



BISON

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

Invoice

Date	Invoice #
6/12/2014	12265

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

Location	Well Name & No.	Terms	Job Type		
Weld CO	NCLP AA06-66-1BHNC SA	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	420	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: 6/12/2014
Invoice #: 12265
API#:
Foreman: monte

Customer: noble
Well Name: nclp aa06-66-1bhna

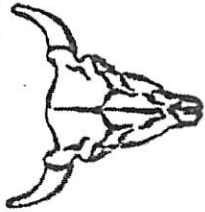
County: weld
State: colorado
Sec: 4
Twp: 6n
Range: 63w
Consultant: seth
Rig Name & Number: h&p 343
Distance To Location: 31.9
Units On Location: 4028-3102 / 4017-2311
Time Requested: 7:00pm
Time Arrived On Location: 5:30
Time Left Location:

WELL DATA	Cement Data
Casing Size OD (in) : 9.625	Cement Name: BFN III
Casing Weight (lb) : 36.00	Cement Density (lb/gal) : 15.2
Casing Depth (ft) : 805	Cement Yield (cuft) : 1.27
Total Depth (ft) : 840	Gallons Per Sack: 5.89
Open Hole Diameter (in.) : 13.75	% Excess: 15%
Conductor Length (ft) : 124	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.6	BBL to Pit: 0.0
Shoe Joint Length (ft) : 45	Fluid Ahead (bbls): 60.0
Landing Joint (ft) : 29	H2O Wash Up (bbls): 20.0
Max Rate:	Spacer Ahead Makeup
Max Pressure:	10 fresh 10 dye 40 fresh

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results		Displacement: 61.00 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
cuft of Shoe	19.53	cuft	Pressure of cement in annulus
(Casing ID Squared) X (.005454) X (Shoe Joint ft)			
cuft of Conductor	101.93	cuft	Hydrostatic Pressure: 635.63 PSI
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)			
cuft of Casing	411.85	cuft	Pressure of the fluids inside casing
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)			
Total Slurry Volume	533.31	cuft	Displacement: 327.70 psi
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)			
bbls of Slurry	94.98	bbls	Shoe Joint: 35.53 psi
(Total Slurry Volume) X (.1781)			
Sacks Needed	420	sk	Total 363.23 psi
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)			
Mix Water	58.89	bbls	Differential Pressure: 272.40 psi
(Sacks Needed) X (Gallons Per Sack) ÷ 42			
			Collapse PSI: 2020.00 psi
			Burst PSI: 3520.00 psi
			Total Water Needed: 199.89 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

INVOICE #
LOCATION
FOREMAN
Date

12265
weld
monte
6/12/2014

Customer
Well Name

noble
ncip aa06-66-1bhna

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

	8:00 7:40 8:27	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		0	9:05	20	0			0			0			0		
MIRU		10	9:08	40	10			10			10			10		
CIRCULATE		20	9:10	120	20			20			20			20		
Drop Plug		30	9:12	160	30			30			30			30		
	9:05	40	9:15	260	40			40			40			40		
		50	9:17	290	50			50			50			50		
M & P		60	9:19	310	60			60			60			60		
Time	Sacks	70	9:20	650	70			70			70			70		
8:41-9:00		80			80			80			80			80		
		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
		120			120			120			120			120		
% Excess	0%	130			130			130			130			130		
Mixed bbls	58.89	140			140			140			140			140		
Total Sacks	420	150			150			150			150			150		
bbl Returns	16															
Water Temp	67															

Notes:

safety meeting. Miru, pressure test per company man. Circulate 60 bbls ahead with dye in 2nd 10, mix and pump 420 bbls at 15.2 lb at 15 excess, drop plug and displa
bump plug at 9:20 pm at 630 psi 16 bbls back

[Signature]

X Title *WSS*

X Date

Work Performed