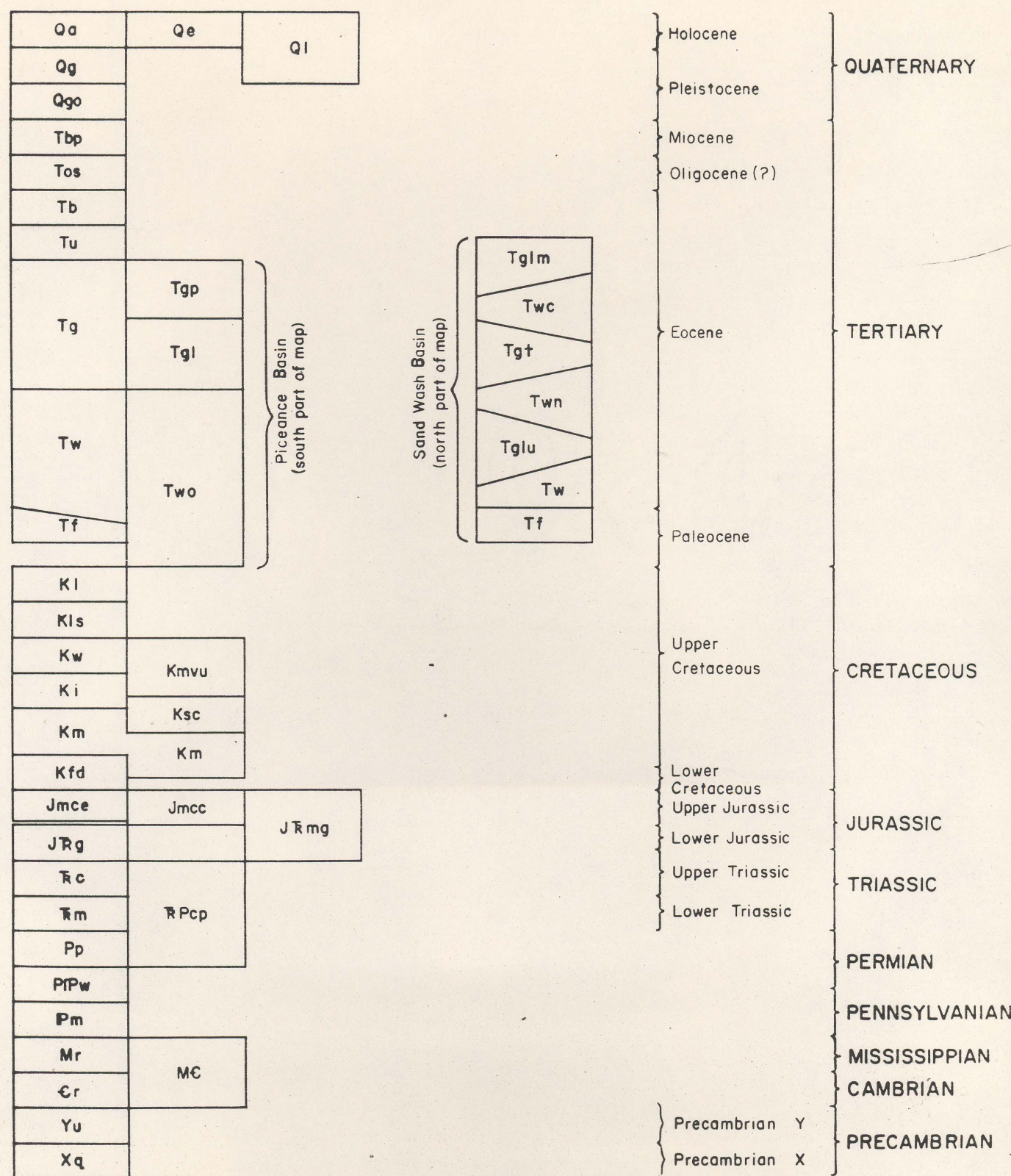


Preliminary Geologic Map of East
Half of Vernal 1°x2° Quadrangle,
Colorado
By
Ogden Tweto

Open-file Report 75-588
1975

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

CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

- (Formations for which no symbols are shown are grouped
with other stratigraphic units to form map units)
- UNCONSOLIDATED HOLOCENE DEPOSITS
- Qa Alluvium--Gravel, sand, and silt in stream valleys
- Qe Eolian deposits--Windblown sand and silt
- Ql LANDSLIDE DEPOSITS (HOLOCENE AND PLEISTOCENE)--Mixtures
derived from various bedrock and surficial units
- UNCONSOLIDATED PLEISTOCENE DEPOSITS
- Qg Young gravels (Bull Lake and younger)--Terrace gravels
- Qgo Old gravels and alluviums (pre-Bull Lake)--High-level
terrace and pediment gravels
- Tbp BROWNS PARK FORMATION (MIOCENE)--Loosely consolidated
sandstone, siltstone, and volcanic ash
- Tos OLIGOCENE(?) SEDIMENTARY ROCKS--Includes Bishop Conglomerate
and Duchesne River Formation (sandstone and shale)
- Tb BRIDGER FORMATION (EOCENE)--Sandstone and claystone;
conglomerate at base
- Tu UINTEA FORMATION (EOCENE)--Sandstone and claystone
- Tg GREEN RIVER FORMATION (EOCENE)
Green River units distinguished only in south part of
map (Piceance Basin)
- Tgp Parachute Creek Member--Marlstone and oil shale
- Tgl Lower part--Shale, siltstone, and sandstone
Green River units distinguished in north part of map
(Sand Wash Basin):
- Tglm Laney Member--Claystone, oil shale, and sandstone
- Tgt Tipton Tongue--Claystone, oil shale, and sandstone.
Includes wedge of overlying Wilkins Peak Member in
northwest corner of map
- Tglu Luman Tongue--Siltstone, sandstone, and oil shale

2

- Tw WASATCH FORMATION (EOCENE IN SAND WASH BASIN; EOCENE AND
PALEOCENE IN PICEANCE BASIN)--Shale, mudstone, sandstone,
and conglomerate
- Twc Cathedral Bluffs Tongue
- Twn Niland Tongue
- Tf FORT UNION FORMATION (PALEOCENE)--Shale, sandstone, and coal
OHIO CREEK FORMATION (PALEOCENE)--Sandstone and conglomerate
- Two Wasatch Formation (including a thin Fort Union equivalent
at base) and Ohio Creek Formation
- Kl LANCE FORMATION (UPPER CRETACEOUS)--Shale and sandstone;
minor coal
- Kls LEWIS SHALE (UPPER CRETACEOUS)--Marine shale and minor
sandstone
- MESAVERDE GROUP (UPPER CRETACEOUS)
- Kw Williams Fork Formation--Sandstone, shale, and coal
- Ki Iles Formation--Sandstone and minor shale and coal.
Trout Creek Sandstone Member at top
- Kmvu Upper part--Sandstone, shale, and coal lying above Sego
Sandstone
- Sego Sandstone--Marine sandstone
- Castlegate Sandstone--Marine sandstone separated from
Sego Sandstone by Buck Tongue of Mancos Shale
- Ksc Sego Sandstone, Buck Tongue of Mancos Shale, and
Castlegate Sandstone
- Km MANCOS SHALE (UPPER AND LOWER CRETACEOUS)--Marine shale
and minor siltstone and sandstone
- Buck Tongue--Shale tongue in upper part of Mancos separated
from main body by Castlegate Sandstone. Merges with main
body near eastern edge of map. Contains Loyd Sandstone Bed
- Frontier Sandstone Member (Upper Cretaceous)--Calcareous
sandstone in lower part of Mancos
- Mowry Shale Member (Lower Cretaceous)--Siliceous shale at
base of Mancos Shale

3

- DAKOTA SANDSTONE (LOWER CRETACEOUS)--Sandstone and minor
shale and conglomerate. Near U.S. Highway 40 at west
edge of map, includes rocks of Lower Cretaceous Cedar
Mountain Formation
- Kfd Frontier and Mowry Members of Mancos Shale and Dakota
Sandstone
- MORRISON FORMATION (UPPER JURASSIC)--Shale, mudstone,
sandstone, and minor limestone
- CURTIS FORMATION (UPPER JURASSIC)--Glaucconitic sandstone,
shale, and limestone
- ENTRADA SANDSTONE (UPPER JURASSIC)--Crossbedded sandstone
- CARMEL FORMATION (UPPER JURASSIC)--Siltstone, shale, and
minor limestone. Present only near west edge of map
- Jmce Morrison, Curtis, and Entrada Formations
- Jmcc Morrison, Curtis, Entrada, and Carmel Formations
- JRmg GLEN CANYON CANYON SANDSTONE (LOWER JURASSIC AND UPPER TRIASSIC)--
Crossbedded sandstone separated from Entrada Sandstone by
subtle unconformity marked by chert granules. Unit is
called Navajo or Nugget by some geologists
- JRmg Morrison, Curtis, Entrada, and Glen Canyon Formations
- Rc CHINLE FORMATION (UPPER TRIASSIC)--Mudstone, siltstone, and
sandstone
- Rm MOENKOPI FORMATION (LOWER TRIASSIC)--Shale and mudstone
- Pp PARK CITY FORMATION (PERMIAN)--Shale, mudstone, and sandstone
- RPPc Chinle, Moenkopi, and Park City Formations
- PPW WEBER SANDSTONE (PERMIAN AND PENNSYLVANIAN)--Crossbedded
sandstone
- Pm MORGAN FORMATION (PENNSYLVANIAN)--Limestone, shale and
sandstone
- Mr MISSISSIPPIAN ROCKS--Limestone referable either to Madison or
Leadville Limestone
- Cr CAMBRIAN ROCKS--Quartzite and minor shale referable either to
Lodore Formation or Sawatch Quartzite
- MC Mississippian and Cambrian rocks

4

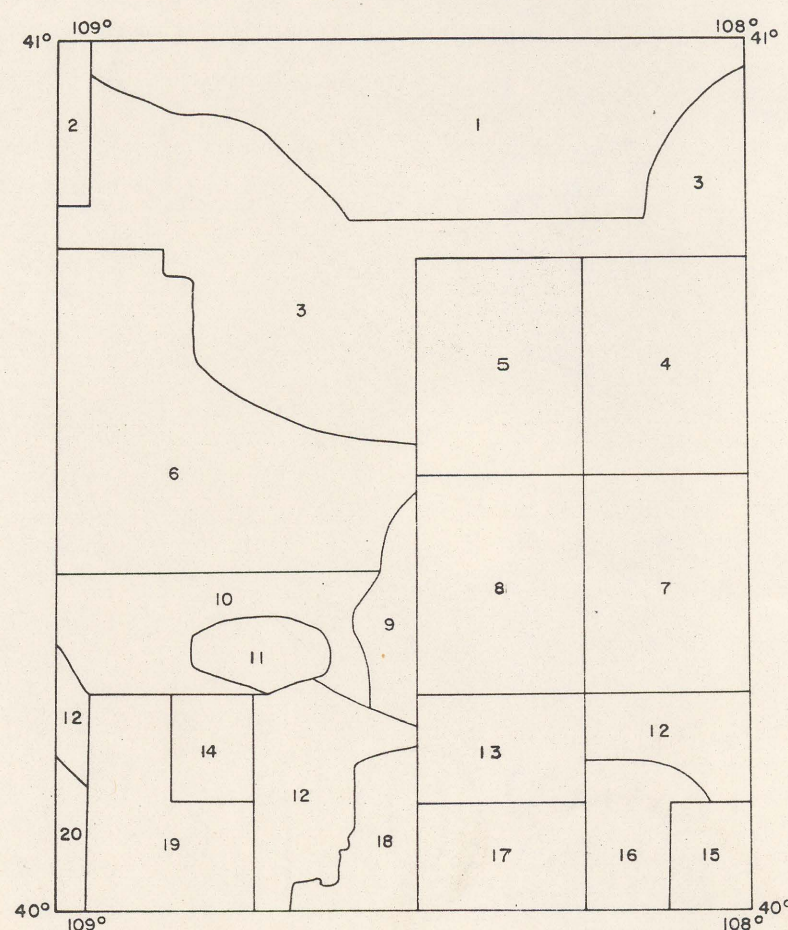
- Yu UINTEA MOUNTAIN GROUP (PRECAMBRIAN Y)--Sandstone or quartzite;
minor siltstone and conglomerate
- Xq PRECAMBRIAN X QUARTZITE--Quartzite, amphibolite, and mica
schist of Red Creek Quartzite

- Contact
- Fault--Dotted where concealed. Bar and ball on downthrown
side
- Crest of anticline
- Trough of syncline
- Concealed monocline

5

SOURCES OF GEOLOGIC INFORMATION

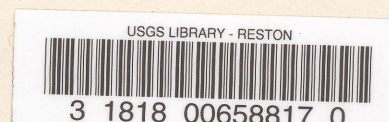
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INDEX SHOWING SOURCES OF
GEOLOGIC INFORMATION

6

Colorado (Vernal quad, east). Scale 1:250,000. 1975
sheet 2
cop 1



M(200)
290
75-588
sheet 2

7