



BISON

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

Invoice

Date	Invoice #
4/18/2014	12117

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

Location	Well Name & No.	Terms	Job Type		
Weld CO	WELLS RANCH AE30-65-1A11NB	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	342	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 Due



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 4/18/2014
Invoice #: 12117
API#:
Foreman: monte

Customer: Noble
Well Name: wells ranch ae30-65-1ahnb

County: weld
State: colorado
Sec: 29
Twp: 6n
Range: 62w
Consultant: jim
Rig Name & Number: h?&p 321
Distance To Location: 33.5
Units On Location: 4028-3102 4023-3205
Time Requested: 11:30
Time Arrived On Location: 10:50
Time Left Location: 3:00

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 35.00
Casing Depth (ft) : 598
Total Depth (ft) : 649
Open Hole Diameter (in.) : 13.75
Conductor Length (ft) : 100
Conductor ID : 15.5
Shoe Joint Length (ft) : 45
Landing Joint (ft) : 34

Max Rate:
Max Pressure:

Cement Data

Cement Name: bfm111
Cement Density (lb/gal) : 15.2
Cement Yield (cuft) : 1.27
Gallons Per Sack: 5.89
% Excess: 20%
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 80.51 cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 262.13 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 362.03 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 77.37 bbls
(Total Slurry Volume) X (.1781) X (% Excess Cement)

Sacks Needed 342 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 47.97 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 45.46 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 472.54 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

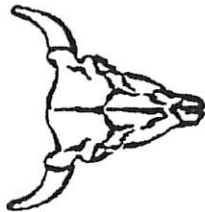
Collapse PSI: #N/A psi

Burst PSI: #N/A psi

Total Water Needed: 153.43 bbls

X
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 # 12117
LOCATION weld
FOREMAN monte
Date 4/18/2014

Customer Noble
Well Name wells ranch ae30-65-1ahnb

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

	12:30 11:45 1:15	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		0	1:46	0	0			0			0			0		
MIRU		10	1:48	0	10			10			10			10		
CIRCULATE		20	1:51	40	20			20			20			20		
Drop Plug		30	1:54	110	30			30			30			30		
		40	1:57	190	40			40			40			40		
		45	2:00	490	50			50			50			50		
M & P		60			60			60			60			60		
Time	Sacks	70			70			70			70			70		
1:27-1:46		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		
% Excess	20%	130			130			130			130			130		
Mixed bbls	47.97	140			140			140			140			140		
Total Sacks	342	150			150			150			150			150		
bbl Returns	17															
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 342 sks cement, drop plug and displace 45.3 bbls h2o bump plug at 2:00 pm at psi, 490 bbls 18 back 20 % excess

X

Title

X 4-19-14

Date