



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/7/2015

Invoice # 45104

API# 05-123-38078

Foreman: JASON

**Customer:** EnCana Oil & Gas (USA) Inc.

**Well Name:** FILE 3P-32H K268

County: Weld

State: Colorado

Sec: 32

Twp: 2N

Range: 68W

Consultant: IRA

Rig Name & Number: PATERSON 326

Distance To Location: 31

Units On Location: 4031-3107, 4032-3211

Time Requested: 100

Time Arrived On Location: 1200

Time Left Location: 800

WELL DATA		Cement Data	
Casing Size OD (in) :	9.625	Cement Name:	BFN III
Casing Weight (lb) :	36.00	Cement Density (lb/gal) :	15.2
Casing Depth (ft.) :	804	Cement Yield (cuft) :	1.27
Total Depth (ft) :	859	Gallons Per Sack:	5.89
Open Hole Diameter (in.) :	12.25	% Excess:	50%
Conductor Length (ft) :	120	Displacement Fluid lb/gal:	8.3
Conductor ID :	15.25	BBL to Pit:	20.0
Shoe Joint Length (ft) :	44	Fluid Ahead (bbls):	30.0
Landing Joint (ft) :	35	H2O Wash Up (bbls):	20.0
Max Rate:	6	Spacer Ahead Makeup	
Max Pressure:	1500	30 BBL W/ KCL, DYE IN 2ND 10	

Calculated Results		Displacement: 61.46 bbls	
cuft of Shoe	19.14 cuft	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
(Casing ID Squared) X (.005454) X (Shoe Joint ft)		Pressure of cement in annulus	
cuft of Conductor	91.58 cuft	Hydrostatic Pressure: 634.93 PSI	
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)		Pressure of the fluids inside casing	
cuft of Casing	321.37 cuft	Displacement: 327.71 psi	
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		Shoe Joint: 34.81 psi	
Total Slurry Volume	432.09 cuft	Total 362.52 psi	
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		Differential Pressure: 272.41 psi	
bbls of Slurry	76.95 bbls	Collapse PSI: 2020.00 psi	
(Total Slurry Volume) X (.1781)		Burst PSI: 3520.00 psi	
Sacks Needed	340 sk	Total Water Needed: 159.17 bbls	
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)			
Mix Water	47.71 bbls		
(Sacks Needed) X (Gallons Per Sack) ÷ 42			

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.

