



**Bison Oil Well Cementing
Tail & Lead**

Date: 4/30/2018

Invoice # 300120

API# 05-123-46565

Foreman: JASON KELEHER

Customer: Crestone Peak Resources

Well Name: Ruegge 3E-4H-N165

Consultant: ROBERT

County: Weld
State: Colorado

Rig Name & Number: Ensign 122

Distance To Location: 36

Units On Location: 3

Time Requested: 1400

Time Arrived On Location: 1300

Time Left Location: 1930

Sec: 4

Twp: 1N

Range: 65W

WELL DATA

Casing Size (in) : 9.625
Casing Weight (lb) : 40
Casing Depth (ft.) : 2,484
Total Depth (ft) : 2505
Open Hole Diameter (in) : 13.50
Conductor Length (ft) : 98
Conductor ID : 15.5
Shoe Joint Length (ft) : 78
Landing Joint (ft) : 12

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 15%

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	1964.00 ft
Casing Depth - HOC Tail	
Volume of Lead Cement	1185.50 cuft
HOC of Lead X Open Hole Ann	
Volume of Conductor	79.90 cuft
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	
Total Volume of Lead Cement	1265.40 cuft
(cuft of Lead Cement) + (Cuft of Conductor)	
bbls of Lead Cement	225.30 bbls
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)	
Sacks of Lead Cement	744.00 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	
bbls of Lead Mix Water	159.43 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42	
Displacement	183.30 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)	
Total Water Needed:	444.00 bbls

Tail Calculated Results	
Tail Cement Volume In Ann	244.35 cuft
(HOC Tail) X (OH Ann)	
Total Volume of Tail Cement	210.30 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	500.00 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	28.58 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



Authorization To Proceed

