



**Bison Oil Well Cementing
Single Cement Surface Pipe**

Customer
Well Name

Anadarko Petroleum Corporation
mab 15-3hz

INVOICE #
LOCATION
FOREMAN
Date

200405
Weld
KirkKallhoff
2/11/2019

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Amount Pumped		Event	Description	Rate	BBLs	Pressure
% Excess	10%	330 am	arived on location			
Mixed bbls	122.6	345 am	MIRU			
Total Sacks	696	750 am	JSA			
bbl Returns	12	819 am	Pressure Test	0.5		1000
Water Temp	50	820 am	Spacer Ahead	6	30	120
		824 am	M&P	6	183.5	250
Notes:		858 am	Shutdown			0
		901 am	Drop Plug			
		901 am	Start Displacement	140.4 bbls h2o	6	250
		926 am	Bump Plug	140.4 bbls h2o 570 psi lift	2	140.4
		927 am	Test Floats			
		928 am	End Job			
		930 am	Rig Down			
		1000 am	Leave Location			

X

David Corbett

Work Preformed

X

Co-man

Title

X

2-11-19

Date



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Date: 2/11/2019
 Invoice # 200405
 API# _____
 Foreman: KirkKallhoff

Customer: Anadarko Petroleum Corporation
Well Name: mab 15-3hz

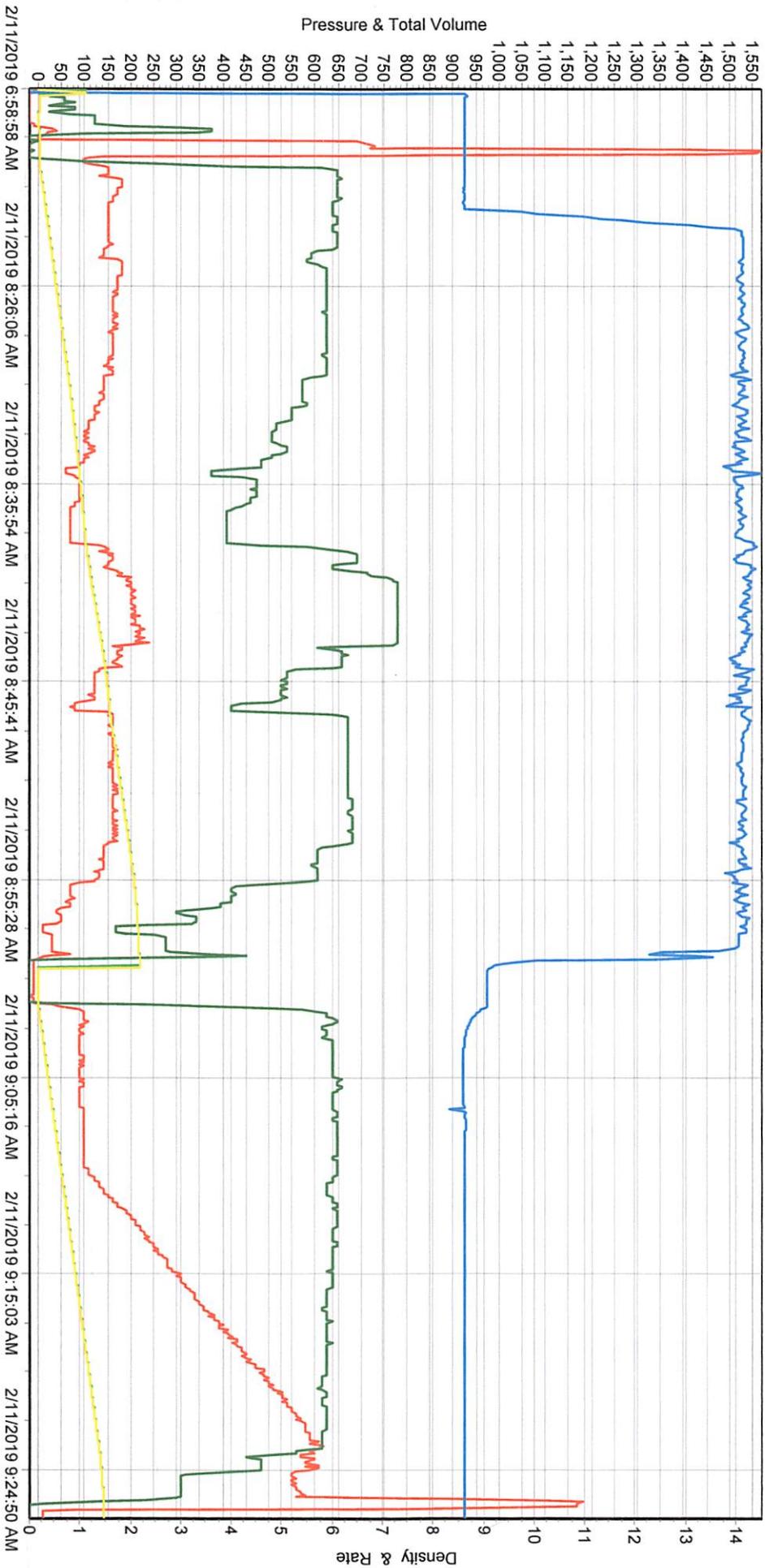
County: Weld Consultant: bryan
 State: Colorado Rig Name & Number: Cartel 88
 Distance To Location: 33
 Sec: 30 Units On Location: 4047/4023/4041
 Twp: 2N Time Requested: 600 am
 Range: 65w Time Arrived On Location: 330 am
 Time Left Location: 16:00 am

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>1,850</u>	Cement Yield (cuft) : <u>1.48</u>
Total Depth (ft) : <u>1860</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>

Calculated Results	Pressure of cement in annulus
Casing ID <u>8.921</u> Casing Grade <u>J-55 only used</u>	Displacement: <u>140.47 bbls</u> (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Shoe <u>17.80 cuft</u> (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Pressure of cement in annulus
cuft of Conductor <u>61.05 cuft</u> (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: <u>1364.75 PSI</u>
cuft of Casing <u>951.56 cuft</u> (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing
Total Slurry Volume <u>1030.40 cuft</u> (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: <u>780.01 psi</u>
bbls of Slurry <u>183.51 bbls</u> (Total Slurry Volume) X (.1781)	Shoe Joint: <u>30.25 PSI</u>
Sacks Needed <u>696 sk</u> (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total <u>810.25 psi</u>
Mix Water <u>122.67 bbls</u> (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: <u>554.49 psi</u>
	Collapse PSI: <u>2020.00 psi</u>
	Burst PSI: <u>3520.00 psi</u>
	Total Water Needed: <u>303.14 bbls</u>

X Authorization to Proceed

SERIES 2000



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

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