



Bison Oil Well Cementing Single Cement Surface Pipe

Invoice # 12752

API#

Foreman: Kirk Kallhoff

Customer: encana

Well Name: state 3f-16h

County: Weld County

State: Colorado

Sec: 16

Twp: 3N

Range: 68W

Consultant: charlie

Rig Name & Number: h&p 278

Distance To Location:

Units On Location: 3103-3210

Time Requested: 300 pm

Time Arrived On Location: 300 pm

Time Left Location:

WELL DATA		Cement Data	
Casing Size OD (in) :	9.6250	Cement Name:	BFN III
Casing Weight (lb) :	40	Cement Density (lb/gal) :	15.2
Casing Depth (ft.) :	870	Cement Yield (cuft) :	1.27
Total Depth (ft) :	910	Gallons Per Sack:	5.89
Open Hole Diameter (in.) :	12.25	% Excess:	35%
Conductor Length (ft) :	100	Displacement Fluid lb/gal:	8.3
Conductor ID :	15.5	BBL to Pit:	
Shoe Joint Length (ft) :	44	Fluid Ahead (bbls):	
Landing Joint (ft) :	30	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	Displacement: 64.91 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Shoe 18.73 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Pressure of cement in annulus
cuft of Conductor 80.51 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: 686.95 PSI
cuft of Casing 241.15 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing
Total Slurry Volume 340.39 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: 356.16 psi
bbls of Slurry 81.84 bbls (Total Slurry Volume) X (.1781) X (% Excess Cement)	Shoe Joint: 34.74 psi
Sacks Needed 362 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total 390.90 psi
Mix Water 50.74 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: 296.05 psi
	Collapse PSI: 2570.00 psi
	Burst PSI: 3950.00 psi
	Total Water Needed: 70.74 bbls

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.

