



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 3/20/2015
 Invoice # 80015
 API# 05-123-39273
 Foreman: Calvin Reimers

Customer: EnCana Oil & Gas (USA) Inc.

Well Name: Sprague 3H-9H

County: Weld
 State: Colorado
 Sec: 9
 Twp: 2N
 Range: 67W

Consultant: _____
 Rig Name & Number: Patterson 272
 Distance To Location: 14 Miles
 Units On Location: 4027-3106/4020-3212
 Time Requested: 700am
 Time Arrived On Location: 530am
 Time Left Location: 1015am

WELL DATA

Casing Size OD (in) : 9.625
 Casing Weight (lb) : 36.00
 Casing Depth (ft.) : 810
 Total Depth (ft) : 862
 Open Hole Diameter (in.) : 12.25
 Conductor Length (ft) : 115
 Conductor ID : 16
 Shoe Joint Length (ft) : 41
 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: 22.0
 Fluid Ahead (bbls): 30.0
 H2O Wash Up (bbls): 20.0
 Spacer Ahead Makeup
30bbls H2O+Dye in 2nd 10bbls

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results		Displacement:	62.14 bbls
cuft of Shoe 17.94 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)		(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
cuft of Conductor 102.46 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)		Pressure of cement in annulus	
cuft of Casing 326.45 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		Hydrostatic Pressure:	639.51 PSI
Total Slurry Volume 446.85 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		Pressure of the fluids inside casing	
bbls of Slurry 79.58 bbls (Total Slurry Volume) X (.1781)		Displacement:	331.40 psi
Sacks Needed 352 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)		Shoe Joint:	32.63 psi
Mix Water 49.34 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42		Total	364.04 psi
		Differential Pressure:	275.48 psi
		Collapse PSI:	2020.00 psi
		Burst PSI:	3520.00 psi
		Total Water Needed:	161.49 bbls

X 
 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 3H-9H

INVOICE #
 LOCATION
 FOREMAN
 Date

00015
Weld
Calvin Reimers
3/20/2015

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	812am															
MIRU	545am															
CIRCULATE	829am	0	856am	80	0			0			0			0		
Drop Plug		10	858am	60	10			10			10			10		
855am		20	901am	100	20			20			20			20		
		30	903am	170	30			30			30			30		
		40	905am	280	40			40			40			40		
M & P		50	907am	340	50			50			50			50		
Time	Sacks	60	910am	250	60			60			60			60		
835am	352	70	911am	250	70			70			70			70		
852am		80	Bump	800	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	49.34	130			130			130			130			130		
Total Sacks	352	140			140			140			140			140		
bbl Returns	22	150			150			150			150			150		
Water Temp	61.9															

Notes:

The day

1/2 bbl Back on Bleed Off

Casing PSI Test 913am 1000psi to 928am 1010psi

X *Calvin Reimers*
 Work Performed

X _____
 Title

X _____
 Date