



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/18/2014
 Invoice # 65000
 API# 05-123-3809300
 Foreman: Lee Sharp

Customer: Peterson Energy Management
Well Name: Grant Hurt 1H-14H-G268

County: Weld Consultant: MIKE Q
 State: Colorado Rig Name & Number: PATERSON 326
 Sec: 14 Distance To Location: 21
 Twp: 2N Units On Location: 3104 & 3204
 Range: 68W Time Requested: 11:30
 Time Arrived On Location: 9:45
 Time Left Location: _____

WELL DATA	Cement Data
Casing Size OD (in) : <u>9.625</u>	Cement Name: <u>BFN III</u>
Casing Weight (lb) : <u>40.00</u>	Cement Density (lb/gal) : <u>15.2</u>
Casing Depth (ft.) : <u>832</u>	Cement Yield (cuft) : <u>1.27</u>
Total Depth (ft) : <u>885</u>	Gallons Per Sack: <u>5.89</u>
Open Hole Diameter (in.) : <u>12.25</u>	% Excess: <u>50%</u>
Conductor Length (ft) : <u>80</u>	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID : <u>15.25</u>	BBL to Pit: <u>0.0</u>
Shoe Joint Length (ft) : <u>44</u>	Fluid Ahead (bbls): <u>30.0</u>
Landing Joint (ft) : <u>35</u>	H2O Wash Up (bbls): <u>20.0</u>
Max Rate: _____	Spacer Ahead Makeup
Max Pressure: _____	<u>10F-10D-10F</u>

Calculated Results	Pressure of cement in annulus
cuft of Shoe <u>18.75</u> cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: <u>62.40</u> bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor <u>61.05</u> cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Pressure of cement in annulus Hydrostatic Pressure: <u>656.95</u> PSI
cuft of Casing <u>353.27</u> cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing Displacement: <u>339.75</u> psi
Total Slurry Volume <u>433.07</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Shoe Joint: <u>34.78</u> psi
bbls of Slurry <u>77.13</u> bbls (Total Slurry Volume) X (.1781)	Total <u>374.53</u> psi
Sacks Needed <u>341</u> sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Differential Pressure: <u>282.42</u> psi
Mix Water <u>47.82</u> bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Collapse PSI: <u>2570.00</u> psi
	Burst PSI: <u>3950.00</u> psi
	Total Water Needed: <u>160.22</u> bbls

X _____
 Authorization To Proceed

Customers hereby acknowledges and specifically agrees to the terms and condition on this work order, including, without limitation, the provisions on this work order.



**Bison Oil Well Cementing
Single Cement Surface Pipe**

Customer
Well Name

Peterson Energy Management
Grant Hurt 1H-14H-G268

INVOICE #
LOCATION
FOREMAN
Date

65000
Weld
Lee Sharp
7/18/2014

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DESCRIPTION OF JOB EVENTS

		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
		BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI
Safety Meeting	4:20															
MIRU	3:00															
CIRCULATE	4:48	0	5:20	0	0			0			0			0		
Drop Plug		10	5:22	55	10			10			10			10		
	5:17	20	5:24	80	20			20			20			20		
		30	5:26	205	30			30			30			30		
		40	5:28	370	40			40			40			40		
M & P		50	5:30	345	50			50			50			50		
Time	Sacks	60	5:34	317	60			60			60			60		
4:54	341	70	5:36	600	70			70			70			70		
		80	5:38	1529	80			80			80			80		
		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	51%	120			120			120			120			120		
Mixed bbls	48	130			130			130			130			130		
Total Sacks	342	140			140			140			140			140		
bbl Returns	18	150			150			150			150			150		
Water Temp	20															

Notes:

The day JOB WENT WELL, M&P 342 SACKS; PLUG LANDED ON CALCULATED DISPLACEMENT; FINAL LIFT 330 LANDED@610 PSI TEST 1500 FOR 15 MIN
1529PSI RELEASE @ 1423 3/4 BBL BACK

X
Work Performed

X *Well Site Supervisor*
Title

X *7-18-14*
Date