Bison Oil Well Cementing
Single Cement Surface Pipe

Date: 1/8/2015
Invoice # 72060
API# 05-123-3808300
Foreman: AARON CARRASCO

Customer: EnCana Oil & Gas (USA) Inc.
Well Name: FILE 3N-32H

County: WELD
State: Colorado
Sec: 32
Twp: 2N
Range: 68W

Consultant: ROBERT
Rig Name & Number: PATTERSON #326
Distance To Location: 28 MILES
Units On Location: 3101 4029-
Time Requested: 8:30PM
Time Arrived On Location: 7:30PM
Time Left Location:

WELL DATA

Casing Size OD (in) :	9.625
Casing Weight (lb) :	36.00
Casing Depth (ft.) :	821
Total Depth (ft) :	864
Open Hole Diameter (in.) :	12.25
Conductor Length (ft) :	110
Conductor ID :	15.6
Shoe Joint Length (ft) :	44
Landing Joint (ft) :	35
Max Rate:	5
Max Pressure:	2000

Cement Data

Cement Name:	BFN III
Cement Density (lb/gal) :	15.2
Cement Yield (cuft) :	1.27
Gallons Per Sack:	5.89
% Excess:	50%
Displacement Fluid lb/gal:	5.0
BBL to Pit:	
Fluid Ahead (bbls):	30.0
H20 Wash Up (bbls):	20.0

Spacer Ahead Makeup
10 FRESH-10DYE-10 FRESH

Casing ID 8.921 Casing Grade J-55 only used

Calculated Results

cuft of Shoe 19.10 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 90.42 cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 334.01 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 443.53 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 78.99 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 349 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 48.98 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 62.77 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 648.26 PSI

Pressure of the fluids inside casing

Displacement: #N/A psi
Shoe Joint: 34.74 psi
Total #N/A psi
Differential Pressure: #N/A psi

Collapse PSI: 2020.00 psi
Burst PSI: 3520.00 psi

Total Water Needed: 161.75 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.

Bison Oil Well Cementing

Single Cement Surface Pipe

Customer	EnCana Oil & Gas (USA) Inc.
Well Name	FILE 3N-32H

INVOICE #	72000
LOCATION	WELD
FOREMAN	AARON CARRASCO
Date	1/8/2015

DESCRIPTION OF JOB EVENTS

Safety Meeting	10:45PM
MIRU	8PM
CIRCULATE	11:07PM
Drop Plug	
11:43PM	
M & P	

Time	Sacks
11:17PM	349

% Excess	50%
Mixed bbls	49
Total Sacks	349
bbl Returns	
Water Temp	47

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	11:43PM	50	0			0			0			0		
10	11:47PM	110	10			10			10			10		
20	11:50PM	180	20			20			20			20		
30	11:53PM	200	30			30			30			30		
40	11:56PM	280	40			40			40			40		
50	11:59PM	310	50			50			50			50		
60	12:03PM	430	60			60			60			60		
63	12:04PM	1000	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:

MIRU HAD SAFETY MEETING PRESS TESTED TO 1000 PSI THEN PUMPED SPACER 10BLS FRESH H2O 10 BLS OF H2O WITH BLUE DYE

WENT IN TO MIX MIXED & PUMPED 349 SKS OF CEMENT @ 15.2 LBS/GAL DROPED PLUG BUMPED @ 1000 PSI HELD IT @ 1000 PSI FOR 5 MINS

RELEASED PRESS & GOT 1/2 BBL OF H2O BACK

X
Work Preformed

X
Title

X
Date