



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/21/2015  
 Invoice #: 45115  
 API#: 05-123-39779  
 Foreman: JASON

Customer: EnCana Oil & Gas (USA) Inc.  
 Well Name: NEWNAM2J-32H-C264

County: Weld  
 State: Colorado  
 Consultant: KIRBY  
 Rig Name & Number: ENSIGN 124  
 Distance To Location: 23  
 Units On Location: 4027-3106/ 4034-3211  
 Time Requested: 300  
 Time Arrived On Location: 130  
 Time Left Location: 830

WELL DATA	
Casing Size OD (in) :	9.625
Casing Weight (lb) :	40.00
Casing Depth (ft.) :	1,047
Total Depth (ft) :	1078
Open Hole Diameter (in.) :	12.25
Conductor Length (ft) :	120
Conductor ID :	15.25
Shoe Joint Length (ft) :	44
Landing Joint (ft) :	17
Max Rate:	6
Max Pressure:	1500

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:	22.0
Fluid Ahead (bbls):	30.0
H2O Wash Up (bbls):	20.0
Spacer Ahead Makeup	30 BBL W/ KCL, DYE IN 2ND 10

Casing ID: 8.835 Casing Grade: J-55 only used

Calculated Results		
<b>cuft of Shoe</b>	<b>18.70</b>	<b>cuft</b>
<small>(Casing ID Squared) X (.005454) X (Shoe Joint ft)</small>		
<b>cuft of Conductor</b>	<b>91.58</b>	<b>cuft</b>
<small>(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)</small>		
<b>cuft of Casing</b>	<b>435.35</b>	<b>cuft</b>
<small>(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)</small>		
<b>Total Slurry Volume</b>	<b>545.63</b>	<b>cuft</b>
<small>(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)</small>		
<b>bbls of Slurry</b>	<b>97.18</b>	<b>bbls</b>
<small>(Total Slurry Volume) X (.1781)</small>		
<b>Sacks Needed</b>	<b>430</b>	<b>sk</b>
<small>(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)</small>		
<b>Mix Water</b>	<b>60.25</b>	<b>bbls</b>
<small>(Sacks Needed) X (Gallons Per Sack) ÷ 42</small>		

<b>Displacement:</b>	<b>77.35 bbls</b>
<small>(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)</small>	
<b>Pressure of cement in annulus</b>	
<b>Hydrostatic Pressure:</b>	<b>826.51 PSI</b>
<b>Pressure of the fluids inside casing</b>	
<b>Displacement:</b>	<b>432.39 psi</b>
<b>Shoe Joint:</b>	<b>34.69 psi</b>
<b>Total</b>	<b>467.08 psi</b>
<b>Differential Pressure:</b>	<b>359.43 psi</b>
<b>Collapse PSI:</b>	<b>2570.00 psi</b>
<b>Burst PSI:</b>	<b>3950.00 psi</b>
<b>Total Water Needed:</b>	<b>187.60 bbls</b>

*X Mill Run*  
 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.  
NEWNAM2J-32H-C264

INVOICE #  
LOCATION  
FOREMAN  
Date

45115  
Weld  
JASON  
1/21/2015

Treatment Report Page 2

**DESCRIPTION OF JOB EVENTS**

	610	Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
	445	BBLS	Time	PSI												
Safety Meeting	610															
MIRU	445															
CIRCULATE	641	0	710	0	0			0			0			0		
Drop Plug		10	713	10	10			10			10			10		
710		20	716	70	20			20			20			20		
		30	719	150	30			30			30			30		
		40	721	250	40			40			40			40		
M & P		50	723	310	50			50			50			50		
Time	Sacks	60	725	390	60			60			60			60		
0648-0708	430	70	727	390	70			70			70			70		
		80	732	360	80			80			80			80		
		90	BUMP	830	90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	50%	120			120			120			120			120		
Mixed bbls	60.25	130			130			130			130			130		
Total Sacks	430	140			140			140			140			140		
bbl Returns	22	150			150			150			150			150		
Water Temp	60															

Notes:

PRESSURE TEST TO 2000 PSI AT 0639, PUMPED 30 BBL WATER WITH DYE IN THE 2ND 10 AT 0641, MIXED AND PUMPED 430 SKS AT 15.2, 97.1 BBL AT 0648, SHUT DOWN AT 0708, STARTED DISPLACEMENT AT 0710, PLUG LANDED AT 360 PSI AT 0732 AND PRESSURED UP TO 830 PSI, HELD FOR 2 MINUTES, RELEASED PRESSURE AND GOT .5 BBL BACK AND FLOATS HELD

X Michelle Rose  
Work Performed

X Com. MPW  
Title

X 1-21-15  
Date