

It is worthy of note that a thin bed of tuff occurs interstratified in the Dakota, near the middle of the formation on Ma butte, northeast of Crowsnest mountain.¹ The following section across the lower beds of the volcanics was observed on Jackson creek, in the Southfork valley.

<i>Measures</i>	<i>Thickness</i>
Massive beds of coarsely fragmental agglomerate.	
Coarsely fragmental orthoclase agglomerate.	10 ft.
Black carbonaceous seam, full of rounded sand grains but clearly of a coaly nature. ²	4 in. to 8 in.
Hard, light purplish tuff.	0 ft. 8 in.
Soft green, fine-grained tuff.	2 ft. 0 in.
Hard, coarse to medium, dark green tuff, fragmental orthoclase up to $\frac{3}{4}$ inch.	8 ft. 0 in.
Conformable on fine, dark green (tufaceous) sandstones of the upper Dakota.	

Relations of the Volcanics to the overlying Benton.

Here again is a gradational relationship. Owing to the soft character of the Benton shales this contact is usually obscured by detritus, and was only actually observed in one locality, where a prospect trench had been dug across it; but as the volcanics are usually finer and thinner bedded toward the top, the transitional relationship had been inferred before it was actually seen. The trench above mentioned is on the south bank of the Southfork river, just below the junction of its west and south branches. The following section was observed, in descending order:—

¹Leach, W. W., Summ Rept. Geol. Survey, Canada, 1911, p. 196.

²This is the only occurrence of the kind noted by the writer. Dawson speaks of having seen plant remains in the volcanics elsewhere in the Southfork valley.

Dawson, G. M. Ann. Rept. Geol. Survey, Canada, 1885, Part B, p. 57B.