WYOMING STATE GEOLOGICAL SURVEY GEOLOGIC MAP OF THE WIND RIVER BASIN, WYOMING Thomas A. Drean **Director and State Geologist** Laramie, Wyoming Geology - Interpreting the past - providing for the future **EXPLANATION MAP SYMBOLS** Normal fault—Dotted where concealed; bar and ball on downthrown block; no designation Thrust fault—Dotted where concealed; sawteeth on upthrown (tectonically higher) block County boundary GEOLOGIC UNITS (Geology enlarged from 1:500,000 scale to improve readability) Qa Alluvium and colluvium Kmy Mesaverde Group Ot Gravel, pediment, and fan deposits **BASIN LOCATION MAP** Kc Cody Shale Dune sand and loess Kn Niobrara Formation Playa lake and other lacustrine deposits Frontier Formation Basalt flows, tuff, and intrusive igneous rocks Frontier Formation, and Mowry and Thermopolis Shales Kmt Mowry and Thermopolis Shales Bug Formation (Pleistocene or Pliocene) KJ Cloverly and Morrison Formations KJs Cloverly, Morrison, and Sundance Formations Cloverly, Morrison, Sundance and Gypsum Spring Formations Tmu Upper Miocene rocks Cretaceous, Jurassic, and Triassic Lower Miocene rocks-Bighorn Mountains Cloverly, Morrison, Sundance, and Gypsum Spring Formations and Nugget Sandstone White River Formation Upper conglomerate member of White River Formation Oligocene and/or upper and middle Eocene rocks Jsg Sundance and Gypsum Spring Formations Tip Ice Point Conglomerate Dacite and quartz latite intrusive and extrusive igneous rocks Sundance and Gypsum Spring Formations and Chugwater Formation Tai Alkalic intrusive and extrusive rocks Post-Eocene sandstone and conglomerate Intrusive igneous rocks Thorofare Creek Group The Chugwater Formation or Group Wiggins Formation The Chugwater and Dinwoody Formations Tepee Trail Formation MESOZOIC AND PALEOZOIC Aycross Formation Pcg Chugwater and Goose Egg Formations Middle and lower Eocene rocks-equivalent to Aycross and Wind River Formations RPg Goose Egg Formation Tv Volcanic conglomerate—Jackson Hole MzPz Mesozoic and Paleozoic rocks, undifferentiated Wind River Formation—at base locally includes equivalent of Indian Meadows Formation **PALEOZOIC** Wind River and Indian Meadows Formations Pp Phosphoria Formation and related rocks **Indian Meadows Formation** Wagon Bed Formation Permian and Pennsylvanian **Bridger Formation** PPc Casper Formation g Crooks Gap Conglomerate Permian, Pennsylvanian, and Mississippian Laney Member of Green River Formation PM Tensleep Sandstone and Amsden Formation Tipton Shale Member or Tongue of Green River Formation Wells and Amsden Formations Twc Cathedral Bluffs Tongue of Wasatch Formation Twm Main body of Wasatch Formation Mm Madison Limestone or Group Transitional unit between Battle Spring and Wasatch Formations Mississippian and Devonian MD Madison Limestone and Darby Formation Battle Spring Formation Tfu Fort Union Formation Mississippian, Devonian, Ordovician, and Cambrian Madison Limestone, Darby Formation, Bighorn Dolomite, Gallatin Limestone, Gros Ventre Formation, and Flathead Sandstone CENOZOIC AND MESOZOIC **Tertiary and Cretaceous** Ordovician and Cambrian Sedimentary rocks–northern part of Wind River Basin Bighorn Dolomite, Gallatin Limestone, Gros Ventre Formation, and Flathead MESOZOIC KI Lance Formation Gallatin Limestone, Gros Ventre Formation and equivalents, and Flathead Sandstone Lance Formation, Fox Hills Sandstone, Meeteetse Formation, and Bearpaw and Lewis Shales **PRECAMBRIAN** Fox Hills Sandstone and Lewis Shale Precambrian rocks, undifferentiated Meeteetse Formation and Lewis Shale DATA REFERENCE Love, J.D., and Christiansen, A.C., comps., 1985, Geologic map of Wyoming: U.S. Geological Survey, 3 sheets, BASE MAP REFERENCES Bureau of Indian Affairs, 2005, Boundaries—Indian Lands, Raw Data Release, December, 2005: National Atlas of the United States, at http://nationalatlas.gov/. 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U.S. Census Bureau, 1997, Wyoming roads at 1:100,000, at http://piney.wygisc.uwyo.edu/data/transportation/road100k.zip. U.S. Geological Survey, 2002, The National Elevation Dataset: Photogrammetric Engineering and Remote Sensing, v. 68, no. 1, at http://ned.usgs.gov. -----Wyoming Geographic Information Science Center, 1997, Internet mapping service—Basemap data for Wyoming: Spatial Data and Visualization Center, at http://wygl.wygisc.org/wygeolib/catalog/main/home.page. **DISCLAIMERS** Users of these maps are cautioned against using the data at scales different from those at which the maps were compiled. Using this data at a larger scale will not provide greater accuracy and is, in fact, a misuse of the data. SWEETWATER The Wyoming State Geological Survey (WSGS) and the State of Wyoming make no representation or warranty, expressed or implied, regarding the use, accuracy, or completeness of the data presented herein, or of a map printed from these data. 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