

NGL Water Solutions - Formation Data & Detailed Lithologic description

**NGL C5A**

Formation	Tops	Btm	Porosity	Lithology	To be Determined		
					TDS	Frac Gradient	Permeability
Lyons	8782'	8910'	13%	Sandstone, Leonardian age, very fine to fine grained, red, friable to locally silica cemented, fair to moderate porosity			
Lower Satanka	8910'	9180'	1%	Siltstone, shale, sparse very fine grained sandstone, brick red, anhydritic, tight			
Wolfcamp	9180'	9230'	1%	Dolostone, pink to light brown, massive bedded, tight, local anhydrite, white, massive bedded, tight, sparse, thin beds of siltstone and shale			
Amazon	9230'	9290'	10%	Dolostone, pink to light brown, massive bedded, moderate porosity			
Council Grove	9290'	9440'	1%	Dolostone, pink to light brown, massive bedded, locally anhydritic, poor porosity, thin beds of red shale			
Admire	9440'	9540'	3%	Sandstone, red to light gray, very fine grained, anhydritic to dolomitic, tight, shale and siltstone, tight, sparse thin beds of dolostone, poor porosity			
Virgil	9540'	9730'	12%	Limestone, pink to light gray, massive to thin bedded, locally anhydritic, tight, Dolostone, light gray to pink, massive bedded, moderate to good porosity, sparse, thin beds of red shale and red siltstone			
Missouri	9730'	9875'	4%	Limestone, pink to light gray, massive to thin bedded, tight, Dolostone, light gray to pink, massive bedded, poor to fair porosity, sparse, thin beds of red shale and red siltstone			
Fountain	9875'	10075'	4%	Sandstone, very fine to medium grained, red to pink, calcareous, tight, interbedded with red shale and siltstone, locally micaceous, tight			
Des Moines	10075'	10333'	4%	Sandstone, very fine to medium grained, red to pink, calcareous, tight, interbedded with red shale and siltstone, locally micaceous, tight			
Atoka	10333'	10613'	2%	Sandstone, very fine to medium grained, red to pink, calcareous, tight, interbedded with red shale and siltstone, locally micaceous, tight			
Morrow	10613'	10640'	2%	Shale, maroon to green, gray and black, with thin beds of light gray sandstone and light gray to light brown limestone, tight			

\*Depths and porosity are based on the NGL C-1 (1-30) SWD (05-123-26004) and Select (Lone Star) LSWD 1 (05-123-30367)