



BISON

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

Invoice

Date	Invoice #
1/21/2014	12301

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

Location	Well Name & No.	Terms	Job Type		
Weld CO	Honey Badger J31-64-IHN	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	380			
Discount 15%	Discount 15%				
Data Acquisition...	Data Acquisition Charge	1			
Discount 15%	Discount 15%				
HOURS	Wait Time	2			
	Subtotal of Services				
BFN III Winter ...	BFN III Blend-Lead	397	Sack		
Discount 15%	Discount 15%				
KCL Mud Flush	(BHS 117)	5	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 Du



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/21/2014
Invoice #: 12301
API#: 445564
Foreman: MONTE

Customer: noble
Well Name: honey badger j31-64-1hn

County: weld
State: colorado
Sec: 31
Twp: 5n
Range: 68w

Consultant: chris
Rig Name & Number: h & p 326
Distance To Location: 15.9
Units On Location: 3106-3204
Time Requested: 4:00am
Time Arrived On Location: 4:00am
Time Left Location: 11:00 AM

WELL DATA

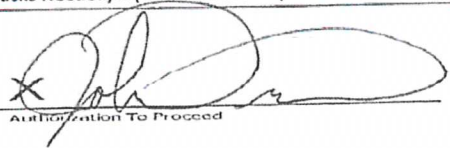
Casing Size OD (in) : 9.6250
Casing Weight (lb) : 36
Casing Depth (ft) : 695
Total Depth (ft) : 704
Open Hole Diameter (in.) : 13.75
Conductor Length (ft) : 130
Conductor ID : 15.5
Shoe Joint Length (ft) : 43
Landing Joint (ft) : 30

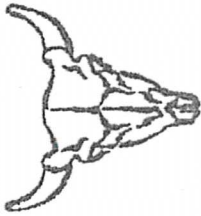
Max Rate:
Max Pressure:

Cement Data

Cement Name: BFN III
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):
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
10 fresh 10 dye 40 fresh

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results		Displacement: 52.69 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
cuft of Shoe 18.66 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)		Pressure of cement in annulus	
cuft of Conductor 104.66 cuft (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)		Hydrostatic Pressure: 548.38 PSI	
cuft of Casing 296.86 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		Pressure of the fluids inside casing	
Total Slurry Volume 420.18 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		Displacement: #N/A psi	
bbls of Slurry 89.80 bbls (Total Slurry Volume) X (.1781) X (% Excess Cement)		Shoe Joint: 33.95 psi	
Sacks Needed 397 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)		Total #N/A psi	
Mix Water 55.68 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42		Differential Pressure: #N/A psi	
 Authorization To Proceed		Collapse PSI: 2020.00 psi	
		Burst PSI: 3520.00 psi	
		Total Water Needed: 75.68 bbls	
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 #
LOCATION
FOREMAN
Date

12301
weld
MONTE
1/21/2014

Customer
Well Name

noble
honey badger j31-64-1hn

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

	7:40am 6:55am 8:29	Displace 1		Displace 2		Displace 3		Displace 4		Displace 5	
		BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI	Time
Safety Meeting		0	9:04	110	0			0			
MIRU		10	9:08	110	10			10			
CIRCULATE		20	9:10	180	20			20			
Drop Plug		30	9:12	250	30			30			
	9:04	40	9:14	270	40			40			
		50.3	6:23	380	50			50			
M & P		60			60			60			
Time	Sacks	70			70			70			
8:40-9:00	397	80			80			80			
		90			90			90			
		100			100			100			
		110			110			110			
		120			120			120			
		130			130			130			
		140			140			140			
		150			150			150			
% Excess	20%										
Mixed bbls	55.7										
Total Sacks	397										
bbl Returns	24										

Notes:

safety meeting, miru, pressure test per company man, circulate 50 bbls ahead with dye in 2nd 10. mix and pump 397 sks at 20% excess

drop plug and displace 50.3 bbls h2o,

bump plug at 9:23am at 380 psi hold 5 min release pressure

X Co-Man

X 1-21-14
Date

Work Performed