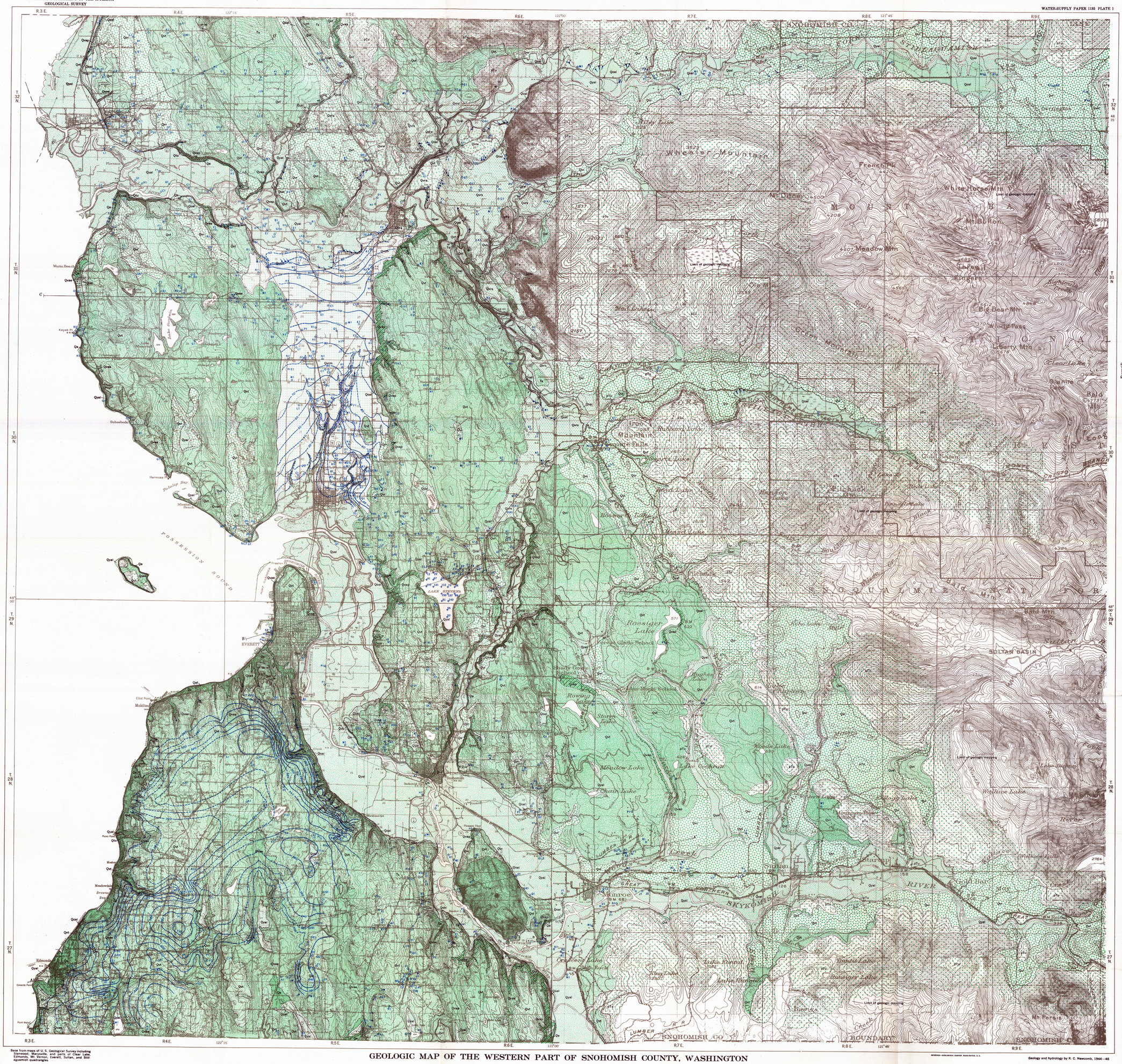

Base from maps of U. S. Geological Survey including Stanwood, Marysville, and parts of Clear Lake, Edmonds, Mt. Vernon, Everett, Sultan, and Stillaguamish quadrangles

GEOLOGIC MAP OF THE WESTERN PART OF SNOHOMISH COUNTY, WASHINGTON

Scale $\frac{1}{62,500}$

1 0 5 Miles

Contour interval 25 feet
Datum is mean sea level

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.

Geology and hydrology by R. C. Newcomb, 1944–46

EXPLANATION

UNCONSOLIDATED OR SEMICONSOLIDATED DEPOSITS

QUATERNARY

Recent

Qvac — Younger alluvium
Clay, silt, peat, sand, and gravel; some artificial fill included. Coarse-grained materials yield large quantities of ground water. Water commonly contains iron compounds and is brackish near Sound

Qoal — Older alluvium
Clay, silt, sand, and gravel; may include some interglacial wellwater deposits. Coarse-grained material yields moderate quantities of water where below the local water table

Pleistocene

Valley drift

Qvr — Recessional outwash and associated deposits, undifferentiated
Sand and gravel with some silt and clay. Includes the great water-laid moraines in the major mountain valleys. Coarse-grained members yield moderately large quantities of water

Local facies

Qvrm — Marysville sand member
Sand and gravel, valley-train material more than 40 feet thick. Yields large amounts of water that in places contains iron

Qvra — Arlington gravel member
Sand and gravel—relatively thin sheet on terrace cut in Stillaguamish sand member

Qvsq — Stillaguamish sand member
Sand, silt, clay, and gravel valley fill 300? feet thick. Coarse elements yield moderate quantities of ground water

Qvt — Till
Gray concretionlike material, principally ground-moraine deposit 20 to 100 feet thick. Impermeable; impervious; the jointed, sandy and gravelly strata, as well as the disintegrated surface zone, yield small quantities of ground water

Largely advance outwash and associated deposits

Qvp — Pilchuck clay member
Advance outwash; stream and lake deposits composed mostly of clays that are gray green and firm near the Sound but softer, more micaceous and lighter in color near the mountains. Sand and gravel beds are commonly dirty, but some yield large quantities of water

Qvse — Esperance sand member
Sand and gravel, largely advance outwash, up to 400 or 500 feet thick; forest and water-holding div generally south-southeast. South of Alderwood Manor to Stimmamish River it includes thick zones of stock-water deposits of clayey materials. Coarse members yield moderate to large amounts of ground water

Pre-Vashon deposits

Qtu — Till, undifferentiated
A few small exposures of till whose age was not fully determined

Qa — Admiralty clay
Firm finely bedded gray, green, and blue silt and clay with carbonized wood and a few dirty sand and gravel beds. Exposed thickness of about 200 feet, but probably considerably more. Beds are commonly downward for several hundred feet more. Poor yields of water of inferior quality obtained from coarse members. Contains a few small pods of till (Qvt), which occur generally within thin strata of dirty gravels

CONSOLIDATED ROCKS

TERTIARY

Eocene(?) and Oligocene

Ts — Sedimentary rocks
Sandstone, shale, and conglomerate. Yield little or no water

Eocene(?)

Tvs — Volcanic rocks
Andesite and basalt exposed in Bald Hills mass south of Snohomish. Rocks are unmetamorphosed. Yield little or no water

PRE-TERTIARY(?)

Pre-Eocene

pTu — Metamorphic and igneous rocks, undifferentiated
Metamorphosed sedimentary and igneous rocks, including Tertiary (?) volcanic rocks except in the Bald Hills mass. Yield little or no ground water

Contact
Dashed where approximately located

Strike and dip of beds

Horizontal bed

Mine

K1 Well, described in tables

J1 Spring, described in tables

Spring, observed but not described in tables

70 Contours, showing approximate altitude of regional water table. Datum is mean sea level. Contour interval 20 feet. Contour interval in Marysville trough 10 feet.

110 Depth of water measured in Lake Stevens March—April 1947