



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/31/2014
 Invoice #: 45030
 API#: 05-123-37654
 Foreman: JASON KELEHER

Customer: EnCana Oil & Gas (USA) Inc.

Well Name: ~~BURKHARDT 36C-3HZ~~ Grant Salisbury 2F-14H

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

Consultant: CALEB
 Rig Name & Number: PATTERSON 272
 Distance To Location: 23
 Units On Location: 4031-3106/ 4033-3212
 Time Requested: 1900
 Time Arrived On Location: 1730
 Time Left Location: 1230

WELL DATA

Casing Size OD (in) :	9.625
Casing Weight (lb) :	40.00
Casing Depth (ft.) :	869
Total Depth (ft) :	920
Open Hole Diameter (in.) :	12.25
Conductor Length (ft) :	108
Conductor ID :	15.25
Shoe Joint Length (ft) :	43
Landing Joint (ft) :	30
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:	49%
Displacement Fluid lb/gal:	8.3
BBL to Pit:	20.0
Fluid Ahead (bbls):	30.0
H2O Wash Up (bbls):	20.0
Spacer Ahead Makeup	30BBL H2O W/KCL, Dye in 2nd 10

Casing ID 8.835 Casing Grade J-55 only used

Calculated Results

cuft of Shoe	18.31	cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)		
cuft of Conductor	82.42	cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)		
cuft of Casing	355.11	cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		
Total Slurry Volume	455.84	cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		
bbls of Slurry	81.18	bbls
(Total Slurry Volume) X (.1781)		
Sacks Needed	359	sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)		
Mix Water	50.33	bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42		

Displacement:	64.91 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
Pressure of cement in annulus	
Hydrostatic Pressure:	686.16 PSI
Pressure of the fluids inside casing	
Displacement:	356.16 psi
Shoe Joint:	33.95 psi
Total	390.11 psi
Differential Pressure:	296.05 psi
Collapse PSI:	2570.00 psi
Burst PSI:	3950.00 psi
Total Water Needed:	165.24 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.
~~BURKHARDT 36C-3HZ~~

Grant Selisbury 2F-14H

INVOICE #
LOCATION
FOREMAN
Date

45030
Weld
JASON KELEHER
8/31/2014

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	2200															
MIRU	2115															
CIRCULATE	2243	0	2312	0	0			0			0			0		
Drop Plug		10	2315	20	10			10			10			10		
2311		20	2319	40	20			20			20			20		
		30	2321	270	30			30			30			30		
		40	2323	360	40			40			40			40		
M & P		50	2325	420	50			50			50			50		
Time	Sacks	60	2327	480	60			60			60			60		
2249-2308	359	70	2329	390	70			70			70			70		
		80	BUMP	950	80			80			80			80		
		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	49%	120			120			120			120			120		
Mixed bbls	50.3	130			130			130			130			130		
Total Sacks	359	140			140			140			140			140		
bbl Returns	20	150			150			150			150			150		
Water Temp	63															

Notes:

The day

PRESSURE TESTED TO 1500 PSI AT 2240, PUMPED 30 BBL WATER 2ND 10 HAVING DYE AT 2243, MIXED AND PUMPED 359 SKS AT 15.2, 81.2 BBL AT 2249, SHUT DOWN AT 2308, DROPPED PLUG AT 2311, STARTED DISPLACEMENT AT 2312, PLUG LANDED AT 390 PSI AND PRESSURED UP TO 950, HELD FOR 2 MINUTES AND RELEASED AND GOT .25 BBL BACK

X _____
Work Performed

X _____
Title

X _____
Date