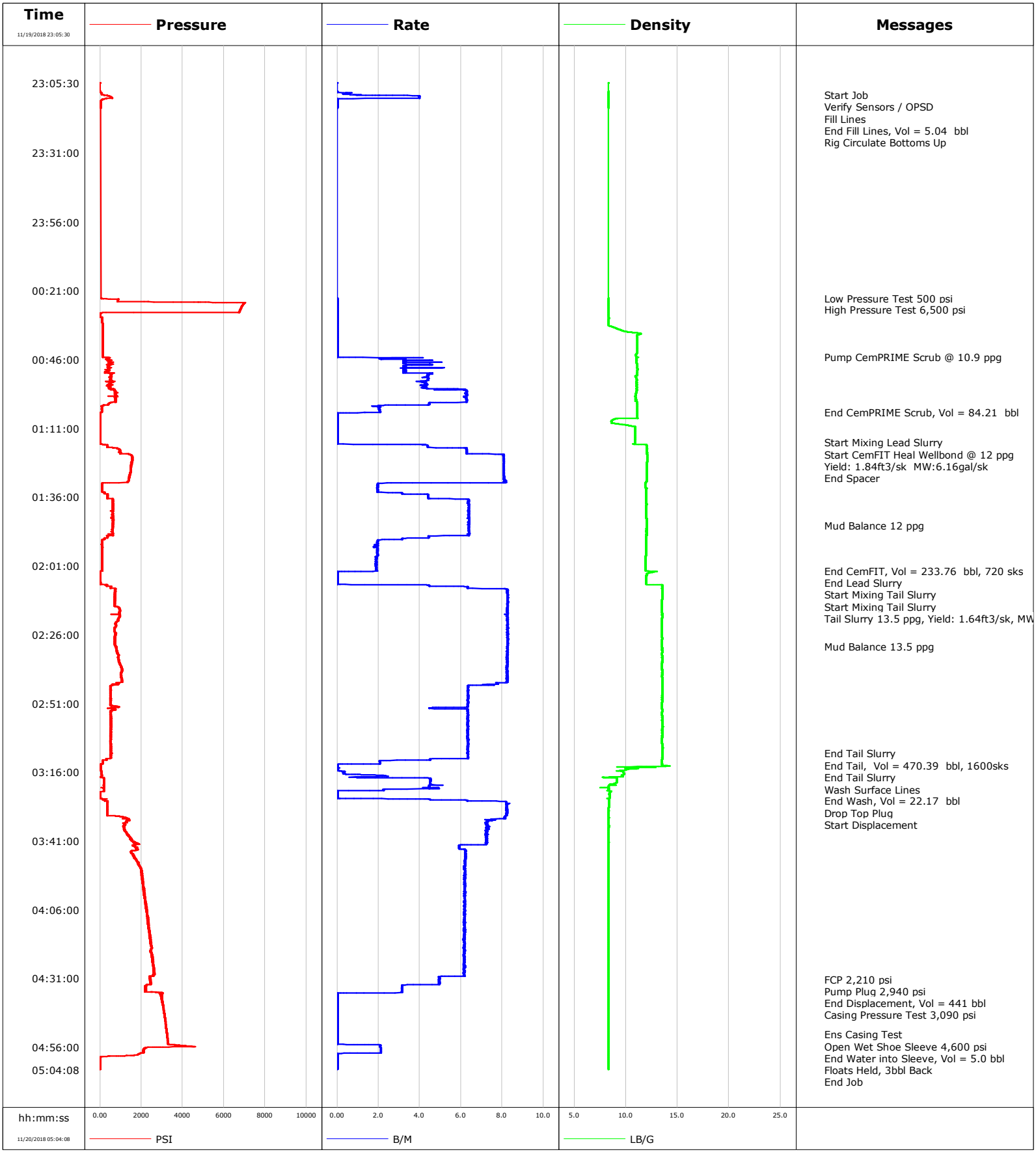
Schlumberger

Cementing Job Report

Well	Castle Pines 19-4HZ -	**Client**	Anadarko
Field	Wattenburg	**SIR No.**	E6QA-00072
Engineer	Adam Aasen	**Job Type**	Production
Country	United States	**Job Date**	10-13-2018



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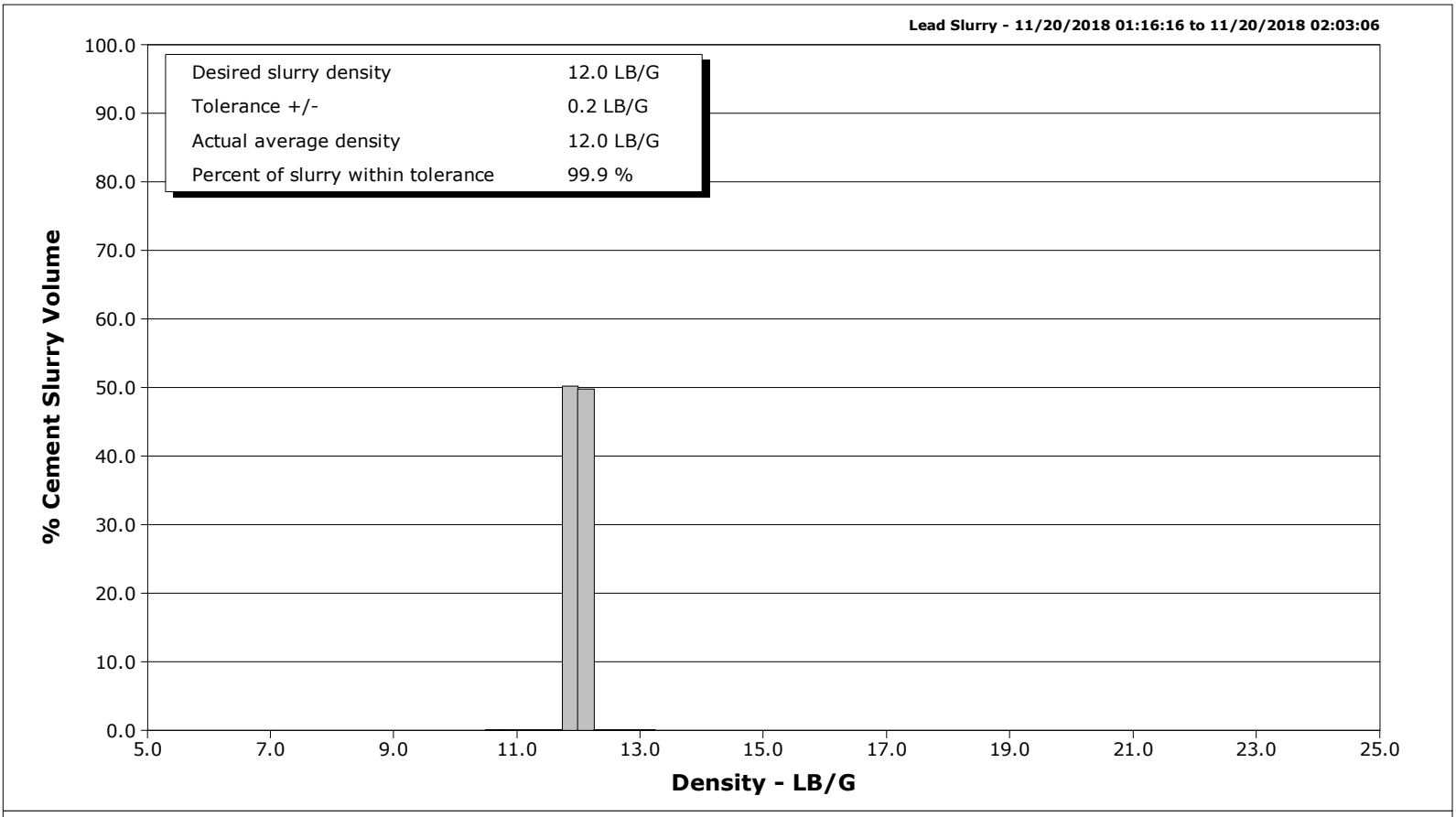
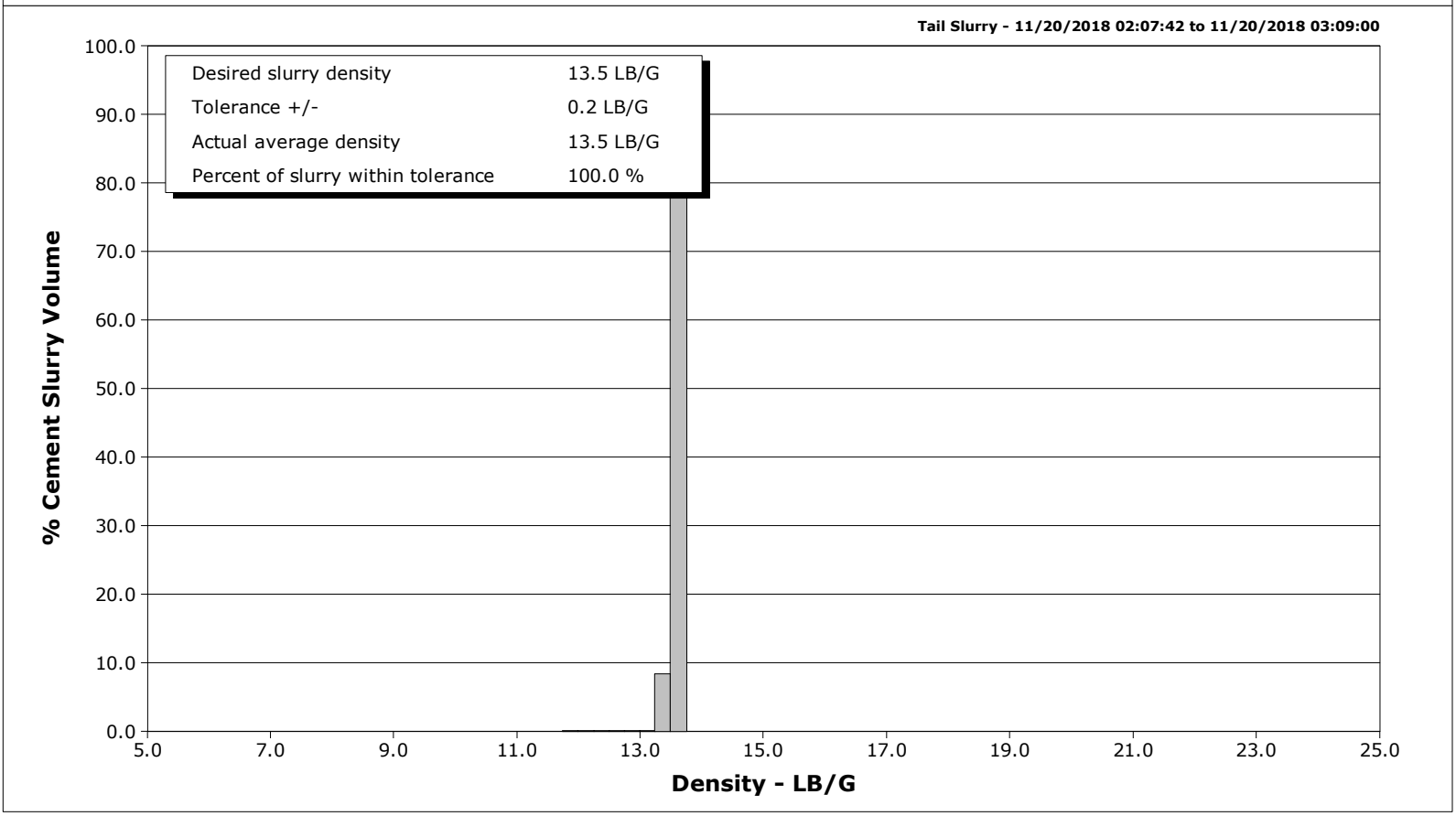
Cementing Qa/Qc Density Report

Well	Castle Pines 19-4HZ -	**Client**	Anadarko
Field	Wattenburg	**SIR No.**	E6QA-00072
Engineer	Adam Aasen	**Job Type**	Production
Country	United States	**Job Date**	10-13-2018





Schlumberger Cementing Service Report

Customer	Job Number
Anadarko	E6QA-00072

Well	Location (legal)	Schlumberger Location	Job Start
Castle Pines 19-4HZ -		Cheyenne	Nov/19/2018

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
Wattenburg		90 deg	8.5 in	18955.0 ft	7473.0 ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
Weld	Colorado	psi	232 degF	230 degF	lb/gal

Well Master	API/UWI
0631790382	

Rig Name	Drilled For	Service Via
PD 564	Oil	Land

Offshore Zone	Well Class	Well Type
	New	New Well Completion

Drilling Fluid Type	Max. Density	Plastic Viscosity
Oil Mud	9.20 lb/gal	60.000 cP

Service Line	Job Type
Cementing	Production

Max. Allowed Tub. Press	Max. Allowed Ann. Press	WH Connection
6000 psi	6000 psi	5 1/2

Service Instructions

Cement 5.5" 17# Casing
CemPRIME Scrub: 84.2 bbl @ 10.9 ppg
CemFIT Heal: 233.7 bbl, 720 sks, Yield: 1.85ft3/sk, MW: 6.14gal/sk
Tail: 470.4 bbl, 1,600 sks, Yield: 1.62ft3/sk, MW:7.64gal/sk
Disp: 441 bbl
Returns: 1.4 bbl Spacer
TOL: 1,678.87 ft
TOT:7,421.91 ft

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
1893.0	8.5	36.0	J55	N/A
18950.1	5.5	17.0	P110	N/A

Tubing/Drill Pipe

T/D	Depth, ft	Size, in	Weight, lb/ft	Grade	Thread

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	Displacement	Packer Type	Packer Depth
Casing	439.0 bbl		ft

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
bbl	439.0 bbl	90.7 bbl	695.9 bbl

Casing/Tubing Secured	1 Hole Vol. Circulated prior to Cement	Lift Pressure	Pipe Rotated	Pipe Reciprocated	No. Centralizers	Top Plugs	Bottom Plugs	Cement Head Type
☐	☐	17836 psi	☐	☐	301	1	1	Double

Job Scheduled For	Arrived on Location	Leave Location
Nov/19/2018 17:00	Nov/19/2018 17:00	Oct/20/2018 06:00

Casing Tools		Squeeze Job	
Shoe Type	Float	Squeeze Type	
Shoe Depth	18950.0 ft	Tool Type	
Stage Tool Type		Tool Depth	ft
Stage Tool Depth	ft	Tail Pipe Size	in
Collar Type	Float	Tail Pipe Depth	ft
Collar Depth	18948.1 ft	Sqz. Total Vol.	bbl

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
11/19/2018	23:05:30	6	0.0	8.34	0.0	Started Acquisition
11/19/2018	23:09:53	86	1.2	8.34	0.4	Start Job
11/19/2018	23:11:17	286	0.1	8.33	5.0	Fill Lines
11/19/2018	23:11:49	59	0.0	8.34	5.0	End Fill Lines, Vol = 5.04 bbl
11/19/2018	23:11:53	51	0.0	8.34	0.0	Rig Circulate Bottoms Up
11/20/2018	00:23:48	62	0.0	8.35	0.0	Low Pressure Test 500 psi
11/20/2018	00:27:58	6790	0.0	8.35	0.0	High Pressure Test 6,500 psi
11/20/2018	00:45:02	133	0.0	11.02	0.0	Pump CemPRIME Scrub @ 10.9 ppg
11/20/2018	01:05:24	5	1.3	11.11	84.2	End CemPRIME Scrub, Vol = 84.21 bbl
11/20/2018	01:16:16	14	0.0	10.86	0.0	Start Mixing Lead Slurry
11/20/2018	01:16:37	15	0.0	10.85	0.0	Start CemFIT Heal Wellbond @ 12 ppg
11/20/2018	01:16:38	15	0.0	10.85	0.0	Yield: 1.84ft3/sk MW:6.16gal/sk
11/20/2018	01:16:40	15	0.0	10.85	0.0	End Spacer
11/20/2018	01:46:14	639	6.4	11.99	181.3	Mud Balance 12 ppg
11/20/2018	02:03:01	35	1.9	12.21	233.7	End CemFIT, Vol = 233.76 bbl, 720 sks
11/20/2018	02:03:06	20	0.4	12.89	0.1	End Lead Slurry
11/20/2018	02:06:40	23	0.0	11.96	0.1	Start Mixing Tail Slurry
11/20/2018	02:07:42	24	0.0	11.96	0.1	Start Mixing Tail Slurry
11/20/2018	02:10:19	728	8.2	13.52	16.1	Tail Slurry 13.5 ppg, Yield: 1.64ft3/sk, MW:6.16gal/sk
11/20/2018	02:30:20	780	8.2	13.50	181.2	Mud Balance 13.5 ppg
11/20/2018	03:09:00	542	6.3	13.54	451.4	End Tail Slurry

Well	Field	Job Start	Customer	Job Number
Castle Pines 19-4HZ -	Wattenburg	Nov/19/2018	Anadarko	E6QA-00072

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
11/20/2018	03:13:57	30	0.0	11.99	0.0	End Tail Slurry
11/20/2018	03:15:29	35	0.0	9.47	0.0	Wash Surface Lines
11/20/2018	03:23:27	17	0.0	8.46	22.2	End Wash, Vol = 22.17 bbl
11/20/2018	03:24:18	13	0.0	8.41	0.0	Drop Top Plug
11/20/2018	03:25:26	19	0.0	8.38	0.0	Start Displacement
11/20/2018	04:31:19	2426	5.0	8.34	425.8	FCP 2,210 psi
11/20/2018	04:32:20	2433	4.9	8.34	430.8	Pump Plug 2,940 psi
11/20/2018	04:32:28	2469	5.0	8.34	431.4	End Displacement, Vol = 441 bbl
11/20/2018	04:33:19	2291	4.0	8.34	435.6	Casing Pressure Test 3,090 psi
11/20/2018	04:51:20	3238	0.0	8.34	444.9	Ens Casing Test
11/20/2018	04:52:21	3253	0.0	8.34	444.9	Open Wet Shoe Sleeve 4,600 psi
11/20/2018	04:55:59	2756	2.1	8.34	1.9	End Water into Sleeve, Vol = 5.0 bbl
11/20/2018	04:56:30	2165	2.1	8.34	1.1	Floats Held, 3bbl Back

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
				704.1		84.2	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
	0		3054		FreshWater	1060.0 bbl	8.34 lb/gal

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp		
%	698.5 bbl	441.0 bbl	65 degF	Cement Circulated to Surface? ☐	Volume bbl
				Washed Thru Perfs ☐	To ft

Customer or Authorized Representative	Schlumberger Supervisor	Circulation Lost ☐	Job Completed ☒
-	Adam Aasen	-	-