



BISON

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

Invoice

Date	Invoice #
12/10/2013	12561

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

Location	Well Name & No.	Terms	Job Type		
Weld CO	NCLP PCAA04-69-111N	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 Test	1			
HOURS	Wait Time	4			
	Subtotal of Services				
BFN III Winter ...	BFN III Blend	385	Sack		
Discount 15%	Discount 15%				
KCL Mud Flush	(BHS 117)	5	qt		
Discount 15%	Discount 15%				
Dye - 4880	Dye (Hot Pink 4880)	10	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 (2.8%)	
Total	
Balance Due	



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 12/10/2013

Invoice # 12561

API#

Foreman: Kirk

Customer: noble

Well Name: nclp pc aa 04-69-1hn

County: weld

State: Colorado

Sec: 4

Twp: 6n

Range: 63w

Consultant: stetson

Rig Name & Number: h&p 321

Distance To Location:

Units On Location: 3103-3210

Time Requested: 830am

Time Arrived On Location: 800am

Time Left Location: 4:30 pm

WELL DATA

Casing Size OD (in) : 9.6250
Casing Weight (lb) : 36
Casing Depth (ft.) : 721
Total Depth (ft) : 758
Open Hole Diameter (in.) : 13.75
Conductor Length (ft) : 100
Conductor ID : 15.5
Shoe Joint Length (ft) : 42
Landing Joint (ft) : 27

Max Rate:

Max Pressure:

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:
Fluid Ahead (bbls):
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.23 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)
cuft of Conductor 80.51 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X
(Conductor Length ft)
cuft of Casing 326.57 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing
Depth - Conductor Length)
Total Slurry Volume 425.31 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 98.47 bbls
(Total Slurry Volume) X (.1781) X (% Excess Cement)
Sacks Needed 435 sk
(Total Slurry Volume) : (Cement Yield) X (% Excess Cement)
Mix Water 61.05 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 54.58 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe
Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 569.30 PSI

Pressure of the fluids inside casing

Displacement: 292.77 psi

Shoe Joint: 33.16 psi

Total 325.94 psi

Differential Pressure: 243.37 psi

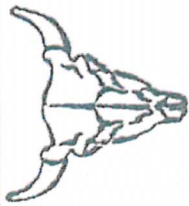
Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 81.05 bbls

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 p c aa 04-69-1hm

INVOICE #
LOCATION
FOREMAN
Date

12561
weld
Kirk
12/10/2013

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	211pm														
MIRU	115pm														
CIRCULATE	244pm														
Drop Plug															
318 pm															
M & P															
Time	Sacks														
254 pm	385														
313 pm stop															
% Excess	15%														
Mixed bbls	54														
Total Sacks	385														
bbl Returns	16														

Notes:

bumped plug at 332pm 460 psi 87 bbls slurry

[Signature]

X WSS

X 12/10/13

Work Performed

Title

Date