



BISON

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

Invoice

Date	Invoice #
5/31/2014	12261

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

Location	Well Name & No.	Terms	Job Type		
Weld CO	NCLP AA07-69HNA	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	438	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 Due	



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 5/31/2014
Invoice #: 12261
API#:
Foreman: monte

Customer: noble

Well Name: nclp aa07-69hnc

County: weld
State: colorado

Sec: 4
Twp: 6n
Range: 63w

Consultant: jeramy
Rig Name & Number: h&p 322
Distance To Location: 32.4
Units On Location: 4028-3102 / 4024-3203
Time Requested: 3:00pm
Time Arrived On Location: 1:30
Time Left Location:

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 811
Total Depth (ft) : 858
Open Hole Diameter (in.) : 13.75
Conductor Length (ft) : 124
Conductor ID : 15.6
Shoe Joint Length (ft) : 47
Landing Joint (ft) : 30

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: 20%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 0.0
Fluid Ahead (bbls): 60.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
10 fresh 10 dye 40 fresh

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 20.23 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 101.93 cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 433.54 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 555.70 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 98.97 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 438 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 61.36 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 61.41 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 640.37 PSI

Pressure of the fluids inside casing

Displacement: 329.59 psi

Shoe Joint: 36.80 psi

Total 366.39 psi

Differential Pressure: 273.98 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 202.78 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.



INVOICE #
LOCATION
FOREMAN
Date

12261	weld	monte	5/31/201
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Customer
Well Name


noble	nclp aa07-69hnc
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DESCRIPTION OF JOB EVENTS

[illegible]

Notes:

safety meeting. Miru, pressure test per company man. Circulate 60 bbls ahead with dye in 2nd 10, mix and pump 438 bbls at 15.2 lb at 205 excess, drop plug and displace. Bump plug at 6:54 pm at 500 psi 12 bbls back


 David L. Hays

X	Title
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X	Date
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