



Bison Oil Well Cementing Single Cement Surface Pipe

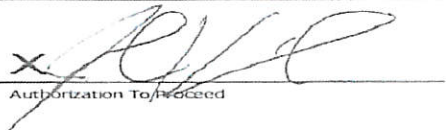
Date: 10/28/2014
Invoice #: 35063
API#:
Foreman: Kirk Kallhoff

Customer: Noble Energy Inc.
Well Name: burtpn k25-69-1hnc

County: Weld
State: Colorado
Sec: 25
Twp: 4n
Range: 66w

Consultant: josh k
Rig Name & Number: h&p 321
Distance To Location: 2
Units On Location: 4030-3103/4020-3212
Time Requested: 800 pm
Time Arrived On Location: 700 pm
Time Left Location: 7:00 pm

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.) :	664	Cement Yield (cuft) :	1.27
Total Depth (ft) :	709	Gallons Per Sack:	5.89
Open Hole Diameter (in.) :	13.50	% Excess:	30%
Conductor Length (ft) :	100	Displacement Fluid lb/gal:	8.3
Conductor ID :	16	BBL to Pit:	
Shoe Joint Length (ft) :	43	Fluid Ahead (bbls):	50.0
Landing Joint (ft) :	35	H2O Wash Up (bbls):	20.0
Max Rate:		Spacer Ahead Makeup	
Max Pressure:			

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results		Displacement: 50.71 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
cuft of Shoe	18.66 cuft	Pressure of cement in annulus	
(Casing ID Squared) X (.005454) X (Shoe Joint ft)		Hydrostatic Pressure: 524.29 PSI	
cuft of Conductor	89.10 cuft	Pressure of the fluids inside casing	
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)		Displacement: 267.76 psi	
cuft of Casing	358.34 cuft	Shoe Joint: 33.95 psi	
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		Total 301.72 psi	
Total Slurry Volume	466.10 cuft	Differential Pressure: 222.58 psi	
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		Collapse PSI: 2020.00 psi	
bbls of Slurry	83.01 bbls	Burst PSI: 3520.00 psi	
(Total Slurry Volume) X (.1781)		Total Water Needed: 172.18 bbls	
Sacks Needed	367 sk		
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)			
Mix Water	51.47 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.
burtpn k25-69-1hnc

INVOICE #
LOCATION
FOREMAN
Date

35063
Weld
Kirk Kallhoff
10/29/2014

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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	1057pm															
MIRU	950pm															
CIRCULATE	1125pm	0	1157pm	10	0			0			0			0		
Drop Plug		10	1159pm	70	10			10			10			10		
1157 pm		20	1202am	140	20			20			20			20		
		30	1204am	210	30			30			30			30		
		40	1206am	270	40			40			40			40		
M & P		50	1210am	270	50			50			50			50		
Time	Sacks	60			60			60			60			60		
1136 pm	345	70			70			70			70			70		
1154 pm stop		80			80			80			80			80		
		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	20%	120			120			120			120			120		
Mixed bbls	48.4	130			130			130			130			130		
Total Sacks	345	140			140			140			140			140		
bbl Returns	12	150			150			150			150			150		
Water Temp																

Notes:

bumped plug at 1210 am 460 psi 78 bbls slurry

X

Work Performed

X

Title

X

Date

10-29-14