



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/3/2015
Invoice #: 65065
API#: 05-123-39266
Foreman: Lee Sharp

Customer: EnCana Oil & Gas (USA) Inc.

Well Name: Sprague 3C-9H-N267

County: Weld
State: Colorado

Sec: _____
Twp: _____
Range: _____

Consultant: Chris
Rig Name & Number: Patterson
Distance To Location: 22
Units On Location: 4027-3106/
Time Requested: 10:30
Time Arrived On Location: 10:20
Time Left Location: 3:15

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 859
Total Depth (ft) : 875
Open Hole Diameter (in.) : 12.25
Conductor Length (ft) : 114
Conductor ID : 15
Shoe Joint Length (ft) : 43
Landing Joint (ft) : 0

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: 20.25
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.59 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 82.30 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 349.98 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 450.86 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 80.30 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 355 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 49.79 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 63.10 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 678.27 PSI

Pressure of the fluids inside casing

Displacement: 351.92 psi

Shoe Joint: 33.82 psi

Total 385.74 psi

Differential Pressure: 292.53 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 162.88 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.
Sprague 3C-9H-N267

INVOICE #
LOCATION
FOREMAN
Date

65065
Weld
Lee Sharp
2/3/2015

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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	12:45															
MIRU	12:10															
CIRCULATE	1:33	0	2:04		0			0			0			0		
Drop Plug		10	2:07	60	10			10			10			10		
2:04		20	2:09	70	20			20			20			20		
		30	2:12	190	30			30			30			30		
		40	2:14	290	40			40			40			40		
M & P		50	2:16	320	50			50			50			50		
Time	Sacks	60	2:19	300	60			60			60			60		
1:40-2:00	355	70	2:21	land	70			70			70			70		
		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	49.8	130			130			130			130			130		
Total Sacks	355	140			140			140			140			140		
bbl Returns	40.75	150			150			150			150			150		
Water Temp	100															

Notes:

The day

Job completed with no issues

plug landed on calculated

final lift 300 psi land 770 psi held for 2:26 pm

Floats checked and held

X

Work Performed

X

Title

X

Date