



Bison Oil Well Cementing Single Cement Surface Pipe

10/9/2014

Invoice # 35052

API#

Foreman: Kirk Kallhoff

Customer: EnCana Oil & Gas (USA) Inc.

Well Name: billings 3g-18h

County: Weld

State: Colorado

Sec: 19

Twp: 3n

Range: 68w

Consultant: mike

Rig Name & Number: patterson 326

Distance To Location: 25

Units On Location: 4030-3103/4018-3204

Time Requested: 330 pm

Time Arrived On Location: 130 pm

Time Left Location:

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 40.00
Casing Depth (ft.) : 969
Total Depth (ft) : 1014
Open Hole Diameter (in.) : 12.25
Conductor Length (ft) : 100
Conductor ID : 16
Shoe Joint Length (ft) : 45
Landing Joint (ft) : 35

Max Rate:

Max Pressure:

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

Spacer Ahead Makeup

Casing ID

8.835

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.16 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 89.10 cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 408.23 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 516.48 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 91.99 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 407 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 57.03 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 72.72 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 765.12 PSI

Pressure of the fluids inside casing

Displacement: 398.41 psi**Shoe Joint:** 35.53 psi**Total** 433.94 psi**Differential Pressure:** 331.18 psi**Collapse PSI:** 2570.00 psi**Burst PSI:** 3950.00 psi**Total Water Needed:** 179.75 bbls

Michael R...
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

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billings 3g-18h

INVOICE #
LOCATION
FOREMAN
Date

35052
Weld
Kirk Kallhoff
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Treatment Report Page 2

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	732pm															
MIRU	640pm															
CIRCULATE	745pm	0	814pm	10	0			0			0			0		
Drop Plug		10	817pm	110	10			10			10			10		
814 pm		20	819pm	130	20			20			20			20		
		30	821pm	240	30			30			30			30		
		40	823pm	320	40			40			40			40		
M & P		50	825pm	370	50			50			50			50		
Time	Sacks	60	828pm	420	60			60			60			60		
751 pm	407	70	831pm	400	70			70			70			70		
811 pm stop		80			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	57.1	130			130			130			130			130		
Total Sacks	407	140			140			140			140			140		
bbl Returns	26	150			150			150			150			150		
Water Temp																

Notes:

bumped plug at 834 pm 570 psi

91.9 bbls slurry

casing test 1500 psi 15 min

X

Thick Re

Work Performed

X

Co-man

Title

X

10-9-14

Date