



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/19/2015
Invoice #: 35121
API#:
Foreman: Kirk Kallhoff

Customer: Noble Energy Inc.
Well Name: aggie state aa17-628

County: Weld
State: Colorado
Sec: 17
Twp: 6n
Range: 63w

Consultant: martin
Rig Name & Number: h&p 273
Distance To Location:
Units On Location: 4038-3103/4020-3212
Time Requested: 230 am
Time Arrived On Location: 230 am
Time Left Location: 9:15 am

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 900
Total Depth (ft) : 942
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 100
Conductor ID : 16
Shoe Joint Length (ft) : 43
Landing Joint (ft) : 35

Max Rate:
Max Pressure:

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 14.2
Cement Yield (cuft) : 1.49
Gallons Per Sack: 7.48
% Excess: 30%
Displacement Fluid lb/gal: 8.3
BBL to Pit:
Fluid Ahead (bbls): 70.0
H2O Wash Up (bbls): 10.0

Spacer Ahead Makeup

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.66 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)
cuft of Conductor 89.10 cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X
(Conductor Length ft)
cuft of Casing 508.28 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing
Depth - Conductor Length)
Total Slurry Volume 616.04 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 109.72 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 413 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 73.63 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 68.96 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe
Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 663.93 PSI

Pressure of the fluids inside casing

Displacement: 369.52 psi

Shoe Joint: 31.72 psi

Total 401.24 psi

Differential Pressure: 262.69 psi

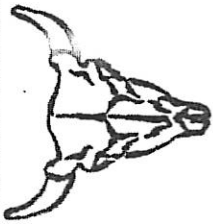
Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 222.59 bbls

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.



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Single Cement Surface Pipe

INVOICE #
LOCATION
FOREMAN
Date

35121
Weld
Kirk Kallhoff
2/19/2015

Customer
Well Name

Noble Energy Inc.
aggie state aa17-628

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

	Time	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	6:55am	0	810am	10	0			0			0			0		
MIRU	5:45am	10	813am	60	10			10			10			10		
CIRCULATE	7:32am	20	815am	60	20			20			20			20		
Drop Plug		30	817am	100	30			30			30			30		
810 am		40	819am	180	40			40			40			40		
		50	821am	240	50			50			50			50		
M & P		60	823am	310	60			60			60			60		
Time	Sacks	70			70			70			70			70		
748 am	337	80			80			80			80			80		
806 am stop		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	1%	120			120			120			120			120		
Mixed bbls	60	130			130			130			130			130		
Total Sacks	337	140			140			140			140			140		
bbl Returns	10	150			150			150			150			150		
Water Temp																

Notes:

bumped plug at 827 am 530 psi

casing test 1000 psi 5 min

X Charles Cobb
Work Performed

X WSS
Title

X 2-19-15
Date