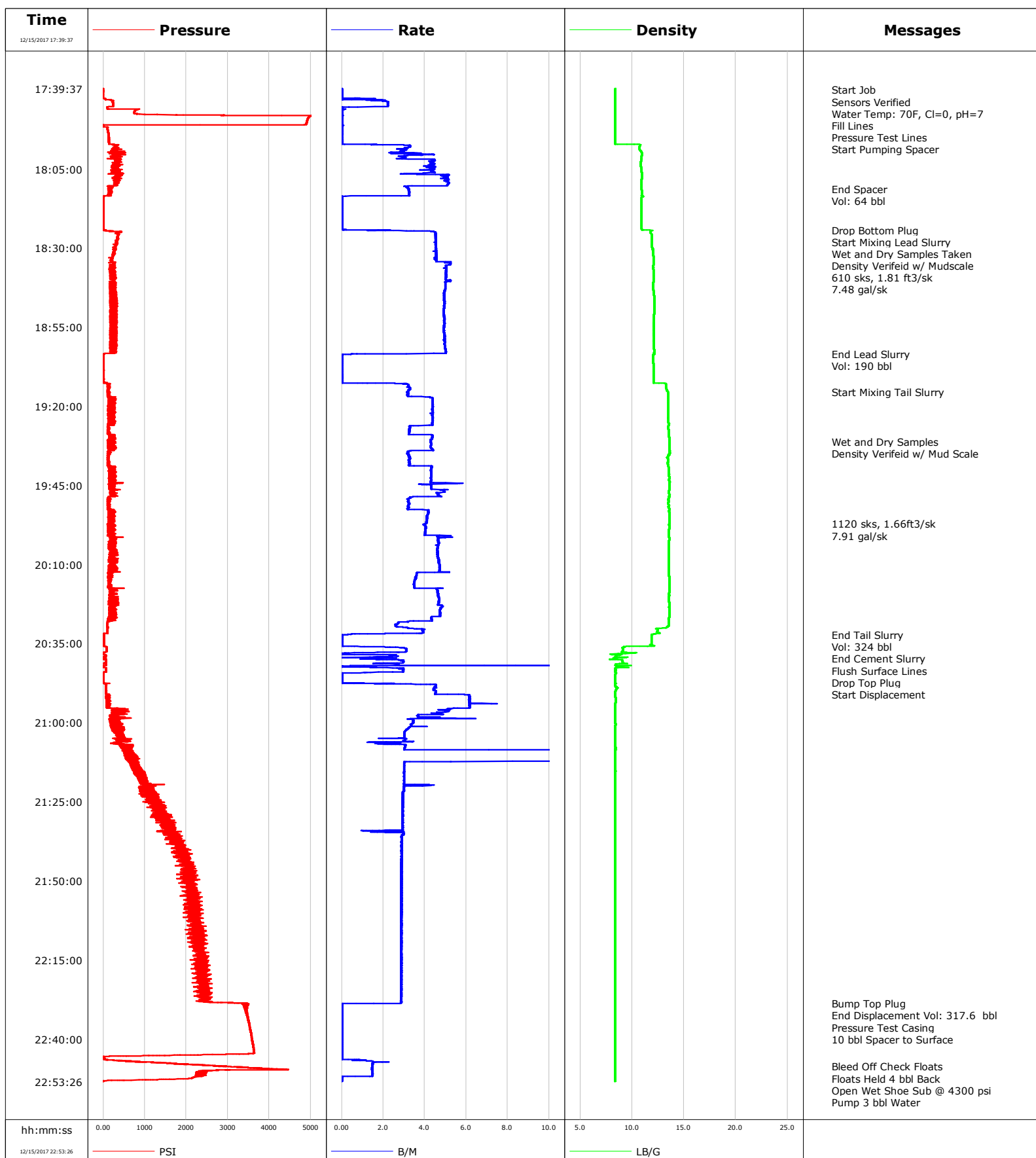


Well Yellowhammer 30N-8HZ
Field Wattenberg
Engineer Billy Barg
Country United States

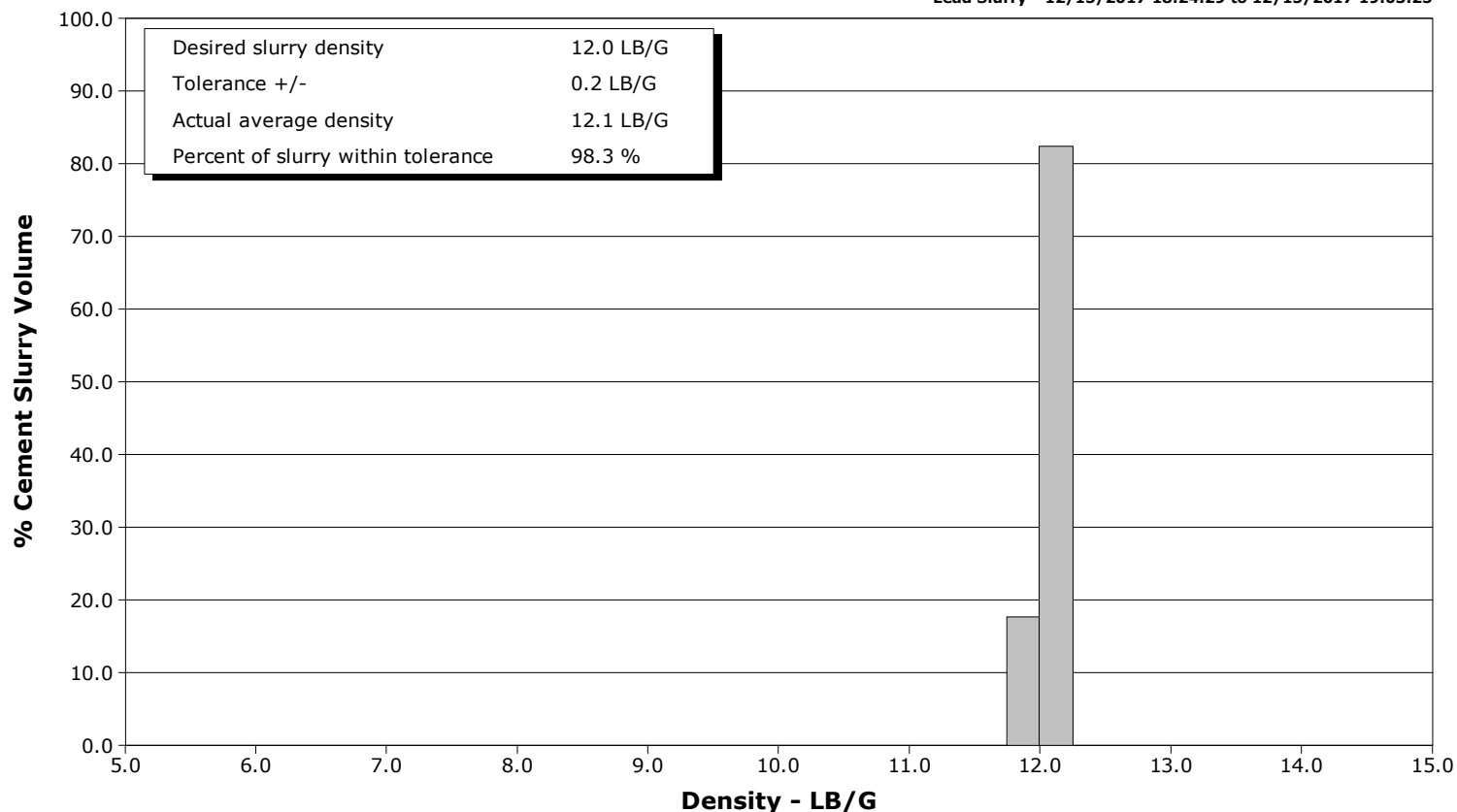
Client ANADARKO PETROLEUM COMPANY
SIR No. DUNZ-00081
Job Type 5.5" Production
Job Date 12-15-2017



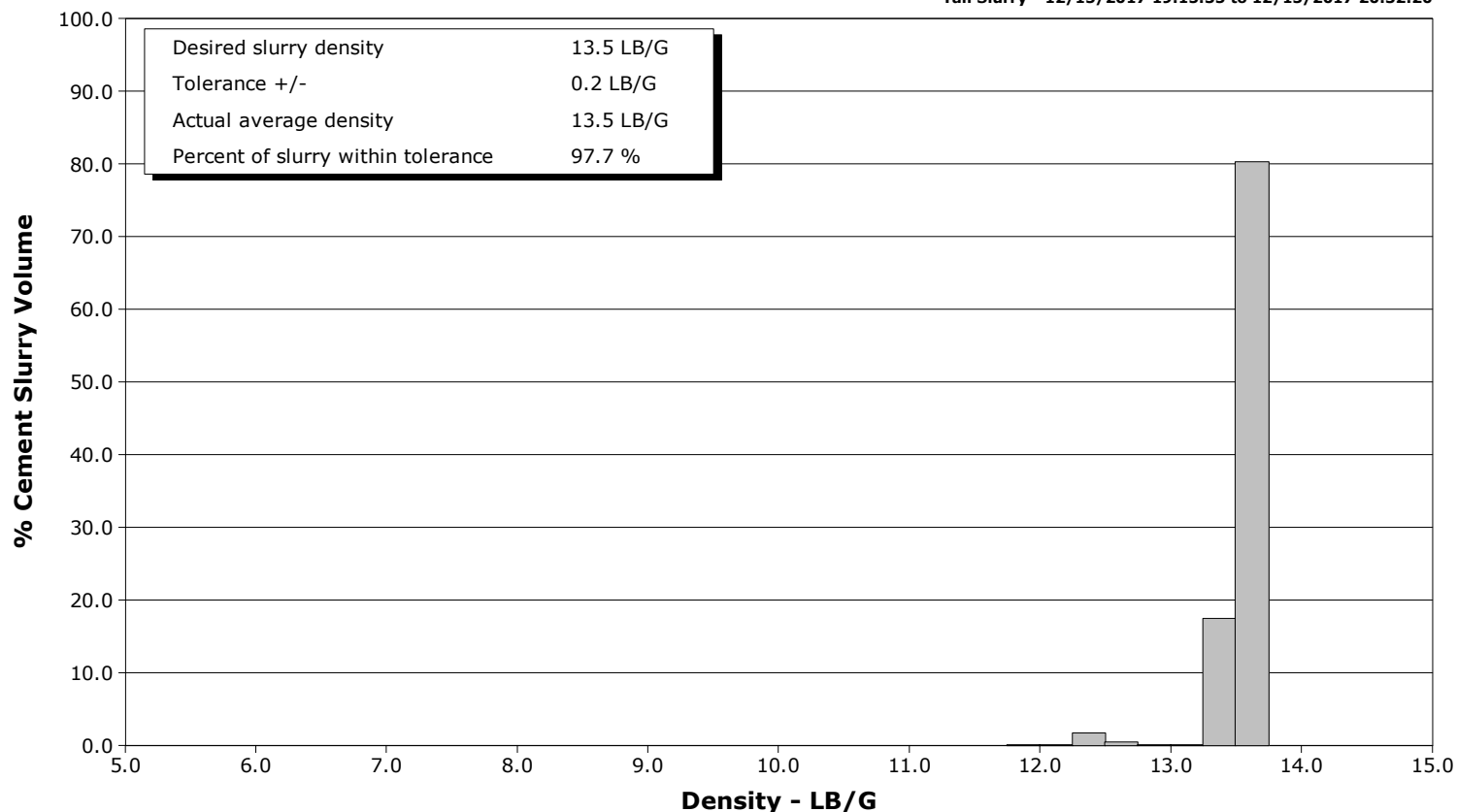
Well Yellowhammer 30N-8HZ
Field Wattenberg
Engineer Billy Barg
Country United States

Client ANADARKO PETROLEUM COMPANY
SIR No. DUNZ-00081
Job Type 5.5" Production
Job Date 12-15-2017

Lead Slurry - 12/15/2017 18:24:29 to 12/15/2017 19:03:25



Tail Slurry - 12/15/2017 19:15:35 to 12/15/2017 20:32:20



Cementing Service Report

				Customer ANADARKO PETROLEUM COMPANY				Job Number DUNZ-00081					
Well Yellowhammer 30N-8HZ 0631737776			Location (legal)			Schlumberger Location Cheyenne, WY			Job Start Dec/15/2017				
Field Wattenberg		Formation Name/Type			Deviation deg		Bit Size 8.5 in		Well MD 13681.0 ft		Well TVD 7693.0 ft		
County Weld		State/Province Colorado			BHP psi		BHST 229 degF		BHCT 217 degF		Pore Press. Gradient lb/gal		
Well Master 0631737776		API/UWI 05123455000000											
Rig Name Xtreme #24		Drilled For Gas		Service Via Land		Casing/ Liner							
						Depth, ft		Size, in		Weight, lb/ft		Grade	
						1886.0		9.6		36.0		J-55	
Offshore Zone		Well Class New		Well Type Development		13711.0		5.5		17.0		P-110	
Drilling Fluid Type OBM		Max. Density 9.30 lb/gal		Plastic Viscosity cP		Tubing/Drill Pipe							
						T/D		Depth, ft		Size, in		Weight, lb/ft	
Service Line Cementing		Job Type 5.5" Production											
Max. Allowed Tub. Press psi		Max. Allowed Ann. Press psi		WH Connection 5.5" LTC		Perforations/Open Hole							
						Top, ft		Bottom, ft		shot/ft		No. of Shots	
						ft		ft					
						ft		ft				Diameter	
						ft		ft				in	
						Treat Down Casing		Displacement 317.6 bbl		Packer Type		Packer Depth ft	
						Tubing Vol. bbl		Casing Vol. bbl		Annular Vol. 89.7 bbl		Openhole Vol. 481.6 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 9780 psi						Shoe Type Float				Squeeze Type			
Pipe Rotated <input type="checkbox"/>		Pipe Reciprocated <input type="checkbox"/>				Shoe Depth 13671.8 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 Dec/15/2017 15:00		Arrived on Location Dec/15/2017 15:00		Leave Location Dec/16/2017 01:00		Collar Type Float				Tail Pipe Depth ft			
						Collar Depth 13665.1 ft				Sqz. Total Vol. bbl			
Date	Time 24-hr clock	Treating Pressure PSI		Flow Rate B/M		Density LB/G		Message					
12/15/2017	17:39:37	-1		-1.0		8.39		Started Acquisition					
12/15/2017	17:40:04	-1		-1.0		8.39		Start Job					
12/15/2017	17:40:06	-0		-1.0		8.39		Sensors Verified					
12/15/2017	17:40:07	-0		-1.0		8.39		Water Temp: 70F, Cl=0, pH=7					
12/15/2017	17:40:17	-1		-1.0		8.39		Fill Lines					
12/15/2017	17:41:17	-1		-1.0		8.39							
12/15/2017	17:42:57	49		-1.0		8.39							
12/15/2017	17:44:37	232		-1.0		8.39							
12/15/2017	17:46:17	810		-1.0		8.39							
12/15/2017	17:46:46	755		-1.0		8.39		Pressure Test Lines					
12/15/2017	17:47:57	1767		-1.0		8.39							
12/15/2017	17:49:37	4913		-1.0		8.39							
12/15/2017	17:51:17	-1		-1.0		8.39							
12/15/2017	17:52:57	110		-1.0		8.39							
12/15/2017	17:54:37	131		-1.0		8.39							
12/15/2017	17:56:17	131		-1.0		8.38							
12/15/2017	17:56:57	132		-1.0		8.38		Start Pumping Spacer					
12/15/2017	17:57:57	313		-1.0		10.72							
12/15/2017	17:59:37	369		-1.0		10.90							
12/15/2017	18:01:17	186		-1.0		10.90							
12/15/2017	18:02:57	377		-1.0		10.82							

Well Yellowhammer 30N-8HZ 0631737776			Field Wattenberg		Job Start Dec/15/2017	Customer ANADARKO PETROLEUM COMPANY	Job Number DUNZ-00081
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Message		
12/15/2017	18:06:17	290	-1.0	10.94			
12/15/2017	18:07:57	321	-1.0	10.94			
12/15/2017	18:09:37	329	-1.0	10.91			
12/15/2017	18:11:17	115	-1.0	10.90			
12/15/2017	18:11:23	130	-1.0	10.90	End Spacer		
12/15/2017	18:12:57	127	-1.0	10.97			
12/15/2017	18:13:30	197	-1.0	10.93	Vol: 64 bbl		
12/15/2017	18:14:37	9	-1.0	10.92			
12/15/2017	18:16:17	9	-1.0	10.92			
12/15/2017	18:17:57	9	-1.0	10.92			
12/15/2017	18:19:37	9	-1.0	10.93			
12/15/2017	18:21:17	9	-1.0	10.92			
12/15/2017	18:22:57	10	-1.0	10.92			
12/15/2017	18:24:16	10	-1.0	10.94	Drop Bottom Plug		
12/15/2017	18:24:29	41	-1.0	11.97	Start Mixing Lead Slurry		
12/15/2017	18:24:37	88	-1.0	11.79			
12/15/2017	18:26:17	355	-1.0	11.92			
12/15/2017	18:27:17	333	-1.0	11.89	Wet and Dry Samples Taken		
12/15/2017	18:27:18	329	-1.0	11.89	Density Verifeid w/ Mudscale		
12/15/2017	18:27:57	317	-1.0	11.90			
12/15/2017	18:29:37	283	-1.0	11.90			
12/15/2017	18:31:17	267	-1.0	12.01			
12/15/2017	18:32:57	218	-1.0	12.04			
12/15/2017	18:34:37	178	-1.0	12.04			
12/15/2017	18:36:17	152	-1.0	12.03			
12/15/2017	18:37:57	182	-1.0	12.07			
12/15/2017	18:38:39	292	-1.0	12.07	610 sks, 1.81 ft3/sk		
12/15/2017	18:38:47	294	-1.0	12.07	7.48 gal/sk		
12/15/2017	18:39:37	165	-1.0	12.07			
12/15/2017	18:41:17	291	-1.0	12.02			
12/15/2017	18:42:57	273	-1.0	12.00			
12/15/2017	18:44:37	283	-1.0	12.11			
12/15/2017	18:46:17	279	-1.0	12.15			
12/15/2017	18:47:57	261	-1.0	12.15			
12/15/2017	18:49:37	266	-1.0	12.14			
12/15/2017	18:51:17	280	-1.0	12.12			
12/15/2017	18:52:57	293	-1.0	12.10			
12/15/2017	18:54:37	293	-1.0	12.08			
12/15/2017	18:56:17	301	-1.0	12.09			
12/15/2017	18:57:57	255	-1.0	12.09			
12/15/2017	18:59:37	246	-1.0	12.09			
12/15/2017	19:01:17	233	-1.0	12.11			
12/15/2017	19:02:57	239	-1.0	12.14			
12/15/2017	19:03:25	22	-1.0	12.11	End Lead Slurry		
12/15/2017	19:03:31	19	-1.0	12.15	Vol: 190 bbl		
12/15/2017	19:04:37	10	-1.0	12.01			
12/15/2017	19:06:17	10	-1.0	12.03			
12/15/2017	19:07:57	11	-1.0	12.04			
12/15/2017	19:09:37	11	-1.0	12.06			
12/15/2017	19:11:17	12	-1.0	12.06			
12/15/2017	19:12:57	100	-1.0	13.24			
12/15/2017	19:14:37	111	-1.0	13.31			
12/15/2017	19:15:35	116	-1.0	13.45	Start Mixing Tail Slurry		
12/15/2017	19:16:17	124	-1.0	13.47			

Well Yellowhammer 30N-8HZ 0631737776			Field Wattenberg		Job Start Dec/15/2017	Customer ANADARKO PETROLEUM COMPANY	Job Number DUNZ-00081
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Message		
12/15/2017	19:19:37	123	-1.0	13.49			
12/15/2017	19:21:17	116	-1.0	13.48			
12/15/2017	19:22:57	200	-1.0	13.48			
12/15/2017	19:24:37	292	-1.0	13.49			
12/15/2017	19:26:17	109	-1.0	13.49			
12/15/2017	19:27:57	114	-1.0	13.52			
12/15/2017	19:29:37	196	-1.0	13.56			
12/15/2017	19:31:09	111	-1.0	13.58	Wet and Dry Samples		
12/15/2017	19:31:10	160	-1.0	13.59	Density Verifeid w/ Mud Scale		
12/15/2017	19:31:17	112	-1.0	13.59			
12/15/2017	19:32:57	164	-1.0	13.60			
12/15/2017	19:34:37	126	-1.0	13.62			
12/15/2017	19:36:17	108	-1.0	13.38			
12/15/2017	19:37:57	119	-1.0	13.40			
12/15/2017	19:39:37	148	-1.0	13.54			
12/15/2017	19:41:17	140	-1.0	13.56			
12/15/2017	19:42:57	135	-1.0	13.58			
12/15/2017	19:44:37	181	-1.0	13.59			
12/15/2017	19:46:17	211	-1.0	13.59			
12/15/2017	19:47:57	226	-1.0	13.61			
12/15/2017	19:49:37	136	-1.0	13.46			
12/15/2017	19:51:17	135	-1.0	13.55			
12/15/2017	19:52:57	126	-1.0	13.57			
12/15/2017	19:54:37	182	-1.0	13.58			
12/15/2017	19:56:17	156	-1.0	13.57			
12/15/2017	19:57:13	181	-1.0	13.57	1120 sks, 1.66ft3/sk		
12/15/2017	19:57:33	277	-1.0	13.56	7.91 gal/sk		
12/15/2017	19:57:57	123	-1.0	13.57			
12/15/2017	19:59:37	122	-1.0	13.54			
12/15/2017	20:01:17	225	-1.0	13.56			
12/15/2017	20:02:57	287	-1.0	13.56			
12/15/2017	20:04:37	177	-1.0	13.55			
12/15/2017	20:06:17	350	-1.0	13.56			
12/15/2017	20:07:57	253	-1.0	13.52			
12/15/2017	20:09:37	340	-1.0	13.54			
12/15/2017	20:11:17	280	-1.0	13.55			
12/15/2017	20:12:57	116	-1.0	13.56			
12/15/2017	20:14:37	166	-1.0	13.58			
12/15/2017	20:16:17	180	-1.0	13.59			
12/15/2017	20:17:57	250	-1.0	13.58			
12/15/2017	20:19:37	187	-1.0	13.56			
12/15/2017	20:21:17	231	-1.0	13.55			
12/15/2017	20:22:57	158	-1.0	13.57			
12/15/2017	20:24:37	222	-1.0	13.59			
12/15/2017	20:26:17	219	-1.0	13.60			
12/15/2017	20:27:57	106	-1.0	13.54			
12/15/2017	20:29:37	94	-1.0	13.40			
12/15/2017	20:31:17	104	-1.0	12.44			
12/15/2017	20:32:20	19	-1.0	11.86	End Tail Slurry		
12/15/2017	20:32:21	20	-1.0	11.86	Vol: 324 bbl		
12/15/2017	20:32:26	19	-1.0	11.86	End Cement Slurry		
12/15/2017	20:32:52	19	-1.0	11.85	Flush Surface Lines		
12/15/2017	20:32:57	20	-1.0	11.85			
12/15/2017	20:34:37	20	-1.0	11.85			

Well			Field		Job Start	Customer	Job Number
Yellowhammer 30N-8HZ 0631737776			Wattenberg		Dec/15/2017	ANADARKO PETROLEUM COMPANY	DUNZ-00081
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Message		
12/15/2017	20:37:57	7	-1.0	10.29			
12/15/2017	20:39:37	48	-1.0	8.33			
12/15/2017	20:41:17	13	-1.0	9.39			
12/15/2017	20:42:57	69	-1.0	8.39			
12/15/2017	20:44:37	3	-1.0	8.40			
12/15/2017	20:44:41	3	-1.0	8.40	Drop Top Plug		
12/15/2017	20:44:42	3	-1.0	8.40	Start Displacement		
12/15/2017	20:46:17	3	-1.0	8.39			
12/15/2017	20:47:57	70	-1.0	8.38			
12/15/2017	20:49:37	66	-1.0	8.45			
12/15/2017	20:51:17	105	-1.0	8.39			
12/15/2017	20:52:57	170	-1.0	8.40			
12/15/2017	20:54:37	158	-1.0	8.39			
12/15/2017	20:56:17	507	-1.0	8.39			
12/15/2017	20:57:57	273	-1.0	8.38			
12/15/2017	20:59:37	200	-1.0	8.38			
12/15/2017	21:01:17	440	-1.0	8.37			
12/15/2017	21:02:57	275	-1.0	8.37			
12/15/2017	21:04:37	525	-1.0	8.37			
12/15/2017	21:06:17	260	-1.0	8.37			
12/15/2017	21:07:57	575	-1.0	8.40			
12/15/2017	21:09:37	540	-1.0	8.37			
12/15/2017	21:11:17	674	-1.0	8.37			
12/15/2017	21:12:57	808	-1.0	8.36			
12/15/2017	21:14:37	923	-1.0	8.36			
12/15/2017	21:16:17	776	-1.0	8.36			
12/15/2017	21:17:57	858	-1.0	8.36			
12/15/2017	21:19:37	1472	-1.0	8.36			
12/15/2017	21:21:17	1145	-1.0	8.36			
12/15/2017	21:22:57	1001	-1.0	8.36			
12/15/2017	21:24:37	1376	-1.0	8.36			
12/15/2017	21:26:17	1372	-1.0	8.36			
12/15/2017	21:27:57	1389	-1.0	8.36			
12/15/2017	21:29:37	1453	-1.0	8.36			
12/15/2017	21:31:17	1526	-1.0	8.36			
12/15/2017	21:32:57	1563	-1.0	8.36			
12/15/2017	21:34:37	1596	-1.0	8.36			
12/15/2017	21:36:17	1847	-1.0	8.36			
12/15/2017	21:37:57	1788	-1.0	8.36			
12/15/2017	21:39:37	1739	-1.0	8.36			
12/15/2017	21:41:17	2074	-1.0	8.36			
12/15/2017	21:42:57	1869	-1.0	8.36			
12/15/2017	21:44:37	2022	-1.0	8.36			
12/15/2017	21:46:17	2059	-1.0	8.36			
12/15/2017	21:47:57	2191	-1.0	8.36			
12/15/2017	21:49:37	2319	-1.0	8.36			
12/15/2017	21:51:17	2123	-1.0	8.36			
12/15/2017	21:52:57	2089	-1.0	8.36			
12/15/2017	21:54:37	2098	-1.0	8.36			
12/15/2017	21:56:17	2133	-1.0	8.36			
12/15/2017	21:57:57	2081	-1.0	8.36			
12/15/2017	21:59:37	2094	-1.0	8.36			
12/15/2017	22:01:17	2097	-1.0	8.36			
12/15/2017	22:02:57	2325	-1.0	8.36			

Well			Field	Job Start	Customer	Job Number
Yellowhammer 30N-8HZ 0631737776			Wattenberg	Dec/15/2017	ANADARKO PETROLEUM COMPANY	DUNZ-00081
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Message	
12/15/2017	22:06:17	2185	-1.0	8.36		
12/15/2017	22:07:57	2166	-1.0	8.36		
12/15/2017	22:09:37	2265	-1.0	8.36		
12/15/2017	22:11:17	2270	-1.0	8.36		
12/15/2017	22:12:57	2441	-1.0	8.36		
12/15/2017	22:14:37	2306	-1.0	8.36		
12/15/2017	22:16:17	2331	-1.0	8.36		
12/15/2017	22:17:57	2425	-1.0	8.36		
12/15/2017	22:19:37	2271	-1.0	8.36		
12/15/2017	22:21:17	2489	-1.0	8.36		
12/15/2017	22:22:57	2480	-1.0	8.36		
12/15/2017	22:24:37	2556	-1.0	8.37		
12/15/2017	22:26:17	2391	-1.0	8.36		
12/15/2017	22:27:57	2510	-1.0	8.36		
12/15/2017	22:28:49	3356	-1.0	8.36	Bump Top Plug	
12/15/2017	22:28:50	3356	-1.0	8.36	End Displacement Vol: 317.6 bbl	
12/15/2017	22:29:37	3478	-1.0	8.36		
12/15/2017	22:30:26	3406	-1.0	8.36	Pressure Test Casing	
12/15/2017	22:31:17	3428	-1.0	8.36		
12/15/2017	22:32:57	3476	-1.0	8.36		
12/15/2017	22:33:47	3492	-1.0	8.36	10 bbl Spacer to Surface	
12/15/2017	22:34:37	3504	-1.0	8.36		
12/15/2017	22:36:17	3528	-1.0	8.36		
12/15/2017	22:37:57	3554	-1.0	8.37		
12/15/2017	22:39:37	3575	-1.0	8.37		
12/15/2017	22:41:17	3597	-1.0	8.37		
12/15/2017	22:42:57	3617	-1.0	8.37		
12/15/2017	22:44:37	3501	-1.0	8.37		
12/15/2017	22:46:17	25	-1.0	8.37		
12/15/2017	22:47:57	1996	-1.0	8.36		
12/15/2017	22:48:35	2778	-1.0	8.36	Bleed Off Check Floats	
12/15/2017	22:49:37	4435	-1.0	8.36		
12/15/2017	22:50:44	2485	-1.0	8.36	Floats Held 4 bbl Back	
12/15/2017	22:50:53	2290	-1.0	8.36	Open Wet Shoe Sub @ 4300 psi	
12/15/2017	22:51:17	2319	-1.0	8.36		
12/15/2017	22:51:59	2211	-1.0	8.36	Pump 3 bbl Water	
12/15/2017	22:52:01	2198	-1.0	8.36	End Job	

Post Job Summary

Average Pump Rates, bbl/min					Volume of Fluid Injected, bbl			
Slurry 3.7	N2	Mud	Maximum Rate 18.2	Total Slurry 514.0	Mud 0.0	Spacer 63.0	N2	
Treating Pressure Summary, psi					Breakdown Fluid			
Maximum 5029	Final 6	Average 876	Bump Plug to 3500	Breakdown	Type	Volume bbl	Density lb/gal	
Avg. N2 Percent %		Designed Slurry Volume 521.0 bbl		Displacement 317.6 bbl	Mix Water Temp 70 degF	Cement Circulated to Surface? <input type="checkbox"/>	Volume bbl	
						Washed Thru Perfs <input type="checkbox"/>	To ft	
Customer or Authorized Representative Zach Haynes			Schlumberger Supervisor Billy Barg			Circulation Lost <input checked="" type="checkbox"/>	Job Completed <input checked="" type="checkbox"/>	
						-	-	