



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/21/2014

Invoice # 35021

API#

Foreman: Kirk Kallhoff

Customer: EnCana Oil & Gas (USA) Inc.

Well Name: dale 4f-20h-0264

County: Weld

State: Colorado

Sec: 20

Twp: 2n

Range: 64w

Consultant: randy

Rig Name & Number: h&p 278

Distance To Location: 20

Units On Location: 4030-3103/4017-3212

Time Requested: 1100 am

Time Arrived On Location: 1100 am

Time Left Location: 4:00 pm

## WELL DATA

Casing Size OD (in) : 9.625  
Casing Weight (lb) : 40.00  
Casing Depth (ft) : 1,066  
Total Depth (ft) : 1111  
Open Hole Diameter (in.) : 12.25  
Conductor Length (ft) : 100  
Conductor ID : 16  
Shoe Joint Length (ft) : 43  
Landing Joint (ft) : 30

Max Rate:

Max Pressure:

## Cement Data

Cement Name: BFN III  
Cement Density (lb/gal) : 15.2  
Cement Yield (cuft) : 1.27  
Gallons Per Sack: 5.89  
% Excess: 20%  
Displacement Fluid lb/gal: 8.3  
BBL to Pit:  
Fluid Ahead (bbls): 30.0  
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

Casing ID

8.835

Casing Grade

J-55 only used

## Calculated Results

**cuft of Shoe** 18.31 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** 363.04 cuft  
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )

**Total Slurry Volume** 470.44 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

**bbls of Slurry** 83.79 bbls  
(Total Slurry Volume) X (.1781)

**Sacks Needed** 370 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

**Mix Water** 51.95 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

**Displacement:** 79.84 bbls

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

## Pressure of cement in annulus

**Hydrostatic Pressure:** 841.71 PSI

## Pressure of the fluids inside casing

**Displacement:** 441.10 psi

**Shoe Joint:** 33.95 psi

**Total** 475.05 psi

**Differential Pressure:** 366.66 psi

**Collapse PSI:** 2570.00 psi

**Burst PSI:** 3950.00 psi

**Total Water Needed:** 181.79 bbls

X Randy Burke  
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  
Well Name

EnCana Oil & Gas (USA) Inc.  
dale 4f-20h-0264

INVOICE #  
LOCATION  
FOREMAN  
Date

35021  
Weld  
Kirk Kallhoff  
8/21/2014

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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	132pm															
MIRU	1245pm															
CIRCULATE	206pm	0	237pm	10	0			0			0			0		
Drop Plug		10	240pm	10	10			10			10			10		
237 pm		20	243pm	70	20			20			20			20		
		30	245pm	180	30			30			30			30		
		40	247pm	250	40			40			40			40		
M & P		50	249pm	370	50			50			50			50		
Time	Sacks	60	252pm	450	60			60			60			60		
213 pm	370	70	255pm	500	70			70			70			70		
234 pm stop		80			80			80			80			80		
		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	20%	120			120			120			120			120		
Mixed bbls	51.9	130			130			130			130			130		
Total Sacks	370	140			140			140			140			140		
bbl Returns	22	150			150			150			150			150		
Water Temp																

Notes:

bumped plug at 305 pm 1010 psi 83.7 bbls slurry

casing test 1500 psi 15 min

X

Work Performed

*Randy Bule*

X

Title

X

Date

*8-21-14*