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U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

PROFESSIONAL PAPER 1560
PLATE 2B

LIST OF MAP UNITS

SEDIMENTARY AND VOLCANIC ROCKS AND DEPOSITS

Southern Willamette Valley (part) and Coast Range

- Qns — Nonmarine sedimentary deposits (Holocene and Pleistocene)
- Qls — Landslide deposits (Holocene and Pleistocene)
- Qt — High terrace gravels (Pleistocene)
- Tms — Marine sedimentary rocks (Oligocene and Eocene)
- Tn — Nestucca Formation (Eocene)
- Ts — Spencer Formation of Turner (1938) (Eocene)
- Tsu — Upper member
- Tsl — Lower member
- Tsv — Volcanic rocks
- Ty — Yamhill Formation (Eocene)
- Tyum — Upper mudstone member
- Tym — Miller sand of Bruer and others (1984)
- Tylm — Lower mudstone member
- Tyv — Volcanic rocks
- Tt — Tyee Formation (Eocene)
- Tsr — Siletz River Volcanics (Eocene)
- Tsrk — Kings Valley Siltstone Member

Cascade Range Foothills (part) and Southern Willamette Valley (part)

- Qns — Nonmarine sedimentary deposits (Holocene and Pleistocene)
- Qls — Landslide deposits (Holocene and Pleistocene)
- Qt — High terrace gravels (Pleistocene)
- QTb — Basalt and basaltic andesite (Pleistocene and Pliocene)
- Tfl — Fluvial and lacustrine(?) sedimentary deposits (Pliocene and Miocene)
- Tsab — Sardine Formation (Pliocene and Miocene) Basalt (Pliocene and Miocene)
- Tsau — Volcanic rocks, undivided (Miocene)
- Tsaa — Andesite (Miocene)
- Tsat — Tuffaceous nonmarine sedimentary rocks (Miocene)
- Tc — Columbia River Basalt Group (Miocene), undivided
  - Wanapum Basalt
- Tcwf — Frenchman Springs Member
- Tcgr — Grande Ronde Basalt
- Tlb — Little Butte Volcanics, undivided (Miocene and Oligocene)
- Tlbd — Dacite and rhyodacite (Miocene)
- Tlbb — Basalt and basaltic andesite
- Tlbw — Welded to nonwelded ash-flow tuff
- Tsm — Scotts Mills Formation of Miller and Orr (1988) (Miocene and Oligocene)
- Tmo — Molalla Formation of Lowry and Baldwin (1952) (Miocene and Oligocene(?))
- Tms — Marine sedimentary rocks (Oligocene and Eocene)
- Tbf — Basaltic flows (Oligocene and Eocene)
- Tf — Fisher Formation (Oligocene and Eocene)

Cascade Range Foothills (part) and Northern Willamette Valley

- Qns — Nonmarine sedimentary deposits (Holocene and Pleistocene)
- Qls — Landslide deposits (Holocene and Pleistocene)
- Qt — High terrace gravels (Pleistocene)
- QTb — Basalt and basaltic andesite (Pleistocene and Pliocene)
- Tfl — Fluvial and lacustrine(?) sedimentary deposits (Pliocene and Miocene)
  - Sardine Formation (Pliocene and Miocene)
- Tsau — Volcanic rocks, undivided (Miocene)
- Tsaa — Andesite (Miocene)
- Tsat — Tuffaceous nonmarine sedimentary rocks (Miocene)
- Tsav — Volcanic rocks (Miocene)
- Tc — Columbia River Basalt Group (Miocene), undivided
  - Wanapum Basalt
- Tcwf — Frenchman Springs Member
- Tcgr — Grande Ronde Basalt
- Tsc — Scappoose Formation of Van Atta and Kelly (1985) (Miocene)
- Tlb — Little Butte Volcanics, undivided (Miocene and Oligocene)
- Tlba — Porphyritic andesite (Miocene)
- Tlbb — Basalt and basaltic andesite (Miocene)
- Tsm — Scotts Mills Formation of Miller and Orr (1988) (Miocene and Oligocene)
- Tmo — Molalla Formation of Lowry and Baldwin (1952) (Miocene and Oligocene(?))
- Tms — Marine sedimentary rocks (Oligocene and Eocene)
- Tbs — Submarine basalt (Eocene)
- Twh — Basalt of Waverly Heights and associated sedimentary rocks, undivided (Eocene)

INTRUSIVE ROCKS

All Areas

- Ti — Intrusive rocks, undivided (Tertiary)

- Inferred contact
- Fault—Dashed where inferred; queried where uncertain; bar and ball on downthrown side. On cross sections, arrows show direction of relative movement; T, movement toward viewer; A, movement away from viewer
- Concealed fault—Dots grouped where location is unconstrained; bar and ball on downthrown side; queried where uncertain
- Strike and dip of beds
- Strike and dip of overturned beds
- Strike of vertical beds
- Horizontal beds
- Anticline—Showing plunge; dashed where approximately located, dotted where concealed
- Syncline—Showing plunge; dashed where approximately located; dotted where concealed
- Monocline—Showing plunge; dashed where inferred
- Aeromagnetic high—Contours enclose areas of high total intensity corresponding in most places to intrusive bodies mapped or inferred at the surface or in the shallow subsurface
- Structure contour—Drawn on the base of the Eugene Formation in the southern Willamette Valley south of Franklin Butte and Rogers Mountain and south and west of Salem Hills (contour interval 200 m) and on top of the Columbia River Basalt Group in the northern Willamette Valley (contour interval 100 m); dashed where inferred
- Location of seismic reflection profile
- Subcrop (concealed contact) of Eugene Formation (not shown on map) and Spencer Formation (Ts)
- Exploratory petroleum well—Showing name; upper number shows elevation (in meters) from which well depths were measured (commonly from kelly bushing) and lower number shows elevation of bottom of well. Also shown are elevations of tops of formations in well relative to sea level

  GULF Porter 1 / 86 / −2581 / Tms −75 to −287 / Ts −282
- Water well
- Reaches contoured horizon—Located to the quarter-quarter section
- Constrains altitude of contoured horizon—Located to the quarter-quarter section
- Reaches contoured horizon—Accurately located
- Constrains altitude of contoured horizon—Accurately located
- Locality of radiometric age determination(s)—Showing age(s)

  31.2 ± 0.3

SCALE 1:100 000

1 0 1 2 3 4 5 6 7 8 9 10 KILOMETERS

1 0 1 2 3 4 5 6 7 8 MILES

CONTOUR INTERVAL 50 METERS EXCEPT FOR CORVALLIS, 1980, WHICH IS 40 METERS
SUPPLEMENTARY CONTOUR INTERVAL 10 METERS
NATIONAL GEODETIC VERTICAL DATUM OF 1929
1996 MAGNETIC DECLINATION AT SOUTH EDGE OF SHEET IS 18° EAST

Base from U.S. Geological Survey 1:100,000
North Santiam River, 1983; McKenzie River, 1983
Corvallis, 1980; and Eugene, 1980
Projection: Universal Transverse Mercator
25,000-foot grid ticks based on Oregon coordinate system, south and north zones. 1927 North American Datum

Geology by Erik P. Graven, Chris Goldfinger, Kenneth S. Werner, and Robert S. Yeats

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GEOLOGIC MAP OF THE CENTRAL AND SOUTHERN WILLAMETTE VALLEY, BENTON, LANE, LINN, MARION, AND POLK COUNTIES, OREGON

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1996

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