



# Bison Oil Well Cementing Single Cement Surface Pipe

Invoice # 12696  
 API# \_\_\_\_\_  
 Foreman: Calvin Reimers

**Customer:** Bill Barrett  
**Well Name:** 70 Ranch 4-63-3-3340CH

County: Weld County  
 State: Colorado  
 Sec: \_\_\_\_\_  
 Twp: \_\_\_\_\_  
 Range: \_\_\_\_\_

Consultant: Casey  
 Rig Name & Number: Major  
 Distance To Location: 27 Miles  
 Units On Location: 3106/3212  
 Time Requested: 730pm  
 Time Arrived On Location: 530pm  
 Time Left Location: 945pm

| WELL DATA                  |        | Cement Data                         |         |
|----------------------------|--------|-------------------------------------|---------|
| Casing Size OD (in) :      | 9.6250 | Cement Name:                        | BFN III |
| Casing Weight (lb) :       | 36     | Cement Density (lb/gal) :           | 15.2    |
| Casing Depth (ft.) :       | 815    | Cement Yield (cuft) :               | 1.27    |
| Total Depth (ft) :         | 820    | Gallons Per Sack:                   | 5.89    |
| Open Hole Diameter (in.) : | 13.50  | % Excess:                           | 15%     |
| Conductor Length (ft) :    |        | Displacement Fluid lb/gal:          | 8.3     |
| Conductor ID :             |        | BBL to Pit:                         | 5.0     |
| Shoe Joint Length (ft) :   | 43     | Fluid Ahead (bbls):                 |         |
| Landing Joint (ft) :       |        | H2O Wash Up (bbls):                 | 20.0    |
| Max Rate:                  | 7      | <b>Spacer Ahead Makeup</b>          |         |
| Max Pressure:              | 2500   | <b>60bbls H2O Dye in 2nd 10bbls</b> |         |

| Calculated Results  |               | Casing Grade  |                    | J-55 only used |  |
|---|---------------|---|--------------------|----------------|--|
| <b>cuft of Shoe</b>   | <b>18.66</b>  | <b>Displacement:</b>  | <b>59.68</b>       | <b>bbls</b>    |  |
| <small>(Casing ID Squared) X (.005454) X (Shoe Joint ft)</small>  |               | <small>(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)</small> |                    |                |  |
| <b>cuft of Conductor</b>  | <b>0.00</b>   | <b>Pressure of cement in annulus</b>  |                    |                |  |
| <small>(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)</small>    |               | <b>Hydrostatic Pressure:</b>  | <b>643.52 PSI</b>  |                |  |
| <b>cuft of Casing</b>   | <b>398.31</b> | <b>Pressure of the fluids inside casing</b>   |                    |                |  |
| <small>(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length )</small> |               | <b>Displacement:</b>  | <b>332.87 psi</b>  |                |  |
| <b>Total Slurry Volume</b>  | <b>416.98</b> | <b>Shoe Joint:</b>  | <b>33.95 psi</b>   |                |  |
| <small>(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)</small>                                    |               | <b>Total</b>  | <b>366.82 psi</b>  |                |  |
| <b>bbls of Slurry</b>   | <b>85.40</b>  | <b>Differential Pressure:</b>   | <b>276.70 psi</b>  |                |  |
| <small>(Total Slurry Volume) X (.1781) X (% Excess Cement)</small>  |               | <b>Collapse PSI:</b>  | <b>2020.00 psi</b> |                |  |
| <b>Sacks Needed</b>   | <b>378</b>    | <b>Burst PSI:</b>   | <b>3520.00 psi</b> |                |  |
| <small>(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)</small>                                 |               | <b>Total Water Needed:</b>  | <b>72.95 bbls</b>  |                |  |
| <b>Mix Water</b>  | <b>52.95</b>  |   |                    |                |  |
| <small>(Sacks Needed) X (Gallons Per Sack) ÷ 42</small>   |               |   |                    |                |  |

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.