

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PRELIMINARY GEOLOGIC MAP OF DELTA 2⁰ QUADRANGLE, WEST-CENTRAL UTAH

By
Hal T. Morris

Open-File Report
78-705

U. S. Geological Survey
OPEN FILE REPORT
This report is preliminary and has
not been edited or reviewed for
conformity with Geological Survey
standards and nomenclature.

DESCRIPTION OF MAP UNITS

- QTs SEDIMENTARY DEPOSITS (Quaternary and Tertiary)--Chiefly valley-fill deposits and alluvium; includes both the Salt Lake Formation, here of Pliocene age, and the Quaternary Lake Bonneville deposits
- Qbu BASALT FLOWS, UNDIFFERENTIATED (Quaternary)--Chiefly isolated exposures of uncertain affinity
- Qb₁₋₄ BASALT FLOWS (Quaternary)--Subscript numbers indicate successively younger flows, one being the oldest, in any mountain range. Mostly separate, distinctive flows in local eruptive centers
- Qbc BASALT CONE (Quaternary)--Chiefly identifies Pavant Butte, a tuff cone
- Qt BASALT TUFFS AND GRAVELS (Quaternary)
- Tib INTRUSIVE BRECCIA (Miocene)--Occurs as breccia pipes
- Teb EXTRUSIVE BRECCIA (Miocene)--Material erupted from breccia pipes
- Tyg YOUNGER GRANITIC ROCKS (Miocene)--Chiefly porphyritic stocks, plugs, and large dikes
- Tya₁₋₂ YOUNGER ACIDIC VOLCANIC ROCKS (Miocene)--Subscript numbers indicate successively younger units. Includes Topaz Mountain Rhyolite of Erickson (1963) and related volcanic units

Tyi YOUNGER INTERMEDIATE VOLCANIC ROCKS (Miocene)--Chiefly latite and quartz latite

Tyt₁₋₂ YOUNGER TUFFS (Miocene)--Subscript numbers indicate successively younger units in any mountain range

Tls LANDSLIDE DEPOSITS (Miocene)--Extensive coherent landslide masses in northeastern Drum Mountains

Tgr GRAVEL (Miocene)--Semiconsolidated conglomerate below Miocene volcanic rocks in East Tintic Mountains

Tog₁₋₃ OLDER GRANITIC ROCKS (Oligocene)--Subscript numbers indicate successively younger units in any mountain range. Chiefly monzonite and quartz monzonite porphyry stocks, plugs, and large dikes

Togs OLDER GRANITIC SILLS (Oligocene)--Thick and extensive sills in the East Tintic Mountains

Toa₁₋₂ OLDER ACIDIC VOLCANIC ROCKS (Oligocene)--Subscript numbers indicate successively younger units in any mountain range. Chiefly includes Needles Range Formation

Toi₁₋₃ OLDER INTERMEDIATE VOLCANIC ROCKS (Oligocene)--Subscript numbers indicate successively younger units in any mountain range. Chiefly latite or quartz latite

Tob₁₋₅ OLDER BASIC VOLCANIC ROCKS (Oligocene)--Subscript numbers indicate successively younger units in any mountain range

Tot₁₋₄ OLDER TUFFS (Oligocene)--Range from acidic tuffs and breccias to basic tuffs and breccias

Tovs₁₋₂ OLDER VOLCANO-SEDIMENTARY ROCKS (Oligocene)--Subscript numbers indicate successively younger units in any mountain range. Includes Sage Valley Limestone Member of Muessig (1951) and an older volcanic conglomerate in east-central part of map area

Ts PREVOLCANIC SEDIMENTARY DEPOSITS (Oligocene)--Chiefly fanglomerate and alluvium

Tf FLAGSTAFF LIMESTONE (Eocene and Paleocene)--Mostly algal limestone interlayered with continental deposits

TKn NORTH HORN FORMATION (Paleocene and Upper Cretaceous)--Chiefly continental red beds

Kpr PRICE RIVER FORMATION (Upper Cretaceous)--Synorogenic conglomerate with some sandstone and shale

Ki INDIANOLA GROUP (Upper Cretaceous)--Synorogenic conglomeratic with some sandstone and shale

Jd DIKES (Lower Jurassic)--Quartz monzonite porphyry dikes in northern House Range

Jig HOUSE RANGE INTRUSION (Lower Jurassic)--Quartz monzonite stock in House Range

Jn NAVAJO SANDSTONE (Lower Jurassic)--In lower plate of Pavant thrust fault, Pavant Range, southeastern part of map area

- \overline{k} t THAYNES LIMESTONE (Lower Triassic)--Exposed locally in Confusion Range
- Pp PARK CITY GROUP AND PARK CITY FORMATION (Upper and Lower Permian)--Group includes Kaibab, Plympton, and Gerster Formations in Confusion Range and Kaibab Limestone, including a tongue of Meade Peak Phosphatic Shale Member in the East Tintic Mountains
- Pa ARCTURUS FORMATION (Lower Permian)--Exposed in Confusion Range
- Pdc DIAMOND CREEK(?) SANDSTONE (Lower Permian)--Exposed in southern East Tintic and Gilson Mountains
- PMe ELY LIMESTONE (Lower Permian, Pennsylvanian, and Upper Mississippian)--Chiefly in western part of map area
- PPo OQUIRRH GROUP (Lower Permian and Pennsylvanian)--Includes West Canyon, Butterfield Peaks, Bingham Mine, and Furner Valley Formations in eastern part of map area
- Mu UPPER MISSISSIPPIAN STRATA--Chiefly includes Chainman Shale in western part of map area and Deseret, Humbug, and Great Blue Formations in eastern part of map area
- Ml LOWER MISSISSIPPIAN STRATA--Chiefly includes Fitchville and Gardison Formations in eastern part of map area. Locally includes some Upper Devonian strata in lowest part of Fitchville Formation

- MD MISSISSIPPIAN AND DEVONIAN STRATA, UNDIFFERENTIATED (Lower Mississippian and Upper Devonian)--Includes Chainman Shale, Joana Limestone, and Pilot Shale in central and northern Confusion Mountains, and Joana Limestone and Pilot Shale in southern Confusion Mountains
- Du UPPER DEVONIAN STRATA--Includes Guilmette Formation, which locally contains some Middle Cambrian beds, in western part of map, and Victoria Formation and Pinyon Peak Limestone in eastern part of map area
- Dm MIDDLE DEVONIAN STRATA--Consists of Simonson Dolomite in central and western parts of map area
- Dl LOWER DEVONIAN STRATA--Consists of Sevy Dolomite in central and western parts of map
- Sm MIDDLE SILURIAN STRATA--Includes Laketown Dolomite in western part of map area and Bell Hill, Harrisite, Lost Sheep, and Thursday Dolomites in central part of map area
- Ou UPPER ORDOVICIAN STRATA--Includes Ely Springs Dolomite in western part of map area, Ely Springs and Floride Dolomites in central part of map, and Fish Haven Dolomite in eastern part of map area
- DOB BLUEBELL DOLOMITE (Upper, Middle, and Lower Devonian, Middle Silurian, and Upper Ordovician)--Chiefly in East Tintic Mountains

- SO LAKETOWN AND FISH HAVEN DOLOMITES, UNDIFFERENTIATED (Middle
 Silurian and Upper Ordovician)--Chiefly small, isolated, and
 unfossiliferous exposures
- Om MIDDLE ORDOVICIAN STRATA--Includes Swan Peak or Watson Ranch
 Quartzite, Crystal Peak Dolomite, and Eureka Quartzite in western
 part of map area, and Swan Peak or Eureka Quartzite in central
 part of map area
- O1 LOWER ORDOVICIAN STRATA--Includes Pogonip Group in western and central
 parts of map and equivalent Opohonga Limestone in the East Tintic
 Mountains
- Oc CHOKECHERRY DOLIMITE (Lower Ordovician? and Upper Cambrian)--Occurs
 in Deep Creek Mountains
- ~~Eu~~ UPPER CAMBRIAN STRATA, UNDIFFERENTIATED
- ~~Eu~~u UPPER PART OF UPPER CAMBRIAN SECTION--Includes the Notch Peak
 Formation, which locally includes a few feet of Upper Ordovician
 strata at top, in middle part of map area
- ~~Eu~~l LOWER PART OF UPPER CAMBRIAN SECTION--Includes chiefly the Weeks,
 Orr, Dunderberg, Johns Wash, and Corset Spring Formations in the
 central part of the map area. Locally the Weeks Limestone
 contains some Middle Cambrian beds
- ~~Em~~ MIDDLE CAMBRIAN STRATA, UNDIFFERENTIATED

- ~~Cmn~~ UPPER PART OF MIDDLE CAMBRIAN SECTION--Chiefly includes the Marjum Formation in the central part of the map area

- ~~Cml~~ LOWER PART OF MIDDLE CAMBRIAN SECTION--Chiefly includes Tatow, Howell, Chisholm, Dome, Whirlwind, Swasey, and Wheeler Formations in central part of map area

- €l LOWER CAMBRIAN STRATA--Includes Prospect Mountain, Cabin, Busby, and Pioche Formations in western and central parts of map area, and Tintic Quartzite in eastern part of map area

- ~~P~~ PALEOZOIC STRATA, UNDIFFERENTIATED--Chiefly small thrust slices in the Sheeprock and West Tintic Mountains

- Zmi MUTUAL AND INKOM FORMATIONS (Precambrian Z)--Prominently exposed in Drum, Sheeprock, and Canyon Mountains

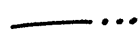
- Yu SHEEPROCK GROUP OF HARRIS (1958), UNDIFFERENTIATED (Precambrian Y)--Prominently exposed in Sheeprock Mountains and Canyon Range. Includes questionable Big Cottonwood Formation in East Tintic Mountains


- Ysu UPPER PART OF SHEEPROCK GROUP (Precambrian Y)--Weakly metamorphosed in most exposures, but moderately to strongly metamorphosed in southern Deep Creek Mountains


- Ydp DUTCH PEAR TILLITE OF COHENOUR (1959) (Precambrian Y)--Distinctive boulder phyllite extensively exposed in Sheeprock Mountains; moderately metamorphosed in southern Deep Creek Mountains

Ysl LOWER PART OF SHEEPROCK GROUP (Precambrian Y)--Extensively exposed
 in Simpson and Sheeprock Mountains; moderately metamorphosed in
 southern Deep Creek Mountains

 Contact

 Fault; dotted where concealed

 Thrust fault; dotted where concealed

 In crowded areas, staple indicates same map unit on both sides
 of fault

REFERENCES

- Cohenour, R. E., 1959, Sheeprock Mountains, Tooele and Juab Counties: Utah Geol. Mineralog. Survey Bull. 63, 201 p.
- Erickson, M. P., 1963, Volcanic geology of western Juab County, Utah, *in* Beryllium and uranium mineralization in western Juab County, Utah: Utah Geol. Soc. Guidebook to the geology of Utah, no. 17, p. 23-35.
- Harris, DeVerle, 1958, The geology of Dutch Peak area, Sheeprock Range, Tooele County, Utah: Brigham Young Univ. Research Studies Geology Ser., v. 5, no. 1, 82 p.
- Muessig, S. J., 1951, Eocene volcanism in central Utah: Science, v. 114, no. 2957, p. 234.