

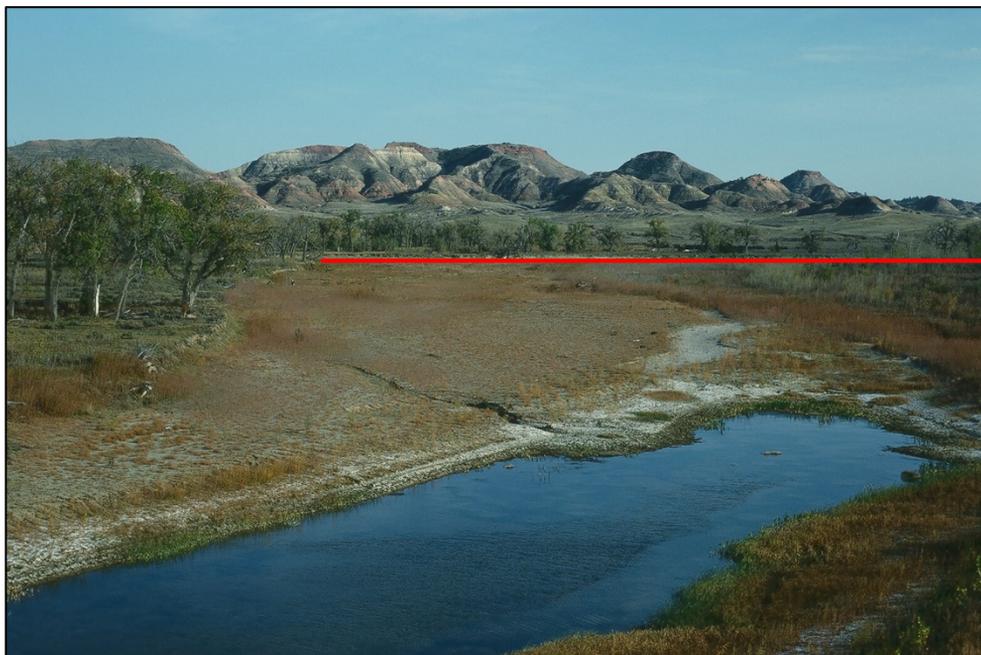
Cross section PR141 was established in 1975 in the upriver limb of a large meander bend in Powder River at the mouth of tributary Bloom Creek. Leveling surveys of section PR141 were repeated in 1977, 1978, 1979, 1980, 1984, 1998, and 2014.

During the flood of 1978, the meander bend was cut off at the neck, and section PR141 was left high and dry (Meade and Moody, 2013, *their* Figures 9 and 10; Gay *et al.*, 1998, *their* Figure 7). Re-leveling of the cross section after the flood in 1978 showed that the section had accumulated new sediment to depths of 0.5 to 1.5 m across a channel width of some 70 m (stations 17 to 87). We are uncertain as to whether the new sediment was deposited before or after the bend neck was cut off.

Little geomorphic change has been recorded in the large oxbow channel of Powder River that was cut off here by the flood of 1978. Repeated upriver-looking photographs (taken from a point about 300m down the abandoned channel from section PR141) show little change over the years. New vegetation in the form of willow and cottonwood trees (such as those that have grown in the abandoned meander channel at cross section PR122) has not taken hold near section PR141. When this section was resurveyed in 2014 (16 years after the survey in 1998) the bed of the abandoned channel had a covering of sparse grass growing in 0-0.10 m of new sediment deposited since 1978.

Gay, G.G., Gay, H.H., Gay, W.H., Martinson, H.A., Meade, R.H., and Moody, J.A., 1998, Evolution of cutoffs across meander necks in Powder River, Montana, USA: *Earth Surface Processes and Landforms*, v. 23, p. 651-662.

Meade, R.H., and Moody, J.A., 2013, Erosional and depositional changes wrought by the flood of May 1978 in the channels of Powder River, southeastern Montana: U.S. Geological Survey Scientific Investigations Report 2013-5035, 28 p., 1 plate.



PR141. **Top.** 8 September 1975. View is upriver toward the southeast from top of bluff near old saw mill site at the end of the Bloom Creek Road. **Bottom.** 12 October 1980. View is upriver as in the top photo. This channel was cutoff by the flood of 1978. New channel is this side of the line of trees above the red line indicating the approximate location of PR141.



PR141. **Top.** 24 September 1987. View is upriver toward the southeast from top of bluff near old saw mill site at the end of the Bloom Creek Road. **Middle.** 18 September 1989. **Bottom.** 28 August 1993.



PR141. **Top.** 9 June 1993. View of water that has filled the oxbow during high flow in 1993. The oxbow was formed when the flood of 1978 cut off this part of the channel. Section PR141 is near the entrance to the cutoff and is to the right (off the photo). This view would have been downriver in 1977 and early 1978, and is near the crest of the old bend.



PR141. **Top.** 20 July 2014. R. Held (~1.8 m tall) is standing behind the tripod, which is about 4 m to the right of the line of section and on top of the right bank. Log at right edge of photo is in the abandoned channel, lying on top of the meter-thick layer of sand that was deposited by the flood of 1978 before it was abandoned. **Bottom.** 20 July 2014. J. Held (~1.7 m tall) is standing with the rod at station +50.0. Cottonwood tree behind and to his right is at the edge of the left bank. Grass is well developed on top of the meter-thick 26-year-old sand layer deposited in the channel by the flood of 1978