to the paleostreams of the Clarks Fork, Shoshone and Greybull rivers. The topography of the region is inverted with old Paleocene Fort Union strata are a complex of fans, braid plains, meanders, lakes and swamps. Stream capture occurred...
Road and surface ownership map on east end of Nye-Bowler Fault Zone (red line), Carbon County, Montana. Yellow is American pictographs.

Red Dome Anticline along the Nye-Bowler Fault Zone with beautiful red Triassic Chugwater Formation in the core of the anticline. The eastern half of the Nye-Bowler Fault Zone from Red Lodge to Bowler crosses the basin and has a much dryer climate than the western half.

After Custer National Forest Map

Montana. Yellow is BLM, blue is state of Montana, green is Forest Service, and white is private.

Road and surface ownership map of west half of Nye-Bowler Fault Zone (red line), Carbon & Stillwater Counties, Montana. Yellow is BLM, blue is state of Montana, green is Forest Service, and white is private.

Drive and hike, Red Lodge, a small authentic western mining town has some great food. Rock Creek and the main fork of Rock Creek. My two favorite day hikes are up East Rosebud Creek as far as you want to go.

Opportunities for stunning hikes on the Custer National Forest in the Beartooth Mountains. There are trails up most major anticlines (folds) along the Nye-Bowler Fault Zone: 1) about 3 ¼ miles northwest of Nye at Limestone Butte, 2) southeast of Nye about six miles near Red Lodge, 3) southeast of Bowler about 12 miles along the fault zone.

The Beartooth Mountain front. Most all land north of the mountain front is private. It is a peaceful and scenic drive over green hills.

Things To Do

Image: After Lopez, D.A., 2000, Geologic Map of the Bridger 30' x 60' Quadrangle, Montana: Montana Bureau of Mines and Geology Open File No. 423; Fig. 55, p. 86; Bighorn basin, southern Montana: Evidence for reservoir compartmentalization: M.S. Thesis, West Virginia University, p. 126.

Image: After Morris, A.L., 2014, Seismic attribute-assisted structure analysis of the Mackay dome transpressional system, Montana Bureau of Mines and Geology Map of the Nye-Bowler transpressional feature as a “cower structure.” MacKay Dome has the second highest cumulative oil volume and is about 25 miles west-northwest of Dry Creek Field. Creek produced gas from the Eagle & Frontier Sandstone, and oil from the Cloverly.

Log structural cross section AB, Dry Creek Field. En echelon normal faults display reservoir compartmentalization. Dry Creek produced 579 barrels of oil from the Greybull Sandstone.

Log structural cross section AB, Dry Creek Field. En echelon normal faults display reservoir compartmentalization. Dry Creek produced 579 barrels of oil from the Greybull Sandstone. Frontier structure map of Dry Creek and Golden Dome fields. Dry Creek Field is depleted and the Frontier Sandstone is now used for natural gas storage to meet peak demand during the winter.

Frontier structure map of Dry Creek and Golden Dome fields. Dry Creek Field is depleted and the Frontier Sandstone is now used for natural gas storage to meet peak demand during the winter. Reservoirs at the field are now used for natural gas storage to meet peak demand during the winter.

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Cretaceous stratigraphic column, northern Bighorn Basin. Formation abbreviations shown on stratigraphic column below. Production structures and oil and gas wells drilled along the Nye-Bowler Lineament. Location of the Roscoe oil seep above. The oil is extremely thick and viscous. This oil is low gravity (12 to 14 degrees API), possibly because the oil is extremely thick and viscous. A number of the structures on the west end of the Nye-Bowler have significant oil-in-place associated with the Phosphoria oil source rock system, 2) a leaky top seal in the Triassic Chugwater shales that are relatively thin and do not effectively seal hydrocarbons, 3) a structural closure in the Triassic Chugwater shales that are relatively thin and do not effectively seal hydrocarbons, 4) a structural closure near the bottom of the oil column that is not completely sealed by overlying sediments, 5) a structural closure near the bottom of the oil column that is not completely sealed by overlying sediments, 6) a structural closure near the bottom of the oil column that is not completely sealed by overlying sediments, 7) a structural closure near the bottom of the oil column that is not completely sealed by overlying sediments.

Similar-sized structures in the adjacent Bighorn Basin are also problematic, and there is a large anticline along the Nye-Bowler Fault Zone that has not produced oil or gas. The anticlines (folds) along the Nye-Bowler Fault Zone are large features, some with significant structural closure. The Dry Creek & Golden Dome Frontier structure map below displays the numerous en echelon northeast-oriented normal faults. The anticline at the northern end of the Dry Creek Field is about 25 miles northwest of Nye.

The anticline at the northern end of the Dry Creek Field is about 25 miles northwest of Nye. Seven structures along the trend have produced oil and gas. The fields, in order of discovery, are Dry Creek (1929), Golden Dome (1934), and Frontier (1936). The Frontier structure map below displays the numerous en echelon northeast-oriented normal faults. The cumulative hydrocarbons along the Nye-Bowler trend are not as high as expected from the size of the anticlines. However, the oil and gas production has been disappointing. Similar-sized structures in the adjacent Bighorn Basin are also problematic, and there is a large anticline along the Nye-Bowler Fault Zone that has not produced oil or gas. The anticlines (folds) along the Nye-Bowler Fault Zone are large features, some with significant structural closure. The Dry Creek & Golden Dome Frontier structure map below displays the numerous en echelon northeast-oriented normal faults.

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about 12 miles. Return a different way, take Cottonwood Road to northwest and you reach civilization just south of Bridger after driving the southeast and continues about eight miles northeast to Black Butte. Wander, explore and tread lightly! If you want to trends southwest to northeast through the parking area and along the Weatherman Draw trail. The fault is downthrown to (northeast) for Weatherman Draw trailhead. There is a signboard at this parking area. Of geologic interest, a normal fault tracks. Cottonwood Road is a rutted dirt road that should be driven only when dry. It goes mostly west for Qve miles and northwest of the loading facility at mile marker 5 on US 310, turn west on Cottonwood Road (1001) and cross railroad Montana-Wyoming border. Warren is a limestone quarry loading facility for trains that is adjacent to the highway. Just that you are getting warm.

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Red Dome Anticline

Bedrock exposure, view looking southeast with outcrop Triassic Chugwater Formation, Custer National Forest Pryor Mountains. Their website site also has a good geology road log of the Indian Reservation and Pryor Gap.

To motorized vehicle use. Because of the risk of pictograph destruction and abuse, we can’t tell you exactly where to find them. Pictographs at Weatherman Draw are accessible off-trail for the weathered rough terrain and the ancient pictographs on the sandstone cliffs. It is all BLM land and closed to motorized vehicle use. Because of the risk of pictograph destruction and abuse, we can’t tell you exactly where to find them.

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