



**Pumping
Service Report**

9200840

Client Name Whiting Petroleum Corp.	Well Name Horsetail 19N-1924 M-R	Rig Pioneer Drilling 54	Job Date December 06, 2014	Call Sheet 1051608
Client Representative Mr.	Surface Well Location Sec 19:T10N:R57W	Down Hole Well Location	Job Type Surface Casing	

Well Profile

Well Type:	Oil
Maximum Treating Pressure (psi):	---
Predicted Bottom Hole Static Temperature (°F):	--- @ --
Bottom Hole Circulating Temperature (°F):	--- @ --
Bottom Hole Logged Temperature (°F):	--- @ --

Open Hole

Size (in)	Excess (%)	TMD From (ft)	TMD To (ft)	TVD From (ft)	TVD To (ft)
13.500	25.000	0.000	--	--	--

Casing

Size	Weight	Grade	Collapse Pressure	Internal Yield Pressure	Capacity	I.D.	O.D.	Depth From	Depth To
(in)	(lb/ft)		(psi)	(psi)	(bbl)	(in)	(in)	(ft)	(ft)
9.625	36.000	J-55	2,020.0	3,520.0	120.14	8.921	10.625	0.0	1,554.0

Products

Stage 1

From Depth (ft): 0
To Depth (ft): 1554

Acids/Blends/Fluids:

Tail: 660 Sacks of 0:1:0 Type III, Density = 14.2 lb/gal, Volume Pumped = 172.8 (bbl)
Water Temperature(°F) = 60 , Bulk Temperature(°F) = 60 , Slurry Temperature(°F) = 60
+ 0.25 lb/sack of Polyflake (Preblend),
+ 1 % of CaCl₂ (Preblend)

Stage 2

From Depth (ft):
To Depth (ft):

Acids/Blends/Fluids:

Tail: 100 Sacks of 0:1:0 Type III, Density = 14.2 lb/gal, Volume Pumped = 26 (bbl)
Water Temperature(°F) = 60 , Bulk Temperature(°F) = 60 , Slurry Temperature(°F) = 60
+ 2 % of CaCl₂ (Prehydrate)

Fluid & Cement Data

Expected Cement Top: Surface

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	--	--	--	--	Oct 09, 2014 19:06



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Attachment & Tools

Down Hole Tools

<u>Tool Type</u>	<u>Depth (ft)</u>	<u>Supplier</u>
Guide Shoe	--	Third Party
Float Collar	--	Third Party

Tubular Plugs

<u>Tubular Plug Type</u>	<u>Size (in)</u>	<u>Supplier</u>
Rubber Top	9.625	Client

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>
201009	PICKUP	1 Ton	449093	TRAILER	Utility Trailer	12/06/2014 13:00	12/06/2014 23:45
445052	TRAILER	SCM Twin	745052	TRACTOR	Tandem - Tractor	12/06/2014 13:00	12/06/2014 23:45
201168	PICKUP	1 Ton				12/06/2014 13:00	12/06/2014 23:45

Crew and Bonuses

<u>Employee</u>	<u>Start Shift</u>	<u>End Shift</u>	<u>Second Start Shift</u>	<u>Second End Shift</u>
Maguire, Matthew	12/06/2014 13:00	12/06/2014 23:45		
Doran, Benjamin	12/06/2014 13:00	12/06/2014 23:45		
Teegerstrom, Ty	12/06/2014 13:00	12/06/2014 23:45		
Hall, Austin	12/06/2014 13:00	12/06/2014 23:45		
Welch, Steven	12/06/2014 13:00	12/06/2014 23:45		

Treatment Reports & Remarks



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Event #	Event Time	Event Description	Fluid Type	Rate (bbl/min)	Tubular Pressure (psi)	Annular Pressure (psi)	Stage Volume (bbl)	Total Volume (bbl)
1	Dec 06,2014 13:00	Arrive On Location	---	--	--	--	--	0.00
2	Dec 06,2014 13:10	Tailgate Meeting Remarks: Filled out JSA.	---	--	--	--	--	0.00
3	Dec 06,2014 18:30	Rig In	---	--	--	--	--	0.00
4	Dec 06,2014 19:10	STEACS Briefing	---	--	--	--	--	0.00
5	Dec 06,2014 19:20	Sign-off on Safety	---	--	--	--	--	0.00
6	Dec 06,2014 19:30	Start - Fluid Remarks: Filled lines.	Water	1.50	40.0	--	2.00	2.00
7	Dec 06,2014 19:31	Pressure Test Lines Remarks: All lines held pressure.	---	--	3,000.0	--	--	2.00
8	Dec 06,2014 19:31	Pump Preflush Remarks: Water + red dye indicator.	Water	5.00	113.0	--	20.00	22.00
9	Dec 06,2014 20:56	Mix Cement 0:1:0 Type III Remarks: WR=7.36, Y=1.47, D=14.2, Sk Wt=95.19, 115.7 bbls mix water.	0:1:0 Type III	5.00	200.0	--	172.80	194.80
10	Dec 06,2014 21:55	Stop	---	--	--	--	--	194.80
11	Dec 06,2014 21:57	Drop Plug	---	--	--	--	--	194.80
12	Dec 06,2014 21:58	Displace Fluid Water Based Mud	Water Based Mud	5.00	1,300.0	--	120.00	314.80
13	Dec 06,2014 22:27	Bump Plug Remarks: 500psi over.	---	--	1,300.0	--	--	314.80
14	Dec 06,2014 22:30	Check Float Remarks: Float held, 1 bbl back to pump truck.	---	--	1,300.0	--	--	314.80
15	Dec 06,2014 22:31	Stop	---	--	--	--	--	314.80
16	Dec 06,2014 22:45	Wash	Water	1.50	100.0	--	20.00	314.80
17	Dec 06,2014 23:15	Rig Out Remarks: Revisit JSA.	---	--	--	--	--	314.80
18	Dec 06,2014 23:30	Pre-Departure Meeting	---	--	--	--	--	314.80
19	Dec 06,2014 23:45	Job Complete	---	--	--	--	--	314.80
20	Dec 06,2014 23:55	Leave Location Remarks: Revisit JSA.	---	--	--	--	--	314.80

Did Float Hold: Yes
Fluid Returns : Yes
Type : Cement
Volume (bbl) : 40
Temperature (°F) : 60
FDAS Functioning Correctly : Yes
Was the Program Followed As Per Design? : Yes

Material Transfer Sheet Number

Material Transfer Sheet Number
54250
54251
54252



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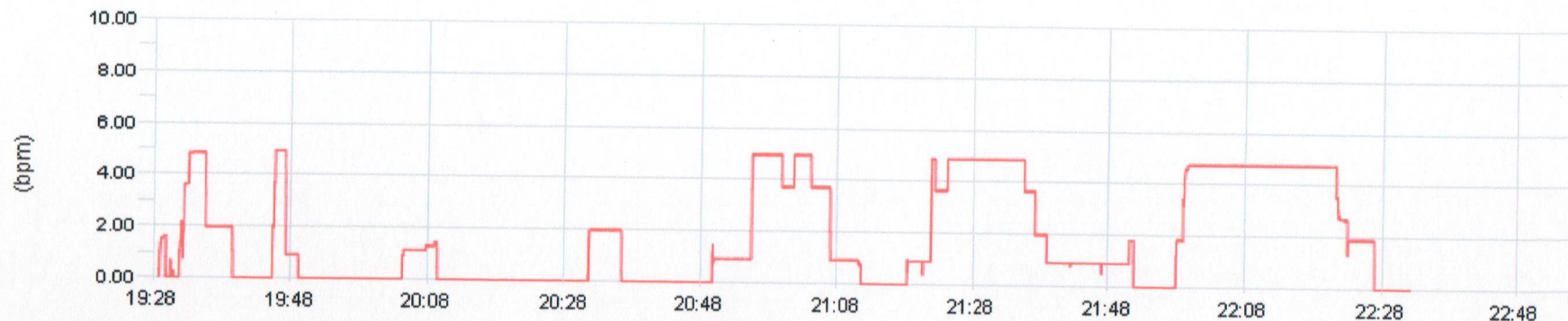
Comments To Service Report

Arrive location, tailgate meeting and JSA, went over numbers with company man Mr. David Brauch, staged pump truck, rigged in, STEACS, sign off on safety, fill lines w/ 2bbls, PT 3000psi, 20 bbls fresh ahead, 660 sacks 0-1-0 Type III, 172.8 bbls slurry, WR=7.36, Y=1.47, D=14.2, Sk Wt=95.19, stop/drop plug, displace 120.0 bbls, bump plug @ 1300psi (500psi over), hold pressure for 2 minutes, check floats, had 1.0 bbls back to pump truck, stop, wash up, revisiit JSA, rig-out, pre departure meeting, revisit JSA, leave location safely.

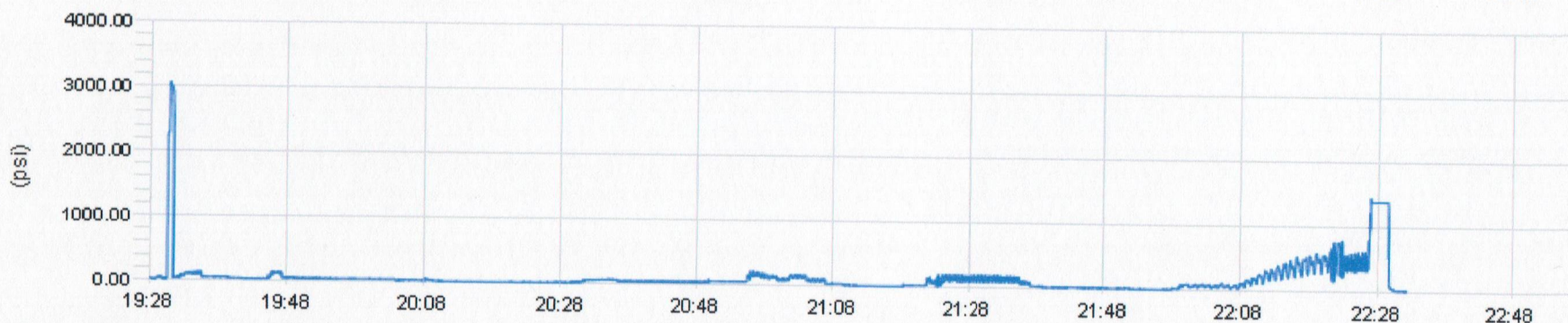


Client	Whiting Petroleum Corp.	Client Rep	Mr. David Brauck	Supervisor	Matthew Maguire
Ticket No.	9200840	Well Name	Horsetail 19N-1924 M-R	Unit No.	445052
Location	Sec 19: T10N: R57W	Job Type	Surface Casing	Service District	Fort Lupton
Comments	Mix and Pump 660 Sacks O:1:0 Type III cement @ 14.2 PPG(172.8 BBL), Displace 120.1 BBL of water, bump 500 psi over, If needed top off with 100 Sacks of O:1:0 type III @ 14.8 PPG (26 BBL).			Job Date	12/06/2014

Unit 445052 Rate Total



Unit 445052 Pump Pressure



Unit 445052 Density

