



Quaternary	Qm	Alluvium
Pleistocene	Ql	Lake deposits
	Qe	Clayey silt and sand
Tertiary	Tt	Glaciofluvial deposits and glacial till undivided
	Tb	Tiger Formation (Semi-consolidated sands, gravels, cobbles, and fragments of heavy rock types. Occurs locally in small eroded remnants)
Tertiary(?) or Quaternary(?)	Tt	Olivine trachybasalt
	Ld	Lamprophyre dike (Greenish-gray to black rock, locally porphyritic)
Silurian and Devonian	Ds	Black argillite and slate (Contains beds of limestone and lenses of conglomerate, sandstone, quartzite, sandy limestone and sandy dolomite. Local and widely scattered beds of fossiliferous Monagnostaria indicate Silurian age for part of unit, elsewhere other fossils indicate Devonian age, especially in rocks of Limestone Hill)
	Ds	Leabetter Slate (Chiefly black carbonaceous argillite and slate. Contains some black limestone and thin crystalline strata. Crystalline common locally. Occurs in local beds and lenses of black quartzite. Dst, gray crystalline dolomite)
Ordovician	Ord	Metaline Limestone (Cmb, gray, massive limestone. Metamorphosed to saprophy and strongly marbled in Duaneau Creek area. Cmb, chiefly fine to medium-bedded light-gray dolomite, contains some beds, lenses, and pods of black dolomite. In places well-bedded. Cmb, mainly fine to medium-bedded gray to dark-gray limestone and some thin shale)
	Cmb	Maitlen Phyllite (Chiefly greenish-gray phyllite, some quartzite and limestone)
Cambrian	Cmb	Oxyen Quartzite (Chiefly quartzite, some conglomerate and phyllite)
	Cmb	Monk Formation (Chiefly phyllite; some conglomerate, quartzite limestone, and conglomerate)

**EXPLANATION**

	Contact, showing dip
	Fault, showing bearing and plunge of axis. Dashed where approximately located; dotted where concealed; queried where hypothetical. U, upthrown side; D, downthrown side
	Vertical fault
	Anticline Dashed where approximately located; dotted where concealed; queried where hypothetical
	Syncline Dashed where approximately located; dotted where concealed; queried where hypothetical
	Overturned anticline Dashed where approximately located; dotted where concealed
	Plunge of minor anticline Dashed where approximately located; dotted where concealed
	Plunge of minor syncline
	Horizontal minor fold axis
	Strike and dip of beds
	Strike and dip of overturned beds
	Strike of vertical beds
	Horizontal beds
	Strike and dip of layers and lenses in marble
	Strike and dip of dominant cleavage in phyllite
	Strike of vertical cleavage in phyllite
	Strike and dip of slaty cleavage
	Vertical shaft
	Inclined shaft
	Adit
	Small prospect pit, open-cut, or bulkhead area
	Small quarry or gold placer diggings
	Large open pit, quarry, or glory hole

**Hydrothermally altered Metaline Limestone**  
Cmb, altered dolomite. Medium- to strongly and irregularly silicified (spherulitic) dolomite. Rock typically medium- to dark gray, commonly irregularly brecciated, and consists of variable quantities of crystalline dolomite, coarse calcite, some limestone, and locally argillite interstrata. Many small bodies and shales in situ.  
Cmb, crystalline dolomite. Light- to medium-gray fine- to medium-grained crystalline dolomite. Silicified interstrata occur locally as well as some coarse calcite and sparse spherulite. Bedding planes almost everywhere obliterated.  
Cmb, interstratified crystalline and bedded dolomite

Note: The irregular alteration contacts shown at depth between dolomite and other units of the Metaline formation are largely hypothetical

**GEOLOGIC MAP AND SECTIONS OF THE METALINE ZINC-LEAD DISTRICT, PEND OREILLE COUNTY, WASHINGTON**

