WASHINGTON STATE DEPARTMENT OF
Natural Resources
Jennifer M. Belcher - Commissioner of Public Lands

National Cooperative Geologic Mapping Program
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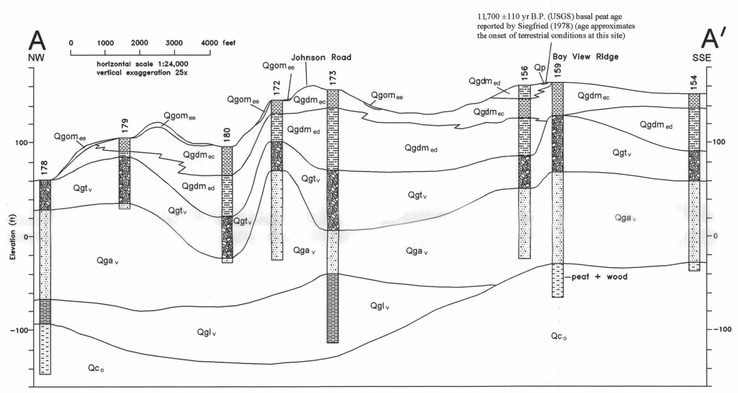
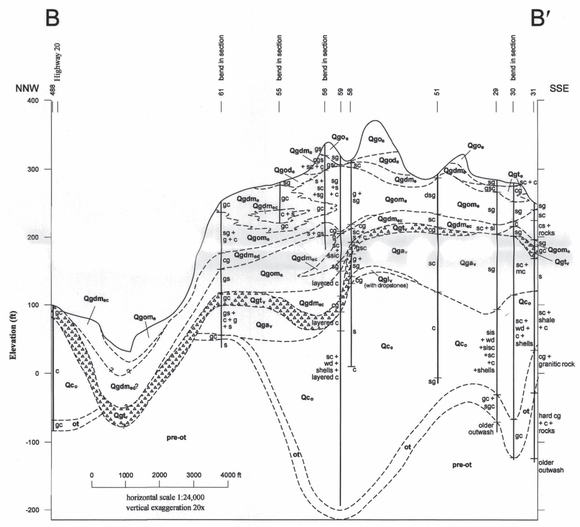
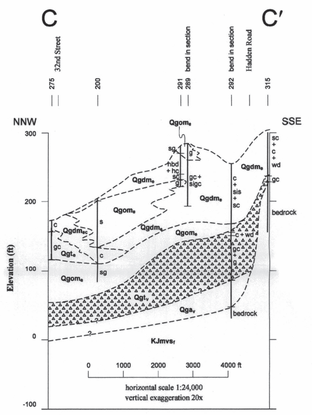
Glacial Uplands Cross Sections

(See Plate 1 for cross section locations and Table 2.1 for explanation of lithology abbreviations)







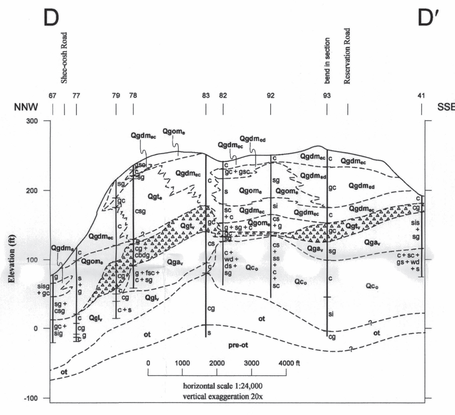


Table 2.1. Characteristics of some geologic units, determined using water-well and geotechnical boring information as well as field information. The table below provides some of the characteristics used to distinguish the Quaternary subsurface geologic units. Lithology: g, gravel; s, sand; si, silt; c, clay; f, fine; h, hard pan; bd, boulder; cb, cobble; d, dirty; wd, wood; or combinations (for example, sisc, silty sandy clay; dsg, dirty sand and gravel). Relative gross stratigraphic position of the upland glacial units is implied by the unit order in the table. For example, Everson Interstade deposits overlie Vashon Stade deposits (such as Qgl$_v$).

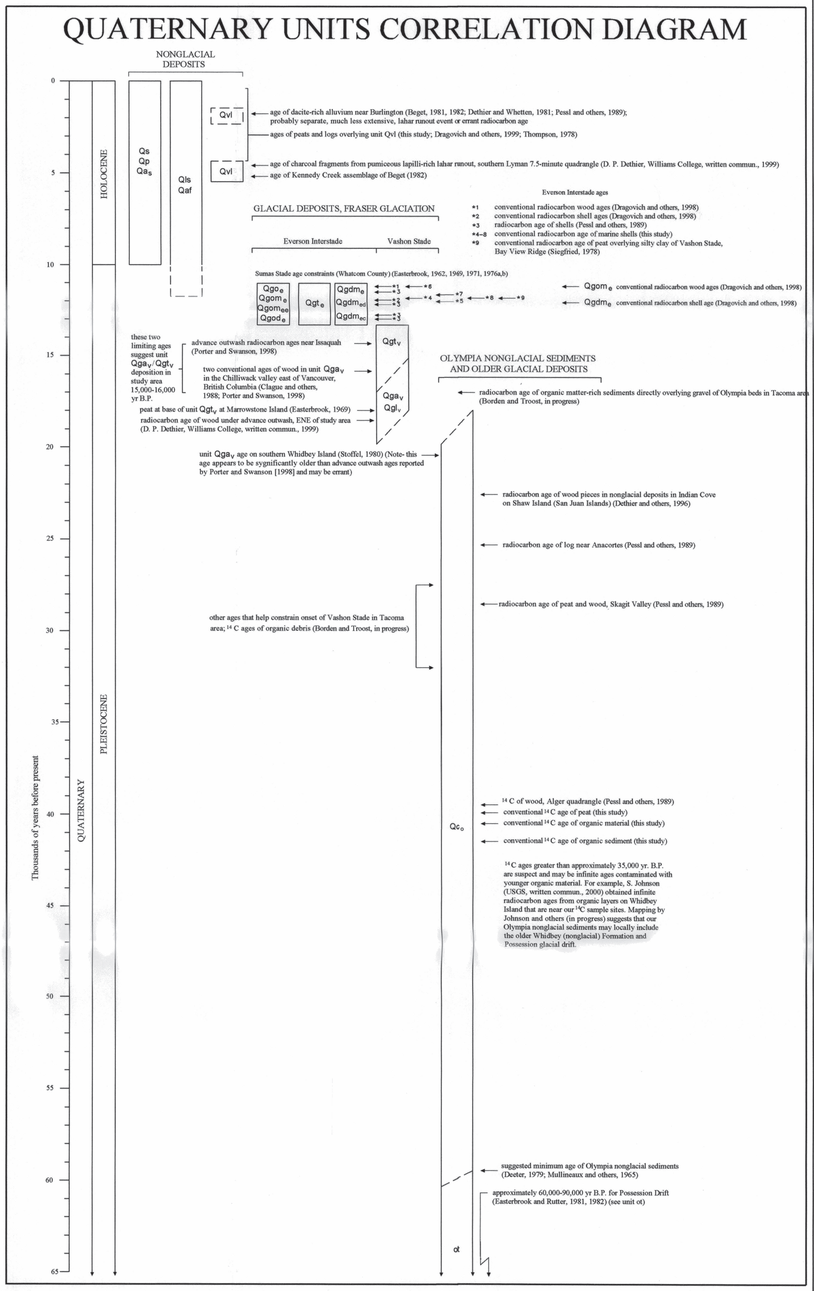
PLEISTOCENE GLACIAL UPLAND UNITS

Unit	Dominant lithology	Secondary lithology	Minor lithology	Unit density; diagnostic clast compositions *(unit sorting)*	Notes *(well-driller descriptions)*; correlations
Everson Interstade deposits					
Qgom$_{ee}$	gs, sg, g			Low density; reworked older units (*typically well sorted*)	Reworked deposits from older glacial units
Qgdm$_{ec}$	c, sisc, sic	si	s, ssi, cs	Low density (*moderately to well sorted*)	*Described as soft*; *rare reports of oil and methane*; fining-upward sequence
Qgdm$_{ed}$	cg, cgs, gsc, sis, gssi (diamictons)		si, sis	Low density (*poorly sorted*)	*Commonly described as soft silt or clay with scattered gravel*; local fining-upward sequences; *commonly described as clay strips in hardpan*
Qgom$_e$	sg, gs, g	sigs, sis, cs, gsis, gsi		Low density (*typically well sorted*)	*Often noted as black (Darrington Phyllite?) sands*; locally layered on a scale of centimeters; contains rare wood; typically define fining-upward sequences; rarely *described as fine sand with layers of hard clay*
Vashon Stade deposits					
Qgl$_v$	h, cssg, scg, cg, ssig, gsc, (diamictons)	sg, si interlayers	locally bouldery	Moderate to high density; polymictic clast composition or locally described as shaley (phyllitic?) (*poorly sorted*)	*Commonly described as dense or hardpan*; locally with sandy gravel interlayers
Qga$_v$	sg, gsis, cgs, sc, s, g	fs, si, ssig, sis, csi	c, csg, wd	Moderate to high density, polymictic clast compositions (*typically well sorted*)	Locally may contain mass-wasting deposits (4–10 ft thick); locally coarsening-upward sequence
Pre-Vashon glacial deposits					
Qgl$_f$	c, sc, sisc, sis, s, csi	sg	cg	Moderate to high density; polymictic clast compositions? (*typically well sorted*)	Thinly interbedded diamictons probably are mass-wasting deposits; sand and gravels commonly interlayered with clays; correlated with the "transitional beds" of Pessl and others (1989)
Qc$_o$	c, sc, s	si, sgc	gs, gc	Moderate to high density; local clast compositions? (*moderately to well sorted*)	*Commonly contains wood and peat*; correlated with the "Olympia inter-glacial unit" of Armstrong and others (1965)
older till (unit ot)	gsc, cg, sgc (diamictons)	slcga	sg, g locally bouldery	Moderate to high density; polymictic clast compositions? (*poorly sorted*)	*sg rare*; *gravel commonly described as scattered*; tentatively correlated with the Possession drift of Easterbrook (for example, 1994)

WASHINGTON DIVISION OF GEOLOGY AND EARTH RESOURCES
Raymond Lasmanis, State Geologist

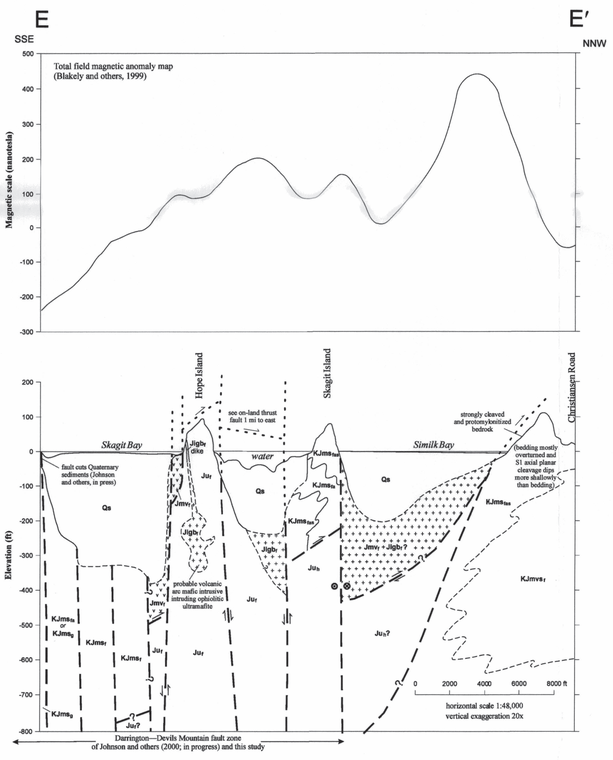
PLATE 2
OPEN FILE REPORT 2000-6
GEOLOGIC MAP OF THE ANACORTES SOUTH AND LA CONNER 7.5-MINUTE QUADRANGLES, WESTERN SKAGIT COUNTY, WASHINGTON

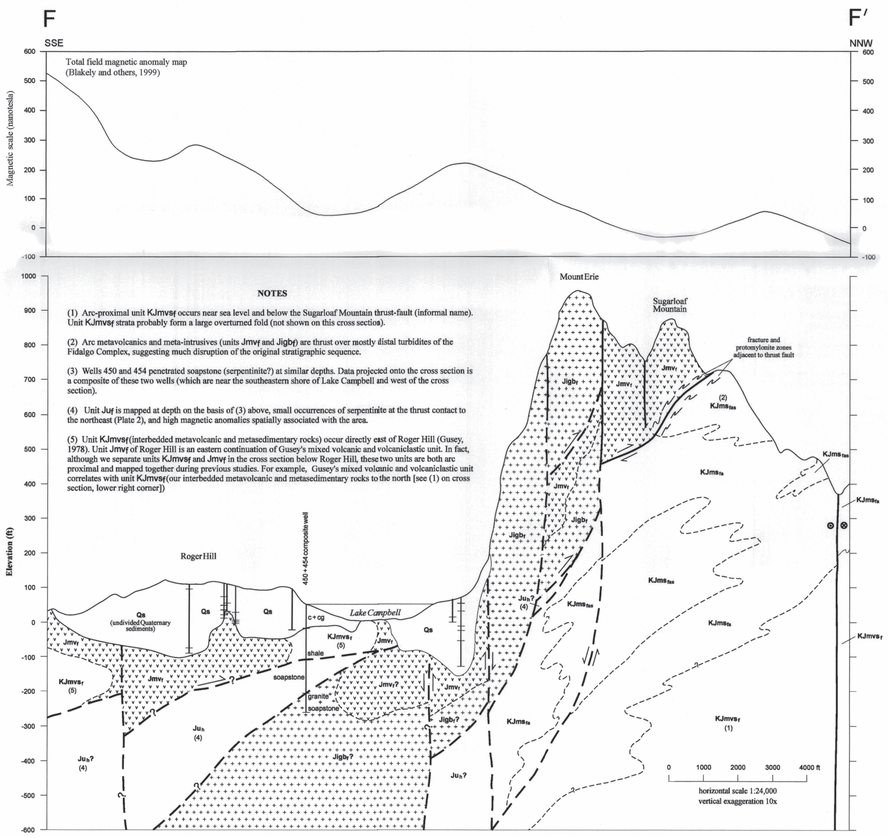
QUATERNARY UNITS CORRELATION DIAGRAM



Bedrock Cross Sections

(See Plate 1 for cross section locations)





BEDROCK CORRELATION DIAGRAM (PROTOLITH AGES)