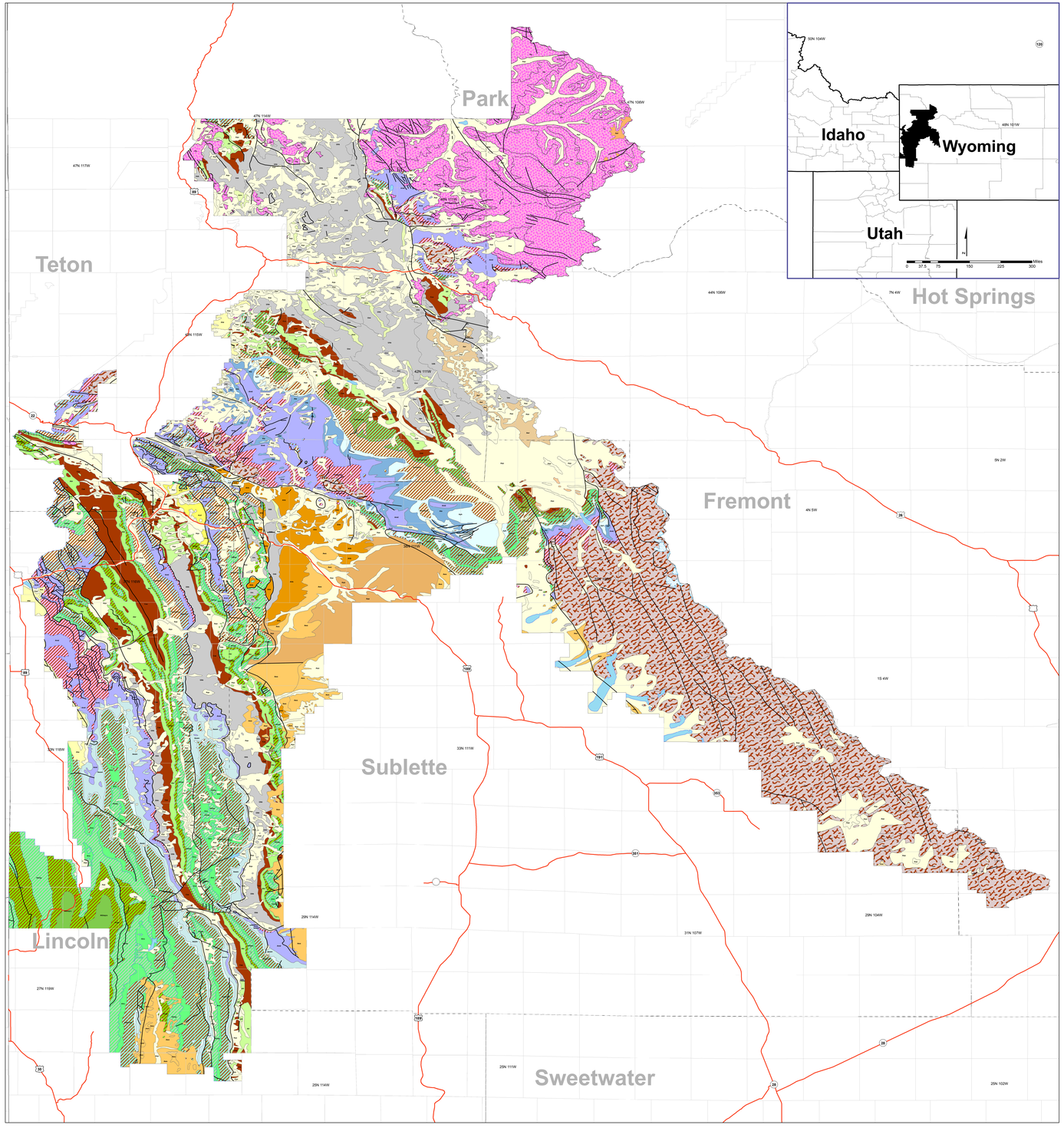

HYDROGEOLOGIC MAP of the BRIDGER-TETON NATIONAL FOREST

N

0 10 20 40 60 80 Miles

EXPLANATION

- Highway (U.S.)
- Highway (State)
- Faults
- Ice
- Water
- Township Boundary
- County Boundary
- State Boundary

Map Symbol	Hydrogeologic Unit (Period)	Aquifer Media	Hydrogeologic Properties
Aqu	Quaternary unconsolidated-deposit aquifer (Quaternary)	**Qa Alluvium and colluvium (Holocene-Pleistocene)** – Clay, silt, sand, and gravel in flood plains, fans, terraces, and slopes. **Qg Glacial deposits (Holocene-Pleistocene)** – Till and outwash of sand, gravel, and boulders. **Qls Landslide deposits (Holocene-Pleistocene)** – Local intermixed landslide and glacial deposits. **Qal, undivided, and Tan deposits (Holocene-Pleistocene)** – Mostly locally derived clasts. Includes some glacial deposits in Yellowstone area and Bighorn Mts. **Qu Undivided surficial deposits (Holocene-Pleistocene)** – Mostly alluvium, colluvium and glacial and landslide deposits. Primarily in Yellowstone area and Bighorn Mts.	Well yields and physical properties are highly variable, reflecting the variable size, sorting, and stratification of sediments comprising the deposits, as well as saturated thickness that changes in response to different amounts of aquifer recharge and discharge (water withdrawn). Thickness: 0-1,000 ft. Yield: 0-1,000 gpm. Specific Capacity: 0.03-330 gpm/ft. Transmissivity: 20-1,480,000 ft2/day. Hydraulic Conductivity: 025 ft/day.
Usp	Undefined Pleistocene or Pliocene conglomerate (Quaternary)	**QTc Conglomerate (Pleistocene-Miocene)** – Paleozoic clasts, chiefly of Madison Limestone, in a lithified carbonate matrix.	No data.
Asl	Salt Lake aquifer (Quaternary)	**Tsl Salt Lake Formation (Pliocene-Miocene)** – White, gray, and green tuffaceous sandstone, and conglomerate.	Classified as a major aquifer. Thickness of 1,000 ft. Permeability is both primary and secondary, and highly localized. Secondary permeability development may occur in area where the formation is fractured with spring discharge as high as 6,000 gpm. Yield: 2-800 gpm. Specific Capacity: 0.07-170 gpm/ft. Transmissivity: 161-180,000 ft2/day. Hydraulic Conductivity: 1.5-1,800 ft/day.
Usl	Undefined Shoshlog Iron (Quaternary)	**Tsi Shoshlog Iron Formation (Pliocene)** – Greenish-gray to pink, tuffaceous lacustrine claystone and siltstone, fine-grained sandstone, and conglomerate.	No data other than maximum thickness greather than 100 ft.
Acd	Camp Davis aquifer (Quaternary)	**Tcd Camp Davis Formation (Miocene)** – Red conglomerate and red claystone, underlain by white tuff.	Classified as a fair to major aquifer Thickness of 100-5,5000 ft. Conglomerate might yield 10-30 gpm. Yield: 3-10 gpm.
Atw	Tewinot aquifer (Quaternary)	**Ttw Tewinot Formation (Miocene)** – White lacustrine clay, tuff, and limestone.	Classified as a poor to major aquifer. Thickness of 8,500 ft. Yields as much as 120 gpm from limestone. Specific Capacity: 0.1-10 gpm/ft. Transmissivity: 3-9 340. Yields from 10-50 gpm. Yield: 10-70gpm. Specific Capacity: 1-1.5 gpm/ft. Transmissivity: 3-9 340.
Unc	Undefined red conglomerate (Quaternary)	**Tr Red conglomerate on top of Hoback and Wyoming Ranges (Miocene)** – Locally derived clasts in a red clay and sand matrix.	No data.
Aoe	Upper Tertiary Outcrop (Tertiary)	**Toe Oligocene and (or) Upper and Middle Eocene Rocks (Oligocene-Eocene)** Light-gray tuff, arkosic sandstone and lenticular conglomerate.	No data.
Uoo	Undefined Colter (Tertiary)	**To Aycross Formation (Eocene)** – Brightly variegated bentonitic claystone and tuffaceous sandstone, grading laterally into greenish-gray sandstone and claystone; in and east of Jackson Hole contains gold-bearing lenticular quartzite conglomerate.	Classified as a poor to fair aquifer with a thickness of 7,000 ft. May yield 1-3 gpm.
Uac	Undefined Aycross (Tertiary)	**Ta Thorntes Creek Group (Eocene)** – Light-gray volcanic conglomerate and white tuff, containing clasts of igneous rocks.	Part of confining unit identified as the Aycross-Wagon Bed confining unit with thickness up to 1,500 ft.
Awa	Wasatch aquifer (Tertiary)	**Tgc Granitic conglomerate above or in upper part of Wasatch formation (Eocene)** – Giant granite boulders in arkosic sandstone matrix. Occurs along west margin of Wind River Range. **Twt Wasatch Formation (TS) (Eocene)** – Clarkofork and sandstone–Clarkofork grades laterally into other members of the formation. **Twg Wagon Bed Formation (Eocene)** – Pinkish-gray claystone, sandstone, and conglomerate. **Twb Bridger Formation (Eocene)** – Marl, limestone, and claystone. **TWE (Eocene)** – La Barge and Cloquo Members–Red, gray, and brown mudstone and conglomerate and yellow sandstone. La Barge Member hologram but to north of about T. 35 N. Lower part of Cloquo is Paleocene.	Classified as a major aquifer with thickness 1,000-2,00 ft. Sandstone, conglomerate, and conglomeratic sandstone, are conglomerates primarily are under confined conditions; outcrop on outcrop area (where unconfined (water table). Small to large yields dependent on saturated thickness of sandstone bed.
Awr	Wind River aquifer (Tertiary)	**Twdr - Wind River Formation (Eocene)** – Variegated red and white claystone and siltstone; largely noncalfacious except near the top; lenticular coal unit in middle. At base locally includes equivalent of Indian Meadows Formation.	Low yield aquifer present at or near land surface in the Wind River Basin. Thickness: 1005,000 ft.
App	Pass Peak aquifer (Tertiary)	**Tp Pass Peak Formation and Equivalents (Eocene)** – Includes Lookout Mountain Conglomerate Member of Wasatch Formation. On the south side of Gros Ventre Range consists of gold-bearing quartzite conglomerate; interbridges southward with sandstone and claystone of main body of Wasatch Formation.	Thicness up to 5,000 ft. Conglomerate and sandstoNnes might yield 30 gpm. Well yields measured at 0.6 gpm. Specific capacity: 0.25 gm/ft.
Udb	Undefined Devils Basin (Tertiary)	**Tdb Devils Basin Formation (Paleocene)** – Light-gray sandstone interbedded with green and gray claystone; sparse coal and carbonaceous shale.	No data other than thickness is about 1,500 ft.
Ahb	Hoback aquifer (Tertiary)	**Th - Hoback Formation (Paleocene)** – Interbedded drab and gray sandstone and claystone. Locally contains thick red and gray conglomerate.	Potential source of water with thickness up to 16,000 ft. Yield: 0.9-20 gpm. Specific Capacity of 0.2 gpm/ft.
Awl	Willwood aquifer (Tertiary)	**Twl – Willwood Formation (Eocene)** – Composed of variegated claystone, shale, and sandstone; including some lenticular gold-bearing quartzite conglomerate.	Classified as a minor aquifer. Thickness of 800-5,000 ft. Yield related to the number and thickness of sandstone lenses in beds penetrated. Yield: 1-100 gpm. Specific Capacity: 0.5to 20 gm/ft. Transmissivity: 7.2-9.5 ft2/day.
Vtu	Undefined Tertiary volcanic units (Tertiary)	**Twv Wiggins Formation (Eocene)** – Light-gray volcanic conglomerate and white tuff, containing clasts of igneous rocks. **Tt Two Ocean and Langford Formations (Eocene)** – Dark-colored andesitic volcaniclastic rocks and flows underlain by light-colored andesitic tuffs and flows.	Aquifer potential is likely poor or marginal. Large springs issuing from Tertiary volcanic rocks in some areas indicate that permeability locally can be high, but is likely extremely variable because of widely varying rock types. Yield: 22-50 gpm. Specific Capacity: 0.5-1.7 gpm/ft. Transmissivity: 47 ft2/day.
Alt	Lower Tertiary aquifers (Tertiary)	**Tsp Conglomerate of Roaring Fork (Eocene or Paleocene)** Red and gray conglomerate containing clasts of Mesozoic, Paleozoic and Precambrian rocks.	The primary water-yielding beds in the lower Tertiary hydrogeologic units are sandstones, conglomeratic sandstones, conglomerates, and coal beds.
Upy	Undefined Pinyon (Tertiary and Cretaceous)	**TKp - Pinyon Conglomerate (Paleocene-Late Cretaceous)** - Brown gold-bearing quartzite conglomerate interbedded with brown and gray sandstone. Age of basal part about 67 Ma in northeastern Jackson Hole; farther south entire sequence is Paleocene.	Classified as a poor to fair aquifer with thickness as much as 3,800 ft. Might yield 30 gpm.
Uhs	Undefined Hansbell (Cretaceous)	**Kha - Hansbell Formation (Late Cretaceous)** - Gold-bearing quartzite conglomerate, olive-drab sandstone, and green claystone.	Classified as marginal to good aquifer with thickness of 5,000-10,000 ft. Yield: 12-20 gpm. Specific Capacity: 2.9 gm/ft.
Uco	Undefined red conglomerate (Cretaceous)	**Kc Red conglomerate on top of Cody Shale (Cretaceous)** – Mostly derived from Precambrian rocks.	No data.
Coa	Wasatchia confining unit (Cretaceous)	**Km - Meeteetse Formation (Late Cretaceous)** - Chalky-white to gray sandstone, yellow, green, and dark-gray bentonitic claystone, white tuff, and thin coal beds.	Classified as poor aquifer to major aquifered with thickness of 500-1,000 ft. Might yield 30 gpm from sandstone.
Amv	Measverde aquifer (Cretaceous)	**Kmv - Measverde Formation (Late Cretaceous)** - Light-colored massive to thin-bedded sandstone, gray sandy shale, and coal beds. In Jackson Hole locally contains gold-bearing quartzite conglomerate.	Classified as a poor aquifer with thickness of 800-1,200 ft. Might yield 30 gpm from sandstone.
Uso	Undefined Sohara (Cretaceous)	**Kso - Sohare Formation (Late Cretaceous)** - Lenticular gray and brown sandstone and shale; thin coal beds.	Classified as a marginal aquifer with thickness up to 5,000 ft.
Ush	Undefined Sohare and Bacon Ridge (Cretaceous)	**Ksb - Sohare Formation and Bacon Ridge Sandstone (Late Cretaceous)** - Sohare–Lenticular gray and brown sandstone and shale; thin coal beds. Bacon Ridge Sandstone–Gray to tan marine sandstone and thick coal beds; gold-bearing quartzite conglomerate in lower.	See Sohare above and Bacon Ridge below.
Ubr	Undefined Bacon Ridge (Cretaceous)	**Kb - Bacon Ridge Sandstone (Late Cretaceous)** - Gray to tan marine sandstone and thick coal beds; gold-bearing quartzite conglomerate in lower part.	Classified as a marginal to good aquifer with thickness of 1,000-1,500 ft. Yield: up to 1,120 gpm.

Map Symbol	Hydrogeologic Unit (Period)	Aquifer Media	Hydrogeologic Properties
Coa	Cody confining unit (Cretaceous)	**Kc Cody Shale (Late-Cretaceous)** - Northern Yellowstone area–Gray to brown shale and siltstone; north and south Wyoming–Dull-gray shale, gray siltstone, and fine-grained gray sandstone.	Classified as a confining unit with thickness of 1,000-2,200 ft. Likely can yield water inearly in areas where discontinuous sandstone beds or zones with fractures are present. Might yield 3 gpm.
Ubb	Undefined Blind Bull (Cretaceous)	**Kbb Blind Bull Formation (Late-Cretaceous)** - Gray to tan conglomeratic sandstone, siltstone, claystone, coal, and bentonite.	Thickness from 0,000-9,180. Sandstone may produce small quantities of water. Spring-discharge measurements of 20-25 gpm.
Chc	Hilliard confining unit (Cretaceous)	**Kh Hilliard Shale (Late-Cretaceous)** - Dark gray to tan claystone, siltstone, and sandy shale.	Classified as a confing unit. No data.
Afr	Frontier aquifer (Cretaceous)	**Kf Frontier Formation (Late-Cretaceous)** - In thrust belt–White to brown sandstone and dark-gray shale; oyster coquina in upper part; coal and lignite in lower part. In north and south Wyoming–Gray sandstone and sandy shale.	Classified as a minor aquifer with thickness of 1,000-3,000 ft. Wells might yield 30 gpm and springs yield 5 gpm.
Cmv	Mowry and Thermopolis confining units (Cretaceous)	**Kmt Mowry and Thermopolis Shales (Early-Cretaceous)** - Mowry Shale–Silvery-gray hard siliceous shale containing abundant fish scales and bentonite beds. Thermopolis Shale–Black soft fissile shale. Muddy Sandstone Member at top.	See Mowry above. Thermopolis classified as a confining unit with thickness of 50-200 ft. Can yield water locally in areas where discontinuous sandstone beds or zones with fractures are present.
Cas	Muddy Sandstone aquifer, and Thermopolis Shales (Cretaceous)	**Kmt Mowry and Thermopolis Shales (Early-Cretaceous)** - Mowry Shale–Silvery-gray hard siliceous shale containing abundant fish scales and bentonite beds. Thermopolis Shale–Black soft fissile shale. Muddy Sandstone Member at top.	No data other than thickness for Sage Junction at least 3,276 ft. . Qualey from 600-1,100 ft., and Colvard from 850-3,000 ft. Thomas Fork is tentatively classified as a semiconfined aquifer with a thickness of about 2,000 ft. Sandstone beds may yield small quantities of water. Smiths Formation–no data except for thickness of 300-500 ft.
Abjsqs	Thomas Fork aquifer, and undefined Sage Junction, Quealy, Colvville, and Smiths (Cretaceous)	**Kss Sage Junction, Quealy, Colesville, Thomas Fork, and Smiths Formations (Early-Cretaceous)** - Sage Junction–Gray and tan siltstone and sandstone. Quealy–variegated mudstone and tan sandstone. Colesville–Tan sandstone, claystone, limestone, bentonite, and coal. Thomas Fork–Variegated mudstone and gray sandstone. Smiths–Ferruginous-brown shale and tan to brown sandstone.	No data other than thickness for Sage Junction at least 3,276 ft. . Qualey from 600-1,100 ft., and Colvard from 850-3,000 ft. Thomas Fork is tentatively classified as a semiconfined aquifer with a thickness of about 2,000 ft. Sandstone beds may yield small quantities of water. Smiths Formation–no data except for thickness of 300-500 ft.
Cas	Aspen confining unit (Cretaceous)	**Ka Aspen Shale (Early-Cretaceous)** - Light- to dark-gray siliceous tuffaceous shale and siltstone, thin bentonite beds, and quartzitic sandstone.	Classified as either discontinuous aquifers with local confining beds or a minor aquifer with thickness of 1,500-3,500 ft. Exploitable water yields are mainly from stray sands and fracture zones. Yield: 2-334 gpm. Specific Conductivity: 0.1-8.5 gm/ft. Transmissivity: 854 ft2/day.
Abr	Bear River aquifer (Cretaceous)	**Kbr - Bear River Formation (Early-Cretaceous)** - Black shale, fine-grained brown sandstone, thin limestone, and bentonite beds.	Classified as either discontinuous aquifers with local confining beds or a minor aquifer with thickness of 1,500-3,500 ft. Exploitable water yields are mainly from stray sands and fracture zones. Yield: 2-334 gpm. Specific Conductivity: 0.1-8.5 gm/ft. Transmissivity: 0.04-1,270 ft2/day.
Kgcc	Gannet aquifer and confining unit (Cretaceous)	**Kg Gannett Group (Early-Cretaceous)** - Red sandy mudstone, sandstone, and chert-pebble conglomerate; thin limestone and dark-gray shale in upper part, more conglomeratic in lower part. Includes Smoot Formation (red mudstone and siltstone), Draney Limestone, Bechler Conglomerate.	Classified as a series of discontinuous aquifers with local confining units. Thickness of 767-2,935 ft. Yield: 1.5-100 gpm.
Cmm	Clovverly aquifer and Mormon confining unit (Cretaceous and Jurassic)	**Kcj Clovverly and Morrison Formations (Early-Cretaceous-Late-Jurassic)** - Clovery Formation–Ruby variegated claystone, nodular limestone, and gray silty sandstone. Morrison Formation–Ruby variegated claystone, nodular limestone, and gray silty sandstone.	The Clovelly Formation is classified as minor aquifer with a thickness of 300-745 ft. Sandstone in the Morrison Formation is locally water bearing and is classified as a confining unit, an aquifer, or both. Thickness of 165-820 ft. May yield up to 5 gpm.
Cmm	Clovverly and Sundance aquifers, and Morrison and Gypsum Springs confining units (Cretaceous and Jurassic)	**Kcj Clovverly, Morrison, and Sundance, and Gypsum Spring Formations (Early-Cretaceous-Middle-Jurassic)** - Clovverly and Morrison see unit above. Sundance Formation–Greenish-gray glauconitic sandstone and shale; underlain by red and gray nonglauconitic sandstone and shale. Gypsum Spring Formation–Interbedded red shale, dolomite, and gypsum.	Clovverly and Morrison–see unit above. Sundance aquifer is classified as an aquifer. Thickness is 450-550 ft. May yield up to 12 gpm. Gypsum Spring classified as a confining unit, aquifer, or both. Thickness of 80-165 ft. Yield: 40 gpm.
Akt/ju	Twin Creek aquifer, and undefined Stump and Preuss (Jurassic)	**Jat Stump Formation, Preuss Sandstone or Redbeds, and Twin Creek Limestone (Late-Middle-Jurassic)** - Stump Formation–Glauconitic siltstone, sandstone, and limestone. Preuss Sandstone–Red siltstone and sandstone. Redbeds–Red siltstone and sandstone; gypsum in thick beds in some subsurface sections. Twin Creek Limestone–Greenish-gray shaly limestone and tiny siltstone. Includes Gypsum Spring Member.	Stump Formation–classified as a confining unit or joins aquifer. Thickness of 50-400 ft. Yield: 1-50 gpm. Preuss Sandstone–classified as a confining unit or poor aquifer. Thickness of 360-1,540 ft. Yield: 1-50 gpm. Redbeds–classified as a confining unit. Thickness of 1,000-2,000 ft. Yield: 1-50 gpm. Limestone–classified as a minor aquifer. Thickness of 800-2,000 ft. Likely in hydraulic connection with underlying Nugget aquifer. Yield: 12-396. Transmissivity: 0-10 ft2/day.
Jsg	Sundance aquifer, and Gypsum Springs confining unit (Jurassic)	**Jsg Sundance and Gypsum Spring Formations (Late-Middle Jurassic)** - See unit above.	See unit above.
Anu	Nugget aquifer (Jurassic)	**JTRr Nugget Sandstone (Jurassic and Triassic)** - Thrust belt: Buff to pink crossbedded well-sized and well-sorted quartz sandstone and quartzitic locally has oil and upper-shale-dry mineralization. North Wyoming: Gray to buff-red, crossbedded quartz sandstone. Yield: 8-1,400 gpm.	Classified as a major aquifer. Thickness of 100-984 ft. Capable of yielding moderate to large quantities of water to properly constructed wells. Permeability is primarily secondary and is controlled not offset by faults, and in topographic lows where large thickness of sandstone is saturated.
Anu/Chd	Nugget aquifer, and Chugwater and Dinwoody aquifers and confining units (Jurassic and Triassic)	**JTRnd Nugget Sandstone, Ankareh Formation, Thaynes Limestone, Woodside Shale, and Dinwoody Formation (Thrust Belt) (Jurassic and Triassic)** - Nugget Sandstone–Buff to pink crossbedded well-sized and well-sorted quartz sandstone and quartzitic. Ankareh Formation–Red and maroon shale and purple limestone. Thaynes Limestone–Gray limestone and tiny siltstone. Woodside Shale–Red siltstone and shale. Dinwoody Formation–Gray to olive-drab dolomitic siltstone. Nugget Sandstone and Chugwater and Dinwoody Formations (north Wyoming): Nugget Sandstone–Gray to buff-red, crossbedded quartz sandstone. Chugwater–Red siltstone and shale. Dinwoody–Gray to olive-drab dolomitic siltstone. Nugget is a major aquifer in the middle part in north Wyoming. Thin gypsum partings near base in north and northwest Wyoming. Dinwoody Formation–Olive-drab hard dolomitic thin-bedded siltstone.	Nugget–see unit above. Ankareh–classified as a minor aquifer. Thickness of 460-820 ft. Well yields are variable and are dependent on secondary permeability. Yield: 1-100 gpm. Specific Capacity: 0.1-10 gpm. Thaynes–classified as a confining unit to major aquifer depending on secondary permeability. Yield: 22-1,800 gpm. Transmissivity: 1-11 ft2/day. Woodside and Dinwoody–see unit above.
Aty	Ankareh and Thaynes aquifers, Woodside confining unit, and Dinwoody aquifer and confining unit (Triassic)	**TRad Ankareh Formation, Thaynes Limestone, Woodside Shale, and Dinwoody Formation (Early-Late-Triassic)** - Ankareh Formation–Red and maroon shale and purple limestone. Thaynes Limestone–Gray limestone and tiny siltstone. Woodside Shale–Red siltstone and shale. Dinwoody Formation–Gray to olive-drab dolomitic siltstone.	Ankareh and Thaynes–see unit above. Woodside–classified as an aquifuard and and poor aquifer. Thickness of 380-850 ft. Dinwoody–see unit below.
Chd	Chugwater and Dinwoody aquifers and confining units (Triassic)	**TRcd Chugwater and Dinwoody Formations (Late-Early-Triassic)** - Chugwater Formation–Red siltstone and shale. Alcova Limestone Member in upper middle part. Thin gypsum partings near base. Dinwoody Formation–Olive-drab hard dolomitic thin-bedded siltstone.	Chugwater–classified as a confining unit, an aquifer, or both. Thickness of 600-1726 ft. Yield: 10-20 gpm. Dinwoody–classified as an aquifuard with locally productive permeable zone in interbedded sandstone and shale where fractures present. Thickness of 175-825 ft. Yield: 3-150 gpm.
Aph	Phosphoria aquifer (Permian)	**Pp Phosphoria Formation (Permian)** – Upper part is dark- to light-gray chert and shale with black shale and phosphorite at top; lower part is black shale,	Classified as an aquifer, confining unit, or both. Thickness of 180-361. Increased yield in in phosphatic sandstones and areas were fracutre present. Yield: 451-630 gpm. Transmissivity: 4-56 ft2/day.
Awm	Wells and Amsden aquifers, and Phosphoria aquifer and confining unit (Permian and Carboniferous)	**PIWa Phosphoria, Wells, and Amsden Formations (Thrust Belt) (Permian-Upper-Pennsylvanian)** – Phosphoria Formation–Upper part a dark- to light-gray chert and shale with black shale and phosphorite at top; lower part is black shales, phosphorite, and cherty dolomite. Wells Formation–Gray limestone interbedded with yellow tiny sandstone. Amsden Formation–Red and gray cherty limestone and shale, sandstone, and conglomerate	Phosphoria–see unit above. Wells–classified as a potential to major aquifer. Thickness of 561-1969. Yield: 0.1-500 gpm. Specific Capacity: 0.98 gm/ft.
Awam	Well and Amsden aquifers (Permian and Carboniferous)	**PIW Wells and Amsden Formations (Lower-Permian-Upper-Mississippian)** Wells Formation – Gray limestone inter bedded with yellow tiny sandstone. Amsden Formation – Red and gray cherty limestone and shale, sandstone, and conglomerate.	Wells–see unit above. Amsden–classified as an aquifer and a confining unit. Thickness of 230-780 ft. Yield: 40-446 gpm. Specific Capacity: 1.5 gm/ft.
Ata	Tensleep and Amsden aquifers (Permian and Carboniferous)	**PIM Tensleep Sandstone and Amsden Formation (Lower-Permian-Upper-Mississippian)** Tensleep Sandstone–South Wyoming–White to gray sandstone interlaying thin limestone and dolomite beds. Amsden Formation–South Wyoming–Red and green shale and dolomite with a persistent red to brown sandstone at base.	Tensleep–classified as a poor to good aquifer. Thickness of 385-450. Yield: 2-8,080 gpm. Specific Capacity: 1.5-1.9 gm/ft. Transmissivity: 0.43-469 ft2/day. Amsden–see unit above.
Mcm	Madison and Darby aquifers, (Carboniferous and Devonian)	**MD Madison Group and Darby Formation (Upper-Mississippian-Upper-Devonian)** Madison Limestone or Group–Group includes Mission Canyon Limestone (blue-gray, massive limestone and dolomite), underlain by Lodgepole Limestone (gray cherty limestone and dolomite).	Madison–classified as an aquifer. Thickness of 850-1,800 ft. Yield depends on the development of secondary permeability. Yield: 5-40,000 gpm. Specific Capacity: 0.07-46 gm/ft. Transmissivity: 0.05-3,000 ft2/day. Darby–classified as a poor to major aquifer. Thickness of 280-700 ft. Yield: 10-1,500 gpm.
Bgm	Bighorn and Flathead aquifers, and Gallatin and Gros Ventre aquifer and confining units (Ordovician and Cambrian)	**OC, Bighorn Dolomite, Gallatin Limestone, and Gros Ventre Formation (Upper Ordovician-Middle Cambrian)** Bighorn Dolomite–Gray massive cliff-forming reticulate dolomite and locally dolomitic limestone. Gallatin Limestone–Gray and tan limestone. Gros Ventre Formation–Greenish-gray micaceous shale.	Bighorn–classified as a poor to major aquifer. Thickness of 200-820 ft. Yield depends on the development of secondary permeability. Yield: 4-5,090 gpm. Gallatin–classified as a aquifer or confining unit. Thickness of 120-260 ft. Yield depends on the development of secondary permeability. Yield: 45-3,090 gpm. Specific Capacity: 140 gm/ft. Transmissivity: 13,400 ft2/day. Gros Ventre–classified as an aquifer or confining unit. Thickness of 550-850 ft. Yield: 10-210 gpm.
Xcp	Precambrian basal confining unit (Archean)	**River (Archean)** – reconcile. **Ugn Oldest gneiss complex (Early-Archean)** - Area of migmatite related to emplacement of 2,820-Ma granite. These are the oldest rocks in Wyoming. **Ng Granitic gneiss (Archean)** to pinkrhyolite and equigranular granite. **Mgr Granodiorite of the Louis Lake Pluton (Archean)**. **Mgn Granitic gneiss (Archean)** to granodiorite. **Mgg Granitic gneiss (Archean)**. **Mmg Granitic gneiss (Archean)**. **Mgn Granitic rocks (Late-Archean)** - Granite. **Wv Metasedimentary rocks (Archean)** - Metagreywacke, quartzite, schist, metaconglomerate, graphite schist, and iron formation; local mafic-volcanic. At least 2,900 Ma. **Wvg Plutonic rocks (Archean)** - Largely granite gneiss; contains biotite and quartz diorite facies. **Wvv Metasedimentary and metavolcanic rocks (Late-Archean)** - Amphibolite, hornblende gneiss, biotite gneiss, quartzite, iron formation, metaconglomerate, marble, and pyritic schist; locally preserved textures and structures suggest origin to be sedimentary or volcanic.	Classified as a confining unit. Yield depends on the development of secondary permeability in the form of fractures. Yield: 0.01-200 gpm.

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MAP SOURCE

Geologic layers are from the USGS and WSGS. All other date courtesy of the USFS and the Wyoming Geospacial Hub Explorer. Hydrogeologic interpretations were provided by the USFS Groundwater Program, Minerals and Geology Management.

MAP COMPILATION

USFS Groundwater Program, Minerals and Geology Management, Aug. 2015

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