



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 10/8/2019

Invoice # 200520

API# _____

Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation

Well Name: mae j 8-7hz

County: Weld

State: Colorado

Sec: 12

Twp: 1n

Range: 68w

Consultant: bryan

Rig Name & Number: Cartel 88

Distance To Location: 39

Units On Location: 4047/4032/4024

Time Requested: 700 pm

Time Arrived On Location: 500 pm

Time Left Location: 10:30pm

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>1,913</u>	Cement Yield (cuft) : <u>1.48</u>
Total Depth (ft) : <u>1923</u>	Gallons Per Sack: <u>7.40</u>
Open Hole Diameter (in.) : <u>13.50</u>	% Excess: <u>10%</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>41</u>	Fluid Ahead (bbls): <u>30.0</u>
Landing Joint (ft) : <u>8</u>	H2O Wash Up (bbls): <u>10.0</u>
Max Rate: <u>8</u>	Spacer Ahead Makeup
Max Pressure: <u>2000</u>	<u>30 bbl with Die in 2nd 10</u>

Casing ID 8.921 Casing Grade J-55 only used

Calculated Results	Pressure of cement in annulus
cuft of Shoe <u>17.80</u> cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: <u>145.34</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>1411.22</u> PSI
cuft of Casing <u>985.43</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>1064.27</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: <u>807.17</u> psi
bbls of Slurry <u>189.55</u> bbls (Total Slurry Volume) X (.1781)	Shoe Joint: <u>30.25</u> PSI
Sacks Needed <u>719</u> sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total <u>837.42</u> psi
Mix Water <u>126.70</u> bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: <u>573.80</u> psi
	Collapse PSI: <u>2020.00</u> psi
	Burst PSI: <u>3520.00</u> psi
	Total Water Needed: <u>312.04</u> bbls

X
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.

SERIES 2000

