



# Bison Oil Well Cementing Tail & Lead

**Customer:** Crestone Peak Resources  
**Well Name:** Davis 1T-9H-G266

**Date:** 5/10/2018  
**Invoice #** 900293  
**API#** 05-123-46516  
**Foreman:** Corey Barras

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

**Consultant:** Jerry Thorstad  
**Rig Name & Number:** Ensign 135  
**Distance To Location:** 26 Miles  
**Units On Location:** 4027-3103/4041-3205/4039-3214  
**Time Requested:** 1730  
**Time Arrived On Location:** 1650  
**Time Left Location:** 2130

## WELL DATA

Casing Size (in) : 9.625  
Casing Weight (lb) : 40  
Casing Depth (ft.) : 2,141  
Total Depth (ft) : 2162  
Open Hole Diameter (in) : 13.50  
Conductor Length (ft) : 98  
Conductor ID : 15.5  
Shoe Joint Length (ft) : 82  
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 30%

### 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 Last 10

Casing ID	8.835	Casing Grade	J-55 only used
Lead Calculated Results		Tail Calculated Results	
HOC of Lead	1610.70 ft	Tail Cement Volume In Ann	241.30 cuft
Casing Depth - HOC Tail		(HOC Tail) X (OH Ann)	
Volume of Lead Cement	787.20 cuft	Total Volume of Tail Cement	206.39 Cuft
HOC of Lead X Open Hole Ann		(HOC Tail X OH Ann) - ( Shoe Length X Shoe Joint Ann)	
Volume of Conductor	78.90 cuft	bbls of Tail Cement	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)	
Total Volume of Lead Cement	866.09 cuft	HOC Tail	422.30 ft
(cuft of Lead Cement) + (Cuft of Conductor)		(Tail Cement Volume) ÷ (OH Ann)	
bbls of Lead Cement	200.53 bbls	Sacks of Tail Cement	190.00 sk
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)		(Total Volume of Tail Cement) ÷ (Cement Yield)	
Sacks of Lead Cement	670.19 sk	bbls of Tail Mix Water	26.65 bbls
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)		(Sacks of Tail Cement X Gallons Per Sack) ÷ 42	
bbls of Lead Mix Water	142.02 bbls	Pressure of cement in annulus	
(Sacks Needed) X (Gallons Per Sack) ÷ 42		Hydrostatic Pressure	
Displacement		585.23 PSI	
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)		Collapse PSI:	
Total Water Needed:		2570.00 psi	
405.49 bbls		Burst PSI:	
		3950.00 psi	

X

Authorization To Proceed



Bison Oil Well Cementing  
Two Cement Surface Pipe

Customer Crestone Peak Resources  
Well Name Davis 1T-9H-G266

Date 5/10/2018  
INVOICE # 900293  
LOCATION Weld  
FOREMAN Corey Barras

DESCRIPTION OF JOB EVENTS

Amount Pumped		Time/Date	Event	Description	Rate	BBLs	Pressure
Lead mixed bbls	142.29	1640	Arrive on Location				
Lead % Excess	30%	1800	Rig Up				
Lead Sacks	671	1830	Safety Meeting	Bison and Rig Crew			
		1924	Start Job				
Tail mixed bbls	26.6	1925	Test Lines	1500 IPSI	1.5	2	1500
Tail % Excess	0%	1927	Pump Spacer	Water	7	60	130
Tail Sacks	190						
		1935	Lead Cement	13.5 PPG	7	200	140
Total Sacks	861	2010	Tail Cement	15.2 PPG	5	43	130
Water Temp	52						
bbl Returns	36	2015	Shut Down				
		2016	Drop Plug	Preloaded in Plug Container			
Notes:							
		2018	Pump Dispacement	Water	7	90	340
		2054	Bump Plug	500 PSI over Final Lift (1170 PSI)	2	180	600
		2056	Check Floats	With 1.5 bbl Back to surface			
		2100	Rig Downm				
		2130	Leave Location				

X  
Work Preformed

X  
Title

X  
Date