



**Pumping  
Service Report**

**9193450**

Client Name Whiting Petroleum Corp.	Well Name Razor 27J-3412B	Rig Frontier Drilling 26	Job Date August 05,2014	Call Sheet 1045131
Client Representative Kenny Wilkerson	Surface Well Location Sec 27:T10N:R58W	Down Hole Well Location	Job Type Liner Casing	

**Well Profile**

Well Type:	Oil			
Maximum Treating Pressure (psi):	---			
Predicted Bottom Hole Static Temperature (°F):	200.00	@	--	
Bottom Hole Circulating Temperature (°F):	200.00	@	--	
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	6,062.000	13,507.000	--	--

**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	L-80	7,030.0	8,160.0	225.19	6.184	7.656	0.0	6,062.0
4.500	11.600	L-80	6,350.0	7,780.0	128.22	4.000	5.000	5,237.1	13,487.0

**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	29.000		--	--	--	--	0.000	4,438.000
0.000	0.000		--	--	--	--	4,438.000	5,237.000

**Products**

**Stage 1**

From Depth (ft): 4850

To Depth (ft): 13595

Acids/Blends/Fluids :

Tail: 550 Sacks of 1-1-0 G, Density = 13.7 lb/gal, Volume Pumped = 145.5 (bbl)  
Water Temperature(°F) = 60 , Bulk Temperature(°F) = 60 , Slurry Temperature(°F) = 60  
+ 8 % of SilFume (Preblend),  
+ 2 % of Gel (Preblend),  
+ 0.1 % of CFR-5 (Preblend),  
+ 0.7 % of CFL-4 (Preblend),  
+ 1 % of FWCA-H (Preblend),  
+ 0.45 % of LTR (Preblend),  
+ 0.2 % of AS-3 (Preblend),  
+ 0.25 lb/sack of Polyflake (Preblend)

**Fluid & Cement Data**

Expected Cement Top: Depth (ft): 5237.11

**Wellbore Fluid**

Fluid Type	Viscosity (cP)	Density (lbs/gal)	Yield Point (psi)	Temperature (°F)	Recorded@
Water	--	--	--	--	May 20, 2014 04:37
Water Based Mud	--	--	--	--	Jun 17, 2014 09:17



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**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>
201025	PICKUP	1 Ton	449093	TRAILER	Utility Trailer	08/05/2014 18:00	08/06/2014 08:00
445052	TRAILER	SCM Twin	745052	TRACTOR	Tandem - Tractor	08/05/2014 18:00	08/06/2014 08:00
201025	PICKUP	1 Ton				08/05/2014 18:00	08/06/2014 08:00

**Crew and Bonuses**

<u>Employee</u>	<u>Start Shift</u>	<u>End Shift</u>	<u>Second Start Shift</u>	<u>Second End Shift</u>
Price, Ryan	08/05/2014 06:00	08/06/2014 08:00		
Morris, Theodore	08/05/2014 06:00	08/06/2014 08:00		
Daylong, Eric	08/05/2014 06:00	08/06/2014 08:00		
Meisner, Jeremy	08/05/2014 06:00	08/06/2014 08:00		
Bailey, Steven	08/05/2014 06:00	08/06/2014 08:00		

**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	Aug 05,2014 18:00	Arrive On Location		--	--	--	--	0.00
2	Aug 05,2014 18:10	Tailgate Meeting		--	--	--	--	0.00
3	Aug 05,2014 18:20	Wait On Instructions		--	--	--	--	0.00
Remarks: rig running drill pipe, rigged in water, bulk line, some iron								
4	Aug 06,2014 01:45	Rig In		--	--	--	--	0.00
5	Aug 06,2014 02:20	Safety Meeting		--	--	--	--	0.00
6	Aug 06,2014 02:33	Sign-off on Safety		--	--	--	--	0.00
7	Aug 06,2014 02:38	Pump	Water	1.00	--	--	2.00	0.00
Remarks: filled lines for pressure test								
8	Aug 06,2014 02:47	Pressure Test Lines		--	3,500.0	--	--	0.00
9	Aug 06,2014 02:51	Pump Preflush	Water	5.00	1,500.0	--	30.00	0.00
Remarks: pumped visweep								
10	Aug 06,2014 03:00	Mix Cement	1-1-0 G	4.00	1,000.0	--	145.50	0.00
11	Aug 06,2014 03:35	Pump	Water	4.00	300.0	--	2.00	0.00
Remarks: pumped 2 bbls to clear lines before dropping dart								
12	Aug 06,2014 03:37	Drop Plug		--	--	--	--	0.00
Remarks: dropped dart								
13	Aug 06,2014 03:41	Pump Displacement	Water	4.50	1,500.0	--	159.50	0.00
Remarks: first 130 bbls water/KCL. Last 30 bbls mudd								
14	Aug 06,2014 04:22	Bump Plug		2.00	2,000.0	--	159.50	0.00
Remarks: bumped 1000 psi over treating pressure								
15	Aug 06,2014 04:23	Check Float		--	--	--	--	0.00
Remarks: floats held got back 1.5 bbls								
16	Aug 06,2014 04:45	Pressure Test		--	--	2,500.0	--	0.00
Remarks: pressure test back side for 5 min at 2500 psi, pressure held								
17	Aug 06,2014 04:52	Reverse Circulate		--	--	--	--	0.00
Remarks: Rig reverse circulated cement out and got back 15 bbls								
18	Aug 06,2014 05:20	Pump	Water	6.00	900.0	--	185.00	0.00
Remarks: circulated mudd out of drill pipe and 7 inch								
19	Aug 06,2014 06:00	Stop		--	--	--	--	0.00
20	Aug 06,2014 06:25	Rig Out		--	--	--	--	0.00
21	Aug 06,2014 07:00	Wash		--	--	--	--	0.00
22	Aug 06,2014 07:45	Job Complete		--	--	--	--	0.00
23	Aug 06,2014 07:50	Pre-Departure Meeting		--	--	--	--	0.00
24	Aug 06,2014 08:00	Leave Location		--	--	--	--	0.00

Did Float Hold: Yes  
Fluid Returns : Yes  
Type : Cement  
Volume (bbl) : 15  
Temperature (°F) : 75  
FDAS Functioning Correctly : Yes  
Was the Program Followed As Per Design? : Yes



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**Treatment Reports & Remarks**

**Material Transfer Sheet Number**

Material Transfer Sheet Number

9837

9840

**Comments To Service Report**

Arrived to location 1 hour early. Rig still running casing, 6 hour pump time did not start until 7pm as per when we were requested on lease. Job went great with no problems. Great bulk delivery, and great rig in and rig out. Customer rep happy with job performed.