



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/22/2015
 Invoice # 80521
 API# _____
 Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation
Well Name: powers 2c-27hz

County: Weld Consultant: hayden
 State: Colorado Rig Name & Number: noble 2
 Distance To Location: 40
 Sec: 23 Units On Location: 4031-3103/4024-3203
 Twp: 2n Time Requested: 530 am
 Range: 65w Time Arrived On Location: 415 am
 Time Left Location: 8:00 pm

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>1,848</u>	Cement Yield (cuft) : <u>1.49</u>
Total Depth (ft) : <u>1858</u>	Gallons Per Sack: <u>7.48</u>
Open Hole Diameter (in.) : <u>13.50</u>	% Excess: <u>15%</u>
Conductor Length (ft) : <u>40</u>	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID : <u>15.25</u>	BBL to Pit: _____
Shoe Joint Length (ft) : <u>42</u>	Fluid Ahead (bbls): <u>30.0</u>
Landing Joint (ft) : <u>10</u>	H2O Wash Up (bbls): <u>10.0</u>
Max Rate: _____	Spacer Ahead Makeup: _____
Max Pressure: _____	

Calculated Results	Pressure of cement in annulus
cuft of Shoe <u>18.23</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>30.53</u> cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: <u>1363.27</u> PSI
cuft of Casing <u>1016.17</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>1064.92</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: <u>778.71</u> psi
bbls of Slurry <u>189.66</u> bbls (Total Slurry Volume) X (.1781)	Shoe Joint: <u>30.98</u> psi
Sacks Needed <u>715</u> sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total <u>809.70</u> psi
Mix Water <u>127.29</u> bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: <u>553.57</u> psi
	Collapse PSI: <u>2020.00</u> psi
	Burst PSI: <u>3520.00</u> psi
	Total Water Needed: <u>307.68</u> bbls

X Bryan Brown
 Authorization To Proceed

M/D TOTCO 2000 SERIES

— PSI — Barrels / Minute — Barrels — Lbs / Gallon — Stage Volume

