

## **Shoshone County**

Shoshone County covers a huge area north of the Clearwater River, and including the Silver Valley, which was a main source of wealth in north Idaho for much of the 20<sup>th</sup> century. Much of Shoshone County is rugged, tree-covered mountains, with people only living and traveling along the east-west corridor along the South Fork Coeur d'Alene River through Kellogg and Wallace. The Silver Valley follows the Lewis and Clark shear zone, an intracontinental fault zone with multiple stages of movement that extends eastward through much of southwest Montana.

The silver and lead mineral deposits of the Silver Valley are hosted by the Revett Quartzite of the Belt Supergroup, and occupy huge veins in shear zones. Today the environmental cleanup of mine wastes in the area pumps millions of dollars into the economy deflated by closure of most of the mines.

Most of the rocks in Shoshone County are Mesoproterozoic Belt Supergroup, deformed into northeast-vergent folds and thrust faults in the Cretaceous Sevier orogeny. There are only two Cretaceous granitic intrusions in the southwest part of the county.

Eocene granodiorite is found extensively south of Avery, in the upper plate of the Boehl's Butte metamorphic complex. The metamorphic complex, in the drainage of the Little North Fork of the Clearwater River, exposes unique Mesoproterozoic rocks including anorthosite, a rare intrusive rock.

P.K. Link, 9/02

## Description of Geologic Units for Shoshone County, Idaho

- Qa Quaternary alluvial deposits

  Quaternary margins (upported boulders, sobbles and sond) and glociefly violents
- Qm Quaternary moraine (unsorted boulders, cobbles and sand) and glaciofluvial outwash (bedded stream deposits formed from streams draining active glacial ice).
- Tertiary sedimentary rocks, undifferentiated. Includes Oligocene and Eocene sedimentary rocks in east-central Idaho (Paleogene basins of Janecke). In northern and western Idaho this unit contains Miocene lake and stream deposits formed adjacent to and above the Columbia River and Weiser basalts, which formed dams in stream canyons.
- Miocene basalt (Columbia River Basalt Group); flood basalt, extensively exposed in western Idaho; fed by fissures, many of which are near the Idaho-Oregon border. Flowed eastward up valleys cut into the Idaho mountains.
- Eocene granodiorite and dacite porphyry intrusive, also includes diorite and, in northern Idaho, minor granitic rock; intermediate phase of Challis magmatic event (50 to 46 Ma). Summit Creek stock.
- Cretaceous orthogneiss, and foliated granodiorite and granite (includes mylonitic plutonic rocks in western Idaho suture zone); deformed early phases of the Idaho batholith.
- Cretaceous granitic rocks of the 2 mica suite. Idaho batholith and related plutons; granite and granodiorite that contains both muscovite and biotite. Sodium (Na) rich. Intruded between 80 and 65 Ma.
- Kis Cretaceous syenitic rocks, northern Idaho; small stocks about 120 Ma.
- Yan Mesoproterozoic anorthosite, Boehl's Butte complex. Age uncertain.
- Ymiu Upper Missoula Group. Includes Swauger Quartzite, Lawson Creek Formation in Lemhi Range, and Striped Peak and Libby formations In northern Idaho.
- Ymil Lower Missoula Group. Includes Gunsight Formation in Lemhi Range and upper Wallace Formation (equivalent to Snowslip and Shepard formations) in northern Idaho.

- Yc Piegan Group or Middle Belt carbonate, Apple Creek Formation [includes lower and middle Wallace Formation in northern Idaho and Apple Creek Formation and argillaceous quartzite (including rocks at Cobalt) near Salmon].
- Ravalli Group, sandstone (quartzite) and siltite, includes Big Creek Formation and lower part of Lemhi Group in Lemhi Range and Salmon River Mountains, and Burke, Revett and St. Regis formations in northern Idaho.
- Prichard Formation (Lower Belt), dark fine-grained siltstone and sandstone, calcareous intervals in Boehl's Butte area.
- Schist and phyllite of the upper part of the Wallace Formation (lower Missoula Group); garnet-bearing in Emerald Creek district, Benewah and Latah counties. Schist and phyllite of the upper part of the Wallace Formation (lower Missoula Group); garnet-bearing in Emerald Creek district, Benewah and Latah counties.
- Yqw Quartzite and calc-silicate gneiss of the lower and middle parts of the Wallace Formation.
- Yqra Quartzite and schist of the Ravalli Group.
- Ysp Schist, gneiss and minor quartzite of the Prichard Formation.

## Metamorphic Rocks of Uncertain Affinity, pre- and/or syn Belt Supergroup

High-grade metamorphic rocks (schist, gneiss, quartzite, calc-silicate rocks); includes Elk City metamorphic sequence and related rocks, Syringa metamorphic sequence, and Priest River metamorphic complex.

