



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 5/29/2018

Invoice # 200295

API# _____

Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation

Well Name: gracie 24-7hz

County: Weld

State: Colorado

Sec: 24

Twp: 2n

Range: 66w

Consultant: bryan

Rig Name & Number: CARTEL 88

Distance To Location: 30

Units On Location: 1

Time Requested: 400 am

Time Arrived On Location: 300 am

Time Left Location: 7:30pm

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>1,833</u>	Cement Yield (cuft) :	<u>1.48</u>
Total Depth (ft) :	<u>1843</u>	Gallons Per Sack:	<u>7.48</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>15.5</u>	BBL to Pit:	<u>30.0</u>
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>	30 BBL WATER, DYE IN 2ND 10	

Calculated Results	Displacement:	139.15 bbls
cuft of Shoe <u>17.80</u> cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
cuft of Conductor <u>64.40</u> cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Pressure of cement in annulus	
cuft of Casing <u>942.42</u> cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Hydrostatic Pressure:	<u>1352.20 PSI</u>
Total Slurry Volume <u>1024.62</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Pressure of the fluids inside casing	
bbls of Slurry <u>182.48</u> bbls (Total Slurry Volume) X (.1781)	Displacement:	<u>772.68 psi</u>
Sacks Needed <u>692</u> sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Shoe Joint:	<u>30.25 psi</u>
Mix Water <u>123.30</u> bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total	<u>802.92 psi</u>
	Differential Pressure:	<u>549.28 psi</u>
	Collapse PSI:	<u>2020.00 psi</u>
	Burst PSI:	<u>3520.00 psi</u>
	Total Water Needed:	<u>302.45 bbls</u>

X [Signature]
Authorization To Proceed

SERIES 2000

