



# Cementing Service Report

9209031

Client Name Whiting Petroleum Corp.	Well Name Razor Federal 12F - 1305A	Rig Unit Drilling Co. 409	Job Date November 19,2015	Call Sheet 1062583
Client Representative Tyson	Surface Well Location SE NE Sec 12:T10N:R58W	Down Hole Well Location	Job Type Liner Casing	Lead Supervisor Schneider, Patrick (24093)

## 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

Size (in)	Excess (%)	TMD From (ft)	TMD To (ft)	TVD From (ft)	TVD To (ft)
6.000	15.000	6,300.000	13,910.000	--	--

## Casing

Size (in)	Weight (lb/ft)	Grade	Collapse Pressure (psi)	Internal Yield Pressure (psi)	Capacity (bbl)	I.D. (in)	O.D. (in)	Depth From (ft)	Depth To (ft)
7.000	29.000	P-110	8,510.0	9,520.0	234.03	6.184	7.656	0.0	6,300.0
4.500	11.600	P-110	7,560.0	10,690.0	134.69	4.000	5.000	5,239.0	13,905.0

## Drill Pipe

Size (in)	Weight (lb/ft)	Grade	Collapse Pressure (psi)	Capacity (bbl)	I.D. (in)	O.D. (in)	Depth From (ft)	Depth To (ft)
4.000	28.000	X	--	28.800	--	--	0.000	4,508.860
4.000	29.200	X	--	3.600	--	--	4,508.860	5,249.630

## Products

### Stage 1

From Depth (ft): 5239

To Depth (ft): 13905

Acids/Blends/Fluids :

Tail: 560 Sacks of 1:1:0 Poz Dacotah G, Density = 13.7 lb/gal, Volume Pumped = 147.6 (bbl)

Water Temperature(°F) = 45 , Bulk Temperature(°F) = 25 , Slurry Temperature(°F) = 49

+ 8 % of Silica Fume (Preblend),

+ 2 % of Gel (Preblend),

+ 0.1 % of CFR-5 (Preblend),

+ 0.7 % of CFL-4 (Preblend),

+ 1 % of FWC-2 (Preblend),

+ 0.35 % of LTR (Preblend),

+ 0.2 % of ASM-3 (Preblend)

## Fluid & Cement Data

Expected Cement Top: Depth (ft): 5239

### Wellbore Fluid

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

#### Attachment & Tools

##### Down Hole Tools

<u>Tool Type</u>	<u>Depth (ft)</u>	<u>Supplier</u>
Liner Hanger	5,239.000	Third Party
Float Collar	13,860.000	Third Party
Guide/Float Shoe	13,905.000	Third Party

##### Tubular Plugs

<u>Tubular Plug Type</u>	<u>Size (in)</u>	<u>Supplier</u>
Rubber Top	4.500	Third Party

#### 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>
449093	TRAILER	Utility Trailer	201017	PICKUP	1 Ton	11/19/2015 00:00	11/19/2015 06:45
445024	TRAILER	SCM Twin	745024	TRACTOR	Tandem - Tractor	11/19/2015 00:00	11/19/2015 06:45
446171	TRAILER	Bulker	746171	TRACTOR	Tandem - Tractor	11/19/2015 00:00	11/19/2015 06:45
449102	TRAILER	1600 Porta Bulker				11/19/2015 00:00	11/19/2015 06:45

##### Crew and Bonuses

<u>Employee</u>	<u>Start Shift</u>	<u>End Shift</u>	<u>Second Start Shift</u>	<u>Second End Shift</u>
Schneider, Patrick (24093)	11/19/2015 00:00	11/19/2015 06:45		
Hansen, Ted (29055)	11/19/2015 00:00	11/19/2015 06:45		
Davila, Israel (28152)	11/19/2015 00:00	11/19/2015 06:45		
Faircloth, Branden (29706)	11/19/2015 00:00	11/19/2015 06:45		
Faircloth, Branden (29706)	11/19/2015 00:00	11/19/2015 06:45		

#### 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	Nov 19,2015 00:00	Arrive On Location		--	--	--	--	0.00
2	Nov 19,2015 00:05	Crew Briefing (Rig in)		--	--	--	--	0.00
		Remarks: discussed lease hazards and rig in procedures						
3	Nov 19,2015 00:30	Rig In		--	--	--	--	0.00
4	Nov 19,2015 01:00	Rig in Complete		--	--	--	--	0.00
5	Nov 19,2015 02:30	Crew Briefing (Pre Job)		--	--	--	--	0.00
		Remarks: discussed job scope and everyones dutys						
6	Nov 19,2015 03:15	Start - Fluid	Water	1.00	--	--	1.00	1.00
		Remarks: filled lines						
7	Nov 19,2015 03:19	Pressure Test Start	Water	--	5,000.0	--	--	1.00
8	Nov 19,2015 03:22	Pressure Test	Water	--	--	3,000.0	--	1.00
		Remarks: pressure tested backside lines						
9	Nov 19,2015 03:24	Pressure Test Complete		--	0.0	--	--	1.00
		Remarks: good pressure test						
10	Nov 19,2015 03:29	Pump Preflush	Water	5.00	1,600.0	--	30.00	31.00
		Remarks: visweep						
11	Nov 19,2015 03:36	Mix Cement	1:1:0 Poz Dacotah G	5.00	1,200.0	--	147.60	178.60
		Remarks: 560 sks liner cement @ 13.7 ppg yield = 1.48 h2o req = 6.74						
12	Nov 19,2015 04:09	Finish Mix Cement		--	0.0	--	--	178.60
13	Nov 19,2015 04:15	Wash	Water	--	--	--	--	178.60
		Remarks: washed out lines						
14	Nov 19,2015 04:20	Drop Plug	Water	--	0.0	--	--	178.60
15	Nov 19,2015 04:22	Displace Plug	Water	5.00	2,000.0	--	166.00	344.60
16	Nov 19,2015 04:58	Pumping Pressure Before Bump	Water	3.00	1,500.0	--	--	344.60
17	Nov 19,2015 04:59	Bump Plug	Water	3.00	2,500.0	--	--	344.60
		Remarks: bumped plug 1,000 psi over						
18	Nov 19,2015 05:02	Check Float	Water	--	0.0	--	--	344.60
		Remarks: floats held got 1.5 bbl back						
19	Nov 19,2015 05:10	Pull Into Neutral/Retainer		--	--	--	--	344.60
20	Nov 19,2015 05:12	Hold Pressure	Water	--	--	2,000.0	--	344.60
		Remarks: pressure tested backside						
21	Nov 19,2015 15:00	Set Packer		--	--	--	--	344.60
		Remarks: rig set packer						
22	Nov 19,2015 05:18	Forward Circulate	Water	6.00	1,100.0	--	130.00	474.60
		Remarks: circulated cement off top of liner						
23	Nov 19,2015 05:50	Tailgate Meeting		--	--	--	--	474.60
		Remarks: revisited JSA						
24	Nov 19,2015 06:00	Rig Out		--	--	--	--	474.60
25	Nov 19,2015 06:15	Wash	Water	--	--	--	--	474.60
		Remarks: washed SCM plumbing						
26	Nov 19,2015 06:30	Job Complete		--	--	--	--	474.60
27	Nov 19,2015 06:40	Pre-Departure Meeting		--	--	--	--	474.60
28	Nov 19,2015 06:45	Leave Location		--	--	--	--	474.60

### Treatment Reports & Remarks

Did Float Hold: Not Applicable  
Fluid Returns : Yes  
Type : Cement  
Volume (bbl) : 20  
Temperature (°F) : 80  
FDAS Functioning Correctly : Yes  
Was the Program Followed As Per Design? : Yes

### Material Transfer Sheet Number

Material Transfer Sheet Number

63831

63832