



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 4/12/2021
 Invoice #: 900505
 API#: 512351419
 Foreman: kirt/Terry Richey

Customer: Occidental Petroleum
 Well Name: SHAKE 11-3HZ

County: Weld
 State: Colorado
 Sec: 11
 Twp: 4N
 Range: 68W
 Consultant: David
 Rig Name & Number: Icon 12
 Distance To Location: 36
 Units On Location: 4045/3103-4039/3205-4033/3201
 Time Requested: 500pm
 Time Arrived On Location: 340pm
 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 :	15.5
Shoe Joint Length (ft) :	41
Landing Joint (ft) :	8
Max Rate:	7
Max Pressure:	1500

Cement Data	
Cement Name:	BFN III
Cement Density (lb/gal) :	14.2
Cement Yield (cuft) :	1.48
Gallons Per Sack:	7.40
% Excess:	10%
Displacement Fluid lb/gal:	8.3
BBL to Pit:	7.0
Fluid Ahead (bbls):	30.0
H2O Wash Up (bbls):	30.0
Spacer Ahead Makeup	
10 BBL H2O 10BBL DIE 10BBL H2O	

Casing ID: 8.921 Casing Grade: J-55 only used

Calculated Results		
cuft of Shoe	17.80	cuft
<small>(Casing ID Squared) X (.005454) X (Shoe Joint ft)</small>		
cuft of Conductor	64.40	cuft
<small>(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)</small>		
cuft of Casing	977.36	cuft
<small>(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)</small>		
Total Slurry Volume	1059.56	cuft
<small>(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)</small>		
bbls of Slurry	188.71	bbls
<small>(Total Slurry Volume) X (.1781)</small>		
Sacks Needed	716	sk
<small>(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)</small>		
Mix Water	126.14	bbls
<small>(Sacks Needed) X (Gallons Per Sack) ÷ 42</small>		

Displacement:	144.18 bbls
<small>(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)</small>	
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:	330.32 bbls

X Authorization To Proceed