Bison Oil Well Cementing
Single Cement Surface Pipe

Date: 4/3/2015
Invoice # 80162
API#
Foreman: Lee Sharp

Customer: Noble Energy Inc.
Well Name: Jessica LC27-785

County: Weld
State: Colorado

Sec:
Twp:
Range:

Consultant: Chris
Rig Name & Number: HP 343
Distance To Location: 65
Units On Location: 4027-3106 / 4034 324
Time Requested: 20:00
Time Arrived On Location: 18:45
Time Left Location: 1145

WELL DATA

Casing Size OD (in) :	9.625
Casing Weight (lb) :	36.00
Casing Depth (ft.) :	624
Total Depth (ft) :	634
Open Hole Diameter (in.) :	13.50
Conductor Length (ft) :	80
Conductor ID :	15
Shoe Joint Length (ft) :	39
Landing Joint (ft) :	0
Max Rate:	
Max Pressure:	

Cement Data

Cement Name:	BFN III
Cement Density (lb/gal) :	14.2
Cement Yield (cuft) :	1.48
Gallons Per Sack:	7.49
% Excess:	26
Displacement Fluid lb/gal:	8.3
BBL to Pit:	12
Fluid Ahead (bbls):	15.0
H20 Wash Up (bbls):	20.0

Spacer Ahead Makeup
40 2ND

Casing ID 8.921 Casing Grade J-55 only used

Calculated Results

cuft of Shoe 17.10 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 57.75 cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 265.87 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 340.72 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 60.68 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 224 229 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 39.95 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 45.20 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus
Hydrostatic Pressure: 460.32 PSI

Pressure of the fluids inside casing
Displacement: 252.07 psi
Shoe Joint: 29.06 psi
Total 281.13 psi

Differential Pressure: 179.19 psi

Collapse PSI: 2020.00 psi
Burst PSI: 3520.00 psi

Total Water Needed: 120.14 bbls

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.

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INVOICE #	80162
LOCATION	Weld
FOREMAN	Lee Sharp
Date	4/3/2015

Customer	Noble Energy Inc.
Well Name	Jessica LC27-785

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Safety Meeting	22:00
MIRU	21:30
CIRCULATE	22:30
Drop Plug	
22:52	
M & P	

Time	Sacks
22:38-22:49	278

% Excess	26%
Mixed bbls	49.5
Total Sacks	278
bbl Returns	12
Water Temp	50

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
0	22:52	0	0			0			0			0		
10	22:54	90	10			10			10			10		
20	22:56	120	20			20			20			20		
30	23:00	160	30			30			30			30		
40	22:02	200	40			40			40			40		
50	22:04	Land	50			50			50			50		
60			60			60			60			60		
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		
120			120			120			120			120		
130			130			130			130			130		
140			140			140			140			140		
150			150			150			150			150		

Notes:

The day

Job Completed with no issues

Plug landed on calculated

Plug bump 510 psi

Casing test failure due to landing Joint leaking

X
Work Preformed

X
Title

X
Date