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Field Trip Guide (for the Nebraska well Drillers Association) Eastern Nebraska Geology

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FIELD TRIP GUIDE

(for the Nebraska Well Drillers Association)

EASTERN NEBRASKA GEOLOGY

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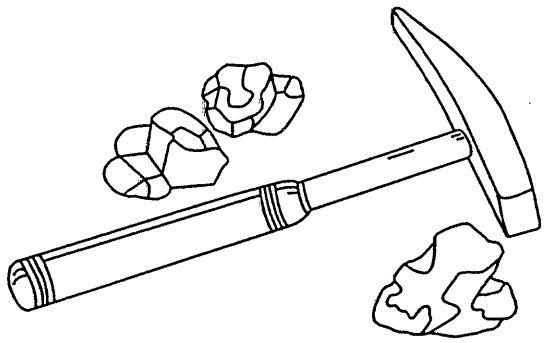
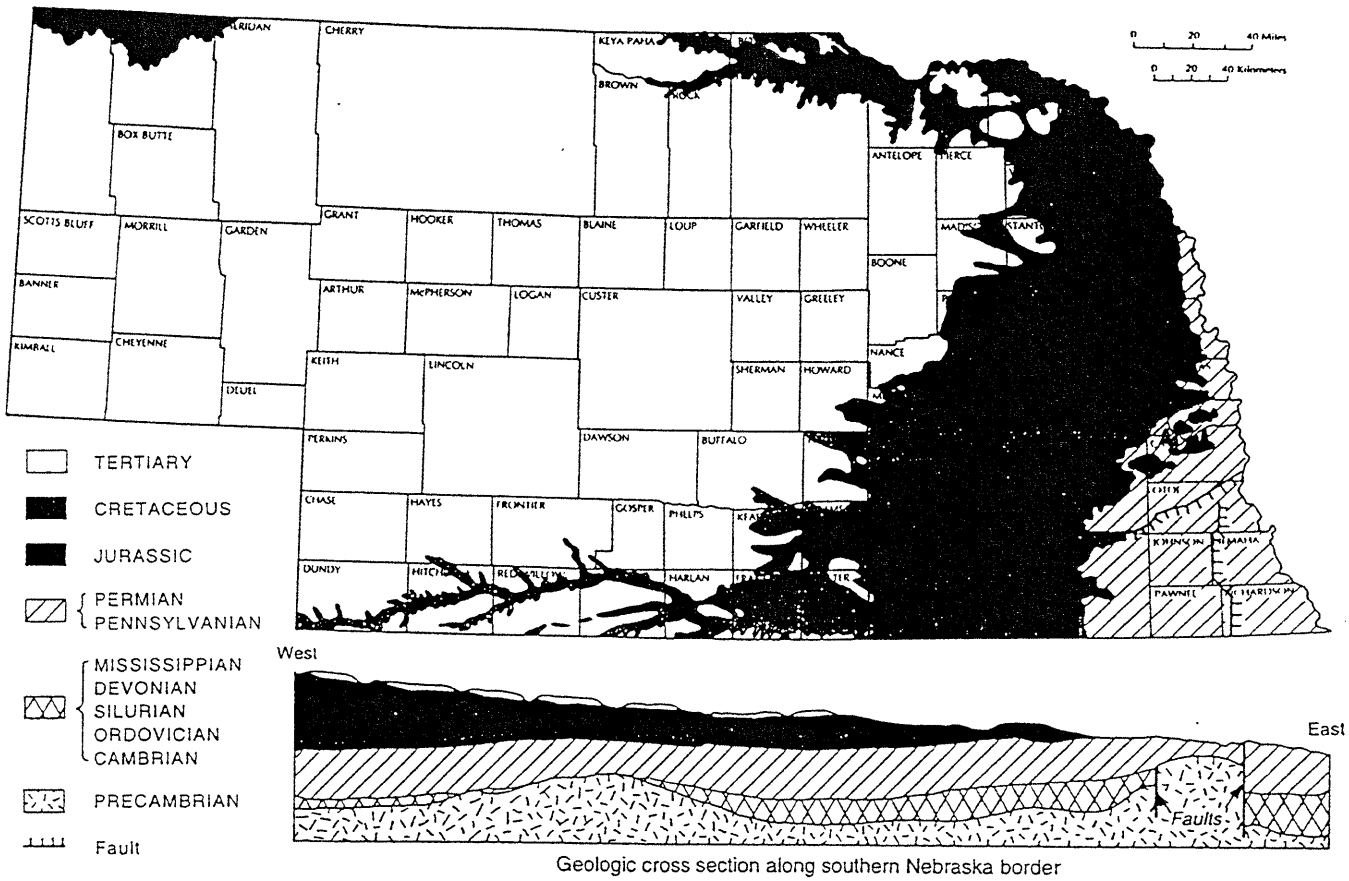


NEBRASKA GEOLOGICAL SURVEY

Conservation and Survey Division
Institute of Agriculture and Natural Resources
University of Nebraska-Lincoln

September 14, 2000

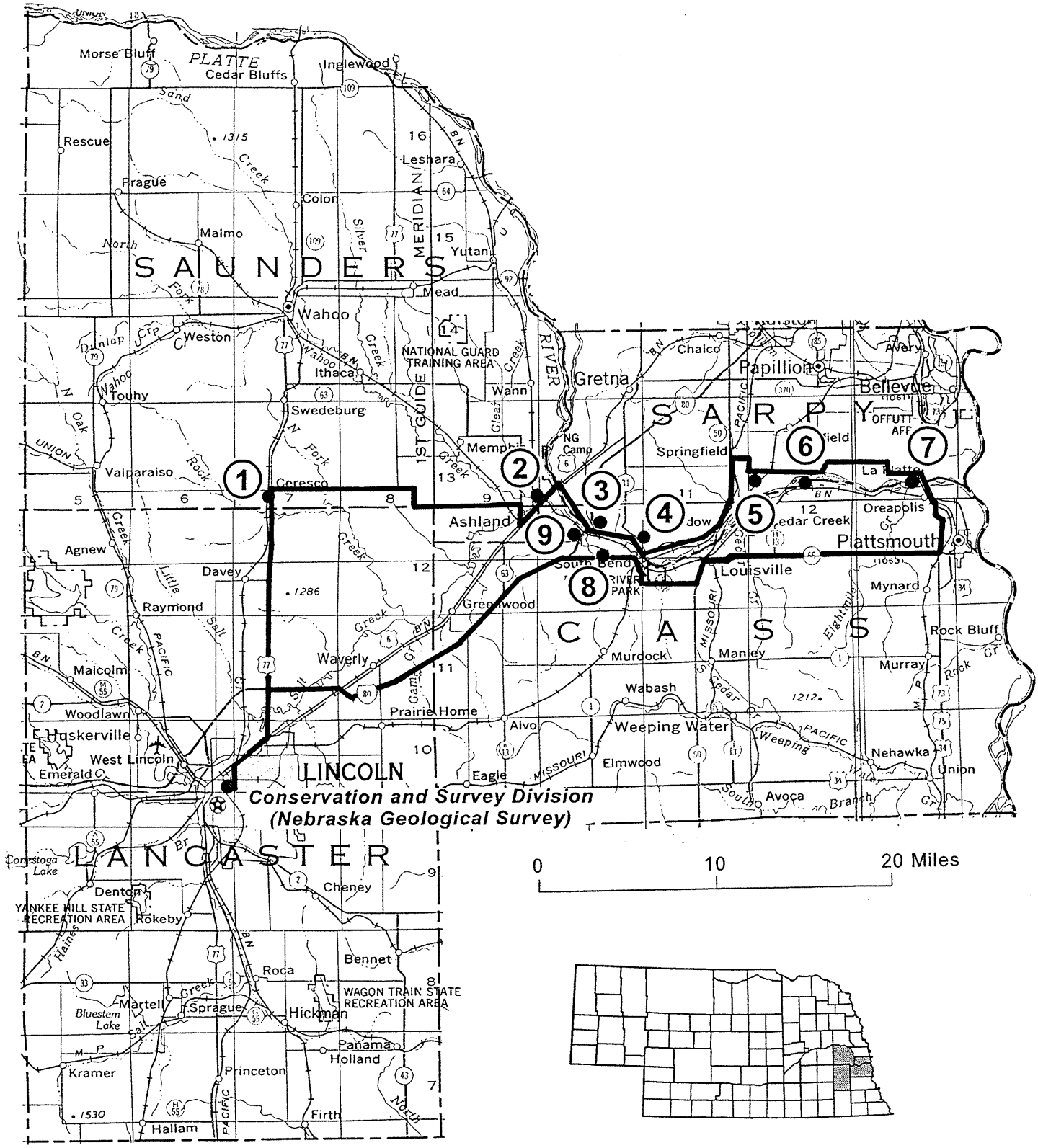
IANR



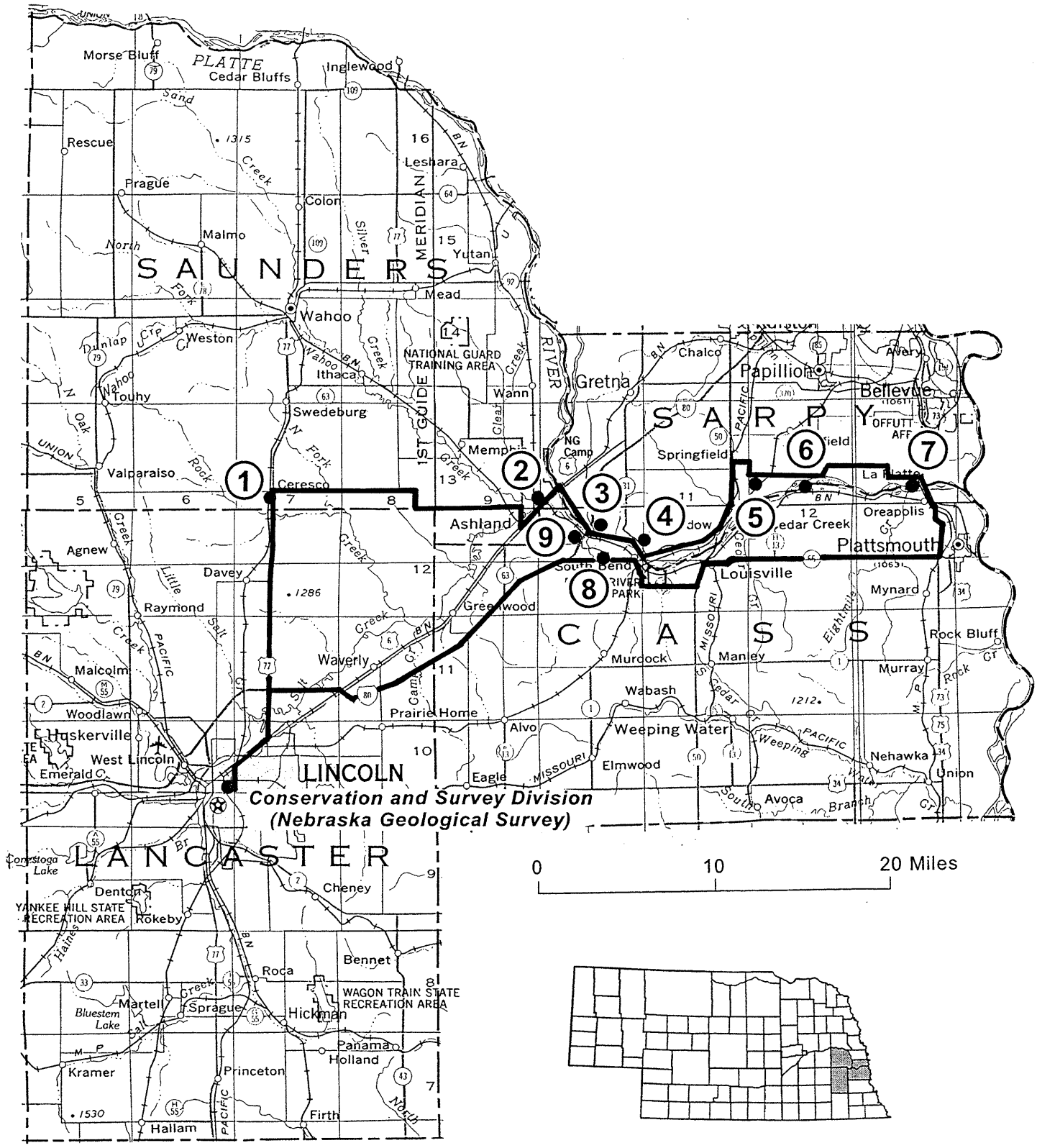
Geologic cross section along southern Nebraska border

AGE	GEOLOGIC TIME UNITS		ROCK TYPES	MINERAL RESOURCES AND PRODUCTS
MILLIONS OF YEARS AGO	CENOZOIC (recent life)	QUATERNARY (Recent and Pleistocene)	Glacial till, silt, clay, sand, gravel, volcanic ash.	Agricultural soil, water, sand and gravel, volcanic ash.
1.6		TERTIARY	Sandstone, siltstone, clay, gravel, marl, volcanic ash.	Agricultural soil, water, sand and gravel, volcanic ash, riprap and uranium.
66	MESOZOIC (middle life)	CRETACEOUS	Chalk, chalky shale, dark shale, vari-colored clay, sandstone, conglomerate.	Water, oil and gas, cement, brick, agricultural lime, and other construction materials.
138		JURASSIC	Subsurface only. Sandstones and shales.	
205		TRIASSIC		
240	PALEOZOIC (ancient life)	PERMIAN	Shale, limestone, dolomite, gypsum, anhydrite sandstone, siltstone, chert.	Water agricultural lime, oil road rock, riprap.
290		PENNSYLVANIAN	Limestone, shale, sandstone, coal.	Oil, cement, brick, concrete aggregate, lightweight aggregate, road rock, agriculture lime, riprap, water.
330		MISSISSIPPIAN	Subsurface only. Limestone, dolomite.	Oil, water.
360		DEVONIAN	Subsurface only. Dolomite, gray shale.	
410		SILURIAN	Subsurface only. Dolomite.	
435		ORDOVICIAN	Subsurface only. Dolomite, sandstone, shale.	
500		CAMBRIAN	Subsurface only. Dolomite, sandstone.	
570	CRYPTOZOIC (hidden life)	PRECAMBRIAN	Subsurface only. Granite, other igneous rocks, and metamorphic rocks.	
5000?				

Geologic bedrock map and geologic time chart of Nebraska.

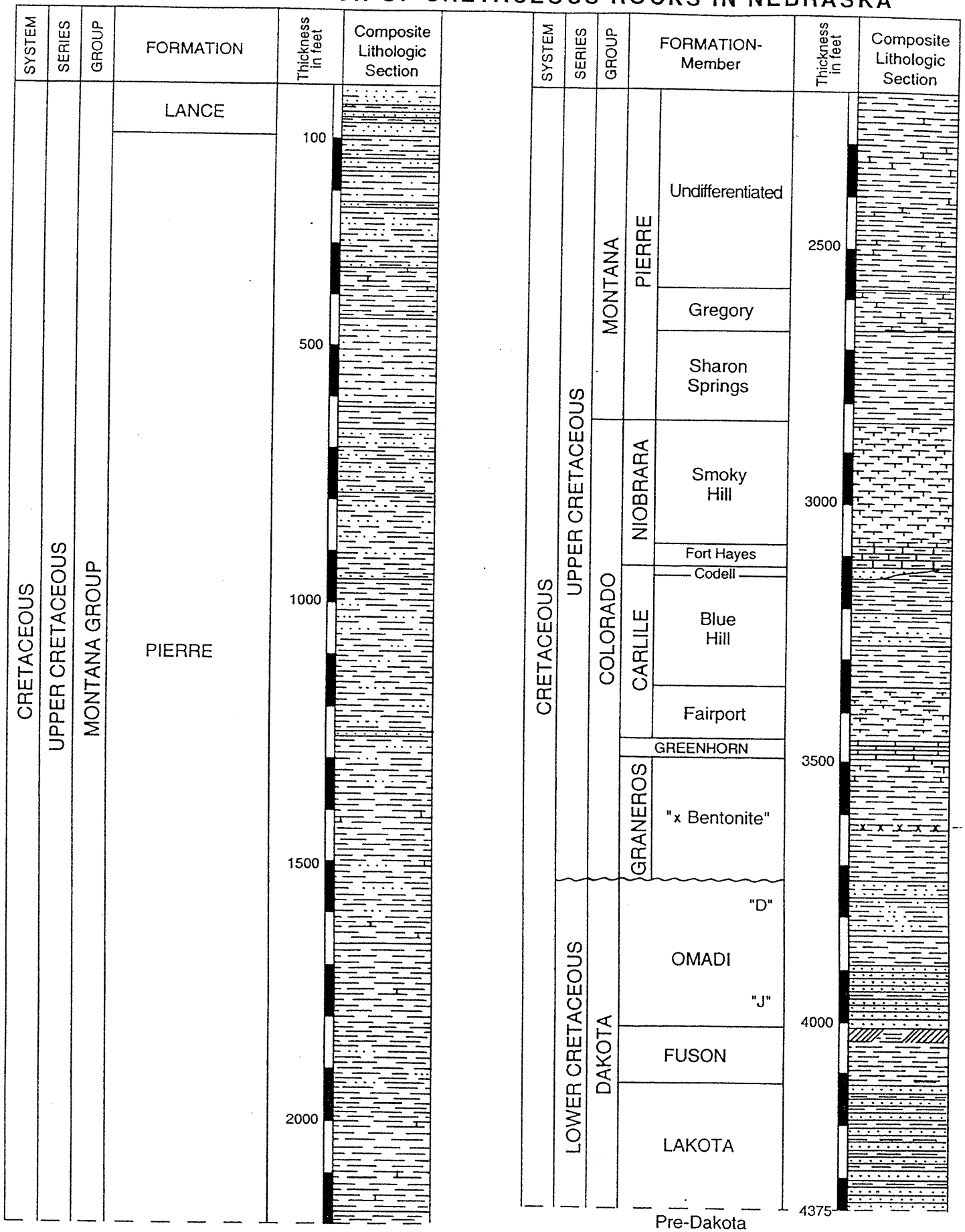


Index map showing location of stops



Index map showing location of stops

COMPOSITE SECTION OF CRETACEOUS ROCKS IN NEBRASKA



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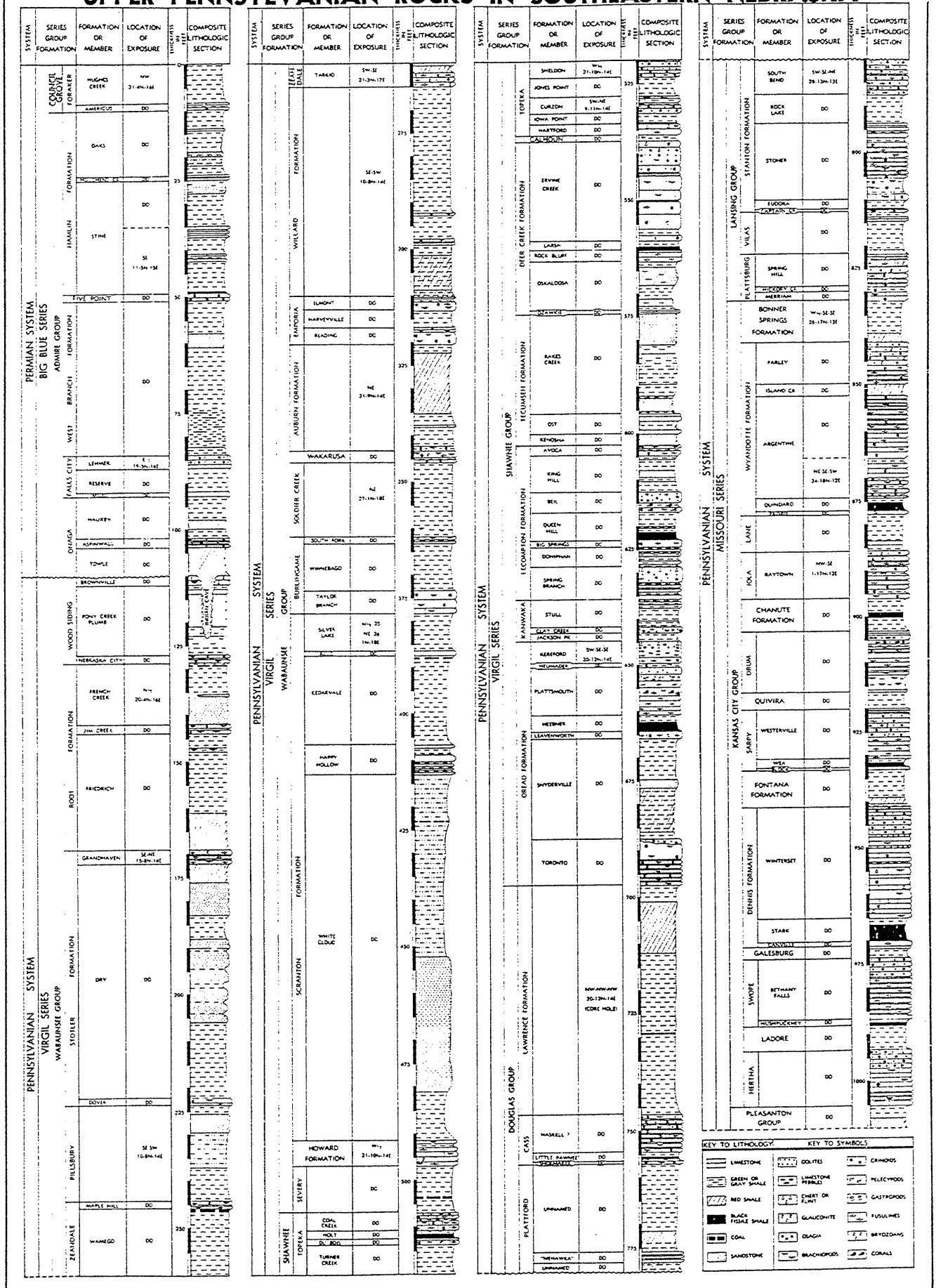
COMPOSITE SECTION OF OUTCROPPING LOWER PERMIAN AND UPPER PENNSYLVANIAN ROCKS IN SOUTHEASTERN NEBRASKA



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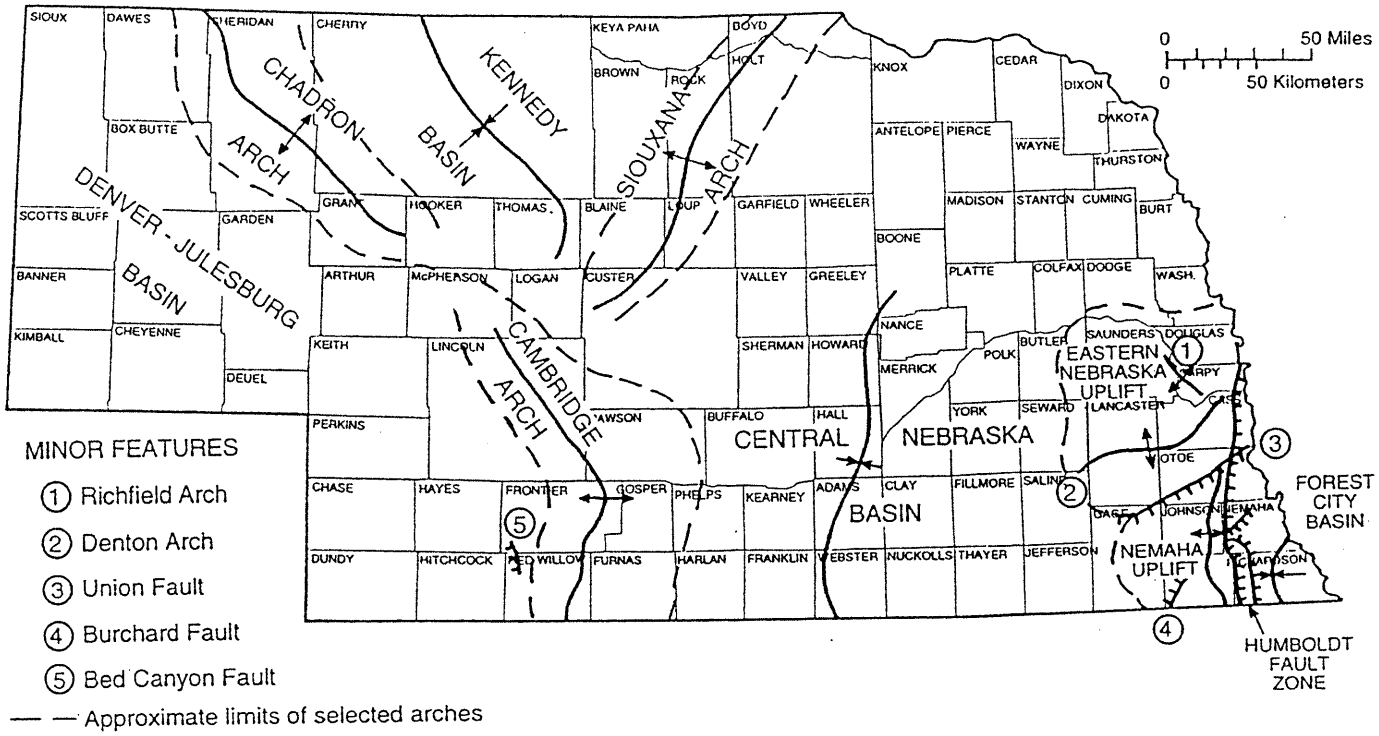

Principal structural features in Nebraska.

Locations of sand and gravel deposits at or near the surface in Nebraska.