WYOMING STATE GEOLOGICAL SURVEY
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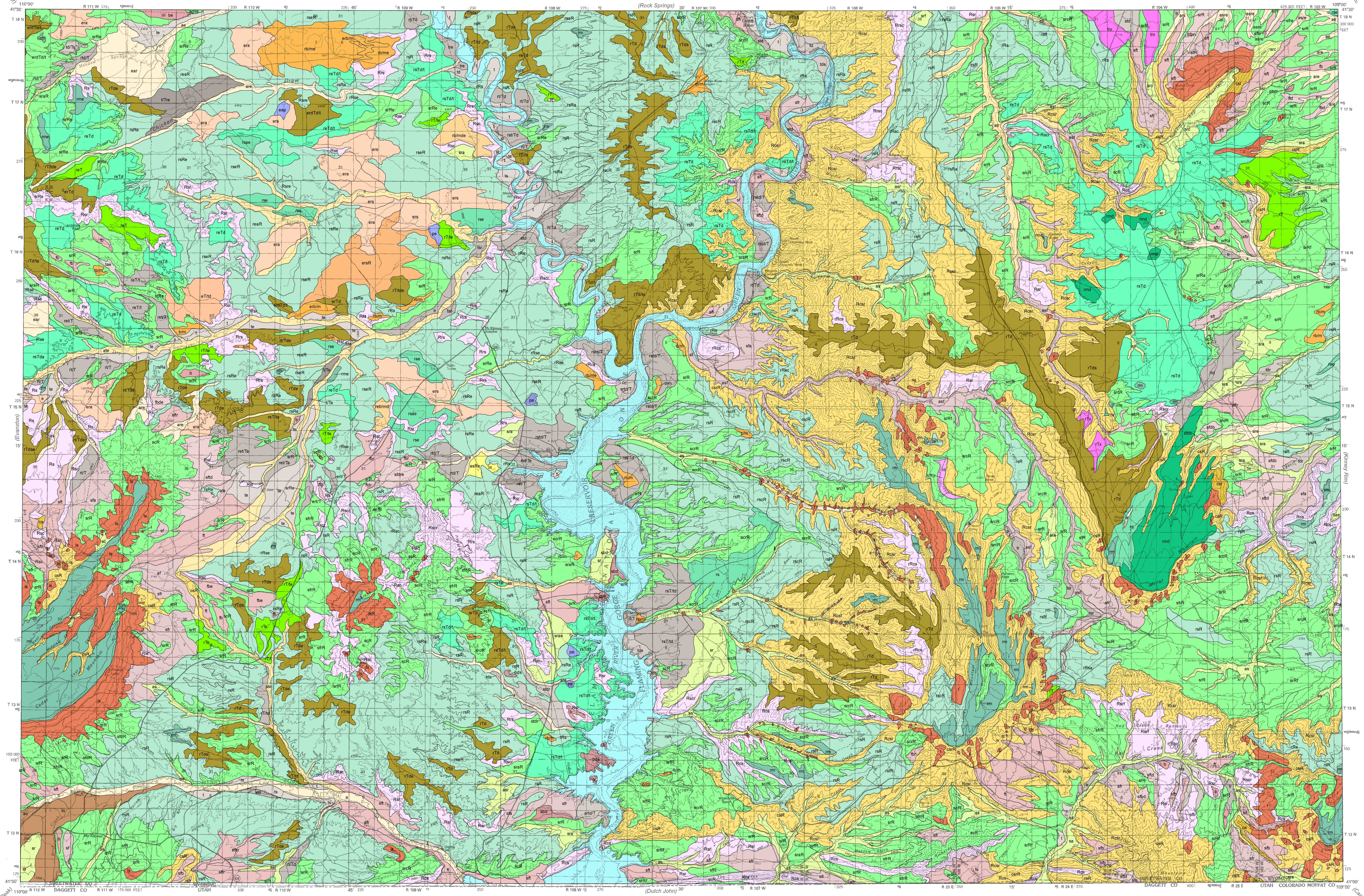
Geology - Interpreting the past to provide for the future

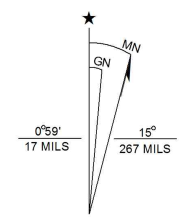
USGS science for a changing world
Prepared in cooperation with the U.S. GEOLOGICAL SURVEY

OPEN FILE REPORT 09-2
Firehole Canyon 1:100,000 - scale Surficial Geologic Map



Base map from U.S. Geological Survey 1:100,000-scale metric topographic map of the Firehole Canyon, Wyoming Quadrangle, 1980.

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



UTM GRID CONVERGENCE (GN)
1980 MAGNETIC DECLINATION (MN) AT CENTER OF SHEET
DIAGRAM IS APPROXIMATE

0 1 2 4 6 8 10 12 14 16 18 20 Kilometers
0 1 2 4 6 8 10 12 Miles

SCALE 1:100,000
Contour Interval 50 meters

0 1,000 2,000 4,000 6,000 8,000 10,000 12,000 14,000 16,000 18,000 20,000 Meters
0 2,500 5,000 10,000 15,000 20,000 25,000 30,000 35,000 40,000 45,000 50,000 55,000 60,000 65,000 Feet

PRELIMINARY SURFICIAL GEOLOGIC MAP OF THE FIREHOLE CANYON 30' x 60' QUADRANGLE, SWEETWATER COUNTY, WYOMING

by

Laura L. Hallberg and James C. Case

2009

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Email: sales@wsgs.uwyo.edu

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

EXPLANATION

CLASSIFICATION AND DESCRIPTION OF MAP UNITS

Alluvial deposits

Alluvium

- Alluvium and alluvium mixed with eolian deposits, residuum, and/or slopewash (101)
  (a, ae, are, ars, asre, ear)
- Alluvium mixed with terrace deposits and scattered eolian deposits or residuum (102)
  (ate, atr)
- Alluvium mixed with slopewash, bedrock outcrops, and eolian deposits (103)
  (asRe)

Alluvial fan deposits

- Alluvial fan deposits mixed with alluvium, eolian deposits, slopewash, and/or residuum (201)
  (af,afe, asf, sf, sfa, sfar, sfr, sfre)
- Alluvial fan deposits grading into bench or terrace deposits or slopewash, mixed with scattered eolian deposits or residuum (202)
  (fb, fbe, fbr, fs, ft, sfb, sfbr, sft, sftr)
- Alluvial fan deposits grading into dissected bench deposits, with scattered eolian deposits or slopewash (203)
  (fbd, fbde, fdbr, sfbd)
- Dissected alluvial fan deposits grading into dissected terrace deposits, mixed with scattered slopewash, residuum, and/or eolian deposits (204)
  (ftd, ftdr, sfdb, sfdre, sftd)

Bench deposits

- Bench deposits and bench deposits mixed with eolian deposits (401)
  (b, be)
- Dissected bench deposits mixed with slopewash or residuum and scattered playa lake deposits (402)
  (bds, pbdr, sbd)

Bench deposits and/or Mesa caprock

- Bench deposits/mesa caprock and bench deposits/mesa caprock mixed with eolian deposits and/or residuum (501)
  (b/m, erb/m, rb/m, rb/me)
- Dissected bench deposits/mesa caprock mixed with eolian deposits and residuum (502)
  (rb/mde, reb/md)

Terrace deposits

- Terrace deposits and terrace deposits and terrace deposits mixed with scattered deposits of slopewash, eolian deposits, or glacial outwash, and/or alluvium (601)
  (st, t, tae, te, to, ts)
- Dissected terrace deposits; dissected terrace deposits mixed with slopewash, eolian deposits, or residuum; and dissected terrace deposits/structural terraces mixed with slopewash and/or residuum (602)
  (srtd/T, std, stdr, td, td/Ts, tde, tdr, tds)
- Shallow terrace deposits mixed with residuum and/or eolian deposits or slopewash; and shallow terrace deposits/structural terraces mixed with eolian deposits and residuum (603)
  (ert/T, ret/T, reT/t, ret/Ta, rt/T, tr, tre, tsr)
- Dissected shallow terrace deposits and dissected shallow terrace deposits/structural terrace mixed with residuum and/or alluvium, eolian deposits, or slopewash (604)
  (ratd/T, rtd/T, rtd/Te, rstd/T, rst/Td, rt/Td, rt/Tde, rtd)
- Terrace deposits/structural terrace mixed with eolian deposits and/or residuum (607)
  (t/Te, t/Tre)

Eolian deposits

- Eolian deposits and eolian deposits mixed with residuum and alluvium or slopewash (701)
  (e, era, ers)
- Eolian deposits mixed with scattered bedrock outcrops, residuum, and slopewash (703)
  (ersR)
- Eolian deposits covering dissected structural terrace/terrace deposits (704)
  (eT/td)

Landslide deposits

- Landslides and landslides mixed with slopewash and/or scattered bedrock outcrops. Unlabelled outcrops are (l) (801)
  (l, ls, lsR)

Mesa caprock

- Mesa caprock mixed with a thin cover of residuum and/or eolian deposits (901)
  (rm, rme)
- Dissected mesa caprock mixed with a thin cover of residuum (902)
  (rmd)

Playa lakes/playa lake deposits

- Playa lake and playa lake deposits mixed with eolian deposits and/or alluvium (1001)
  (eap, pe)

Slopewash

- Slopewash mixed with alluvium, colluvium, or residuum; slopewash mixed with alluvium and eolian deposits and/or residuum; and slopewash mixed with residuum and alluvium, colluvium, aeolian deposits, or alluvial fan deposits (1101)
  (sa, sae, sc, sr, sra, srae, src, sre, srf)
- Slopewash mixed with scattered bedrock outcrops and colluvium, alluvial fan deposits, or residuum, and/or residuum, eolian deposits, dissected alluvial fan deposits, slopewash, alluvium, and colluvium (1102)
  (scR, scrR, sefR, sfdR, sfR, sfrR, sraR, srcR, srfR, srR, srRa, srRc, srRe, srRf)

Colluvium

- Colluvium mixed with slopewash and/or landslide deposits (1201)
  (cs, csl)
- Colluvium mixed with scattered bedrock outcrops and slopewash and/or residuum (1202)
  (csR, csrR, Rcsr)

Glacial deposits

- Glacial outwash mixed with alluvium (1301)
  (ao)

Residuum

- Residuum mixed with alluvium or slopewash and/or eolian deposits; residuum mixed with alluvium, slopewash, and eolian deposits (1401)
  (ra, rae, rs, rsae, rse)
- Residuum mixed with scattered bedrock outcrops and slopewash, and/or eolian deposits, colluvium, alluvium, and alluvial fan deposits (1402)
  (raRe, reaR, resR, rRcs, rRs, rRsa, rRsc, rRse, rsaR, rscR, rseR, rsfR, rsR, rsRa, rsRe)
- Residuum mixed with eolian deposits or slopewash on dissected structural terraces or on dissected structural terraces/terrace deposits (1403)
  (reTd, reTd/t, reTda, rsTd, rsTd/t)

Bedrock

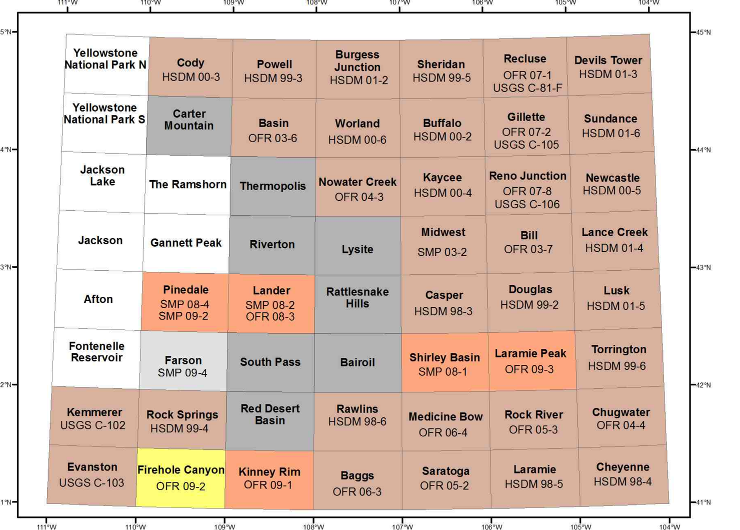
- Bedrock; bedrock mixed with slopewash; bedrock mixed with bench deposits and residuum; bedrock mixed with slopewash and/or alluvium, colluvium, residuum, eolian deposits, or alluvial fan deposits (1501)
  (R, Ras, Rbr, Rcs, Rrs, Rrsc, Rs, Rsc, Rscr, Rse, Rsr, Rsrf)
- Bedrock cut terrace that may have terrace deposits and residuum (1502)
  (t(R)r)
- A structural terrace cut into upturned and truncated bedrock with a thin mantle of residuum; upturned and truncated bedrock with a thin mantle of residuum and terrace deposits (1503)
  (rTx, trx)

Water features

- (1601) (water)

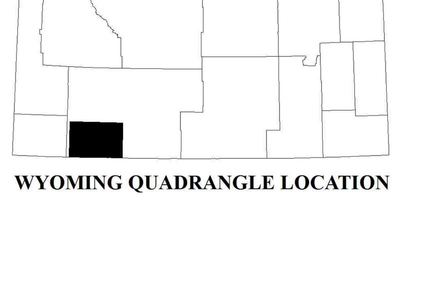
Structural terraces/terrace deposits

- Structural terrace with a mantle of residuum and/or eolian deposits; structural terrace/terrace deposits with a mantle of residuum or eolian deposits (1801)
  (reT, rT, rT/t, rT/te, rTe)
- Dissected structural terrace with a mantle of residuum; dissected structural terrace with a mantle of residuum and eolian deposits, alluvium, or slopewash; dissected structural terrace with a mantle of residuum, eolian deposits, and slopewash; dissected structural terrace/terrace deposits with a mantle of residuum; and dissected structural terrace/terrace deposits with a mantle of residuum and eolian deposits, alluvium, or slopewash (1802)
  (erTd, erTd/t, raTd, rTd, rTd/t, rTd/ta, rTd/ts, rTde, reT/ta, rT/td, rT/tda, rT/tde, rTde, rTds, rTdse, rTd/ts, srTd)



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 GEOLOGIC MAPS OF WYOMING



WYOMING QUADRANGLE LOCATION

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