



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 3/11/2015
Invoice #: 80007
API#: 05-123-40918
Foreman: Calvin Reimers

Customer: Noble Energy Inc.
Well Name: Colt A 13-611

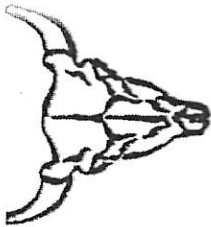
County: Weld
State: Colorado
Sec: 17
Twp: 6N
Range: 63W

Consultant: Johnny/Steve
Rig Name & Number: H&P 343
Distance To Location: 26 Miles
Units On Location: 4027-3106/4034-3211
Time Requested: 1100pm
Time Arrived On Location: 950pm
Time Left Location: 315am

WELL DATA	Cement Data
Casing Size OD (in) : 9.625	Cement Name: BFN III
Casing Weight (lb) : 36.00	Cement Density (lb/gal) : 14.2
Casing Depth (ft.) : 919	Cement Yield (cuft) : 1.49
Total Depth (ft) : 948	Gallons Per Sack: 7.48
Open Hole Diameter (in.) : 13.50	% Excess: 10%
Conductor Length (ft) : 100	Displacement Fluid lb/gal: 8.3
Conductor ID : 16	BBL to Pit: 12.0
Shoe Joint Length (ft) : 43	Fluid Ahead (bbls): 70.0
Landing Joint (ft) : 29	H2O Wash Up (bbls): 20.0
Max Rate: 7	Spacer Ahead Makeup
Max Pressure: 2500	70bbls H2O+Dye in 2nd 10bbls

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results		Displacement:	69.98 bbls
cuft of Shoe	18.53 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	89.10 cuft	Hydrostatic Pressure:	678.25 PSI
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)		Pressure of the fluids inside casing	
cuft of Casing	440.52 cuft	Displacement:	378.02 psi
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		Shoe Joint:	31.50 psi
Total Slurry Volume	548.15 cuft	Total	409.52 psi
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		Differential Pressure:	268.73 psi
bbls of Slurry	97.62 bbls	Collapse PSI:	
(Total Slurry Volume) X (.1781)		Burst PSI:	
Sacks Needed	368 sk	Total Water Needed:	
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)		225.50 bbls	
Mix Water	65.52 bbls		
(Sacks Needed) X (Gallons Per Sack) ÷ 42			

X
Authorization To Proceed



Bison Oil Well Cementing
Single Cement Surface Pipe

INVOICE #
LOCATION
FOREMAN
Date

80007
Weld
Calvin Reimers
3/11/2015

Customer
Well Name

Noble Energy Inc.
Colt A 13-611

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

	106am 123am 130am	Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
		BBS	Time	PSI	BBS	Time	PSI	BBS	Time	PSI	BBS	Time	PSI	BBS	Time	PSI
Safety Meeting		0	203am	50	0			0			0			0		
MIRU		10	205am	80	10			10			10			10		
CIRCULATE		20	207am	90	20			20			20			20		
Drop Plug		30	210am	110	30			30			30			30		
202am		40	212am	200	40			40			40			40		
		50	214am	270	50			50			50			50		
M & P		60	215am	310	60			60			60			60		
Time	Sack's	70	220am	240	70			70			70			70		
144am	368	80	Bump	400	80			80			80			80		
200am		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	10.6	120			120			120			120			120		
Mixed bbls	65.72	130			130			130			130			130		
Total Sacks	363	140			140			140			140			140		
bbl Returns	12	150			150			150			150			150		
Water Temp	74.2															

Notes:

The day

1/2 bbl Back on Bleed Off

Casing PSI Test 221am 190psi to 236am 1010psi

Steve D. Sand

X *W.S.S.*

X *3-11-15*

Work Performed

Title

Date