



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 6/13/2014
Invoice #: 12266
API#:
Foreman: monte

Customer: encana
Well Name: mumby state 4e-36h-p266

County: weld
State: colorado
Sec: 36
Twp: 2n
Range: 66w
Consultant: kevin
Rig Name & Number: h&p 522
Distance To Location: 21.4
Units On Location: 4027-3106/4022-3210
Time Requested: 12:30
Time Arrived On Location: 11:30
Time Left Location: 530

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.) : 1,090	Cement Yield (cuft) : 1.27
Total Depth (ft) : 1142	Gallons Per Sack: 5.89
Open Hole Diameter (in.) : 12.25	% Excess: 50%
Conductor Length (ft) : 120	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.6	BBL to Pit: 0.0
Shoe Joint Length (ft) : 45	Fluid Ahead (bbls): 20.0
Landing Joint (ft) : 38	H2O Wash Up (bbls): 20.0
Max Rate:	Spacer Ahead Makeup
Max Pressure:	10 dye 10 fresh

Casing ID

8.835

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe	19.16	cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)		
cuft of Conductor	98.64	cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)		
cuft of Casing	455.68	cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		
Total Slurry Volume	573.48	cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		
bbls of Slurry	102.14	bbls
(Total Slurry Volume) X (.1781)		
Sacks Needed	452	sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)		
Mix Water	63.33	bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42		

Displacement: 82.12 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 860.66 PSI

Pressure of the fluids inside casing

Displacement: 450.58 psi

Shoe Joint: 35.53 psi

Total 486.12 psi

Differential Pressure: 374.55 psi

Collapse PSI: 2570.00 psi

Burst PSI: 3950.00 psi

Total Water Needed: 185.44 bbls

X *Kevin Beyron*
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
mumby state 4e-36h-p266

INVOICE #
LOCATION
FOREMAN
Date

12266
weld
monte
6/13/2014

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DESCRIPTION OF JOB EVENTS

Safety Meeting MIRU CIRCULATE Drop Plug 9:05 M & P Time 3:10-3:54 % Excess Mixed bbls Total Sacks bbl Returns Water Temp	2:50 2:00 3:04 0% 63.33 452 19 78	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	3:55	20	0			0			0			0		
		10	3:58	70	10			10			10			10		
		20	4:02	190	20			20			20			20		
		30	4:04	290	30			30			30			30		
		40	4:06	400	40			40			40			40		
		50	4:08	550	50			50			50			50		
		60	4:10	580	60			60			60			60		
		70	4:12	540	70			70			70			70		
		80	4:14	380	80			80			80			80		
		90	4:18	610	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, mix and pump 452 bbls at 15.2 lb at 50 excess, drop plug and displac
bump plug at 9:20 pm at 630 psi 16 bbls back

Bleed down 200 PSI In 15 min casing test

X Kor Bayer
Work Preformed

X _____
Title

X 6-13-14
Date