



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/10/2015  
Invoice #: 35120  
API#:   
Foreman: Kirk Kallhoff

Customer: EnCana Oil & Gas (USA) Inc.  
Well Name: newnam 2l-32h c264

County: Weld  
State: Colorado  
Sec: 32  
Twp: 2n  
Range: 64

Consultant: rich  
Rig Name & Number: ensign 124  
Distance To Location: 30  
Units On Location: 4038-3103/4035-3205  
Time Requested: 1200 pm  
Time Arrived On Location: 1100 am  
Time Left Location:

WELL DATA	Cement Data
Casing Size OD (in) : 9.625	Cement Name: BFN III
Casing Weight (lb) : 40.00	Cement Density (lb/gal) : 15.2
Casing Depth (ft) : 1,131	Cement Yield (cuft) : 1.27
Total Depth (ft) : 1155	Gallons Per Sack: 5.89
Open Hole Diameter (in.) : 12.25	% Excess: 50%
Conductor Length (ft) : 100	Displacement Fluid lb/gal: 8.3
Conductor ID : 16	BBL to Pit:
Shoe Joint Length (ft) : 46	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 20	H2O Wash Up (bbls): 10.0
Max Rate:	Spacer Ahead Makeup
Max Pressure:	

Casing ID	8.835	Casing Grade	J-55 only used
<b>Calculated Results</b>	<b>Displacement: 83.79 bbls</b> (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)		
<b>cuft of Shoe</b> 19.58 cuft	<b>Pressure of cement in annulus</b>		
(Casing ID Squared) X (.005454) X (Shoe Joint ft)	<b>Hydrostatic Pressure: 893.04 PSI</b>		
<b>cuft of Conductor</b> 89.10 cuft	<b>Pressure of the fluids inside casing</b>		
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	<b>Displacement: 467.83 psi</b>		
<b>cuft of Casing</b> 484.33 cuft	<b>Shoe Joint: 36.32 psi</b>		
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	<b>Total 504.15 psi</b>		
<b>Total Slurry Volume</b> 593.01 cuft	<b>Differential Pressure: 388.88 psi</b>		
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	<b>Collapse PSI: 2570.00 psi</b>		
<b>bbls of Slurry</b> 105.62 bbls	<b>Burst PSI: 3950.00 psi</b>		
(Total Slurry Volume) X (.1781)	<b>Total Water Needed: 189.27 bbls</b>		
<b>Sacks Needed</b> 467 sk			
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)			
<b>Mix Water</b> 65.48 bbls			
(Sacks Needed) X (Gallons Per Sack) ÷ 42			

x Kirby Buckle  
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.  
newnam 2I-32h c264

INVOICE #  
LOCATION  
FOREMAN  
Date

35120  
Weld  
Kirk Kallhoff  
2/10/2015

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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	700pm															
MIRU	630pm															
CIRCULATE	747pm	0	821pm	0	0			0			0			0		
Drop Plug		10	825pm	0	10			10			10			10		
821 pm		20	831pm	80	20			20			20			20		
		30	833pm	80	30			30			30			30		
		40	835pm	170	40			40			40			40		
M & P		50	837pm	250	50			50			50			50		
Time	Sacks	60	839pm	340	60			60			60			60		
754 pm	467	70	841pm	410	70			70			70			70		
816 pm stop		80	844pm	400	80			80			80			80		
		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	50%	120			120			120			120			120		
Mixed bbls	65.5	130			130			130			130			130		
Total Sacks	467	140			140			140			140			140		
bbl Returns	18	150			150			150			150			150		
Water Temp																

Notes:

bumped plug at 846 pm 630 psi

floats held

x Kirby Bunkoff  
Work Performed

x Supervisor  
Title

x 2-10-15  
Date