



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 6/12/2015
Invoice #: 80091
API#:
Foreman: Kirk Kallhoff

Customer: Anadarko Petroleum Corporation
Well Name: joker 27n2-9hz

County: Weld
State: Colorado
Sec: 9
Twp: 1n
Range: 65w

Consultant: sean
Rig Name & Number: noble 2
Distance To Location: 26
Units On Location: 038-3103/3105-3204/4019-321
Time Requested: 230 pm
Time Arrived On Location: 130 pm
Time Left Location: 12:00pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 1,829
Total Depth (ft) : 1846
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 40
Conductor ID : 16
Shoe Joint Length (ft) : 39
Landing Joint (ft) : 10

Max Rate:
Max Pressure:

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 14.2
Cement Yield (cuft) : 1.49
Gallons Per Sack: 7.48
% Excess: 20%
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 16.93 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 35.64 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 1049.20 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 1101.77 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 196.23 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 739 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 131.69 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 139.15 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 1349.25 PSI

Pressure of the fluids inside casing

Displacement: 771.81 psi

Shoe Joint: 28.77 psi

Total 800.58 psi

Differential Pressure: 548.67 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 310.85 bbls

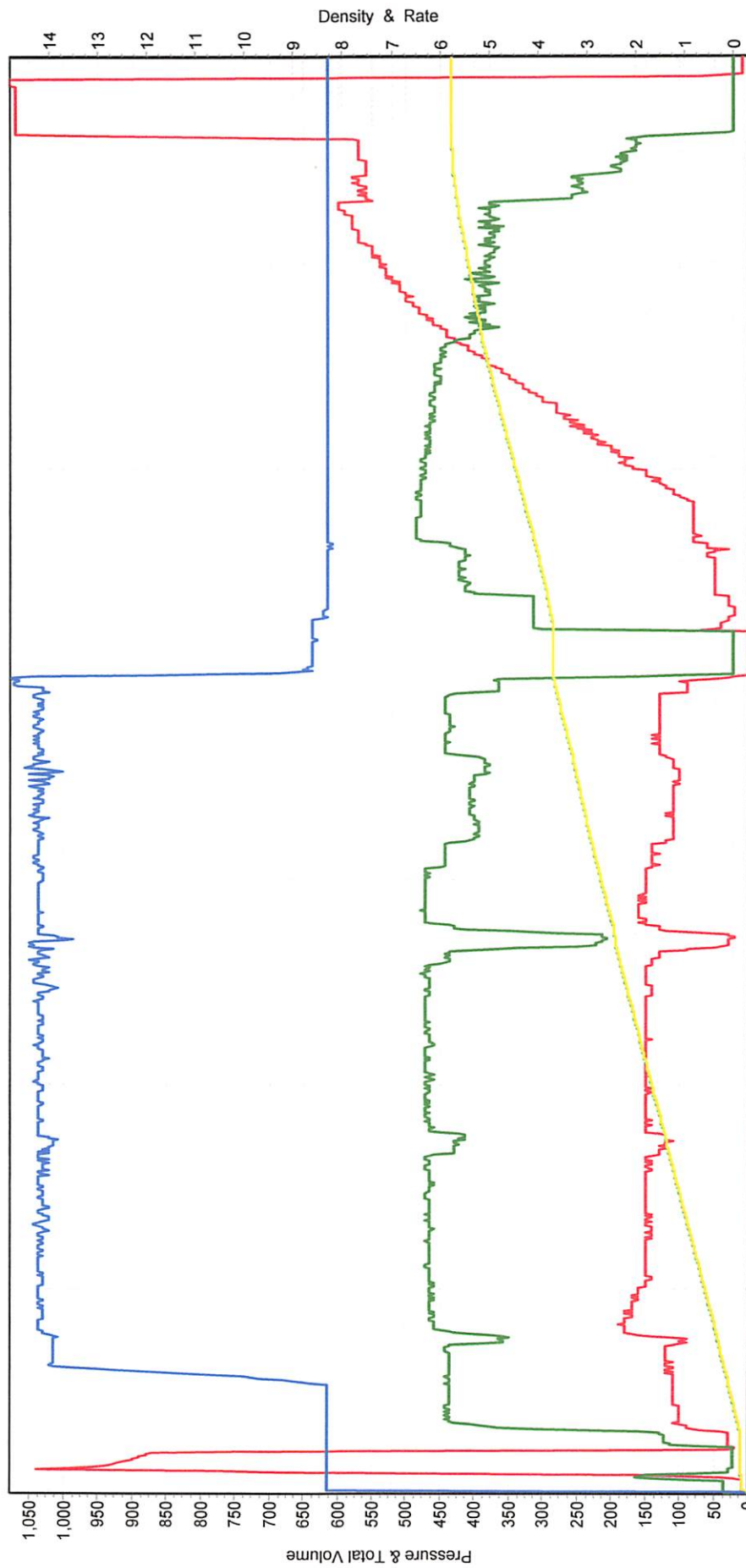
X *Chris McCar*
Authorization To Proceed

Customers hereby acknowledges and specifically agrees to the terms and condition on this work order, including, without limitation, the provisions on this work order.

Date _____

M/D TOTCO 2000 SERIES

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



6/12/2015 8:44:46 PM 6/12/2015 10:06:47 PM 6/12/2015 10:19:28 PM 6/12/2015 10:32:04 PM 6/12/2015 10:44:45 PM 6/12/2015 10:57:21 PM 6/12/2015 11:10:03 PM 6/12/2015 11:22:39 PM