



# BISON

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

## Invoice

Date	Invoice #
8/23/2014	12136a

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

Location	Well Name & No.	Terms	Job Type		
Weld CO	Rohn St.LD03-65-IHN	Net 30	Surface Pipe		
Item	Description	Qty	U/M	Rate	Amount
Pump surface	PUMP Charge-surface pipe	1			1,155.00
Discount 15%	Discount 15%				-173.25
MILEAGE	Mileage charge	360		1.25	450.00
Discount 15%	Discount 15%				-67.50
Data Acquisition ...	Data Acquisition Charge	1		323.00	323.00
Discount 15%	Discount 15%				-48.45
Service Charge	PSI Test	1		200.00	200.00
	Subtotal of Services				1,146.25
BFN III Summer ...	BFN III Blend	466	Sack	21.40	9,972.40
Discount 15%	Discount 15%				-1,495.86
KCL Mud Flush	(BHS 117)	4	qt	12.50	50.00
Discount 15%	Discount 15%				-7.50
Dye - 4880	Dye (Hot Pink 4880)	16	oz	15.00	240.00
Discount 15%	Discount 15%				-36.00
Sugar	Sugar	100	lb	2.00	200.00
	Subtotal of Materials				9,122.90
					10,133.31

Please Remit Payment To:

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

Subtotal

Sales Tax

Total

Balance D



# Bison Oil Well Cementing Tail & Lead

Customer: noble  
Well Name: rohn state ld03-65-1hn

Date: 8/24/2014  
Invoice # 12136  
API#  
Foreman: monte

County: weld  
State: Colorado  
Sec: 4  
Twp: 9n  
Range: 58w

Consultant: cliff  
Rig Name & Number: h&p 277  
Distance To Location: 26.1  
Units On Location: 4028-3102 4018-3204  
Time Requested: 8:00pm  
Time Arrived On Location: 6:45  
Time Left Location:

WELL DATA	Cement Data
<p>Casing Size (in) : 9.625 Casing Weight (lb) : 36 Casing Depth (ft) : 1,178 Total Depth (ft) : 1223 Open Hole Diameter (in) : 13.50 Conductor Length (ft) : 124 Conductor ID : 15.5 Shoe Joint Length (ft) : 42 Landing Joint (ft) : 24</p> <p>Sacks of Tail Requested 100 HOC Tail (ft): 0</p> <p>One or the other, cannot have quantity in both</p> <p>Max Rate: 4.5 Max Pressure: 2000</p>	<p><b>Lead</b></p> <p>Cement Name: bfn 111 3%bcc-1 .25%bfla-1 Cement Density (lb/gal) : 13.1 Cement Yield (cuft) : 1.69 Gallons Per Sack 8.69 % Excess 25%</p> <p><b>Tail</b></p> <p>Cement Name: Cement Density (lb/gal) : 15.2 Cement Yield (cuft) : 1.27 Gallons Per Sack: 5.89 % Excess: 0%</p> <p>Fluid Ahead (bbls) 30.0 H2O Wash Up (bbls) 20.0</p> <p>Spacer Ahead Makeup 10 fresh 10 dye 10 fresh</p>

Lead Calculated Results	Tail Calculated Results
HOC of Lead 807.44 ft	Tail Cement Volume In Ann 127.00 cuft
Casing Depth - HOC Tail	(HOC Tail) X (OH Ann)
Volume of Lead Cement 394.62 cuft	Total Volume of Tail Cement 108.77 Cuft
HOC of Lead X Open Hole Ann	(HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)
Volume of Conductor 99.83 cuft	bbls of Tail Cement 22.62 bbls
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	(HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess)
Total Volume of Lead Cement 494.45 cuft	HOC Tail 222.56 ft
(cuft of Lead Cement) + (Cuft of Conductor)	(Tail Cement Volume) ÷ (OH Ann)
bbls of Lead Cement 110.08 bbls	Sacks of Tail Cement 100.00 sk
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)	(Total Volume of Tail Cement) ÷ (Cement Yield)
Sacks of Lead Cement 365.72 sk	bbls of Tail Mix Water 14.02 bbls
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	(Sacks of Tail Cement X Gallons Per Sack) ÷ 42
bbls of Lead Mix Water 75.67 bbls	Pressure of cement in annulus
(Sacks Needed) X (Gallons Per Sack) ÷ 42	Hydrostatic Pressure 801.63 PSI
Displacement 89.67 bbls	Collapse PSI: 2020.00 psi
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)	Burst PSI: 3520.00 psi
Total Water Needed: 125.67 bbls	

X   
Authorization To Proceed



INVOICE #	LOCATION	FOREMAN

noble
rohn state ld03-65-1hn

Treatment Report Page 2

## DESCRIPTION OF JOB EVENTS

Notes:

safty meeting, miru, pressurt test per company man. circullate 40 bbls ahead with dye in 2nd 10 mix and pump 366 sks cement at 1.69, 8,69 h2o.mix and pump 100 sks tail cement at 15.2, 1.27 yield, 5.89 h2o displace 89.47 bbls h2o, bump plug at 11:33 pm at 600 psi, raise to 1000 psi hold 15 min, release pressure wash up rig down

#VALUE!

466

25

X		Work Performed
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Title
X WESTF SURVEILL

X AUG 25, 2014