



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 12/20/2014

Invoice # 25109

API# 05-123-39781

Foreman: Calvin Reimers

Customer: EnCana Oil & Gas (USA) Inc.

Well Name: Newnam 2G-32H-C264

County: Weld

State: Colorado

Sec: 32

Twp: 2N

Range: 64W

Consultant: Kirby

Rig Name & Number: Ensign 124

Distance To Location: 23 Miles

Units On Location: 4023-3104/4034-3211

Time Requested: 730pm

Time Arrived On Location: 615pm

Time Left Location: 1:15pm

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) : 1,019	Cement Yield (cuft) : 1.27
Total Depth (ft) : 1045	Gallons Per Sack: 5.89
Open Hole Diameter (in.) : 12.25	% Excess: 50%
Conductor Length (ft) : 93	Displacement Fluid lb/gal: 8.3
Conductor ID : 16	BBL to Pit: 26
Shoe Joint Length (ft) : 46	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 17	H2O Wash Up (bbls): 20.0
Max Rate: 7	Spacer Ahead Makeup
Max Pressure: 2500	30bbls H2O+Dye in 2nd 10bbls

Casing ID

8.835

Casing Grade

J-55 only used

Calculated Results	Displacement: 75.05 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Shoe 19.73 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Pressure of cement in annulus
cuft of Conductor 82.86 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: 804.54 PSI
cuft of Casing 434.97 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing
Total Slurry Volume 537.56 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: 419.36 psi
bbls of Slurry 95.74 bbls (Total Slurry Volume) X (.1781)	Shoe Joint: 36.59 psi
Sacks Needed 423 sk (Total Slurry Volume) + (Cement Yield) X (% Excess Cement)	Total 455.95 psi
Mix Water 59.36 bbls (Sacks Needed) X (Gallons Per Sack) + 42	Differential Pressure: 348.59 psi
	Collapse PSI: 2570.00 psi
	Burst PSI: 3950.00 psi
	Total Water Needed: 184.41 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
Well Name

EnCana Oil & Gas (USA) Inc.
Newnam 2G-32H-C264

INVOICE #
LOCATION
FOREMAN
Date

25109
Weld
Calvin Reimers
12/21/2014

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Safety Meeting MIRU CIRCULATE Drop Plug 1151pm M & P Time Sacks 1128pm 1148pm % Excess Mixed bbls Total Sacks bbl Returns Water Temp	1037pm 925pm 1122pm 1151pm M & P Time Sacks 1128pm 1148pm % 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	1152pm	50	0			0			0			0		
		10	1154pm	10	10			10			10			10		
		20	1156pm	10	20			20			20			20		
		30	1159pm	140	30			30			30			30		
		40	1201am	280	40			40			40			40		
		50	1202am	350	50			50			50			50		
		60	1204am	390	60			60			60			60		
		70	1206am	390	70			70			70			70		
		80	1209am	340	80			80			80			80		
		90	Bump	880	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:

The day

1/2 bbl Back on Bleed Off

Casing PSI Test 1210am 1500psi to 1225am 1500psi

x Garrett Chum
Work Performed

x Drilling Engineer
Title

x 12/21/14
Date