



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 5/1/2014
 Invoice #: 12250
 API#
 Foreman: Zach/Monte

Customer: Encana
 Well Name: Bohrer 2H-19HE368

County: weld
 State: Colorado
 Sec: 19
 Twp: 3N
 Range: 68W
 Consultant: Robert
 Rig Name & Number: Patteson
 Distance To Location: 22.5
 Units On Location: 4027-3106/4031-3210
 Time Requested: 20:00
 Time Arrived On Location: 19:20
 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.) : 844	Cement Yield (cuft) : 1.27
Total Depth (ft) : 870	Gallons Per Sack: 5.89
Open Hole Diameter (in.) : 12.25	% Excess: 60%
Conductor Length (ft) : 112	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.6	BBL to Pit: 0.0
Shoe Joint Length (ft) : 46	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 35	H2O Wash Up (bbls): 20.0
Max Rate:	Spacer Ahead Makeup
Max Pressure:	

Casing ID: 8.835 Casing Grade: J-55 only used

Calculated Results	Pressure of cement in annulus
cuft of Shoe 19.77 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: 63.13 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor 92.07 cuft (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: 666.42 PSI
cuft of Casing 366.80 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing
Total Slurry Volume 478.63 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: 343.90 psi Shoe Joint: 36.66 psi Total: 380.56 psi
bbls of Slurry 85.24 bbls (Total Slurry Volume) X (.1781)	Differential Pressure: 285.86 psi
Sacks Needed 377 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Collapse PSI: 2570.00 psi Burst PSI: 3950.00 psi
Mix Water 52.85 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total Water Needed: 165.98 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
Bohrer 2H-19HE368

INVOICE #
LOCATION
FOREMAN
Date

12250
weld
Zach/Monte
5/1/2014

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

		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
Safety Meeting	22:00															
MIRU	21:15															
CIRCULATE	22:21	0	22:57	0	0			0			0			0		
Drop Plug		10	22:59	190	10			10			10			10		
22:56		20	23:00	280	20			20			20			20		
		30	23:02	340	30			30			30			30		
		40	23:04	420	40			40			40			40		
M & P		50	23:06	470	50			50			50			50		
Time	Sacks	60	23:09	390	60			60			60			60		
start 22:25	377	70			70			70			70			70		
end 22:54		80			80			80			80			80		
		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	0%	120			120			120			120			120		
Mixed bbls	52.85	130			130			130			130			130		
Total Sacks	377	140			140			140			140			140		
bbl Returns	33	150			150			150			150			150		
Water Temp	65															

Notes:

rig up, safety meeting, pressure test per company man, started pumping cement at 22:25 mixed and pumped 377 sks. Then displaced 61.5bbls bumped plug at 23:10

X
Work Performed

X _____
Title

X _____
Date