



BISON

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

Invoice ✓

Date	Invoice #
8/30/2014	35028

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

Location	Well Name & No.	Terms	Job Type		
Weld CO	Coalview G02-63-11N	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	PSI Test	1			
	Subtotal of Services				
BFN III Summer ...	BFN III Blend	328	Sack		
Discount 15%	Discount 15%				
KCL Mud Flush	(BHS 117)	5	qt		
Discount 15%	Discount 15%				
Dye - 4880	Dye (Hot Pink 4880)	16	oz		
Discount 15%	Discount 15%				
	Subtotal of Materials				

Please Remit Payment To:

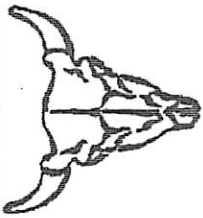
Bison Oil Well Cementing, Inc.
P.O. Box 29671
Thornton, CO 80229

Subtotal

Sales Tax

Total

Balance



Bison Oil Well Cementing
Single Cement Surface Pipe

Customer
Well Name

Noble Energy Inc.
coalview g02-63-1hn

INVOICE #
LOCATION
FOREMAN
Date

35028
Weld
Kirk Kallhoff
8/30/2014

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	1040am														
MIRU	1015am														
CIRCULATE	1103am														
Drop Plug															
1134am															
M & P															
Time		Sacks													
1113 am		328													
1134 am stop															
% Excess		9%													
Mixed bbls		46													
Total Sacks		328													
bbl Returns		9													
Water Temp															

Notes:

bumped plug at 1147 am 530 psi

74.1 bbls slurry

casing test 1000 psi 15 min

X

X WSS

X 8-30-14

Work Performed

Title

Date



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/30/2014
Invoice #: 35028
API#:
Foreman: Kirk Kallhoff

Customer: Noble Energy Inc.
Well Name: coalview g02-63-1hn

County: Weld Consultant: seth
State: Colorado Rig Name & Number: h&p 343
Distance To Location: 10
Sec: 9 Units On Location: 4030-3103/4017-3211
Twp: 4n Time Requested: 900 am
Range: 66w Time Arrived On Location: 715 am
Time Left Location: 12:45 pm

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) : 640	Cement Yield (cuft) : 1.27
Total Depth (ft) : 680	Gallons Per Sack: 5.89
Open Hole Diameter (in.) : 13.75	% Excess: 30%
Conductor Length (ft) : 100	Displacement Fluid lb/gal: 8.3
Conductor ID : 16	BBL to Pit:
Shoe Joint Length (ft) : 45	Fluid Ahead (bbls): 50.0
Landing Joint (ft) : 30	H2O Wash Up (bbls): 20.0
Max Rate:	Spacer Ahead Makeup
Max Pressure:	

Calculated Results	Displacement: 48.32 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Shoe 19.53 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Pressure of cement in annulus
cuft of Conductor 89.10 cuft (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: 505.34 PSI
cuft of Casing 369.17 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing
Total Slurry Volume 477.80 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: 256.55 psi
bbls of Slurry 85.10 bbls (Total Slurry Volume) X (.1781)	Shoe Joint: 35.53 psi
Sacks Needed 376 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total 292.08 psi
Mix Water 52.76 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: 213.26 psi
	Collapse PSI: 2020.00 psi
	Burst PSI: 3520.00 psi
	Total Water Needed: 171.08 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.