



BISON

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

Invoice

Date	Invoice #
3/30/2014	12089

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

Location	Well Name & No.	Terms	Job Type		
Weld CO	Super CC 18-74-111N	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%				
Service Charge	Casing Psi Test	1			
HOURS	Wait Time	1.75			
	Subtotal of Services				
BFN III Summer ...	BFN III Blend	320	Sack		
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 D



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 3/30/2014

Invoice # 12089

API# 05-123-37983

Foreman: Calvin Reimers

Customer: Noble

Well Name: Sater CC 18-74-1HN

County: Weld

State: Colorado

Sec: 18

Twp: 4N

Range: 63W

Consultant: Steve

Rig Name & Number: H&P 315

Distance To Location: 16 Miles

Units On Location: 3104/3204

Time Requested: 1230pm

Time Arrived On Location: 1125am

Time Left Location: 615pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 604
Total Depth (ft) : 630
Open Hole Diameter (in.) : 13.75
Conductor Length (ft) : 100
Conductor ID : 16
Shoe Joint Length (ft) : 45
Landing Joint (ft) : 31

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: 10%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 11.0
Fluid Ahead (bbls): 50.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

50 bbls H2O+Dye in 2nd 10 bbls

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.53 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 265.28 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 373.91 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 73.25 bbls
(Total Slurry Volume) X (.1781) X (% Excess Cement)

Sacks Needed 324 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 45.42 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 45.66 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 477.27 PSI

Pressure of the fluids inside casing

Displacement: 241.22 psi

Shoe Joint: 35.53 psi

Total 276.76 psi

Differential Pressure: 200.52 psi

Collapse PSI: #N/A psi

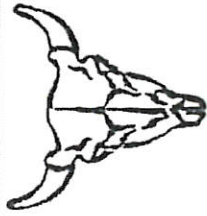
Burst PSI: #N/A psi

Total Water Needed: 161.07 bbls

X *Calvin Reimers*

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 # 12089
LOCATION Weld
FOREMAN Calvin Reimers
Date 3/30/2014

Customer Noble
Well Name Sater CC 18-74-1HN

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	400pm			0	500pm	100	0			0			0		
MIRU	305pm			10	503pm	80	10			10			10		
CIRCULATE	428pm			20	505pm	170	20			20			20		
Drop Plug				30	506pm	230	30			30			30		
459pm				40	508pm	240	40			40			40		
M & P				50	512pm	210	50			50			50		
Time	Sacks			60	Bump	330	60			60			60		
437pm	324			70			70			70			70		
456pm				80			80			80			80		
				90			90			90			90		
				100			100			100			100		
				110			110			110			110		
				120			120			120			120		
% Excess	10%			130			130			130			130		
Mixed bbls	45.42			140			140			140			140		
Total Sacks	324			150			150			150			150		
bbl Returns	11														
Water Temp	51														

Notes:

The day

Float Held

1/2 bbl back on bleed off

Casing PSI Test 513pm 1030 to 528pm 1050 psi

Steve Reed

X *W.S.S. NET*

X *3/30/14*

Work Performed

Title

Date