

GMS-115

Geologic Map of the Mount Fanny and Little Catherine Creek Quadrangles,
Union and Wallowa Counties, Oregon

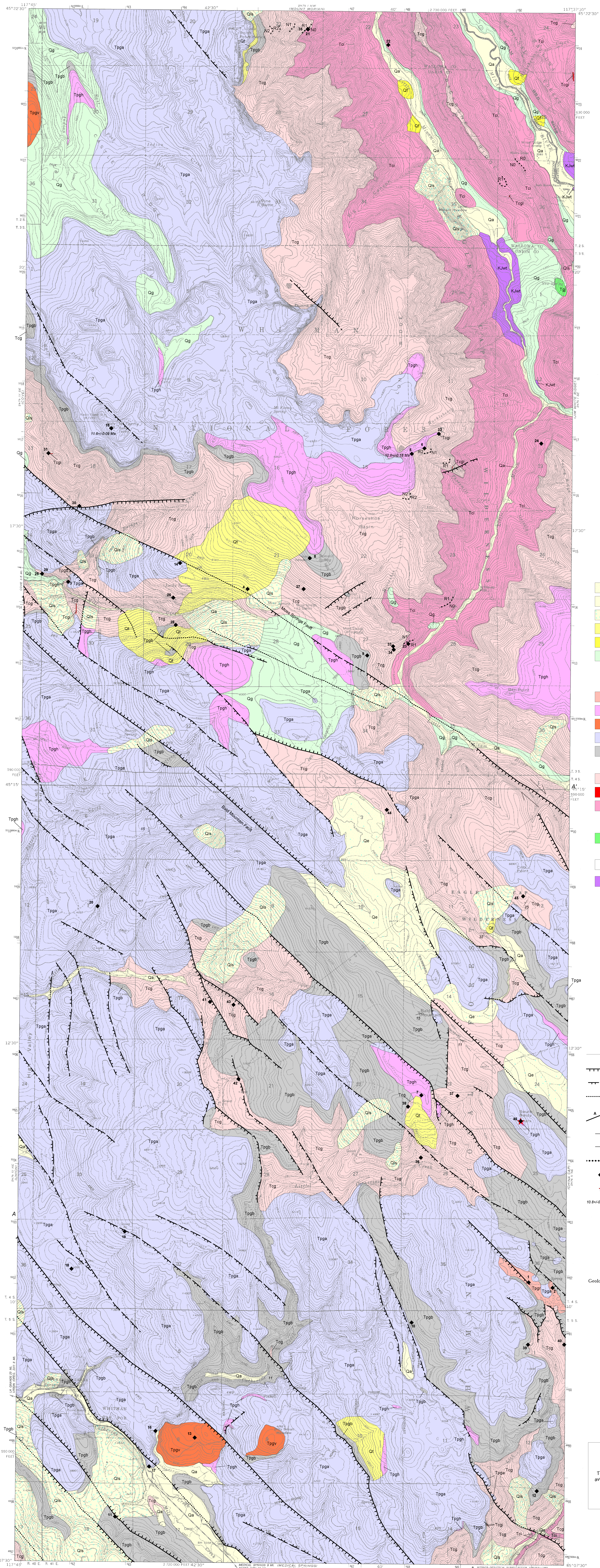
By V.S. McConnell, I.P. Betteridge, and M.L. Ferns

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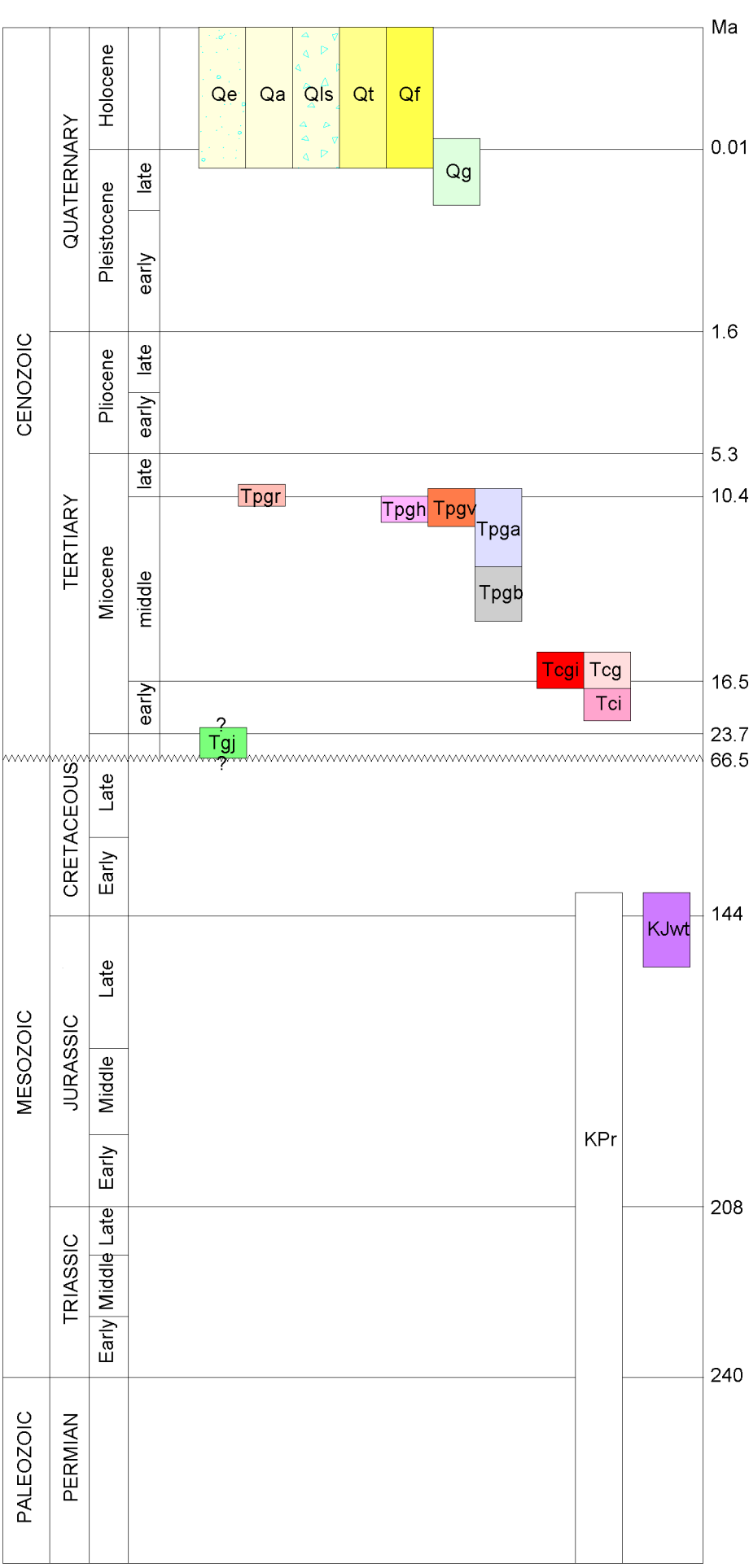
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Union and Wallowa Counties, Oregon

2003



TIME ROCK CHART



EXPLANATION OF MAP UNITS
(Full description of units in accompanying text)

- Surficial Deposits**
- Qe Ash and eolian deposits (Holocene and upper Pleistocene)
 - Qa Stream alluvium (Holocene and upper Pleistocene)
 - Qls Landslide deposits (Holocene and upper Pleistocene)
 - Qt Talus, scree, and colluvium deposits (Holocene and upper Pleistocene)
 - Qf Alluvial fan deposits (Holocene and upper Pleistocene)
 - Qg Glacial deposits (Holocene? and upper Pleistocene)
- Tertiary Volcanic Rocks**
- Powder River Volcanic Field (upper Pliocene to middle Miocene)
 - Lavas of Glass Hill (upper to middle Miocene)
 - Basaltic andesite of Ramo Flat (upper or middle Miocene)
 - Bell tone basaltite (middle Miocene)
 - Hornblende andesite (upper or middle Miocene)
 - Flood andesite and dacite, undifferentiated (upper or middle Miocene)
 - Olivine basalt (middle Miocene)
- Unconformity**
- Columbia River Basalt Group (middle and lower Miocene)
 - Grande Ronde Basalt, undifferentiated (middle to lower Miocene)
 - Grande Ronde Basalt dikes (middle or lower Miocene)
 - Innaha Basalt (lower Miocene)
- Unconformity**
- Tertiary Sedimentary Deposits**
- Gravels of Jim White Ridge (lower Tertiary?)
- Unconformity**
- Pre-Tertiary Rocks**
- Pre-Tertiary bedrock, undifferentiated (Cretaceous, Triassic and Permian) (only appears on cross section)
 - Tonalite of the Wallowa Batholith (Lower Cretaceous or Upper Jurassic)

EXPLANATION OF SYMBOLS

- Geologic contact - approximately located
- Faults - Certain; hachures indicate downthrown side
- Faults - Inferred; hachures indicate downthrown side
- Faults - Concealed
- Strike-slip direction in oblique faults marked with arrows on map, A - away direction T - toward direction on cross section
- Inclined bedding - showing strike and dip, measured or estimated
- Vertical bedding
- Boundary - located by magnetic survey - see accompanying text for explanation
- Rock sample location with map number - see Table 1.1 in accompanying text
- Volcanic vent
- 10.8+/-0.78 Ma 40Ar/39Ar radiometric age of sample

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Field work 1999

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This map is
available from:

The Nature of the Northwest Information Center
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and the Baker City and Grants Pass, Oregon field offices
of the Oregon Department of Geology and Mineral Industries

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Compiled from aerial photographs taken 1963. Revised from aerial
photographs taken 1988 and 1989. Field checked 1999. Map revised 1999.
North American Datum of 1983 (NAD 83). Projection and
1000-meter grid ticks. Oregon Geologic Survey, north zone
Lambert Conformal Conic. 1000-meter Universal Transverse
Mercator grid ticks, zone 11.
The difference between NAD 27 and North American Datum of
1983 (NAD 83) for 1.5 minute quadrangles is given in USGS
Bulletin 1575. The NAD 83 is shown by dashed corner ticks.
There may be errors in the map within the boundaries of the
National or State reservations shown on this map.

UTM GRID AND 1983 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

CONTOUR INTERVAL 40 FEET
DOTTED LINES REPRESENT 20-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

QUADRANGLE LOCATION

CROSS SECTION

