

any part of its course below. The main stream follows pretty closely the cut banks on the south side of the valley, where the lignite beds are exposed and burning, and wherever landslides occur the slidden material is very soon dissolved or carried away by the water.

BONNET PLUME RIVER.

The Bonnet Plume river joins the Peel from the south, twelve miles below the Wind river. It enters the Peel by a number of channels, forming a delta some three miles wide. As a result of this, it is practically impossible to estimate its discharge, but it is probably larger than the Wind river. It occupies a broad, shallow valley, filled with gravel bars and cut into numerous channels, very similar to that of the lower part of the Wind river. It is said to rise in a large lake in the mountains, and its course is roughly parallel to that of the Wind river. It emerges from the mountains some sixty miles above its junction with the Peel, and flows for that distance through a flat wooded plain, unbroken by any mountains or hills, and underlain probably to some extent at least by Tertiary rocks. As a result its water is very muddy, and it discolours the Peel for some distance below. It was ascended by Count de Sainvilie for a distance of about twenty miles, but apart from the natives of the country, no other man has ever been far up it.

A sheet of ice occupies a large area at the mouth of Bonnet Plume river and hot springs are said to exist near here. The ice sheet is probably due to the constant flooding and freezing during the winter of the water from these hot springs. A diligent search for the hot springs on the east side of the river led to no discovery, but I afterwards learned that they were situated in the angle on the west side of the stream.

Below the Bonnet Plume river the valley gradually contracts in width, and from a distance appears to close altogether, until the entrance to the lower cañon is reached. Here the stream has cut a deep and narrow defile through the low range of hills which borders the low Tertiary basin on the east side. The banks of the valley quickly rise from a height of a hundred feet to five hundred feet, and from this point down to within thirty miles of Fort McPherson, a distance of 158 miles, the river flows through the high Peel plateau, cutting a deeper and deeper valley northward, until the banks attain a maximum height of 1,000 feet.

This lower cañon is about two miles long. Its average width is 500 feet, bordered by almost vertical walls of thick bedded black slates. At ordinary stages of water it is not at all dangerous to navigation. Except at the entrance to the cañon, where a little rough-