



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 9/27/2014
Invoice #: 25057
API#: 05-123-37659
Foreman: Calvin Reimers

Customer: EnCana Oil & Gas (USA) Inc.

Well Name: Grant Salisbury 2D-14H-C268

County: Weld
State: Colorado
Sec: 14
Twp: 2N
Range: 68W

Consultant: Leonard
Rig Name & Number: Patterson 272
Distance To Location: 22 Miles
Units On Location: 4023-3104/4020-3212
Time Requested: 730am
Time Arrived On Location: 500am
Time Left Location: 12:00 pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 40.00
Casing Depth (ft.) : 884
Total Depth (ft) : 934
Open Hole Diameter (in.) : 12.25
Conductor Length (ft) : 82
Conductor ID : 16
Shoe Joint Length (ft) : 47
Landing Joint (ft) : 35

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: 21
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
30bbls H2O+Dye in 2nd 10bbls

Casing ID

8.835

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.83 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 73.06 cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 376.56 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 469.45 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 83.61 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 370 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 51.84 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 66.14 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 697.67 PSI

Pressure of the fluids inside casing

Displacement: 360.90 psi

Shoe Joint: 36.78 psi

Total 397.68 psi

Differential Pressure: 300.00 psi

Collapse PSI: 2570.00 psi

Burst PSI: 3950.00 psi

Total Water Needed: 167.98 bbls

X

Leonard Clark

Authorization To Proceed

9-27-14



**Bison Oil well Cementing
Single Cement Surface Pipe**

Customer
Well Name

EnCana Oil & Gas (USA) Inc.
Grant Salisbury 2D-14H-C268

INVOICE #
LOCATION
FOREMAN
Date

25057
Weld
Calvin Reimers
9/27/2014

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DESCRIPTION OF JOB EVENTS

Safety Meeting		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
MIRU	939am	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI
CIRCULATE	650am	0	1041am	50	0			0			0			0		
Drop Plug	1018am	10	1044am	100	10			10			10			10		
1040am		20	1045am	140	20			20			20			20		
		30	1047am	250	30			30			30			30		
		40	1048am	320	40			40			40			40		
M & P		50	1050am	380	50			50			50			50		
Time	Sacks	60	1052am	360	60			60			60			60		
1025am	370	70	1055am	320	70			70			70			70		
1037am		80	Bump	920	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	51.84	130			130			130			130			130		
Total Sacks	370	140			140			140			140			140		
bbl Returns	21	150			150			150			150			150		
Water Temp	66.4															

Notes:

The day

1/2 bbl back on bleed off

X

Work Preformed

Leonard Clark

X

Title

CO-MAN

X

Date

9-27-14