



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/1/2015
Invoice # 45121
API# 05-123-40228
Foreman: JASON

Customer: EnCana Oil & Gas (USA) Inc.
Well Name: NEWNAM2K-32H-C264

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

Consultant: RICH
Rig Name & Number: ENSIGN 124
Distance To Location: 23
Units On Location: 4031-3107/ 4022-3213
Time Requested: 900
Time Arrived On Location: 830
Time Left Location: 1200

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 40.00
Casing Depth (ft) : 1,118
Total Depth (ft) : 1145
Open Hole Diameter (in.) : 12.25
Conductor Length (ft) : 120
Conductor ID : 15.25
Shoe Joint Length (ft) : 46
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: 32.0
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

cuft of Shoe 19.72 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 91.58 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 468.77 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 580.06 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 103.31 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 457 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 64.05 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 82.56 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 882.67 PSI

Pressure of the fluids inside casing

Displacement: 462.04 psi

Shoe Joint: 36.57 psi

Total 498.60 psi

Differential Pressure: 384.07 psi

Collapse PSI: 2570.00 psi

Burst PSI: 3950.00 psi

Total Water Needed: 196.61 bbls

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.
NEWNAM2K-32H-C264

INVOICE #
LOCATION
FOREMAN
Date

45121
Weld
JASON
2/1/2015

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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	920															
MIRU	830															
CIRCULATE	1001	0	1031	0	0			0			0			0		
Drop Plug		10	1033	90	10			10			10			10		
1031		20	1036	100	20			20			20			20		
		30	1039	150	30			30			30			30		
		40	1043	390	40			40			40			40		
M & P		50	1045	490	50			50			50			50		
Time	Sacks	60	1047	540	60			60			60			60		
1009-1029	457	70	1049	600	70			70			70			70		
		80	1051	550	80			80			80			80		
		90	1052	560	90			90			90			90		
		100	BUMP	870	100			100			100			100		
		110			110			110			110			110		
% Excess	50%	120			120			120			120			120		
Mixed bbls	64.05	130			130			130			130			130		
Total Sacks	457	140			140			140			140			140		
bbl Returns	32	150			150			150			150			150		
Water Temp	73															

Notes:

PRESSURE TEST TO 2000 PSI AT 0959, PUMPED 30 BBL WATER WITH DYE IN THE 2ND 10 AT 1001, MIXED AND PUMPED 457 SKS AT 15.2, 103.3 BBL
AT 1009, SHUT DOWN AT 1029, STARTED DISPLACEMENT AT 1031, PLUG LANDED AT 870 PSI AT 1052 AND PRESSURED UP TO 870 PSI, HELD FOR 1
MINUTES, PRESSURED UP TO 1500 PSI FOR CASING TEST, HELD FOR 15 MINUTES AND THEN RELEASED PRESSURE AND GOT .5 BBL BACK AND FLOATS
HELD

x James L. Boone
Signature

x Co Man
Title

x 1 Feb 15
Date