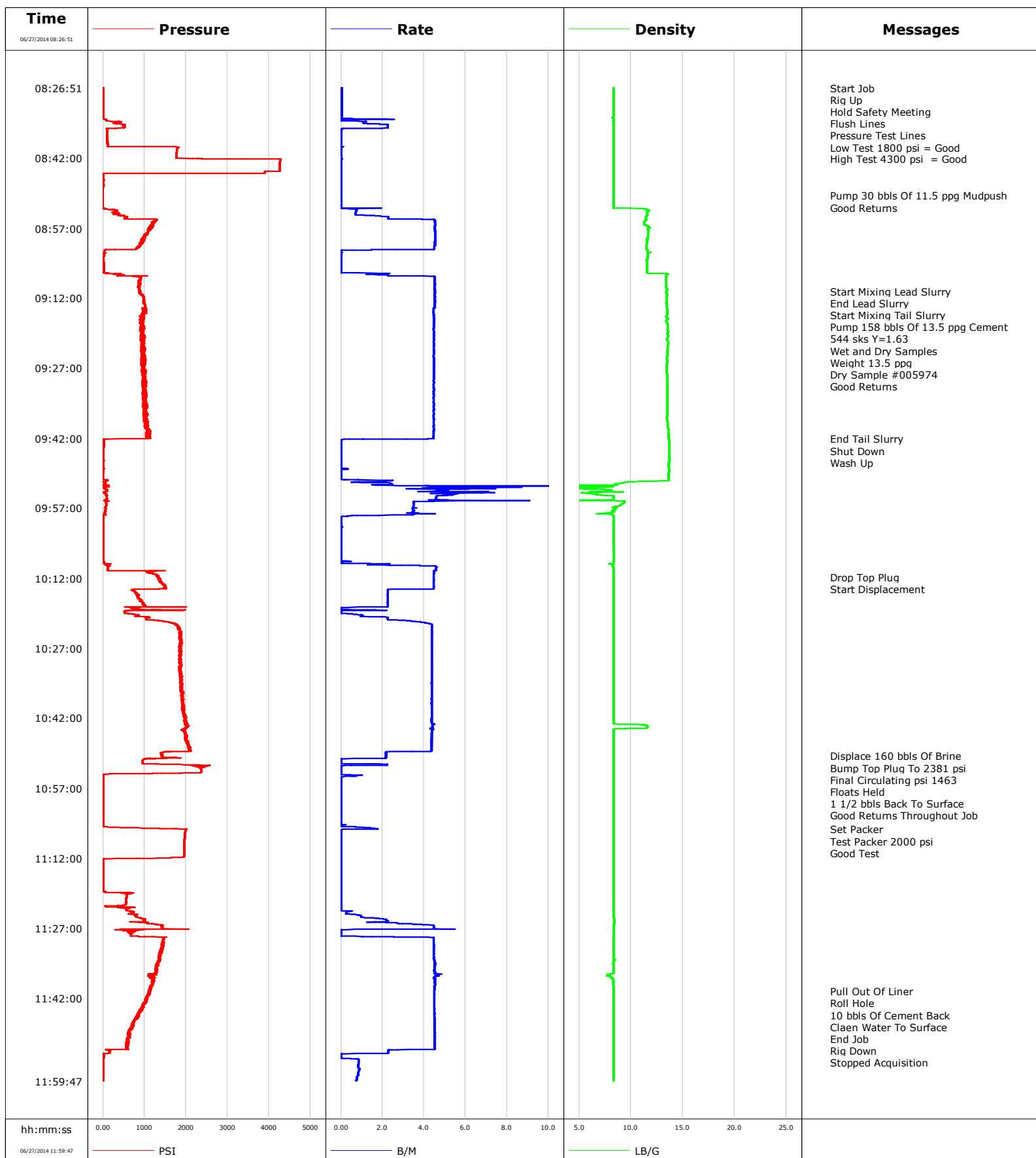


**Well** Horsetail 30F-3106  
**Field** Wildcat  
**Engineer** Justin Zika  
**Country** United States

**Client** Whiting  
**SIR No.**  
**Job Type** Liner  
**Job Date** 06-27-2014

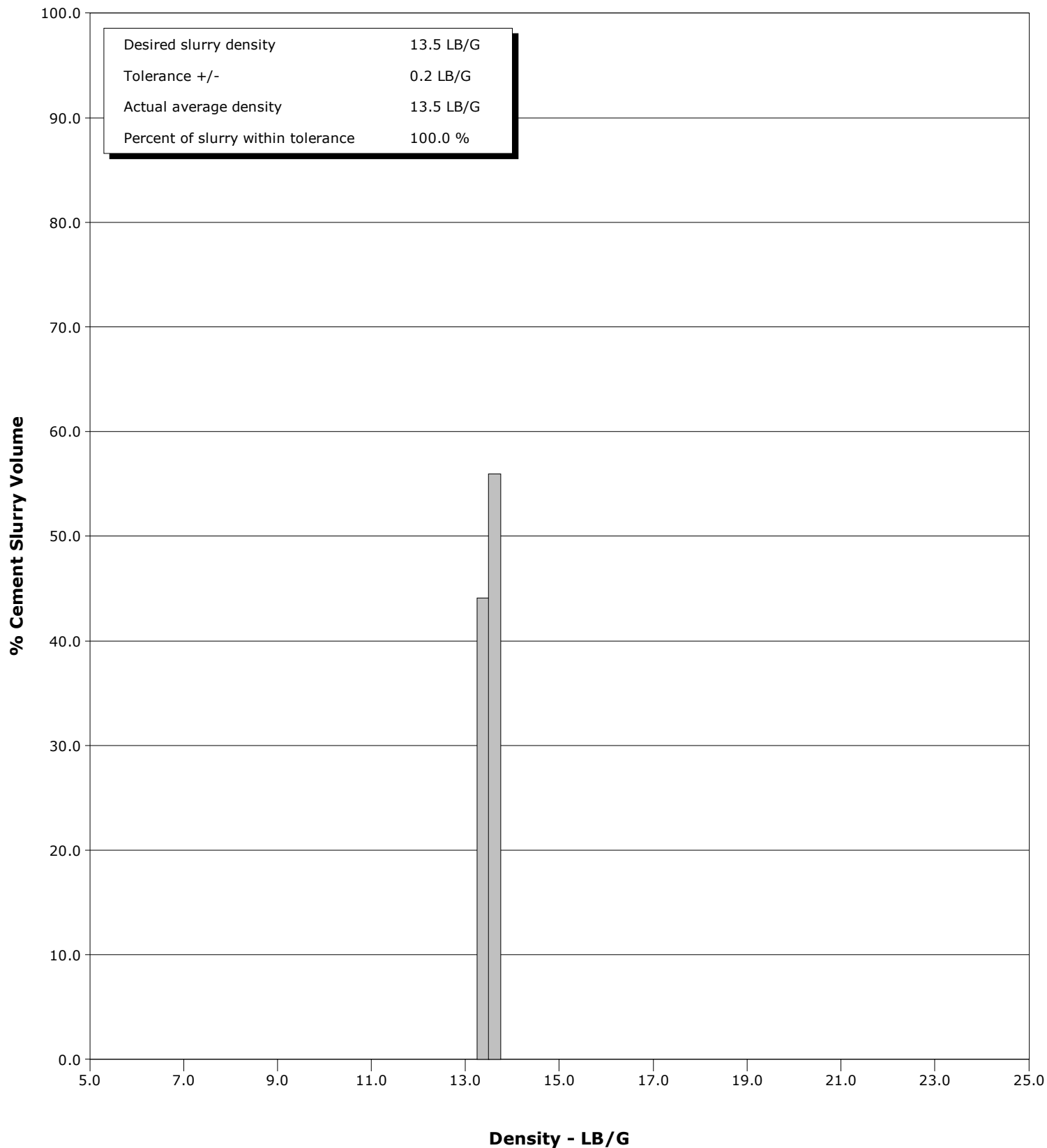


# Schlumberger Cementing Qa/Qc Density Report

**Well** Horsetail 30F-3106  
**Field** Wildcat  
**Engineer** Justin Zika  
**Country** United States

**Client** Whiting  
**SIR No.**  
**Job Type** Liner  
**Job Date** 06-27-2014

Cement Slurry - 06/27/2014 09:10:47 to 06/27/2014 09:40:22





# Cementing Service Report

				Customer Whiting			Job Number 1972043								
Well Horsetail 30F-3106 30F-3106			Location (legal) Cheyenne,WY			Schlumberger Location Cheyenne, WY		Job Start Jun/27/2014							
Field Wildcat		Formation Name/Type Shale		Deviation		Bit Size 6.1 in		Well MD 13273.0 ft		Well TVD 5650.0 ft					
County Weld		State/Province Colorado		BHP		BHST 200 degF		BHCT 200 degF		Pore Press. Gradient					
Well Master 0631546514		API/UWI 05-123-3920000													
Rig Name Xtreme 18		Drilled For Oil		Service Via Land		Casing/Liner									
Offshore Zone		Well Class New		Well Type Development		Depth, ft		Size, in		Weight, lb/ft		Grade		Thread	
						13263.0		4.500		11.6		110		8RD	
						0.0		0.000		0.0					
Drilling Fluid Type		Max. Density		Plastic Viscosity		Tubing/Drill Pipe									
						Depth, ft		Size, in		Weight, lb/ft		Grade		Thread	
Service Line Cementing		Job Type Liner				5959.0		4.000		14.0		N/A		N/A	
						0.0		0.000		0.0					
Max. Allowed Tub. Press 2100 psi		Max. Allowed Ann. Press		WH Connection		Perforations/Open Hole									
						Top,		Bottom,				No. of Shots		Total Interval	
Service Instructions Rig Up Hold Safety Meeting Flush Lines Pressure Test Pump 30 bbls Of 11.5 ppg Mudpush Pump 158 bbls Of 13.5 ppg Liner Cement Wash Up/Drop Wiper Plug/Displace Set Packer/Pull Out Of Liner Roll Hole														Diameter	
Treat Down Casing				Displacement 160.0 bbl				Packer Type				Packer Depth			
Tubing Vol.				Casing Vol. 160.0 bbl				Annular Vol. 251.0 bbl				Openhole Vol. 160.0 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				Shoe Type Float		Squeeze Type									
Pipe Rotated <input type="checkbox"/>		Pipe Reciprocated <input type="checkbox"/>		Shoe Depth 13263.0 ft		Tool Type									
No. Centralizers		Top Plugs 1		Bottom Plugs		Stage Tool Type				Tool Depth					
Cement Head Type				Stage Tool Depth		Tail Pipe Size									
Job Scheduled For Jun/27/2014 02:00		Arrived on Location Jun/27/2014 02:00		Leave Location Jun/27/2014 13:00		Collar Type Float				Tail Pipe Depth					
						Collar Depth 13213.0 ft				Sqz. Total Vol.					
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message									
06/27/2014	07:38:40					Started Acquisition									
06/27/2014	08:26:51	7	0.0	8.33	0.0										
06/27/2014	08:26:54					Start Job									
06/27/2014	08:26:54	7	0.0	8.33	0.0										
06/27/2014	08:26:56					Rig Up									
06/27/2014	08:26:56					Hold Safety Meeting									
06/27/2014	08:26:56					Flush Lines									
06/27/2014	08:26:56	7	0.0	8.33	0.0										
06/27/2014	08:27:00					Pressure Test Lines									
06/27/2014	08:27:00	8	0.0	8.33	0.0										
06/27/2014	08:27:03					Low Test 1800 psi = Good									
06/27/2014	08:27:03					High Test 4300 psi = Good									
06/27/2014	08:27:03	7	0.0	8.33	0.0										
06/27/2014	08:28:40	8	0.0	8.33	0.1										
06/27/2014	08:30:20	8	0.0	8.33	0.1										
06/27/2014	08:32:00	9	0.0	8.33	0.1										
06/27/2014	08:33:40	66	2.6	8.30	0.4										
06/27/2014	08:35:20	517	2.3	8.32	2.8										
06/27/2014	08:37:00	106	0.0	8.32	3.3										
06/27/2014	08:38:40	107	0.0	8.33	3.3										
06/27/2014	08:40:20	1778	0.0	8.33	3.3										

Well Horsetail 30F-3106 30F-3106			Field Wildcat		Job Start Jun/27/2014		Customer Whiting		Job Number 1972043	
Date	Time 24-hr clock	Treating Pressure PSI		Flow Rate B/M	Density LB/G		Volume BBL	Message		
06/27/2014	08:43:40	4254		0.0	8.32		3.4			
06/27/2014	08:45:20	3		0.0	8.33		3.4			
06/27/2014	08:47:00	9		0.0	8.33		3.4			
06/27/2014	08:48:40	-10		0.0	8.33		3.4			
06/27/2014	08:50:00							Pump 30 bbls Of 11.5 ppg Mudpush		
06/27/2014	08:50:00							Good Returns		
06/27/2014	08:50:00	-5		0.0	8.33		3.4			
06/27/2014	08:50:20	-5		0.0	8.32		3.4			
06/27/2014	08:52:00	-2		0.0	8.32		3.4			
06/27/2014	08:53:40	332		0.7	11.56		4.1			
06/27/2014	08:55:20	1291		4.5	11.42		7.5			
06/27/2014	08:57:00	1110		4.5	11.74		15.0			
06/27/2014	08:58:40	1034		4.5	11.64		22.6			
06/27/2014	09:00:20	897		4.5	11.54		30.1			
06/27/2014	09:02:00	30		0.0	11.60		36.0			
06/27/2014	09:03:40	12		0.0	11.54		36.0			
06/27/2014	09:05:20	20		0.0	11.56		36.0			
06/27/2014	09:07:00	510		2.1	13.48		36.6			
06/27/2014	09:08:40	852		4.5	13.42		43.6			
06/27/2014	09:10:20	879		4.5	13.47		51.1			
06/27/2014	09:10:30							Start Mixing Lead Slurry		
06/27/2014	09:10:30							End Lead Slurry		
06/27/2014	09:10:30	872		4.5	13.44		51.9			
06/27/2014	09:10:32							Start Mixing Tail Slurry		
06/27/2014	09:10:32	899		4.5	13.44		52.0			
06/27/2014	09:10:34							Pump 158 bbls Of 13.5 ppg Cement		
06/27/2014	09:10:34							544 sks Y=1.63		
06/27/2014	09:10:34							Wet and Dry Samples		
06/27/2014	09:10:34							Weight 13.5 ppg		
06/27/2014	09:10:34							Dry Sample #005974		
06/27/2014	09:10:34							Good Returns		
06/27/2014	09:10:34	899		4.5	13.42		52.2			
06/27/2014	09:12:00	980		4.5	13.43		58.7			
06/27/2014	09:13:40	1022		4.5	13.46		66.2			
06/27/2014	09:15:20	982		4.5	13.51		73.6			
06/27/2014	09:17:00	925		4.5	13.41		81.1			
06/27/2014	09:18:40	926		4.5	13.53		88.6			
06/27/2014	09:20:20	947		4.5	13.56		96.0			
06/27/2014	09:22:00	976		4.5	13.56		103.5			
06/27/2014	09:23:40	950		4.5	13.52		110.9			
06/27/2014	09:25:20	968		4.5	13.49		118.4			
06/27/2014	09:27:00	997		4.5	13.44		125.8			
06/27/2014	09:28:40	988		4.5	13.49		133.3			
06/27/2014	09:30:20	996		4.5	13.51		140.7			
06/27/2014	09:32:00	994		4.4	13.51		148.2			
06/27/2014	09:33:40	991		4.5	13.50		155.6			
06/27/2014	09:35:20	975		4.5	13.52		163.1			
06/27/2014	09:37:00	980		4.5	13.51		170.5			
06/27/2014	09:38:40	1086		4.5	13.53		178.0			
06/27/2014	09:40:20	1096		4.5	13.62		185.4			
06/27/2014	09:42:00	1053		4.5	13.63		192.9			
06/27/2014	09:42:08							End Tail Slurry		
06/27/2014	09:42:08	1047		4.5	13.63		193.5			
06/27/2014	09:42:11							Shut Down		

Well Horsetail 30F-3106 30F-3106			Field Wildcat		Job Start Jun/27/2014		Customer Whiting		Job Number 1972043	
Date	Time 24-hr clock	Treating Pressure PSI		Flow Rate B/M	Density LB/G		Volume BBL		Message	
06/27/2014	09:42:12								Wash Up	
06/27/2014	09:42:12	100		3.2	13.64		193.7			
06/27/2014	09:43:40	22		0.0	13.68		193.8			
06/27/2014	09:45:20	10		0.0	13.67		193.8			
06/27/2014	09:47:00	11		0.0	13.67		193.8			
06/27/2014	09:48:40	10		0.3	13.68		193.9			
06/27/2014	09:50:20	-0		0.0	13.66		193.9			
06/27/2014	09:52:00	13		1.7	8.52		196.0			
06/27/2014	09:53:40	28		5.9	6.66		205.0			
06/27/2014	09:55:20	43		4.2	5.39		213.1			
06/27/2014	09:57:00	53		3.5	8.63		219.5			
06/27/2014	09:58:40	-3		0.3	8.32		225.0			
06/27/2014	10:00:20	8		0.0	8.33		225.0			
06/27/2014	10:02:00	9		0.0	8.32		225.0			
06/27/2014	10:03:40	2		0.0	8.32		225.0			
06/27/2014	10:05:20	3		0.0	8.33		225.0			
06/27/2014	10:07:00	9		0.0	8.34		225.0			
06/27/2014	10:08:40	18		0.0	8.35		225.1			
06/27/2014	10:10:20	112		4.6	8.31		230.6			
06/27/2014	10:11:43								Drop Top Plug	
06/27/2014	10:11:43	1321		4.5	8.32		236.8			
06/27/2014	10:11:46								Start Displacement	
06/27/2014	10:11:46	1340		4.5	8.32		237.0			
06/27/2014	10:12:00	1328		4.5	8.32		238.1			
06/27/2014	10:13:40	1500		4.5	8.32		245.5			
06/27/2014	10:15:20	820		2.2	8.32		250.8			
06/27/2014	10:17:00	901		2.2	8.32		254.6			
06/27/2014	10:18:40	712		0.0	8.32		257.4			
06/27/2014	10:20:20	1053		2.0	8.33		258.3			
06/27/2014	10:22:00	1766		4.4	8.33		263.7			
06/27/2014	10:23:40	1880		4.4	8.32		271.0			
06/27/2014	10:25:20	1854		4.4	8.33		278.2			
06/27/2014	10:27:00	1885		4.4	8.33		285.5			
06/27/2014	10:28:40	1826		4.4	8.33		292.8			
06/27/2014	10:30:20	1844		4.4	8.33		300.1			
06/27/2014	10:32:00	1857		4.4	8.33		307.4			
06/27/2014	10:33:40	1878		4.4	8.33		314.7			
06/27/2014	10:35:20	1868		4.4	8.33		321.9			
06/27/2014	10:37:00	1917		4.4	8.33		329.2			
06/27/2014	10:38:40	1913		4.4	8.32		336.5			
06/27/2014	10:40:20	1946		4.4	8.33		343.8			
06/27/2014	10:42:00	1969		4.4	8.33		351.0			
06/27/2014	10:43:40	2068		4.4	11.55		358.3			
06/27/2014	10:45:20	1999		4.4	8.32		365.6			
06/27/2014	10:47:00	2021		4.4	8.32		372.9			
06/27/2014	10:48:40	2107		4.4	8.32		380.2			
06/27/2014	10:50:00								Displace 160 bbls Of Brine	
06/27/2014	10:50:00	1415		2.2	8.32		384.2			
06/27/2014	10:50:20	1433		2.2	8.32		384.9			
06/27/2014	10:52:00	1960		2.2	8.33		386.0			
06/27/2014	10:52:42								Bump Top Plug To 2381 psi	
06/27/2014	10:52:42	2382		0.0	8.32		386.4			
06/27/2014	10:52:44								Final Circulating psi 1463	
06/27/2014	10:52:44								Floats Held	

Well Horsetail 30F-3106 30F-3106			Field Wildcat		Job Start Jun/27/2014		Customer Whiting		Job Number 1972043	
Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message				
06/27/2014	10:52:44					Good Returns Throughout Job				
06/27/2014	10:52:44	2350	0.0	8.32	386.4					
06/27/2014	10:53:40	2375	0.0	8.32	386.4					
06/27/2014	10:55:20	3	0.0	8.32	386.6					
06/27/2014	10:57:00	5	0.0	8.32	386.6					
06/27/2014	10:58:40	5	0.0	8.33	386.6					
06/27/2014	11:00:20	5	0.0	8.33	386.6					
06/27/2014	11:02:00	7	0.0	8.33	386.6					
06/27/2014	11:03:40	6	0.0	8.33	386.6					
06/27/2014	11:05:20	56	0.7	8.32	386.7					
06/27/2014	11:05:47					Set Packer				
06/27/2014	11:05:47					Test Packer 2000 psi				
06/27/2014	11:05:47	1887	1.8	8.32	387.3					
06/27/2014	11:05:48					Good Test				
06/27/2014	11:05:48	2034	1.8	8.32	387.3					
06/27/2014	11:07:00	1971	0.0	8.32	387.4					
06/27/2014	11:08:40	1962	0.0	8.32	387.4					
06/27/2014	11:10:20	1956	0.0	8.32	387.4					
06/27/2014	11:12:00	1443	0.0	8.32	387.4					
06/27/2014	11:13:40	9	0.0	8.32	387.4					
06/27/2014	11:15:20	9	0.0	8.32	387.4					
06/27/2014	11:17:00	10	0.0	8.32	387.4					
06/27/2014	11:18:40	10	0.0	8.32	387.4					
06/27/2014	11:20:20	563	0.0	8.32	387.4					
06/27/2014	11:22:00	547	0.0	8.32	387.4					
06/27/2014	11:23:40	712	0.3	8.32	387.5					
06/27/2014	11:25:20	1008	2.2	8.39	389.3					
06/27/2014	11:27:00	1419	4.5	8.36	394.9					
06/27/2014	11:28:40	677	0.0	8.34	396.3					
06/27/2014	11:30:20	1441	4.5	8.32	402.7					
06/27/2014	11:32:00	1425	4.5	8.33	410.2					
06/27/2014	11:33:40	1360	4.5	8.33	417.6					
06/27/2014	11:35:20	1299	4.5	8.32	425.1					
06/27/2014	11:37:00	1216	4.6	7.87	432.7					
06/27/2014	11:38:40	1216	4.5	8.30	440.2					
06/27/2014	11:40:20	1124	4.5	8.32	447.8					
06/27/2014	11:40:32					Pull Out Of Liner				
06/27/2014	11:40:32					Roll Hole				
06/27/2014	11:40:32	1150	4.5	8.32	448.7					
06/27/2014	11:40:33					10 bbls Of Cement Back				
06/27/2014	11:40:33					Claen Water To Surface				
06/27/2014	11:40:33					End Job				
06/27/2014	11:40:33					Rig Down				
06/27/2014	11:40:33	1149	4.5	8.32	448.7					
06/27/2014	11:42:00	1029	4.5	8.32	455.2					
06/27/2014	11:43:40	945	4.5	8.32	462.7					
06/27/2014	11:45:20	879	4.5	8.32	470.2					
06/27/2014	11:47:00	749	4.5	8.32	477.7					
06/27/2014	11:48:40	635	4.5	8.32	485.3					
06/27/2014	11:50:20	621	4.5	8.32	492.8					
06/27/2014	11:52:00	587	4.5	8.32	500.3					
06/27/2014	11:53:40	166	2.3	8.32	506.5					
06/27/2014	11:55:20	8	0.8	8.32	507.3					
06/27/2014	11:57:00	8	0.9	8.32	508.7					

<b>Well</b> Horsetail 30F-3106 30F-3106	<b>Field</b> Wildcat	<b>Job Start</b> Jun/27/2014	<b>Customer</b> Whiting	<b>Job Number</b> 1972043
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Post Job Summary

Average Pump Rates,					Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate		Total Slurry 158.0	Mud	Spacer 30.0	N2
Treating Pressure Summary, psi					Breakdown Fluid			
Maximum 2100	Final 1463	Average	Bump Plug to 2381	Breakdown	Type	Volume	Density	
Avg. N2 Percent	Designed Slurry Volume 158.0 bbl		Displacement 160.0 bbl	Mix Water Temp 67 degF	Cement Circulated to Surface? <input checked="" type="checkbox"/>	Volume 10.0 bbl		
Customer or Authorized Representative Lewis Young				Schlumberger Supervisor Justin Zika		Washed Thru Perfs <input type="checkbox"/>		To
						Circulation Lost <input type="checkbox"/>		Job Completed <input checked="" type="checkbox"/>
						-		-