

Geologic Units in the Astoria and Ilwaco 1:100,000 Quadrangles (See explanatory note at bottom of spreadsheet)

Old Symbol	New Symbol	Age	Lithology	Named Unit
---	wtr	---	water	---
Qal	Qa	Quaternary	alluvium	---
Qb	Qb	Holocene	beach sand	---
Qd	N.A.			In Oregon
Qls	Qls	Holocene-Pleistocene	mass-wasting deposits, mostly landslides	---
Qoa	Qoa	Holocene-Pleistocene	alluvium, older	---
Qt	Qt	Holocene-Pleistocene	terraced deposits	---
Tasa	N.A.			In Oregon
Tasb	Mm(1b)	Miocene, lower to middle	marine sedimentary rocks	Bald Ridge member, Astoria Formation
Tasc	N.A.			In Oregon
Tasl	Mm(1l)	Miocene, lower to middle	marine sedimentary rocks	lower member, Astoria Formation
Tasn	Mm(1n)	Miocene, lower to middle	marine sedimentary rocks	Naselle member, Astoria Formation
Tasu	Mm(1u)	Miocene, middle	marine sedimentary rocks	Astoria Formation, upper
Tasw	N.A.			In Oregon
Tasy	N.A.			In Oregon
Tbt	Evt	Eocene	tuffs and tuff breccias	---
Tco	N.A.			In Oregon
Tcp	Em(2cp)	Eocene, middle to upper	marine sedimentary rocks	Cliff Point, siltstone at
Tcr	Ev(c)	Eocene, lower to middle	basalt flows and flow breccias, Crescent Formation	Crescent Formation
Tcz	En(c)	Eocene, middle to upper	nearshore sedimentary rocks	Cowlitz Formation
Tgc	N.A.			In Oregon
Tgr	Mv(g)	Miocene, middle	basalt flows (Grande Ronde Basalt, undivided [CRB])	Grande Ronde Basalt, Columbia River Basalt Group
Tgv	Evb(gr)	Eocene, middle to upper	basalt flows	Grays River, volcanic rocks of
Tib	Eib	Eocene	basic intrusive rocks	---
Tico**	Mvi(cr)	Miocene	basalt flows, invasive (CRBG, undivided)	Columbia River Basalt Group, undivided, invasive
Tigr	Mvi(g)	Miocene, middle	basalt flows, invasive (Grande Ronde Basalt, undiv. [CRB])	Grande Ronde Basalt, invasive
Tiqm	Eiqm(o)	Eocene, upper	quartz monzonite	Ordway Creek stock
Tisp	Mvi(sp)	Miocene, middle	basalt flows, invasive (Pomona Member [CRB, SMB])	Pomona Member, Saddle Mountains Basalt
Tiwf	N.A.			In Oregon
Tk	N.A.			In Oregon
Tlc	OEm(lc)	Oligocene-Eocene	marine sedimentary rocks	Lincoln Creek Formation
Tlcs	OEm(ls)	Oligocene-Eocene	marine sedimentary rocks	Lincoln Creek Formation, sandstone member of
Tmc	Em(2m)	Eocene, middle to upper	marine sedimentary rocks	McIntosh Formation
Tmcs	Em(2ms)	Eocene	marine sedimentary rocks	McIntosh Formation, sandstone member of
Tme	Em(1)	Eocene, middle	marine sedimentary rocks	---
Tnc	N.A.			In Oregon
Tom	Em(2op)	Eocene, middle to upper	marine sedimentary rocks	Omeara Point, siltstone and sandstone of
Tpb	N.A.			In Oregon
Tsb	Em(2sb)	Eocene, middle to upper	marine sedimentary rocks	Shoalwater Bay, siltstone of
Tsc	Em(2sk)	Eocene, upper	marine sedimentary rocks	Skamokawa Creek, siltstone of
Tse	Em(2)	Eocene, middle to upper	marine sedimentary rocks	unit B of Wolfe and McKee
Tses	Em(2s)	Eocene, middle to upper	marine sedimentary rocks	sandstone in unit B of Wolfe and McKee
Tsg	N.A.			In Oregon
Tsmc	N.A.			In Oregon
Tso	N.A.			In Oregon
Tsp	Mv(sp)	Miocene, middle	basalt flows (Pomona Member [CRB, SMB])	Pomona Member, Saddle Mountains Basalt
Ttd	N.A.			In Oregon
Twf	Mv(wfs)	Miocene, middle	basalt flows (Frenchman Springs Member [CRB, WB])	Frenchman Springs Member, Wanapum Basalt

** Regarding unit Tico on OFR87-02 paper map, can't read the label.

Washington Division of Geology and Earth Resources Open File Report 87-02, Geologic map of the Astoria and Ilwaco quadrangles, Washington and Oregon, compiled by Timothy J. Walsh, was released before the Division adopted a standard symbology for geologic units to be portrayed in 1:100,000, 1:250,000, and 1:500,000 geologic maps of Washington State. Therefore the geologic unit symbology on this map and in the accompanying text does not match that found on many later geologic maps that include the Astoria and Ilwaco 1:100,000 quadrangles. This makes it more difficult for the user to, for example, compare geologic unit descriptions between this map and others that have different symbols for the same unit or to compile a description for a geologic unit that occurs in more than one 1:100,000 quadrangle. This table is included to make it easier to relate the units on this map with units on later maps that use the standard symbology. The column headed "Old Symbol" lists the units on this map alphabetically. The column headed "New Symbol" lists the same units expressed in the standard symbology.