



**Bison Oil Well Cementing
Tail & Lead**

Date: 5/13/2018

Invoice # 900294

API# 05-123-46513

Foreman: Corey Barras

Customer: Crestone Peak Resources

Well Name: Davis 1S-9H-G266

Consultant: Jerry Thorstad

County: Weld
State: Colorado

Rig Name & Number: Ensign 135

Distance To Location: 26 Miles

Units On Location: 4027-3103/4041-3205/4039-3214

Sec: 4

Time Requested: 500

Twp: 1N

Time Arrived On Location: 415

Range: 65W

Time Left Location: _____

WELL DATA	Cement Data
<p>Casing Size (in) : <u>9.625</u> Casing Weight (lb) : <u>40</u> Casing Depth (ft.) : <u>2,187</u> Total Depth (ft) : <u>2207</u> Open Hole Diameter (in) : <u>13.50</u> Conductor Length (ft) : <u>98</u> Conductor ID : <u>15.5</u> Shoe Joint Length (ft) : <u>82</u> Landing Joint (ft) : <u>10</u></p> <p>Sacks of Tail Requested <u>190</u> HOC Tail (ft): <u>0</u></p> <p>One or the other, cannot have quantity in both</p> <p>Max Rate: Max Pressure:</p>	<p>Lead</p> <p>Cement Name: Cement Density (lb/gal) : <u>13.5</u> Cement Yield (cuft) : <u>1.68</u> Gallons Per Sack <u>8.90</u> % Excess <u>30%</u></p> <p>Tail</p> <p>Cement Name: Cement Density (lb/gal) : <u>15.2</u> Cement Yield (cuft) : <u>1.27</u> Gallons Per Sack: <u>5.89</u> % Excess: <u>0%</u></p> <p>Fluid Ahead (bbls) <u>60.0</u> H2O Wash Up (bbls) <u>20.0</u></p> <p>Spacer Ahead Makeup <u>60 BBL with Die in Last 10</u></p>

Lead Calculated Results	Tail Calculated Results
HOC of Lead <u>1656.70 ft</u>	Tail Cement Volume In Ann <u>241.30 cuft</u>
Casing Depth - HOC Tail	(HOC Tail) X (OH Ann)
Volume of Lead Cement <u>809.68 cuft</u>	Total Volume of Tail Cement <u>206.39 Cuft</u>
HOC of Lead X Open Hole Ann	(HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)
Volume of Conductor <u>78.90 cuft</u>	bbls of Tail Cement <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)
Total Volume of Lead Cement <u>888.57 cuft</u>	HOC Tail <u>422.30 ft</u>
(cuft of Lead Cement) + (Cuft of Conductor)	(Tail Cement Volume) ÷ (OH Ann)
bbls of Lead Cement <u>205.73 bbls</u>	Sacks of Tail Cement <u>190.00 sk</u>
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)	(Total Volume of Tail Cement) ÷ (Cement Yield)
Sacks of Lead Cement <u>687.59 sk</u>	bbls of Tail Mix Water <u>26.65 bbls</u>
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	(Sacks of Tail Cement X Gallons Per Sack) ÷ 42
bbls of Lead Mix Water <u>145.70 bbls</u>	Pressure of cement in annulus
(Sacks Needed) X (Gallons Per Sack) ÷ 42	Hydrostatic Pressure <u>585.23 PSI</u>
Displacement <u>160.32 bbls</u>	Collapse PSI: <u>2570.00 psi</u>
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)	Burst PSI: <u>3950.00 psi</u>
Total Water Needed: <u>412.67 bbls</u>	

X Bud Burke

Authorization To Proceed



**Bison Oil Well Cementing
Two Cement Surface Pipe**

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

Date 5/13/2018
INVOICE # 900294
LOCATION Weld
FOREMAN Corey Barras

DESCRIPTION OF JOB EVENTS

Amount Pumped	Time/Date	Event	Description	Rate	BBLs	Pressure
Lead mixed bbls	145.7	415	Arrive on Location			
Lead % Excess	30%	430	Rig Up			
Lead Sacks	688	515	Safety Meeting			
			Bison and Rig Crew			
		600	Start Job			
Tail mixed bbls	26.6	603	Test Lines	1500 IPSI	2	1500
Tail % Excess	0%	605	Pump Spacer	Water	7	130
Tail Sacks	190					
		615	Lead Cement	13.5 PPG	205	120
Total Sacks	877	647	Tail Cement	15.2 PPG	43	120
Water Temp	52					
bbl Returns	40	700	Shut Down			
		702	Drop Plug			
			Preloaded in Plug Container			
Notes:						
		704	Pump Displacement	Water	90	320
		728	Bump Plug	500 PSI over Final Lift (1200 PSI)	160	620
		733	Check Floats	With 1.5 bbl Back to surface		
		750	Rig Down			
		830	Leave Location			

Bud Burke

X
Work Preformed

X
Title

X
Date



Bison Oil Well Cementing Tail & Lead

Cementing Customer Satisfaction Survey

Service Date	5/13/2018
Well Name	Davis 1S-9H-G266
County	Weld
State	Colorado
SEC	4
TWP	1N
RNG	65W

Invoice Number	900294
API #	05-123-46513
Job Type	Two Cement
Company Name	Crestone Peak Resources

Customer Representative Buddy Burke

Supervisor Name Corey Barras

Employee Name (Including Supervisor)
Corey B.
Monte B.
Nash M.
Tommie H.

Exposure Hours (Per Employee)
4
4
4
4
16

Total Exposure Hours

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
4	Personnel -
3	Equipment -
3	Job Design -
3	Product/Material -
4	Health & Safety -
3	Environmental -
3	Timeliness -
3	Condition/Appearance -
4	Communication -

CUSTOMER SATISFACTION RATING

- Did our personnel perform to your satisfaction?
- Did our equipment perform to your satisfaction?
- Did we perform the job to the agreed upon design?
- Did our products and materials perform as you expected?
- Did we perform in a safe and careful manner (Pre/post mtgs, PPE, TSMR, etc..)?
- Did we perform in an environmentally sound manner (spills, leaks, cleanup, etc..)?
- Was job performed as scheduled (On time to site, accessible to customers, completed when expected)?
- Did the equipment condition and appearance meet your expectations?
- 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 -

X Buddy Burke 5/13/18

Customer Representative's Signature

DATE: _____

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

Davis 1S-9H-G266

