

Roberts Bench Hike

October 2013

Roberts Bench is a hiking area, rather than a specific hike route. Many hike variations are possible ranging from 3 to 6 miles. It is fairly flat and easy terrain with total hike elevation gain of 200 to 500 ft. Roberts Bench is an easily accessible, but quiet and secluded escape from motorized areas nearby. Most of the Bench is closed to motor vehicles by Custer National Forest's Travel Management Plan.



View east from Roberts Bench

The Bench has expansive views of East Pryor and Big Pryor Mountains, up and down the Sage Creek valley, and north to the other Pryor Mountain blocks on the Crow Reservation. From the north part of the Bench the Beartooth Mountains are visible to the west. It is a good place to see wildflowers in the spring and early summer.

Roberts Bench is a roughly triangular plateau approximately 1 mile on each side. It is about 7,000 ft elevation sloping gently down from the eastern high point to the west point of the plateau a couple hundred feet lower. The plateau is grassland with scattered sage and trees. The perimeter of the plateau consists of steep, often heavily timbered hillsides

dropping 500 ft in elevation providing views in all directions. There are several springs on these steep slopes below the Bench.

Scattered around the grassland, especially toward the west point of the Bench, are a number of large boulders of Pryor Conglomerate. They are composed of river rounded, dark colored chert pebbles and coarse sand. Often they are thickly covered with multicolored lichens which grow much better on the conglomerate than on nearby limestone. Some of these boulders are exposed at ground level in the grass. Others now stand several feet above the grass. These boulders help tell Roberts Bench's geologic story.

The Pryor Conglomerate boulders rest on limestone and shale of the Piper Formation which was originally deposited 168 million years ago (mya) - about 60 million years before the Pryor Conglomerate. The chert pebbles within the boulders were recycled from chert originally deposited in the Phosphoria Formation about 265 mya. How did these boulders get to where they now are?

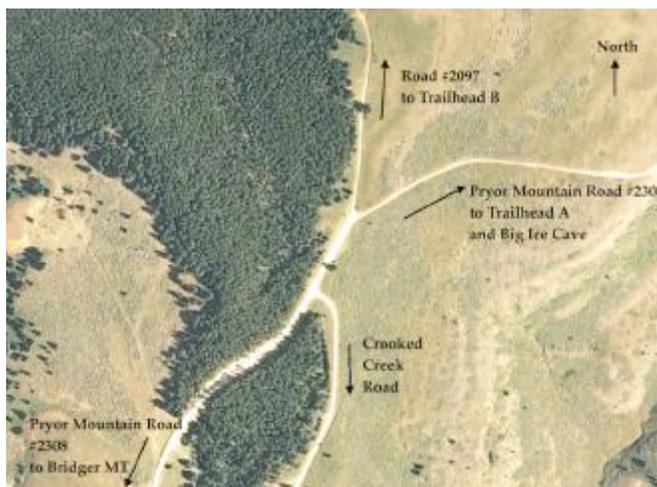
See explanation on page 3. Read much more about the geologic history of the Pryors on the Geology Tour page of www.PryorMountains.org.

Getting There:

Follow the Pryor Mountain Road driving directions from Bridger MT to its junction with Crooked Creek Road at 30.3 miles (Point "H" on the Pryor Mountain Road Map). These directions and map are available at www.PryorMountains.org.

Crooked Creek Road (#2085) turns right at the first junction of this "double junction." Pryor Mountain Road (#2308) continues about three hundred feet straight ahead to the second junction. At that second junction Pryor Mountain Road turns right toward Big Ice Cave and Dryhead Vista and Road #2097 turns left. From this junction there are two alternative routes to the Roberts Bench Hike.

Detail of "double junction"



Getting There Alternative A: Pryor Mountain Rd #2308

Pryor Mountain Road is seasonally closed with a barricade beyond Crooked Creek Road, but opens for motor vehicle use on May 22. See Custer National Forest Motor Vehicle Use Map (MVUM). The road is rougher than before the Crooked Creek junction, but is still hard surface gravel and it is only a short distance to the trailhead.

To get to the Roberts Bench Hike simply drive **0.7 miles** farther on Pryor Mountain Road toward Big Ice Cave. At that point the road crosses a drainage and makes a very sharp right curve. **PARK HERE** on the wide right shoulder (south side) just **before** the sharp bend in the road.

Begin hiking here. This is “Trailhead A”.

There is no trail for the first ¼ mile, but the route is easy. (See photo.)

From the north bank of the road opposite the parking area climb above the rocky outcrop and dense sagebrush. Then walk NE in the open grass following and just above the rocky outcrop to a fence. Just north of this fence, and parallel to it, is two-track road #2097. (See map and Alternative B below.)

Cross the fence and follow the two-track road right (east) along the fence and around the left turn (north) away from the fence.



Trailhead A. Looking north. The fence is on the skyline.

In a couple hundred feet the road curves right (east) again: Don't follow it. Continue straight ahead (north) over the gentle hill. The two-track #2097 will soon rejoin you on the other side of the hill after it turns back north. Continue a couple hundred feet downhill on the road to the “Trailhead B” signed **20972**.

The total hiking distance to Trailhead B is just over ½ mile from the parking place on Pryor Mountain Road.

Getting There Alternative B: Rd #2097

This alternative has the questionable advantage of shortening any Roberts Bench hike by about 1 mile round trip. But Alternative A opens May 22, 3 ½ weeks earlier in the spring than Alternative B. Road #2097 is seasonally closed until June 15. See Custer National Forest Motor Vehicle Use Map (MVUM).

Also alternative B requires driving 1.4 miles on two-track road #2097 which is problematic for some vehicles, especially in late June and into July. Early in the season this road is likely to be muddy and require 4WD. Later in the summer, if dry, it might be driven with a high clearance 2WD as far as the Roberts Bench Trail. Road #2097 is the green line on the map. Alternative A has a 0.7 mile shorter access drive and is on better road.

0 miles: Rd 2097 begins at the second junction of the double junction. Follow #2097 north.

0.15 miles: The road crosses a cattle guard and passes through a fence. #2097 turns right (east) at the junction immediately after the fence. Stay on #2097 which parallels the fence on the right of the road. (The left turn at the junction is #2073.)

1.0 miles: #2097 turns left (north) away from the fence. In a couple hundred feet it curves right (east) again.

1.1 miles: Junction. #2097 turns left (north) again. #2097A heads right (southeast). Stay on #2097 going left (north). It soon goes down a short steep hill.

1.35 miles: Junction and Roberts Bench “Trailhead B” signed **20972**. **PARK HERE.**
Rd #2097 turns right (east).

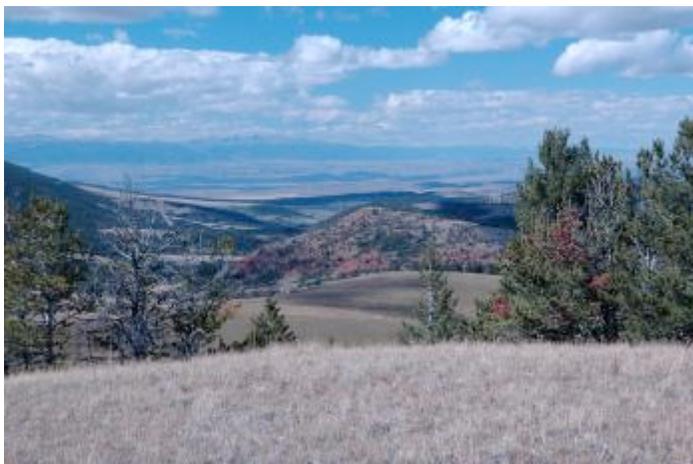


Trailhead B

The Hike:

Alternative A (above) describes the ½ mile walk from “Trailhead A” to “Trailhead B.” Also see map.

From the “20972” trailhead sign follow the track north just over ½ mile along an open ridge to Roberts Bench and to a NW-SE fence line and gate.



View west from Roberts Bench

If you do not go through the gate a fainter (not motor-legal) track follows the fence NW to a 45 degree corner and continues north along the fence to the north point of Roberts Bench. It is a four mile round trip hike from Trailhead A to the north point of Roberts Bench and back. The track (20972) to and then following the fence to the north point is the solid red line on map.

Another (not motor-legal) track goes through the gate and heads north. It is not shown on the map.

It may be more interesting to create your own hiking route. Leave the track wherever you choose and wander the Bench. The dashed red line on the map is the GPS track of one such wander. A hike around the perimeter edge of the Bench is about 6 miles round trip from Trailhead A.

Unfortunately the first ½ mile of route #20972 is currently designated open for motorized use, although only lightly used. We urge you to walk, not drive, this section. It is a nice walk.

It is even more unfortunate that Custer National Forest has not signed the legal end of the ½ mile #20972 where it first reaches the fence and gate. Thus the few people driving motor vehicles do not know where they should stop. Beyond the ½ mile section Roberts Bench is not legal for motorized use according to the Forest Travel Plan (ROD page 16).

We encourage quiet recreationists to ask Custer National Forest to sign the legal end of the road, or better, to revise the Travel Plan to designate the entire #20972 as a non-motorized route beginning from Route #2097. There are innumerable other places for motorized travel nearby.

Geologic Story of Roberts Bench:

Some 265 to 270 million years ago (mya) during the Permian Period the rocks of the Phosphoria Formation were deposited in a shallow sea then covering much of future southwest Montana. These rocks consist of limestones, shales, sandstones and, most importantly for the Roberts Bench story, abundant thin-bedded chert. The Pryors, including Roberts Bench, are at the northeastern edge of the Phosphoria deposits. There are a few thin exposures of Phosphoria elsewhere in the Pryors, but it is about 500 feet below the current surface of Roberts Bench.

Over geologic time many other sediment layers were deposited on top of the Phosphoria in environments ranging from shallow seas to rivers, lakes, and swamps. One of these layers became the shale and limestone of the Piper Formation, deposited around 168 mya during the Middle Jurassic, and which eventually became today's flat surface of Roberts Bench.

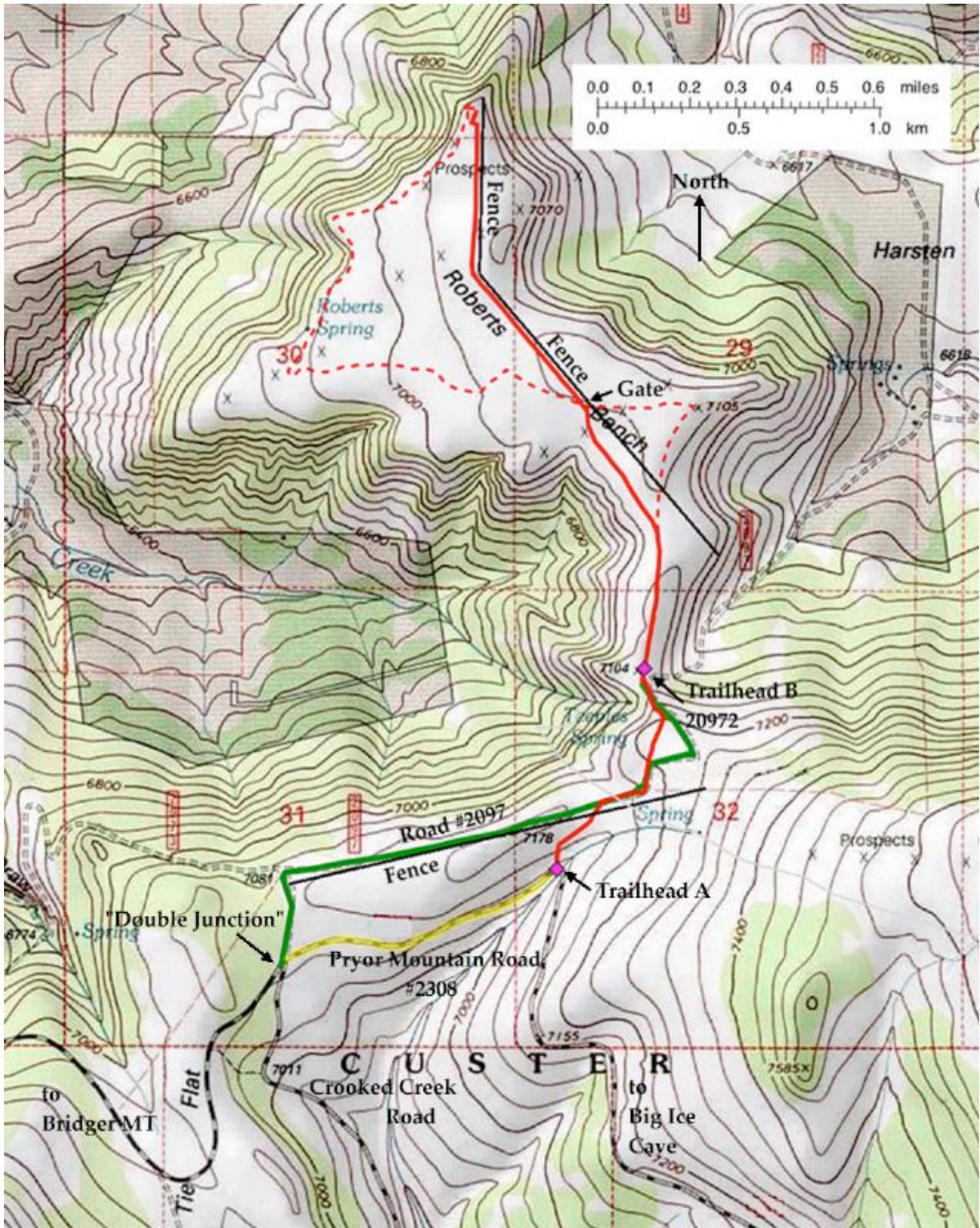
As much as 600 feet of additional sedimentary layers were deposited on top of the Piper before the sediments of the Pryor Conglomerate were deposited around 108 mya during the Early Cretaceous. The Pryor Conglomerate includes numerous river rounded chert pebbles. Much of this chert was eroded from the thick Phosphoria exposed by uplift somewhere to the southwest and deposited in a river on the future Roberts Bench.

Perhaps another couple thousand feet of sediments were deposited on top of the Pryor Conglomerate before the whole area including the future Pryors was lifted above sea level and began eroding about 70 mya. The Roberts Bench area eroded down to the Piper Formation which now forms the flat plateau just under the grass and topsoil. But the boulders we now see are remnants of the Pryor Conglomerate deposited millions of years after the Piper and hundreds of feet above it. Apparently the chert filled boulders are hard enough that they settled slowly down while 600 ft of the underlying softer rocks eroded away down to the current Bench surface.



Pryors Conglomerate Boulder

Roberts Bench Hiking Area



Red lines: Hiking routes.

Red diamonds: Trailheads.

Yellow line: Alt A access road.

Green line: Alt B access Road.