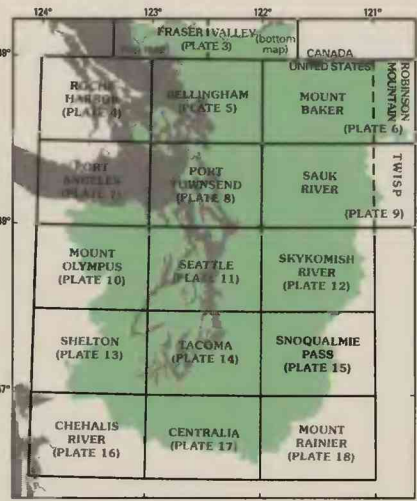
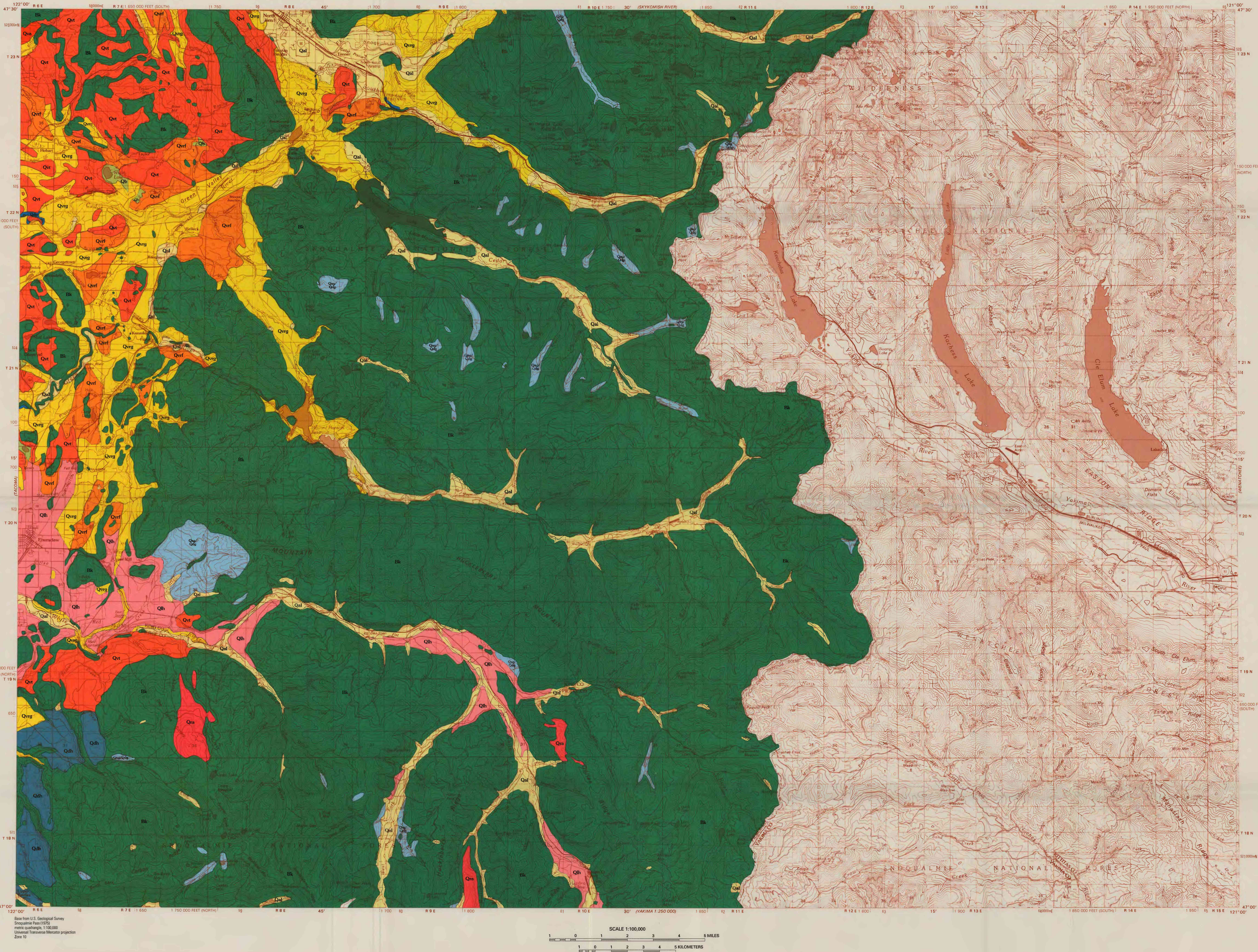




- EXPLANATION**
- Qal** Alluvium (Holocene)—Moderately sorted cobble gravel to poorly sorted gravelly sand, deposited in streambeds, alluvial fans, and floodplains; may also include some terrace deposits, landslide deposits, and mass wasting deposits.
 - Qb** Poorly drained peat and alluvium deposits (Holocene and Pleistocene)
 - Qlh** Lahar deposits (Holocene)—Consist of non-sorted muddy to moderately sorted sand in the White River valley and adjacent lowlands; include mudflow deposits from Mount Rainier.
 - Qvr** Vision recessional outwash deposits (Pleistocene)—Moderately to poorly sorted gravel and sand with small amounts of silt and clay; includes ice-contact deposits, glacial outwash alluvium, and small amounts of alluvial till. Qvr consists of the coarser deposits and Qvf generally consists of the finer deposits.
 - Qvf** Vision recessional outwash deposits (Pleistocene)—Predominantly fine-grained deposits consisting of unsorted and unstratified glacial sediments from clay to boulder in size that vary in compaction and composition throughout the Puget Sound Lowland.
 - Qva** Vision advance outwash deposits (Pleistocene)—Predominantly consist of a well-sorted, fine-grained sand with lenses of coarser sand and gravel; may also include silt and clay deposits and locally may contain nonglacial deposits.
 - Qad** Undifferentiated alpine drift deposits (Pleistocene)—Consist of till, outwash, and moraine deposits from the Cascade province.
 - Qbg** Pre-Fraser undifferentiated glacial and nonglacial deposits (Pleistocene)
 - Qdh** Hayden Creek deposit (Pleistocene)—Consists of pre-Fraser alpine drift; includes undifferentiated deposits of till, outwash, and moraines.
 - Qra** Andesite deposits (Pleistocene)—Consist predominantly of gray porphyritic hypersthene-augite pyroxene andesite; also includes Canyon Creek deposits; unconsolidated to semi-consolidated, bedded basaltic tuff and breccia.
 - Blk** Bedrock—Tertiary and older volcanic, metamorphic, and sedimentary rock, undifferentiated.
 - Hydrogeologic contact

REFERENCES (SNOQUALMIE)

Frizell, V.A., Jr., Tabor, R.W., Booth, D.B., Ort, K.M., and Watt, R.B., Jr., 1984, Preliminary geologic map of the Snoqualmie Pass quadrangle, Washington: U.S. Geological Survey Open-File Report 84-693, 43 p., 1 plate, scale 1:100,000.

Giffin, W.C., Seave, J.E., Swenson, H.A., and Mandariff, M.J., 1962, Water resources of the Tacoma area, Washington: U.S. Geological Survey Water-Supply Paper 1499-B, p. B1-B101.

Luter, J.E., 1969, Geology and ground-water resources of southwestern King County, Washington: Washington Department of Water Resources Water-Supply Bulletin 28, 260 p.

Piper, A.M., and Laroque, G.A., Jr., 1938, Ground water in the Tacoma area, Washington, progress report no. 1: U.S. Geological Survey Open-File Report, 105 p.

Richardson, Donald, Bingham, J.W., and Matlock, R.J., 1968, Water resources of King County, Washington: U.S. Geological Survey Water-Supply Paper 1852, 74 p.

Robinson, J.W., 1946, Typical wells and springs of the Tacoma area, Washington: U.S. Geological Survey Open-File Report, 57 p.

Robinson, J.W., and Piper, A.M., 1942, Water levels in observation wells and stages of certain lakes of the Tacoma area, Washington: U.S. Geological Survey Open-File Report, 277 p.

SURFICIAL HYDROGEOLOGIC UNITS OF THE PUGET SOUND AQUIFER SYSTEM, WASHINGTON AND BRITISH COLUMBIA, FOR THE SNOQUALMIE PASS QUADRANGLE

By
M.A. Jones
1998



Printed on recycled paper