



BISON

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

Invoice

Date	Invoice #
8/18/2014	35019

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

Location	Well Name & No.	Terms	Job Type		
Weld CO	Coalview G02-64-1HN	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%				
	Subtotal of Services				
BFN III Summer ...	BFN III Blend	357	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

Total

Balance Due



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/18/2014
Invoice #: 35019
API#
Foreman: Kirk Kallhoff

Customer: Noble Energy Inc.

Well Name: coalview g 02-64-1hn

County: Weld
State: Colorado
Sec: 9
Twp: 4n
Range: 66w

Consultant: matt
Rig Name & Number: h&p 343
Distance To Location: 10
Units On Location: 4030-3103/4017-3212
Time Requested: 330 pm
Time Arrived On Location: 215 pm
Time Left Location: 6:15 pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 647
Total Depth (ft) : 687
Open Hole Diameter (in.) : 13.75
Conductor Length (ft) : 100
Conductor ID : 16
Shoe Joint Length (ft) : 42
Landing Joint (ft) : 30

Max Rate:
Max Pressure:

Cement Data

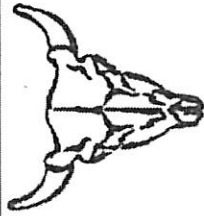
Cement Name: BFN III
Cement Density (lb/gal) : 15.2
Cement Yield (cuft) : 1.27
Gallons Per Sack: 5.89
% Excess: 30%
Displacement Fluid lb/gal: 8.3
BBL to Pit:
Fluid Ahead (bbls): 50.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results		Displacement: 49.09 bbls	
cuft of Shoe	18.23	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
(Casing ID Squared) X (.005454) X (Shoe Joint ft)		Pressure of cement in annulus	
cuft of Conductor	89.10	Hydrostatic Pressure: 510.87 PSI	
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)		Pressure of the fluids inside casing	
cuft of Casing	373.96	Displacement: 260.86 psi	
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		Shoe Joint: 33.16 psi	
Total Slurry Volume	481.28	Total 294.03 psi	
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		Differential Pressure: 216.84 psi	
bbls of Slurry	85.72	Collapse PSI: 2020.00 psi	
(Total Slurry Volume) X (.1781)		Burst PSI: 3520.00 psi	
Sacks Needed	379	Total Water Needed: 172.24 bbls	
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)			
Mix Water	53.15		
(Sacks Needed) X (Gallons Per Sack) ÷ 42			

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

35019
Weld
Kirk Kallhoff
8/18/2014

Customer
Well Name

Noble Energy Inc.
coalview g 02-64-1hn

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	407pm														
MIRU	330pm														
CIRCULATE	434pm														
Drop Plug															
508pm															
M & P															
Time	Sacks														
445 pm	357														
505 pm stop															
% Excess	22%														
Mixed bbls	50														
Total Sacks	357														
bbl Returns	12														
Water Temp															

Notes:

bumped plug at 521 pm 530 psi 80.7 bbls slurry

casing test 1000 psi 15 min

X

[Signature]

X

[Signature]

X 8-18-14

Work Performed

Title

Date