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PLATE I

Geologic Map of the Western Border of the Idaho Batholith near McCall

Compiled by Cathryn Allen Manduca from field data collected by C.A. Manduca, M. Kuntz and J.R. LaFortune for the U.S. Geological Survey

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Legend

Oc Quaternary Cover: Fluvial, lacustrine and glacial debris

Tb Columbia River Basalt: Basalt flows and interflow sedimentary deposits

Payette River Complex

Pgr Trail Creek Granite: Medium to coarse grained, locally foliated, one and two mica granite and granodiorite with oscillatory zoned plagioclase; local microcline phenocrysts to 3 cm. Western margin contains blocks of Pt.

Pbt Trail Creek Granite Border Zone: Abundant biotite and two mica granite dikes related to Trail Creek Granite crosscutting Payette River Tonalite.

Pbz Payette River Granite: Foliated biotite granite with color index 2 to 15; abundant allanite; locally has mylonitic fabric.

Pt Payette River Tonalite: Medium to coarse grained foliated and lineated biotite hornblende tonalite and biotite hornblende granodiorite with color index 15 to 30; abundant sphene, allanite and mafic inclusions.

Ppgd Porphyritic Granodiorite: Medium to coarse grained foliated porphyritic hornblende biotite granodiorite and granite with color index 10 to 20; orthoclase phenocrysts to 3 cm.

Pms Metasedimentary and Associated Hybrid Igneous Rocks: Screens and pods of biotite and sillimanite schist, calcsilicate and quartzite intimately mixed with abundant small bodies of granite, granodiorite and tonalite; lines outline areas of iron stain which approximate distribution of metasedimentary rocks.

Little Goose Creek Complex

Ggg Coarse-Grained Tonalite Orthogneiss: Mylonitized medium to coarse grained tonalite and granodiorite with color index 20; abundant coarse grains of mafic minerals and plagioclase.

Ghbg Western Orthogneiss: Mylonitized tonalite and granodiorite with color index 20 to 30 interlayered on 1-10 m scale with subordinate lighter orthogneiss; abundant folded, leucocratic sills and dikes.

Gpg Porphyritic Orthogneiss: Mylonitized porphyritic biotite granodiorite and granite orthogneiss interlayered on 0.1-100 m scales with tonalitic to dioritic orthogneiss and amphibolite. Porphyritic orthogneiss forms 70% of unit outcrop area in north, 30% in south.

Ggq Spotted Orthogneiss: Mylonitized diorite to monzodiorite and granodiorite with color index 20 to 40; mafic minerals as 1-2 cm aggregates.

Gmg Mafic Orthogneiss: Hornblende gabbro, hornblendite, pyroxenite, diorite, quartz diorite and tonalite; color index 25 to 95. Mylonitic deformation localized in narrow zones.

Gms Metasedimentary Rocks: Biotite and sillimanite schist, quartzite and calcsilicate pods within porphyritic granodioritic orthogneiss; similar to metasedimentary rocks in Payette River Complex.

Hazard Creek Complex

Hbgr Round Valley Granite: Medium to coarse grained two mica granite to granodiorite with partially recrystallized igneous fabric. Garnet and epidote present locally. Cross cut by abundant aplites and pegmatites.

Hgd Garnet Granodiorite Mylonite: Leucocratic garnet-bearing granodiorite and granite with mylonitic fabric which forms sills one to several tens of meters thick in Hqdg and Hbet. Sills account for more than 50% of the unit. Amphibolite pods and layers are present near Granite Twin Lakes.

Hbet Epidote-Biotite Tonalite: Epidote biotite tonalite with lesser granodiorite and granite; hornblende or muscovite present locally; color index 10; hypidiomorphic, extensively recrystallized or weakly mylonitic textures. Stoped inclusions of orthogneiss and paragneiss are abundant, particularly in the western outcrops.

Hbetj Jack's Creek Pluton: Epidote biotite hornblende tonalite pluton with color index 15; hornblende and biotite in subequal amounts; epidote 0 to 5% of the rock; abundant sphene; igneous to mylonitic textures. Hybrid rocks and synplutonic deformation are common near the margins of the pluton.

Hbetk Jack's Creek Pluton-stabby: Hbet with strong gneissic fabric and stabby parting; abundant 1-10 cm mafic layers; biotite more abundant than hornblende; mylonitic fabric.

Hqtg Quartz Diorite Gneiss: Epidote biotite hornblende quartz diorite and tonalite orthogneiss with color index 35 to 40; epidote up to 7% of the rock; crystalloblastic or mylonitic fabric. Lighter and darker gneisses are subordinant but locally present, especially in northwestern outcrops.

Hsdg Eastern Tonalite Gneiss: Mylonitic granodiorite to diorite orthogneiss with color index 20 to 35; epidote up to 10% of the rock; hornblende more abundant than biotite. Semiconcordant, 1 cm, leucocratic sills commonly folded. Foliation locally folded.

Hsg Light and Dark Gneiss: Light and dark epidote bearing orthogneisses interlayered on scales from one to several meters. Light gneiss locally intrudes dark gneiss. Dark gneiss comprising 20 to 40% of the unit is tonalitic to dioritic with color index greater than 20. Light gneiss is tonalitic to granitic with color index less than 20. Dark gneiss may be correlative with Hqtg, light gneiss with Hbet. Abundant local folding and deformation.

Hsgbx Light and Dark Gneiss-blocky: Light and dark orthogneiss forming intrusion breccia. Fine grained biotite tonalite and pegmatite dikes are abundant intruding in random orientations. Foliation in dark gneiss varies widely. Amphibolite inclusions are common.

Hbetg Epidote-Biotite Tonalite Gneiss: Epidote biotite tonalite to granodiorite gneiss with abundant thin layers of biotite gneiss and hornblende biotite tonalite gneiss; medium to coarse grained mylonitic fabrics with strong foliation. Pods of hornblendite and gabbro with crystalloblastic fabrics are abundant near Buck Lake.

Hbg Dark Gneiss Assemblage: Extremely heterogeneous unit composed primarily of inhomogeneous hornblende biotite epidote tonalite; abundant inclusions of older diioritic to tonalitic orthogneiss, amphibolite and andesite gneiss; abundant younger crosscutting intrusives with compositions ranging from tonalite to granite; abundant pegmatite, aplaskite and aplite. Rock types combine to form coarsely interlayered gneisses and intrusion breccias.

Hhbg Light Gneiss Assemblage: Gneiss complex similar in style to dark gneiss complex but dominated by biotite epidote tonalite. Contacts with Hbg and Hbet are gradational and arbitrarily defined. Blocks of layered mafic gneiss are more abundant than in Hhbg.

Hpg Tonalite with Gneiss Pods: Layers and pods of amphibolite, calcsilicate and quartzofeldspathic gneiss intimately mixed with heterogeneous hornblende biotite epidote tonalite. Amphibolite is more common in south, quartzofeldspathic gneiss in north. Crossout by fine grained tonalite and pegmatite dikes. Abundant local folding and deformation.

Hlmg Mafic Layered Gneiss: Fine and medium grained crystalloblastic gneisses often layered with compositions ranging from basalt to andesite. Includes lesser calcsilicate and quartzite and dikes and sills of tonalite and granite.

— Contact
– – Approximate Contact
· · · · Buried Contact
— Fault

Strike and dip of foliation
Bearing and plunge of lineation
— Subunit contact

N

0 1 2 mi
0 1 2 km