



# BISON

Bison Oil Well Cementing Inc.  
1547 Gaylord Street  
Denver, CO 80206  
303-296-3010

## Invoice

Date	Invoice #
1/15/2014	12808

Bill To
Noble Energy Inc. Attn: Accounting 1625 Broadway Ste 2000 Denver, CO 80202

Location	Well Name & No.	Terms	Job Type		
Weld CO	NCLP PCAA04-63-1HN	Net 30	Surface Pipe		
Item	Description	Qty	U/M	Rate	Amount
Pump surface	PUMP Charge-surface pipe	1			
Discount 15%	Discount 15%				
MILEAGE	Mileage charge	360			
Discount 15%	Discount 15%				
Data Acquisition ...	Data Acquisition Charge	1			
Discount 15%	Discount 15%				
HOURS	Wait Time	3.25			
	Subtotal of Services				
BFN III Winter ...	BFN III Blend-Lead	384	Sack		
Discount 15%	Discount 15%				
KCL Mud Flush	(BHS 117)	4	qt		
Discount 15%	Discount 15%				
Dye - 4880	Dye (Hot Pink 4880)	16	oz		
Discount 15%	Discount 15%				
	Subtotal of Materials				

Please Remit Payment To:

Bison Oil Well Cementing, Inc.  
P.O. Box 29671  
Thornton, CO 80229

Subtotal

Sales Tax

Total

Balance



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/15/2014

Invoice # 12808

API# 05-123-37173

Foreman: Calvin Reimers

Customer: Noble

Well Name: NCLP PC AA 04-63-1HN

County: Weld

State: Colorado

Sec: 4

Twp: 6N

Range: 63W

Consultant: Josh

Rig Name & Number: H&P 321

Distance To Location: 32 Miles

Units On Location: 3106/3204

Time Requested: 1130pm

Time Arrived On Location: 1000pm

Time Left Location: 645am

## WELL DATA

Casing Size OD (in) : 9.6250  
Casing Weight (lb) : 36  
Casing Depth (ft) : 607  
Total Depth (ft) : 645  
Open Hole Diameter (in.) : 13.75  
Conductor Length (ft) : 100  
Conductor ID : 16  
Shoe Joint Length (ft) : 45  
Landing Joint (ft) : 34

Max Rate: 7  
Max Pressure: 2500

## Cement Data

Cement Name: BFN III  
Cement Density (lb/gal) : 15.2  
Cement Yield (cuft) : 1.27  
Gallons Per Sack: 5.89  
% Excess: 30%  
Displacement Fluid lb/gal: 8.3  
BBL to Pit: 21.0  
Fluid Ahead (bbls):  
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup  
10bbls H2O+KCL+Dye in 2nd 10bbls

Casing ID

8.921

Casing Grade

J-55 only used

## Calculated Results

cuft of Shoe 19.42 cuft  
(Casing ID Squared) X (.005454) X (Shoe Joint ft)  
cuft of Conductor 89.10 cuft  
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X  
(Conductor Length ft)  
cuft of Casing 266.46 cuft  
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing  
Depth - Conductor Length)  
Total Slurry Volume 374.97 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)  
bbls of Slurry 86.82 bbls  
(Total Slurry Volume) X (.1781) X (% Excess Cement)  
Sacks Needed 384 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)  
Mix Water 53.83 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 46.10 bbls

(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe  
Joint)

## Pressure of cement in annulus

Hydrostatic Pressure: 479.03 PSI

## Pressure of the fluids inside casing

Displacement: 242.30 psi

Shoe Joint: 35.32 psi

Total 277.62 psi

Differential Pressure: 201.41 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 73.83 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

Noble  
NCLP PC AA 04-63-1HN

INVOICE #  
LOCATION  
FOREMAN  
Date

12808  
Weld  
Calvin Reimers  
1/15/2014

Treatment Report Page 2

**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	4:35am															
MIRU	3:30am															
	5:13am															
CIRCULATE		0	5:41am	130	0			0			0			0		
Drop Plug		10	5:44am	230	10			10			10			10		
		20	5:46am	280	20			20			20			20		
		30	5:48am	330	30			30			30			30		
		40	5:50am	330	40			40			40			40		
		50	5:53am	270	50			50			50			50		
M & P		60	5:53am	510	60			60			60			60		
		70	Bump		70			70			70			70		
Time	Sacks	70			70			70			70			70		
520am		80			80			80			80			80		
538am		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
		120			120			120			120			120		
% Excess	30%	120			120			120			120			120		
Mixed bbls	53.83	130			130			130			130			130		
Total Sacks	384	140			140			140			140			140		
		150			150			150			150			150		
bbl Returns	11															

Notes:

The day

Ficat Held

1/2 bbl back on bleed off

Work performed

X

Time

WSS

X

Date

1/15/14