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A Review of Upper Devonian, Elk Sandstone Exploration and Development in Pennsylvania: Random Thoughts on Potential Elk Pitfalls

Since the discovery of Mahaffey Field in Clearfield County and Council Run Field, Centre and Clinton Counties, Pennsylvania the Elk Sandstones (Upper Devonian, Lock Haven Formation) have been well sought after exploration targets. As an example, approximately eight wells in Council Run Field are 1+ BCF estimated ultimate recoverable from less than 5,000' total depth. Typically, the Fifth Elk is considered the "major pay" within the Elk Group. It will be shown that numerous zones within the Elk have potential to be primary production contributors. Also discussed will be regional and local mineralogical differences that can have a drastic effect on how an electric log is interpreted and how completion of a well is planned. Aerial extent of Elk deposition, the role of structure in Elk deposition and production and other factors may affect exploration and development strategies will also be discussed. Lastly, an overview of Elk exploration potential for Pennsylvania will be discussed.