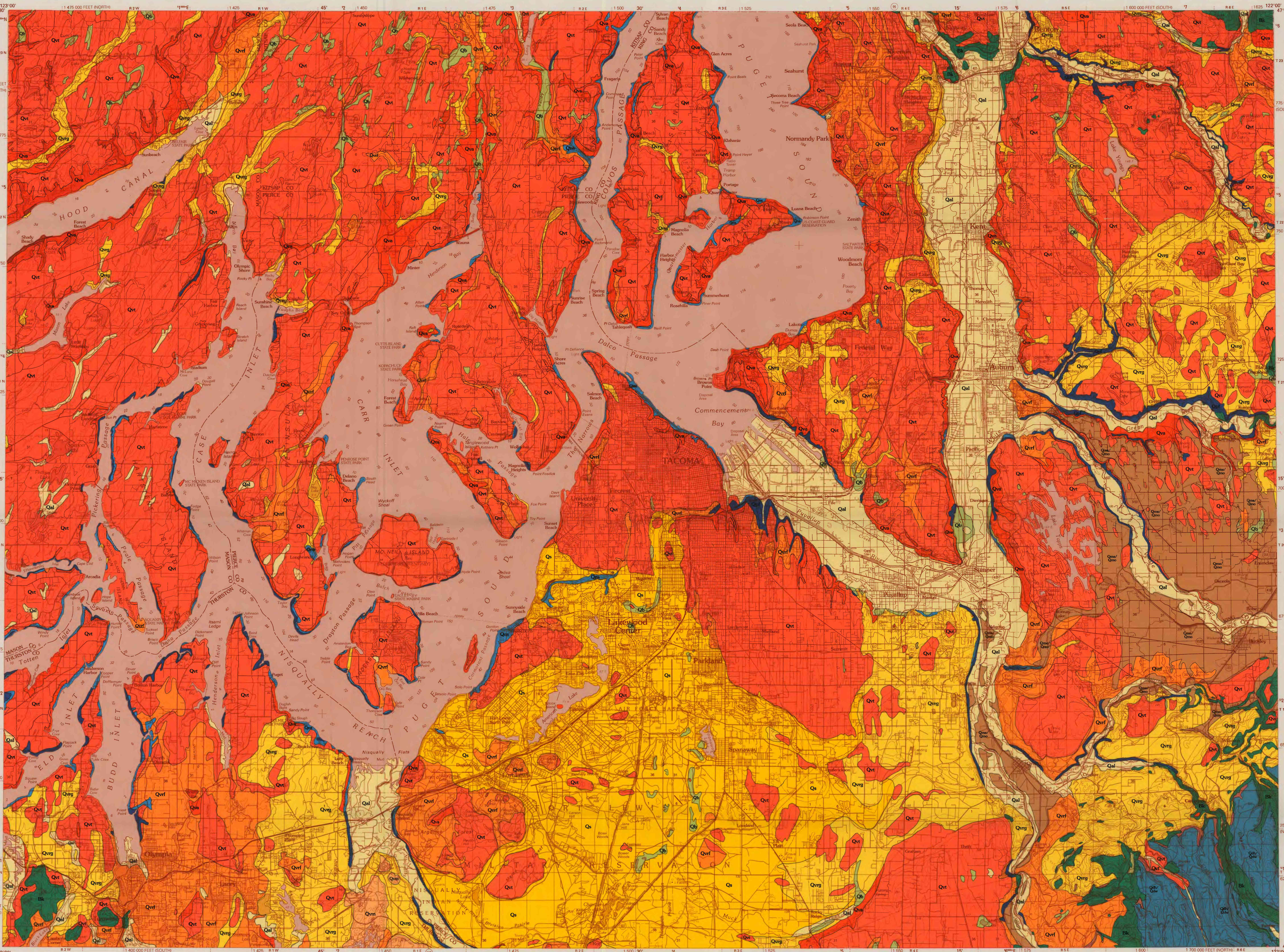
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

PROFESSIONAL PAPER 1424–C
Surficial hydrogeologic units for the Tacoma quadrangle—PLATE 14
Jones, M.A., 1998, Geologic framework for the Puget Sound aquifer system, Washington and British Columbia

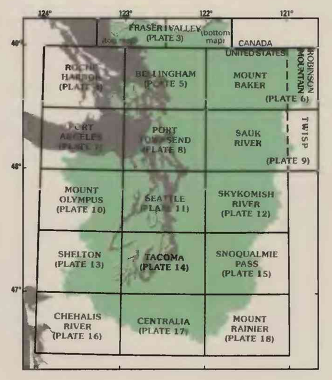


Base from U.S. Geological Survey Tacoma (1991) metric quadrangle, 1:100,000 Universal Transverse Mercator projection Zone 10

SCALE 1:100,000

1 0 1 2 3 4 5 MILES

1 0 1 2 3 4 5 KILOMETERS



EXPLANATION

- **Qal** — **Alluvium (Holocene)**—Grades from clay to gravel, consists predominantly of silt to fine sand, deposited in streambeds and fans; includes some terrace and lacustrine deposits
- **Qb** — **Marsh, bog, and peat deposits (Holocene and Pleistocene)**
- **Qme/Qmo** — **Electron and Osceola mudflow deposits (Holocene)**—Consist of an unsorted mixture of andesitic rock fragments in a clay and sand matrix. Deposits are confined to the Puyallup and White River Valleys. Rock fragments are predominantly from the Mount Rainier provenance
- **Qvm** — **Vashon moraine deposits (Pleistocene)**—Consist of clay, silt, sand and gravel; also include mixtures of till and outwash not separately mappable
- **Qvrg / Qvrf** — **Vashon recessional outwash deposits (Pleistocene)**—Moderately to poorly sorted gravel and sand with small amounts of silt and clay; include ice-contact deposits, glacial outwash alluvium and small amounts of ablation till. Qvrg consists of the coarser deposits and Qvrf generally consists of the finer deposits
- **Qs** — **Steilacoom gravel deposit (Pleistocene)**—Consists of recessional stratified pebble-to-boulder size gravel, deposited in meltwater streams and deltas; locally may contain some ice-contact deposits and undifferentiated Vashon drift deposits
- **Qvt** — **Vashon till (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** — **Vashon 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
- **Qsk** — **Skokomish gravel deposit (Pleistocene)**—Consists of coarse iron-oxide stained gravel, generally poorly sorted with sand, silt and clay; locally includes some peat deposits
- **Qns** — **Nonglacial deposits (Pleistocene)**—Consisting of interbedded sand, silt, clay and peat; include some gravel and mudflow deposits; generally associated with Whidbey, Kitsap and Puyallup Formations
- **Qpf** — **Pre-Fraser undifferentiated glacial deposits (Pleistocene)**
- **Qdh/Qdw** — **Hayden Creek and Wingate Hill deposits (Pleistocene)**—Consist of pre-Fraser alpine drift deposits; include undifferentiated deposits of till, outwash, and moraines.
- **Qlc** — **Lily Creek Formation (Pleistocene)**—Consists of weathered compact mudflow deposits from the Mount Rainier provenance, interbedded with pre-Fraser stream deposits
- **Bk** — **Bedrock**—Tertiary and older volcanic and sedimentary rock, undifferentiated
- ——— **Hydrogeologic contact**

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

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