



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 4/9/2015  
Invoice #: 80163  
API#: AFE 200369  
Foreman: Lee Sharp

Customer: Noble Energy Inc.

Well Name: Kevin LC26-728

County: Weld  
State: Colorado  
Sec:  
Twp:  
Range:

Consultant: Chris  
Rig Name & Number: HP 321  
Distance To Location: 68  
Units On Location: 4022-3213 / 4027-3106  
Time Requested: 22:30  
Time Arrived On Location: 22:00  
Time Left Location: 2:00

WELL DATA		Cement Data	
Casing Size OD (in) :	9.625	Cement Name:	BFN III
Casing Weight (lb) :	40.00	Cement Density (lb/gal) :	14.2
Casing Depth (ft.) :	672	Cement Yield (cuft) :	1.49
Total Depth (ft) :	682	Gallons Per Sack:	7.48
Open Hole Diameter (in.) :	13.50	% Excess:	30%
Conductor Length (ft) :	80	Displacement Fluid lb/gal:	8.3
Conductor ID :	15.25	BBL to Pit:	17.0
Shoe Joint Length (ft) :	44	Fluid Ahead (bbls):	40.0
Landing Joint (ft) :	0	H2O Wash Up (bbls):	20.0
Max Rate:		Spacer Ahead Makeup	
Max Pressure:			40= 10+10D+20

Casing ID	8.835	Casing Grade	J-55 only used
Calculated Results		Displacement: 47.64 bbls	
cuft of Shoe	18.60 cuft	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
(Casing ID Squared) X (.005454) X (Shoe Joint ft)		Pressure of cement in annulus	
cuft of Conductor	61.05 cuft	Hydrostatic Pressure:	495.73 PSI
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)		Pressure of the fluids inside casing	
cuft of Casing	376.13 cuft	Displacement:	270.92 psi
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )		Shoe Joint:	32.23 psi
Total Slurry Volume	455.78 cuft	Total	303.15 psi
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		Differential Pressure:	192.59 psi
bbls of Slurry	81.17 bbls	Collapse PSI:	2570.00 psi
(Total Slurry Volume) X (.1781)		Burst PSI:	3950.00 psi
Sacks Needed	306 sk	Total Water Needed:	162.12 bbls
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)			
Mix Water	54.48 bbls		
(Sacks Needed) X (Gallons Per Sack) ÷ 42			

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**

Customer  
Well Name

Noble Energy Inc.  
Kevin LC26-728

INVOICE #  
LOCATION  
FOREMAN  
Date

80163  
Weld  
Lee Sharp  
4/9/2015

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**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	0:00															
MIRU	23:30															
CIRCULATE	0:41	0	1:04		0			0			0			0		
Drop Plug		10	1:07	90	10			10			10			10		
1:04		20	1:09	120	20			20			20			20		
		30	1:11	150	30			30			30			30		
		40	1:16	170	40			40			40			40		
M & P		50	1:20	550	50			50			50			50		
Time	Sacks	60			60			60			60			60		
00:46=1:01	308	70			70			70			70			70		
		80			80			80			80			80		
		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	30%	120			120			120			120			120		
Mixed bbls	54.48	130			130			130			130			130		
Total Sacks	306	140			140			140			140			140		
bbl Returns	17	150			150			150			150			150		
Water Temp	50															

Notes:

The day

Plug landed 1 bbl long

Final lift 180 bump 550

Casing test began 1:21 1000

Casing test complete 1:36

X

Work Performed

X

Title

WSS

X

Date