



BISON

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

Invoice

Date	Invoice #
9/21/2014	12142a

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. LD03-63HN	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	456			
Discount 15%	Discount 15%				
Data Acquisition ...	Data Acquisition Charge	1			
Discount 15%	Discount 15%				
Service Charge	PSI Test	1			
HOURS	Wait Time	2			
	Subtotal of Services				
BFN III Summer ...	BFN III Blend	473	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 Tail & Lead

Customer: Noble Energy
Well Name: Rhon State LD03-63HN

Date: 11/30/2013
Invoice #: 12142
API#: _____
Foreman: Monte Bedeaux

County: Weld
State: Colorado
Sec: 4
Twp: 9w
Range: 58w

Consultant: cliff
Rig Name & Number: h&p 277
Distance To Location: 152
Units On Location: 3123-3202 3105-3210
Time Requested: 4:00am
Time Arrived On Location: 3:00am
Time Left Location: 10:00am

WELL DATA

Casing Size (in) : 9.625
Casing Weight (lb) : 36
Casing Depth (ft.) : 1,192
Total Depth (ft) : 1222
Open Hole Diameter (in) : 13.50
Conductor Length (ft) : 124
Conductor ID : 15.6
Shoe Joint Length (ft) : 45
Landing Joint (ft) : 24

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

One or the other, cannot have quantity in both

Max Rate: 4.5
Max Pressure: 2000

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) 40.0
H2O Wash Up (bbls) 20.0

Spacer Ahead Makeup
10 fresh 10 dye 20 fresh

Casing ID

8.921

Casing Grade

J-55 only used

Lead Calculated Results

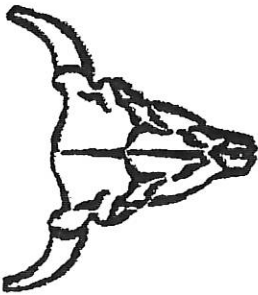
HOC of Lead 824.11 ft
Casing Depth - HOC Tail
Volume of Lead Cement 402.77 cuft
HOC of Lead X Open Hole Ann
Volume of Conductor 101.93 cuft
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X
(Conductor Length ft)
Total Volume of Lead Cement 504.70 cuft
(cuft of Lead Cement) + (Cuft of Conductor)
bbls of Lead Cement 112.36 bbls
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)
Sacks of Lead Cement 373.30 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
bbls of Lead Mix Water 76.79 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42
Displacement 90.52 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)
Total Water Needed: 241.33 bbls

Tail Calculated Results

Tail Cement Volume In Ann 127.00 cuft
(HOC Tail) X (OH Ann)
Total Volume of Tail Cement 107.47 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 219.89 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 811.16 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
Rhon State LD03-63HN

Date
INVOICE #
LOCATION
FOREMAN

11/30/2013
12142
Weld
Monte Bedeaux

Treatment Report Page 2

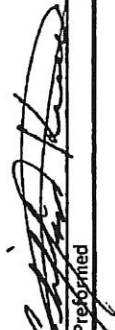
DESCRIPTION OF JOB EVENTS

	5:00 4:30 7:21	Displace 1		Displace 2		Displace 3		Displace 4		Displace 5	
		BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI	Time
Safety Meeting		0	8:12	0	0			0			
MIRU		10	8:14	20	10			10			
CIRCULATE		20	8:16	80	20			20			
Drop Plug		30	8:18	50	30			30			
8:10		40	8:20	150	40			40			
		50	8:22	190	50			50			
M & P		60	8:24	270	60			60			
Time		70	8:26	300	70			70			
7:30-8:05	Sacks	80	8:28	370	80			80			
		90	8:30	740	90			90			
		100			100			100			
		110			110			110			
		120			120			120			
Lead mixed bbls	76.79	130			130			130			
Lead % Excess	25%	140			140			140			
Lead Sacks	373	150			150			150			

Notes:

Tail mixed bbls	14.02	safety meeting, miru, pressure test per company man, circulate 40 bbls ahead with dye in 2nd 10, mix and pump 373 sks lead, 13.1, 1.69 yield, 8.64 h2o
Tail % Excess	0%	mix and pump 100 sks tail at 15.2, 1.27, 5.89, drop plug and displace 90.28 bbls h2o. Bump plug at 8:30am at 740 psl, raise to 1000 lb, hold 15 min
Tail Sacks	100	release pressure, wash up rig down

Total Sacks	473	
Water Temp	68	
bbl Returns	29	

X 

X W S S
Title

X 9-28-14
Date