



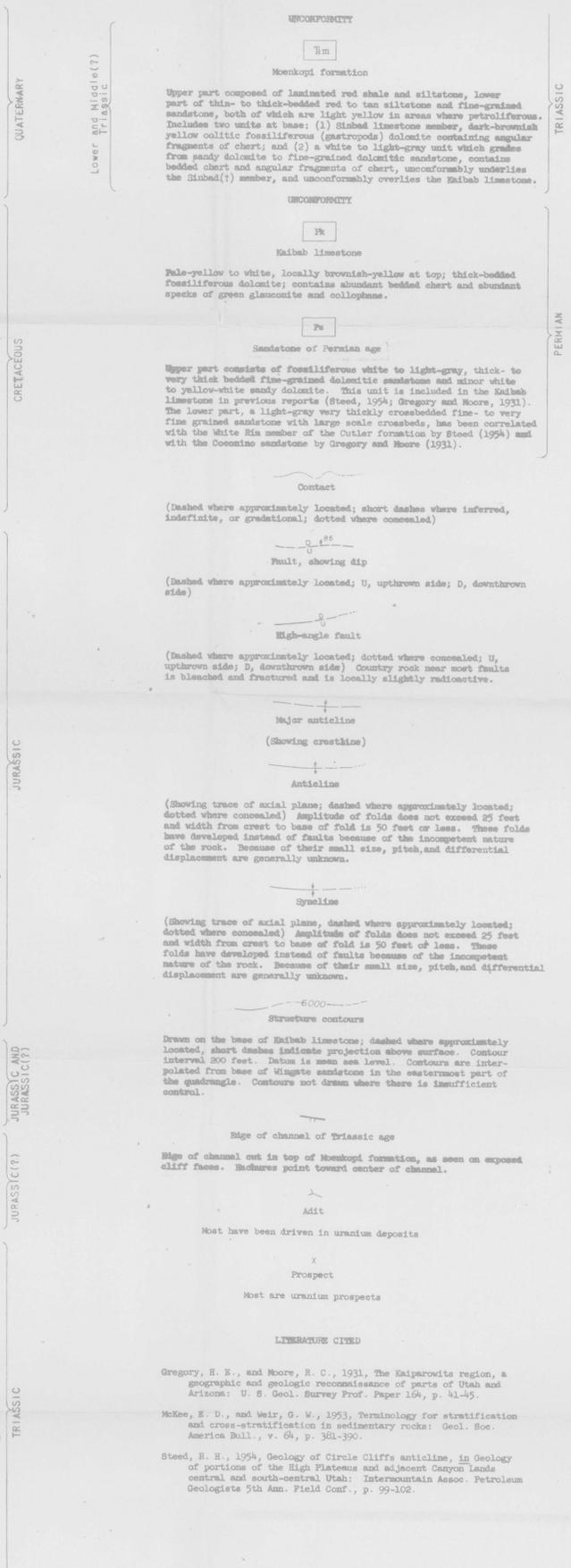
BASE MAP BY TOPOGRAPHIC DIVISION
U. S. GEOLOGICAL SURVEY, 1958

GEOLOGY MAPPED BY E. S. DAVIDSON,
D. A. BREW, AND L. D. CARSWELL, 1954-56

SECTION ALONG LINE A-A'
PRELIMINARY GEOLOGIC MAP OF THE CIRCLE CLIFFS I SE QUADRANGLE, GARFIELD COUNTY UTAH
BY
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| Geological Unit | Description | Stratigraphic Column | Notes |
|-----------------|--------------------------|---------------------------|--|
| Qal | Alluvium | Quaternary | Valley fill and stream deposits; light-red wind-deposited sand and silt in the Hills Creek area, reworked in part by water; terrace gravels in the Hills Creek area and westernmost outcrop in Burr Canyon. |
| Ql | Landslide deposits | Quaternary | Deposits formed near base of Wingate sandstone; includes landslide material from sandstones of the Chinle formation mixed with blocks of Wingate sandstone. |
| Kms | Mancos shale | Upper Cretaceous | Alternating sandstone and bentonitic mudstone units; Km, Berry member, light-brownish gray massive cliff-forming sandstone; Kmb, Blue Gate member, blue-gray finely laminated shale; Km, Perron member, light-brown sandstone, with the lower contact locally gradational; Knt, Tunnak member, dark-gray fissile shale, contains abundant fossil oysters (<i>Strymona neberryi</i>) at base. |
| Da | Dakota sandstone | Cretaceous | Yellowish-gray to white lenticular sandstone and conglomerate with small amounts of interbedded carbonaceous shale; locally contains lenses of noncommercial high-ash coal. |
| Hsb | Harrison formation | Upper Jurassic | Variagated sandstone; white, gray, yellowish-orange to light-gray conglomeratic sandstone; Hsb, Brushy Butte member, consists largely of bentonitic sandstone, but includes some sandstone and conglomerate lenses; Hss, Salt Wash member, sandstone and conglomeratic sandstone containing some interbedded red and gray sandstone. Locally the Harrison is abnormally radioactive, probably due to the presence of carnotite. |
| Sm | Summerville formation | Upper Jurassic | Thin-bedded (Hesse and Weir, 1953) red and gray sandstone, siltstone and shale. |
| Je | Entrada sandstone | San Rafael group | Orange, light-yellow, white fine-grained massive and crossbedded sandstone. Near the middle of the formation is an "earthy" weathering, reddish-brown sandstone, siltstone, and shale unit which is less resistant than the rest of the formation; locally includes at the top a thin bed of carbonate-rich sandstone which may represent the Curtis formation. |
| Jc | Carmel formation | Upper and Middle Jurassic | Reddish-brown sandstone and shale, light-red to light-greenish gray limestone; upper part contains contorted beds of gypsum 3 to 10 feet thick. |
| Jn | Nevado sandstone | Jurassic and Jurassic | White to light-yellow fine-grained sandstone with large scale cross-strata; very few local thin light-gray limestone beds. |
| Yk | Yaventa formation | Glen Canyon group | Red to brown very thick to thin-bedded sandstone and red shale. Local lenses of white sandstone with large scale cross-strata in the upper part. |
| W | Wingate sandstone | Glen Canyon group | Light-brown fine-grained sandstone; weathers reddish-brown; locally contains thin beds of gray sandy dolomite. |
| Rcu | Chinle formation | Upper Triassic | Rcu, undifferentiated Chinle formation, includes: light-red and reddish-brown siltstone, claystone, and thin gray limestone beds of Owl Rock member; variegated maroon, gray, and reddish-orange bentonitic siltstone and sandstone of Petrified Forest member; greenish-gray bentonitic siltstone and fine-grained micaceous sandstone lenses of Monitor Butte member. Rcs, Shinarump member, very light yellow to light-gray medium- to fine-grained carbonaceous sandstone, locally containing conglomeratic beds and thin-bedded greenish-gray shaly sandstone; locally includes an unconformably underlying distinctive red to mottled red and grayish-white siltstone which is included in undifferentiated Chinle where the Shinarump member is absent; locally is gradational or intertongues with overlying rock unit. The Shinarump member is an important host rock for uranium deposits. |
| Rm | Moenkopi formation | Triassic | Upper part composed of laminated red shale and siltstone, lower part of thin- to thick-bedded red to tan siltstone and fine-grained sandstone, both of which are light yellow in areas where petroliferous sandstone. Includes two units at base: (1) Shaded limestone member, dark-brownish yellow oolitic fossiliferous (gastropods) dolomite containing angular fragments of chert; and (2) a white to light-gray unit which grades from sandy dolomite to fine-grained dolomitic sandstone, contains bedded chert and angular fragments of chert, unconformably underlies the Shaded(?) member, and unconformably overlies the Kaibab limestone. |
| Rk | Kaibab limestone | Triassic | Pale-yellow to white, locally brownish-yellow at top; thick-bedded fossiliferous dolomite; contains abundant bedded chert and abundant specks of green glauconite and oolite. |
| Rn | Sandstone of Permian age | Permian | Upper part consists of fossiliferous white to light-gray, thick- to very thick bedded fine-grained dolomitic sandstone and minor white to yellow-white sandy dolomite. This unit is included in the Kaibab limestone in previous reports (Steed, 1954; Gregory and Moore, 1931). The lower part, a light-gray very thickly crossbedded fine- to very fine grained sandstone with large scale crossbeds, has been correlated with the White Rim member of the Cutler formation by Steed (1954) and with the Coconino sandstone by Gregory and Moore (1931). |



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