



EXPLANATION

- Qal Alluvium
- Qtg Terrace gravel
- Ql Landslide

Kfr			
s	m	ss	S <sub>5</sub>

Fall River formation  
s, sandstone; m, mudstone; ss, sandstone and siltstone interbedded; S<sub>5</sub> is a prominent fine-grained grayish-orange crossbedded cliff-forming sandstone previously designated S<sub>6</sub> on maps of adjacent areas. Basal ss contains uranium in adjacent areas

Klf	
m	S <sub>4</sub>

Fusion member  
m, mudstone; S<sub>4</sub> is a prominent fine-grained to conglomeratic grayish-orange to yellowish-gray crossbedded cliff-forming channel sandstone

Klm

Minnewaste limestone member  
Thin medium-gray sandy limestone

Klu		
m	sm	S <sub>2</sub>

Unnamed lower unit  
m, mudstone; sm, sandstone and mudstone interbedded; S<sub>2</sub> is a prominent fine-grained yellowish-gray crossbedded sandstone, the top of which is marked over much of the area by a prominent 5-foot red sandstone. S<sub>2</sub> contains discontinuous lenses of mudstone and siltstone.

Jm

Morrison formation  
Green calcareous sandy mudstone and thin dense light-gray limestone

Ju

Unkappa sandstone  
White to pale-red fine-grained argillaceous indistinctly crossbedded sandstone. Top locally grades into claystone

Jsr

Jsl

Jsh

Jssb

Jscs

Sundance formation  
Jsr, Redwater shale member, gray marine shale, siltstone, thin fossiliferous sandstones, glauconitic at top; Jsl, Lak member, moderate reddish-brown siltstone; Jsh, Hulet sandstone member, fine-grained pale grayish-orange ripple-marked thin-bedded sandstone, thin gray shale and siltstone at top; Jssb, Stockade Beaver shale member, olive-gray fossiliferous calcareous shale; Jscs, Canyon Springs sandstone member, pale-orange to moderate reddish-brown fine-grained friable sandstone, lower part massive, upper part thin bedded

RPs

RPs

RPs

Spearfish formation  
Dark reddish-brown siltstone, RPs, prominent gypsiferous units consisting of 10-foot beds of gypsum separated by 5-foot sandstone beds, RPs

Contact

Dashed where approximately located

Indefinite or inferred contact

Bottom contact of Inyan Kara group

Dashed where approximately located

Contact within Inyan Kara group

Dashed where approximately located

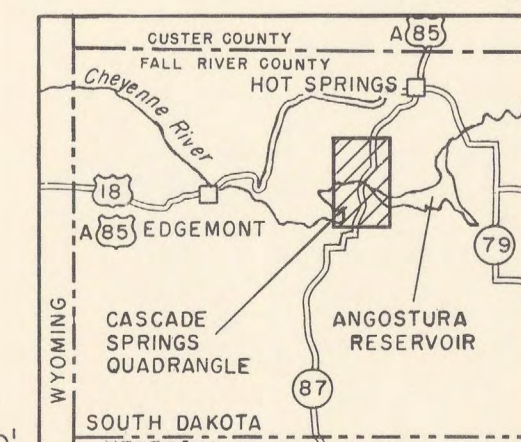
Limit of exposure  
"e" indicates exposure. Exposures mapped only in Inyan Kara group, Morrison formation, Unkappa sandstone, and Sundance formation

3900

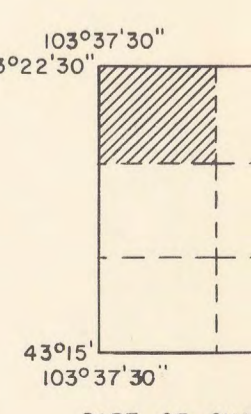
Structure contour

Drawn on top of unnamed lower unit of Lakota formation; interval 50 feet; datum is mean sea level. Long dashes where unnamed lower unit of Lakota formation is buried, dotted where eroded

Silica cement



APPROXIMATE MEAN DECLINATION, 1959



PART OF QUADRANGLE COVERED BY THIS MAP

PRELIMINARY GEOLOGIC AND STRUCTURE MAP OF THE NORTHWEST PART OF THE CASCADE SPRINGS QUADRANGLE, FALL RIVER COUNTY, SOUTH DAKOTA

By  
Edwin V. Post and Norman P. Cuppels

Scale 1:7200

1000 0 1000 2000 3000 Feet

Contour interval 10 feet

Datum is mean sea level

1959

South Dakota (NW Cascade Springs quad.) Geol. 1:7,200. 1959.  
cop. 1.