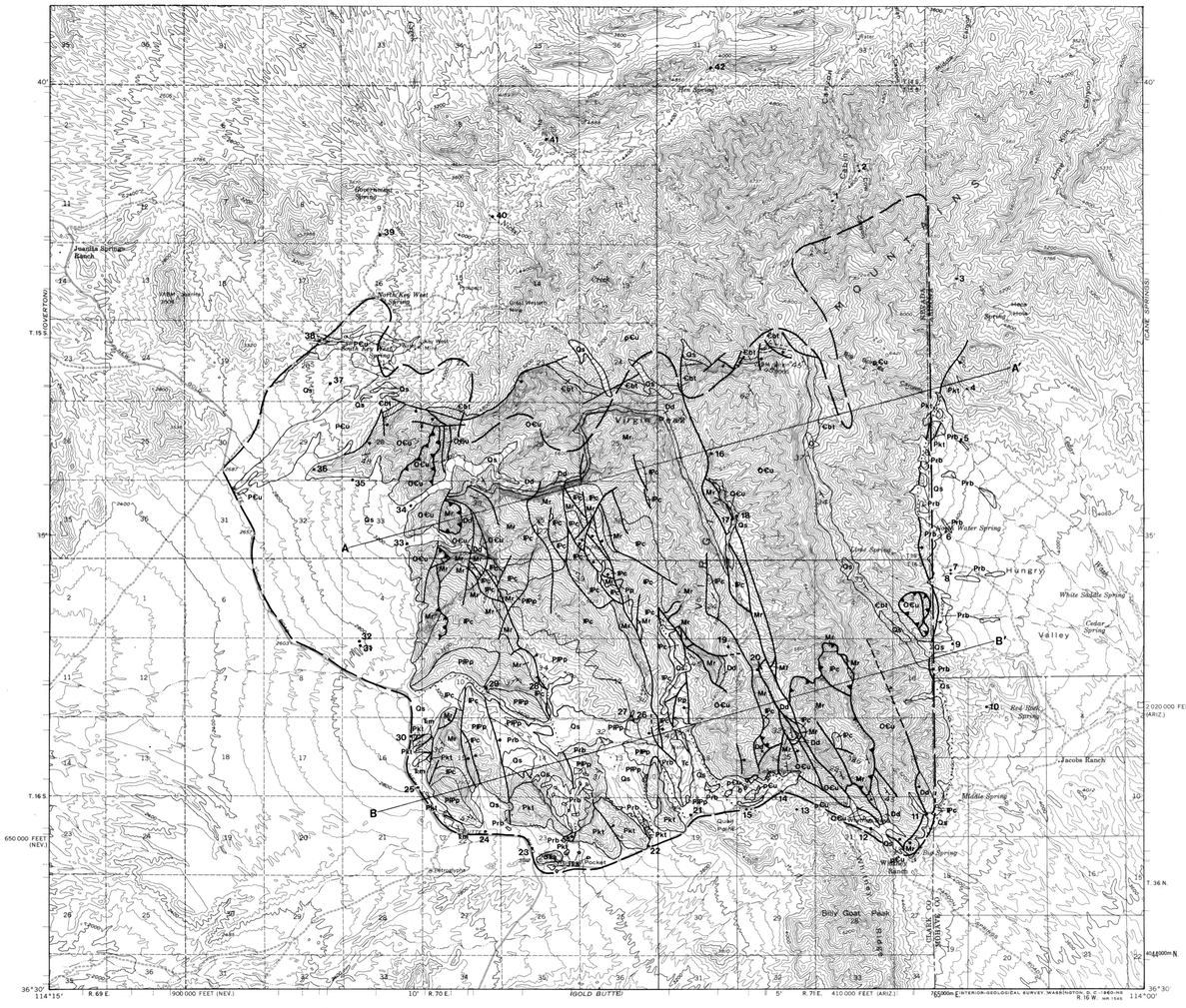
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY



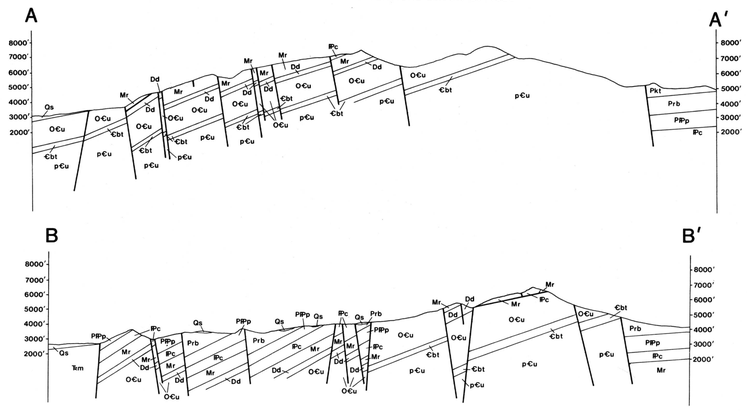
Base from U. S. Geological Survey.
Virgin Peak, Nev.-Ariz., 1958

SCALE 1:62500

CONTOUR INTERVAL 80 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

APPROXIMATE MEAN DECLINATION, 1958

AREA OF MAP



GEOLOGIC MAP OF THE VIRGIN MOUNTAINS INSTANT STUDY AREA, CLARK COUNTY, NEVADA

by

Richard K. Hose

1980

MISCELLANEOUS FIELD STUDIES
MAP MF-1204-A

CORRELATION OF MAP UNITS

Qs	QUATERNARY
Unconformity	
Tc	TERTIARY
Unconformity	
JTRa	JURASSIC AND TRIASSIC (?)
TRm	TRIASSIC
Pkt	PERMIAN
Prb	PERMIAN
PIPp	PERMIAN
IPc	PENNSYLVANIAN
Mr	MISSISSIPPIAN
Dd	DEVONIAN
Unconformity	
O€u	ORDOVICIAN (?) AND CAMBRIAN
€bt	CAMBRIAN
Unconformity	
p€u	PRECAMBRIAN

DESCRIPTION OF MAP UNITS

Qs SURFICIAL DEPOSITS--Alluvium, gravel, and caliche-cemented gravel in stream beds. Includes talus and rock-cut fan veneer

Tcgl CONGLOMERATE--Pebble and cobble conglomerate derived from Paleozoic and Mesozoic terrane. Present in south-central part of map area

JTRa AZTEC SANDSTONE (Jurassic and Triassic?)--Reddish to salmon-colored, medium- to fine-grained eolian crossbedded sandstone. Thickness indeterminate. Present only in southern part of Instant Study Area

TRm MOENKOPI FORMATION (Triassic)--Reddish siltstone, yellow-gray calcarenite, and reddish sandstone. No complete section of this unit is present in the Instant Study Area , so thickness is unknown

Pkt KAIBAB LIMESTONE AND TOROWEAP FORMATION, UNDIVIDED (Permian)--Sequence consists of two 120-m (400-ft) resistant massive, siliceous, banded limestone units separated by a slope-forming unit of gypsum and soft red sandstone. Characteristically, the two limestone units are coarse textured, detrital, and contain cherty siliceous limestone bands. About 245 to 275 m (800 to 90 ft) thick

Prb RED BEDS--Sequence consists of brick-red to moderate yellow-orange massive fine-grained crossbedded sandstone and interbedded slope-forming red siltstone. A 15-m (50-ft) gypsum bed is present at the top. Sequence contains partial equivalents of the Queantoweap Sandstone, Hermit Shale, and Coconino Sandstone of McNair (1951) but these units are not well developed enough to warrant separation Sequence is 335 to 365 m (1100 to 1200 ft thick)

PIPp PAKOON LIMESTONE OF MCNAIR (1951) (Permian and Pennsylvanian)--Light-yellowish-gray dolomitic rocks, sandy, in part siliceous, that is, with nodules and concretions. Unit is vuggy and earthy and contains brecciated zones probably formed from dissolution of interbedded gypsum. Gypsum occurs in thick beds locally in the upper few hundred feet. Thickness about 305 to 335 m (1000-1100 ft). Contains Virgilian fusulinids in lower part

IPc CALLVILLE LIMESTONE (Pennsylvanian)--Medium-gray limestone interbedded with fine-grained sandstone that weathers light yellow gray to brownish black. The limestone contains abundant chert nodules, siliceous concretions, and the fossil coral Chaetetes (Atokan). The sandstone is crossbedded. Lower 25 m (80 ft) is reddish-colored sandstone with limestone interbeds. Formation is about 260 to 275 m (850 to 900 ft) thick

Mr ROGERS SPRING LIMESTONE (Mississippian)--Fine-grained and medium-grained limestone, locally dolomitized. Bands of nodular chert are present in a 6-m (20-ft)-thick zone about 60 m (200 ft) above the bse. Sequence is resistant, massive, medium gray, and locally contains abundant corals. Thickness nearly 180 m (600 ft)

Dd DOLOMITE--Sugary textured light-yellow-gray dolomite that weathers light olive gray. Locally contains sandstone beds, and some very light gray very fine grained laminated dolomite alternating with darker and coarser laminated dolomite locally cut by beds and pipelike bodies of breccia. Contains stromatoporoids or algal biscuits and Amphipora. Thickness about 75 m (250 ft)

O€u SEDIMENTARY ROCKS, UNDIVIDED (Ordovician(?) and Cambrian)--Mainly limestone and dolomite. In some areas almost the entire section is dolomite. The carbonate is massive, mottled, and in part oncolitic, particularly in the lower part. A very light gray laminated dolomite zone about 120 m (450 ft) thick is present about 180 m (600 ft) below the top. Three-m (10-ft) beds of glauconitic siltstone and sandstone are present 58 m (190 ft) and 70 m (230 ft) below the top. The upper 73 m (240 ft) or so of the sequence may be Ordovician. Thickness about 485 to 550 m (1600 to 1800 ft)

€bt BRIGHT ANGEL SHALE AND TAPEATS SANDSTONE, UNDIVIDED (Cambrian)--Sequence consists of a basal sandstone, the Tapeats Sandstone, about 60 m (200 ft) thick, overlain by a 60-m (200-ft)-thick sericitic siltstone, the Bright Angel Shale. The sandstone is characterized by Scolithus and vertical borings and is planar crossbedded, weathers pale yellowish orange to brick red. Rests conformably on Precambrian rocks

p€u METAMORPHIC AND IGNEOUS ROCKS, UNDIVIDED--Includes schist, gneiss, amphibolite, pegmatite, and granitic rocks

Contact--Dashed where approximately located

Fault--Dashed where approximately located; dotted where concealed. Bar and ball on downthrown side

Thrust fault--Sawteeth on upper plate

32 Strike and dip of beds

• 18 Sample locality; numbers refer to samples to be reported in U.S. Geological Survey MF Map by Robert R. Carlson and Richard B. Tripp

Long dashed line is the Instant Study area boundary

REFERENCES CITED

McNair, A. H ., 1951, Paleozoic stratigraphy of part of northwestern Arizona: American Association of Petroleum Gelogists Bulletin, v. 35, no. 3, p. 503-541.

Mineral Surveys Related to Bureau of Land Management
Instant Study Areas

In accordance with the provisions of the Federal Land Policy and Management Act (Public Law 94-579, October 21, 1976), the Geological Survey and the Bureau of Mines have conducted mineral surveys on certain areas, which formally had been identified as "natural" and "primitive" areas prior to November 1, 1975. This report discusses the results of a mineral survey of the Virgin Mountains, Nev.

Interior-Geological Survey, Reston, Va.-1980

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