WYOMING STATE GEOLOGICAL SURVEY
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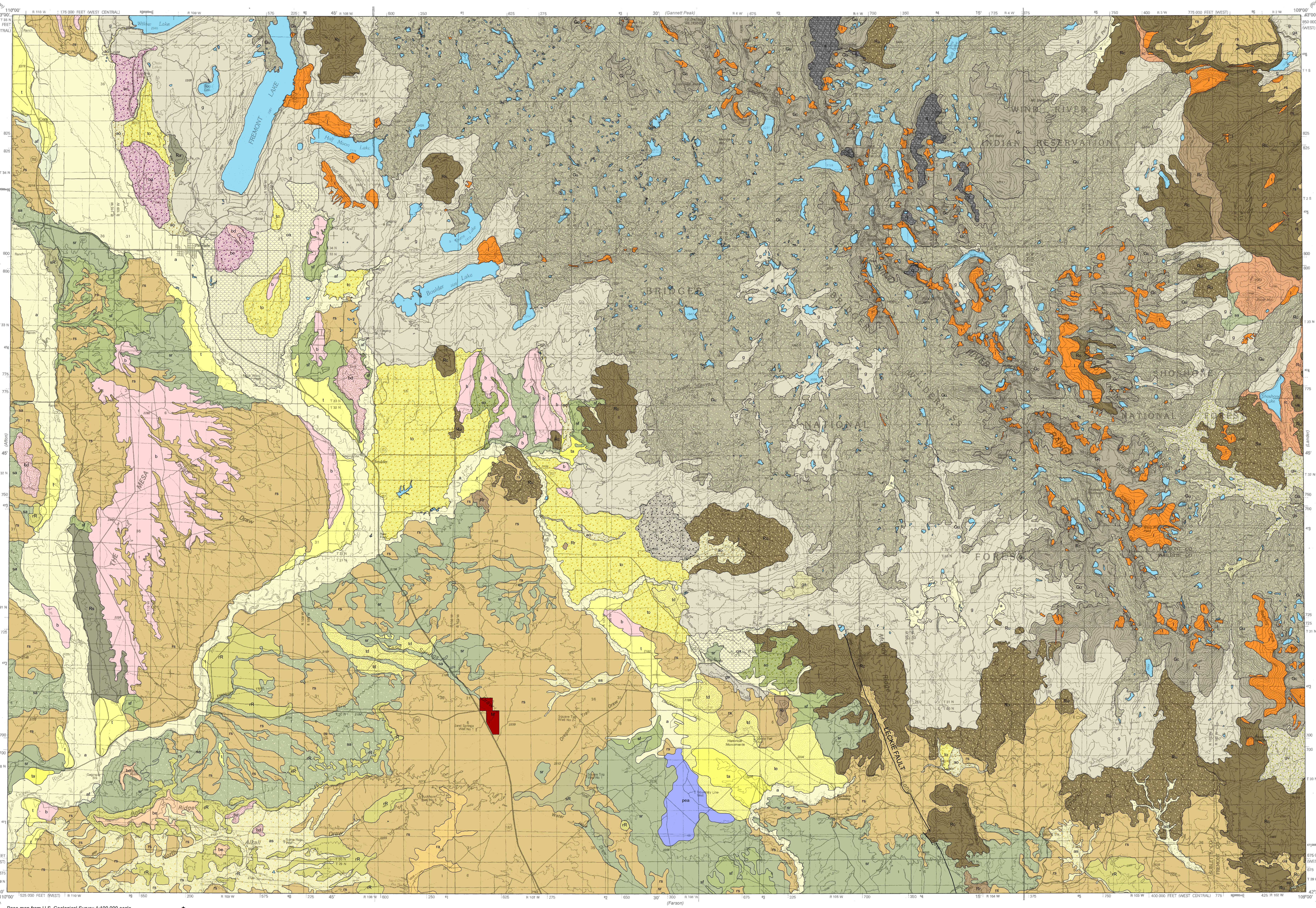
Laramie, Wyoming

Geology - Interpreting the past to provide for the future

Prepared in cooperation with the
U.S. GEOLOGICAL SURVEY

MAP SERIES 100
Pinedale 1:100,000 - scale
Surficial Geologic Map
Version 1.0 July 2010



Base map from U.S. Geological Survey 1:100,000-scale metric topographic map of the Pinedale, Wyoming Quadrangle, 1981.

Projection: Universal Transverse Mercator (UTM), zone 12
North American Datum of 1927 (NAD 27)
10,000-meter grid: UTM, zone 12
25,000-foot grid ticks: Wyoming State Plane Coordinate System, west and west central zones.

UTM GRID AND 1981 MAGNETIC NORTH DECLINATION AT CENTER OF MAP

SCALE 1:100,000
Contour Interval 20 meters

Digital cartography by Seth J. Wittke and Robin W. Lyons

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A digital version of this map is also available on CD - ROM.

SURFICIAL GEOLOGIC MAP OF THE PINEDALE 30' X 60' QUADRANGLE, SUBLETTE AND FREMONT COUNTIES, WYOMING

by
Seth J. Wittke
2010

EXPLANATION

DESCRIPTION OF UNITS

Alluvium—Unconsolidated detrital material deposited during comparatively recent geologic time by a stream or other body of running water, as a sorted or semisorted sediment in the bed of a stream or on its floodplain or delta, or as a cone or fan at the base of a mountain slope; stream and river deposits. Does not include subaqueous deposits in seas, estuaries, lakes, and ponds

- a — Alluvium – stream and river deposits
- af — Alluvium with areas of alluvial fans
- ao — Alluvium and glacial outwash
- as — Alluvium with areas of slopewash
- au — Alluvium with areas of grus and limited areas of slopewash

Bench deposits—Material deposited on a strip of relatively level earth or rock, raised and capped with gravel or other coarse-grained materials

- b — Bench - a strip of relatively level earth or rock, raised and capped with gravel.
- bd — Dissected bench possibly with eolian deposits
- be — Bench with eolian deposits
- bo — Bench deposits and glacial outwash

Terrace deposits—Relict alluvial deposits on relatively flat, horizontal, or gently inclined surfaces which are bounded by a steeper ascending slope on one side and a steeper descending slope on the opposite side

- t — Terrace deposits - relict alluvial deposits on relatively flat, horizontal, or gently inclined surfaces which are bounded by a steeper ascending slope on one side and by a steeper descending slope on the opposite side
- ta — Terrace deposits with areas of alluvium
- td — Dissected terraces with areas of slopewash and/or eolian deposits
- te — Terrace deposits mixed with eolian deposits
- to — Terrace deposits mixed and glacial outwash

Playa lake deposits—Materials deposited from broad, shallow sheets of water which quickly gather and evaporate, leaving mud flats or evaporite deposits (depending on chemical composition of the waters and degree of evaporation)

- pea — Playa lake with areas of eolian and alluvial deposits

Landslide deposits—Soil and rock material that has moved downslope, usually en masse, under gravitational influence; earth and rock which become loosened from a hillside and slides, flows, or falls down the slope

- l — Landslide deposits

Glaciated bedrock—In-place material (bedrock) that has been scoured and carved out by glacial action

- Gc — Glaciated bedrock and colluvium
- Gu — Glaciated bedrock with areas of grus

Glacial deposits—Unconsolidated, unsorted materials that have been formed by glacial action, such as till and moraine

- g — Glacial deposits - deposits that have been formed through glacial action, such as till and moraine
- ga — Glacial deposits with areas of alluvium
- go — Glacial deposits and glacial outwash
- gs — Glacial deposits with areas of slopewash
- gu — Glacial deposits with areas of grus
- oa — Glacial outwash and alluvium
- q — Periglacial deposits

Residuum—A residual deposit remaining in place after the decomposition of rocks. Residue is an accumulation of rock debris formed by weathering and remaining essentially in place after all but the least soluble constituents have been removed, usually forming a comparatively thin surface layer concealing the unweathered or partially altered rock below

- ra — Residuum with areas of alluvium
- rc — Residuum with areas of colluvium
- rs — Residuum with areas of slopewash
- rR — Residuum with areas of bedrock

Grus—An accumulation of angular, coarse-grained fragments resulting from the in-situ granular disintegration of crystalline rocks, usually granite or granitic rocks

- ua — Grus with areas of alluvium
- us — Grus with areas of slopewash and limited areas of bedrock outcrops, and/or lacustrine deposits

Bedrock outcrops

- Rc — Bedrock with areas of colluvium
- Rr — Bedrock with areas of residuum
- Rs — Bedrock with areas of slopewash
- Ru — Bedrock with areas of grus

Slopewash—Soil and rock material that has been moved down a slope by gravity assisted by running water

- sa — Slopewash with areas of alluvium
- sf — Slopewash with areas of alluvial fans
- so — Slopewash and glacial outwash
- sr — Slopewash with areas of residuum
- su — Slopewash with areas of grus
- sR — Slopewash with areas of bedrock

Mined out/disrupted area—An area where original landforms/topography, or surficial deposits have been disturbed or obliterated by mining or other activities such that the original surficial forms/deposits cannot be determined

- Mined out/disrupted area

Water

- Water body

Leckie Fault—Noted as a "Class B" fault by the USGS, the Leckie Fault is potentially a Quaternary aged fault, although the exact age of the fault is unknown. Fault displacement is noted as normal and up to 37 meters in locations along the escarpment. The USGS Quaternary Faults and Folds Database notes the slip rate of the fault to be less than 0.2 mm/yr, and the reassurance interval has not been determined.

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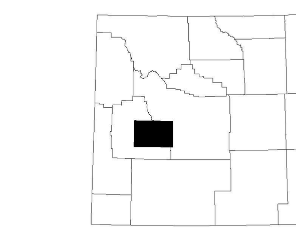

WYOMING QUADRANGLE LOCATION

Yellowstone National Park N	Cody HSDM 00-3	Powell HSDM 99-3	Burgess Junction HSDM 01-2	Sheridan HSDM 99-5	Recluse OFR 07-1 USGS C-81-F	Devils Tower HSDM 01-3	
Yellowstone National Park S	Carter Mountain	Basin OFR 03-6	Worland HSDM 00-6	Buffalo HSDM 00-2	Gillette OFR 07-2 USGS C-105	Sundance HSDM 01-6	
Jackson Lake	The Ramshorn	Thermopolis	Nowater Creek OFR 04-3	Kaycee HSDM 00-4	Reno Junction OFR 07-8 USGS C-106	Newcastle HSDM 00-5	
Jackson	Gannett Peak	Riverton	Lysite SMP 10-5	Midwest OFR 03-2	Bill OFR 03-7	Lance Creek HSDM 01-4	
Afton	Pinedale MS-95	Lander MS-88	Rattlesnake Hills SMP10-5	Casper HSDM 98-3	Douglas HSDM 99-2	Lusk HSDM 01-5	
Fontenelle Reservoir	Farson OFR 10-5	South Pass SMP 10-4	Bairoil SMP 10-5	Shirley Basin OFR 08-1	Laramie Peak OFR 09-3	Torrington HSDM 99-6	
Kemmerer USGS C-102	Rock Springs HSDM 99-4	Red Desert Basin	Rawlins HSDM 98-6	Medicine Bow OFR 06-4	Rock River OFR 05-3	Chugwater OFR 04-4	
Evanston USGS C-103	Firehole Canyon OFR 09-2	Kinney Rim OFR 09-1	Baggs OFR 06-3	Saratoga OFR 05-2	Laramie HSDM 98-5	Cheyenne HSDM 98-4	

Published maps — Maps in progress — Compiled maps — Proposed maps — Current Map

KEY TO ABBREVIATIONS
U.S. Geological Survey maps: Coal Investigations Series (I). Wyoming State Geological Survey maps: Open File Report (OFR), Hazards Section Digital Map (HSDM), and unpublished STATEMAP project (SMP).

INDEX TO 1:100,000-SCALE SURFICIAL MAPS OF WYOMING

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