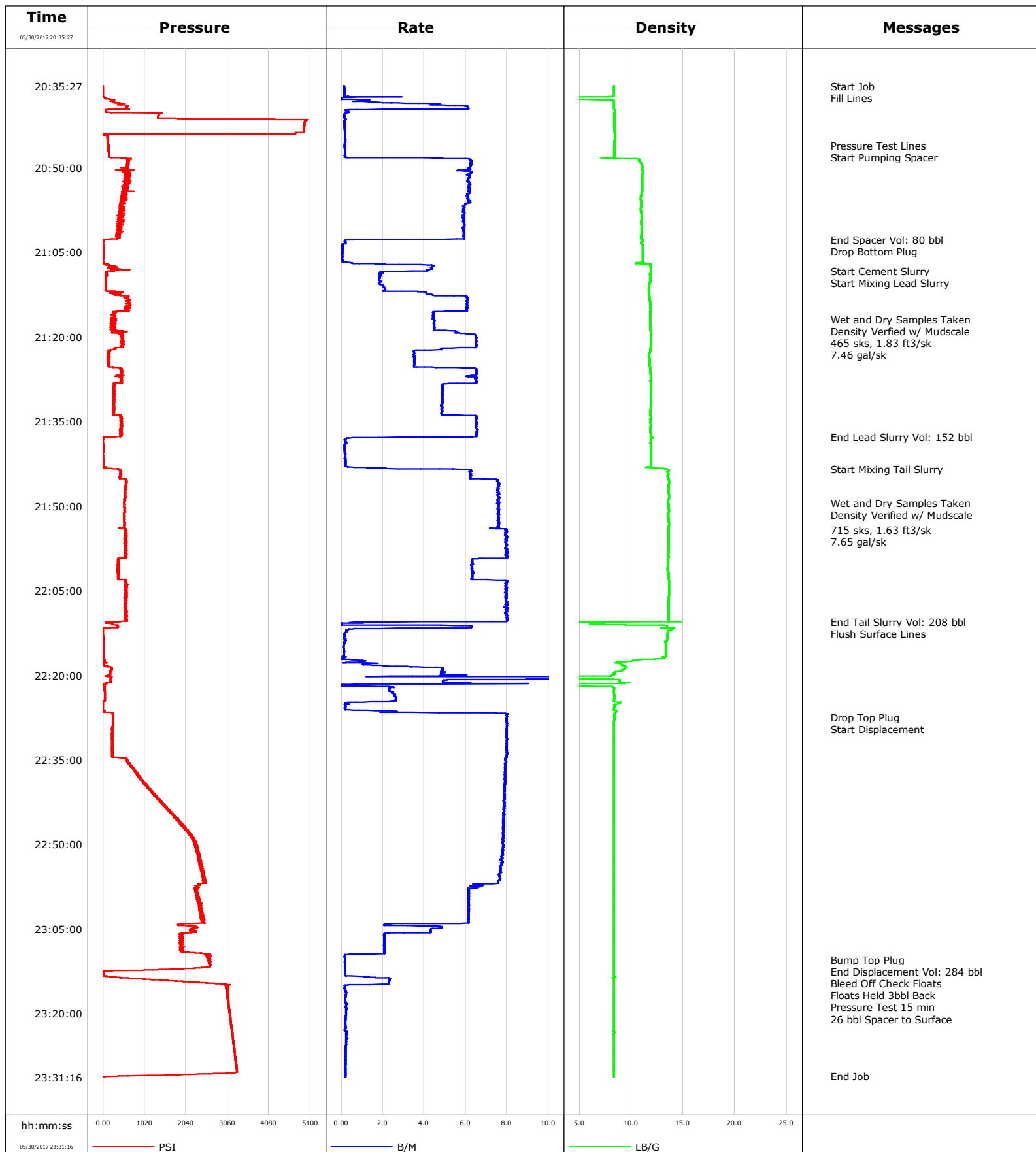


**Well** Hilgers 12N-22HZ  
**Field** Wattenberg  
**Engineer** Billy Barg  
**Country** United States

**Client** ANADARKO PETROLEUM COMPANY  
**SIR No.** D8WD-00230  
**Job Type** Production  
**Job Date** 05-30-2017



# Cementing Service Report

				<b>Customer</b> ANADARKO PETROLEUM COMPANY				<b>Job Number</b> D8WD-00230					
<b>Well</b> Hilgers 12N-22HZ 0631683178			<b>Location (legal)</b>			<b>Schlumberger Location</b> Cheyenne, WY			<b>Job Start</b> May/30/2017				
<b>Field</b> Wattenberg		<b>Formation Name/Type</b>			<b>Deviation</b> deg		<b>Bit Size</b> 7.9 in		<b>Well MD</b> 12301.0 ft		<b>Well TVD</b> 7616.0 ft		
<b>County</b> Weld		<b>State/Province</b> Colorado			<b>BHP</b> psi		<b>BHST</b> 224 degF		<b>BHCT</b> 217 degF		<b>Pore Press. Gradient</b> lb/gal		
<b>Well Master</b> 0631683178		<b>API/UWI</b> 05123432610000											
<b>Rig Name</b> Xtreme 24		<b>Drilled For</b> Gas		<b>Service Via</b> Land		<b>Casing/ Liner</b>							
						<b>Depth, ft</b>		<b>Size, in</b>		<b>Weight, lb/ft</b>		<b>Grade</b>	
						1872.0		9.6		36.0		j-55	
<b>Offshore Zone</b>		<b>Well Class</b> New		<b>Well Type</b> Development		12301.0		5.5		36.0		HCP-110	
<b>Drilling Fluid Type</b> OBM		<b>Max. Density</b> 9.00 lb/gal		<b>Plastic Viscosity</b> cP		<b>Tubing/Drill Pipe</b>							
						<b>T/D</b>		<b>Depth, ft</b>		<b>Size, in</b>		<b>Weight, lb/ft</b>	
<b>Service Line</b> Cementing		<b>Job Type</b> Production											
<b>Max. Allowed Tub. Press</b> psi		<b>Max. Allowed Ann. Press</b> psi		<b>WH Connection</b> 5.5" LTC		<b>Perforations/Open Hole</b>							
						<b>Top, ft</b>		<b>Bottom, ft</b>		<b>shot/ft</b>		<b>No. of Shots</b>	
						ft		ft					
						ft		ft				<b>Diameter</b> in	
						ft		ft					
						<b>Treat Down</b> Casing		<b>Displacement</b> 284.0 bbl		<b>Packer Type</b>		<b>Packer Depth</b> ft	
						<b>Tubing Vol.</b> bbl		<b>Casing Vol.</b> bbl		<b>Annular Vol.</b> 411.5 bbl		<b>Openhole Vol.</b> bbl	
<b>Casing/Tubing Secured</b> <input checked="" type="checkbox"/>		<b>1 Hole Vol. Circulated prior to Cement</b> <input checked="" type="checkbox"/>				<b>Casing Tools</b>				<b>Squeeze Job</b>			
<b>Lift Pressure</b> 8800 psi						<b>Shoe Type</b> Float				<b>Squeeze Type</b>			
<b>Pipe Rotated</b> <input type="checkbox"/>		<b>Pipe Reciprocated</b> <input type="checkbox"/>				<b>Shoe Depth</b> 12301.5 ft				<b>Tool Type</b>			
<b>No. Centralizers</b>		<b>Top Plugs</b> 1		<b>Bottom Plugs</b> 1		<b>Stage Tool Type</b>				<b>Tool Depth</b> ft			
<b>Cement Head Type</b> Double						<b>Stage Tool Depth</b> ft				<b>Tail Pipe Size</b> in			
<b>Job Scheduled For</b> May/30/2017 16:00		<b>Arrived on Location</b> May/30/2017 16:00		<b>Leave Location</b> May/31/2017 01:00		<b>Collar Type</b> Float				<b>Tail Pipe Depth</b> ft			
						<b>Collar Depth</b> 12209.8 ft				<b>Sqz. Total Vol.</b> bbl			
<b>Date</b>	<b>Time 24-hr clock</b>	<b>Treating Pressure PSI</b>	<b>Flow Rate B/M</b>	<b>Density LB/G</b>	<b>Volume BBL</b>	<b>Message</b>							
05/30/2017	20:35:27	-2	0.1	8.31	0.0	Started Acquisition							
05/30/2017	20:35:32	-2	0.1	8.31	0.0	Start Job							
05/30/2017	20:35:37	-2	0.1	8.31	0.0	Fill Lines							
05/30/2017	20:37:07	-5	0.1	8.31	0.0								
05/30/2017	20:38:47	477	4.8	8.32	2.1								
05/30/2017	20:40:27	1395	0.2	8.37	7.5								
05/30/2017	20:42:07	4948	0.2	8.39	7.7								
05/30/2017	20:43:47	4757	0.2	8.40	8.0								
05/30/2017	20:45:27	120	0.2	8.39	8.3								
05/30/2017	20:46:02	126	0.2	8.39	8.4	Pressure Test Lines							
05/30/2017	20:46:19	129	0.2	8.39	8.5	Start Pumping Spacer							
05/30/2017	20:47:07	135	0.2	8.38	8.6								
05/30/2017	20:48:47	632	6.3	10.75	12.0								
05/30/2017	20:50:27	517	5.6	11.05	22.3								
05/30/2017	20:52:07	621	6.1	11.05	32.5								
05/30/2017	20:53:47	536	6.2	11.05	42.8								
05/30/2017	20:55:27	468	6.1	10.92	53.0								
05/30/2017	20:57:07	457	5.9	10.93	63.1								
05/30/2017	20:58:47	430	5.9	11.00	72.9								
05/30/2017	21:00:27	423	5.9	11.01	82.8								
05/30/2017	21:02:07	372	5.9	10.96	92.6								

Well Hilgers 12N-22HZ 0631683178			Field Wattenberg		Job Start May/30/2017		Customer ANADARKO PETROLEUM COMPANY		Job Number D8WD-00230	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message				
05/30/2017	21:02:42	51	2.2	11.10	0.0	Drop Bottom Plug				
05/30/2017	21:03:47	5	0.1	11.10	0.3					
05/30/2017	21:05:27	5	0.0	11.12	0.4					
05/30/2017	21:07:07	106	1.6	11.95	0.3					
05/30/2017	21:08:18	269	4.1	11.87	5.3	Start Cement Slurry				
05/30/2017	21:08:22	83	2.4	11.86	5.5	Start Mixing Lead Slurry				
05/30/2017	21:08:47	80	1.8	11.81	6.3					
05/30/2017	21:10:27	68	1.8	11.73	9.4					
05/30/2017	21:12:07	299	4.1	11.70	13.2					
05/30/2017	21:13:47	542	6.1	11.80	22.2					
05/30/2017	21:15:27	229	5.0	11.84	32.3					
05/30/2017	21:16:48	258	4.5	11.83	38.3	Wet and Dry Samples Taken				
05/30/2017	21:17:03	171	4.5	11.83	39.4	Density Verfied w/ Mudscale				
05/30/2017	21:17:07	264	4.5	11.83	39.7					
05/30/2017	21:18:47	202	4.5	11.84	47.2					
05/30/2017	21:20:27	479	6.5	11.88	57.3					
05/30/2017	21:21:00	520	6.5	11.89	60.9	465 sks, 1.83 ft3/sk				
05/30/2017	21:21:11	476	6.5	11.89	62.1	7.46 gal/sk				
05/30/2017	21:22:07	280	4.8	11.84	67.9					
05/30/2017	21:23:47	132	3.5	11.75	74.0					
05/30/2017	21:25:27	455	5.6	11.82	80.0					
05/30/2017	21:27:07	516	6.4	11.85	90.7					
05/30/2017	21:28:47	283	4.9	11.91	100.6					
05/30/2017	21:30:27	269	4.9	11.87	108.8					
05/30/2017	21:32:07	272	4.8	11.86	116.9					
05/30/2017	21:33:47	268	4.8	11.83	124.9					
05/30/2017	21:35:27	443	6.5	11.85	135.6					
05/30/2017	21:37:07	458	6.5	11.88	146.5					
05/30/2017	21:37:45	314	6.3	11.88	150.6	End Lead Slurry Vol: 152 bbl				
05/30/2017	21:38:47	1	0.2	11.81	151.4					
05/30/2017	21:40:27	3	0.2	11.92	0.2					
05/30/2017	21:42:07	4	0.2	11.93	0.5					
05/30/2017	21:43:23	360	3.9	13.34	1.2	Start Mixing Tail Slurry				
05/30/2017	21:43:47	436	6.3	13.61	3.6					
05/30/2017	21:45:27	560	7.5	13.62	14.2					
05/30/2017	21:47:07	542	7.5	13.61	26.8					
05/30/2017	21:48:47	522	7.6	13.60	39.5					
05/30/2017	21:49:25	517	7.6	13.56	44.3	Wet and Dry Samples Taken				
05/30/2017	21:49:37	514	7.5	13.57	45.8	Density Verified w/ Mudscale				
05/30/2017	21:50:27	514	7.6	13.61	52.1					
05/30/2017	21:52:07	518	7.6	13.58	64.7					
05/30/2017	21:53:47	514	7.6	13.61	77.3					
05/30/2017	21:54:10	558	7.9	13.58	80.3	715 sks, 1.63 ft3/sk				
05/30/2017	21:54:19	583	8.0	13.58	81.5	7.65 gal/sk				
05/30/2017	21:55:27	591	8.0	13.58	90.5					
05/30/2017	21:57:07	548	8.0	13.59	103.7					
05/30/2017	21:58:47	560	7.9	13.56	117.0					
05/30/2017	22:00:27	369	6.3	13.55	128.4					
05/30/2017	22:02:07	366	6.3	13.59	138.9					
05/30/2017	22:03:47	571	7.9	13.66	150.6					
05/30/2017	22:05:27	577	8.0	13.62	163.8					
05/30/2017	22:07:07	556	7.9	13.57	177.1					
05/30/2017	22:08:47	566	8.0	13.62	190.4					
05/30/2017	22:10:27	577	8.0	13.58	203.7					

Well Hilgers 12N-22HZ 0631683178			Field Wattenberg		Job Start May/30/2017		Customer ANADARKO PETROLEUM COMPANY		Job Number D8WD-00230	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message				
05/30/2017	22:11:29	350	6.3	13.46	206.9	Flush Surface Lines				
05/30/2017	22:12:07	3	0.3	13.48	208.3					
05/30/2017	22:13:47	6	0.2	13.44	208.6					
05/30/2017	22:15:27	10	0.1	13.34	208.8					
05/30/2017	22:17:07	28	0.0	12.31	209.0					
05/30/2017	22:18:47	205	4.9	9.39	211.9					
05/30/2017	22:20:27	191	23.5	4.01	222.5					
05/30/2017	22:22:07	43	2.5	8.28	233.8					
05/30/2017	22:23:47	48	2.6	8.35	237.9					
05/30/2017	22:25:27	-2	0.2	8.35	240.6					
05/30/2017	22:27:07	243	8.0	8.36	4.6					
05/30/2017	22:27:28	249	8.0	8.35	7.4	Drop Top Plug				
05/30/2017	22:27:30	256	8.0	8.35	7.7	Start Displacement				
05/30/2017	22:28:47	258	8.0	8.33	17.9					
05/30/2017	22:30:27	241	8.0	8.34	31.2					
05/30/2017	22:32:07	240	8.0	8.34	44.5					
05/30/2017	22:33:47	237	8.0	8.34	57.8					
05/30/2017	22:35:27	627	7.9	8.34	71.0					
05/30/2017	22:37:07	789	7.9	8.34	84.2					
05/30/2017	22:38:47	964	7.9	8.34	97.4					
05/30/2017	22:40:27	1204	7.9	8.34	110.5					
05/30/2017	22:42:07	1371	7.8	8.34	123.6					
05/30/2017	22:43:47	1609	7.8	8.33	136.7					
05/30/2017	22:45:27	1802	7.8	8.34	149.8					
05/30/2017	22:47:07	2016	7.8	8.34	162.8					
05/30/2017	22:48:47	2182	7.8	8.34	175.8					
05/30/2017	22:50:27	2275	7.8	8.34	188.8					
05/30/2017	22:52:07	2388	7.7	8.34	201.8					
05/30/2017	22:53:47	2372	7.7	8.34	214.7					
05/30/2017	22:55:27	2493	7.6	8.34	227.4					
05/30/2017	22:57:07	2367	6.7	8.33	240.0					
05/30/2017	22:58:47	2302	6.1	8.33	250.5					
05/30/2017	23:00:27	2365	6.1	8.33	260.8					
05/30/2017	23:02:07	2376	6.1	8.33	271.0					
05/30/2017	23:03:47	2487	6.1	8.33	281.2					
05/30/2017	23:05:27	2228	4.3	8.33	288.2					
05/30/2017	23:07:07	1893	2.1	8.33	292.2					
05/30/2017	23:08:47	1994	2.1	8.33	295.7					
05/30/2017	23:10:24	2617	0.2	8.32	297.3	Bump Top Plug				
05/30/2017	23:10:27	2621	0.2	8.32	297.3					
05/30/2017	23:11:54	2352	0.2	8.32	297.6	Bleed Off Check Floats				
05/30/2017	23:12:07	1753	0.2	8.32	297.6					
05/30/2017	23:12:46	41	0.2	8.32	297.7	Floats Held 3bbl Back				
05/30/2017	23:12:55	38	0.2	8.32	297.7	Pressure Test 15 min				
05/30/2017	23:13:47	725	2.4	8.31	298.4					
05/30/2017	23:15:27	3062	0.2	8.33	301.1					
05/30/2017	23:16:28	3063	0.2	8.33	301.3	26 bbl Spacer to Surface				
05/30/2017	23:17:07	3080	0.2	8.33	301.5					
05/30/2017	23:18:47	3093	0.2	8.32	301.8					
05/30/2017	23:20:27	3128	0.2	8.32	302.2					
05/30/2017	23:22:07	3157	0.2	8.32	302.5					
05/30/2017	23:23:47	3186	0.2	8.31	302.9					
05/30/2017	23:25:27	3216	0.2	8.31	303.3					
05/30/2017	23:27:07	3243	0.2	8.32	303.6					

Well Hilgers 12N-22HZ 0631683178			Field Wattenberg		Job Start May/30/2017		Customer ANADARKO PETROLEUM COMPANY		Job Number D8WD-00230	
Date	Time 24-hr clock	Treating Pressure PSI		Flow Rate B/M	Density LB/G	Volume BBL		Message		
05/30/2017	23:30:27	3277		0.2	8.32	304.2				

## Post Job Summary

Average Pump Rates, bbl/min					Volume of Fluid Injected, bbl							
Slurry 4.5	N2	Mud	Maximum Rate 23.5	Total Slurry 360.0	Mud 0.0	Spacer 80.0	N2					
Treating Pressure Summary, psi					Breakdown Fluid							
Maximum 5025	Final 1	Average 1025	Bump Plug to 2650	Breakdown	Type	Volume bbl	Density lb/gal					
Avg. N2 Percent %	Designed Slurry Volume 360.0 bbl	Displacement 284.0 bbl	Mix Water Temp 80 degF	Cement Circulated to Surface? <input type="checkbox"/>		Volume bbl						
				Washed Thru Perfs <input type="checkbox"/>		To ft						
Customer or Authorized Representative John Truett			Schlumberger Supervisor Billy Barg			Circulation Lost <input type="checkbox"/>	Job Completed <input checked="" type="checkbox"/>					
						-	-					