



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/8/2015
 Invoice # 25121
 API# 05-123-39852
 Foreman: Calvin Reimers

Customer: Noble Energy Inc.
Well Name: Sharpe State LD 02-79-1BHN

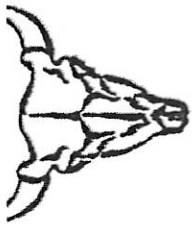
County: Weld Consultant: Dave
 State: Colorado Rig Name & Number: H&P 273
 Distance To Location: 80 Miles
 Sec: 2 Units On Location: 4023-3104/4034-3211
 Twp: 9N Time Requested: 430am
 Range: 58W Time Arrived On Location: 315am
 Time Left Location: 3:15pm

WELL DATA	Cement Data
Casing Size OD (in) : <u>9.625</u>	Cement Name: <u>BFN III</u>
Casing Weight (lb) : <u>36.00</u>	Cement Density (lb/gal) : <u>14.2</u>
Casing Depth (ft.) : <u>1,220</u>	Cement Yield (cuft) : <u>1.49</u>
Total Depth (ft) : <u>1254</u>	Gallons Per Sack: <u>7.48</u>
Open Hole Diameter (in.) : <u>13.50</u>	% Excess: <u>20%</u>
Conductor Length (ft) : <u>100</u>	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID : <u>16</u>	BBL to Pit: <u>29</u>
Shoe Joint Length (ft) : <u>44</u>	Fluid Ahead (bbls): <u>30.0</u>
Landing Joint (ft) : <u>29</u>	H2O Wash Up (bbls): <u>20.0</u>
Max Rate: <u>7</u>	Spacer Ahead Makeup
Max Pressure: <u>2500</u>	<u>30bbls H2O+Dye in 2nd 10bbls</u>

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results	Displacement: <u>93.14</u> bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)		
cuft of Shoe (Casing ID Squared) X (.005454) X (Shoe Joint ft)	<u>19.31</u>	cuft	Pressure of cement in annulus
cuft of Conductor (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	<u>89.10</u>	cuft	Hydrostatic Pressure: <u>900.04</u> PSI
cuft of Casing (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	<u>656.89</u>	cuft	Pressure of the fluids inside casing
Total Slurry Volume (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	<u>765.29</u>	cuft	Displacement: <u>506.89</u> psi
bbls of Slurry (Total Slurry Volume) X (.1781)	<u>136.30</u>	bbls	Shoe Joint: <u>32.81</u> psi
Sacks Needed (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	<u>514</u>	sk	Total: <u>539.70</u> psi
Mix Water (Sacks Needed) X (Gallons Per Sack) ÷ 42	<u>91.47</u>	bbls	Differential Pressure: <u>360.34</u> psi
			Collapse PSI: <u>2020.00</u> psi
			Burst PSI: <u>3520.00</u> psi
			Total Water Needed: <u>234.61</u> bbls

X [Signature]
 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.



WORLDWIDE WELL CONSTRUCTION

Single Cement Surface Pipe

INVOICED TO
LOCATION
FOREMAN
Date

WELLED
Weld
Calvin Reimers
1/8/2015

Customer
Well Name

Noble Energy Inc.
Sharpe State LD 02-79-1BHN

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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	1252pm														
MIRU	1215pm														
CIRCULATE	119pm														
Drop Plug															
151pm															
M & P															
Time															
Sacks															
125pm															
148pm															
% Excess															
Mixed bbbls															
Total Sacks															
bbbl Returns															
Water Temp															

Notes:

The day

1/2 bbl Back on Bleed Off

Casing PSI Test 213pm 1000psi to 228pn 1010psi

X 

X CO MAN

X 1-8-15

Work Performed

Title

Date