DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH THE
U. S. ATOMIC ENERGY COMMISSION

(sheet 1 of 2)

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EXPLANATION

QUATERNARY

Qal — Alluvium

Qtg — Terrace gravel

Ql — Landslide

CRETACEOUS

Ksc — Skull Creek shale
Dark-gray marine shale.

Lower Cretaceous — Inyan Kara group — Lakota formation

Kfr				
s	m	st	sst	s_5

Fall River formation
s, sandstone; m, mudstone; st, siltstone; sst, sandstone and siltstone interbedded. s_5 is a prominent fine-grained grayish-orange crossbedded cliff-forming sandstone previously designated s_6 on maps of adjacent areas. Basal sst contains uranium.

Klf		
s	m	s_4

Fuson member
s, sandstone; m, mudstone. s_4 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_2

Unnamed lower unit
m, mudstone; sm, sandstone and mudstone interbedded. s_2 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-thick red sandstone. s_2 contains discontinuous lenses of mudstone and siltstone.

JURASSIC

Upper Jurassic

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

Contact
Dashed where approximately located.

Indefinite or inferred contact

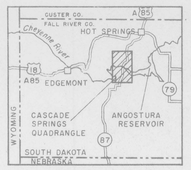
Top and bottom contacts of Inyan Kara group

Contact within Inyan Kara group

Limit of exposure
"e" indicates exposure. Exposures mapped only in Inyan Kara group and Unkpapa sandstone.

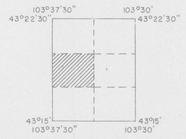
Structure contour
Drawn at top of Unnamed lower unit of Lakota formation; interval 50 feet; datum is mean sea level. Dashed where Unnamed lower unit of Lakota formation is buried, dotted where eroded.

X — Uranium deposit



INDEX MAP SHOWING LOCATION OF CASCADE SPRINGS QUADRANGLE

0 5 10 Miles



PART OF QUADRANGLE COVERED BY THIS MAP

APPROXIMATE MEAN DECLINATION, 1957

Topography by U. S. Geological Survey by multiplex methods from aerial photographs

Geology by E. V. Post and N. P. Cuppels, 1955, assisted by D. W. Lane and W. B. Bryan

PRELIMINARY GEOLOGIC AND STRUCTURE MAP OF THE WEST-CENTRAL 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

1957