



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/15/2015
Invoice #: 55060
API#
Foreman: Monte Bedeaux

Customer: EnCana Oil & Gas (USA) Inc.
Well Name: Ruhl 1I-32H-B264

County: Weld
State: Colorado
Sec: 32
Twp: 2n
Range: 64w

Consultant: Dennis
Rig Name & Number: Ensign 135
Distance To Location: 28.2
Units On Location: 4027-3106 4022-3213
Time Requested: 1:00am
Time Arrived On Location: 9:15pm
Time Left Location: 7:20am

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 40.00
Casing Depth (ft.) : 1,130
Total Depth (ft) : 1165
Open Hole Diameter (in.) : 12.25
Conductor Length (ft) : 137
Conductor ID : 15.6
Shoe Joint Length (ft) : 46
Landing Joint (ft) : 22
Max Rate: 5
Max Pressure: 2000

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
20 fresh 10 dye

Casing ID

8.835

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.58 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)
cuft of Conductor 112.62 cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)
cuft of Casing 466.48 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 598.68 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 106.62 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 471 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 66.11 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 83.86 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 892.25 PSI

Pressure of the fluids inside casing

Displacement: 467.40 psi

Shoe Joint: 36.32 psi

Total 503.72 psi

Differential Pressure: 388.53 psi

Collapse PSI: 2570.00 psi

Burst PSI: 3950.00 psi

Total Water Needed: 199.97 bbls

x Mark Sells
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.



EnCana Oil Well Cementing Single Cement Surface Pipe

Customer
Well Name

EnCana Oil & Gas (USA) Inc.
Ruhl 11-32H-B264

INVOICE #
LOCATION
FOREMAN
Date

33000
Weld
Monte Bedeaux
1/15/2015

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Safety Meeting MIRU CIRCULATE Drop Plug 5:33 M & P Time 4:59-5:30 % Excess Mixed bbls Total Sacks bbl Returns Water Temp	4:10 3:15 4:50 5:33 M & P Time 4:59-5:30 % 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	5:36	20	0			0			0			0		
		10	5:39	20	10			10			10			10		
		20	5:41	180	20			20			20			20		
		30	5:43	250	30			30			30			30		
		40	5:45	330	40			40			40			40		
		50	5:47	400	50			50			50			50		
		60	5:49	450	60			60			60			60		
		70	5:51	480	70			70			70			70		
		80	5:53	480	80			80			80			80		
		90	5:55	890	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 30 bbls ahead with dye last 10, mix and pump 471 sks cement, drop plug and
displace 85.64 bbls h2o, bump plug at 555 am at 890 psi, bleed off and raise to raise to 1500 psi hold 15 min. release pressure, rash up rig down

X

Work Performed

Mark Schatz

X Rig Site Supervisor
Title

X 1/15/15
Date