

E H Beckler - Reconnaissance and Location of the Pacific Extension of the G. N. Ry

Presented February 11, & March 11, 1893 & printed in the Association of Engineering Societies Journal – August 1893 pg 386-389

The position of the existing line between Fort Assiniboine on Milk River and the terminus of the Montana Central at Butte, made it possible for the extension to start off at one of several points, depending upon what was to be found beyond. In a mountainous country the best lines generally follow the drainage, and the possibilities as regards the general course of routes, and the number to be examined, can be ascertained from existing maps. In this case it was apparent that the crossing of the Rocky Mountains could be made at the head waters of the Marias, departing from the present line near Assiniboine; or, at the head of the Sun River, leaving the present line at Great Falls; or at the head of Dearborn River, departing from the present line at the junction of the Dearborn and Missouri Rivers; or by extending westward from Butte. It was possible to drop out of consideration the line from Great Falls and the extension from Butte by reconnaissance, without actual survey, leaving only the Assiniboine and Dearborn lines to be compared by careful work in running lines.

These reconnaissance's showed that a line by the north fork of the Sun River led to the Flathead Valley, to the same field occupied by the Assiniboine line, with much greater distance and with few off-setting advantages. The South Fork of the Sun River led to the Dearborn outlet, with mountains all the way west from Helena to the foot of the western slope of the Bitter Root Range, on the Clearwater River, has four summits with an elevation greater than 5,000 feet and with nearly 300 miles of distance above the elevation of 4,500 feet. It was too near the region of perpetual snow to be desirable....

The Assiniboine line traverses the plateaus north of the Marias River, called Lonesome Prairie, crosses the summit of the Rocky Mountains through Marias Pass, descends to the Flathead Valley by the middle fork of the river of the same name, climbs over the Kootenai to Bonner's Ferry in Idaho...

The Dearborn line crosses the Rocky Mountains at Roger's Pass 4 mile south of Cadotte Pass, spoken of in government reports, goes down the Big Blackfoot to Missoula and down Missoula River to the St. Regis de Borgia River, climbs the Bitter Root range by way of this stream to the Sohon Pass described in Capt. Mullen's report on military roads in 1863, thence down the Coeur d' Alene to Mission, thence over a divide via Fourth of July canon to Fort Sherman and thence across the plateau to Spokane.

Taking up now the points for comparison on these lines. The Dearborn route used about 150 miles of the already constructed line to Helena and Butte, and about 100 miles of which runs through what has been up to the present time unproductive country. A stretch of about 150 miles of similar country is found on the Assiniboine line, so that, train service for a Freight Division is required for the Northern line, in excess of what would have been needed for the Dearborn route.

For the second point - relative distance was slightly in favor of the Northern or Assiniboine line.

For the third point it is proper to consider only what would be the ruling grade for a freight division, regardless of helper grades and also the number of helper grades, and their rate of grade. The Assiniboine line gave one division of 1 per cent and two of .06 per cent in either

direction, while the Dearborn line gave 1 per cent on all divisions but one. There are three helper grades on the Northern Route, with grades of 1.5 per cent and 1.8 per cent against six on the Dearborn route of 1.7 per cent and 2.2 per cent counting helpers in both directions. The Dearborn line gave 35 miles excess of helper grade over the other.

Fourth: Rise and Fall considered only where depressions are too great to be treated as velocity grades, shows a difference of 500 feet in favor of the Assiniboine line.

Fifth: In alignment there appears to be about sixteen full circles in favor of the Assiniboine line.

Sixth: Resources. The Assiniboine line being on a lesser elevation for a greater number of miles shows more favorably for agriculture, although the country is now sparsely settled. The lines were about equal in grazing and timber resources. The mining, which is always an uncertain factor, there appeared to be greater possibilities in the Libby District, Lake Creek, Kootenai and Pend d' Oreille Districts on the Assiniboine line than in the single Coeur d' Alene District on the Dearborn route.

Seventh: Climate. Both routes show a snowy region extending over a distance of fifty miles. There is probably an excess in rainfall on the Northern line.

Eighth: The disadvantages in regard to operation on the Northern line have been spoken of in the first point of comparison.

Ninth: The Dearborn line is only a few miles north of the Northern Pacific Railroad for fifty miles east of Missoula and for a distance of 150 miles west of that city, it practically parallels a branch or branches of that road. The new towns along the northern route will, without doubt, equal in importance those along the already occupied territory, with no probability of a division in business.

Tenth: In construction features the Dearborn route gave three miles in tunnels and an excess of bluff work along rivers, while the total length of tunnels by the northern route was only 4,400 feet. In bridges over large streams there was not much difference. Although the mileage to be constructed by the Dearborn route was 150 miles less, the estimated cost for grading and bridging was slightly in excess of that of the other route. In summing up all points of comparison there appeared to be a large difference in favor of adopting the Assiniboine line.

The first exploration started by me were in December, 1889. Some country on the Dearborn route had been looked over by Major Rogers in 1887.