

Elmore County

Elmore County covers a huge area from the Snake River on the south to the North Fork of the Boise River, deep in the Salmon River Mountains. It contains irrigated Snake River Plain farmland, vast areas of sagebrush desert, and much of the southern Salmon River Mountains, cut by three forks of the Boise River. Most of the population is near Glens Ferry, on the historic crossing of the Snake River from the Oregon Trail. Mountain Home, on the bench above the Snake at the west end of the Mount Bennett Hills, is another population center.

The southern third of Elmore County is on the Snake River Plain. Basalt flows and lake beds (Glens Ferry and Chalk Hills Formations) make up bluffs above the Snake River. The Lake Bonneville Flood came through this canyon 14,500 years ago and deposited fields of boulders, dubbed "Melon Gravel".

A normal fault bounds the northeast edge of the Snake River Plain, part of the eastern margin of the western Snake River Plain graben. This fault-bounded rift began to subside perhaps 12 million years ago on the shoulder of the Snake River Plain hotspot, then located west of Twin Falls.

East of the normal fault are the Salmon River Mountains, underlain by Cretaceous Idaho batholith granodiorites, and Eocene granite and granodiorite of the Challis magmatic complex. The area is cut by northwest striking faults parallel with Basin and Range trends. The forks of the Boise River, however, flow southwest, across this grain, and all occupy deep canyons. Mining towns in these canyons, like Atlanta, Featherville and Rocky Bar, struggle to exist into the 21st century. Placer mining spoils are evident in several places. Atlanta contains diverse silver and gold mineralization, associated with the Cretaceous Idaho batholith.

The west side of the Sawtooth Mountains, on the footwall of the Sawtooth normal fault to the east, form the northeastern edge of Elmore County.







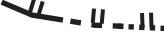




See geology discussions of the Idaho batholith in Rocks, Rails and Trails.

P.K. Link, 10/02

Description of Map Units for Elmore County

- Qa** Quaternary alluvial deposits
- Qm** Quaternary moraine (unsorted boulders, cobbles and sand) and glaciofluvial outwash (bedded stream deposits formed from streams draining active glacial ice).
- Qg** Quaternary gravels; forming terraces above modern stream levels, mainly mapped on western Snake River Plain. Unit generally represents detrital glacio-fluvial systems.
- Qs** Quaternary surficial cover, including colluvium, fluvial, alluvial fan, lake, and windblown deposits. Included fluveolian cover on Snake River Plain, (Snake River Group).
- Qb** Pleistocene basalt lava, 2 million to 12,000 years old, flows have some vegetation and surface weathering.
- QTs** Pleistocene and Pliocene stream and lake deposits; sand, gravel and mud; Lake Idaho sediments; Glens Ferry Formation; Idaho Group.
- QTg** Pleistocene and Pliocene gravels on western Snake River Plain (gradational with Qg unit; includes Tuana and Tenmile Gravels).
- QTb** Pleistocene and Pliocene basalt lava and associated basaltic tuff (deposited close to basaltic vent).
- Tpb** Pliocene and Upper Miocene basalt (includes parts of Starlight Formation and Salt Lake Formation) (in Owyhee County and Mt. Bennett Hills, this should be Tmb).
- Tmf** Miocene felsic volcanic rocks, rhyolite lava, ignimbrite, fallout tuff (Idavada volcanics), includes rocks designated as Tmf (Bond, 1968) in Owyhee County and Mt. Bennett Hills.
- Ts** 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.
- Tmb** Miocene basalt (basalt of Weiser and basalt of Cuddy Mtn.) (split with Tpb is at 5 Ma) (includes rocks shown as Tpb (Bond, 1978) in Owyhee County and Mt. Bennett Hills).
- Tgs** Eocene granite, pink granite, syenite, rhyolite dikes, and rhyolitic shallow intrusive; last phase of the Challis magmatic event (46 to 44 Ma). Forms craggy scenic mountain landscape in central and northern Idaho.
- Tgdd** 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.
- Tmf** Miocene felsic volcanic rocks, rhyolite lava, ignimbrite, fallout tuff (Idavada volcanics), includes rocks designated as Tmf (Bond, 1968) in Owyhee County and Mt. Bennett Hills.
- Kgd** 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.
- Ktg** Cretaceous tonalite and quartz diorite; hornblende and biotite bearing early phases of the Idaho batholith. Intruded about 90 to 95 Ma.
- PzYsq** Paleozoic/Mesoproterozoic schist and quartzite; age uncertain.

Symbols

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