



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/21/2018
 Invoice # 900243
 API# 05-123-43721
 Foreman: Corey Barras

Customer: Bill Barrett Corp.

Well Name: Anschutz Equus Farms 4-62-28-6457 CB

County: Weld Consultant: Matt
 State: Colorado Rig Name & Number: WM 344
 Distance To Location: 25
 Sec: 28 Units On Location: 4024/3103 -4034/3213
 Twp: 4N Time Requested: 130
 Range: 62W Time Arrived On Location: 1200
 Time Left Location: _____

WELL DATA	Cement Data
Casing Size OD (in) : <u>9.625</u>	Cement Name: <u>BFN III</u>
Casing Weight (lb) : <u>36.00</u>	Cement Density (lb/gal) : <u>14.2</u>
Casing Depth (ft.) : <u>821</u>	Cement Yield (cuft) : <u>1.48</u>
Total Depth (ft) : <u>821</u>	Gallons Per Sack: <u>7.49</u>
Open Hole Diameter (in.) : <u>13.50</u>	% Excess: <u>10%</u>
Conductor Length (ft) : <u>0</u>	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID : <u>0</u>	BBL to Pit:
Shoe Joint Length (ft) : <u>42</u>	Fluid Ahead (bbls): <u>20.0</u>
Landing Joint (ft) : <u>0</u>	H2O Wash Up (bbls): <u>20.0</u>
Max Rate: <u>8</u>	Spacer Ahead Makeup
Max Pressure: <u>2500</u>	<u>20 BBL with die in 1st 10</u>

Calculated Results	Pressure of cement in annulus
Displacement: <u>58.75</u> bbls	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Shoe <u>18.23</u> cuft	Pressure of cement in annulus
(Casing ID Squared) X (.005454) X (Shoe Joint ft)	Hydrostatic Pressure: <u>591.64</u> PSI
cuft of Conductor <u>0.00</u> cuft	Pressure of the fluids inside casing
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Displacement: <u>327.70</u> psi
cuft of Casing <u>431.16</u> cuft	Shoe Joint: <u>30.98</u> psi
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Total <u>358.68</u> psi
Total Slurry Volume <u>449.39</u> cuft	Differential Pressure: <u>232.95</u> psi
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Collapse PSI: <u>2020.00</u> psi
bbls of Slurry <u>80.04</u> bbls	Burst PSI: <u>3520.00</u> psi
(Total Slurry Volume) X (.1781)	Total Water Needed: <u>152.90</u> bbls
Sacks Needed <u>304</u> sk	
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	
Mix Water <u>54.15</u> bbls	
(Sacks Needed) X (Gallons Per Sack) ÷ 42	

X Casey
 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
Single Cement Surface Pipe**

Customer
Well Name

Bill Barrett Corp.
Inschutz Equus Farms 4-62-28-6457 C

INVOICE #
LOCATION
FOREMAN
Date

900243
Weld
Corey Barras
1/21/2018

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DESCRIPTION OF JOB EVENTS

Amount Pumped	Time/Date	Event	Description	Rate	BBLs	Pressure
% Excess 10%	1200	Arrive to Location				
Mixed bbls 54.21	1215	Rig up				
Total Sacks 304						
bbl Returns 11	115	Safety Meeting				
Water Temp 55	200	Start Job				
Notes:	201	Test Lines				
	203	Spacer	20 BBL OF H2o	5	20	100
	206	Cement	14.2 PPG	7	80	90
	225	Shut Down				
	226	Drop Plug	loaded in Plug Container			
	228	Start Displacement	H2o	6	30	210
	240	bump plug	500 over Final Pressure (1000 psi)	2	58	260
	242	Check Floats				
	245	end Job	With 11 BBL of cement back to surface			
	315	Leave Location				

X Corey Barras
Work Performed

X Co man
Title

X 1/21/18
Date