



Cementing Service Report

9209313

Client Name Whiting Petroleum Corp.	Well Name Horsetail 08C- 1738	Rig Unit Drilling Co. 409	Job Date June 06,2016	Call Sheet 1066323
Client Representative Mr. Kenny Ray Wilkerson	Surface Well Location SW NE Sec 8:T10N:R57W	Down Hole Well Location	Job Type Production Casing	Lead Supervisor Hall, Andrew J (25267)

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	0.000	16,150.000	--	--

Casing

<u>Size</u> <u>(in)</u>	<u>Weight</u> <u>(lb/ft)</u>	<u>Grade</u>	<u>Collapse Pressure</u> <u>(psi)</u>	<u>Internal Yield Pressure</u> <u>(psi)</u>	<u>Capacity</u> <u>(bbl)</u>	<u>I.D.</u> <u>(in)</u>	<u>O.D.</u> <u>(in)</u>	<u>Depth From</u> <u>(ft)</u>	<u>Depth To</u> <u>(ft)</u>
5.500	20.000	P-110	11,080.0	12,640.0	356.75	4.778	6.050	0.0	16,087.0

Products

Stage 1

From Depth (ft):

To Depth (ft):

Acids/Blends/Fluids :

Scavenger: 105 Sacks of 50 % Type III / 50 % Poz, Density = 11 lb/gal, Volume Pumped = 50 (bbl)

Water Temperature(°F) = 60 , Bulk Temperature(°F) = 70 , Slurry Temperature(°F) = 80

+ 0.3 % of ASM-3 (Preblend),

+ 0.5 % of CFL-10 (Preblend),

+ 2 % of FWC-2 (Preblend),

+ 0.1 % of LTR (Preblend),

+ 0.25 lb/sack of Polyflake (Preblend),

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

Stage 2

From Depth (ft): 0

To Depth (ft): 2000

Acids/Blends/Fluids :

Lead 1: 275 Sacks of 50 % Type III / 50 % Poz, Density = 12 lb/gal, Volume Pumped = 96 (bbl)

Water Temperature(°F) = 60 , Bulk Temperature(°F) = 70 , Slurry Temperature(°F) = 80

+ 0.3 % of ASM-3 (Preblend),

+ 0.5 % of CFL-10 (Preblend),

+ 2 % of FWC-2 (Preblend),

+ 0.1 % of LTR (Preblend),

+ 0.25 lb/sack of Polyflake (Preblend),

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

Stage 3

From Depth (ft): 2000

To Depth (ft): 5000

Acids/Blends/Fluids :

Lead 2: 405 Sacks of 50 % Type III / 50 % Poz, Density = 12 lb/gal, Volume Pumped = 141 (bbl)

Water Temperature(°F) = 60 , Bulk Temperature(°F) = 70 , Slurry Temperature(°F) = 80

+ 0.3 % of ASM-3 (Preblend),

+ 0.5 % of CFL-10 (Preblend),

+ 2 % of FWC-2 (Preblend),

+ 0.1 % of LTR (Preblend),

+ 0.25 lb/sack of Polyflake (Preblend),

+ 0.2 % of SPC-2 (Preblend),

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

Stage 4

From Depth (ft): 5000

To Depth (ft): 16150

Acids/Blends/Fluids :

Tail: 1970 Sacks of 65% Class G / 35% Poz (1-2-0 G), Density = 13.5 lb/gal, Volume Pumped = 526.3 (bbl)

Water Temperature(°F) = 60 , Bulk Temperature(°F) = 70 , Slurry Temperature(°F) = 80

+ 0.3 % of ASM-3 (Preblend),

+ 0.5 % of CFL-10 (Preblend),

+ 0.2 % of SPC-2 (Preblend),

+ 0.25 lb/sack of Polyflake (Preblend),

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



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Fluid & Cement Data

Expected Cement Top: Surface

Wellbore Fluid

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

Units & Personnel**Units**

<u>Truck Unit No.</u>	<u>Main Type</u>	<u>Sub Type</u>	<u>Tractor Unit No.</u>	<u>Main Type</u>	<u>Sub Type</u>	<u>Time On Location</u>	<u>Time Off Location</u>
201191	PICKUP	1 Ton	449088	TRAILER	Utility Trailer	06/06/2016 10:11	06/06/2016 17:30
445033	TRAILER	SCM Twin	745033	TRACTOR	Tandem - Tractor	06/06/2016 10:11	06/06/2016 17:30
445052	TRAILER	SCM Twin	745052	TRACTOR	Tandem - Tractor	06/06/2016 10:11	06/06/2016 17:30
749099	TRACTOR	Tandem - Tractor				06/06/2016 10:11	06/06/2016 17:30

Crew and Bonuses

<u>Employee</u>	<u>Start Shift</u>	<u>End Shift</u>	<u>Second Start Shift</u>	<u>Second End Shift</u>
Hall, Andrew J (25267)	06/06/2016 10:00	06/06/2016 17:30		
Cheal, Samuel (28315)				
Devine, Richard (29733)				
Maguire, Matthew (26325)	06/06/2016 10:00	06/06/2016 17:30		

Treatment Reports & Remarks

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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	Jun 06,2016 10:00	Arrive On Location		--	--	--	--	0.00
2	Jun 06,2016 10:15	Crew Briefing (Rig in)		--	--	--	--	0.00
3	Jun 06,2016 11:00	Rig in Complete		--	--	--	--	0.00
4	Jun 06,2016 12:30	Crew Briefing (Pre Job)		--	--	--	--	0.00
5	Jun 06,2016 13:50	Pressure Test Start		1.00	5,000.0	--	3.00	3.00
6	Jun 06,2016 13:52	Pressure Test Complete		--	--	--	--	3.00
7	Jun 06,2016 13:53	Pump Preflush	Water	8.00	1,000.0	--	30.00	33.00
		Remarks: Visweeo						
8	Jun 06,2016 13:58	Pump Preflush	Water	8.00	1,200.0	--	30.00	63.00
		Remarks: Mud flush						
9	Jun 06,2016 14:02	Pump Spacer	Water	8.00	1,200.0	--	10.00	73.00
10	Jun 06,2016 14:06	Pump Scavenger	50 % Type III / 50 % Poz	10.00	1,500.0	--	50.00	123.00
11	Jun 06,2016 14:11	Pump	50 % Type III / 50 % Poz	10.00	1,200.0	--	96.00	219.00
12	Jun 06,2016 14:21	Pump	50 % Type III / 50 % Poz	10.00	1,000.0	--	141.00	360.00
13	Jun 06,2016 14:35	Pump	65% Class G / 35% Poz (1-2-0 G)	10.00	900.0	--	526.30	886.30
14	Jun 06,2016 15:35	Stop	Water	2.00	100.0	--	10.00	896.30
		Remarks: Wash lines						
15	Jun 06,2016 15:45	Displace Fluid	Water	12.00	1,800.0	--	357.13	1,253.43
16	Jun 06,2016 16:23	Bump Plug		--	2,500.0	--	--	1,253.43
17	Jun 06,2016 16:25	Check Float		--	--	--	--	1,253.43
18	Jun 06,2016 17:00	Job Complete		--	--	--	--	1,253.43
19	Jun 06,2016 17:30	Leave Location		--	--	--	--	1,253.43

Did Float Hold: Yes
 Fluid Returns : Yes
 Type : Cement
 Volume (bbl) : 30
 Temperature (°F) : 90
 FDAS Functioning Correctly : Yes
 Was the Program Followed As Per Design? : Yes



Treatment Reports & Remarks	
Material Transfer Sheet Number	
<u>Material Transfer Sheet Number</u>	
56986	
56987	
56987	
56989	
56990	
56991	