



BISON

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

Invoice

Date	Invoice #
4/17/2014	12116

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

Location	Well Name & No.	Terms	Job Type		
Weld CO	Storis E24-79HN	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			
	Subtotal of Services				
BFN III Summer ...	BFN III Blend	408	Sack		
Discount 15%	Discount 15%				
KCL Mud Flush	(BHS 117)	6	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



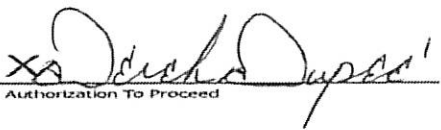
Bison Oil Well Cementing Single Cement Surface Pipe

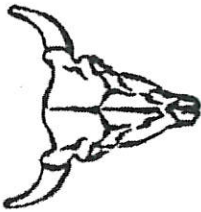
Date: 4/18/2014
Invoice # 12116
API#
Foreman: monte

Customer: Noble
Well Name: Stooris E24-79HN

County: weld
State: colorado
Sec: 24
Twp: 6N
Range: 65W
Consultant: Mike
Rig Name & Number: H&P 330
Distance To Location: 24.3
Units On Location: 4028-3102 4024-3210
Time Requested: 19:30
Time Arrived On Location: 18:31
Time Left Location: 1230

WELL DATA	Cement Data
Casing Size OD (in) : 9.625	Cement Name: bfn111
Casing Weight (lb) : 36.00	Cement Density (lb/gal) : 15.2
Casing Depth (ft) : 746	Cement Yield (cuft) : 1.27
Total Depth (ft) : 765	Gallons Per Sack: 5.89
Open Hole Diameter (in.) : 13.75	% Excess: 18%
Conductor Length (ft) : 100	Displacement Fluid lb/gal:
Conductor ID : 15.5	BBL to Pit:
Shoe Joint Length (ft) : 43	Fluid Ahead (bbls): 60.0
Landing Joint (ft) : 33	H2O Wash Up (bbls): 20.0
Max Rate:	Spacer Ahead Makeup
Max Pressure:	10fresh 10dye 40fresh

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results		Displacement: 56.91 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
cuft of Shoe	18.59 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Pressure of cement in annulus	
cuft of Conductor	80.51 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: 589.04 PSI	
cuft of Casing	339.72 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing	
Total Slurry Volume	438.81 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: #N/A psi	
bbls of Slurry	92.22 bbls (Total Slurry Volume) X (.1781) X (% Excess Cement)	Shoe Joint: 33.81 psi	
Sacks Needed	408 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total #N/A psi	
Mix Water	57.18 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: #N/A psi	
		Collapse PSI: #N/A psi	
		Burst PSI: #N/A psi	
		Total Water Needed: 194.09 bbls	
<div>xx  Authorization To Proceed</div>			
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

12116
weld
monte
4/18/2014

Customer
Well Name

Noble
Stooris E24-79HN

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

	10:30 10:00 10:43	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	11:17	20	0			0			0			0		
MIRU		10	11:21	40	10			10			10			10		
CIRCULATE		20	11:23	100	20			20			20			20		
Drop Plug		30	11:27	180	30			30			30			30		
	11:17	40	11:30	240	40			40			40			40		
		50	11:33	250	50			50			50			50		
M & P		Sacks 54.60	11:40	500	60			60			60			60		
Time		397			70			70			70			70		
10:56-11:15		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	15%	130			130			130			130			130		
Mixed bbls	55.72	140			140			140			140			140		
Total Sacks	397	150			150			150			150			150		
bbl Returns	18															
Water Temp	61															

Notes:

safety meeting, miru, pressure test per company man, circulate 60 bbls h2o ahead with dye in 2nd 10, mix and pump 400 sks cement, drop plug and displace 54.3 bbls h2o bump plug at 11:40 pm at psi, 500 bbls 18 back 18% excess

X

Work Performed

X
Title

X 4-17-14
Date