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State of Oregon
Department of Geology and Mineral Industries
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Geologic Map of the Anthony Butte Quadrangle, Union and Baker Counties, Oregon

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Union and Baker Counties, Oregon

By I.P. Madin and W.H. Taubeneck

Supported by the U.S. Geological Survey,
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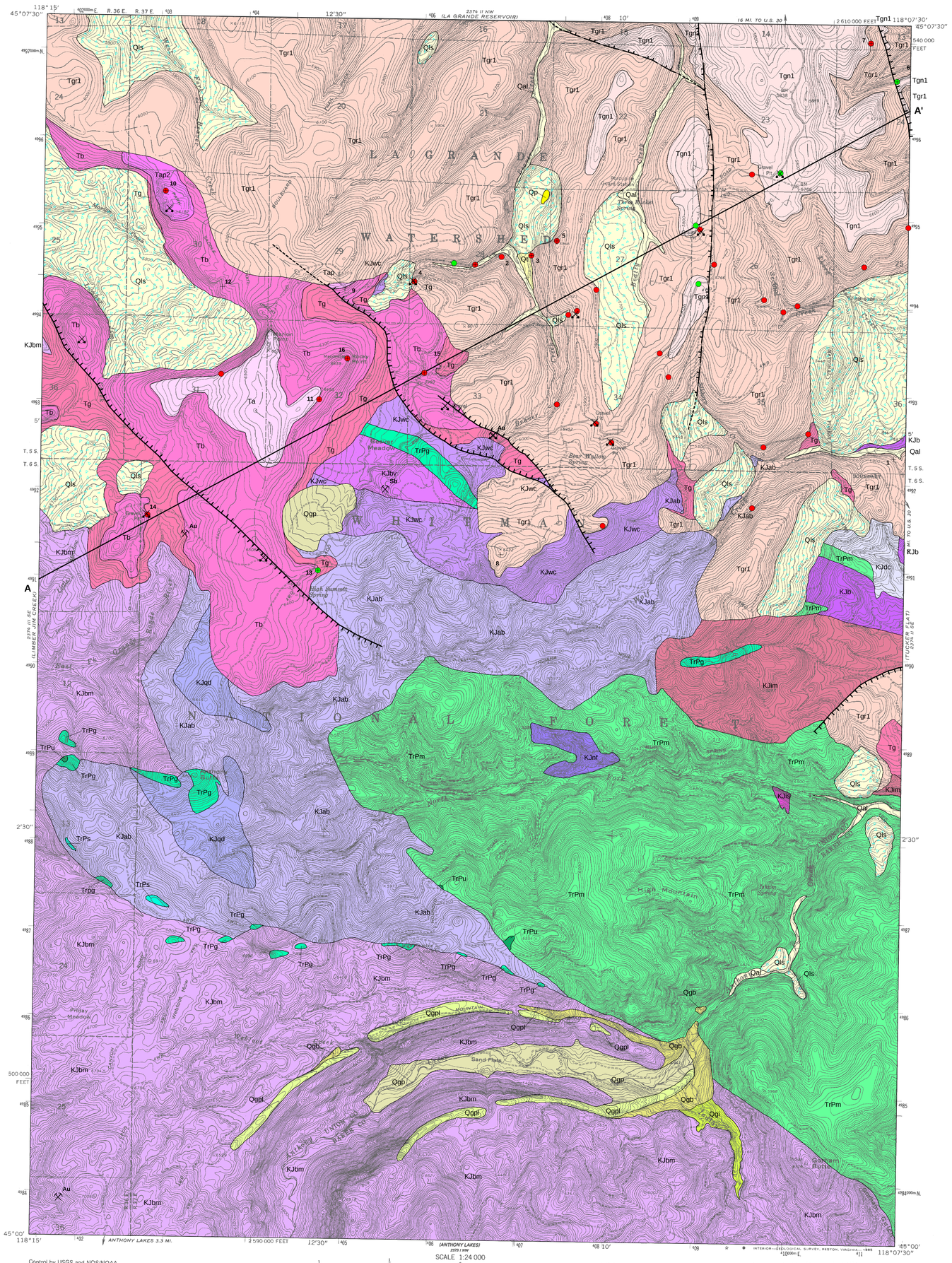


SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial photographs taken 1960. Field checked 1965

Polyconic projection. 1927 North American datum
10,000-foot grid based on Oregon coordinate system, north zone
1000-meter Universal Transverse Mercator grid ticks, zone 11

To place on the predicted North American Datum 1983 move the projection lines 18 meters north and 82 meters east as shown by dashed corner ticks

Where omitted, land lines have not been established

There may be private inholdings within the boundaries of the National or State reservations shown on this map

UTM GRID AND 1964 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

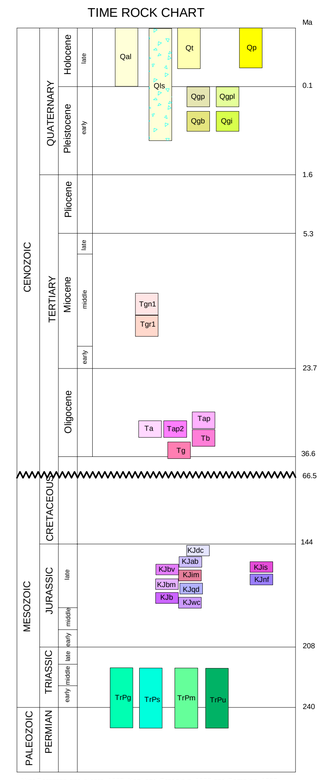
OREGON
QUADRANGLE LOCATION

By Ian P. Madin and William H.
Taubeneck, Oregon Department
of Geology and Mineral Industries

Field work conducted in 1996

Thorough and constructive reviews of the map and text were provided by Dr. Tracy Vallier and Dr. Stephen Reidel.

TIME ROCK CHART



After Berggren and others, 1985, Kent and Gradstein, 1985 and Compton, 1985.

Explanation of Units

Surficial deposits

- Qp — Paludal deposits (Holocene)
- Qal — Alluvium (Holocene)
- Qls — Landslides (Quaternary)
- Qt — Terrace deposits (Pleistocene)

Glacial deposits (Pleistocene)

- Qgp — undifferentiated Pinedale age till (Pleistocene)
- Qgpl — Pinedale age lateral moraines (Pleistocene)
- Qgb — undifferentiated Bull Lake age till (Pleistocene)
- Qgi — Bull Lake age glacial Lake Indian (Pleistocene)

Columbia River Basalt Group

Grande Ronde Basalt

- Tgn1 — N1 magnetostratigraphic unit undifferentiated (middle Miocene)
- Tgr1 — R1 magnetostratigraphic unit undifferentiated (middle Miocene)

Tower Mountain Volcanic Field

- Ta — andesite (Oligocene)
- Tap — andesite porphyry (Oligocene)
- Tap2 — basaltic andesite porphyry (Oligocene)
- Tb — basalt of Rocky Point (Oligocene)
- Tg — older conglomerate (Oligocene-)

Bald Mountain Batholith

- KJdc — leucogranite of Dutch Creek (late Jurassic-early Cretaceous)
- KJab — granite of Anthony Butte (late Jurassic-early Cretaceous)
- KJbv — granodiorite of Beaver Meadow (late Jurassic-early Cretaceous)
- KJim — granodiorite of Indiana Mine road (Late Jurassic-early Cretaceous)
- KJbm — tonalite of Bald Mountain (late Jurassic-early Cretaceous)
- KJqd — quartz diorite inclusions in granite of Anthony Butte (late Jurassic-early Cretaceous)
- KJb — boundary quartz diorite (late Jurassic-early Cretaceous)
- KJwc — quartz diorite of Wolf Creek (late Jurassic-early Cretaceous)

Satellite Intrusions

- KJis — granite of Isham Spring (late Jurassic-early Cretaceous)
- KJnf — tonalite of North Fork (late Jurassic-early Cretaceous)

Baker Terrane Paleozoic igneous and metamorphic rocks

- TrPm — mixed mafic intrusive and metamorphic rocks (Permian-Triassic?)

Hornfels inclusions and septa

- TrPs — metasediments (Permian-Triassic?)
- TrPg — metagabbro (Permian-Triassic?)
- TrPu — metamorphosed ultramafic rocks (Permian-Triassic?)

Symbol Legend

- Contact, approximately located
- Fault, approximately located, ticks on downthrown side
- Inferred fault, approximately located, ticks on downthrown side
- Buried fault
- 7 — Geochemical sample site
- Paleomanetic polarity data sites
  - Normal Polarity
  - Reverse Polarity
- Rock quarry
- Prospect

GEOLOGIC CROSS SECTION

Alluvium not shown. Vertical exaggeration is 2X.