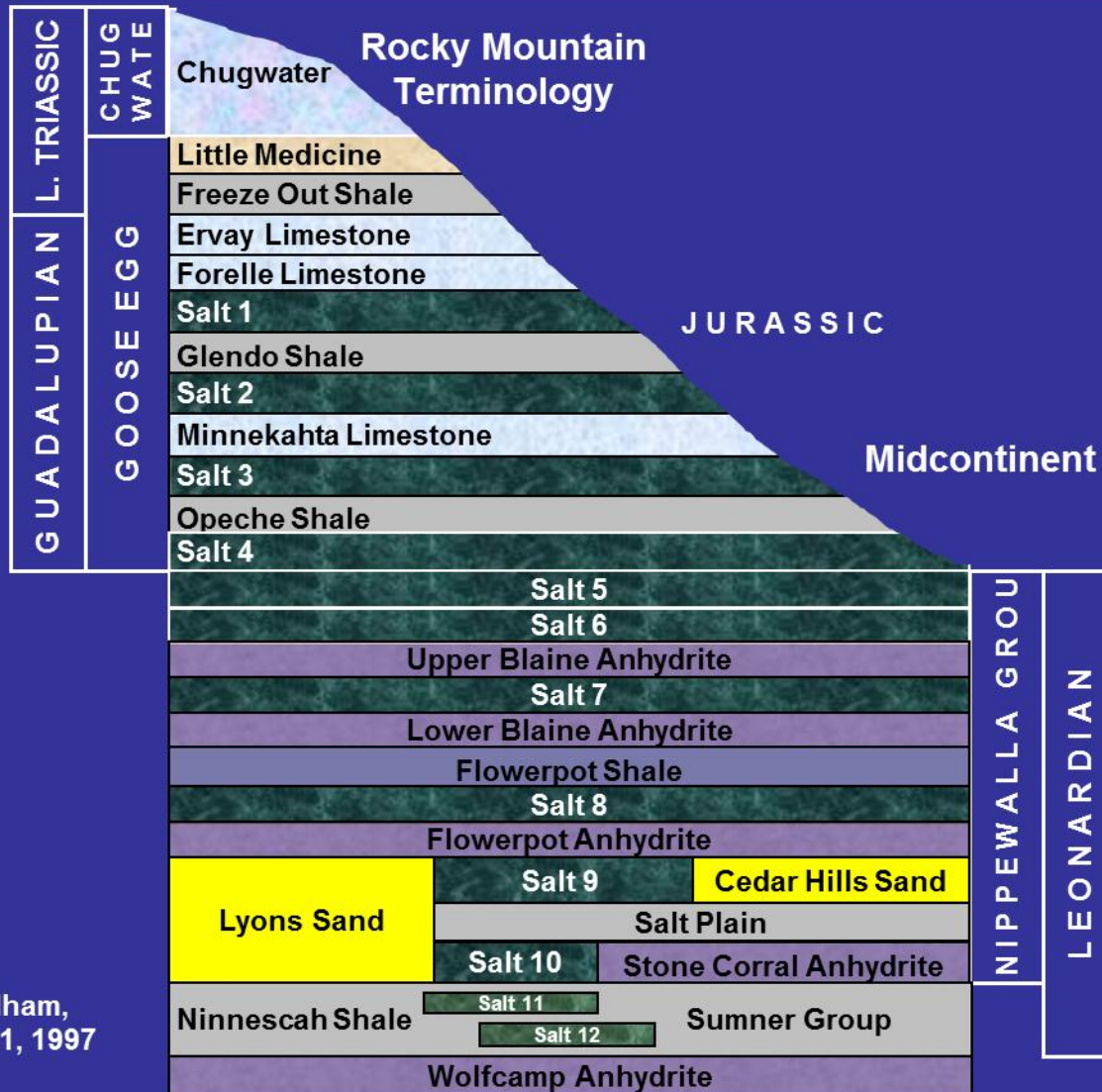
ISOPACH INTERVAL = 100 feet

SCALE: 0 20 40 MILES

Permian Stratigraphy

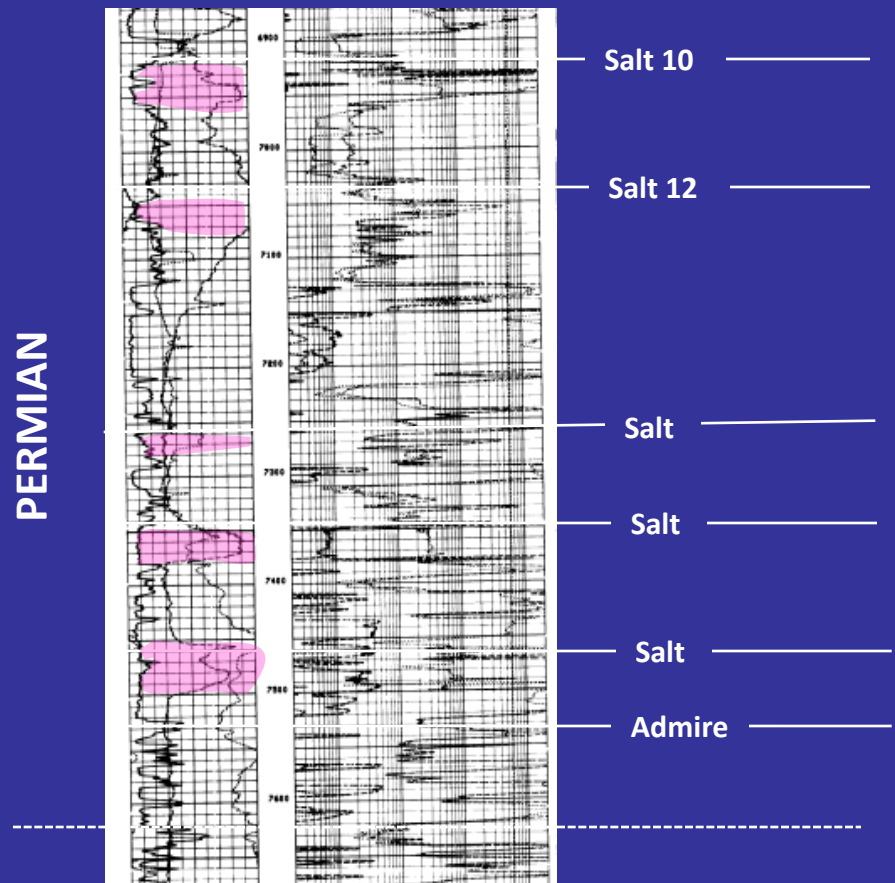
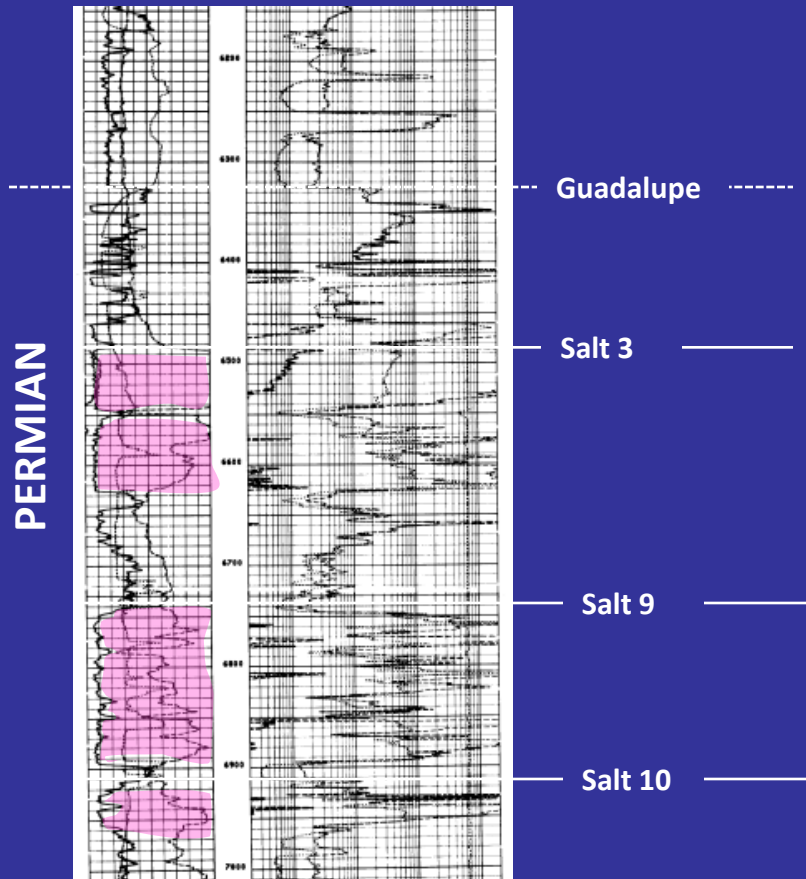


Permian Salts



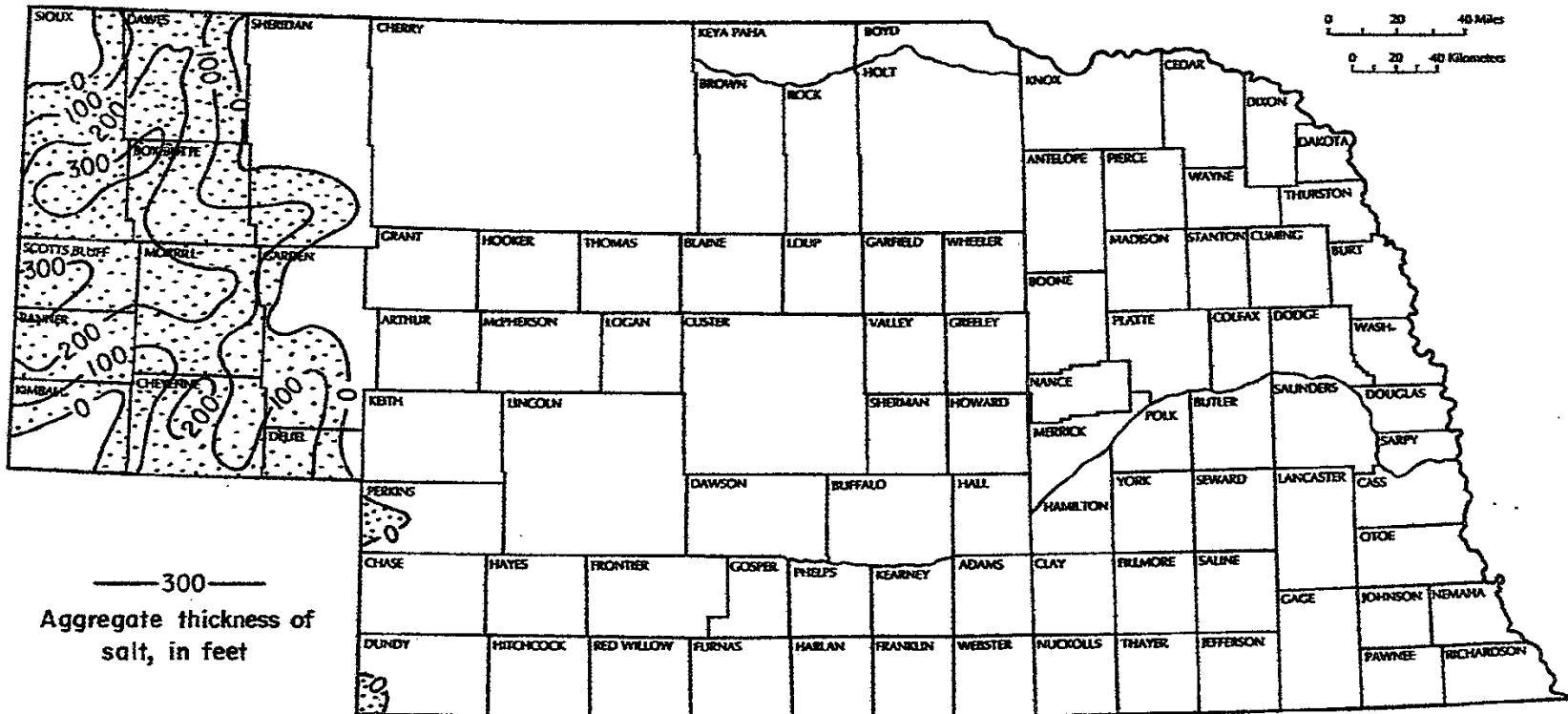
After Oldham, Figure 3-1, 1997

Permian Stratigraphy – Salt Basin

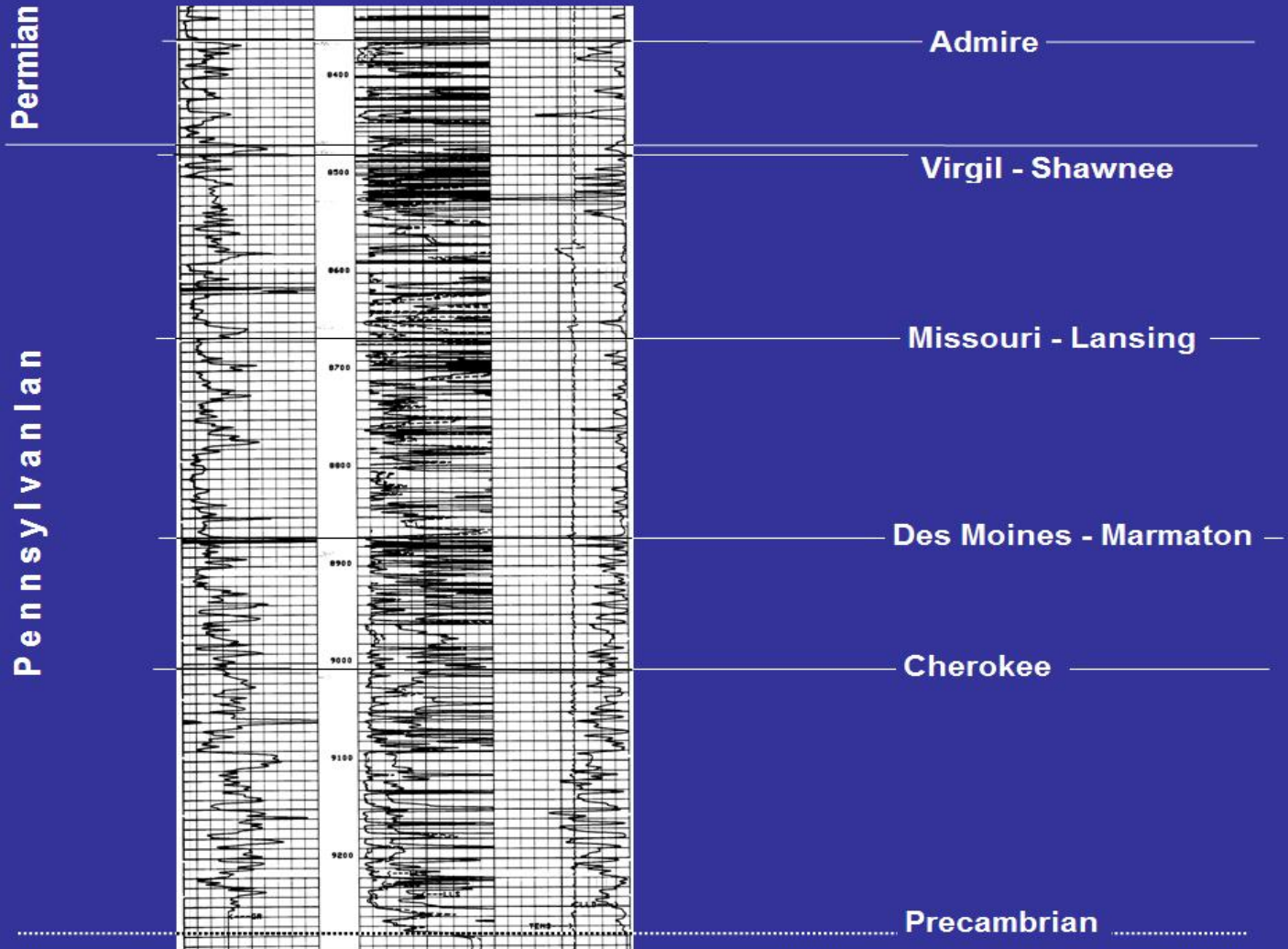


Hilton No. 1-26, S26-T26N-R56W
Sioux County, Nebraska

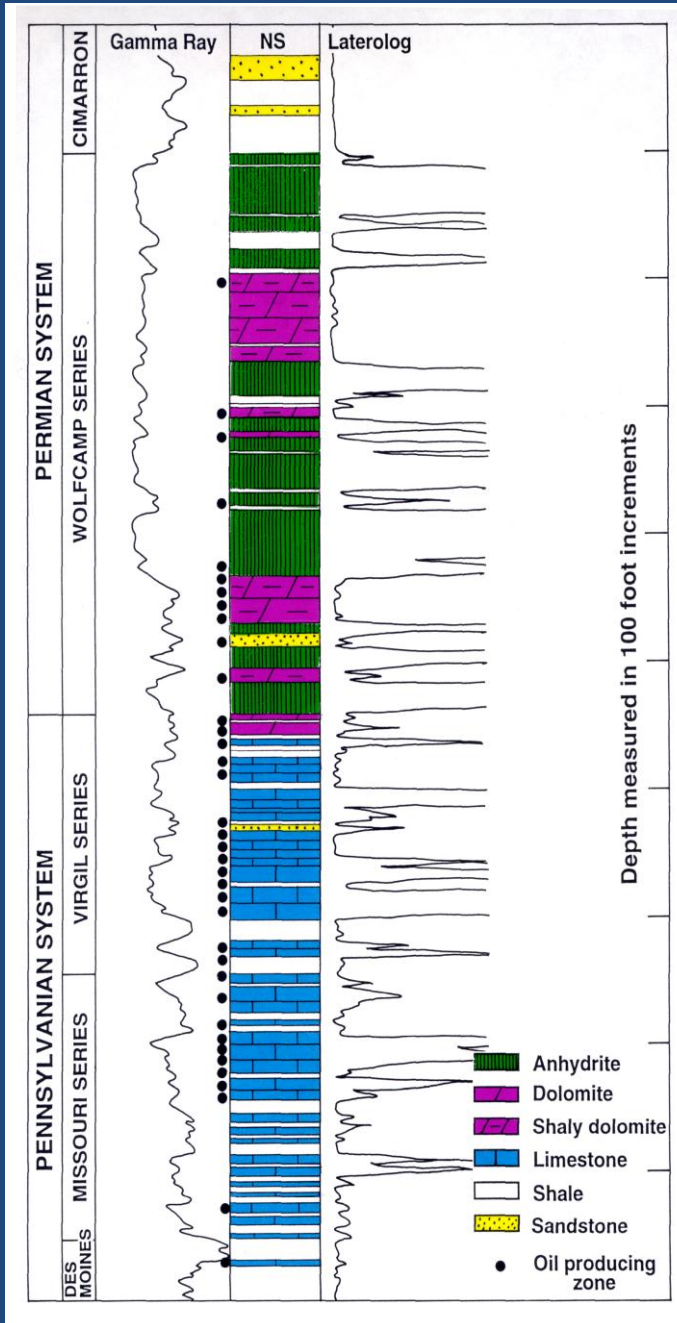
Remaining Permian Salts



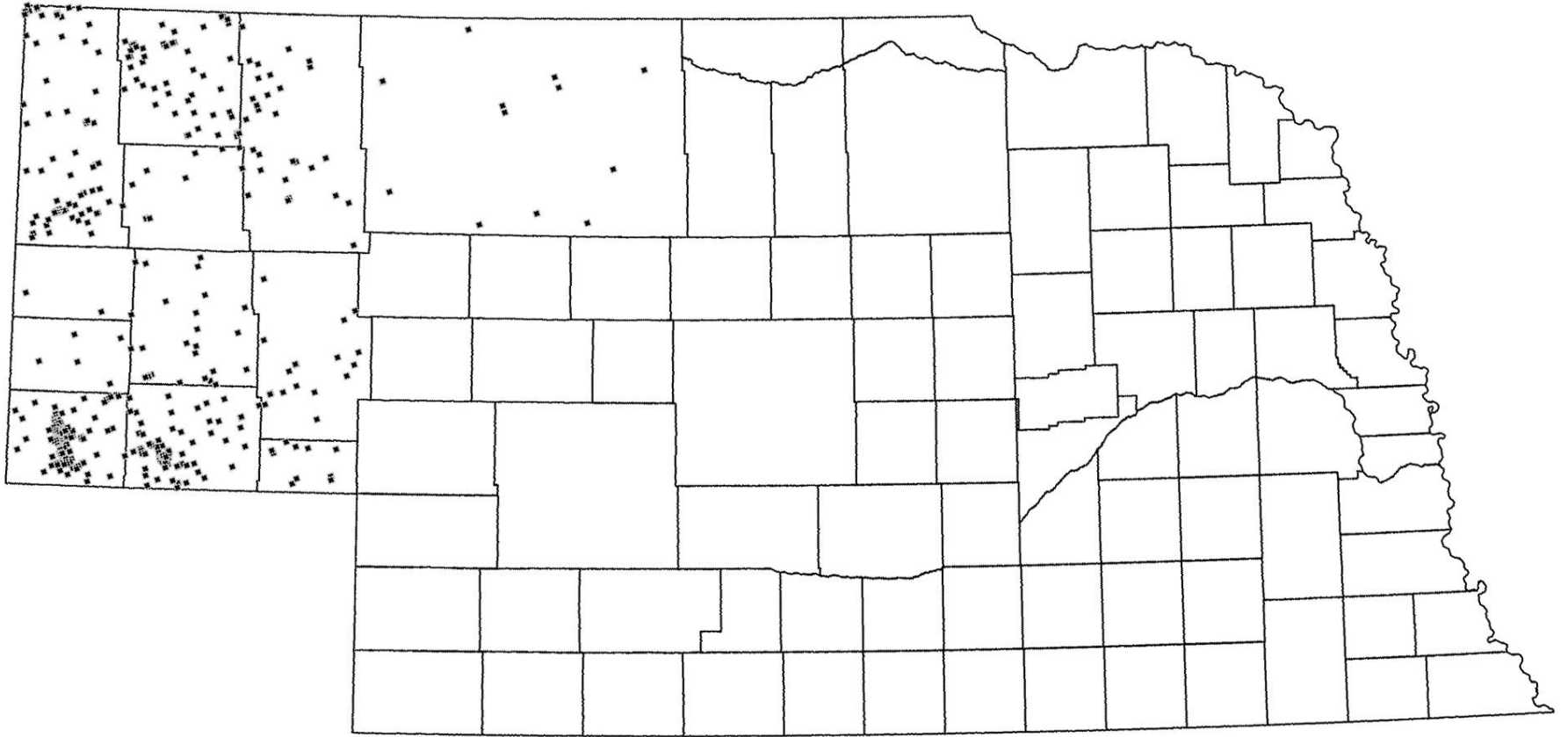
Pennsylvanian Stratigraphy



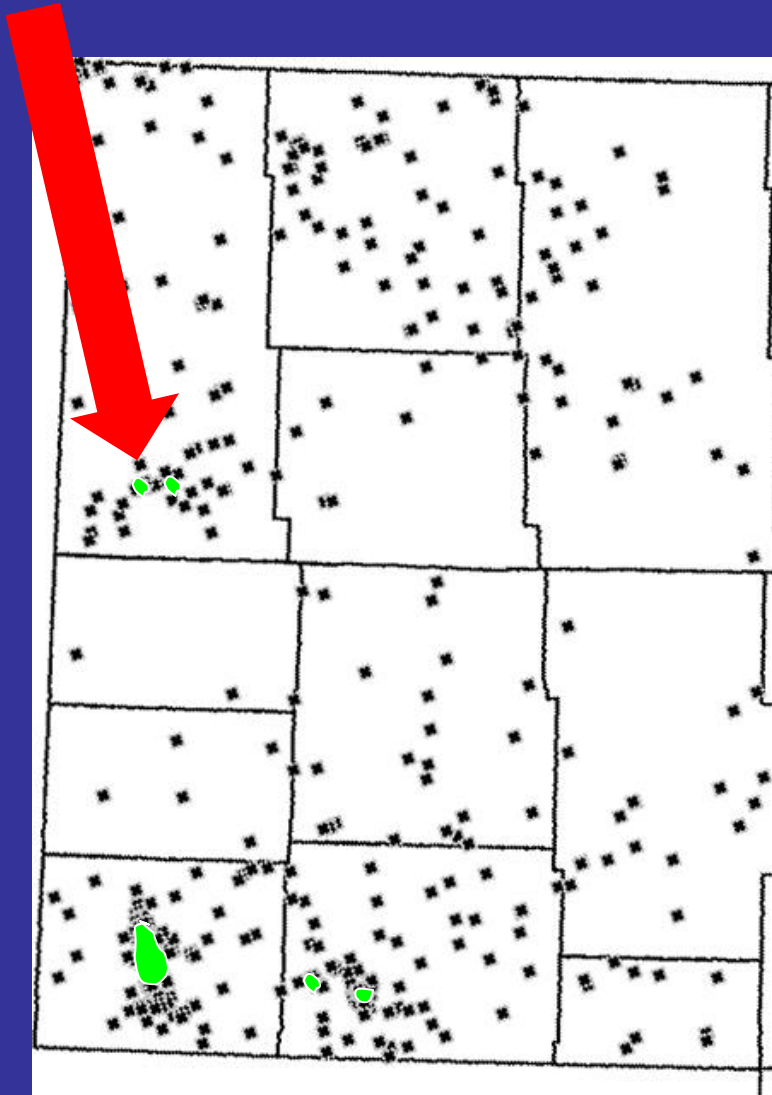
Panhandle Paleozoic Reservoirs



Panhandle Deep Well Locations



Permo-Penn Production



Amazon Field - 1980

5 Wells

263,129 STBO

Bird Field - 1985

5 Wells

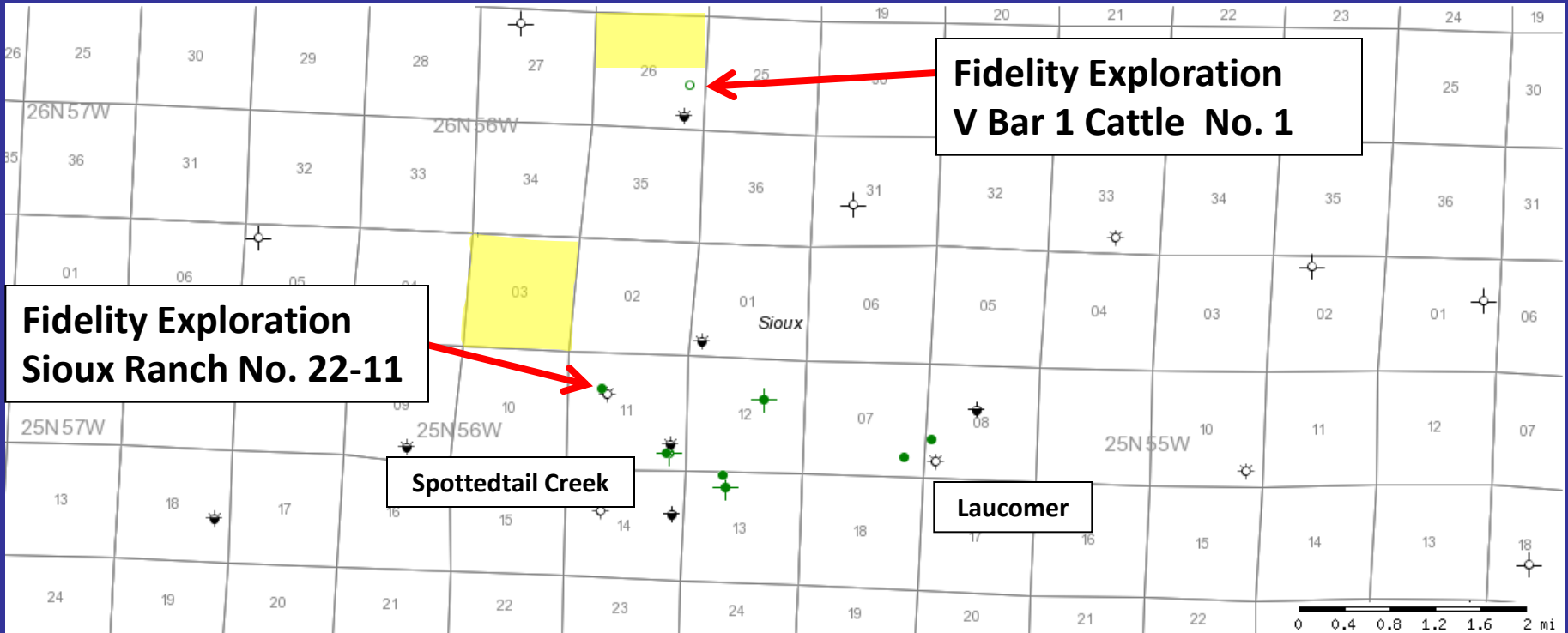
2,094,458 STBO

Kleinholz Field - 1985

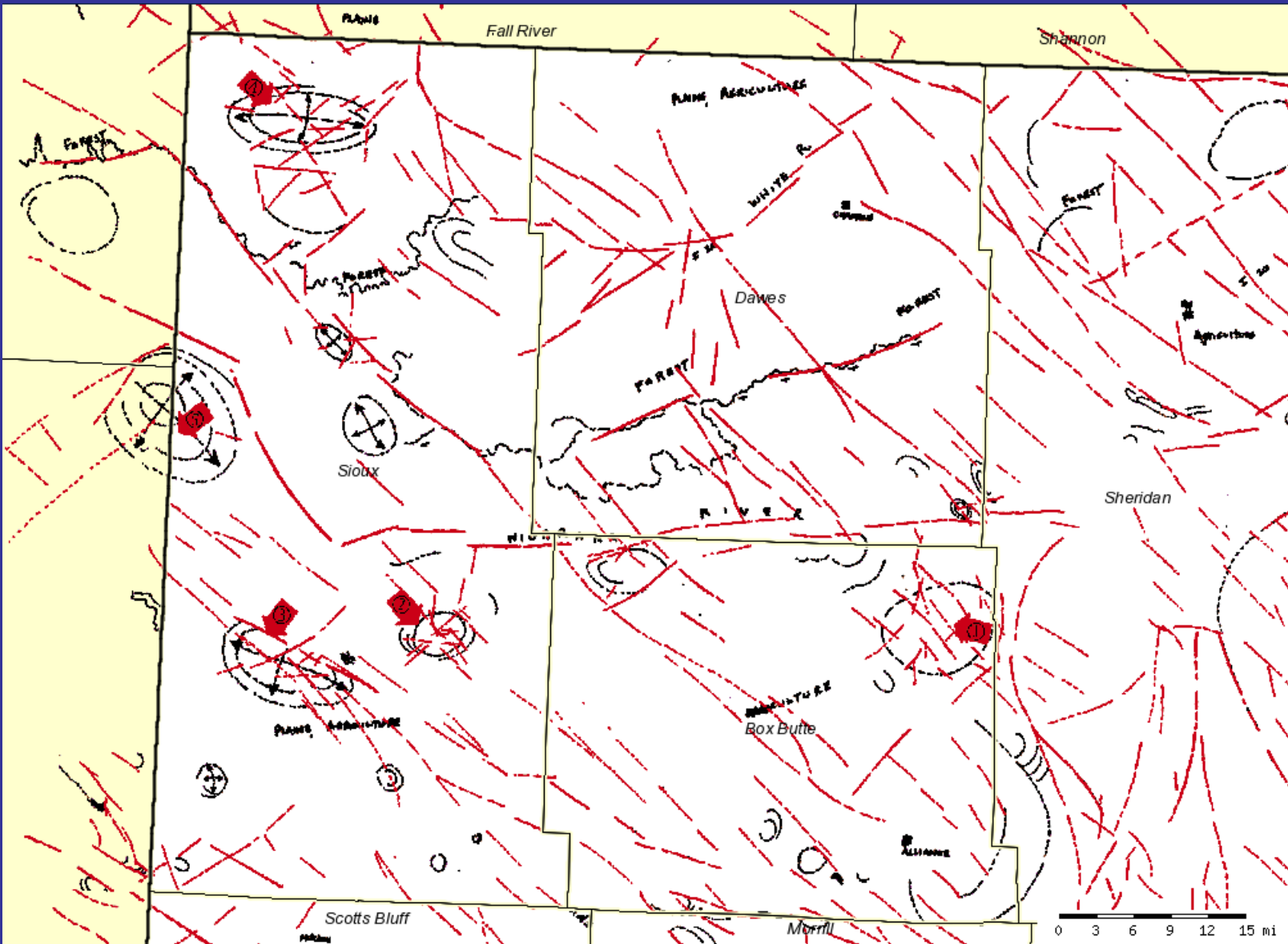
33 Wells

7,114,008 STBO

Recent Activity



LANDSAT LINEAMENT STUDY

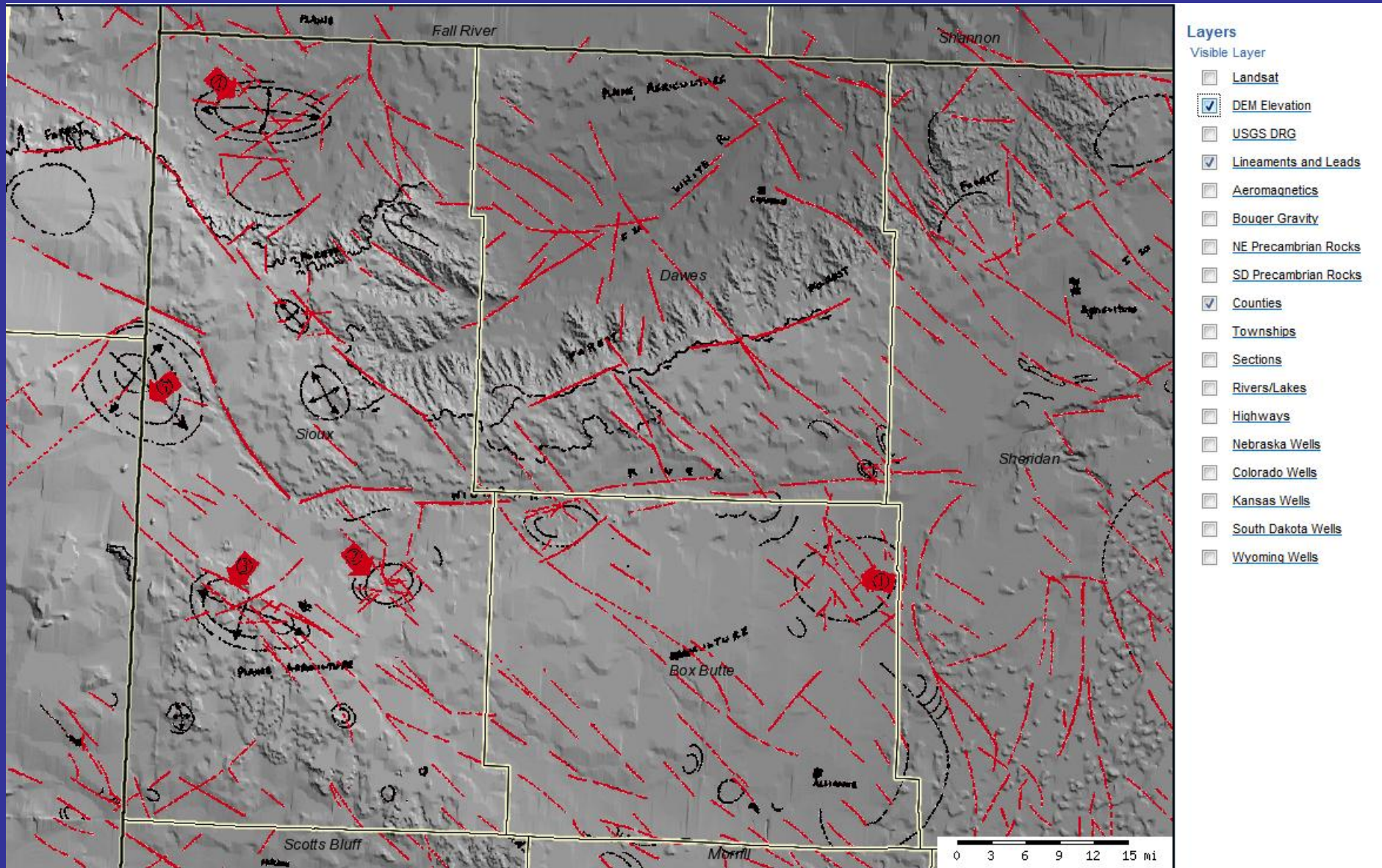


Layers

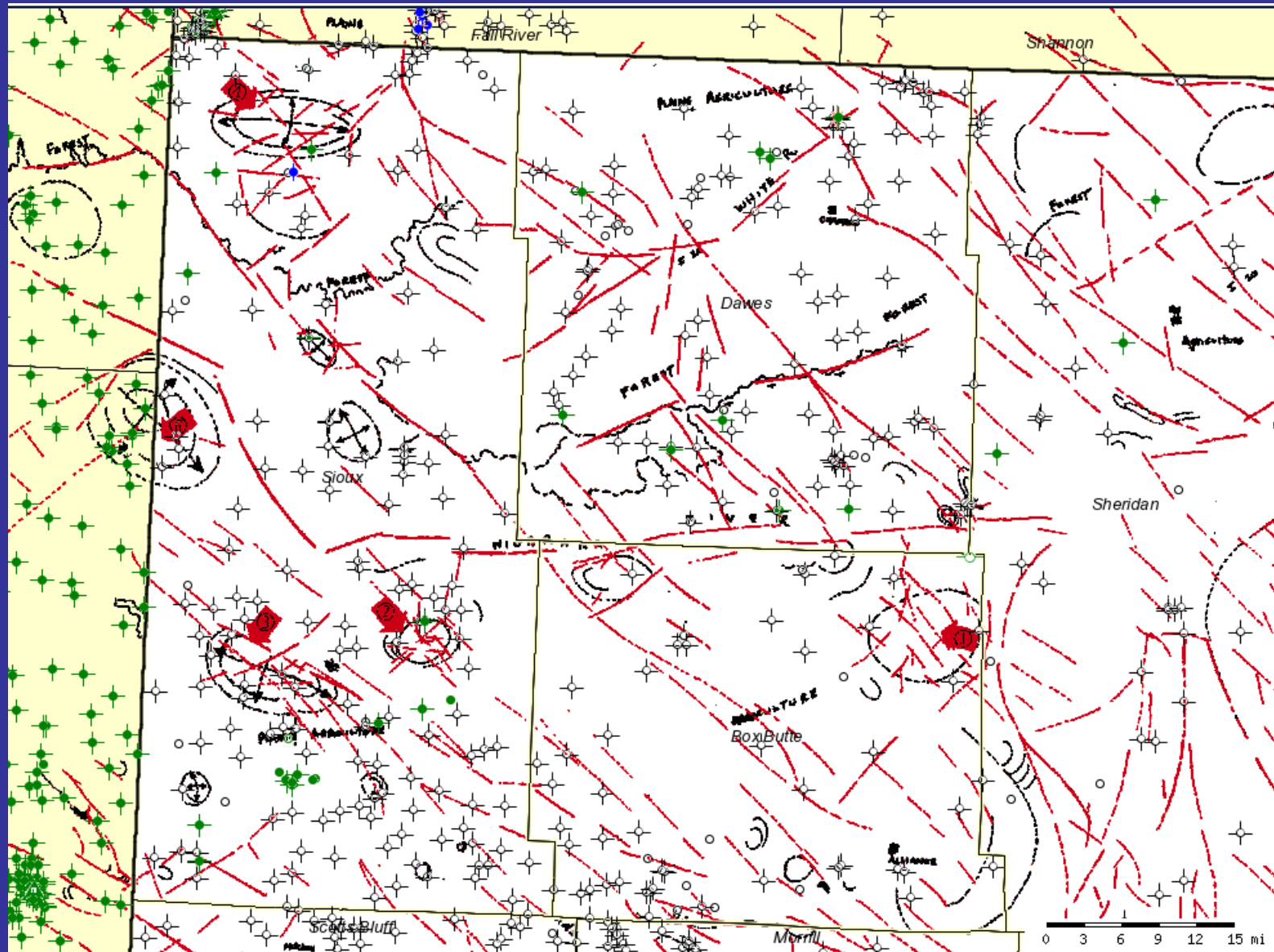
Visible Layer

- Landsat
- DEM Elevation
- USGS DRG
- Lineaments and Leads
- Aeromagnetics
- Bouguer Gravity
- NE Precambrian Rocks
- SD Precambrian Rocks
- Counties
- Townships
- Sections
- Rivers/Lakes
- Highways
- Nebraska Wells
- Colorado Wells
- Kansas Wells
- South Dakota Wells
- Wyoming Wells

LINEAMENTS with ELEVATION



LINEAMENTS with WELLS



- Layers**
- Visible Layer
- Landsat
 - DEM Elevation
 - USGS DRG
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Director

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