



**Bison Oil Well Cementing  
Tail & Lead**

Date: 5/18/2018  
 Invoice # 300134  
 API# 05-123-46504  
 Foreman: JASON KELEHER

Customer: Crestone Peak Resources  
 Well Name: DAVIS 10-9H-G266

County: Weld Consultant: BRENT  
 State: Colorado Rig Name & Number: Ensign 153  
 Distance To Location: 26  
 Units On Location: 3  
 Time Requested: 1400  
 Time Arrived On Location: 1330  
 Time Left Location: 1730  
 Sec: 9  
 Twp: 2N  
 Range: 66W

WELL DATA		Cement Data	
Casing Size (in) :	<u>9.625</u>	Lead	N-Gel-12
Casing Weight (lb) :	<u>40</u>	Cement Name:	
Casing Depth (ft.) :	<u>2,228</u>	Cement Density (lb/gal) :	<u>13.5</u>
Total Depth (ft) :	<u>2243</u>	Cement Yield (cuft) :	<u>1.7</u>
Open Hole Diameter (in) :	<u>13.50</u>	Gallons Per Sack	<u>9.00</u>
Conductor Length (ft) :	<u>98</u>	% Excess	<u>20%</u>
Conductor ID :	<u>15.5</u>	Tail	Type III
Shoe Joint Length (ft) :	<u>86</u>	Cement Name:	
Landing Joint (ft) :	<u>5</u>	Cement Density (lb/gal) :	<u>15.2</u>
		Cement Yield (cuft) :	<u>1.27</u>
		Gallons Per Sack:	<u>5.89</u>
		% Excess:	
Sacks of Tail Requested	<u>190</u>	Fluid Ahead (bbls)	<u>60.0</u>
HOC Tail (ft):		H2O Wash Up (bbls)	<u>10.0</u>
One or the other, cannot have quantity in both		Spacer Ahead Makeup	
Max Rate:	<u>8</u>	<u>60 BBL WATER DYE IN 2ND 10</u>	
Max Pressure:	<u>2000</u>		

Casing ID 8.835 Casing Grade J-55 only used

Lead Calculated Results	Tail Calculated Results
<b>HOC of Lead</b> <u>1710.51 ft</u>	<b>Tail Cement Volume In Ann</b> <u>204.88 cuft</u>
Casing Depth - HOC Tail	(HOC Tail) X (OH Ann)
<b>Volume of Lead Cement</b> <u>1003.11 cuft</u>	<b>Total Volume of Tail Cement</b> <u>240.88 Cuft</u>
HOC of Lead X Open Hole Ann	(HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)
<b>Volume of Conductor</b> <u>74.67 cuft</u>	<b>bbls of Tail Cement</b> <u>42.98 bbls</u>
(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> <u>1077.80 cuft</u>	<b>HOC Tail</b> <u>419.49 ft</u>
(cuft of Lead Cement) + (Cuft of Conductor)	(Tail Cement Volume) ÷ (OH Ann)
<b>bbls of Lead Cement</b> <u>191.90 bbls</u>	<b>Sacks of Tail Cement</b> <u>190.00 sk</u>
(Total cuft of Lead Cement) X (.1781) X (1+Lead Excess)	(Total Volume of Tail Cement) ÷ (Cement Yield)
<b>Sacks of Lead Cement</b> <u>634.00 sk</u>	<b>bbls of Tail Mix Water</b> <u>26.64 bbls</u>
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	(Sacks of Tail Cement X Gallons Per Sack) ÷ 42
<b>bbls of Lead Mix Water</b> <u>135.86 bbls</u>	Pressure of cement in annulus
(Sacks Needed) X (Gallons Per Sack) ÷ 42	<b>Hydrostatic Pressure</b> <u>585.23 PSI</u>
<b>Displacement</b> <u>162.78 bbls</u>	
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)	<b>Collapse PSI:</b> <u>2570.00 psi</u>
<b>Total Water Needed:</b> <u>400.00 bbls</u>	<b>Burst PSI:</b> <u>3950.00 psi</u>

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.





# Bison Oil Well Cementing Tail & Lead

## Cementing Customer Satisfaction Survey

Service Date	5/18/2018
Well Name	DAVIS 10-9H-GZ66
County	Weld
State	Colorado
SEC	9
TWP	2N
RNG	66W

Invoice Number	300134
API #	05-123-46504
Job Type	Two Cement
Company Name	Crestone Peak Resources

Customer Representative: BRENT

Supervisor Name: JASON KELEHER

Employee Name (Including Supervisor)	Exposure Hours (Per Employee)
JASON	4
JESSE	4
CHRIS	4
TERRY	4
AMANDA	4
<b>Total Exposure Hours</b>	<b>20</b>

Did we encounter any problems on this job?  Yes  No

### To Be Completed By Customer

#### Rating/Description

- 5 - Superior Performance (Established new quality/performance standards)
  - 4 - Exceeded Expectation (Provided more than what was required/expected)
  - 3 - Met Expectations (Did what was expected)
  - 2 - Below Expectations (Job problems/failures occurred - \*Recovery made)
  - 1 - Poor Performance (Job problems/failures occurred - \*Some recovery made)
- \*Recovery: resolved issue(s) on jobsite in a timely and professional manner

RATING	CATEGORY	CUSTOMER SATISFACTION RATING
_____	Personnel -	Did our personnel perform to your satisfaction?
_____	Equipment -	Did our equipment perform to your satisfaction?
_____	Job Design -	Did we perform the job to the agreed upon design?
_____	Product/Material -	Did our products and materials perform as you expected?
_____	Health & Safety -	Did we perform in a safe and careful manner (Pre/post mtgs, PPE, TSMR, etc..)?
_____	Environmental -	Did we perform in an environmentally sound manner (spills, leaks, cleanup, etc..)?
_____	Timeliness -	Was job performed as scheduled (On time to site, accessible to customers, completed when expected)?
_____	Condition/Appearance -	Did the equipment condition and appearance meet your expectations?
_____	Communication -	How well did our personnel communicate during mobilization, rig up and job execution?

Please Circle:

- Yes No Did an accident or injury occur?
- Yes No Did an injury requiring medical treatment occur?
- Yes No Did a first-aid injury occur?
- Yes No Did a vehicle accident occur?
- Yes No Was a post-job safety meeting held?

Please Circle:

- Yes No Was a pre-job safety meeting held?
- Yes No Was a job safety analysis completed?
- Yes No Were emergency services discussed?
- Yes No Did environmental incident occur?
- Yes No Did any near misses occur?

Additional Comments:

THE INFORMATION HEREIN IS CORRECT -

*[Signature]*  
Customer Representative's Signature

DATE: \_\_\_\_\_

Any additional Customer Comments or HSE concerns should be described on the back of this form

# DAVIS 10-9H-G266 SURFACE

