



# Bison Oil Well Cementing Tail & Lead

Date: 5/25/2018  
 Invoice #: 200291  
 API#  
 Foreman: Kirk Kallhoff

Customer: Crestone Peak Resources  
 Well Name: davis 1j-9h-g266

County: Weld  
 State: Colorado  
 Sec: 9  
 Twp: 2n  
 Range: 66w

Consultant: brent  
 Rig Name & Number: ENSIGN 153  
 Distance To Location: 26  
 Units On Location: 4028/4040/4039  
 Time Requested: 730 am  
 Time Arrived On Location: 530 am  
 Time Left Location:

WELL DATA	
Casing Size (in) :	9.625
Casing Weight (lb) :	40
Casing Depth (ft.) :	2,154
Total Depth (ft) :	2195
Open Hole Diameter (in) :	13.50
Conductor Length (ft) :	110
Conductor ID :	15.6
Shoe Joint Length (ft) :	82
Landing Joint (ft) :	25
Sacks of Tail Requested	190
HOC Tail (ft):	0
One or the other, cannot have quantity in both	
Max Rate:	8
Max Pressure:	2000

Cement Data	
<b>Lead</b>	
Cement Name:	
Cement Density (lb/gal) :	13.5
Cement Yield (cuft) :	1.7
Gallons Per Sack	9.00
% Excess	20%
<b>Tail</b>	
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
<b>Spacer Ahead Makeup</b>	
60 BBL WATER DYE IN 2ND 10	

Casing ID: 8.835 Casing Grade: J-55 only used

Lead Calculated Results	
HOC of Lead	1596.70 ft
Casing Depth - HOC Tail	
Volume of Lead Cement	780.35 cuft
HOC of Lead X Open Hole Ann	
Volume of Conductor	90.42 cuft
(Conductor ID Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	
Total Volume of Lead Cement	870.78 cuft
(cuft of Lead Cement) + (Cuft of Conductor)	
bbls of Lead Cement	186.10 bbls
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)	
Sacks of Lead Cement	614.67 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	
bbls of Lead Mix Water	131.71 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42	
Displacement	158.95 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)	
<b>Total Water Needed:</b>	<b>387.31 bbls</b>

Tail Calculated Results	
Tail Cement Volume In Ann	241.30 cuft
(HOC Tail) X (OH Ann)	
Total Volume of Tail Cement	206.39 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	422.30 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.

