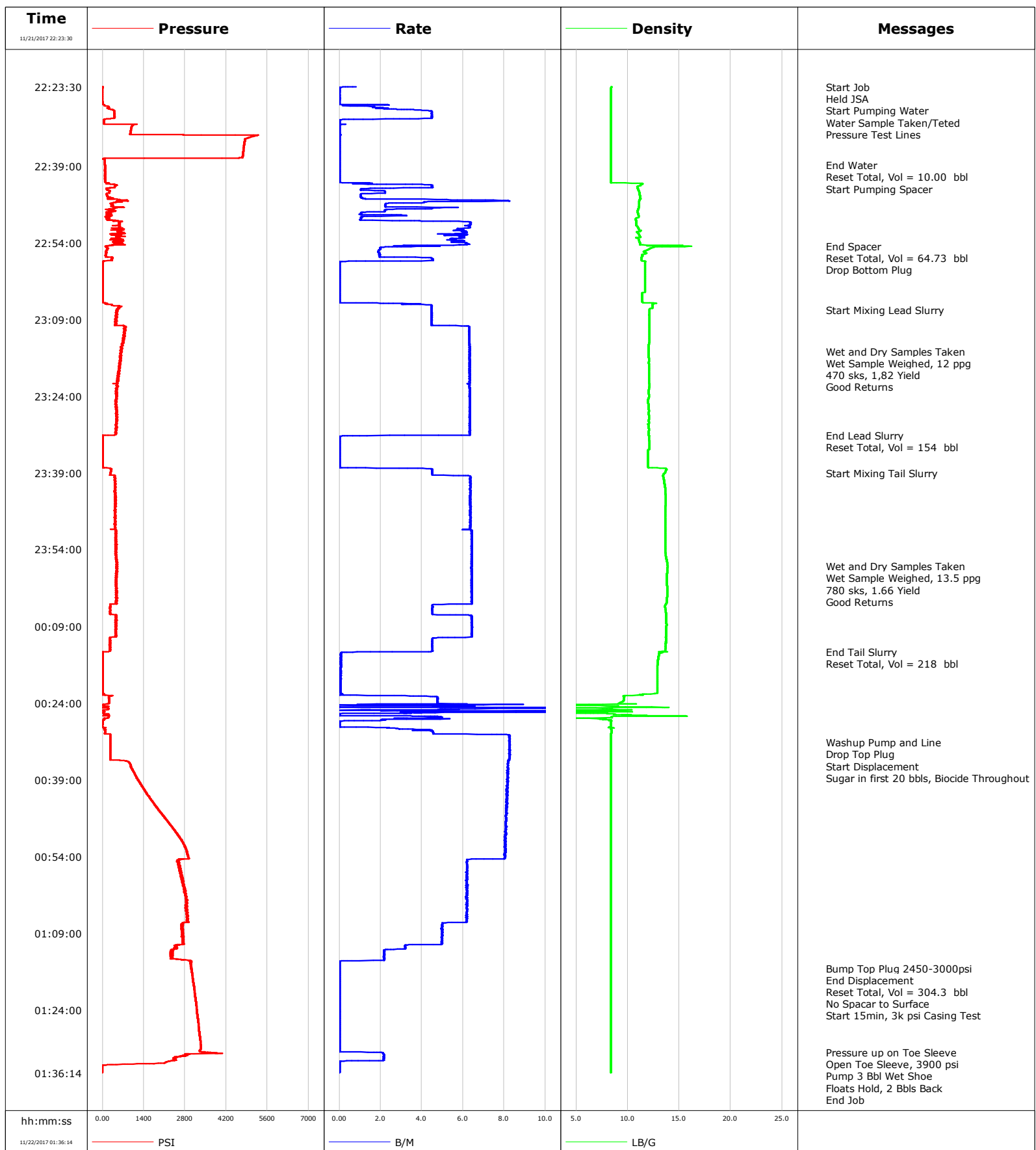


**Well** Burough 1N-17HZ  
**Field** Wattenberg  
**Engineer** Ryan Drilling/Ken Sovereign  
**Country** United States

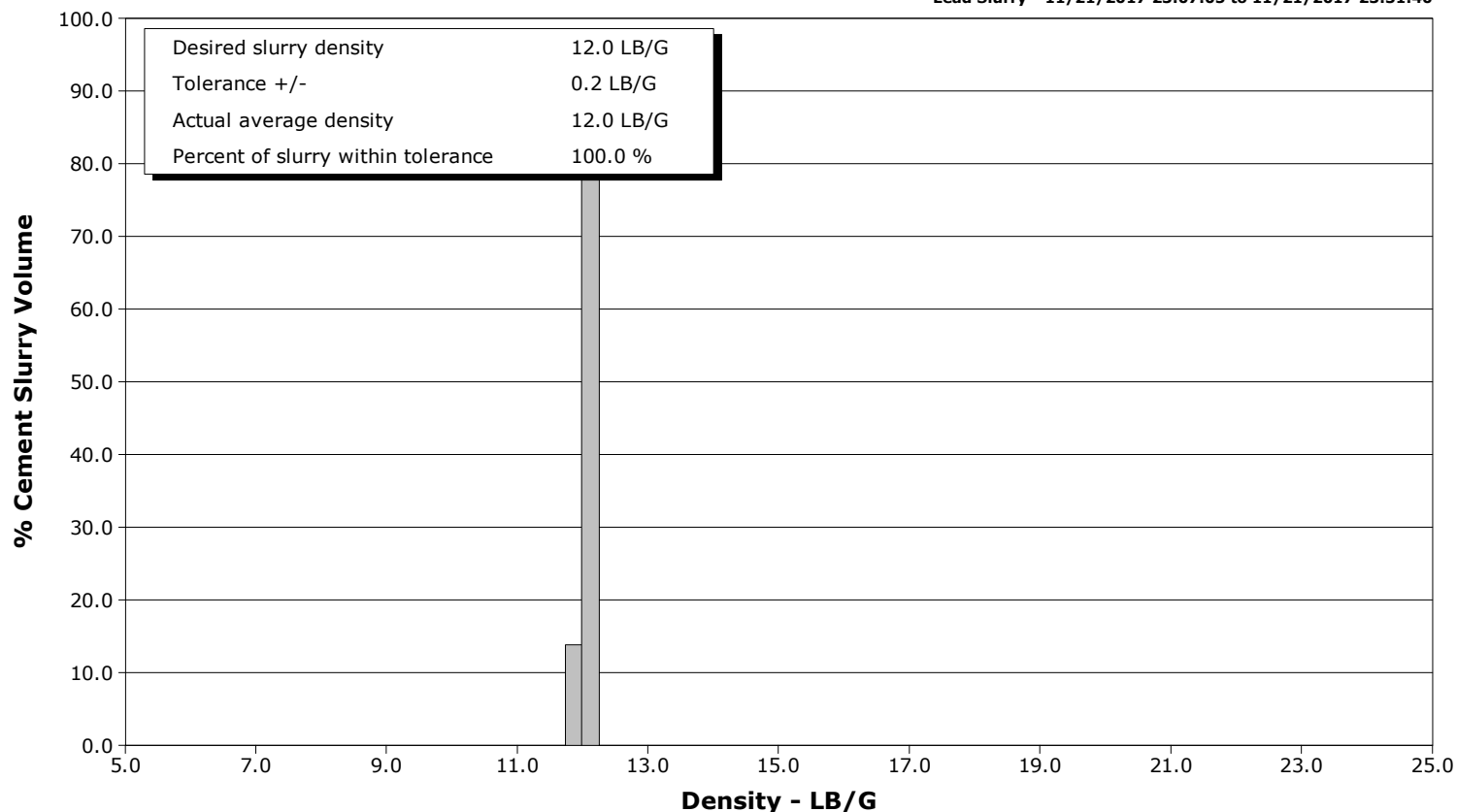
**Client** Anadarko  
**SIR No.** CSS9-00854  
**Job Type** 5.5" Production  
**Job Date** 11-21-2017



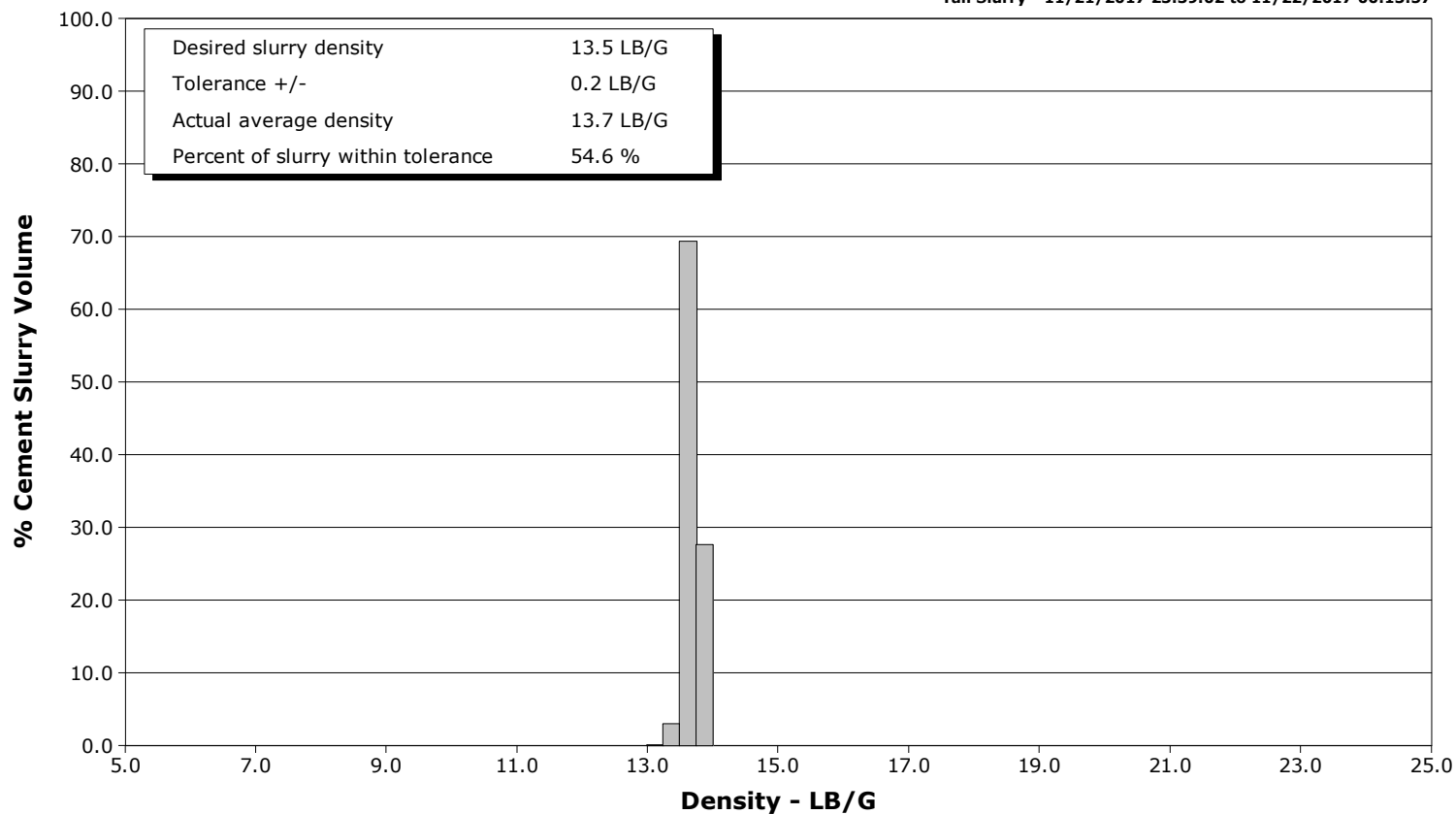
**Well** Burough 1N-17HZ  
**Field** Wattenberg  
**Engineer** Ryan Drilling/Ken Sovereign  
**Country** United States

**Client** Anadarko  
**SIR No.** CSS9-00854  
**Job Type** 5.5" Production  
**Job Date** 11-21-2017

**Lead Slurry - 11/21/2017 23:07:05 to 11/21/2017 23:31:40**



**Tail Slurry - 11/21/2017 23:39:02 to 11/22/2017 00:13:57**



# Cementing Service Report

				Customer Anadarko			Job Number CSS9-00854				
Well Borough 1N-17HZ			Location (legal) CWY			Schlumberger Location CWY			Job Start Nov/21/2017		
Field Wattenberg		Formation Name/Type Shale		Deviation 90 deg		Bit Size 7.9 in		Well MD 13097.0 ft		Well TVD 13097.0 ft	
County Weld		State/Province Colorado		BHP psi		BHST 227 degF		BHCT 209 degF		Pore Press. Gradient lb/gal	
Well Master 0631733419		API/UWI									
Rig Name Precision 564		Drilled For Oil & Gas		Service Via Land		Casing/ Liner					
						Depth, ft		Size, in		Weight, lb/ft	
										Grade	
										Thread	
Offshore Zone		Well Class New		Well Type Development		1884.0		9.6		36.0	
						13097.0		5.5		17.0	
										j55	
										p110	
Drilling Fluid Type OBM		Max. Density 9.20 lb/gal		Plastic Viscosity 11.000 cP		Tubing/Drill Pipe					
						T/D		Depth, ft		Size, in	
										Weight, lb/ft	
										Grade	
										Thread	
Service Line Cementing		Job Type 5.5" Production									
Max. Allowed Tub. Press psi		Max. Allowed Ann. Press psi		WH Connection Double Cement head		Perforations/Open Hole					
						Top, ft		Bottom, ft		shot/ft	
										No. of Shots	
										Total Interval ft	
										Diameter in	
						Treat Down Casing		Displacement 304.3 bbl		Packer Type	
										Packer Depth ft	
						Tubing Vol. bbl		Casing Vol. bbl		Annular Vol. 93.0 bbl	
										Openhole Vol. 346.0 bbl	
Casing/Tubing Secured <input checked="" type="checkbox"/>		1 Hole Vol. Circulated prior to Cement <input checked="" type="checkbox"/>				Casing Tools			Squeeze Job		
Lift Pressure 2450 psi						Shoe Type Float			Squeeze Type		
Pipe Rotated <input type="checkbox"/>		Pipe Reciprocated <input type="checkbox"/>				Shoe Depth 13097.0 ft			Tool Type		
No. Centralizers		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 Nov/21/2017 19:00		Arrived on Location Nov/21/2017 19:00		Leave Location Nov/21/2017 03:00		Collar Type Float			Tail Pipe Depth ft		
						Collar Depth 13089.0 ft			Sqz. Total Vol. bbl		
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message					
11/21/2017	22:23:30	5	1.1	8.40	28.7	Started Acquisition					
11/21/2017	22:23:31	5	0.8	8.41	28.7	Start Job					
11/21/2017	22:23:32	6	0.7	8.41	28.8	Held JSA					
11/21/2017	22:23:34	4	0.3	8.41	28.8	Start Pumping Water					
11/21/2017	22:23:36	3	0.1	8.40	28.8	Water Sample Taken/Teted					
11/21/2017	22:23:37	2	0.1	8.40	28.8	Pressure Test Lines					
11/21/2017	22:24:30	-3	0.0	8.39	0.0						
11/21/2017	22:25:30	-6	0.0	8.39	0.0						
11/21/2017	22:26:30	2	0.0	8.39	0.1						
11/21/2017	22:27:30	207	1.7	8.37	0.6						
11/21/2017	22:28:30	394	4.5	8.37	3.8						
11/21/2017	22:29:30	415	4.5	8.37	8.3						
11/21/2017	22:30:30	39	0.0	8.37	9.9						
11/21/2017	22:31:30	980	0.0	8.37	9.9						
11/21/2017	22:32:30	946	0.0	8.37	0.0						
11/21/2017	22:33:30	4955	0.0	8.37	0.0						
11/21/2017	22:34:30	4817	0.0	8.37	0.0						
11/21/2017	22:35:30	4788	0.0	8.37	0.0						
11/21/2017	22:36:30	4767	0.0	8.37	0.0						
11/21/2017	22:37:30	1426	0.0	8.37	0.0						
11/21/2017	22:38:30	84	0.0	8.37	0.0						

Well			Field	Job Start		Customer	Job Number	
Burough 1N-17HZ			Wattenberg		Nov/21/2017		Anadarko	CSS9-00854
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message		
11/21/2017	22:38:50	84	0.0	8.37	0.0	Reset Total, Vol = 10.00 bbl		
11/21/2017	22:38:53	84	0.0	8.37	0.0	Start Pumping Spacer		
11/21/2017	22:39:30	84	0.0	8.37	0.0			
11/21/2017	22:40:30	84	0.0	8.37	0.0			
11/21/2017	22:41:30	84	0.0	8.37	0.0			
11/21/2017	22:42:30	170	0.7	11.43	0.3			
11/21/2017	22:43:30	125	1.1	10.99	3.8			
11/21/2017	22:44:30	138	1.0	11.16	6.9			
11/21/2017	22:45:30	472	2.3	11.22	11.7			
11/21/2017	22:46:30	290	2.2	11.09	19.1			
11/21/2017	22:47:30	109	2.3	11.01	24.9			
11/21/2017	22:48:30	126	1.0	11.02	28.8			
11/21/2017	22:49:30	201	1.0	10.78	32.1			
11/21/2017	22:50:30	555	6.3	10.83	38.2			
11/21/2017	22:51:30	641	6.1	11.10	44.6			
11/21/2017	22:52:30	353	5.8	11.11	51.0			
11/21/2017	22:53:30	384	5.4	11.10	57.5			
11/21/2017	22:54:30	309	4.3	13.38	64.0			
11/21/2017	22:54:35	161	2.6	14.87	64.5	End Spacer		
11/21/2017	22:54:37	193	3.4	11.85	64.7	Reset Total, Vol = 64.73 bbl		
11/21/2017	22:54:39	134	3.8	14.01	64.8	Drop Bottom Plug		
11/21/2017	22:55:30	128	1.9	11.84	66.8			
11/21/2017	22:56:30	110	2.0	11.42	68.9			
11/21/2017	22:58:30	10	0.0	11.68	73.0			
11/21/2017	22:59:30	9	0.0	11.68	73.0			
11/21/2017	23:00:30	8	0.0	11.68	73.0			
11/21/2017	23:01:30	8	0.0	11.67	73.0			
11/21/2017	23:02:30	7	0.0	11.67	73.0			
11/21/2017	23:03:30	7	0.0	11.67	73.0			
11/21/2017	23:04:30	6	0.0	11.40	73.0			
11/21/2017	23:05:30	6	0.0	11.40	73.0			
11/21/2017	23:06:30	623	4.5	12.39	75.7			
11/21/2017	23:07:05	498	4.5	12.12	78.3	Start Mixing Lead Slurry		
11/21/2017	23:07:30	505	4.5	12.10	80.2			
11/21/2017	23:08:30	496	4.5	12.08	84.6			
11/21/2017	23:09:30	468	4.5	12.11	89.1			
11/21/2017	23:10:30	782	6.3	12.12	94.1			
11/21/2017	23:11:30	734	6.3	12.11	100.4			
11/21/2017	23:12:30	710	6.3	12.11	106.7			
11/21/2017	23:13:30	705	6.3	12.08	113.0			
11/21/2017	23:14:30	627	6.3	11.99	119.3			
11/21/2017	23:15:09	618	6.3	11.99	123.4	Wet and Dry Samples Taken		
11/21/2017	23:15:30	653	6.3	12.00	125.6			
11/21/2017	23:16:30	629	6.3	12.03	131.9			
11/21/2017	23:17:30	569	6.3	12.03	138.2			
11/21/2017	23:18:30	597	6.3	12.04	144.6			
11/21/2017	23:19:30	523	6.3	12.04	150.9			
11/21/2017	23:20:30	503	6.3	12.05	157.2			
11/21/2017	23:21:30	518	6.3	12.08	163.5			
11/21/2017	23:22:30	486	6.3	12.04	169.8			
11/21/2017	23:23:30	455	6.3	12.03	176.1			
11/21/2017	23:24:30	473	6.3	11.99	182.5			
11/21/2017	23:25:30	452	6.3	11.99	188.8			
11/21/2017	23:26:30	457	6.3	12.03	195.1			

Well			Field	Job Start		Customer	Job Number	
Burough 1N-17HZ			Wattenberg		Nov/21/2017		Anadarko	CSS9-00854
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message		
11/21/2017	23:28:30	461	6.3	12.04	207.8			
11/21/2017	23:29:30	449	6.3	11.98	214.1			
11/21/2017	23:30:30	441	6.3	12.04	220.4			
11/21/2017	23:31:30	423	6.3	12.02	226.8			
11/21/2017	23:31:40	9	3.2	12.05	227.8	End Lead Slurry		
11/21/2017	23:31:42	7	1.4	12.09	227.9	Reset Total, Vol = 154 bbl		
11/21/2017	23:33:30	3	0.0	12.10	228.0			
11/21/2017	23:34:30	3	0.0	12.02	228.0			
11/21/2017	23:35:30	4	0.0	11.95	228.0			
11/21/2017	23:36:30	6	0.0	11.97	228.0			
11/21/2017	23:37:30	5	0.0	11.98	228.0			
11/21/2017	23:38:30	296	4.5	13.72	229.8			
11/21/2017	23:39:02	280	4.5	13.60	232.3	Start Mixing Tail Slurry		
11/21/2017	23:39:30	400	5.8	13.42	234.4			
11/21/2017	23:40:30	451	6.3	13.53	240.8			
11/21/2017	23:41:30	435	6.3	13.59	247.1			
11/21/2017	23:42:30	445	6.4	13.63	253.5			
11/21/2017	23:43:30	432	6.3	13.69	259.8			
11/21/2017	23:44:30	432	6.3	13.70	266.2			
11/21/2017	23:45:30	434	6.4	13.66	272.5			
11/21/2017	23:46:30	433	6.3	13.64	278.9			
11/21/2017	23:47:30	424	6.4	13.66	285.2			
11/21/2017	23:48:30	417	6.4	13.64	291.6			
11/21/2017	23:49:30	406	6.3	13.65	297.9			
11/21/2017	23:50:30	451	6.4	13.65	304.3			
11/21/2017	23:51:30	462	6.4	13.62	310.7			
11/21/2017	23:52:30	473	6.4	13.64	317.1			
11/21/2017	23:53:30	450	6.4	13.65	323.5			
11/21/2017	23:54:30	469	6.4	13.66	329.9			
11/21/2017	23:55:30	485	6.4	13.73	336.4			
11/21/2017	23:56:30	500	6.4	13.81	342.8			
11/21/2017	23:57:11	494	6.4	13.86	347.2	Wet and Dry Samples Taken		
11/21/2017	23:57:30	493	6.4	13.85	349.2			
11/21/2017	23:58:30	474	6.4	13.81	355.6			
11/21/2017	23:59:30	476	6.4	13.78	362.0			
11/22/2017	00:00:30	480	6.4	13.77	368.5			
11/22/2017	00:01:30	488	6.4	13.82	374.9			
11/22/2017	00:02:30	469	6.4	13.82	381.3			
11/22/2017	00:03:30	457	6.4	13.80	387.7			
11/22/2017	00:04:30	458	6.4	13.75	394.1			
11/22/2017	00:05:30	265	4.5	13.64	399.0			
11/22/2017	00:06:30	271	4.5	13.72	403.5			
11/22/2017	00:07:30	474	6.4	13.75	409.5			
11/22/2017	00:08:30	445	6.4	13.75	415.9			
11/22/2017	00:09:30	447	6.4	13.73	422.3			
11/22/2017	00:10:30	443	6.4	13.75	428.7			
11/22/2017	00:11:30	242	4.5	13.71	434.5			
11/22/2017	00:12:30	253	4.5	13.67	439.0			
11/22/2017	00:13:30	287	4.5	13.66	443.5			
11/22/2017	00:13:57	45	2.6	13.39	445.6	End Tail Slurry		
11/22/2017	00:13:59	11	1.5	13.85	445.7	Reset Total, Vol = 218 bbl		
11/22/2017	00:14:30	9	0.1	13.02	445.8			
11/22/2017	00:15:30	10	0.1	12.94	445.9			
11/22/2017	00:16:30	10	0.1	12.90	445.9			

Well			Field		Job Start		Customer		Job Number	
Burough 1N-17HZ			Wattenberg		Nov/21/2017		Anadarko		CSS9-00854	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message				
11/22/2017	00:18:30	13	0.1	12.87	446.1					
11/22/2017	00:19:30	13	0.1	12.86	446.2					
11/22/2017	00:20:30	11	0.1	12.85	446.2					
11/22/2017	00:21:30	10	0.1	12.85	446.3					
11/22/2017	00:22:30	296	1.8	10.31	446.4					
11/22/2017	00:23:30	228	4.8	9.59	450.9					
11/22/2017	00:24:30	64	6.6	7.95	455.4					
11/22/2017	00:25:30	18	9.5	3.78	463.0					
11/22/2017	00:26:30	226	3.5	15.67	466.7					
11/22/2017	00:27:30	7	0.1	8.40	470.2					
11/22/2017	00:28:30	-1	0.0	8.38	470.2					
11/22/2017	00:29:30	96	4.5	8.40	472.8					
11/22/2017	00:30:30	262	8.3	8.39	478.9					
11/22/2017	00:31:30	262	8.2	8.38	487.1					
11/22/2017	00:31:39	261	8.2	8.38	488.4	Washup Pump and Line				
11/22/2017	00:31:40	256	8.2	8.38	488.5	Drop Top Plug				
11/22/2017	00:31:41	264	8.2	8.38	488.7	Start Displacement				
11/22/2017	00:32:30	262	8.3	8.39	495.4					
11/22/2017	00:33:30	262	8.3	8.38	503.6					
11/22/2017	00:34:11	259	8.3	8.38	509.3	Sugar in first 20 bbls, Biocide Throughout				
11/22/2017	00:34:30	256	8.2	8.38	511.9					
11/22/2017	00:35:30	880	8.2	8.38	520.1					
11/22/2017	00:36:30	962	8.2	8.37	528.3					
11/22/2017	00:37:30	1069	8.2	8.38	536.5					
11/22/2017	00:38:30	1148	8.2	8.38	544.6					
11/22/2017	00:39:30	1271	8.2	8.37	552.8					
11/22/2017	00:40:30	1374	8.2	8.38	561.0					
11/22/2017	00:41:30	1494	8.1	8.37	569.1					
11/22/2017	00:42:30	1602	8.1	8.38	577.2					
11/22/2017	00:43:30	1726	8.1	8.38	585.3					
11/22/2017	00:44:30	1871	8.1	8.37	593.5					
11/22/2017	00:45:30	1996	8.1	8.38	601.5					
11/22/2017	00:46:30	2131	8.1	8.37	609.6					
11/22/2017	00:47:30	2276	8.1	8.37	617.7					
11/22/2017	00:48:30	2398	8.1	8.37	625.7					
11/22/2017	00:49:30	2535	8.1	8.37	633.9					
11/22/2017	00:50:30	2649	8.1	8.37	641.9					
11/22/2017	00:51:30	2758	8.0	8.37	650.0					
11/22/2017	00:52:30	2842	8.1	8.37	658.0					
11/22/2017	00:53:30	2899	8.0	8.37	666.0					
11/22/2017	00:54:30	2695	6.3	8.37	674.0					
11/22/2017	00:55:30	2562	6.2	8.37	680.2					
11/22/2017	00:56:30	2597	6.2	8.37	686.4					
11/22/2017	00:57:30	2643	6.2	8.37	692.6					
11/22/2017	00:58:30	2683	6.2	8.37	698.8					
11/22/2017	00:59:30	2735	6.2	8.37	704.9					
11/22/2017	01:00:30	2764	6.2	8.37	711.1					
11/22/2017	01:01:30	2804	6.2	8.37	717.3					
11/22/2017	01:02:30	2851	6.2	8.37	723.5					
11/22/2017	01:03:30	2824	6.2	8.37	729.7					
11/22/2017	01:04:30	2839	6.2	8.37	735.9					
11/22/2017	01:05:30	2884	6.2	8.37	742.1					
11/22/2017	01:06:30	2856	6.2	8.37	748.2					
11/22/2017	01:07:30	2694	5.0	8.37	753.7					

Well			Field		Job Start	Customer	Job Number
Burough 1N-17HZ			Wattenberg		Nov/21/2017	Anadarko	CSS9-00854
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message	
11/22/2017	01:09:30	2693	5.0	8.37	763.7		
11/22/2017	01:10:30	2756	5.0	8.37	768.6		
11/22/2017	01:11:30	2507	3.2	8.37	773.1		
11/22/2017	01:12:30	2312	2.2	8.37	775.9		
11/22/2017	01:13:30	2355	2.1	8.37	778.1		
11/22/2017	01:14:30	2998	0.0	8.37	779.9		
11/22/2017	01:15:30	3001	0.0	8.37	779.9		
11/22/2017	01:15:50	3009	0.0	8.37	779.9	Bump Top Plug 2450-3000psi	
11/22/2017	01:15:51	3007	0.0	8.37	779.9	End Displacement	
11/22/2017	01:16:00	3018	0.0	8.37	779.9	Reset Total, Vol = 304.3 bbl	
11/22/2017	01:16:06	3016	0.0	8.37	779.9	No Spacar to Surface	
11/22/2017	01:16:09	3023	0.0	8.37	779.9	Start 15min, 3k psi Casing Test	
11/22/2017	01:16:30	3024	0.0	8.38	779.9		
11/22/2017	01:17:30	3054	0.0	8.38	779.9		
11/22/2017	01:18:30	3078	0.0	8.37	779.9		
11/22/2017	01:19:30	3104	0.0	8.38	779.9		
11/22/2017	01:20:30	3126	0.0	8.38	779.9		
11/22/2017	01:21:30	3149	0.0	8.38	779.9		
11/22/2017	01:22:30	3170	0.0	8.38	779.9		
11/22/2017	01:23:30	3190	0.0	8.38	779.9		
11/22/2017	01:24:30	3211	0.0	8.38	779.9		
11/22/2017	01:25:30	3230	0.0	8.38	779.9		
11/22/2017	01:26:30	3250	0.0	8.38	779.9		
11/22/2017	01:27:30	3269	0.0	8.38	779.9		
11/22/2017	01:28:30	3290	0.0	8.38	779.9		
11/22/2017	01:29:30	3308	0.0	8.38	779.9		
11/22/2017	01:30:30	3328	0.0	8.38	779.9		
11/22/2017	01:31:30	3348	0.0	8.38	779.9		
11/22/2017	01:32:13	3368	1.7	8.39	780.0	Pressure up on Toe Sleeve	
11/22/2017	01:32:30	2829	2.1	8.38	780.5		
11/22/2017	01:32:41	2891	2.2	8.38	780.9	Open Toe Sleeve, 3900 psi	
11/22/2017	01:33:19	2511	2.2	8.38	782.3	Pump 3 Bbl Wet Shoe	
11/22/2017	01:33:30	2438	2.1	8.38	782.7		
11/22/2017	01:34:30	1180	0.0	8.38	783.6		
11/22/2017	01:35:03	-8	0.0	8.38	783.6	Floats Hold, 2 Bbls Back	
11/22/2017	01:35:30	-8	0.0	8.38	783.6		

## Post Job Summary

Average Pump Rates, bbl/min					Volume of Fluid Injected, bbl							
Slurry 5.0	N2	Mud	Maximum Rate 25.0		Total Slurry 372.0	Mud 0.0	Spacer 64.0	N2				
Treating Pressure Summary, psi					Breakdown Fluid							
Maximum 5306	Final -6	Average 1147	Bump Plug to 3000	Breakdown	Type	Volume bbl	Density lb/gal					
Avg. N2 Percent %	Designed Slurry Volume 380.0 bbl	Displacement 304.3 bbl	Mix Water Temp 66 degF	Cement Circulated to Surface?		<input type="checkbox"/>	Volume bbl					
				Washed Thru Perfs		<input type="checkbox"/>	To ft					
Customer or Authorized Representative Jason Laub			Schlumberger Supervisor Ryan Drilling/Ken Sovereign			Circulation Lost <input type="checkbox"/>	Job Completed	<input checked="" type="checkbox"/>				
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