



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/4/2014

Invoice # 55009

API# _____

Foreman: monte

Customer: Noble Energy Inc.

Well Name: NCLP AA07-69-1AHNC

County: Weld

State: Colorado

Sec: 4

Twp: 6N

Range: 63W

Consultant: SHANE

Rig Name & Number: h&p 322

Distance To Location: 31.9

Units On Location: 4028-3102 4007-3210

Time Requested: 11:30PM

Time Arrived On Location: 10:35

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>36.00</u>	Cement Density (lb/gal) : <u>15.2</u>
Casing Depth (ft) : <u>801</u>	Cement Yield (cuft) : <u>1.27</u>
Total Depth (ft) : <u>881</u>	Gallons Per Sack: <u>5.89</u>
Open Hole Diameter (in.) : <u>13.75</u>	% Excess: <u>15%</u>
Conductor Length (ft) : <u>124</u>	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID : <u>15.6</u>	BBL to Pit:
Shoe Joint Length (ft) : <u>46</u>	Fluid Ahead (bbls): <u>60.0</u>
Landing Joint (ft) : <u>30</u>	H2O Wash Up (bbls): <u>20.0</u>
Max Rate: <u>5</u>	Spacer Ahead Makeup
Max Pressure: <u>2000</u>	<u>10 fresh 10 dye 40 fresh</u>

Calculated Results	Pressure of cement in annulus
cuft of Shoe <u>19.97</u> cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: <u>60.69</u> bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor <u>101.93</u> cuft (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: <u>632.47</u> PSI
cuft of Casing <u>409.43</u> cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing
Total Slurry Volume <u>531.33</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: <u>325.54</u> psi
bbls of Slurry <u>94.63</u> bbls (Total Slurry Volume) X (.1781)	Shoe Joint: <u>36.32</u> psi
Sacks Needed <u>418</u> sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total <u>361.86</u> psi
Mix Water <u>58.67</u> bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: <u>270.61</u> psi
	Collapse PSI: <u>2020.00</u> psi
	Burst PSI: <u>3520.00</u> psi
	Total Water Needed: <u>199.36</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.



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

Customer
Well Name

Noble Energy Inc.
NCLP AA07-69-1AHNC

INVOICE #
LOCATION
FOREMAN
Date

Tr

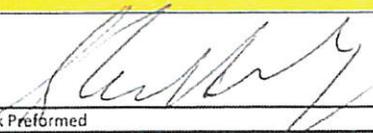
DESCRIPTION OF JOB EVENTS

		Displace 1			Displace 2			Displace 3			Displace 4	
		BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time
Safety Meeting	12:15											
MIRU	11:45											
CIRCULATE	12:54	0	131	0	0			0			0	
Drop Plug		10	133	40	10			10			10	
1:31		20	135	120	20			20			20	
		30	137	170	30			30			30	
		40	140	270	40			40			40	
M & P		50	142	300	50			50			50	
Time	Sacks	60	145	320	60			60			60	
1:05-1:28	418	650	148	520	70			70			70	
		80			80			80			80	
		90			90			90			90	
		100			100			100			100	
		110			110			110			110	
% Excess	15%	120			120			120			120	
Mixed bbls	58.63	130			130			130			130	
Total Sacks	418	140			140			140			140	
bbl Returns	10	150			150			150			150	
Water Temp	69											

Notes:

Safety Meeting, miru, pressure test per company man circulate 60 bbls ahead with dye in 2nd 10, mix and pump 418 sks cement at bumped at 1:48 Am, at 520 psi, 10 bbls to pit .

lossing test 1000 - 15 min

X 
Work Performed

X _____
Title