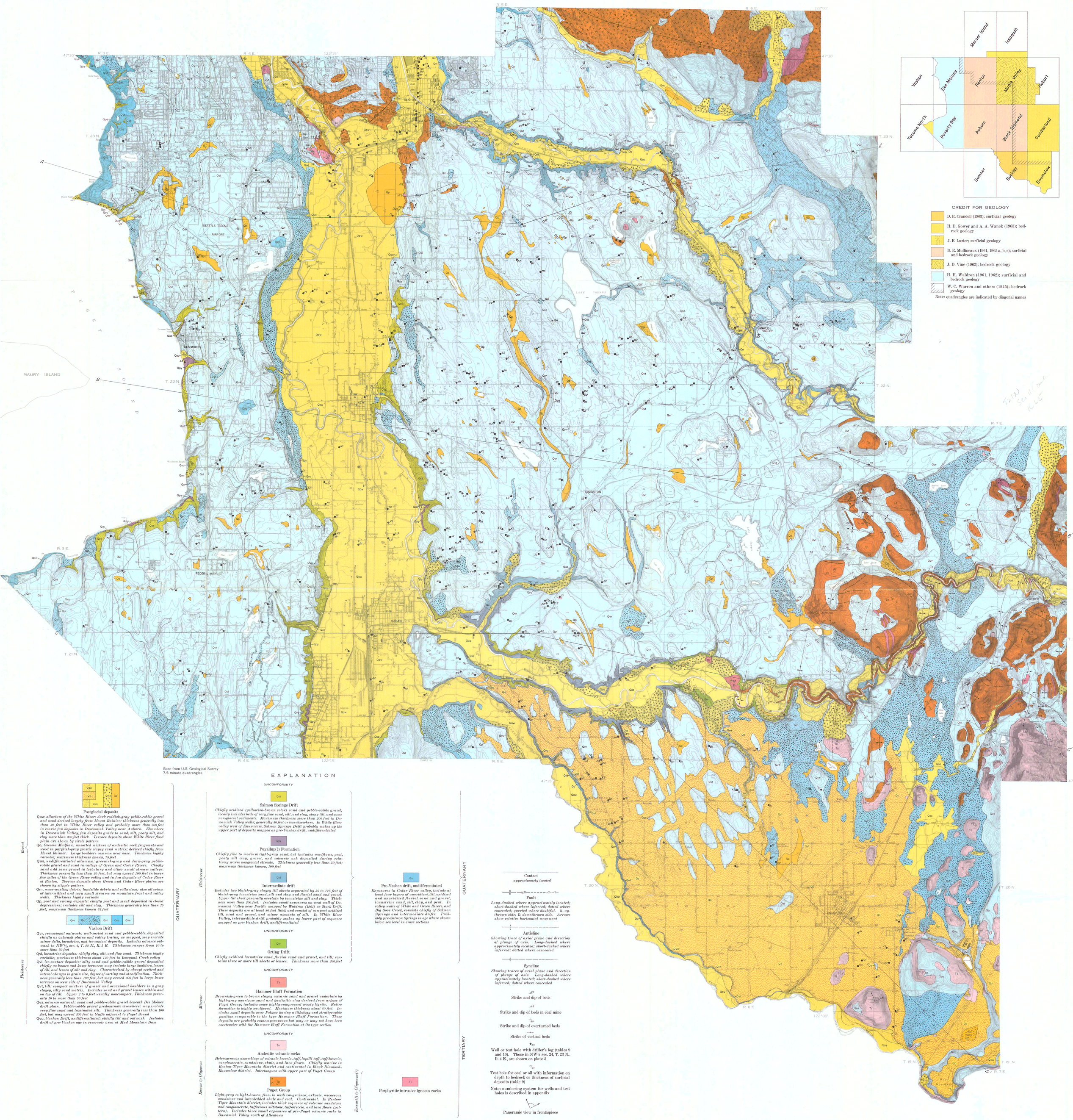


Base from U.S. Geological Survey
7.5 minute quadrangles

EXPLANATION

QUATERNARY

Holocene

Postglacial deposits

Qaw, *alluvium of the White River: dark reddish-gray pebble-cobble gravel and sand derived largely from Mount Rainier; thickness generally less than 30 feet in White River valley and probably more than 200 feet in coarse fan deposits in Duwamish Valley near Auburn. Elsewhere in Duwamish Valley, fan deposits grade to sand, silt, peaty silt, and clay more than 300 feet thick. Terrace deposits above White River flood plain are shown by circle pattern*

Qo, *Osceola Mudflow: unsorted mixture of andesitic rock fragments and wood in purplish-gray plastic clayey sand matrix; derived chiefly from Mount Rainier. Large boulders common near base. Thickness highly variable; maximum thickness known, 75 feet*

Qua, *undifferentiated alluvium: greenish-gray and dark-gray pebble-cobble gravel and sand in valleys of Green and Cedar Rivers. Chiefly sand and some gravel in tributary and other small stream valleys. Thickness generally less than 30 feet, but may exceed 100 feet in lower few miles of the Green River valley and in fan deposits of Cedar River at Renton. Terrace deposits above Green and Cedar River plains are shown by stipple pattern*

Qm, *mass-wasting debris: landslide debris and colluvium; also alluvium of intermittent and very small streams on mountain front and valley walls. Thickness highly variable*

Qp, *peat and swamp deposits: chiefly peat and muck deposited in closed depressions; includes silt and clay. Thickness generally less than 25 feet; maximum thickness known 63 feet*

Pleistocene

Vashon Drift

Qvr, *recessional outwash: well-sorted sand and pebble-cobble, deposited chiefly as outwash plains and valley trains; as mapped, may include minor delta, lacustrine, and ice-contact deposits. Includes advance outwash in NW¼, sec. 6, T. 22 N., R. 5 E. Thickness ranges from 10 to more than 50 feet*

Qvl, *lacustrine deposits: chiefly clay, silt, and fine sand. Thickness highly variable; maximum thickness about 120 feet in Issaquah Creek valley*

Qvi, *ice-contact deposits: silty sand and pebble-cobble gravel deposited chiefly as kames and kame terraces; may include large boulders, lenses of till, and lenses of silt and clay. Characterized by abrupt vertical and lateral changes in grain size, degree of sorting and stratification. Thickness generally less than 100 feet, but may exceed 300 feet in large kame terraces on west side of Duwamish Valley*

Qvt, *till: compact mixture of gravel and occasional boulders in a gray clayey, silty sand matrix. Includes sand and gravel lenses within and on top of till. Upper 2 to 6 feet usually noncompact. Thickness generally 10 to more than 50 feet*

Qva, *advance outwash: sand and pebble-cobble gravel beneath Des Moines drift plain. Pebble-cobble gravel predominate elsewhere; may include very fine sand and laminated silt. Thickness generally less than 100 feet, but may exceed 200 feet in bluffs adjacent to Puget Sound*

Qvu, *Vashon Drift, undifferentiated: chiefly till and outwash. Includes drift of pre-Vashon age in reservoir area at Mud Mountain Dam*

Salmon Springs Drift

Chiefly oxidized (yellowish-brown color) sand and pebble-cobble gravel; locally includes beds of very fine sand, silt, and clay, stony till, and some non-glacial sediments. Maximum thickness more than 200 feet in Duwamish Valley walls; generally 50 feet or less elsewhere. In White River valley west of Enumclaw, Salmon Springs Drift probably makes up the upper part of deposits mapped as pre-Vashon drift, undifferentiated

Puyallup(?) Formation

Chiefly fine to medium light-gray sand, but includes mudflows, peat, peaty silt clay, gravel, and volcanic ash deposited during relatively warm nonglacial climate. Thickness generally less than 50 feet; maximum thickness known, 100 feet

Intermediate drift

Includes two bluish-gray clayey till sheets separated by 50 to 175 feet of bluish-gray lacustrine sand, silt and clay, and fluvial sand and gravel. Upper till sheet generally overlain by lacustrine silt and clay. Thickness more than 200 feet. Includes small exposures on west wall of Duwamish Valley near Pacific mapped by Waldron (1961) as Stuck Drift. These deposits are at least 50 feet thick and consist of compact oxidized till, sand and gravel, and minor amounts of silt. In White River Valley, intermediate drift probably makes up lower part of sequence mapped as pre-Vashon drift, undifferentiated

UNCONFORMITY

Orting Drift

Chiefly oxidized lacustrine sand, fluvial sand and gravel, and till; contains three or more till sheets or lenses. Thickness more than 200 feet

Pre-Vashon drift, undifferentiated

Exposures in Cedar River valley, include at least four layers of unoxidized till, oxidized and unoxidized fluvial sand and gravel, lacustrine sand, silt, clay, and peat. In valley walls of White and Green Rivers, and Big Soos Creek, consists chiefly of Salmon Springs and intermediate drifts. Probably pre-Salmon Springs in age where shown below sea level in cross sections

UNCONFORMITY

TERTIARY

Miocene

Hammer Bluff Formation

Brownish-green to brown clayey volcanic sand and gravel underlain by light-gray quartzose sand and kaolinitic clay derived from arkose of Puget Group; includes some highly compressed woody lignite. Entire formation is highly weathered. Maximum thickness about 80 feet. Includes small deposits near Palmer having a lithology and stratigraphic position comparable to the type Hammer Bluff Formation. These deposits are probably contemporaneous but may or may not have been coextensive with the Hammer Bluff Formation at its type section

UNCONFORMITY

Eocene to Oligocene

Andesitic volcanic rocks

Heterogeneous assemblage of volcanic breccia, tuff, lapilli tuff, tuff-breccia, conglomerate, sandstone, shale, and lava flows. Chiefly marine in Renton-Tiger Mountain district and continental in Black Diamond-Enumclaw district. Intertongues with upper part of Puget Group

Puget Group

Light-gray to light-brown, fine- to medium-grained, arkosic, micaceous sandstone and interbedded shale and coal. Continental. In Renton-Tiger Mountain district, includes thick sequence of volcanic sandstone and conglomerate, tuffaceous siltstone, tuff-breccia, and lava flows (pattern). Includes three small exposures of pre-Puget volcanic rocks in Duwamish Valley north of Allentown

Eocene(?) to Oligocene(?)

Porphyritic intrusive igneous rocks

Contact
approximately located

Fault
Long-dashed where approximately located; short-dashed where inferred; dotted where concealed; queried where doubtful. U, upthrown side; D, downthrown side. Arrows show relative horizontal movement

Anticline
Showing trace of axial plane and direction of plunge of axis. Long-dashed where approximately located; short-dashed where inferred; dotted where concealed

Syncline
Showing traces of axial plane and direction of plunge of axis. Long-dashed where approximately located; short-dashed where inferred; dotted where concealed

Strike and dip of beds

Strike and dip of beds in coal mine

Strike and dip of overturned beds

Strike of vertical beds

Well or test hole with driller's log (tables 9 and 10). Those in NW¼ sec. 24, T. 23 N., R. 4 E., are shown on plate 3

Test hole for coal or oil with information on depth to bedrock or thickness of surficial deposits (table 9)

Note: numbering system for wells and test holes is described in appendix

Panoramic view in frontispiece

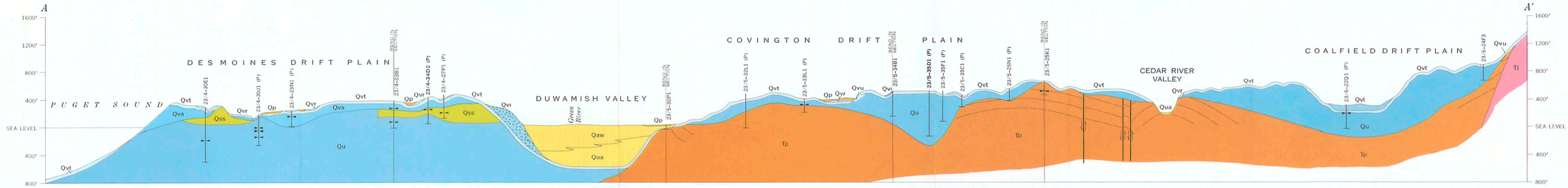
GEOLOGIC MAP OF SOUTHWESTERN KING COUNTY, WASHINGTON

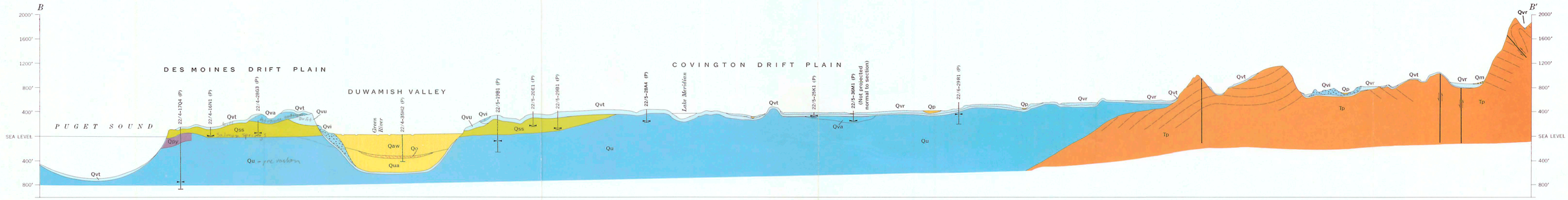
SCALE 1:48 000

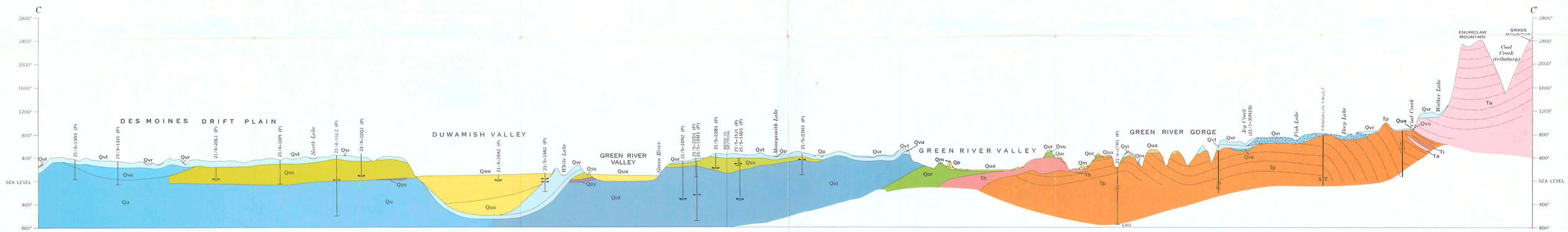
1 ½ 0 1 2 3 MILES

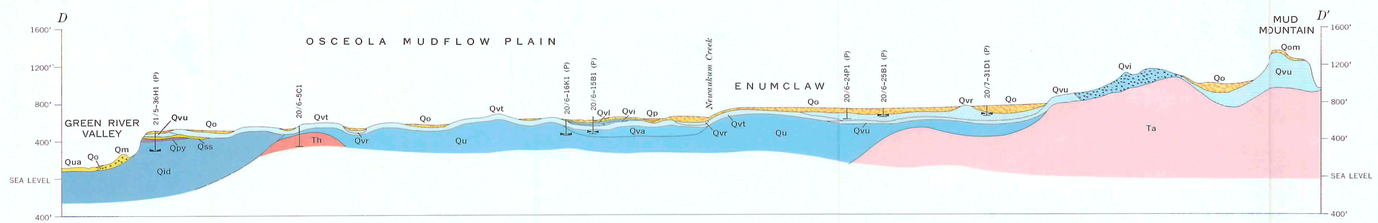
1 .5 0 1 2 3 KILOMETERS

CONTOUR INTERVALS 20 AND 25 FEET
DOTTED LINES REPRESENT 10-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL









EXPLANATION

- Projected normal to section
- 21/6-27R1 (P) — Number of well or test hole
- Altitude of land surface at site of well or test hole
- Approximate position of principal water-bearing zone or zones
- Diagramatic lines showing general dip of Tertiary rocks
- Fault; arrows show relative directions of movement; A, movement away from observer; T, movement toward observer

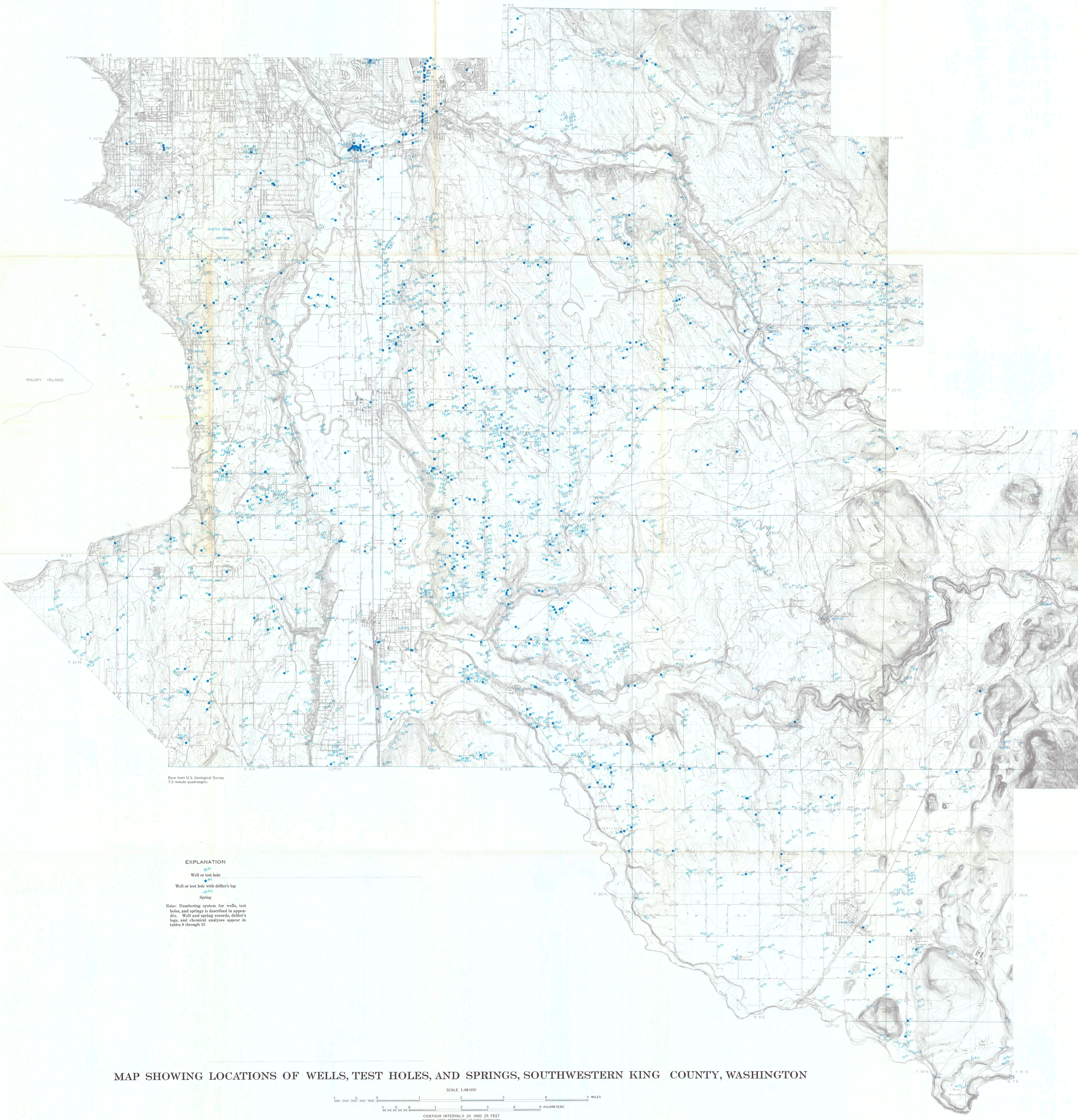
GEOLOGIC SECTIONS OF SOUTHWESTERN KING COUNTY, WASHINGTON

SCALE 1:48 000

1 ½ 0 1 2 3 MILES

1 .5 0 1 2 3 KILOMETERS

PREPARED IN COOPERATION WITH THE
U.S. GEOLOGICAL SURVEY



Base from U.S. Geological Survey
7.5 minute quadrangles

EXPLANATION

Well or test hole

Well or test hole with driller's log

Spring

Note: Numbering system for wells, test holes, and springs is described in appendix. Well and spring records, driller's logs, and chemical analyses appear in tables 9 through 13

MAP SHOWING LOCATIONS OF WELLS, TEST HOLES, AND SPRINGS, SOUTHWESTERN KING COUNTY, WASHINGTON

SCALE 1:48 000

1 ½ 0 1 2 3 4 5 MILES

1 .5 0 1 2 3 4 5 KILOMETERS

CONTOUR INTERVALS 20 AND 25 FEET
DOTTED LINES REPRESENT 10-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL