



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/8/2017
 Invoice # 666073
 API# 05-123-42462
 Foreman: Nick

Customer: Anadarko Petroleum Corporation
Well Name: Guest 28C-12HZ

County: Weld Consultant: Brian
 State: Colorado Rig Name & Number: WMO 252
 Distance To Location: 34 Miles
 Sec: 13 Units On Location: 4020/4030/4032
 Twp: 2N Time Requested: 11:00
 Range: 65W Time Arrived On Location: 9:45
 Time Left Location: _____

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>1,860</u>	Cement Yield (cuft) : <u>1.49</u>
Total Depth (ft) : <u>1870</u>	Gallons Per Sack: <u>7.48</u>
Open Hole Diameter (in.) : <u>13.50</u>	% Excess: <u>15%</u>
Conductor Length (ft) : <u>80</u>	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID : <u>15.25</u>	BBL to Pit:
Shoe Joint Length (ft) : <u>44</u>	Fluid Ahead (bbls): <u>30.0</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>2000</u>	Dye in the second 10 bbl

Casing ID 8.921 Casing Grade J-55 only used

Calculated Results	Pressure of cement in annulus
cuft of Shoe <u>19.10</u> cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: <u>140.39</u> bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor <u>61.05</u> cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: <u>1372.12</u> PSI
cuft of Casing <u>1000.43</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>1080.58</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: <u>783.02</u> psi
bbls of Slurry <u>192.45</u> bbls (Total Slurry Volume) X (.1781)	Shoe Joint: <u>32.46</u> psi
Sacks Needed <u>725</u> sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total <u>815.48</u> psi
Mix Water <u>129.16</u> bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: <u>556.64</u> psi
	Collapse PSI: <u>2020.00</u> psi
	Burst PSI: <u>3520.00</u> psi
	Total Water Needed: <u>319.55</u> bbls

X Brian
 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.

Guest 28C-12HZ

