

GEOLOGIC UNITS

SEDIMENTARY AND VOLCANIC ROCKS AND DEPOSITS

QUATERNARY UNCONSOLIDATED SEDIMENTARY DEPOSITS

Non-glacial Sedimentary Deposits

Qa Alluvium
Qp Flat deposits
Qla Lacustrine deposits

Non-glacial and Glacial Sedimentary Deposits

Qs Unconsolidated sedimentary deposits, undivided
Qls Landslide deposits
Ql Loess

Glacial Sedimentary Deposits

Qgf Outburst flood deposits
Qgs sand and silt
Qgl Claciolacustrine deposits
Qglf Claciolacustrine deposits and outburst flood deposits, undivided

Qd Drift
Qdso Outwash
Qgt Till
Qgt Late Wisconsin till
Qgtso Pre-late Wisconsin till

PLIOCENE TO MIOCENE SEDIMENTARY ROCKS

Plm Conglomerate of the Chamokane Creek area

MIOCENE VOLCANIC ROCKS

Columbia River Basalt Group
Mwvp Wanapum Basalt, Priest Rapids Member
Mwvz Grande Ronde Basalt, magnetostatigraphic unit N2

Eocene Sedimentary and Volcanic Rocks

Ecp Tiger Formation
Ecs Conglomerate
Ecs Fine-grained rocks
Eva Sanpoil Volcanics
Evt Andesitic rocks in the Colville Valley
Evt Tuff

METASEDIMENTARY AND METAVOLCANIC ROCKS

PALEOZOIC TO PRECAMBRIAN METASEDIMENTARY ROCKS

Pcb Carbonate rocks, undivided

Pbmm Rocks of Gardiner Creek
Pbmm phyllite and quartzite unit
Pbmm upper dolomite unit
Pbmm lower dolomite unit

Pcb Carbonate rocks of Limekiln Hill

MDcb Carbonate rocks east of Chewelah
MDcb upper unit
MDcb middle unit
MDcb lower unit

Dcb Carbonate rocks near Valley

Omm Ledbetter Slate

Ocb Metaline Formation
Ocb dolomite
Ocb limestone
Ocb undivided

Cph Maitlen Phyllite

CZq Addy Quartzite
CZq upper unit
CZq coarse unit
CZq purple-banded unit
CZq basal unit
CZq undivided

PRECAMBRIAN METASEDIMENTARY AND METAVOLCANIC ROCKS

Windermere Group
Zmm Monk Formation
Zmm Huckberry Formation
Zmm greenstone member
Zmm conglomerate member
Zmm Windermere Group, undivided

Deer Trail Group

Yab Buffalo Hump Formation
Yab argillite
Yab quartzite
Ycb Stensgar Dolomite
Ycb McHale Slate
Ycb Edna Dolomite
Ycb Togo Formation
Ycb quartzite
Ycb argillite

Yab Deer Trail Group, undivided

Belt Supergroup

Striped Peak Formation (Missoula Group)
member d
member c
member b
member a
undivided

Wallace Formation
upper unit
lower unit
undivided

Belt Supergroup, upper part, undivided

St. Regis Formation (Ravalli Group)

Revet Formation (Ravalli Group)

Burke Formation (Ravalli Group)

Pritchard Formation

INTRUSIVE ROCKS

HYPABYSSAL ROCKS

Ei Dikes, undivided
Dacite dikes
Rhyolite dikes

PLUTONIC ROCKS

Plutonic rocks in the upper plate of the Newport fault

Kia Calena Point Granodiorite
Kia Granodiorite of Hall Mountain
Kia Granodiorite of Dubious Creek
Kia Monzogranite of Big Meadows
Kia Blickensderfer Quartz Monzonite

Plutonic rocks in the lower plate of the Newport fault

Eia Silver Point Quartz Monzonite
Eia Quartz monzonite near Springdale
Eia Fine-grained quartz monzonite near Loon Lake
Eia Leucocratic plutonic rocks of the Scotia area
Kia Monzogranite north of Eloika Lake
Kia Granite of Mount Spokane
Kia undeformed granite
Kia deformed granite and banded gneiss

Kia Granodiorite west of Spring Valley
Kia Fan Lake Granodiorite
Kia Monzogranite of the Camden area
Kia Monzogranite of Little Roundtop
Kia Alaskite bodies
Kia Phillips Lake Granodiorite
Kia Double dash overprint indicates areas where dikes associated with the Phillips Lake Granodiorite are concentrated

J Bli Flowery Trail Granodiorite

Plutonic rocks west of the Jumpoff Joe fault

Kia Midnite mine pluton
Kia Starvation Flat Quartz Monzonite
Kia Monzogranite near Narcisse Creek
Kia Lane Mountain pluton

PRECAMBRIAN DIKES AND SILLS

Zib Basic intrusive dikes and sills
Yib Metadiorite and metagabbro sills

METAMORPHIC ROCKS

Kop Newman Lake Gneiss
p Chm Heterogeneous metamorphic rocks
p Chp Hauser Lake Gneiss

TECTONIC ROCKS

tz Tectonic zones
bx Tectonic breccia
Diagonal lines indicate foliated rocks in the Newport fault zone and in the Spokane dome

EXPLANATION

Contact

Contact - gradational

Scratch boundary - boundary between reconnaissance and detailed mapping

Faults - dashed where location uncertain; dotted where concealed; Ball and bar on downthrown side

Low-angle reverse fault - dashed where location uncertain; dotted where concealed; sawteeth on upper plate

High-angle reverse fault, dotted where concealed; R on upthrown side

Low-angle normal fault - dotted where concealed; blocks on upper plate

Anticline - showing direction of plunge; dotted where concealed

Syncline - showing direction of plunge; dotted where concealed

Overtured syncline - showing direction of dip of limbs; dotted where concealed

Strike and dip of inclined beds

Strike and dip of overturned beds

Strike of vertical beds

Horizontal beds

Strike and dip of beds rotated more than 180°

Strike and dip of inclined foliation

Strike of vertical foliation

Bearing and direction of plunge of lineation

Bearing of lineation in plane of foliation

Conodont sample location

Age determination sample location; open triangles represent the area from which more than one sample was taken for isochron age determination

SCALE 1:100 000

0 1 2 3 4 5 6 7 8 9 10
KILOMETERS

0 1 2 3 4 5
MILES

0 5000 10000 15000 20000 25000
FEET

WASHINGTON

QUADRANGLE LOCATION

ROAD CLASSIFICATION

Primary highway, hard surface

Secondary highway, hard surface

Light-duty road, hard or improved surface

Street or unimproved road

Trail

Interstate route U.S. route State route

CHEWELAH, WASH.—IDAHO
SHEA SANDPOT 10411111 1:100,000 SCALE MAP
N4800-W11700030000

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Compiled by
STEPHANIE Z. WAGGONER

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