



Customer	Crestone Peak Resources
Well Name	Ruegge 3M 4H-N165

Date  
INVOICE #  
LOCATION  
SUPERVISOR

5/12/2018
666309
Weld
Nick Vigil

Treatment Report Page 2

## DESCRIPTION OF JOB EVENTS

|x|

Work Preformed

X

Title

x

Date \_\_\_\_\_



# Bison Oil Well Cementing Tail & Lead

Date: 5/12/2018

Invoice # 666309

API# 05-123-

Supervisor: Nick Vigil

Customer: Crestone Peak Resources

Well Name: Ruegge 3M 4H-N165

Consultant: Derek

County: Weld

Rig Name & Number: Ensign 122

State: Colorado

Distance To Location: 36 Miles

Units On Location: 3

Sec: 4

Time Requested: 0:30

Twp: 1N

Time Arrived On Location: 0:00

Range: 65W

Time Left Location: 7:30

## WELL DATA

Casing Size (in) : 9.625  
Casing Weight (lb) : 40  
Casing Depth (ft.) : 2,463  
Total Depth (ft) : 2475  
Open Hole Diameter (in) : 13.50  
Conductor Length (ft) : 111  
Conductor ID : 15.56  
Shoe Joint Length (ft) : 80  
Landing Joint (ft) : 15

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.

66

Casing ID

8.835

Casing Grade

J-55 only used

## Lead Calculated Results

HOC of Lead 1912.96 ft  
Casing Depth - HOC Tail  
Volume of Lead Cement 934.92 cuft  
HOC of Lead X Open Hole Ann  
Volume of Conductor 90.49 cuft  
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)  
Total Volume of Lead Cement 1025.41 cuft  
(cuft of Lead Cement) + (Cuft of Conductor)  
bbls of Lead Cement 228.28 bbls  
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)  
Sacks of Lead Cement 753.98 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)  
bbls of Lead Mix Water 161.57 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42  
Displacement 181.77 bbls  
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)  
Total Water Needed: 449.98 bbls

## Tail Calculated Results

Tail Cement Volume In Ann 241.30 cuft  
(HOC Tail) X (OH Ann)  
Total Volume of Tail Cement 207.24 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 424.04 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

Customers hereby acknowledges and specifically agrees to the terms and condition on this work order, including, without limitation, the provisions on this work order.