



BISON

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

Invoice

Date	Invoice #
12/29/2013	12608

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

Location	Well Name & No.	Terms	Job Type		
Weld CO	NCLP PCAA04-62-11N	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 Winter ...	BFN III Blend	367	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 2.0%	
Total	
Balance Due	



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 12/29/2013
Invoice #: 12608
API#: 05-123-37175
Foreman: Calvin Reimers

Customer: Noble
Well Name: NCLP PC AA 04-62-1HN

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

Consultant: Jim T.
Rig Name & Number: H&P 321
Distance To Location: 31 Miles
Units On Location: 3106/3204
Time Requested: 100pm
Time Arrived On Location: 1115am
Time Left Location: 545pm

WELL DATA

Casing Size OD (in) : 9.6250
Casing Weight (lb) : 36
Casing Depth (ft) : 602
Total Depth (ft) : 641
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: 25%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 16.0
Fluid Ahead (bbls):
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
0bbls H2O+KCL+Dye in 2nd 10bbls

Casing ID

R 921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.64 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 263.79 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing
Depth - Conductor Length)
Total Slurry Volume 372.53 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 82.93 bbls
(Total Slurry Volume) X (.1781) X (% Excess Cement)
Sacks Needed 367 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 51.42 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 45.66 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe
Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 475.03 PSI

Pressure of the fluids inside casing

Displacement: 239.89 psi

Shoe Joint: 35.73 psi

Total 275.62 psi

Differential Pressure: 199.41 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 71.42 bbls

X
AUTHORITY 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

INVOICE #
LOCATION
FOREMAN
Date

12608
Weld
Calvin Reimers
12/29/2013

Customer
Well Name

Noble
NCLP PC AA 04-62-1HN

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	256pm														
MIRU	210pm														
CIRCULATE	353pm														
Drop Plug															
424pm															
M & P															
Time	Sacks														
401pm	367														
421pm															
% Excess	25%														
Mixed bbls	51.42														
Total Sacks	367														
bbl Returns															

Notes:

The day

Float Held

Casing PSI Test 437pm 1020PSI to 452pm 1020PSI

X

X WSS

X 12-29-13

Work performed