



# Bison Oil Well Cementing Tail & Lead

Customer: Crestone Peak Resources  
Well Name: SAM 3N-25H-M166

Date: 6/3/2018  
Invoice # 300147  
API# 05-123-46510  
Foreman: JASON KELEHER

County: Weld Consultant: SITCH  
State: Colorado Rig Name & Number: Ensign 122  
Distance To Location: 40  
Units On Location: 3  
Sec: 25 Time Requested: 430  
Twp: 1N Time Arrived On Location: 400  
Range: 66W Time Left Location: 1600

## WELL DATA

Casing Size (in) : 9.625  
Casing Weight (lb) : 40  
Casing Depth (ft.) : 2,412  
Total Depth (ft) : 2428  
Open Hole Diameter (in) : 13.50  
Conductor Length (ft) : 98  
Conductor ID : 15.25  
Shoe Joint Length (ft) : 82  
Landing Joint (ft) : 5

Sacks of Tail Requested 190  
HOC Tail (ft):

One or the other, cannot have quantity in both

Max Rate: 8  
Max Pressure: 2000

## Cement Data

Lead N-Gel-12  
Cement Name:  
Cement Density (lb/gal) : 13.5  
Cement Yield (cuft) : 1.7  
Gallons Per Sack 9.00  
% Excess 25%

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

Fluid Ahead (bbls) 60.0  
H2O Wash Up (bbls) 10.0

Spacer Ahead Makeup  
60 BBL WATER DYE IN 2ND 10

Casing ID

8.835

Casing Grade

J-55 only used

## Lead Calculated Results

HOC of Lead 1990.16 ft  
Casing Depth - HOC Tail  
Volume of Lead Cement 1186.62 cuft  
HOC of Lead X Open Hole Ann  
Volume of Conductor 74.78 cuft  
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X  
(Conductor Length ft)  
Total Volume of Lead Cement 1261.40 cuft  
(cuft of Lead Cement) + (Cuft of Conductor)  
bbls of Lead Cement 224.60 bbls  
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)  
Sacks of Lead Cement 742.00 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)  
bbls of Lead Mix Water 159.00 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42  
Displacement 176.90 bbls  
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)  
Total Water Needed: 430.00 bbls

## Tail Calculated Results

Tail Cement Volume In Ann 206.06 cuft  
(HOC Tail) X (OH Ann)  
Total Volume of Tail Cement 241.30 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 421.84 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 26.64 bbls  
(Sacks of Tail Cement X Gallons Per Sack) ÷ 42  
Pressure of cement in annulus  
Hydrostatic Pressure 655.00 PSI  
Collapse PSI: 2570.00 psi  
Burst PSI: 3950.00 psi

X Francis Bowl  
Authorization To Proceed

X 6-3-18  
Date