



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/13/2015  
Invoice #: 55059  
API#  
Foreman: Monte Bedeaux

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

County: Weld  
State: Colorado  
Sec: 32  
Twp: 2n  
Range: 68W

Consultant: Robert  
Rig Name & Number: patterson 326  
Distance To Location: 28.2  
Units On Location: 4027-3106 4022-3213  
Time Requested: 2:00 AM  
Time Arrived On Location: 9:00 PM  
Time Left Location: 4:20 AM

## WELL DATA

Casing Size OD (in) : 9.625  
Casing Weight (lb) : 36.00  
Casing Depth (ft) : 800  
Total Depth (ft) : 860  
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: 8.3  
BBL to Pit:  
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

## 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 324.14 cuft  
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)  
Total Slurry Volume 433.66 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)  
bbls of Slurry 77.24 bbls  
(Total Slurry Volume) X (.1781)  
Sacks Needed 341 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)  
Mix Water 47.89 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 61.15 bbls

(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

## Pressure of cement in annulus

Hydrostatic Pressure: 631.68 PSI

## Pressure of the fluids inside casing

Displacement: 325.97 psi

Shoe Joint: 34.74 psi

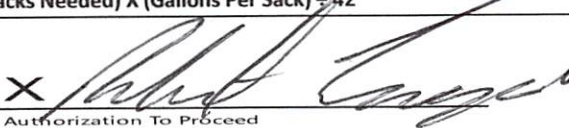
Total 360.72 psi

Differential Pressure: 270.96 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 159.04 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.



DISON OIL WELL CEMENTING  
Single Cement Surface Pipe

Customer  
Well Name

EnCana Oil & Gas (USA) Inc.

File 3A-32H

INVOICE #  
LOCATION  
FOREMAN  
Date

35055  
Weld  
Monte Bedeaux  
1/13/2015

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DESCRIPTION OF JOB EVENTS

Safety Meeting MIRU CIRCULATE Drop Plug 3:13 M & P Time Sacks 2:57-3:11 % Excess Mixed bbls Total Sacks bbl Returns Water Temp	2:20 1:15 2:55 3:13 M & P Time Sacks 2:57-3:11 % Excess Mixed bbls Total Sacks bbl Returns Water Temp	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	3:13	0	0			0			0			0		
		10	3:15	30	10			10			10			10		
		20	3:17	70	20			20			20			20		
		30	3:20	140	30			30			30			30		
		40	3:25	310	40			40			40			40		
		50	3:27	350	50			50			50			50		
		60	3:29	320	60			60			60			60		
		70	3:30	570	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:

safty meeting, miru, pressure test per company man, circulate 30 bbls ahead with dye in 2nd 10, mix and pump 341 sks cement, drop plug and

displace 61.84 bbls h2o, bump plug at am at 570 psi, raise to 1000 psi hold 5 min. release pressure, rash up rig down

X

Work Performed

X

Title

X

Date