



BISON

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

Invoice

Date	Invoice #
11/26/2013	12590

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

Location	Well Name & No.	Terms	Job Type		
Weld CO	Timbro St. LD16-67HN	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	480			
Discount 15%	Discount 15%				
Data Acquisition ...	Data Acquisition Charge	1			
Discount 15%	Discount 15%				
	Subtotal of Services				
BFN III Winter ...	BFN III Blend	499	Sack		
Discount 15%	Discount 15%				
Dye - 4880	Dye (Hot Pink 4880)	16	oz		
Discount 15%	Discount 15%				
KCL Mud Flush	(BHS 117)	4	qt		
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, INC.

1738 Wynkoop St., Ste. 102
Denver, Colorado 80202
Phone: 303-296-3010
Fax: 303-298-8143
E-mail: bisonoil1@qwestoffice.net



SERVICE INVOICE

Nº 12590

WELL NO. AND FARM <i>Timbro State LD 16-67HN</i>		COUNTY <i>Weld</i>	STATE <i>Colo.</i>	DATE <i>11-26-13</i>
CHARGE TO <i>Noble</i>		WELL LOCATION SEC. <i>9</i> TWP. <i>9N</i> RANGE <i>58W</i>		CONTRACTOR <i>H&P Rig 273</i>
		DELIVERED TO <i>WCR 127+110</i>		LOCATION <i>1 Shop</i>
		SHIPPED VIA <i>3106/3212</i>		LOCATION <i>2 127+110</i>
		TYPE AND PURPOSE OF JOB <i>SURFACE PIPE</i>		LOCATION <i>3 Shop</i>
				WELL TYPE <i>Gas/Oil</i>

PRICE REFERENCE	DESCRIPTION	UNITS		UNIT PRICE	AMOUNT
		QTY.	MEAS.		
	<i>Pump Charge</i>	<i>1</i>	<i>EA.</i>		
	<i>BENTIL 3% BCCA-1.25 166R BFLA-1</i>	<i>499</i>	<i>SK.</i>		
	<i>BCLY-1</i>	<i>4</i>	<i>QT.</i>		
	<i>Pink Dye</i>	<i>16</i>	<i>OZ.</i>		
	<i>Mileage 1.50 mile 60 mile min Round Trips 80 miles</i>	<i>3</i>	<i>EA.</i>		
	<i>Data 1st</i>	<i>1</i>	<i>EA.</i>		

RIG NAME & NUMBER: <i>H&P 273</i>	WELL NAME & NUMBER: <i>Timbro State LD 16-67HN</i>
WELL NUMBER: <i>1316373</i>	DATE: <i>11/26/13</i>
EXP. TYPE: <i>Client Request Service</i>	ACTG. CODE: <i>01/1 0017</i>
TASK (DBL. COMP. TWO PLAN) <i>WCR</i>	DOLLAR TOTAL BEING INVOICED <i>1612.175</i>
FIELD APPROVAL <i>11/26/13</i>	DATE <i>11/26/13</i>
MAIL TO: NOBLE ENERGY INC. ATTN: ACCOUNTS PAYABLE 1425 BROADWAY, SUITE 2200 DENVER, CO 80202 NO INVOICE WILL BE PAID UNLESS ALL ATTACHED SIGNED FIELD TICKETS	

If this account is not paid within 30 days of invoice date a FINANCE CHARGE will be made. Computed at a single monthly rate of 1 1/4% which is equal to an ANNUAL PERCENTAGE RATE OF 18%.

TAX REFERENCES

Thanks Calvin

"TAXES WILL BE ADDED AT CORPORATE OFFICE"

TOTAL

SUBJECT TO CORRECTION

Justin Fields
Customer or His Agent

Calvin J. [Signature]
Bison Oil Well Cementing, Inc. Representative

Customers hereby acknowledges and specifically agrees to the terms and conditions on this work order, including, without limitation, the provisions on the reverse side hereof which include the release and indemnity.



**Bison Oil Well Cementing
Tail & Lead**

Customer: Noble Energy
Well Name: Timbro State LD 16-67 HN

Date: 11/26/2013
Invoice #: 12590
API#: 05-123-37490
Foreman: Calvin Reimers

County: Weld
State: Colorado
Sec: 9
Twp: 9N
Range: 58W

Consultant: Justin
Rig Name & Number: H&P 273
Distance To Location: 80 Miles
Units On Location: 3106/3212
Time Requested: 130am
Time Arrived On Location: 1245am
Time Left Location: 5:45am

WELL DATA

Casing Size (in) : 9.625
Casing Weight (lb) : 36
Casing Depth (ft.) : 1,189
Total Depth (ft) : 1223
Open Hole Diameter (in) : 13.75
Conductor Length (ft) : 100
Conductor ID : 16
Shoe Joint Length (ft) : 45
Landing Joint (ft) : 29

Sacks of Tail Requested : 100
HOC Tail (ft): 0

One or the other, cannot have quantity in both

Max Rate: 7
Max Pressure: 2500

Cement Data

Lead

Cement Name: _____
Cement Density (lb/gal) : 13.1
Cement Yield (cuft) : 1.69
Gallons Per Sack : 8.64
% Excess : 25%

Tail

Cement Name: _____
Cement Density (lb/gal) : 15.2
Cement Yield (cuft) : 1.27
Gallons Per Sack: 5.89
% Excess: 0%

Fluid Ahead (bbls) : 90.7
H2O Wash Up (bbls) : 20.0

Spacer Ahead Makeup

40bbls H2O With KCL+Dye in 2nd 10bbls

Casing ID

8.921

Casing Grade

J-55 only used

Lead Calculated Results

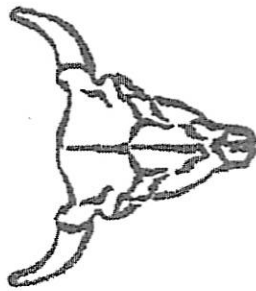
HOC of Lead : 855.52 ft
Casing Depth - HOC Tail
Volume of Lead Cement : 449.91 cuft
HOC of Lead X Open Hole Ann
Volume of Conductor : 89.10 cuft
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)
Total Volume of Lead Cement : 539.00 cuft
(cuft of Lead Cement) + (Cuft of Conductor)
bbls of Lead Cement : 120.00 bbls
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)
Sacks of Lead Cement : 398.67 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
bbls of Lead Mix Water : 82.01 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42
Displacement : 90.68 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)
Total Water Needed: 192.69 bbls

Tail Calculated Results

Tail Cement Volume In Ann : 127.00 cuft
(HOC Tail) X (OH Ann)
Total Volume of Tail Cement : 107.43 Cuft
(HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)
bbls of Tail Cement : 22.62 bbls
(HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess)
HOC Tail : 204.29 ft
(Tail Cement Volume) ÷ (OH Ann)
Sacks of Tail Cement : 100.00 sk
(Total Volume of Tail Cement) ÷ (Cement Yield)
bbls of Tail Mix Water : 14.02 bbls
(Sacks of Tail Cement X Gallons Per Sack) ÷ 42
Pressure of cement in annulus
Hydrostatic Pressure : 809.12 PSI
Collapse PSI: 2020.00 psi
Burst PSI: 3520.00 psi

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
Two Cement Surface Pipe**

Customer
Well Name

Noble Energy
Timbro State LD 16-67 HN

Date
INVOICE #
LOCATION
FOREMAN

11/26/2013

12590

Weld

Calvin Reimers

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	325am															
MIRU	245am															
CIRCULATE	402am															
Drop Plug		0	439am	100	0			0			0			0		
438am		10	442am	130	10			10			10			10		
		20	444am	120	20			20			20			20		
		30	446am	130	30			30			30			30		
		40	448am	180	40			40			40			40		
		50	449am	230	50			50			50			50		
M & P		60	451am	300	60			60			60			60		
Time		70	453am	350	70			70			70			70		
410am	Sacks	80	455am	400	80			80			80			80		
435am	499	90	458am	330	90			90			90			90		
		100	Bump	450	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		
Lead mixed bbls	82.08															
Lead % Excess	25%															
Lead Sacks	399															

Notes:

Float Held

14.02

Tail mixed bbls


Tail % Excess

Tail Sacks

Total Sacks

bbl Returns

25

X 

Work Performed

X WSS

Title

X 11/26/13

Date

M/D TOTCO 2000 SERIES

