

AREAL GEOLOGY

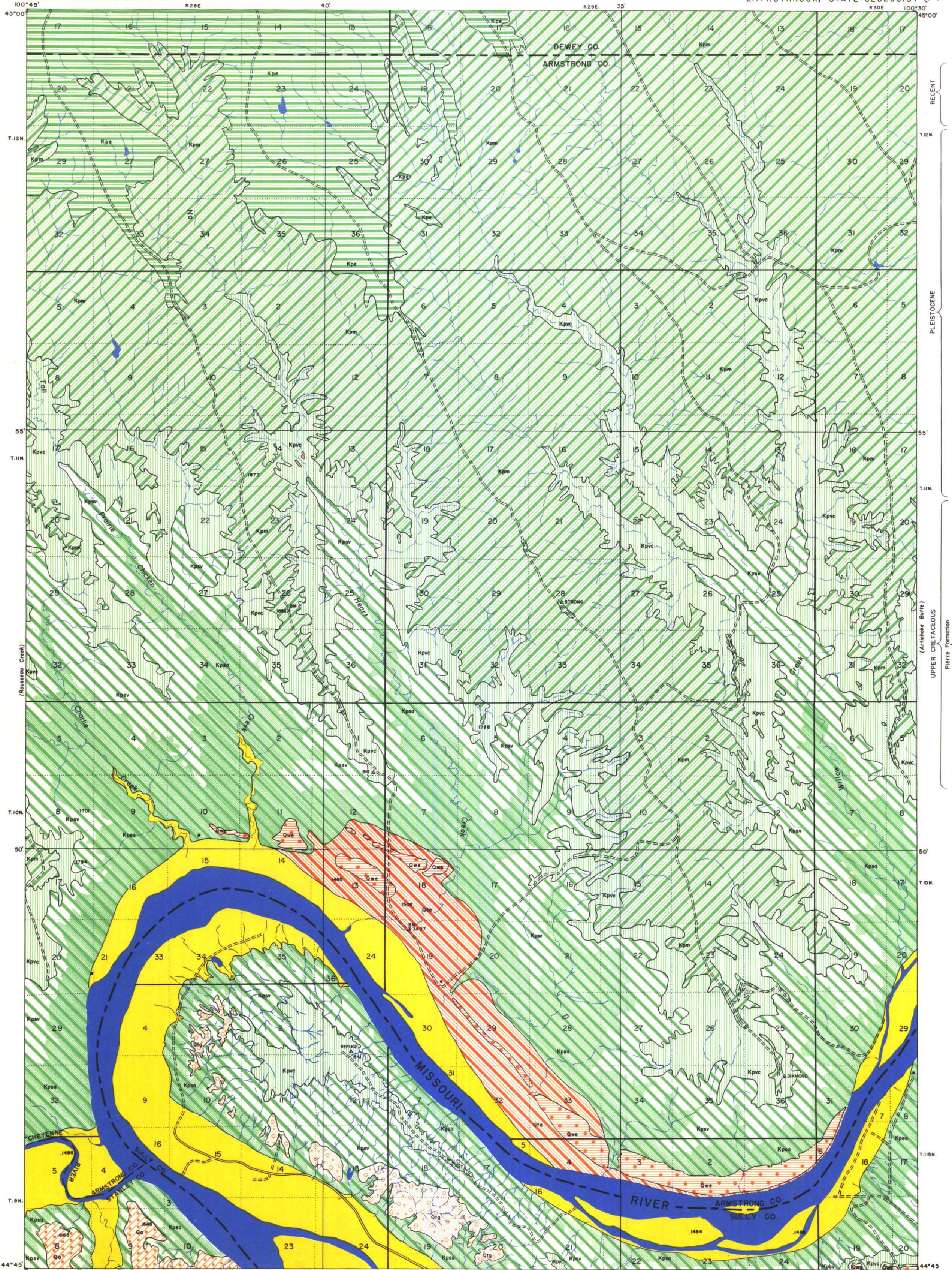
OF THE

NO HEART QUADRANGLE

STATE OF SOUTH DAKOTA
SIGURD ANDERSON, GOVERNOR

STATE GEOLOGICAL SURVEY
E. P. ROTHROCK, STATE GEOLOGIST

(Cheyenne Agency)



EXPLANATION

SEDIMENTARY ROCKS

- RECENT**
 - QUATERNARY**
 - PLEISTOCENE**
 - UPPER CRETACEOUS**
 - CRETACEOUS**
- Qal**
Alluvium
(Flood plain deposits of silt, sand, and gravel in present stream valleys.)
 - Ql**
Loess
(Wind deposited silt.)
 - Qta**
Terrace Alluvium
(Terrace deposits of silt, sand and gravel, above recent flood plain.)
 - Qd**
Deltaic Beds
(Deltaic deposits in glacial lake.)
 - Qe**
End Moraine
(Undifferentiated till deposits.)
 - Qtg**
Terrace Gravels
(Terrace deposits along the Missouri River of fluvial coarse sand, and gravel.)
 - Qg**
Ground Moraine
(Undifferentiated till deposits characterized by slight relief and poor drainage. Overlain by loess from a foot to 30 ft. of loess.)
 - Qo**
Orton Gravels
(Sands and gravels of western origin, containing considerable white chert and broken agate.)
 - Kpa**
Elk Butte Member
(Pale grey bentonitic clay containing numerous red, dark brown layers, and occasional bentonite.)
 - Kpm**
Moberg Member
(Buff and grey slightly calcareous clay in lower part. Numerous thin marl layers in lower-middle portion and light buff calcareous clay in upper part.)
 - Kpvc**
Virgin Creek Member
(Dark grey fissile, siliceous shale with numerous bentonites in lower part and with numerous white limestone concretions in upper part.)
 - Kpsv**
Sully Member
(Upper: Varenzyria facies (Kpsv) brown bentonitic clay with numerous ferruginous concretions. Lower: Agency-Dacoma transition facies (Kpsv) light grey bentonitic sand and few Fe-Mn concretions in upper part; light grey, siliceous, blocky shale in lower part.)

DRAINAGE

- Intermittent Streams
- Intermittent Lakes

CULTURE

- Buildings
(House, church and school)
- Roads and Trails
- Altitudes
(In feet above sea level)
- Bench Marks
(Monument marking point of known altitude)
- Triangulation Stations
(Monument marking point of exact geographic location)
- Gravel Pits and Quarries

Geology by E. H. Stevens
Assisted by J. M. Wilson
Surveyed in 1950

Based on maps of Engineers
U. S. Army, and Geodetic data from U. S.
Coast and Geodetic Survey

