



# Bison Oil Well Cementing Tail & Lead

**Customer:** Crestone Peak Resources  
**Well Name:** Ruegge 3D-4H-N165

**Date:** 4/28/2018  
**Invoice #** 900286  
**API#** 05-123-46556  
**Foreman:** Corey Barras

**County:** Weld  
**State:** Colorado  
**Sec:** 4  
**Twp:** 1N  
**Range:** 65W

**Consultant:** Matt Rosales  
**Rig Name & Number:** Ensign 122  
**Distance To Location:** 36 Miles  
**Units On Location:** 4027-3103/4041-3205/4039-3214  
**Time Requested:** 1030  
**Time Arrived On Location:** 930  
**Time Left Location:** 215 04-29-18

## WELL DATA

Casing Size (in) : 9.625  
Casing Weight (lb) : 40  
Casing Depth (ft.) : 2,492  
Total Depth (ft) : 2508  
Open Hole Diameter (in) : 13.50  
Conductor Length (ft) : 98  
Conductor ID : 15.6  
Shoe Joint Length (ft) : 76  
Landing Joint (ft) : 10

Sacks of Tail Requested 190  
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) : 13.5  
Cement Yield (cuft) : 1.68  
Gallons Per Sack 8.90  
% Excess 10%

### 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**  
60 BBL with Die in 2nd 10

Casing ID	8.835	Casing Grade	J-55 only used
<b>Lead Calculated Results</b>		<b>Tail Calculated Results</b>	
<b>HOC of Lead</b> 1956.47 ft		<b>Tail Cement Volume In Ann</b> 241.30 cuft	
Casing Depth - HOC Tail		(HOC Tail) X (OH Ann)	
<b>Volume of Lead Cement</b> 956.19 cuft		<b>Total Volume of Tail Cement</b> 208.94 Cuft	
HOC of Lead X Open Hole Ann		(HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)	
<b>Volume of Conductor</b> 80.56 cuft		<b>bbls of Tail Cement</b> 42.98 bbls	
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)		(HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess)	
<b>Total Volume of Lead Cement</b> 1036.74 cuft		<b>HOC Tail</b> 427.53 ft	
(cuft of Lead Cement) + (Cuft of Conductor)		(Tail Cement Volume) ÷ (OH Ann)	
<b>bbls of Lead Cement</b> 203.11 bbls		<b>Sacks of Tail Cement</b> 190.00 sk	
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)		(Total Volume of Tail Cement) ÷ (Cement Yield)	
<b>Sacks of Lead Cement</b> 678.82 sk		<b>bbls of Tail Mix Water</b> 26.65 bbls	
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)		(Sacks of Tail Cement X Gallons Per Sack) ÷ 42	
<b>bbls of Lead Mix Water</b> 143.85 bbls		<b>Pressure of cement in annulus</b>	
(Sacks Needed) X (Gallons Per Sack) ÷ 42		<b>Hydrostatic Pressure</b> 585.23 PSI	
<b>Displacement</b> 183.89 bbls		<b>Collapse PSI:</b> 2570.00 psi	
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)		<b>Burst PSI:</b> 3950.00 psi	
<b>Total Water Needed:</b> 434.38 bbls			

X

Authorization To Proceed



Crestone Peak Resources  
Ruegge 3D-4H-N165

Date  
INVOICE #  
LOCATION  
FOREMAN

4/28/2018
900286
Weld
Corey Barras

## Treatment Report Page 2

## DESCRIPTION OF JOB EVENTS

X	
Work Preformed	

X
Title

X	Date
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