



# BISON

## Invoice

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

Date	Invoice #
7/2/2014	25015

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

Location	Well Name & No.	Terms	Job Type		
Weld CO	NCLP AA06-62-1AHNC	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%				
Service Charge	Casing PSI Test	1			
	Subtotal of Services				
BFN III Summer ...	BFN III Blend	429	Sack		
Discount 15%	Discount 15%				
KCL Mud Flush	(BHS 117)	6	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: 7/2/2014  
 Invoice # 25015  
 API# 05-123-39106  
 Foreman: Calvin Reimers

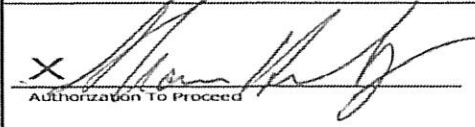
Customer: Noble Energy Inc.  
 Well Name: NCLP AA 06-62-1AHNC

County: Weld  
 State: Colorado  
 Sec: 4  
 Twp: 6N  
 Range: 63W

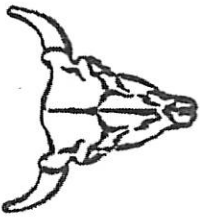
Consultant: Charles  
 Rig Name & Number: H&P 322  
 Distance To Location: 30 Miles  
 Units On Location: 4023-3104/4007-3210  
 Time Requested: 100am  
 Time Arrived On Location: 1045pm  
 Time Left Location: 500am

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>821</u>	Cement Yield (cuft) : <u>1.27</u>
Total Depth (ft) : <u>854</u>	Gallons Per Sack: <u>5.89</u>
Open Hole Diameter (in.) : <u>13.75</u>	% Excess: <u>15%</u>
Conductor Length (ft) : <u>100</u>	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID : <u>16</u>	BBL to Pit: <u>11.0</u>
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>7</u>	Spacer Ahead Makeup
Max Pressure: <u>2500</u>	<u>10bbls H2O+KCL+Dye in 2nd 10bbls</u>

Calculated Results	Pressure of cement in annulus
Casing ID <u>8.921</u>	Casing Grade <u>J-55 only used</u>
Displacement: <u>62.22 bbls</u> (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	Hydrostatic Pressure: <u>647.89 PSI</u>
cuft of Shoe <u>19.84</u> cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Pressure of the fluids inside casing
cuft of Conductor <u>89.10</u> cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Displacement: <u>334.08 psi</u>
cuft of Casing <u>435.75</u> cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )	Shoe Joint: <u>36.10 psi</u>
Total Slurry Volume <u>544.69</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Total <u>370.18 psi</u>
bbls of Slurry <u>97.01</u> bbls (Total Slurry Volume) X (.1781)	Differential Pressure: <u>277.71 psi</u>
Sacks Needed <u>429</u> sk (Total Slurry Volume) + (Cement Yield) X (% Excess Cement)	Collapse PSI: <u>2020.00 psi</u>
Mix Water <u>60.15</u> bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Burst PSI: <u>3520.00 psi</u>
	Total Water Needed: <u>202.37 bbls</u>

  
 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 AA 06-62-1AHNC

INVOICE #  
LOCATION  
FOREMAN  
Date

25015  
Weid  
Calvin Reimers  
7/2/2014

Treatment Report Page 2

**DESCRIPTION OF JOB EVENTS**

	243am 155am 303am	Displace 1		Displace 2		Displace 3		Displace 4		Displace 5	
		BBLs	Time	BBLs	Time	BBLs	Time	BBLs	Time	BBLs	Time
Safety Meeting		0	346am	0		0		0		0	
MIRU		10	349am	10		10		10		10	
CIRCULATE		20	350am	20		20		20		20	
Drop Plug		30	352am	30		30		30		30	
345am		40	354am	40		40		40		40	
M & P		50	356am	50		50		50		50	
Time	Sacks	60	358am	60		60		60		60	
316am	429	70	400am	70		70		70		70	
341am		80	Bump	80		80		80		80	
		90		90		90		90		90	
		100		100		100		100		100	
		110		110		110		110		110	
% Excess	15%	120		120		120		120		120	
Mixed bbls	60.15	130		130		130		130		130	
Total Sacks	429	140		140		140		140		140	
bbl Returns	11	150		150		150		150		150	
Water Temp	71										

Notes:

The day

1/2 bbl Back on Bleed off

Casing PSI Test 401am 1030psi to 416am 1060psi

*Sham...*

X

Work Performed

X

Title

X

Date