



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 3/10/2014
Invoice #: 12101
API#: 05-123-
Foreman: monte

Customer: encana
Well Name: volg mccoy 2c-5h-e267

County: weld
State: Colorado
Sec: 5
Twp: 2n
Range: 67w
Consultant: sandy
Rig Name & Number: h ? P 522
Distance To Location: 28.3
Units On Location: 4018-3104 4024=3210
Time Requested: 6:00am
Time Arrived On Location: 5:15am
Time Left Location:

WELL DATA	Cement Data
Casing Size OD (in) : 9.625	Cement Name: BFN III
Casing Weight (lb) : 40.00	Cement Density (lb/gal) : 15.2
Casing Depth (ft) : 823	Cement Yield (cuft) : 1.27
Total Depth (ft) : 863	Gallons Per Sack: 5.89
Open Hole Diameter (in.) : 12.25	% Excess: 35%
Conductor Length (ft) : 114	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.5	BBL to Pit:
Shoe Joint Length (ft) : 40	Fluid Ahead (bbls): 20.0
Landing Joint (ft) : 37	H2O Wash Up (bbls): 20.0
Max Rate: 4	Spacer Ahead Makeup
Max Pressure: 1000	10 dye 10 fresh

Casing ID	8.835	Casing Grade	J-55 only used
Calculated Results		Displacement: 62.20 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
cuft of Shoe	17.08 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Pressure of cement in annulus	
cuft of Conductor	91.78 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: 650.15 PSI	
cuft of Casing	222.17 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing	
Total Slurry Volume	331.03 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: 337.73 psi	
bbls of Slurry	79.59 bbls (Total Slurry Volume) X (.1781) X (% Excess Cement)	Shoe Joint: 31.69 psi	
Sacks Needed	352 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total 369.41 psi	
Mix Water	49.35 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: 280.74 psi	
		Collapse PSI: #N/A psi	
		Burst PSI: #N/A psi	
		Total Water Needed: 151.54 bbls	

3-10-14
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
volg mccoy 2c-5h-e267

INVOICE #
LOCATION
FOREMAN
Date

12101
weld
monte
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Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Safety Meeting MIRU CIRCULATE Drop Plug 8:19 M & P Time Sacks 7:56-8:15 % Excess Mixed bbls Total Sacks bbl Returns Water Temp	7:15am 6:15 7:25 8:19 M & P Time Sacks 7:56-8:15 % Excess Mixed bbls Total Sacks bbl Returns Water Temp	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	8:20	10	0			0			0			0		
		10	8:22	100	10			10			10			10		
		20	8:24	150	20			20			20			20		
		30	8:26	230	30			30			30			30		
		40	8:28	280	40			40			40			40		
		50	8:30	320	50			50			50			50		
		60	8:32	320	60			60			60			60		
		70	8:34	640	70			70			70			70		
		80			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:

safty meeting, miru, pressure test per company man, circulate 20 bbls ahead with dye in 1st 10, m & p 352 sks cement, displace 62.2 bbls h2o. 27 back to pit

X Sandy Pulley
Work Performed

X
Title

X 3-10-14
Date