

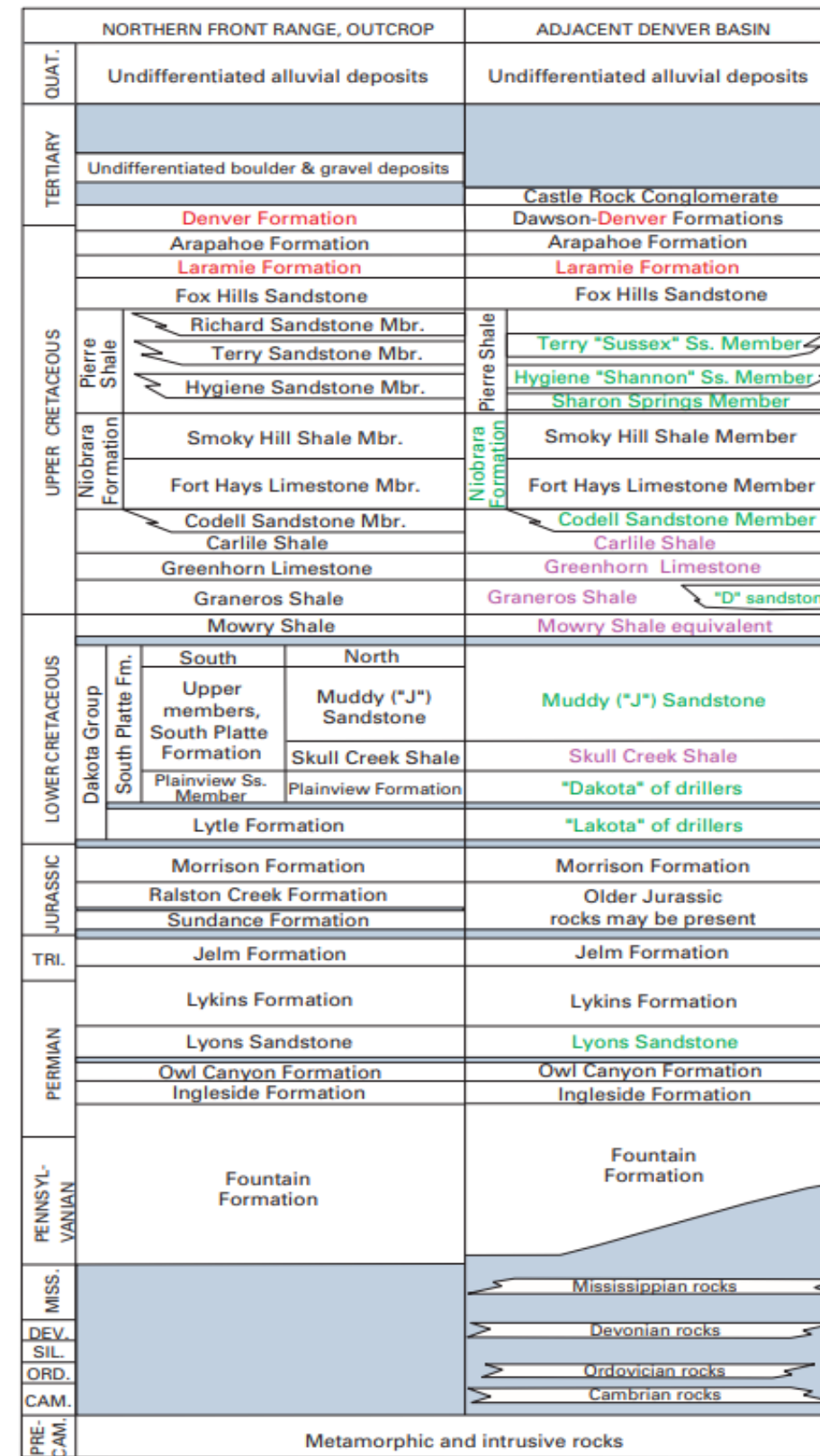
Formation	Top SSTVD	Base SSTVD	Zone Type	Notes	TDS	Data Source
Fox Hills and Shallower	Surface	3995	Groundwater	USDW	0 - 500	USGS
Fox Hills Transition*	3995	3461				
Fox Hills Marker	3461	3461				
Pawnee	3471	2974	Saline Aquifer	USDW (40CFR 144.3.a.2.ii)	1001 - 10000	Electric Log Calculation
Pierre Shale	2974	861	Confining Layer			
Parkman	861	577	Hydrocarbon			
Pierre Shale	577	490	Confining Layer			
Sussex	490	190	Hydrocarbon			
Pierre Shale	190	-2069	Confining Layer			
Niobrara	-2069	-2428	Hydrocarbon	Injection Zone		
Fort Hays	-2428	-2448		Injection Zone		
Codell	-2448	-2467	Hydrocarbon	Injection Zone		
Carlile Shale	-2467	-2516	Confining Layer	Injection Zone		
Greenhorn	-2516	-2720	Hydrocarbon			
Graneros Shale	-2720		Confining Layer			
J Sand	-2881		Hydrocarbon			
Morrison	-3157					
Lykins	-3505		Confining Layer			
Lyons	-4063		Saline Aquifer/ Hydrocarbon			
Fountain Formation	-4456					
Basement	-6202		Granite			

\*The Fox Hills Transition Zone is composed primarily of Pierre Shale with relatively thin interbedded sands that could be water bearing

Well Data Source:  
Surface to J-Sand:  
J-Sand to Basement:

Croissant USX WW 11-02D  
M B Lehl A-1 05123126940000

Elevation:  
5089'  
4997'



**Figure 2.** Stratigraphic section of rock units in outcrop and the adjacent Denver Basin. Light blue zones are periods of erosion or nondeposition. Green text marks formations that produce oil and (or) gas. Red text marks formations that have the potential to produce coal-bed methane. Hydrocarbon source rocks are marked with purple text. Sources of information include Hoyt (1963), Momper (1963), Irwin (1976), Sonnenberg and Weimer (1981), Higley and Schmoker (1989), Hjellming (1993), and MacLachlan and others (1996).

[https://pubs.usgs.gov/dds/dds-069/dds-069-p/REPORTS/69\\_P\\_CH\\_2.pdf](https://pubs.usgs.gov/dds/dds-069/dds-069-p/REPORTS/69_P_CH_2.pdf)

*Suggested citation:*

Higley, D.K., Cox, D.O., 2007, Oil and gas exploration and development along the front range in the Denver Basin of Colorado, Nebraska, and Wyoming, in Higley, D.K., compiler, Petroleum systems and assessment of undiscovered oil and gas in the Denver Basin Province, Colorado, Kansas, Nebraska, South Dakota, and Wyoming—USGS Province 39: U.S. Geological Survey Digital Data Series DDS-69-P, ch. 2, 41 p.