



**Pumping  
Service Report**

**9193444**

Client Name Whiting Petroleum Corp.	Well Name Horsetail 33M-2804	Rig Pioneer Drilling 54	Job Date July 28,2014	Call Sheet 1044720
Client Representative Eric	Surface Well Location SW SW Sec 33:T10N:R57W	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):	160.00	@	--	
Bottom Hole Logged Temperature (°F):	---	@	--	

Open Hole	Size (in)	Excess (%)	TMD From (ft)	TMD To (ft)	TVD From (ft)	TVD To (ft)
	8.750	35.000	0.000	5,813.000	--	--
	6.000	15.000	5,813.000	14,766.000	--	--

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		--	--	--	--	--	0.0	5,813.0
	4.500	11.600	L-80	6,350.0	7,780.0	154.65	4.000	5.000	4,986.0	14,936.0

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)
	4.500	47.000		--	--	2.375	--	4,121.000	4,771.000
	4.000	28.000		--	--	--	--	0.000	4,121.000

**Products**

**Stage 1**

From Depth (ft): 4769

To Depth (ft): 14766

Acids/Blends/Fluids :

Tail: 665 Sacks of 1-1-0 G, Density = 13.7 lb/gal, Volume Pumped = 175 (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): 4769

**Wellbore Fluid**

Fluid Type	Viscosity (cP)	Density (lbs/gal)	Yield Point (psi)	Temperature (°F)	Recorded@
Water	--	8.400	--	--	Jul 14, 2014 20:27
Water Based Mud	--	--	--	--	Jul 19, 2014 02:04



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**Attachment & Tools**

**Down Hole Tools**

Tool Type	Depth (ft)	Supplier
Liner Hanger	4,771.000	Client

**Units & Personnel**

**Units**

Truck Unit No.	Main Type	Sub Type	Tractor Unit No.	Main Type	Sub Type	Time On Location	Time Off Location
449093	TRAILER	Utility Trailer	201025	PICKUP	1 Ton	07/28/2014 10:00	07/28/2014 21:30
445051	TRAILER	SCM Twin	745051	TRACTOR	Tandem - Tractor	07/28/2014 10:00	07/28/2014 21:30
201273	PICKUP	3/4 Ton				07/28/2014 10:00	07/28/2014 21:30

**Crew and Bonuses**

Employee	Start Shift	End Shift	Second Start Shift	Second End Shift
Price, Ryan	07/28/2014 10:00	07/28/2014 21:30		
Feigenbaum, Andrew	07/28/2014 10:00	07/28/2014 21:30		
Lopez, Armando	07/28/2014 10:00	07/28/2014 21:30		
Byczynski, Michael	07/28/2014 10:00	07/28/2014 21:30		
Davila, Israel	07/28/2014 10:00	07/28/2014 21:30		

**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	Jul 28,2014 10:00	Arrive On Location		--	--	--	--	0.00
2	Jul 28,2014 10:10	Tailgate Meeting		--	--	--	--	0.00
3	Jul 28,2014 10:30	Wait On Instructions		--	--	--	--	0.00
		Remarks: rig still running drill pipe						
4	Jul 28,2014 13:25	Rig In		--	--	--	--	0.00
5	Jul 28,2014 14:25	Safety Meeting		--	--	--	--	0.00
6	Jul 28,2014 14:40	Sign-off on Safety		--	--	--	--	0.00
7	Jul 28,2014 14:52	Pump	Water	--	--	--	2.00	0.00
		Remarks: filled lines for pressure test						
8	Jul 28,2014 14:54	Pressure Test		--	3,500.0	--	--	0.00
9	Jul 28,2014 15:03	Pump	Water Based Mud	2.00	300.0	--	199.00	0.00
		Remarks: pumped ball down to set liner						
10	Jul 28,2014 16:35	Stop		--	2,600.0	--	--	0.00
		Remarks: ball landed kick out at 1800 psi, sheared at 2600 psi						
11	Jul 28,2014 16:56	Pump Preflush	Water	4.00	1,000.0	--	30.00	0.00
		Remarks: pumped visweep						
12	Jul 28,2014 17:04	Mix Cement	0-1-0 G	5.00	1,000.0	--	175.00	0.00
13	Jul 28,2014 17:44	Pump	Water	4.00	1,000.0	--	1.00	0.00
		Remarks: pumped 1 bbl to clear lines						
14	Jul 28,2014 17:45	Stop		--	--	--	--	0.00
		Remarks: shut down to drop dart						
15	Jul 28,2014 17:50	Pump Displacement	Water	5.00	2,000.0	--	177.00	0.00
		Remarks: caught plug 31 bbls						
16	Jul 28,2014 18:33	Bump Plug		--	2,500.0	--	--	0.00
		Remarks: bumped plug 1000 over as per tool hand instructions						
17	Jul 28,2014 18:45	Pressure Test Lines		--	--	2,000.0	--	0.00
		Remarks: rig pressure tested back side						
18	Jul 28,2014 18:50	Pump	Water	--	1,300.0	--	111.00	0.00
		Remarks: rolled top of liner till clean						
19	Jul 28,2014 19:32	Stop		--	--	--	--	0.00
20	Jul 28,2014 19:45	Rig Out		--	--	--	--	0.00
21	Jul 28,2014 20:35	Wash		--	--	--	--	0.00
22	Jul 28,2014 21:15	Job Complete		--	--	--	--	0.00
23	Jul 28,2014 21:25	Pre-Departure Meeting		--	--	--	--	0.00
24	Jul 28,2014 21:30	Leave Location		--	--	--	--	0.00

Did Float Hold: Yes  
Fluid Returns : Yes  
Type : Cement  
Volume (bbl) : 20  
Temperature (°F) : 60  
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

9712

46775

**Comments To Service Report**

Job went great. rig still running drill pipe when we arrived so we rigged in what we could. 2 iinch readings and bulk delivery on PLC froze so we mixed cement completely in manual. Got half bbl cement on ground and cleaned up before we left. Great company rep and rig crew to work with.