

Geologic Map of the Summerville Quadrangle, Union County, Oregon

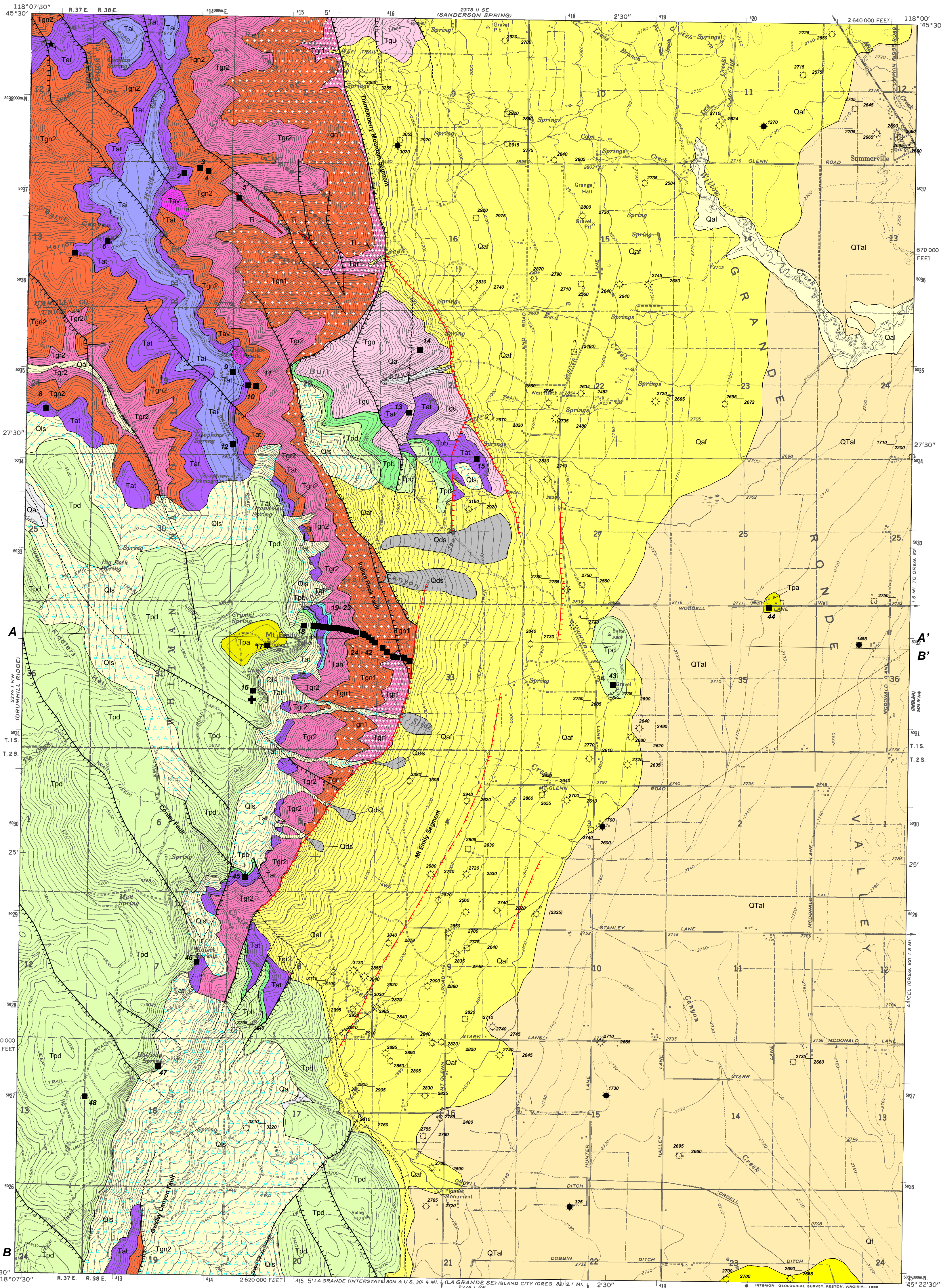
1999

GMS-111

By Mark L. Ferns and Ian P. Madin
Geologic Map of the Summerville Quadrangle,
Union County, Oregon

Supported by the U.S. Geological Survey,
Department of the Interior, under assistance
award # 1434-HQ-96-AG-0514

ISBN 0370-852X



Control by USGS and NOAA
Topography by photogrammetric methods from aerial
photographs taken 1957 and planimetric surveys 1962
Polyconic projection, 1927 North American datum
10,000-foot grid based on Oregon coordinate system, north zone
10000 meter Universal Transverse Mercator grid, zone 11
To place on the predicted North American Datum 1983
move the projection lines 18 meters north and
87 meters east as shown by dashed corner ticks

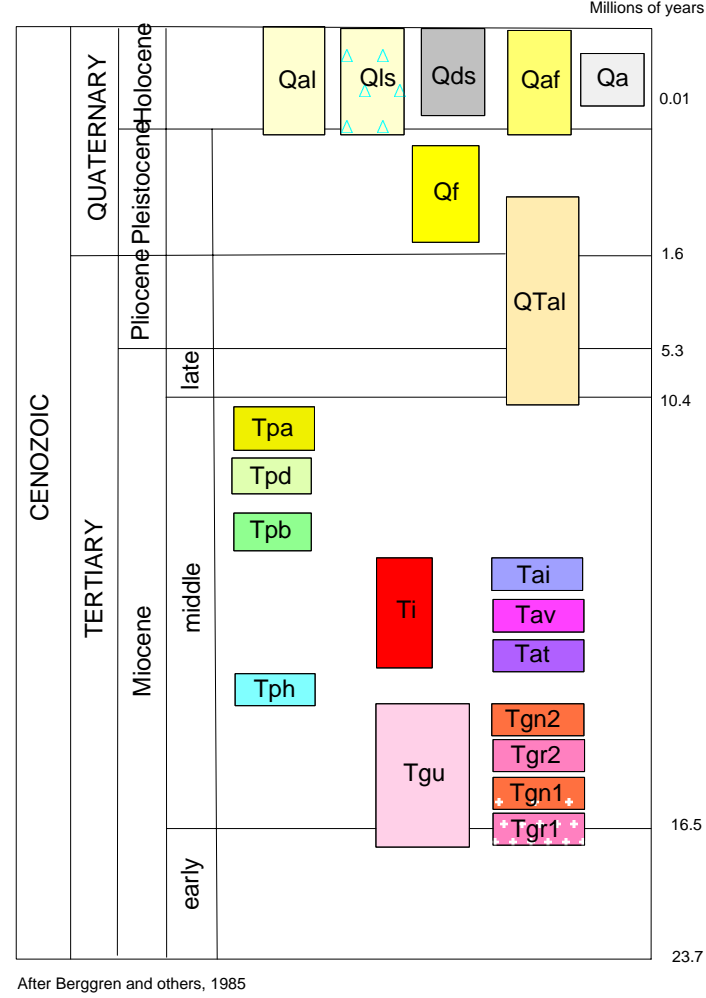
UTM GRID AND 1984 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

SCALE 1:24,000

CONTOUR INTERVAL 40 FEET
DOTTED LINES REPRESENT 100-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

QUADRANGLE LOCATION

TIME ROCK CHART



EXPLANATION

Surficial Units

- Qa Loess and distal air-fall deposits (Holocene)
- Qds Debris avalanche deposits (Holocene)
- Qls Landslide deposits (Holocene and upper Pleistocene)
- Qal Alluvium (Holocene and upper Pleistocene)
- Qaf Alluvial-colluvial fan deposits (Holocene and upper Pleistocene)
- Qr Grande Ronde River fan gravel (Pleistocene)
- QTal Fluvial and lacustrine sediments (Pleistocene, Pliocene, and upper Miocene?)

Powder River Volcanic Field

- Tpa Andesite (middle Miocene)
- Tpd Dacite of Mount Emily (middle Miocene)
- Tpb Olivine basalt (middle Miocene)
- Tph Hornblende basaltic andesite (middle Miocene)

Columbia River Basalt Group

- Tai Ferroandesite of Indian Rock (middle Miocene)
- Tav Pyroclastic vent deposits (middle Miocene)
- Tal Lavas of Tucker Flat (middle Miocene)
- Tgu Grande Ronde Basalt, undifferentiated (middle Miocene)
- Tgn2 N2 magnetostratigraphic unit (middle Miocene)
- Tgr2 R2 magnetostratigraphic unit (middle Miocene)
- Tgn1 N1 magnetostratigraphic unit (middle Miocene)
- Tgr1 R1 magnetostratigraphic unit (middle Miocene)
- T Dikes, undifferentiated (middle Miocene)

MAP SYMBOLS

- Contact - approximately located
- Fault, dashed where inferred, dotted where concealed
Teeth on downthrown side
- Water well with static water level (upper left)
and elevation of first water-bearing zone (lower right)
- Artesian water well with elevation of artesian zone
- Location of analyzed sample in Table 1
- Dated sample from dacite of Mt Emily

Geology by Mark L. Ferns and Ian P. Madin,
Oregon Department of Geology and Mineral Industries

Field work conducted 1996

Reviewed by M.H. Benson, Portland State University,
S.P. Reidel, Pacific NW Laboratories, Richland, Wash.,
and P.R. Hooper, Washington State University

GEOLOGIC CROSS SECTIONS

