



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/26/2018
 Invoice # 900268
 API# 05-123-46080
 Foreman: Corey Barras

Customer: Bill Barrett Corp.
Well Name: Anschutz State 5-62-26 4956 C

County: Weld
 State: Colorado
 Sec: 27
 Twp: 5N
 Range: 62W

Consultant: Matt
 Rig Name & Number: WM 344
 Distance To Location: 42
 Units On Location: 4024/3103 -4024/3201
 Time Requested: 1800
 Time Arrived On Location: 1715
 Time Left Location: 1845

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>817</u>	Cement Yield (cuft) : <u>1.48</u>
Total Depth (ft) : <u>817</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: <u>13.0</u>
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>	20 BBL with die in 1st 10

Calculated Results	Pressure of cement in annulus
cuft of Shoe <u>18.23</u> cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: <u>58.68</u> bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor <u>0.00</u> cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: <u>590.90</u> PSI
cuft of Casing <u>430.62</u> cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing
Total Slurry Volume <u>448.85</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: <u>327.27</u> psi
bbls of Slurry <u>79.94</u> bbls (Total Slurry Volume) X (.1781)	Shoe Joint: <u>30.98</u> psi
Sacks Needed <u>303</u> sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total <u>358.25</u> psi
Mix Water <u>54.08</u> bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: <u>232.65</u> psi
	Collapse PSI: <u>2020.00</u> psi
	Burst PSI: <u>3520.00</u> psi
	Total Water Needed: <u>152.76</u> bbls

X Corey Barras
 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.

