Role of Nomenclature in Pay Zone Definitions, Bakken - Three Forks Formations, North Dakota
Julie A. LeFever¹, Richard D. LeFever², and Stephan H. Nordeng¹
¹North Dakota Geological Survey, ²University of North Dakota

Summary
The Three Forks formations have been and continue to be the subject of much debate and discussion. In the early 21st century, much of this discussion centered on how to classify the rocks in the Upper and Lower Mesaverde Group. The Three Forks was proposed for inclusion as a formal formation in the Mesaverde Group, but was later dropped from the formal charts. The Three Forks now has an informal status, but continues to cause discussion in terms of pay zone definitions.

The Three Forks forms a significant section of the Mesaverde Group between the Lower and Middle members of the group. The Three Forks is composed of sandstone, siltstone, and shale. The sandstone of the Three Forks contains significant amounts of dolomite and dolomitic material. The dolomite is a significant source of porosity and permeability in the Three Forks.

The Three Forks is a significant source of oil and gas in the Bakken and Three Forks areas. The Three Forks contains significant amounts of oil and gas, and is a major source of production in the area.

Reference

Figure 1: Stratigraphic chart showing the location of the Three Forks Formations in North Dakota and Montana. A. Three Forks member 5 contains maximum thickness of 12 ft. B. Three Forks member 6 contains maximum thickness of 17 ft. C. Three Forks member 7 contains maximum thickness of 12 ft. D. Three Forks member 8 contains maximum thickness of 34 ft. E. Three Forks member 9 contains maximum thickness of 17 ft. F. Three Forks member 10 contains maximum thickness of 12 ft. G. Three Forks member 11 contains maximum thickness of 34 ft. H. Three Forks member 12 contains maximum thickness of 17 ft. I. Three Forks member 13 contains maximum thickness of 12 ft. J. Three Forks member 14 contains maximum thickness of 34 ft. K. Three Forks member 15 contains maximum thickness of 17 ft. L. Three Forks member 16 contains maximum thickness of 12 ft. M. Three Forks member 17 contains maximum thickness of 34 ft. N. Three Forks member 18 contains maximum thickness of 17 ft. O. Three Forks member 19 contains maximum thickness of 12 ft. P. Three Forks member 20 contains maximum thickness of 34 ft. Q. Three Forks member 21 contains maximum thickness of 17 ft. R. Three Forks member 22 contains maximum thickness of 12 ft. S. Three Forks member 23 contains maximum thickness of 34 ft. T. Three Forks member 24 contains maximum thickness of 17 ft. U. Three Forks member 25 contains maximum thickness of 12 ft. V. Three Forks member 26 contains maximum thickness of 34 ft. W. Three Forks member 27 contains maximum thickness of 17 ft. X. Three Forks member 28 contains maximum thickness of 12 ft. Y. Three Forks member 29 contains maximum thickness of 34 ft. Z. Three Forks member 30 contains maximum thickness of 17 ft.