







# Bison Oil Well Cementing Tail & Lead

Customer: encana  
Well Name: lochbuie 2h-31h

Date: 2/16/2014  
Invoice # 12287  
API# \_\_\_\_\_  
Foreman: kirk

County: Weld  
State: Colorado  
Sec: 31  
Twp: 1n  
Range: 65w

Consultant: nate  
Rig Name & Number: h&p 522  
Distance To Location: \_\_\_\_\_  
Units On Location: 3103-3203  
Time Requested: 100 am  
Time Arrived On Location: 1215 am  
Time Left Location: 5:45am

## WELL DATA

Casing Size (in) : 9.625  
Casing Weight (lb) : 40  
Casing Depth (ft.) : 1,485  
Total Depth (ft) : 1515  
Open Hole Diameter (in) : 12.25  
Conductor Length (ft) : 100  
Conductor ID : 15.5  
Shoe Joint Length (ft) : 40  
Landing Joint (ft) : 30

Sacks of Tail Requested 120  
HOC Tail (ft): 0

One or the other, cannot have quantity in both

Max Rate: \_\_\_\_\_  
Max Pressure: \_\_\_\_\_

## Cement Data

### Lead

Cement Name: \_\_\_\_\_  
Cement Density (lb/gal) : 13.1  
Cement Yield (cuft) : 1.69  
Gallons Per Sack 8.64  
% Excess 60%

### Tail

Cement Name: \_\_\_\_\_  
Cement Density (lb/gal) : 15.2  
Cement Yield (cuft) : 1.27  
Gallons Per Sack: 5.89  
% Excess: 0%

Fluid Ahead (bbls) 111.8  
H2O Wash Up (bbls) 20.0

### Spacer Ahead Makeup

Casing ID	8.835	Casing Grade	J-55 only used
<b>Lead Calculated Results</b>		<b>Tail Calculated Results</b>	
HOC of Lead	922.75 ft	Tail Cement Volume In Ann (HOC Tail) X (OH Ann)	152.40 cuft
Casing Depth - HOC Tail		Total Volume of Tail Cement (HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)	135.37 Cuft
Volume of Lead Cement	288.99 cuft	bbls of Tail Cement	27.14 bbls
HOC of Lead X Open Hole Ann		(HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess)	
Volume of Conductor	80.51 cuft	HOC Tail	432.25 ft
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)		(Tail Cement Volume) ÷ (OH Ann)	
Total Volume of Lead Cement	369.49 cuft	Sacks of Tail Cement	120.00 sk
(cuft of Lead Cement) + (Cuft of Conductor)		(Total Volume of Tail Cement) ÷ (Cement Yield)	
bbls of Lead Cement	105.29 bbls	bbls of Tail Mix Water	16.83 bbls
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)		(Sacks of Tail Cement X Gallons Per Sack) ÷ 42	
Sacks of Lead Cement	349.82 sk	Pressure of cement in annulus	
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)		Hydrostatic Pressure	1010.54 PSI
bbls of Lead Mix Water	71.96 bbls		
(Sacks Needed) X (Gallons Per Sack) ÷ 42		Collapse PSI:	2570.00 psi
Displacement	111.81 bbls	Burst PSI:	3950.00 psi
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)			
Total Water Needed:	203.77 bbls		

X

Authorization To Proceed