



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/4/2017
 Invoice # 200116
 API# _____
 Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation
Well Name: cannon 3n-4hz

County: Weld Consultant: matt
 State: Colorado Rig Name & Number: cartel 88
 Distance To Location: 24
 Sec: 8 Units On Location: 4028/4039/4030
 Twp: 1n Time Requested: 100 pm
 Range: 66w Time Arrived On Location: 1130 am
 Time Left Location: 4:50 pm


WELL DATA	
Casing Size OD (in) :	9.625
Casing Weight (lb) :	36.00
Casing Depth (ft.) :	1,841
Total Depth (ft) :	1851
Open Hole Diameter (in.) :	13.50
Conductor Length (ft) :	80
Conductor ID :	15.6
Shoe Joint Length (ft) :	43
Landing Joint (ft) :	8
Max Rate:	8
Max Pressure:	2000

Cement Data	
Cement Name:	BFN III
Cement Density (lb/gal) :	14.2
Cement Yield (cuft) :	1.49
Gallons Per Sack:	7.40
% Excess:	15%
Displacement Fluid lb/gal:	8.3
BBL to Pit:	
Fluid Ahead (bbls):	30.0
H2O Wash Up (bbls):	10.0
Spacer Ahead Makeup	

Casing ID 8.921 Casing Grade J-55 only used

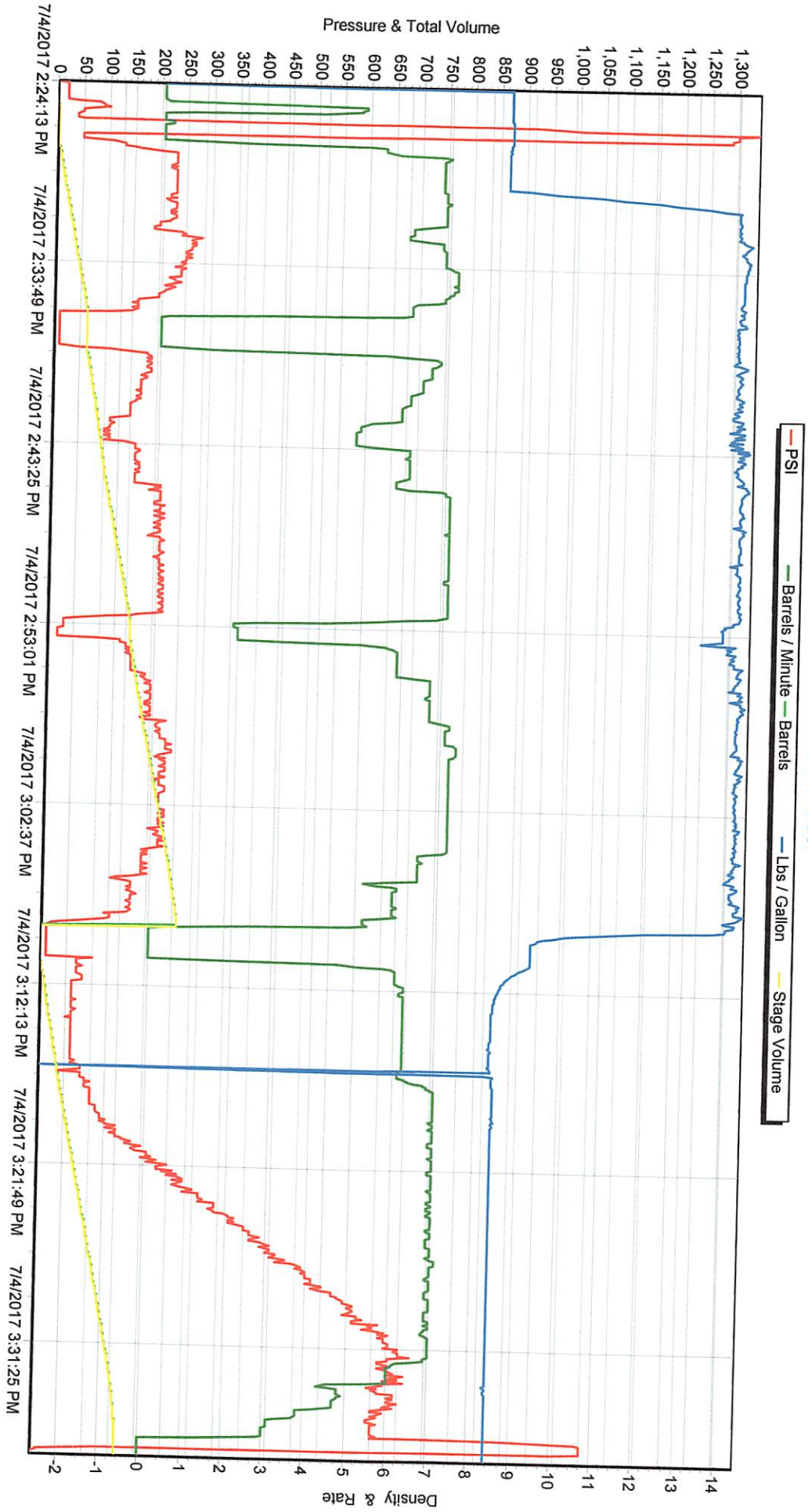
Calculated Results		
cuft of Shoe	18.66	cuft
<small>(Casing ID Squared) X (.005454) X (Shoe Joint ft)</small>		
cuft of Conductor	65.76	cuft
<small>(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)</small>		
cuft of Casing	989.75	cuft
<small>(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)</small>		
Total Slurry Volume	1074.18	cuft
<small>(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)</small>		
bbls of Slurry	191.31	bbls
<small>(Total Slurry Volume) X (.1781)</small>		
Sacks Needed	721	sk
<small>(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)</small>		
Mix Water	127.02	bbls
<small>(Sacks Needed) X (Gallons Per Sack) ÷ 42</small>		

Displacement:	139.62 bbls
<small>(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)</small>	
Pressure of cement in annulus	
Hydrostatic Pressure:	1358.11 PSI
Pressure of the fluids inside casing	
Displacement:	775.26 psi
Shoe Joint:	31.72 psi
Total	806.98 psi
Differential Pressure:	551.12 psi
Collapse PSI:	2020.00 psi
Burst PSI:	3520.00 psi
Total Water Needed:	306.64 bbls


 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



REVENUE