



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 3/10/2014

Invoice # 12074

API# 05-123-37860

Foreman: Calvin Reimers

Customer: Encana

Well Name: Vogl Geist 2C-5H-E267

County: Weld

State: Colorado

Sec: 5

Twp: 2N

Range: 67W

Consultant: Sandy / Nate

Rig Name & Number: H&P 522

Distance To Location: 20 Miles

Units On Location: 3104/3211

Time Requested: 930pm

Time Arrived On Location: 815pm

Time Left Location: 2:30am

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 40.00
Casing Depth (ft) : 835
Total Depth (ft) : 877
Open Hole Diameter (in.) : 12.25
Conductor Length (ft) : 84
Conductor ID : 16
Shoe Joint Length (ft) : 40
Landing Joint (ft) : 38

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: 30%
Displacement Fluid lb/gal: 8.3
BBL to Pit: / /
Fluid Ahead (bbls): 20.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
10bbls H2O+KCL+Dye in 2nd 10bbls

Casing ID

8.835

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 17.05 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 74.84 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 235.17 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 327.06 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 75.72 bbls
(Total Slurry Volume) X (.1781) X (% Excess Cement)

Sacks Needed 335 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 46.95 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 63.12 bbls

(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 659.25 PSI

Pressure of the fluids inside casing

Displacement: 342.74 psi

Shoe Joint: 31.62 psi

Total 374.35 psi

Differential Pressure: 284.90 psi

Collapse PSI: #N/A psi

Burst PSI: #N/A psi

Total Water Needed: 150.07 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
Vogl Geist 2C-5H-E267

INVOICE #
LOCATION
FOREMAN
Date

12074
Weld
Calvin Reimers
3/10/2014

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DESCRIPTION OF JOB EVENTS

Safety Meeting MIRU CIRCULATE Drop Plug 1244am M & P Time Sacks 1224am 1240am % Excess Mixed bbls Total Sacks bbl Returns Water Temp	1139pm 1055pm 1220am 1244am M & P Time Sacks 1224am 1240am % 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	1245am	100	0			0			0			0		
		10	1249am	120	10			10			10			10		
		20	1251am	160	20			20			20			20		
		30	1253am	260	30			30			30			30		
		40	1255am	350	40			40			40			40		
		50	1256am	380	50			50			50			50		
		60	1259am	340	60			60			60			60		
		70	102am	320	70			70			70			70		
		80	Bump	760	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

Float Held

1/2 bbl back on bleed off

X

Work Preformed

Not a Cur Key

X

Title

X

Date

3-11-14