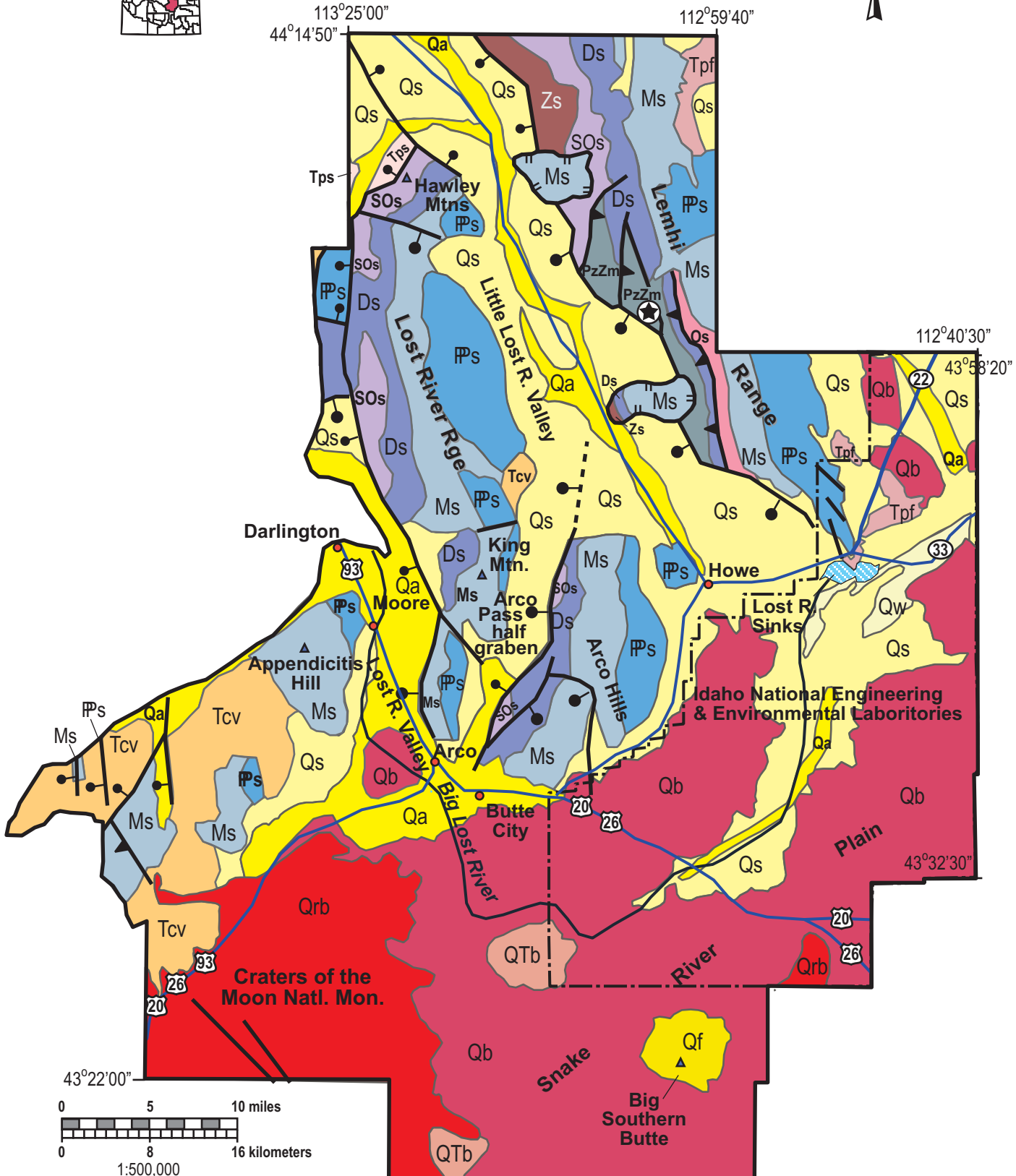
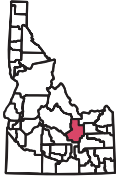


Butte County, Idaho



Butte County

Butte County, though sparsely populated, contains some very interesting geology.

The Snake River Plain, with Craters of the Moon to the south and the INEEL to the northeast, underlies the southern portion of Butte County. Irrigated farming supports the economy near Arco and Howe, where alluvial sediment lies above Quaternary basalt lava. The lava supports only a sagebrush habitat, much of which is grazed off the INEEL boundary. The composite Quaternary rhyolite dome of Big Southern Butte makes a landmark visible for hundreds of miles. The Butte consists of thick pasty rhyolite magma that was emplaced upward, like a wart through a skin of Quaternary and Recent basalt.

The Big Lost River flows northeast across basalt lava through the county, and ends in the Lost River Sinks east of Howe. Extensive irrigated agriculture is supported in this area.

The northeastern part of Butte County is underlain by the Lemhi Range, composed of Mesoproterozoic Belt Supergroup overlain by Paleozoic strata, mainly carbonates. The rocks were folded and thrust faulted in the Cretaceous Sevier orogeny. The western boundary of the Lemhi Range is the active Lemhi Fault. To the west is the Little Lost River Valley, which provides access via Summit Creek to the high Lemhis. Just northeast of Howe near South Creek is a block of Paleozoic rocks that slid southwest from the Lemhi Range into the Little Lost River Valley.

West of the Little Lost River is the Lost River Range, underlain by the same strata as the Lemhi Range, and deformed in similar manner. The active Lost River fault zone, which last moved in 1983, bounds the east side of the Lost River Valley east of Arco, Darlington and Moore. The Arco Hills, underlain by folded Paleozoic carbonate rocks, lie east of the Arco Pass half graben, an Eocene structure.

Eocene Challis volcanic rocks covered north-trending half grabens in the Lost River Range, and are overlain by Oligocene and Miocene tuffs, conglomerates and lake beds.

West of the Lost River Valley is Appendicitis Hill of the southern Pioneer Mountains. Much of the western corner of the county is underlain by Eocene Challis volcanic rocks, which overlie folded Mississippian turbidites of the Copper Basin Group.

Craters of the Moon National Monument contains Quaternary and Recent basalt eruptive complex. The vents and fissures follow Basin and Range fault zones, which strike northwest across the area. The last eruption occurred only 2,000 years ago.

See several sections in Rocks, Rails and Trails, including Snake River Plain and Borah Peak fault, plus the Link and Janecke geologic road log in Guidebook to the Geology of Eastern Idaho.















P.K. Link, 10/02

Description of Units in Butte County, Idaho

- | | |
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| Qa | Quaternary alluvial deposits |
| Qs | Quaternary surficial cover, including colluvium, fluvial, alluvial fan, lake, and windblown deposits. Included fluvial cover on Snake River Plain, (Snake River Group). |
| Qw | Quaternary windblown deposits; sand dunes and loess. |
| Qf | Pleistocene silicic volcanic rocks; rhyolite lava and ash-flow tuff (includes Yellowstone Group). |
| Qrb | Recent basalt lava, less than 12,000 years old, lava flows are fresh, poorly vegetated, and show original flow geometry. |
| Qb | Pleistocene basalt lava, 2 million to 12,000 years old, flows have some vegetation and surface weathering. |
| QTb | Pleistocene and Pliocene basalt lava and associated basaltic tuff (deposited close to basaltic vent). |

- Tps Pliocene and Upper Miocene stream and lake deposits (Salt Lake Formation, Starlight Formation, Idaho Group).
- Tpf Pliocene and Upper Miocene felsic volcanic rocks, rhyolite flows, tuffs, ignimbrites. (in Owyhee County and Mt. Bennett Hills, this should be Tmf).
- Tcv Eocene Challis Volcanic Group, volcanics and volcanoclastics; Older andesitic lavas, intermediate age dacite lava and tuff and younger rhyolite flows and tuffs; 51 to 44 Ma. (Includes Potato Hill and Kamiah volcanics of northern Idaho).
- Ps Pennsylvanian sedimentary rocks.
- Ms Mississippian sedimentary rocks.
- Ds Devonian sedimentary rocks.
- Os Ordovician sedimentary rocks.
- SOs Silurian and Ordovician sedimentary rocks.
- PzZm Paleozoic/Neoproterozoic metasedimentary rocks, mainly quartzose sandstone (includes formation of Leaton Gulch).
- Zs Neoproterozoic sedimentary rocks undivided.

Symbols

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|  <p>Geologic unit contacts with unit designation.</p>  <p>Normal fault: certain; dashed where approximately located; dotted where concealed.</p>  <p>Thrust fault: certain; dashed where approximately located; dotted where concealed.</p>  <p>Detachment fault: certain; dashed where approximately located; dotted where concealed.</p>  <p>Anticline: trace of axial plane: large arrow indicates direction of plunge.</p>  <p>Syncline: trace of axial plane: large arrow indicates direction of plunge.</p> |  <p>Overturned anticline: trace of axial plane.</p>  <p>Overturned syncline: trace of axial plane.</p>  <p>Location of ISU Rockwalk rock from each county.</p>  <p>Cities</p>  <p>Feature location</p> <p>Roads</p>  <p>Interstate Route</p>  <p>U.S. Route</p>  <p>State route</p> |
|---|---|