Bison Oil Well Cementing
Single Cement Surface Pipe

Date: 8/17/2014
Invoice # 20002
API# 123-397529-00
Foreman: Lee Sharp

Customer: EnCana Oil & Gas (USA) Inc.
Well Name: Dale 4J-20H-0264

County: Weld
State: Colorado

Sec: 20
Twp: 2N
Range: 68W

Consultant: Randy Berk
Rig Name & Number: H&P 278
Distance To Location: 22
Units On Location: 4015 & 4028 3102
Time Requested: 9:30 AM
Time Arrived On Location: 8:10
Time Left Location:

WELL DATA

Casing Size OD (in) :	9.625
Casing Weight (lb) :	40.00
Casing Depth (ft.) :	1,075
Total Depth (ft) :	1090
Open Hole Diameter (in.) :	12.25
Conductor Length (ft) :	118
Conductor ID :	15.376
Shoe Joint Length (ft) :	29
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:	30%
Displacement Fluid lb/gal:	8.3
BBL to Pit:	15.0
Fluid Ahead (bbls):	15.0
H20 Wash Up (bbls):	20.0

Spacer Ahead Makeup
10F 10 DIE 10fF

Casing ID 8.835 Casing Grade J-55 only used

Calculated Results

cuft of Shoe (Casing ID Squared) X (.005454) X (Shoe Joint ft)	12.43	cuft
cuft of Conductor (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	92.53	cuft
cuft of Casing (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	389.63	cuft
Total Slurry Volume (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	494.59	cuft
bbls of Slurry (Total Slurry Volume) X (.1781)	88.09	bbls
Sacks Needed (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	389	sk
Mix Water (Sacks Needed) X (Gallons Per Sack) ÷ 42	54.61	bbls

Displacement: 79.30 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 848.82 PSI

Pressure of the fluids inside casing

Displacement:	450.93 psi
Shoe Joint:	23.06 psi
Total	473.99 psi
Differential Pressure:	374.83 psi
Collapse PSI:	2570.00 psi
Burst PSI:	3950.00 psi
Total Water Needed:	168.91 bbls

X Randy Burke
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.

Single Cement Surface Pipe

Customer	EnCana Oil & Gas (USA) Inc.
Well Name	Dale 4J-20H-0264

LOCATION	Weld
FOREMAN	Lee Sharp
Date	8/17/2014

DESCRIPTION OF JOB EVENTS

Safety Meeting	12:35
MIRU	11:30
CIRCULATE	12:55
Drop Plug	
13:55	
M & P	

Time	Sacks
13:00	389

% Excess	31%
Mixed bbls	55
Total Sacks	392
bbl Returns	31
Water Temp	70

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
0	13:58	20	0			0			0			0		
10	14:03	100	10			10			10			10		
20	14:06	340	20			20			20			20		
30	14:08	390	30			30			30			30		
40	14:08	390	40			40			40			40		
50	14:10	470	50			50			50			50		
60	14:12	460	60			60			60			60		
70	14:14	530	70			70			70			70		
80	14:15	1270	80			80			80			80		
90			90			90			90			90		
100			100			100			100			100		
110			110			110			110			110		
120			120			120			120			120		
130			130			130			130			130		
140			140			140			140			140		
150			150			150			150			150		

Notes:

The day

Job went well. Had no issues plug landed bbl early but was no issue. 30 bbl returns, psi test began at 14:25 @ 1560psi ended @14:42 @1580psi

X Randy Burke
Work Preformed

X
Title

X
Date