



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 6/15/2014
Invoice #: 12042
API#
Foreman: Kirk Kallhoff

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

County: weld
State: Colorado
Sec: 36
Twp: 2n
Range: 66w
Consultant: kevin
Rig Name & Number: h&p522
Distance To Location: 20
Units On Location: 3103-3211
Time Requested: 530 pm
Time Arrived On Location: 430pm
Time Left Location: 9:30 pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 40.00
Casing Depth (ft.) : 1,106
Total Depth (ft) : 1149
Open Hole Diameter (in.) : 12.25
Conductor Length (ft) : 100
Conductor ID : 16
Shoe Joint Length (ft) : 44
Landing Joint (ft) : 33

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: 50%
Displacement Fluid lb/gal: 8.3
BBL to Pit:
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

Casing ID

8.835

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.73 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)
cuft of Conductor 89.10 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)
cuft of Casing 472.59 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 580.42 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 103.37 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 457 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 64.09 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 83.03 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 873.30 PSI

Pressure of the fluids inside casing

Displacement: 457.91 psi

Shoe Joint: 34.74 psi

Total 492.66 psi

Differential Pressure: 380.64 psi

Collapse PSI: 2570.00 psi

Burst PSI: 3950.00 psi

Total Water Needed: 197.12 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
mumby state 4b-36h-p266

INVOICE #
LOCATION
FOREMAN
Date

12042
weld
Kirk Kallhoff
6/15/2014

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Safety Meeting MIRU CIRCULATE Drop Plug 803pm M & P Time Sacks 738pm 800 pm stop % Excess Mixed bbls Total Sacks bbl Returns Water Temp	712pm	Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
	610pm	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI
	731pm	0	939pm	10	0			0			0			0		
		10	942pm	100	10			10			10			10		
		20	944pm	170	20			20			20			20		
		30	946pm	230	30			30			30			30		
		40	948pm	270	40			40			40			40		
		50			50			50			50			50		
		60			60			60			60			60		
		70			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:

bumped plug at 827pm 680 psi 103.3 bbls slurry

casing test 1500 psi for 15 min

X

Work Preformed

X

Title

X

Date