



Bison Oil Well Cementing Tail & Lead

Customer: Noble Energy Inc.
Well Name: Fiscus Federal LD15-7~~6~~HN

Date: 11/11/2014
Invoice #: 55035
API#
Foreman: Monte Bedeaux

County: Weld
State: Colorado
Sec: 15
Twp: 9n
Range: 58w

Consultant: Devin
Rig Name & Number: PD 828
Distance To Location: 78.6
Units On Location: 4028-3102 4018-3204
Time Requested: 12:00am
Time Arrived On Location: 12:20am
Time Left Location: 2:00pm

WELL DATA

Casing Size (in) : 9.625
Casing Weight (lb) : 36
Casing Depth (ft) : 1,175
Total Depth (ft) : 1200
Open Hole Diameter (in) : 13.50
Conductor Length (ft) : 116
Conductor ID : 15.6
Shoe Joint Length (ft) : 39
Landing Joint (ft) : 19

Sacks of Tail Requested : 100
HOC Tail (ft) : 0

One or the other, cannot have quantity in both

Max Rate: 4.5
Max Pressure: 2000

Cement Data

Lead

Cement Name: BFN111
Cement Density (lb/gal) : 13.1
Cement Yield (cuft) : 1.69
Gallons Per Sack : 8.64
% Excess : 30%

Tail

Cement Name: BFN111
Cement Density (lb/gal) : 15.2
Cement Yield (cuft) : 1.27
Gallons Per Sack : 5.89
% Excess : 0%

Fluid Ahead (bbls) : 30.0
H2O Wash Up (bbls) : 20.0

Spacer Ahead Makeup

10 fresh 10 dye 10 fresh

Casing ID : 8.921

Casing Grade : J-55 only used

Lead Calculated Results

HOC of Lead : 814.78 ft
Casing Depth - HOC Tail
Volume of Lead Cement : 398.21 cuft
HOC of Lead X Open Hole Ann
Volume of Conductor : 95.35 cuft
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X
(Conductor Length ft)
Total Volume of Lead Cement : 493.56 cuft
(cuft of Lead Cement) + (Cuft of Conductor)
bbls of Lead Cement : 114.27 bbls
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)
Sacks of Lead Cement : 379.66 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
bbls of Lead Mix Water : 78.10 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42
Displacement : 89.28 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)
Total Water Needed : 231.41 bbls

Tail Calculated Results

Tail Cement Volume In Ann : 127.00 cuft
(HOC Tail) X (OH Ann)
Total Volume of Tail Cement : 110.07 Cuft
(HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)
bbls of Tail Cement : 22.62 bbls
(HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess)
HOC Tail : 225.22 ft
(Tail Cement Volume) ÷ (OH Ann)
Sacks of Tail Cement : 100.00 sk
(Total Volume of Tail Cement) ÷ (Cement Yield)
bbls of Tail Mix Water : 14.02 bbls
(Sacks of Tail Cement X Gallons Per Sack) ÷ 42
Pressure of cement in annulus
Hydrostatic Pressure : 585.23 PSI
Collapse PSI: 2020.00 psi
Burst PSI: 3520.00 psi

X *Mary Applinton*
Authorization To Proceed



**Bison Oil Well Cementing
Two Cement Surface Pipe**

Customer
Well Name

Noble Energy Inc.
Fiscus Federal LD15-75-HN

Date
INVOICE #
LOCATION
FOREMAN

11/11/2014
55035
Weld
Monte Bedeaux

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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	9:20															
MIRU	6:40															
CIRCULATE	11:30	0	12:12	0	0			0			0			0		
Drop Plug		10	12:16	100	10			10			10			10		
12:09		20	12:18	80	20			20			20			20		
		30	12:20	150	30			30			30			30		
		40	12:22	170	40			40			40			40		
		50	12:24	260	50			50			50			50		
M & P		60	12:26	200	60			60			60			60		
Time	Sacks	70	12:28	200	70			70			70			70		
11:37-12:05	480	80	12:33	300	80			80			80			80		
		90	12:40	660	90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
		120			120			120			120			120		
Lead mixed bbls	78.1	130			130			130			130			130		
Lead % Excess	30%	140			140			140			140			140		
Lead Sacks	380	150			150			150			150			150		
Notes:																
Tail mixed bbls	14.02	Safety Meeting, miru, pressure test per company man, mix and pump 380 sks lead cement, 100 sks tail cement, drop plug and displace 89.28 bbls h2o														
Tail % Excess	0%	Bump plug at 12:40 pm at 660 psi														
Tail Sacks	100															
Total Sacks	480															
Water Temp	78															
bbl Returns	33															

Mary Stapleton
Work Performed

X *WSS*
Title

X *11-12-14*
Date