



From Smoky River to within a mile of Cadoff's River, sandstone rocks prevail, and often form irregularly weathered cliffs.

SMOXY RIVER.
The Smoky River below the High falls in a trough-like valley 400 to 500 feet deep, about half a mile wide in the bottom, and tapers to three miles from rim to rim. The banks are generally steep and are free from woods on northern exposures. Cliff and scarp banks of the soft Cretaceous rocks from 50 to 100 feet in height are common, with massive sandstone, both recent and of old date. The current of the river is swift, and there are many small rapids, which would render it unavigable by means of any sort except at high water.

On the High falls and Smoky River, from the mouth of Minnie's Creek to the Peace River, the rocks consist of a light-colored sandstone, containing the following constituents:
Upper sandstone and shale 450 feet or more.
Upper shale 150 "
Lower sandstone and shale 100 "
Lower shale 350 "
This series of lignite and coals in several places, and within three miles from the mouth.

Country reported generally wooded and with many mounds. Indians brought in 12,000 beaver skins from district north of Lesser Slave Lake in 1878.

LESSER SLAVE RIVER.
The stream is very crooked, and about 41 miles in length. For 18 miles from its mouth it forms a succession of rapids (about 20 in number) which are strong and shallow. Above this the stream is tranquil. At Slave Lake it is nearly on a level with the country, but four or five miles below the lake it is again in a series of rapids. The valley is wide and the slopes seldom exceed 15°.

ATHABASCA RIVER.
From the mouth of Lesser Slave River to the Landing, the Athabasca is generally tranquil, but with a few small rapids. The banks increase in height from about 500 feet to 550 feet at the Landing. The valley is wide and the slopes seldom exceed 15°.
From the Landing to the Lac La Biche River there are a few small rapids. The valley is 1 to 2 miles wide, generally with rather steep slopes. It is narrower at the mouth of the Lac La Biche River.

SOILS.
Gravelly and granitic sandstone. From the Lac La Biche region to the north-west, together with quartzite boulders from the Rocky Mountains, are scattered over the whole country eastward from the Peace River and southward to the Athabasca and beyond. They are most abundant in those valleys which cut through the drift, and in the steeper and higher plateaus, which appear to be formed of harder layers, which contain interesting, lower levels are covered with later fine clay deposits, which conceal the harder rocks.

ATHABASCA RIVER.
From Drift-pile Camp to McLeod River, wide shoals and very rapid, spreading among numerous gravelly bars and small islands. Flats at 6 to 10 feet above stream with generally sandy soil. Valley average 1/2 mile in width and 1/2 mile deep. It is probable that a stream, which stream of light drift could extend further than the mouth of the McLeod River.

From the mouth of the McLeod to Old Fort Athabasca the current gradually decreases. There are numerous and large islands and the river is frequently shallow.

From Old Fort Athabasca to the mouth of Lesser Slave River, the Athabasca, with the exception of a few small rapids, is tranquil. The banks gradually decline from 200 feet to a height of 100 feet, and at the same time lose their rapid character and become gently sloping.

Rock exposures frequent in the banks of the Athabasca from Drift-pile Camp to a point below Old Fort Athabasca. Sandstone and quartzite shales, the former often standing in bold, scarp-like cliffs. The latter have a general low rounded dip nearly corresponding to the slope of the river. Strata of lignite coal frequently seen, and in one place observed in a bed of variable thickness. These beds probably represent the Upper Sandstone of Smoky River. From the point now named an undulating rock exposure are seen in the banks as far as the mouth of the Lac La Biche River, where the decomposition is moderate.

Broken hills country, with valleys 300 to 600 feet deep. Extensive areas of brick and wharf clay.

The country traversed by this trail to Slave Lake is reported by Mr. Hervey as suitable for agricultural purposes. It is very fertile, with gravelly and stony ridges, and to the north mark broken.

Gold occurs in payable quantities in some of the bars about this part of the Athabasca.

- A. Concretionary sandstone and sil. lignite coal for the banks (lower levels).
- B. Brownish soft sandy sandstone and shale. Soil chiefly sandstone.
- C. Soft grey sandstone. Lignite coal. Clay soil.
- D. Lignite coal. Thin veins to and 3 feet thick.
- E. Pinkish shale, fossiliferous layers.
- F. Shale and sandstone. Thin lignite coal (four inches). Side of black weathered clay.
- G. Pale grey shaly sandstone.

Country generally inferior, and with many mounds.

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