



BISON

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

Invoice

Date	Invoice #
4/21/2014	12118

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

Location	Well Name & No.	Terms	Job Type		
Weld CO	Trisha LC29-77HNB	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	375	Sack		
Discount 15%	Discount 15%				
KCL Mud Flush	(BHS 117)	4	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

Date: 4/21/2014

Invoice # 12118

API#

Foreman: monte

Customer: Noble

Well Name: trisha lc29-77hnb

County: weld

State: colorado

Sec: 29

Twp: 9n

Range: 59w

Consultant: justin

Rig Name & Number: h&p 273

Distance To Location: 67.1

Units On Location: 4028-3102 4024-3210

Time Requested: 9:00am

Time Arrived On Location: 7:30

Time Left Location: 11:30

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 593
Total Depth (ft) : 638
Open Hole Diameter (in.) : 13.75
Conductor Length (ft) : 124
Conductor ID : 15.5
Shoe Joint Length (ft) : 45
Landing Joint (ft) : 28

Max Rate:

Max Pressure:

Cement Data

Cement Name: bfn111
Cement Density (lb/gal) : 15.2
Cement Yield (cuft) : 1.27
Gallons Per Sack: 5.89
% Excess: 30%
Displacement Fluid lb/gal:
BBL to Pit:
Fluid Ahead (bbls): 40.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

10fresh 10dye 20fresh

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.39 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)
cuft of Conductor 99.83 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)
cuft of Casing 246.64 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 365.86 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 84.71 bbls
(Total Slurry Volume) X (.1781) X (% Excess Cement)
Sacks Needed 375 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 52.52 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 44.55 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 468.23 PSI

Pressure of the fluids inside casing

Displacement: #N/A psi

Shoe Joint: 35.28 psi

Total #N/A psi

Differential Pressure: #N/A psi

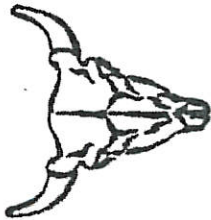
Collapse PSI: #N/A psi

Burst PSI: #N/A psi

Total Water Needed: 157.07 bbls

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

12118
weld
monte
4/21/2014

Customer
Well Name

Noble
trisha lc29-77hnb

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Safety Meeting MIRU CIRCULATE Drop Plug 10:24 M & P Time	Displace 1		Displace 2		Displace 3		Displace 4		Displace 5	
	BBLs	Time	BBLs	Time	BBLs	Time	BBLs	Time	BBLs	Time
9:30	0	10:24	0		0		0		0	
9:00	10	10:27	10		10		10		10	
9:50	20	10:30	20		20		20		20	
	30	10:32	30		30		30		30	
	40	10:35	40		40		40		40	
	44	10:37	50		50		50		50	
	60		60		60		60		60	
	70		70		70		70		70	
	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	
	130		130		130		130		130	
	140		140		140		140		140	
	150		150		150		150		150	
% Excess	30%									
Mixed bbls	52.52									
Total Sacks	375									
bbl Returns	16									
Water Temp	53									

Notes:

safety meeting, miru, pressure test per company man, circulate 40 bbls h2o ahead with dye in 2nd 10, mix and pump 375 sks cement, drop plug and displace 44.55 bbls h
bump plug at 10:37 am at psi, 510 bbls 68 back 30 % excess

X Work Performed

X Title

X 4-21-14 Date