



Cementing Service Report

9207833

Client Name Whiting Petroleum Corp.	Well Name Horsetail 07G - 0610	Rig Unit Drilling Co. 409	Job Date April 12,2016	Call Sheet 1065935
Client Representative Mr. Kenny Ray Wilkerson	Surface Well Location Sec 18:T10N:R57W	Down Hole Well Location	Job Type Production Casing	Lead Supervisor Schroeder, Stephen (25442)

Well Profile										
Well Type:		Oil								
Maximum Treating Pressure (psi):		---								
Predicted Bottom Hole Static Temperature (°F):		100.00	@	--						
Bottom Hole Circulating Temperature (°F):		80.00	@	--						
Bottom Hole Logged Temperature (°F):		---	@	--						
Open Hole										
<u>Size (in)</u>		<u>Excess (%)</u>		<u>TMD From (ft)</u>		<u>TMD To (ft)</u>		<u>TVD From (ft)</u>		<u>TVD To (ft)</u>
8.500		15.000		2,024.000		12,740.000		2,024.000		5,214.000
Casing										
<u>Size</u>	<u>Weight</u>	<u>Grade</u>	<u>Collapse Pressure</u>	<u>Internal Yield Pressure</u>	<u>Capacity</u>	<u>I.D.</u>	<u>O.D.</u>	<u>Depth From</u>	<u>Depth To</u>	
<u>(in)</u>	<u>(lb/ft)</u>		<u>(psi)</u>	<u>(psi)</u>	<u>(bbl)</u>	<u>(in)</u>	<u>(in)</u>	<u>(ft)</u>	<u>(ft)</u>	
9.625	36.000	J-55	2,020.0	3,520.0	156.47	8.921	10.625	0.0	2,024.0	
5.500	20.000	P-110	11,080.0	12,640.0	282.25	4.778	6.050	0.0	12,727.4	

Products

Stage 1

From Depth (ft):

To Depth (ft):

Acids/Blends/Fluids :

Scavenger: 115 Sacks of 65% Class G / 35% Poz (1-2-0 G), Density = 11.5 lb/gal, Volume Pumped = 50 (bbl)

Water Temperature(°F) = 50 , Bulk Temperature(°F) = 50 , Slurry Temperature(°F) = 50

+ 0.4 % of ASM-3 (Preblend),

+ 0.5 % of CFL-10 (Preblend),

+ 0.1 % of LTR (Preblend),

+ 0.25 lb/sack of LCL-7 (Preblend),

+ 0.01 gal/bbl of CDF-3L (Add On The Fly)

Stage 2

From Depth (ft):

To Depth (ft):

Acids/Blends/Fluids :

Lead 1: 325 Sacks of 65% Class G / 35% Poz (1-2-0 G), Density = 13.5 lb/gal, Volume Pumped = 86.2 (bbl)

Water Temperature(°F) = 50 , Bulk Temperature(°F) = 50 , Slurry Temperature(°F) = 50

+ 0.4 % of ASM-3 (Preblend),

+ 0.5 % of CFL-10 (Preblend),

+ 0.1 % of LTR (Preblend),

+ 0.25 lb/sack of LCL-7 (Preblend),

+ 0.01 gal/bbl of CDF-3L (Add On The Fly)

Stage 3

From Depth (ft):

To Depth (ft):

Acids/Blends/Fluids :

Tail: 1930 Sacks of 65% Class G / 35% Poz (1-2-0 G), Density = 13.5 lb/gal, Volume Pumped = 515.6 (bbl)

Water Temperature(°F) = 50 , Bulk Temperature(°F) = 50 , Slurry Temperature(°F) = 50

+ 0.3 % of ASM-3 (Preblend),

+ 0.5 % of CFL-10 (Preblend),

+ 0.1 % of LTR (Preblend),

+ 0.2 % of SPC-2 (Preblend),

+ 0.25 lb/sack of LCL-7 (Preblend),

+ 0.01 lb/gal of CDF-3L (Add On The Fly)

Fluid & Cement Data

Expected Cement Top: Surface

Wellbore Fluid

Fluid Type	Viscosity (cP)	Density (lbs/gal)	Yield Point (psi)	Temperature (°F)	Recorded@
Water	--	8.340	--	--	Jul 07, 2015 14:19
Water Based Mud	--	--	--	--	Aug 24, 2015 15:49



Cementing Service Report

9207833

Units & Personnel							
Units							
Truck Unit No.	Main Type	Sub Type	Tractor Unit No.	Main Type	Sub Type	Time On Location	Time Off Location
449095	TRAILER	Utility Trailer	201168	PICKUP	1 Ton	04/11/2016 11:00	04/12/2016 05:15
445024	TRAILER	SCM Twin	745024	TRACTOR	Tandem - Tractor	04/11/2016 11:00	04/12/2016 05:15
445033	TRAILER	SCM Twin	745033	TRACTOR	Tandem - Tractor	04/11/2016 11:00	04/12/2016 05:15
201520	PICKUP	1/2 Ton	449200	TRAILER	Utility Trailer	04/11/2016 11:00	04/12/2016 05:15
Crew and Bonuses							
Employee	Start Shift		End Shift		Second Start Shift		Second End Shift
Maguire, Matthew (26325)	04/11/2016 17:30		04/12/2016 12:00				
Leue, David (28684)							
Johnson, Jakob (30073)							
Dunsbergen, Scott (29737)							
Schroeder, Stephen (25442)	04/11/2016 17:30		04/12/2016 12:00				
Third Party							
Equipment #	Equipment Type		Supplier Company Name		Time On Location		Time Off Location
	Cement Head		Black Hawk Tools		04/11/2016 11:00		04/12/2016 06:00

Treatment Reports & Remarks								
Treatment Report								
Event #	Event Time	Event Description	Fluid Type	Rate (bbl/min)	Tubular Pressure (psi)	Annular Pressure (psi)	Stage Volume (bbl)	Total Volume (bbl)
1	Apr 12,2016 00:00	Arrive On Location		--	--	--	--	0.00
2	Apr 12,2016 00:01	Crew Briefing (Rig in)		--	--	--	--	0.00
3	Apr 12,2016 00:30	Rig in Complete		--	--	--	--	0.00
4	Apr 12,2016 00:45	Crew Briefing (Pre Job)		--	--	--	--	0.00
5	Apr 12,2016 01:46	Pump	Water	2.00	400.0	--	4.00	0.00
	Remarks: Fill Lines							
6	Apr 12,2016 01:50	Pressure Test Start	Water	--	5,500.0	--	--	0.00
	Remarks: Pressure test to 5500psi							
7	Apr 12,2016 01:51	Pressure Test Complete	Water	--	0.0	--	--	0.00
	Remarks: Pressure test good							
8	Apr 12,2016 01:52	Pump	Water	4.00	400.0	--	5.00	0.00
	Remarks: Push bottom plug							
9	Apr 12,2016 01:54	Increase Pump Rate	Water	8.00	550.0	--	21.00	0.00
	Remarks: Mudflush							
10	Apr 12,2016 01:56	Pump	Water	8.00	550.0	--	30.00	0.00
	Remarks: Visweep Spacer							
11	Apr 12,2016 01:59	Mix Cement	65% Class G / 35% Poz (1-2-0 G)	7.75	750.0	--	50.00	0.00
	Remarks: Scavanger @ 11.5ppg							



Cementing Service Report

9207833

Treatment Report								
Event #	Event Time	Event Description	Fluid Type	Rate (bbl/min)	Tubular Pressure (psi)	Annular Pressure (psi)	Stage Volume (bbl)	Total Volume (bbl)
12	Apr 12,2016 02:08	Mix Cement	65% Class G / 35% Poz (1-2-0 G)	8.00	350.0	--	68.20	68.20
		Remarks: Lead cement @ 13.5ppg						
13	Apr 12,2016 02:15	Mix Cement	65% Class G / 35% Poz (1-2-0 G)	8.00	220.0	--	515.60	515.60
		Remarks: Tail Cement @ 13.5ppg						
14	Apr 12,2016 03:16	Shut In-Well		2.00	0.0	--	4.00	0.00
		Remarks: Shut in and flush lines with 4 bbls						
15	Apr 12,2016 03:18	Drop Plug	Water	--	0.0	--	--	0.00
		Remarks: Drop Plug						
16	Apr 12,2016 03:19	Displace Fluid	Water	4.00	100.0	--	4.00	4.00
		Remarks: Displace to grab plug						
17	Apr 12,2016 03:20	Increase Pump Rate	Water	8.00	125.0	--	151.00	155.00
		Remarks: Increase pump rate						
18	Apr 12,2016 03:36	Decrease Pump Rate	Water	2.00	1,600.0	--	5.00	160.00
		Remarks: Slow rate to switch tanks						
19	Apr 12,2016 03:38	Increase Pump Rate	Water	8.00	1,800.0	--	55.00	215.00
		Remarks: Spacer and scavenger mix						
20	Apr 12,2016 03:45	Displace Fluid	Water	8.00	1,900.0	--	50.00	265.00
		Remarks: Scavenger and spacer mix back						
21	Apr 12,2016 03:54	Displace Fluid	Water	8.00	2,000.0	--	5.00	270.00
		Remarks: Lead cement back @ 265 bbls away						
22	Apr 12,2016 03:55	Decrease Pump Rate	Water	2.00	1,700.0	--	11.50	281.50
		Remarks: Decrease rate to pump, Lead cement to surface, scaled to verify						
23	Apr 12,2016 04:03	Bump Plug	Water	--	2,400.0	--	281.50	281.50
		Remarks: Bumped at calculated						
24	Apr 12,2016 04:08	Check Float		--	--	--	--	281.50
		Remarks: 2.5bbls back floats hold						
25	Apr 12,2016 04:10	Job Complete		--	--	--	--	281.50
26	Apr 12,2016 05:00	Leave Location		--	--	--	--	281.50
Did Float Hold: Yes								
Fluid Returns : Yes								
Type : Cement								
Volume (bbl) : 65								
Temperature (°F) : 80								
FDAS Functioning Correctly : Yes								
Was the Program Followed As Per Design? : Yes								



Treatment Reports & Remarks

Material Transfer Sheet Number

Material Transfer Sheet Number

67213

67214

67215

67216

67217

67220



Client	Whiting	Client Rep	Kenny/Tyson	Supervisor	Stephen Schroeder	
Ticket No.	9207833	Well Name	Horsetail 07G0610	Unit No.	445033	
Location	Sec18:T10N:R57W	Job Type	Production Casing	Service District	Ft. Lupton	
Comments	Pump 30bbls Mudflush, 30bbls Visweep, 50 bbls Scavanger @ 11.5ppg, 86.2bbls Lead @ 13.5ppg, 515.6bbls Tail @ 13.5ppg, Drop plug and Displace 281.5 bbls Fresh Water w/ Biocide & Clay treat				Job Date	04/11/2016

