

HALLIBURTON

Chevron - Mid-continent Ebiz
Do Not Mail - 1400 Smith St
Houston, Texas 77002

Levison 22X

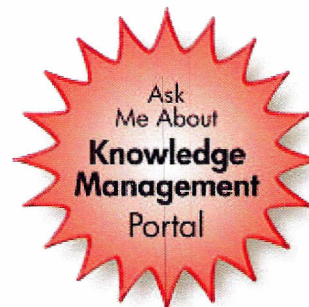
Rio Blanco County, Colorado
United States of America
S:26 T:02N R:102W
API/UWI 05-103-07089

Delta Frac 140

Prepared for: Kieth Hejl

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Version: 3

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HALLIBURTON

Well Information**60 bpm Delta Frac**

Well Name: Levison Well #: 22X

Tubulars

Name	Measured Depth (ft)	Outer Diameter (in)	Inner Diameter (in)	Linear Weight (lbm/ft)	Grade
Frac Liner	0 - 6000	4.5	4	11.6	N-80
Casing	0 - 6588	7	6.366	23	

Perforations

Interval Name/ Depth (ft)	Shot Density (spf)	# of Perfs
Perforation Interval / 6220 - 6560	3	210

Job Fluids Summary

60 bpm Delta Frac

10# Water Frac G					
Volume	Base Fluid	Clay Control	Surfactant	Breaker	Biocide
4196 (Gal)	Fresh Water*	CLA-Web	Losurf-300D	SP Breaker	BE-6
Totals	4196 (Gal)	2.1 (Gal)	4.2 (Gal)	8.39 (lbm)	0.63 (lbm)

25# Delta Frac 140 (22)						
Volume	Base Fluid	Clay Control	Surfactant	Breaker	Additive Material	Biocide
26909 (Gal)	Fresh Water*	CLA-Web	Losurf-300D	Optiflo HTE	SP Breaker	BE-6
Totals	26909.35 (Gal)	13.45 (Gal)	26.91 (Gal)	53.82 (lbm)	26.91 (lbm)	4.04 (lbm)

Treated Water	
Volume	Base Fluid
5125 (Gal)	Fresh Water*
Totals	5125 (Gal)

Fresh Water					
Volume	Base Fluid	Clay Control	Surfactant	Breaker	Biocide
26880 (Gal)	Fresh Water*	CLA-Web	Losurf-300D	SP Breaker	BE-6
Totals	26880 (Gal)	67.2 (Gal)	26.88 (Gal)	53.76 (lbm)	4.03 (lbm)

JOB TOTALS						
Volume (Gal)	Base Fluid (Gal)	Clay Control (Gal)	Surfactant (Gal)	Breaker (lbm)	Biocide (lbm)	Breaker (lbm)
	Fresh Water*	CLA-Web	Losurf-300D	SP Breaker	BE-6	Optiflo HTE
	63110.35	82.75	57.99	89.06	8.7	53.82

Proppant		
	Designed Qty	Requested
CRC-16/30	100000 (lbm)	100000 (lbm)

Customer Supplied Items *			
	Designed Qty	Tank Bottom	Requested w/ Tank Bottom
Fresh Water	63110.35 Gal	0 Gal	63111 Gal

Treatment

60 bpm Delta Frac

Well Name	Levison	Treated Water	5125 Gal
Job Name	75 bpm Delta Frac	Fresh Water	26880 Gal
No. of Perfs/Jets	210	25# Delta Frac 140 (22)	26909.35 Gal
Mid Perf Depth	6390 ft	10# Water Frac G	4196 Gal
Estimated Pump Time	0.55 hrs	CRC-16/30	100000 lbm
BHST	160 degF		
Frac Gradient	0.74 psi/ft		

Casing (Surface)								
Trt-Stage	Stage Desc.	Flow Path	Fluid Desc.	Rate-Liq+Prop	Clean Vol.	Proppant	Proppant Conc.	Prop. Mass
1-1	Pre-Flush	IN	Treated Water	15	5125		0	0
Notes Customer Supplied Scale Inhibitor Fluid.								
1-2	Overflush	IN	Fresh Water	60	26880		0	0
1-3	Pad	IN	25# Delta Frac 140 (22)	60	8100		0	0
1-4	Proppant Laden Fluid	IN	25# Delta Frac 140 (22)	60	13809.35	CRC-16/30	1 - 8	60000
1-5	Proppant Laden Fluid	IN	25# Delta Frac 140 (22)	60	5000	CRC-16/30	8	40000
1-6	Flush	IN	10# Water Frac G	60	4196		0	0
1-7	Shut-In	IN	10# Water Frac G	60	0		0	0
Totals					63110.35			100000

			Casing
BHTP	= Fracture Gradient x Mid Interval Depth (TVD)	= 0.74 psi/ft x 6390 ft	4700 psig
Ph	= Pressure Gradient x Mid Interval Depth (TVD)	= 0.4296 psi/ft x 6390 ft	2745 psig
Pf	Friction Loss in Pipe	@ rate	1930 psig
Ppf	Friction Loss in perfs	@ rate	100 psig
Pw	BHTP - Ph + Pf + Ppf	4700 psig - 2745 psig + 1930 psig + 100 psig	3984.94 psig
HHP (Liquid)	(Pw x Rate) / 40.8 Required on Location	3984.94 x 60 / 40.8 =	5860 hp (Recommended: 14000 hp)

Fluid Details - Treatment

60 bpm Delta Frac

Treated Water	
Volume (Gal)	Base Fluid
	Fresh Water *
5125	0 - 5125

Fresh Water					
Volume (Gal)	Base Fluid	Clay Control (gal/Mgal)	Surfactant (gal/Mgal)	Breaker (lbm/Mgal)	Biocide (lbm/Mgal)
	Fresh Water *	CLA-Web	Losurf-300D	SP Breaker	BE-6
26880	0 - 26880	2.5	1	2	0.15

25# Delta Frac 140 (22)						
Volume (Gal)	Base Fluid	Clay Control (gal/Mgal)	Surfactant (gal/Mgal)	Breaker (lbm/Mgal)	Additive Material (lbm/Mgal)	Biocide (lbm/Mgal)
	Fresh Water *	CLA-Web	Losurf-300D	Optiflo HTE	SP Breaker	BE-6
26909.35	0 - 26909.35	0.5	1	2	1	0.15

10# Water Frac G					
Volume (Gal)	Base Fluid	Clay Control (gal/Mgal)	Surfactant (gal/Mgal)	Breaker (lbm/Mgal)	Biocide (lbm/Mgal)
	Fresh Water *	CLA-Web	Losurf-300D	SP Breaker	BE-6
4196	0 - 4196	0.5	1	2	0.15

* Customer Supplied