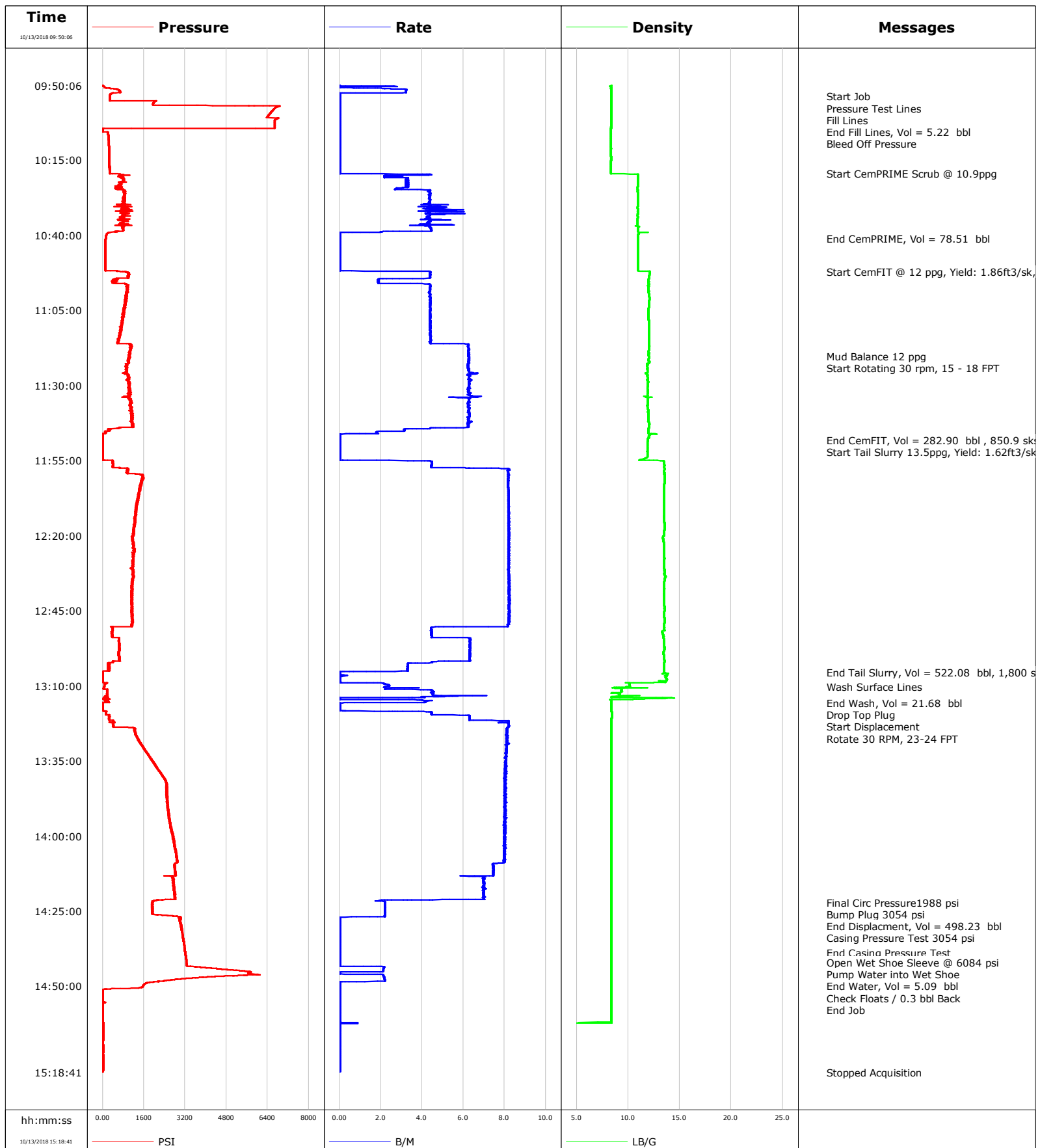


**Well** Cowboy 21-6HZ  
**Field** Wattenburg  
**Engineer** Adam Aasen  
**Country** United States

**Client** Anadarko  
**SIR No.** E1WT-00202  
**Job Type** Production  
**Job Date** 10-13-2018



# Cementing Service Report

				Customer Anadarko			Job Number E1WT-00202											
Well Cowboy 21-6HZ			Location (legal)			Schlumberger Location Cheyenne			Job Start Oct/13/2018									
Field Wattenburg			Formation Name/Type			Deviation 90 deg		Bit Size 8.5 in		Well MD 21195.0 ft		Well TVD ft						
County Weld			State/Province Colorado			BHP psi		BHST 232 degF		BHCT 230 degF		Pore Press. Gradient lb/gal						
Well Master 0631786926			API/UWI															
Rig Name PD 564		Drilled For Oil		Service Via Land		Casing/ Liner												
						Depth, ft		Size, in		Weight, lb/ft		Grade		Thread				
Offshore Zone		Well Class New		Well Type New Well Completion		1848.0		8.5		36.0		J55		N/A				
						21188.2		5.5		17.0		P110		N/A				
Drilling Fluid Type Oil Mud			Max. Density 9.50 lb/gal		Plastic Viscosity cP		Tubing/Drill Pipe											
							T/D		Depth, ft		Size, in		Weight, lb/ft		Grade		Thread	
Service Line Cementing			Job Type Production															
Max. Allowed Tub. Press 6000 psi			Max. Allowed Ann. Press 6000 psi			WH Connection 5 1/2			Perforations/Open Hole									
									Top, ft		Bottom, ft		shot/ft		No. of Shots		Total Interval	
									ft		ft						ft	
									ft		ft						Diameter	
									ft		ft						in	
									Treat Down Casing		Displacement 491.5 bbl		Packer Type		Packer Depth ft			
									Tubing Vol. bbl		Casing Vol. 491.6 bbl		Annular Vol. 88.5 bbl		Openhole Vol. 789.1 bbl			
Casing/Tubing Secured <input type="checkbox"/>			1 Hole Vol. Circulated prior to Cement <input type="checkbox"/>						Casing Tools				Squeeze Job					
Lift Pressure 17836 psi									Shoe Type Float				Squeeze Type					
Pipe Rotated <input type="checkbox"/>			Pipe Reciprocated <input type="checkbox"/>						Shoe Depth 2188.2 ft				Tool Type					
No. Centralizers 301			Top Plugs 1		Bottom Plugs 1					Stage Tool Type				Tool Depth ft				
Cement Head Type Double									Stage Tool Depth ft				Tail Pipe Size in					
Job Scheduled For Oct/13/2018 02:30			Arrived on Location Oct/13/2018 02:30			Leave Location Oct/13/2018 16:30			Collar Type Float				Tail Pipe Depth ft					
									Collar Depth 2186.6 ft				Sqz. Total Vol. bbl					
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message												
10/13/2018	09:50:06	6	0.0	8.35	0.0	Started Acquisition												
10/13/2018	09:53:52	276	0.0	8.36	5.2	Start Job												
10/13/2018	09:53:55	276	0.0	8.36	5.2	Pressure Test Lines												
10/13/2018	09:53:57	276	0.0	8.35	5.2	Fill Lines												
10/13/2018	09:54:18	276	0.0	8.35	5.2	End Fill Lines, Vol = 5.22 bbl												
10/13/2018	10:07:37	223	0.0	8.35	0.0	Bleed Off Pressure												
10/13/2018	10:19:18	268	0.0	8.35	0.0	Start CemPRIME Scrub @ 10.9ppg												
10/13/2018	10:41:08	117	0.0	10.96	78.5	End CemPRIME, Vol = 78.51 bbl												
10/13/2018	10:52:05	696	4.4	12.09	0.6	Start CemFIT @ 12 ppg, Yield: 1.86ft3/sk, MW:6.37gal/sk												
10/13/2018	11:20:19	1017	6.3	12.00	128.0	Mud Balance 12 ppg												
10/13/2018	11:21:00	1043	6.3	12.01	132.3	Start Rotating 30 rpm, 15 - 18 FPT												
10/13/2018	11:48:14	18	0.0	11.91	282.9	End CemFIT, Vol = 282.90 bbl , 850.9 sks												
10/13/2018	11:49:20	18	0.0	11.87	0.0	Start Tail Slurry 13.5ppg, Yield: 1.62ft3/sk												
10/13/2018	13:05:30	18	0.0	13.48	522.1	End Tail Slurry, Vol = 522.08 bbl, 1,800 sks												
10/13/2018	13:10:27	58	2.2	9.83	3.2	Wash Surface Lines												
10/13/2018	13:15:43	-2	0.1	8.37	21.7	End Wash, Vol = 21.68 bbl												
10/13/2018	13:15:46	-2	0.0	8.37	0.0	Drop Top Plug												
10/13/2018	13:18:13	3	0.0	8.37	0.0	Start Displacement												
10/13/2018	13:21:15	254	6.3	8.37	14.7	Rotate 30 RPM, 23-24 FPT												
10/13/2018	14:22:11	1923	2.2	8.36	487.6	Final Circ Pressure 1988 psi												
10/13/2018	14:23:32	1924	2.2	8.36	490.6	Bump Plug 3054 psi												

Well			Field		Job Start		Customer		Job Number	
Cowboy 21-6HZ			Wattenburg		Oct/13/2018		Anadarko		E1WT-00202	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message				
10/13/2018	14:24:26	1924	2.2	8.36	492.6	Casing Pressure Test 3054 psi				
10/13/2018	14:39:00	3203	0.0	8.36	0.0	End Casing Pressure Test				
10/13/2018	14:42:15	3246	0.0	8.37	0.0	Open Wet Shoe Sleeve @ 6084 psi				
10/13/2018	14:42:29	3252	0.0	8.36	0.0	Pump Water into Wet Shoe				
10/13/2018	14:44:09	4245	2.1	8.36	1.4	End Water, Vol = 5.09 bbl				
10/13/2018	14:46:00	5649	0.0	8.36	3.9	Check Floats / 0.3 bbl Back				
10/13/2018	14:52:16	3	0.0	8.36	0.0	End Job				

### Post Job Summary

Average Pump Rates, bbl/min					Volume of Fluid Injected, bbl						
Slurry	N2	Mud	Maximum Rate		Total Slurry 805.0	Mud	Spacer 78.5	N2			
Treating Pressure Summary, psi					Breakdown Fluid						
Maximum	Final 0	Average	Bump Plug to 3054	Breakdown	Type FreshWater	Volume 1060.0 bbl	Density 8.34 lb/gal				
Avg. N2 Percent %	Designed Slurry Volume 792.8 bbl		Displacement 498.2 bbl	Mix Water Temp 65 degF	Cement Circulated to Surface? <input type="checkbox"/>		Volume bbl				
					Washed Thru Perfs <input type="checkbox"/>		To ft				
Customer or Authorized Representative James Adkins			Schlumberger Supervisor Adam Aasen			Circulation Lost <input type="checkbox"/>	Job Completed <input checked="" type="checkbox"/>				
						-	-				