



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/12/2015
Invoice #: 25125
API#: 05-123-40278
Foreman: Calvin Reimers

Customer: EnCana Oil & Gas (USA) Inc.

Well Name: Ruhl 1L-32H-B264

County: Weld
State: Colorado
Sec: 32
Twp: 2N
Range: 64W

Consultant: Dennis E / Dennis Z
Rig Name & Number: Ensign 135
Distance To Location: 23 Miles
Units On Location: 4023-3104/4020-3212
Time Requested: 1000pm
Time Arrived On Location: 815pm
Time Left Location: 8:45 pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 40.00
Casing Depth (ft.) : 1,136
Total Depth (ft) : 1160
Open Hole Diameter (in.) : 12.25
Conductor Length (ft) : 124
Conductor ID : 16
Shoe Joint Length (ft) : 46
Landing Joint (ft) : 18

Max Rate: 7
Max Pressure: 2500

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: 20
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
30bbls H2O+Dye in 3rd 10bbls

Casing ID

8.835

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.71 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 110.48 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 475.35 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 605.54 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 107.85 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 477 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 66.87 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 83.99 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 896.90 PSI

Pressure of the fluids inside casing

Displacement: 469.81 psi

Shoe Joint: 36.56 psi

Total 506.37 psi

Differential Pressure: 390.53 psi

Collapse PSI: 2570.00 psi

Burst PSI: 3950.00 psi

Total Water Needed: 200.85 bbls

X *Dennis E. Z...*
Authorization To Proceed



DISON Oil Well Cementing Single Cement Surface Pipe

Customer
Well Name

EnCana Oil & Gas (USA) Inc.
Ruhl 1L-32H-B264

INVOICE #
LOCATION
FOREMAN
Date

20120
Weld
Calvin Reimers
1/12/2015

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DESCRIPTION OF JOB EVENTS

Safety Meeting MIRU CIRCULATE Drop Plug 716am M & P Time Sacks	605am 230am 650am	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	717am	100	0			0			0			0		
		10	720am	20	10			10			10			10		
		20	722am	50	20			20			20			20		
		30	724am	140	30			30			30			30		
		40	726am	260	40			40			40			40		
		50	728am	410	50			50			50			50		
		60	730am	450	60			60			60			60		
		70	732am	550	70			70			70			70		
		80	735am	440	80			80			80			80		
		90	737am	440	90			90			90			90		
		100	Bump	970	100			100			100			100		
		110			110			110			110			110		
% Excess	50%	120			120			120			120			120		
Mixed bbls	66.87	130			130			130			130			130		
Total Sacks	477	140			140			140			140			140		
bbl Returns	20	150			150			150			150			150		
Water Temp	60.1															

Notes:

The day

1/2 bbl Back on Bleed Off

Casing PSI Test 740am 1510psi to 755am 1490psi

X Donnis Zphor
Work Preformed

X Encana Rep
Title

X 1-12-15
Date