



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/12/2021  
 Invoice #: 200658  
 API#  
 Foreman: kirk

Customer: Occidental Petroleum

Well Name: nelson 35-3 hz

County: Weld  
 State: Colorado  
 Sec: 25  
 Twp: 2n  
 Range: 68w

Consultant: dave  
 Rig Name & Number: icon  
 Distance To Location: 35  
 Units On Location: 4028 4032 4033  
 Time Requested: 1030 am  
 Time Arrived On Location: 830 am  
 Time Left Location:

## WELL DATA

Casing Size OD (in) : 9.625  
 Casing Weight (lb) : 36.00  
 Casing Depth (ft.) : 1,898  
 Total Depth (ft) : 1908  
 Open Hole Diameter (in.) : 13.50  
 Conductor Length (ft) : 80  
 Conductor ID : 15.25  
 Shoe Joint Length (ft) : 41  
 Landing Joint (ft) : 8  
 Max Rate: 8  
 Max Pressure: 2000

## Cement Data

Cement Name: BFN III  
 Cement Density (lb/gal) : 14.2  
 Cement Yield (cuft) : 1.48  
 Gallons Per Sack: 7.40  
 % Excess: 15%  
 Displacement Fluid lb/gal: 8.3  
 BBL to Pit:  
 Fluid Ahead (bbls): 30.0  
 H2O Wash Up (bbls): 5.0  
 Spacer Ahead Makeup  
 10 fresh 10 dye 10 fresh

Casing ID

8.921

Casing Grade

J-55 only used

## Calculated Results

**cuft of Shoe** 17.80 cuft  
 (Casing ID Squared) X (.005454) X (Shoe Joint ft)

**cuft of Conductor** 61.05 cuft  
 (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

**cuft of Casing** 1021.79 cuft  
 (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

**Total Slurry Volume** 1100.63 cuft  
 (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

**bbls of Slurry** 196.02 bbls  
 (Total Slurry Volume) X (.1781)

**Sacks Needed** 744 sk  
 (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

**Mix Water** 131.03 bbls  
 (Sacks Needed) X (Gallons Per Sack) ÷ 42

**Displacement:** 144.18 bbls

(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

## Pressure of cement in annulus

**Hydrostatic Pressure:** 1400.15 PSI

## Pressure of the fluids inside casing

**Displacement:** 800.70 psi

**Shoe Joint:** 30.25 psi

**Total** 830.95 psi

**Differential Pressure:** 569.21 psi

**Collapse PSI:** 2020.00 psi

**Burst PSI:** 3520.00 psi

**Total Water Needed:** 310.21 bbls

x   
 Authorization To Proceed