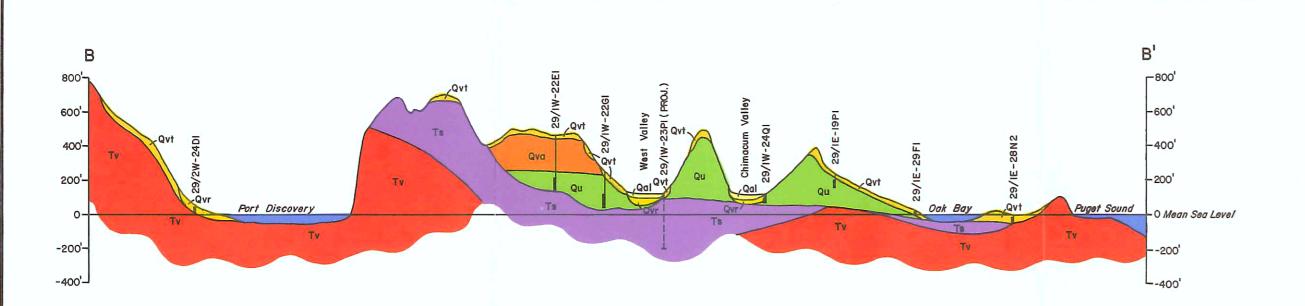


# 



### GEOLOGIC EXPLANATION

IxIO<sup>4</sup> Yrs.

GLACIATION

2x104Yrs.

2x106 Yrs.

-65x106 Yrs.

PLEISTOCENE

Postglacial sediments: Recent stream, lake, marsh, swamp, lagoon, beach, and eolian deposits of gravel, sand, silt, clay and peat. Unit yields small quantities of water to driven wells; stream gravels in hydraulic continuity with streams or in combination with ressional outwash gravels yield moderate to large quantities to large diameter wells. Water quality problems may occur because of organic materials associated with deposition and/or proximity of man related contaminants.

Recessional outwash and ice-contact stratified drift: deltas, alluvial fans, channel fills, kames, kame terraces, eskers and other sedimentary bodies deposited by streams from receding ice lobes of the Fraser Glaciation. Includes some ablation till. Consists primarily of gravel with some sand, silt, and clay; generally unconsolidated. Unit yields small to large quantities of ground water where it occurs in sufficient thickness below saturated zone.

Lodgment till: boulders, cobbles and pebbles in matrix of sand, silt and clay; a compact and unsorted mixture. Generally covered by a few feet of recessional drift or Holocene sediments. Includes some Everson glaciomarine drift. Generally unit is impermeable but has lenses of sand and gravel which may yield small quantities of water; serves as an aquiclude and as impermeable barrier below perched water.

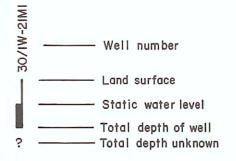
Advance outwash: gravel and sand with some silt and clay; will yield moderate to large quantities of water where gravel and sand underlie zone of saturation.

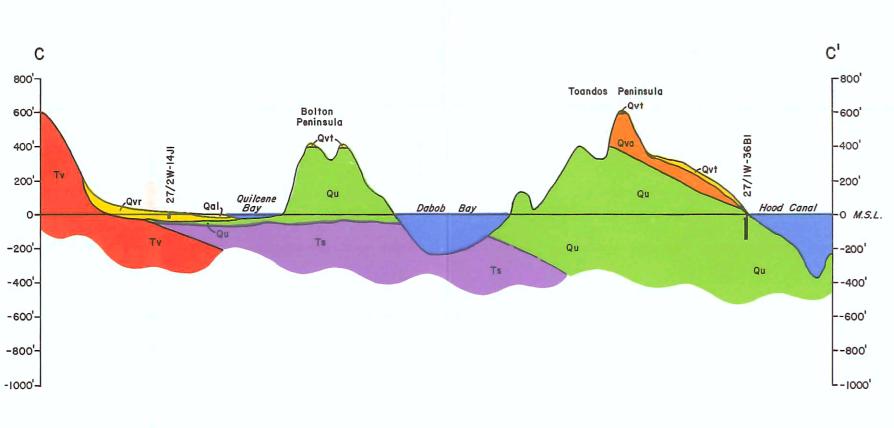
Undifferentiated glacial, fluvial, glaciofluvial, lacustrine, and glaciolacustrine deposits: includes sediments resulting from pre-Fraser Glaciations (Possession Drift, Double Bluff Drift), interglaciation (Whidbey Formation), and advance outwash sands of the Fraser Glaciation. The sands and gravels of the pre-Fraser units are of varying permeability and areal extent and generally yield little or no water.

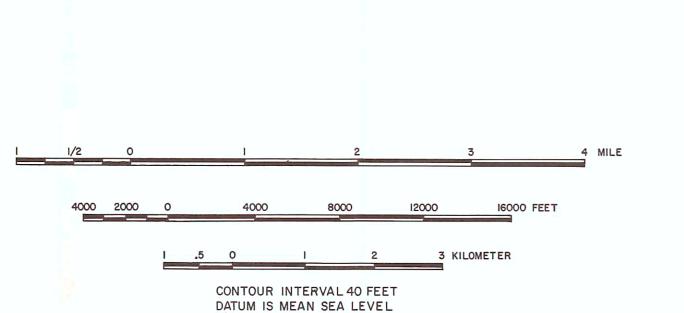
Sedimentary rocks, undifferentiated: mudstone, siltstone, sandstone, conglomerate; generally impermeable and yield liftle or no water.

Volcanics, undifferentiated: basalt flows predominate with some mud flows (Crescent Formation); generally impermeable except between flows and along joints and fractures; yield small to moderate amounts of water.

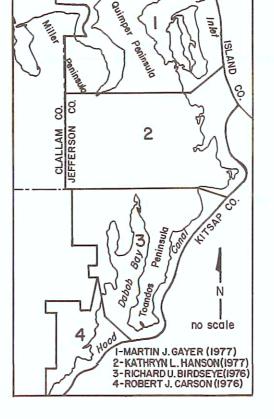
### WELL EXPLANATION







# INDEX MAP CROSS - SECTIONS On Manual Properties of the Properties



INDEX MAP

GEOLOGIC MAPPING

## BASE DATA

Reduction (7.5 minute series) of U.S. Geological Survey topographic quadrangle mapping series. These reductions have been screened 50% to provide land net, cultural and topographical features. Bathymetric contours were removed to accentuate the land masses.

7.5 minute series (scale 1:24,000);
Sequim (1956), Gardiner (1953), Port Townsend (1953), Nordland (1953), Uncas (1953), Center (1953), Port Ludlow (1953), Hansville (1953-68 PR), Mt. Walker (1953), Quilcene (1953), Lofall (1953), Brinnon (1953), Seabeck (1953-68 PR), and Holly (1953-68 PR).

These maps were photoinspected and revised by the U.S.G.S. in 1973; no major cultural or drainage changes.

VICTORIA SENDINGHAM WHATCOM

SKAGIT

SNOHOMISH

PLATES 18.3

JEFFERSON

Seattle

INDEX TO COUNTIES OF NORTHWESTERN WASHINGTON

CANADA

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PIERCE

GEOLOGIC CROSS-SECTIONS
GEOLOGIC LEGEND

EASTERN JEFFERSON COUNTY

WASHINGTON

Scale: HORIZ. 1:48,000(4,000 ft./in.) - VERT. 500 ft./in.

By: PEDER GRIMSTAD AND ROBERT J. CARSON

GRAYS

Date: NOVEMBER 1980

Drawn by : JOHN C. MILHOLLIN, C.E.T., CARTOGRAPHER

PLATE 2

I"=16 miles

