EXPLANATION

QUATERNARY

Holocene

Qal — Alluvium: gravel, sand, and silt in stream valleys and along beaches. Includes peat in depressions on drift plains. Yields small quantities (6-10 gpm) of water to driven wells, but in combination with recessional outwash gravel yields moderate quantities (50-350 gpm) to large-diameter dug wells. Locally, where associated with vegetal deposits, may yield water high in iron content

Pleistocene — Vashon Drift

Qvl — Lacustrine silt and clay: gray clay stratified in 4- to 6-inch beds. Thin and relatively impermeable. Yields little or no ground water and retards infiltration of precipitation to underlying aquifers

Qvr — Recessional outwash: gravel with some sand, silt, and clay. Mostly poorly sorted and loose, but has deltaic bedding along north sides of some valleys. Overlies till in depressions on drift plains. Where it occurs in sufficient thickness below local water table, it yields small to moderate quantities (50-250 gpm) of ground water

Qvm — Morainal deposits: cobbles, gravel, and sand. Loose and unsorted, and underlies hummocky topography in western margin of study area. Generally thin and unimportant as aquifer, but its high permeability allows infiltration of precipitation for recharge of underlying aquifers

Qvt — Till: cobbles and coarse gravel in matrix of fine sand, silt, and clay. Generally a compact, unsorted mixture. Extensively underlies drift plains in thicknesses of a few feet to more than 50 feet. Poorly pervious, but has sand and gravel streaks that may yield small quantities of perched ground water. Serves as confining aquiclude to artesian ground water at some localities near sea level

Qva — Advance outwash: gravel and sand, with some silt and clay at base. Unconsolidated and generally is in discontinuous strata. Underlies till in most of area and up to 200 feet thick. Yields moderate to large quantities (20-800 gpm) of water where gravel and coarser sand facies below water table

Pleistocene

Qs — Skokomish Gravel: gravel and sand, with some silt, clay, and peat strata. Gravel generally coarse and deposit has reddish color. Underlies Vashon Drift in western part of study area and interfingers with Kitsap Formation to the east. Probably exceeds 300 feet in thickness and may contain major aquifers in study area. Produces 30 to more than 500 gpm

Qk — Kitsap Formation: silt and fine sand, with some clay and peat in horizontally bedded strata. Up to 50 feet thick in eastern part of area, but thins to west. Poorly permeable except for isolated small gravel lenses. In places serves as aquiclude base for perching ground water in overlying Vashon Drift, and as confining layer to artesian ground water in underlying formations

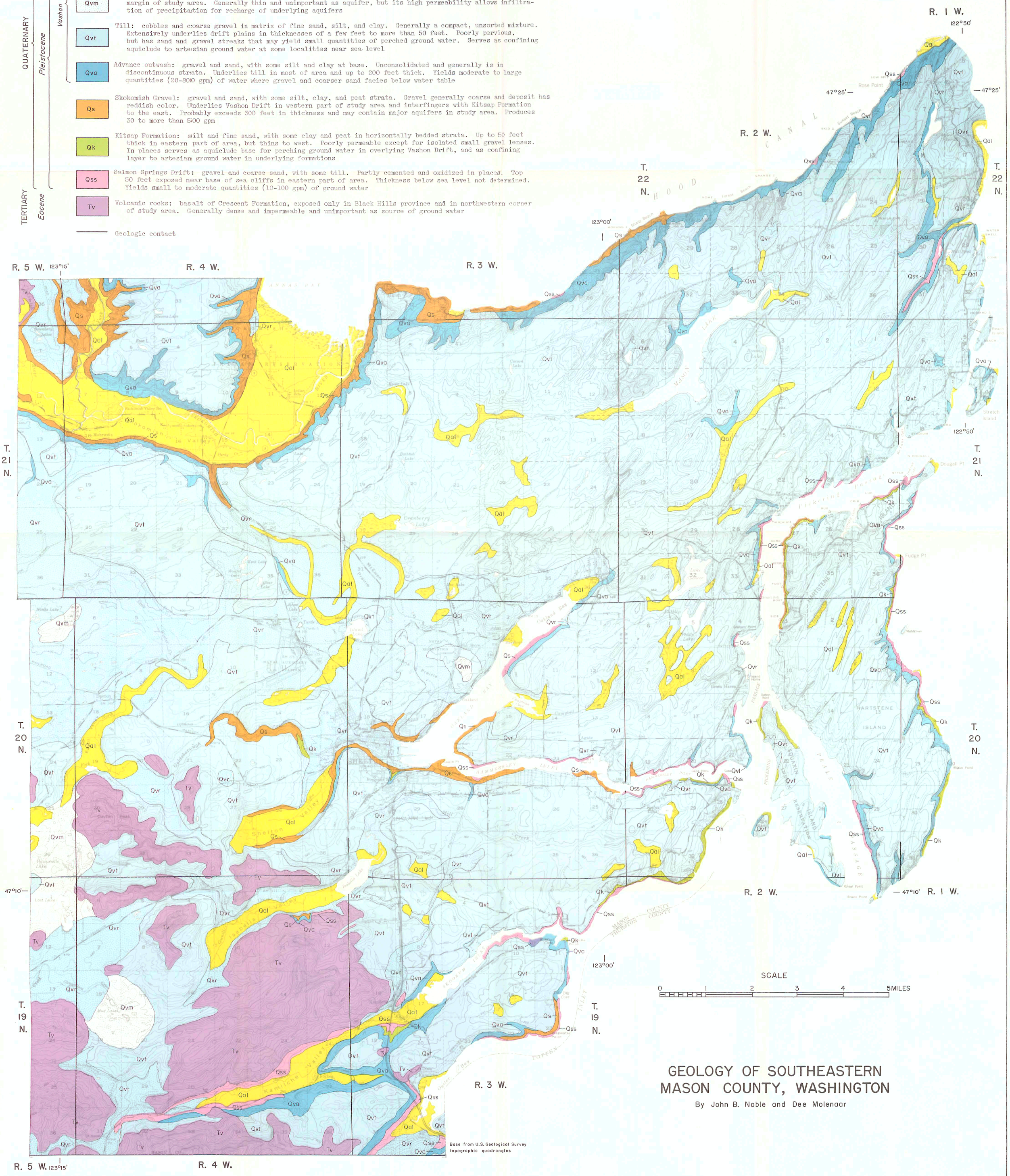
Qss — Salmon Springs Drift: gravel and coarse sand, with some till. Partly cemented and oxidized in places. Top 50 feet exposed near base of sea cliffs in eastern part of area. Thickness below sea level not determined. Yields small to moderate quantities (10-100 gpm) of ground water

TERTIARY

Eocene

Tv — Volcanic rocks: basalt of Crescent Formation, exposed only in Black Hills province and in northwestern corner of study area. Generally dense and impermeable and unimportant as source of ground water

Geologic contact



Base from U.S. Geological Survey topographic quadrangles

SCALE
0 1 2 3 4 5 MILES

GEOLOGY OF SOUTHEASTERN MASON COUNTY, WASHINGTON

By John B. Noble and Dee Molenaar

REPRESENTATIVE WELLS IN SOUTHEASTERN MASON COUNTY, WASHINGTON