Bison Oil Well Cementing
Single Cement Surface Pipe

INVOICE #	200441
LOCATION	Weld
FOREMAN	KirkKallhoff
Date	4/22/2019

Customer: **Anadarko Petroleum Corporation**
Well Name: **mc 3-6hz**

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Amount Pumped			Event	Description	Rate	BBLs	Pressure
% Excess	10%	500 pm	arived on location				
Mixed bbls	130	515 pm	MIRU				
Total Sacks	738	820pm	JSA				
bbl Returns	12	845 pm	Pressure Test		0.5		1000
Water Temp	50	846 pm	Spacer Ahead	30 bbls h2o dye in 2nd 10	5	30	120
		851 pm	M&P	738 sks cement 14.2 lbs 194.5 bbls slurry	6	194.5	250
Notes:		925 pm	Shutdown				0
		927 pm	Drop Plug				
		927 pm	Start Displacement	141 bbls h2o	6		450
		852 pm	Bump Plug	141 bbls h2o 560 psi lift	2	141	1160
		953 pm	Test Floats				
		954 pm	End Job				
		1000 pm	Rig Down				
		1030 pm	Leave Location				

X _(signature)_
Work Preformed

X
Title

X 4-22-19
Date

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Date:	4/22/2019
Invoice #	200441
API#	
Foreman:	KirkKallhoff

Customer: Anadarko Petroleum Corporation

Well Name: mc 3-6hz

County:	Weld	Consultant:	tyler
State:	Colorado	Rig Name & Number:	Cartel 88
		Distance To Location:	38
Sec:	8	Units On Location:	4047/4030/4034
Twp:	1n	Time Requested:	730 pm
Range:	65w	Time Arrived On Location:	500 pm
		Time Left Location:	10:30pm

WELL DATA

Casing Size OD (in) :	9.625
Casing Weight (lb) :	36.00
Casing Depth (ft.) :	1,857
Total Depth (ft) :	1867
Open Hole Diameter (in.) :	13.50
Conductor Length (ft) :	80
Conductor ID :	19.125
Shoe Joint Length (ft) :	41
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) :	1.48
Gallons Per Sack:	7.40
% Excess:	10%
Displacement Fluid lb/gal:	8.3
BBL to Pit:	
Fluid Ahead (bbls):	30.0
H20 Wash Up (bbls):	10.0

Spacer Ahead Makeup

30 bbl with Die in 2nd 10

Casing ID	8.921	Casing Grade	J-55 only used

Calculated Results

				Displacement:	141.01 bbls

cuft of Shoe   17.80   cuft

(Casing ID Squared) X (.005454) X (Shoe Joint ft)

(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

cuft of Conductor   119.17   cuft

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

Hydrostatic Pressure: 1369.91 PSI

Pressure of the fluids inside casing

cuft of Casing   955.32   cuft

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

Displacement: 783.02 psi

Shoe Joint: 30.25 PSI

Total Slurry Volume   1092.29   cuft

(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

Total   813.27 psi

bbls of Slurry   194.54   bbls

(Total Slurry Volume) X (.1781)

Differential Pressure: 556.64 psi

Sacks Needed   738   sk

(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Mix Water   130.03   bbls

(Sacks Needed) X (Gallons Per Sack) ÷ 42

Total Water Needed: 311.04 bbls

X _____
Authorization To Proceed

SERIES 2000

Pressure & Total Volume

Density & Rate

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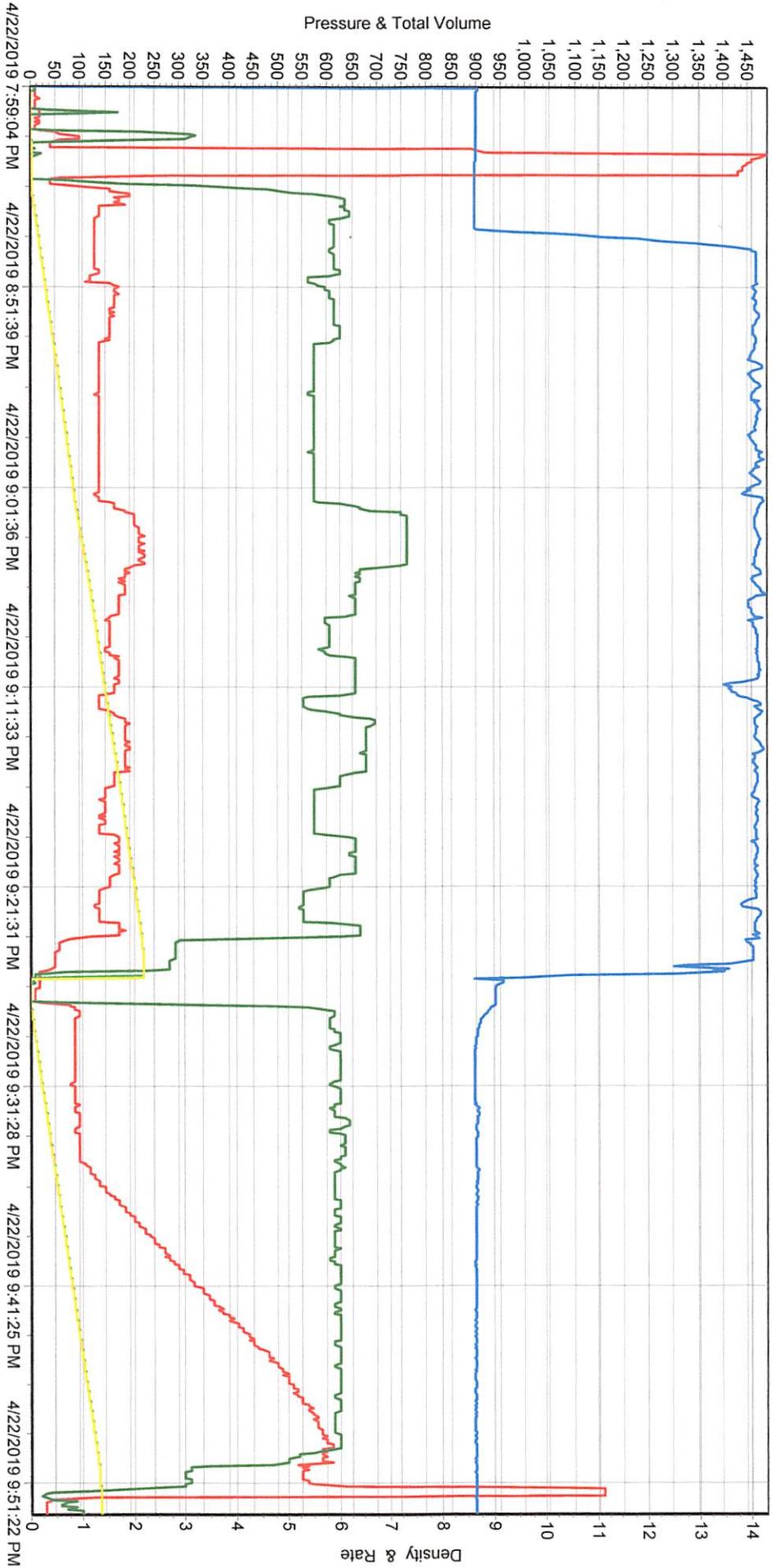
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