



# Bison Oil Well Cementing Tail & Lead

Date: 5/21/2018

Invoice # 666317

API# 05-123-

Supervisor: Nick Vigil

Customer: Crestone Peak Resources

Well Name: Sam 3A-25H M166

County: Weld

State: Colorado

Sec: 4

Twp: 1N

Range: 65W

Consultant: Clarence

Rig Name & Number: Ensign 122

Distance To Location: 40 Miles

Units On Location: 3

Time Requested: 23:00

Time Arrived On Location: 23:00

Time Left Location:

## WELL DATA

Casing Size (in) : 9.625  
Casing Weight (lb) : 40  
Casing Depth (ft.) : 2,415  
Total Depth (ft) : 2424  
Open Hole Diameter (in) : 13.50  
Conductor Length (ft) : 111  
Conductor ID : 15.25  
Shoe Joint Length (ft) : 76  
Landing Joint (ft) :

Sacks of Tail Requested 190  
HOC Tail (ft): 0

One or the other, cannot have quantity in both

Max Rate: 8  
Max Pressure: 2500

## Cement Data

### Lead

Cement Name:  
Cement Density (lb/gal) : 13.5  
Cement Yield (cuft) : 1.7  
Gallons Per Sack 9.00  
% Excess 25%

### Tail

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

Fluid Ahead (bbls) 60.0  
H2O Wash Up (bbls) 20.0

### Spacer Ahead Makeup

Dye in 2nd 10 bbl.

Casing ID

8.835

Casing Grade

J-55 only used

## Lead Calculated Results

HOC of Lead 1876.47 ft  
Casing Depth - HOC Tail  
Volume of Lead Cement 917.09 cuft  
HOC of Lead X Open Hole Ann  
Volume of Conductor 84.71 cuft  
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X  
(Conductor Length ft)  
Total Volume of Lead Cement 1001.80 cuft  
(cuft of Lead Cement) + (Cuft of Conductor)  
bbls of Lead Cement 223.02 bbls  
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)  
Sacks of Lead Cement 736.61 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)  
bbls of Lead Mix Water 157.85 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42  
Displacement 177.30 bbls  
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)  
Total Water Needed: 441.79 bbls

## Tail Calculated Results

Tail Cement Volume In Ann 241.30 cuft  
(HOC Tail) X (OH Ann)  
Total Volume of Tail Cement 208.94 Cuft  
(HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)  
bbls of Tail Cement 42.98 bbls  
(HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess)  
HOC Tail 427.53 ft  
(Tail Cement Volume) ÷ (OH Ann)  
Sacks of Tail Cement 190.00 sk  
(Total Volume of Tail Cement) ÷ (Cement Yield)  
bbls of Tail Mix Water 26.65 bbls  
(Sacks of Tail Cement X Gallons Per Sack) ÷ 42  
Pressure of cement in annulus  
Hydrostatic Pressure 585.23 PSI  
Collapse PSI: 2570.00 psi  
Burst PSI: 3950.00 psi

X   
Authorization To Proceed

Date \_\_\_\_\_