



BISON

Invoice

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

Date	Invoice #
2/21/2014	12067

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

Location	Well Name & No.	Terms	Job Type		
Weld CO	Peaks K-26-77-1HN	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 Winter ...	BFN III Blend	371	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 Due



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/21/2014
Invoice #: 12067
API#: 05-123-38238
Foreman: Calvin Reimers

Customer: Noble
Well Name: Peaks K 26-77-1HN

County: Weld
State: Colorado

Sec: 35
Twp: 4N
Range: 66W

Consultant: Mike
Rig Name & Number: H&P 273
Distance To Location: 3 Miles
Units On Location: 3103/3204
Time Requested: 630am
Time Arrived On Location: 400am
Time Left Location: 930am

WELL DATA

Casing Size OD (in): 9.625
Casing Weight (lb): 36.00
Casing Depth (ft): 640
Total Depth (ft): 674
Open Hole Diameter (in.): 13.75
Conductor Length (ft): 100
Conductor ID: 16
Shoe Joint Length (ft): 45
Landing Joint (ft): 30

Max Rate: 7
Max Pressure: 2500

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: 18.0
Fluid Ahead (bbls): 50.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
10bbls H2O+KCL+Dye in 2nd 10bbls

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.56 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 89.10 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 284.18 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 392.84 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 83.96 bbls
(Total Slurry Volume) X (.1781) X (% Excess Cement)

Sacks Needed 371 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 52.05 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 48.34 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 505.64 PSI

Pressure of the fluids inside casing

Displacement: 256.69 psi

Shoe Joint: 35.59 psi

Total 292.27 psi

Differential Pressure: 213.37 psi

Collapse PSI: #N/A psi

Burst PSI: #N/A psi

Total Water Needed: 170.40 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
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Customer Well Name

Noble	Peaks K 26-77-1HN
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12067
Weld
Calvin Reimers
2/21/2014

DESCRIPTION OF JOB EVENTS

[illegible]

Notes:

The day

Float Held

1/2 hbl back on bleed off

X

X

X	Da
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Work Performed