



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/22/2015

Invoice # 90029

API# 05-123-41954

Supervisor Nick

Customer: Anadarko Petroleum Corporation

Well Name: Powers 2G-27HZ

County: Weld

State: Colorado

Sec: 22

Twp: 2N

Range: 65W

Consultant: Hayden

Rig Name & Number: Noble 2

Distance To Location: 30

Units On Location: 024/3210/4027/3106/3105/320

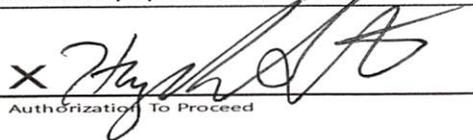
Time Requested: 22:30

Time Arrived On Location: 21:10

Time Left Location: 0:20

WELL DATA	Cement Data
Casing Size OD (in) : 9.625	Cement Name: BFN III
Casing Weight (lb) : 36.00	Cement Density (lb/gal) : 14.2
Casing Depth (ft.) : 1,875	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1885	Gallons Per Sack: 7.48
Open Hole Diameter (in.) : 13.50	% Excess: 15%
Conductor Length (ft) : 40	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.25	BBL to Pit: 35.0
Shoe Joint Length (ft) : 43	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 10	H2O Wash Up (bbls): 20.0
Max Rate: 8	Spacer Ahead Makeup
Max Pressure: 1750	30 bbl dye in second 10

Calculated Results	Pressure of cement in annulus
<b>Displacement: 142.40 bbls</b> (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	<b>Hydrostatic Pressure: 1383.19 PSI</b>
<b>cuft of Shoe 18.66 cuft</b> (Casing ID Squared) X (.005454) X (Shoe Joint ft)	<b>Pressure of the fluids inside casing</b>
<b>cuft of Conductor 30.53 cuft</b> (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	<b>Displacement: 789.92 psi</b>
<b>cuft of Casing 1031.34 cuft</b> (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	<b>Shoe Joint: 31.72 psi</b>
<b>Total Slurry Volume 1080.53 cuft</b> (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	<b>Total 821.64 psi</b>
<b>bbls of Slurry 192.44 bbls</b> (Total Slurry Volume) X (.1781)	<b>Differential Pressure: 561.54 psi</b>
<b>Sacks Needed 725 sk</b> (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	<b>Collapse PSI: 2020.00 psi</b>
<b>Mix Water 129.15 bbls</b> (Sacks Needed) X (Gallons Per Sack) ÷ 42	<b>Burst PSI: 3520.00 psi</b>
	<b>Total Water Needed: 321.55 bbls</b>

  
 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.



# Powers 2G-27HZ

