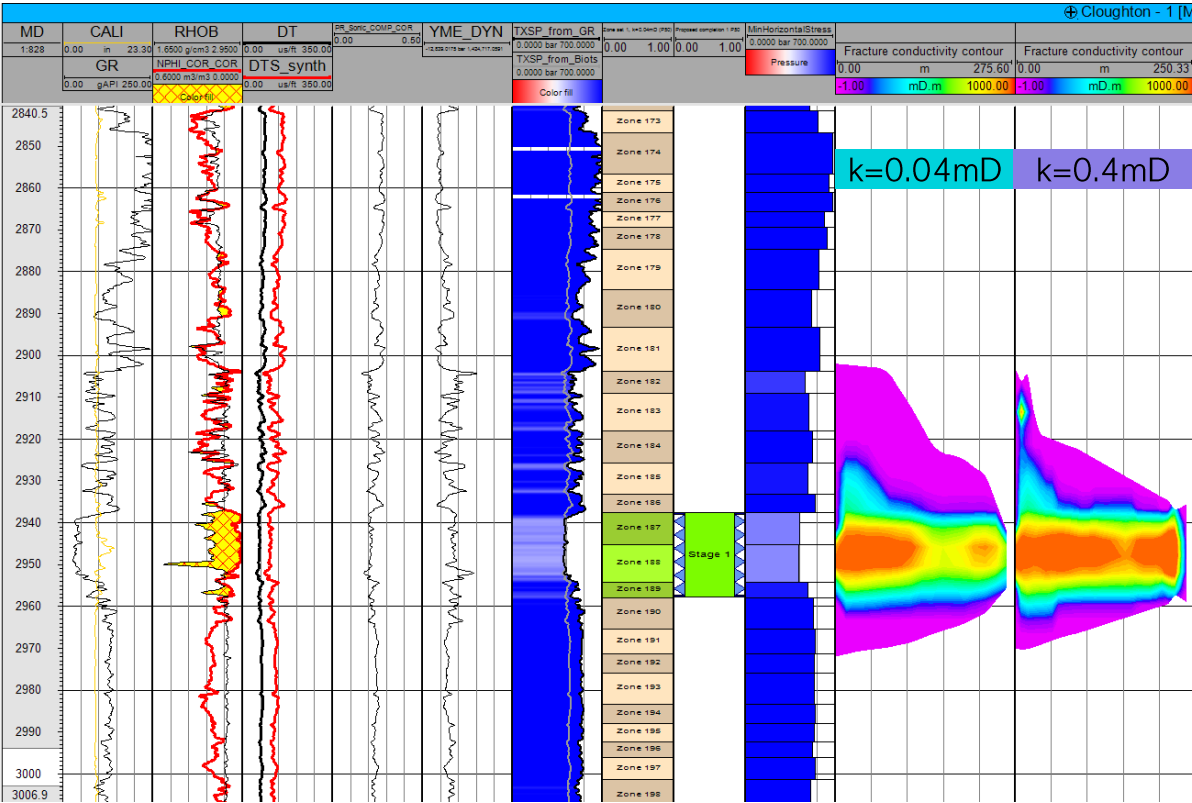


Cloughton 1

Fracture Stimulation Discussion

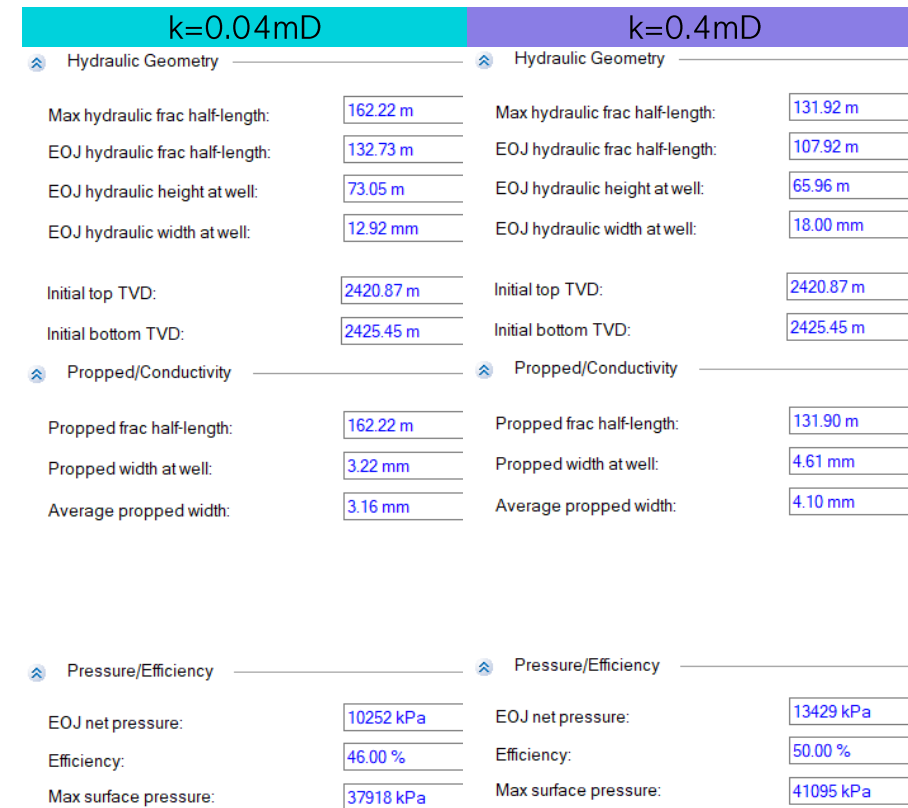
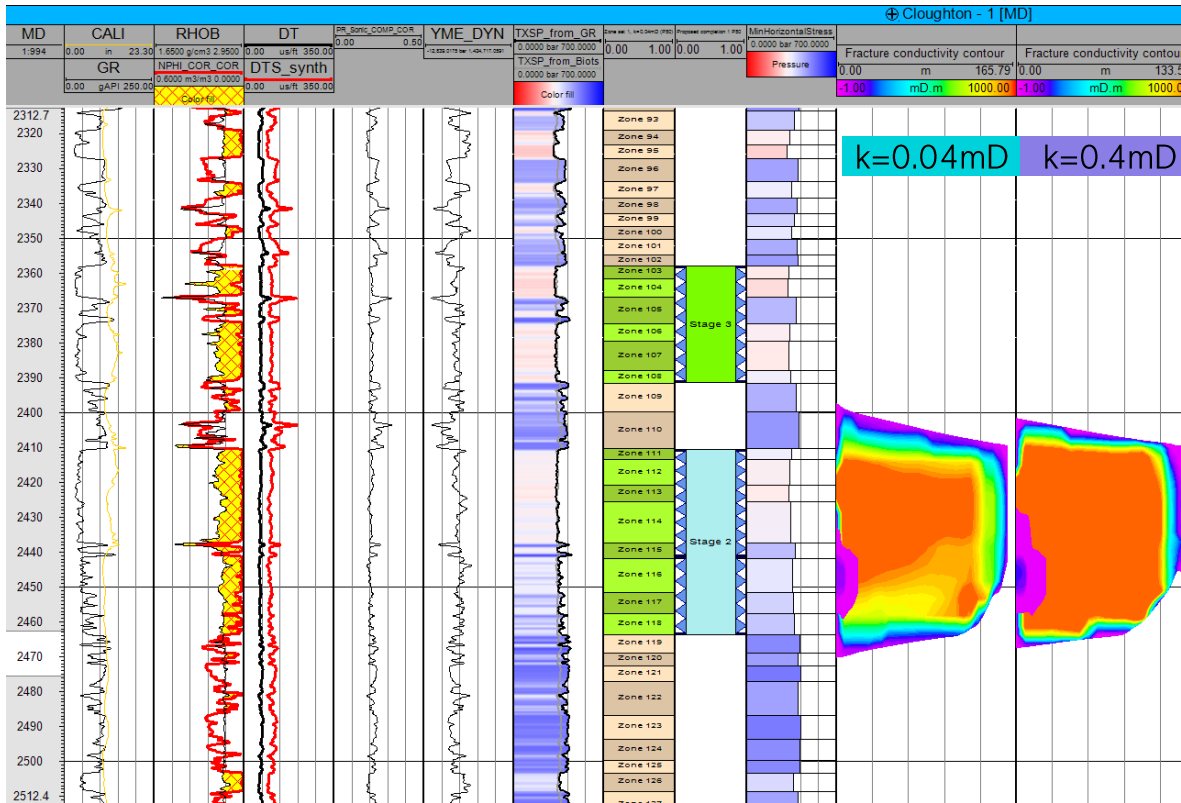
April 2024

Stage 1

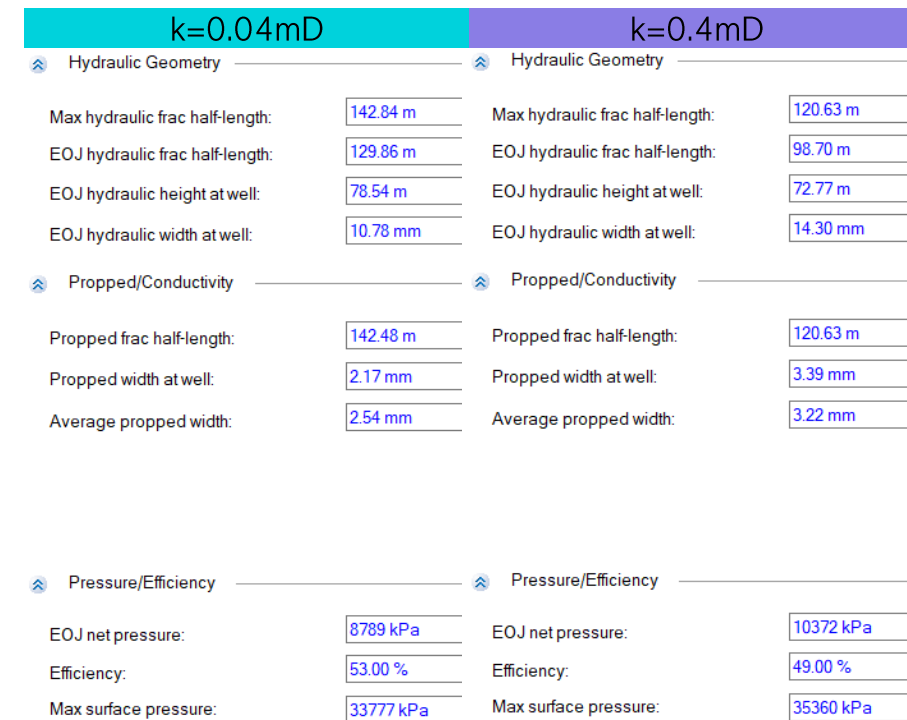
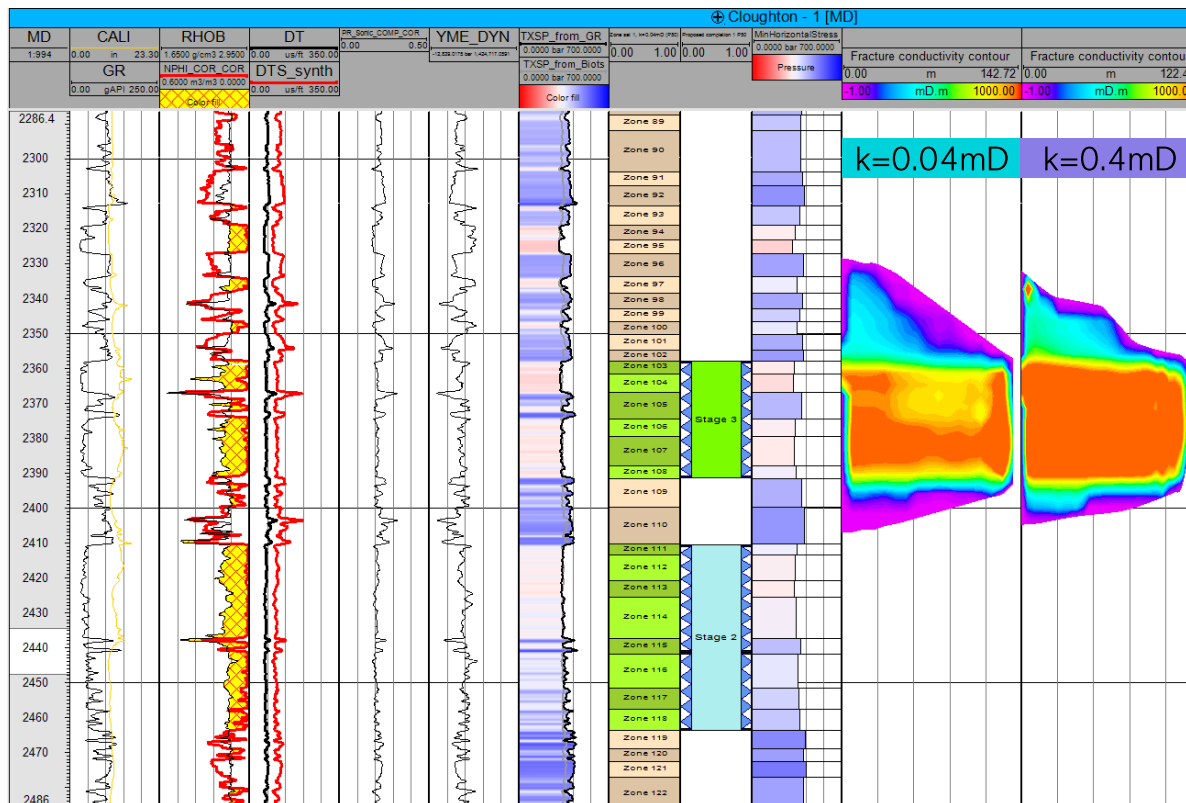


$k=0.04\text{mD}$		$k=0.4\text{mD}$	
Hydraulic Geometry		Hydraulic Geometry	
Max hydraulic frac half-length:	269.95 m	Max hydraulic frac half-length:	242.72 m
EOJ hydraulic frac half-length:	255.32 m	EOJ hydraulic frac half-length:	220.66 m
EOJ hydraulic height at well:	70.00 m	EOJ hydraulic height at well:	67.00 m
EOJ hydraulic width at well:	7.89 mm	EOJ hydraulic width at well:	9.15 mm
Propped/Conductivity		Propped/Conductivity	
Propped frac half-length:	268.24 m	Propped frac half-length:	241.42 m
Propped width at well:	2.03 mm	Propped width at well:	2.46 mm
Average propped width:	1.35 mm	Average propped width:	2.00 mm
Pressure/Efficiency		Pressure/Efficiency	
EOJ net pressure:	9983 kPa	EOJ net pressure:	10496 kPa
Efficiency:	54.00 %	Efficiency:	47.00 %
Max surface pressure:	57456 kPa	Max surface pressure:	58185 kPa

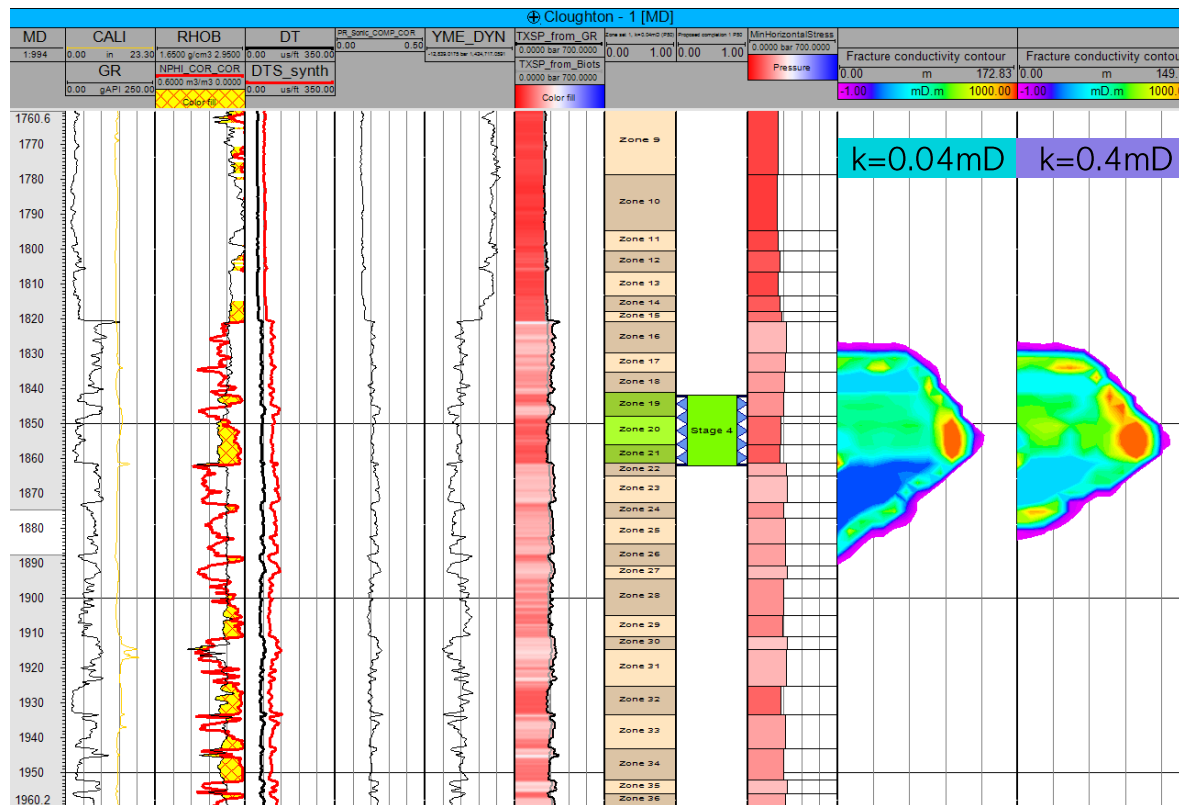
Stage 2



Stage 3



Stage 4



k=0.04mD	k=0.4mD
Hydraulic fracture geometry	Hydraulic fracture geometry
Max	Max
Length (2 x Xf): 307.25 m	Length (2 x Xf): 263.36 m
Width at well: 10.87 mm	Width at well: 11.67 mm
Height at well: 101.50 m	Height at well: 90.15 m
Propped fracture geometry / conductivity	Propped fracture geometry / conductivity
EOJ	EOJ
Length (2 x Xf): 263.36 m	Length (2 x Xf): 241.41 m
Width at well: 2.57 mm	Width at well: 2.76 mm
Height at well: 65.84 m	Height at well: 63.10 m
Pressure/Efficiency	Pressure/Efficiency
EOJ net pressure at perf: 118.65 bar	EOJ net pressure at perf: 125.86 bar
EOJ efficiency: 39.00 %	EOJ efficiency: 36.00 %