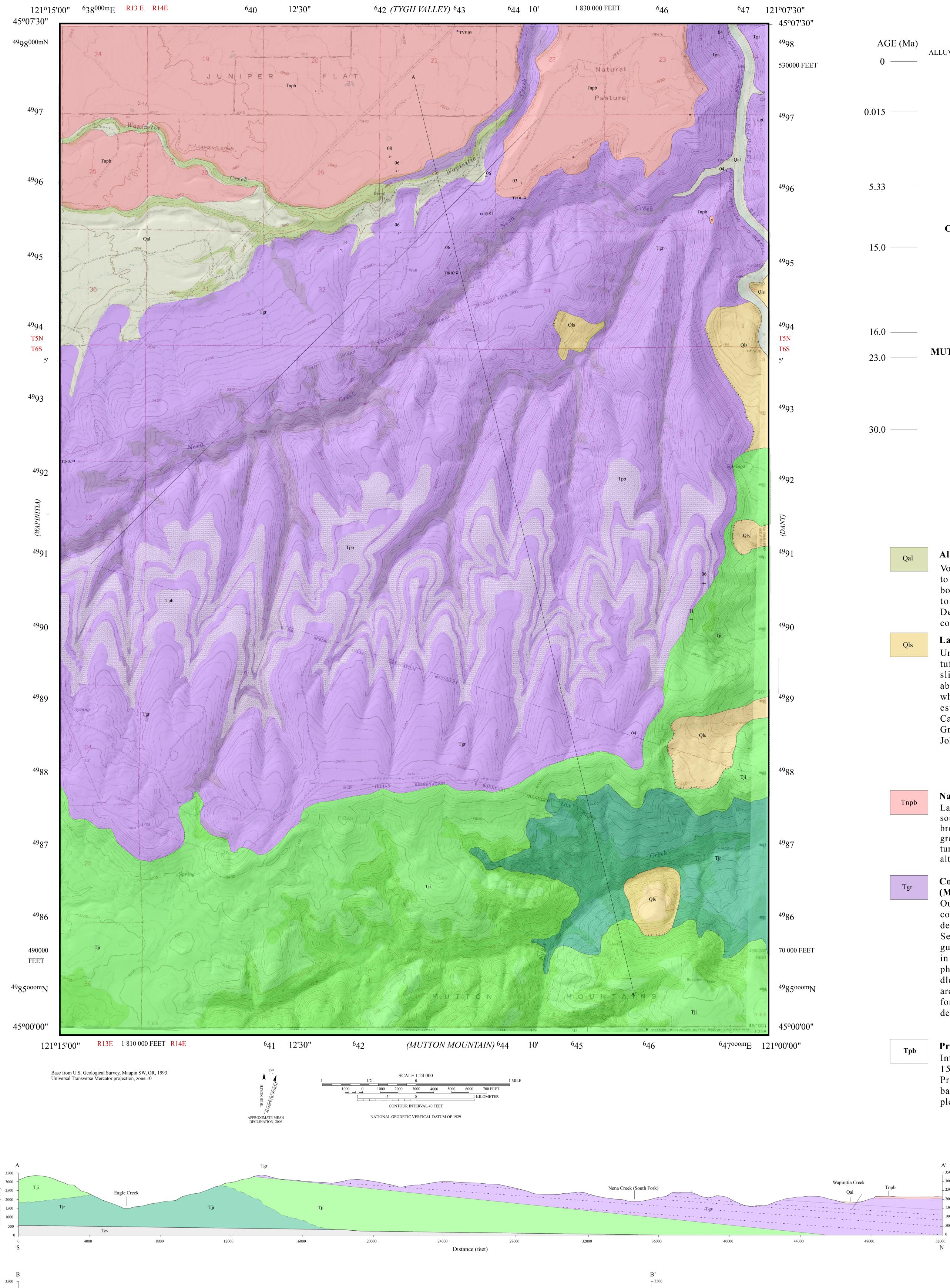
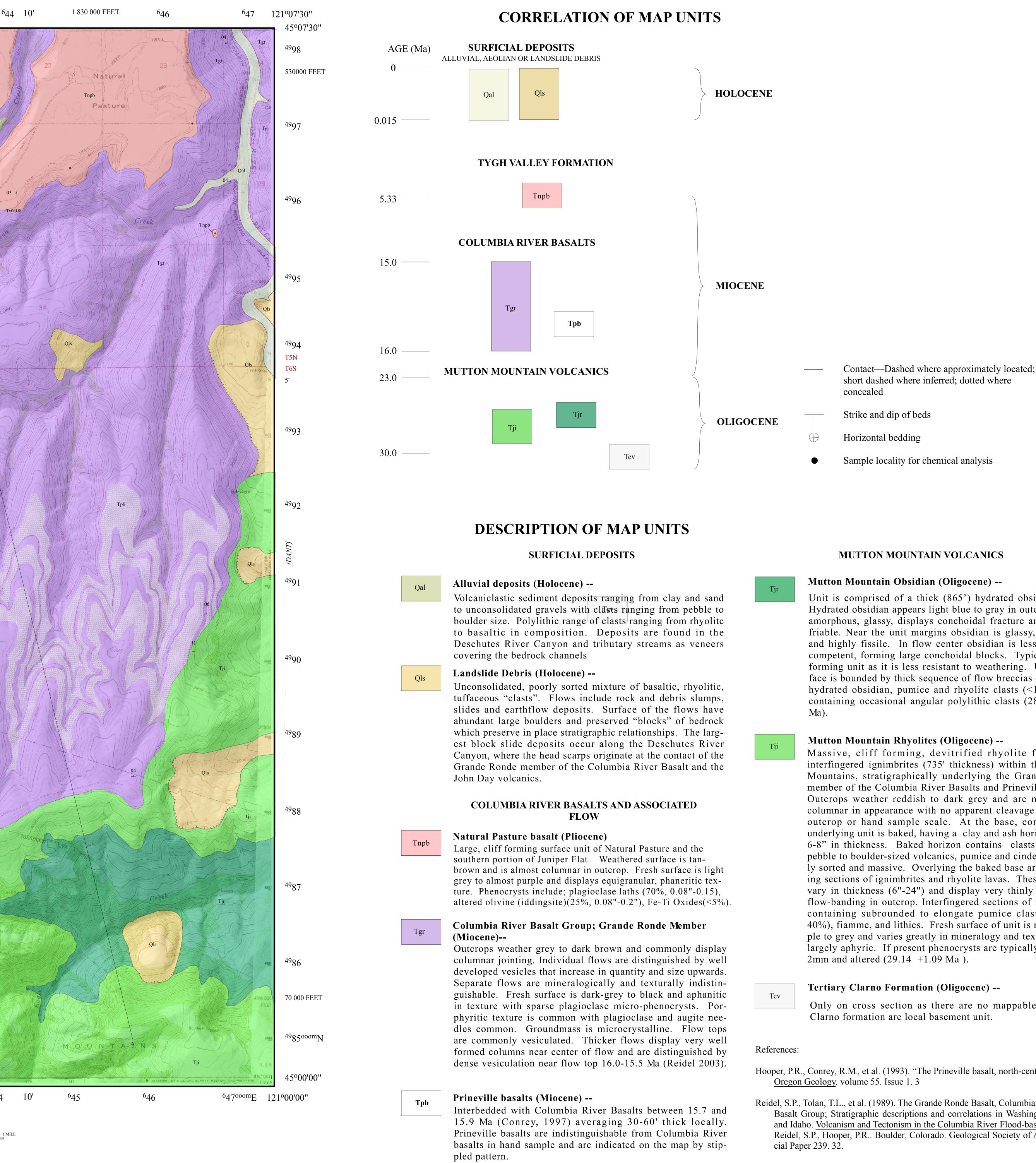
## MAUPIN SW 7.5" QUADRANGLE







### **MUTTON MOUNTAIN VOLCANICS**

## Mutton Mountain Obsidian (Oligocene) --

Unit is comprised of a thick (865') hydrated obsidian flow. Hydrated obsidian appears light blue to gray in outcrop and is amorphous, glassy, displays conchoidal fracture and is quite friable. Near the unit margins obsidian is glassy, hydrated, and highly fissile. In flow center obsidian is less hydrated, competent, forming large conchoidal blocks. Typically slope forming unit as it is less resistant to weathering. Upper surface is bounded by thick sequence of flow breccias containing hydrated obsidian, pumice and rhyolite clasts (<1"- >200") containing occasional angular polylithic clasts (28.58 +0.15

Massive, cliff forming, devitrified rhyolite flows and interfingered ignimbrites (735' thickness) within the Mutton Mountains, stratigraphically underlying the Grande Ronde member of the Columbia River Basalts and Prineville basalt Outcrops weather reddish to dark grey and are massive to columnar in appearance with no apparent cleavage pattern at outcrop or hand sample scale. At the base, contact with underlying unit is baked, having a clay and ash horizon about 6-8" in thickness. Baked horizon contains clasts of mafic, pebble to boulder-sized volcanics, pumice and cinder, is poorly sorted and massive. Overlying the baked base are alternating sections of ignimbrites and rhyolite lavas. These sections vary in thickness (6"-24") and display very thinly laminated flow-banding in outcrop. Interfingered sections of ignimbrite containing subrounded to elongate pumice clasts (<0.5", 40%), fiamme, and lithics. Fresh surface of unit is red to purple to grey and varies greatly in mineralogy and texture but is largely aphyric. If present phenocrysts are typically less than

# **Tertiary Clarno Formation (Oligocene) --**

Only on cross section as there are no mappable outcrops.

Hooper, P.R., Conrey, R.M., et al. (1993). "The Prineville basalt, north-central Oregon".

Reidel, S.P., Tolan, T.L., et al. (1989). The Grande Ronde Basalt, Columbia River Basalt Group; Stratigraphic descriptions and correlations in Washington, Oregon and Idaho. Volcanism and Tectonism in the Columbia River Flood-basalt Province. Reidel, S.P., Hooper, P.R.. Boulder, Colorado. Geological Society of America. Spe