



BISON

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

Invoice

Date	Invoice #
7/27/2014	55006

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

Location	Well Name & No.	Terms	Job Type		
Weld CO	Heartland G36-75-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	360			
Discount 15%	Discount 15%				
Data Acquisition ...	Data Acquisition Charge	1			
Discount 15%	Discount 15%				
Service Charge	PSI Test	1			
HOURS	Wait Time	1			
	Subtotal of Services				
BFN III Summer ...	BFN III Blend	384	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%				
Sugar	Sugar	50	lb		
	Subtotal of Materials				

Please Remit Payment To:

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

Subtotal
Sales Tax
Total
Balance



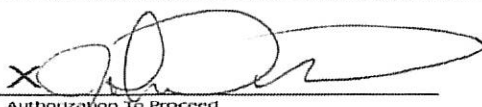
Bison Oil Well Cementing Single Cement Surface Pipe

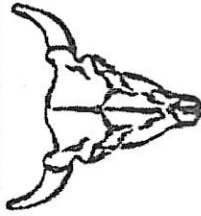
Date: 7/27/2014
Invoice #: 55006
API#:
Foreman: monte

Customer: Noble Energy Inc.
Well Name: HARTLAND STATE G36-75-1HN

County: Weld
State: Colorado
Sec: 25
Twp: 4N
Range: 65W
Consultant: JOHN
Rig Name & Number: PERCISION 829
Distance To Location: 10
Units On Location: 4031-3104 4007-3210
Time Requested: 9:00AM
Time Arrived On Location: 7:45
Time Left Location:

WELL DATA		Cement Data	
Casing Size OD (in) :	9.625	Cement Name:	BFN III
Casing Weight (lb) :	36.00	Cement Density (lb/gal) :	15.2
Casing Depth (ft) :	718	Cement Yield (cuft) :	1.27
Total Depth (ft) :	744	Gallons Per Sack:	5.89
Open Hole Diameter (in.) :	13.75	% Excess:	20%
Conductor Length (ft) :	80	Displacement Fluid lb/gal:	8.3
Conductor ID :	15.6	BBL to Pit:	
Shoe Joint Length (ft) :	44	Fluid Ahead (bbls):	50.0
Landing Joint (ft) :	30	H2O Wash Up (bbls):	20.0
Max Rate:	5	Spacer Ahead Makeup	
Max Pressure:	2000	10 fresh 10 dye 30 fresh	

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results		Displacement: 54.42 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
cuft of Shoe	19.10 cuft	Pressure of cement in annulus	
(Casing ID Squared) X (.005454) X (Shoe Joint ft)		Hydrostatic Pressure:	566.93 PSI
cuft of Conductor	65.76 cuft	Pressure of the fluids inside casing	
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)		Displacement:	290.62 psi
cuft of Casing	402.62 cuft	Shoe Joint:	34.74 psi
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		Total	325.36 psi
Total Slurry Volume	487.48 cuft	Differential Pressure:	241.57 psi
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		Collapse PSI:	2020.00 psi
bbls of Slurry	86.82 bbls	Burst PSI:	3520.00 psi
(Total Slurry Volume) X (.1781)		Total Water Needed:	178.25 bbls
Sacks Needed	384 sk		
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)			
Mix Water	53.83 bbls		
(Sacks Needed) X (Gallons Per Sack) ÷ 42			
 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

Customer
Well Name

Noble Energy Inc.
HEARTLAND STATE G36-75-1HN

INVOICE #
LOCATION
FOREMAN
Date

55006
Weld
monte
7/27/2014

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Safety Meeting	11:30 8:30AM 12:08	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
MIRU		0	12:26	0	0			0			0			0		
CIRCULATE		10	12:32	20	10			10			10			10		
Drop Plug		20	12:34	110	20			20			20			20		
12:26		30	12:36	170	30			30			30			30		
		40	12:38	270	40			40			40			40		
		50	12:40	250	50			50			50			50		
M & P		60	12:42	540	60			60			60			60		
Time	Sacks	70			70			70			70			70		
12:08-12:20		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	22%	130			130			130			130			130		
Mixed bbls	53.83	140			140			140			140			140		
Total Sacks	384	150			150			150			150			150		
bbl Returns	18															
Water Temp	75															

Notes:

Safety Meeting, miru, pressure test per company manm circulate 50 bbls ahead with dye in 2nd 10, mix and pump 371 sks cement at 20% excess, drop plug and displ
bumped at 12:42 am, at 540 psi, 18 bbls to pit . CASSING TEST 1000 LB 15 MIN

Work performed

X
Title

X
Date