



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 12/2/2014

Invoice # 45084

API# 05-123-39061

Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation

Well Name: BARCLAY 15C-26HZ

County: Weld

State: Colorado

Sec: 14

Twp: 2N

Range: 67W

Consultant: LESTER

Rig Name & Number: MAJORS 42

Distance To Location: 19

Units On Location: 4031-3106/ 4024-3203

Time Requested: 1130

Time Arrived: 1030

Time Left Location: 1330

WELL DATA

Casing Size OD (in) : 9.625
 Casing Weight (lb) : 36.00
 Casing Depth (ft.) : 1,107
 Total Depth (ft) : 1120
 Open Hole Diameter (in.) : 13.50
 Conductor Length (ft) :
 Conductor ID :
 Shoe Joint Length (ft) : 39
 Landing Joint (ft) : 8

Max Rate: 7
 Max Pressure: 2500

Cement Data

Cement Name: BFN III
 Cement Density (lb/gal) : 14.2
 Cement Yield (cuft) : 1.49
 Gallons Per Sack: 7.48
 % Excess: 15%
 Displacement Fluid lb/gal: 8.3
 BBL to Pit: 26.0
 Fluid Ahead (bbls): 30.0
 H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

30 BBL WATER, DYE IN 2ND 10

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 17.06 cuft

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

cuft of Conductor 0.00 cuft

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

cuft of Casing 623.70 cuft

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

Total Slurry Volume 640.76 cuft

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

bbls of Slurry 114.12 bbls

(Total Slurry Volume) X (.1781)

Sacks Needed 430 sk

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

Mix Water 76.59 bbls

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

Displacement: 83.15 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 816.51 PSI

Pressure of the fluids inside casing

Displacement: 460.30 psi

Shoe Joint: 28.99 psi

Total 489.29 psi

Differential Pressure: 327.22 psi

Collapse PSI: 2020.00 psi

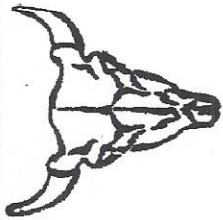
Burst PSI: 3520.00 psi

Total Water Needed: 209.74 bbls

X *L E Case*

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.



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

Customer
Well Name

Anadarko Petroleum Corporation
BARCLAY 15C-26HZ

INVOICE #
LOCATION
FOREMAN
Date

45084
Weld
JASON KELEHER
12/2/2014

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

	Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
	BbLS	Time	PSI	BbLS	Time	PSI	BbLS	Time	PSI	BbLS	Time	PSI	BbLS	Time	PSI
Safety Meeting	1120														
MIRU	1045														
CIRCULATE	1144														
Drop Plug															
1216															
M & P															
Time															
1151-1214		430													
% Excess			15%												
Mixed bbls			76.5												
Total Sacks			430												
bbl Returns			26												
Water Temp			63												

Notes:

PERFORMED PRESSURE TEST TO 2000 PSI AT 1139, PUMPED 30 BBL WATER WITH DYE IN 2ND 10 AT 1144, MIXED AND PUMPED 430 SKS AT 14.2, 114.1 BBL AT 1151, SHUT DOWN AT 1214, STARTED DISPLACEMENT AT 1216, LANDED PLUG AT 420 PSI AT 1238 AND PRESSURED UP TO 1440 PSI, HELD FOR 2 MINUTES, RELEASED PRESSURE, FLOATS HELD, GOT .75 BBL BACK, REPRESSURE TO 1000 PSI FOR 2 MINUTES AND RELEASED

X

X *J.P. Coe*

X

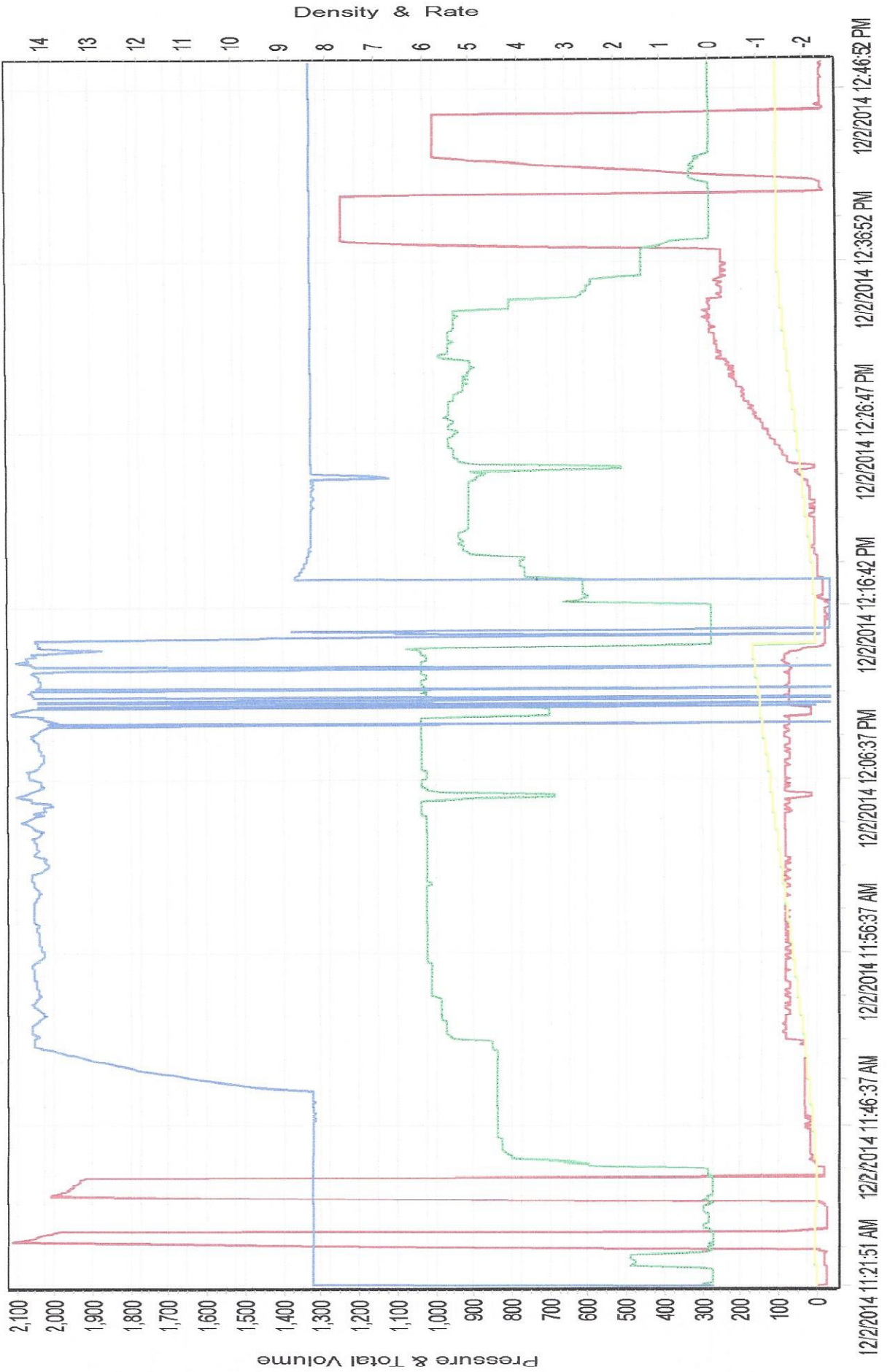
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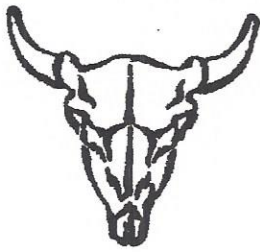
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Date

Work Performed

BARCLAY 15C-26HZ SURFACE





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Casing Depth (ft) : <u>1,107</u>	Cement Yield (cuft) : <u>1.49</u>
Total Depth (ft) : <u>1120</u>	Gallons Per Sack: <u>7.48</u>
Open Hole Diameter (in.) : <u>13.50</u>	% Excess: <u>15%</u>
Conductor Length (ft) : _____	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID : _____	BBL to Pit: _____
Shoe Joint Length (ft) : <u>39</u>	Fluid Ahead (bbls): <u>30.0</u>
Landing Joint (ft) : <u>8</u>	H2O Wash Up (bbls): <u>20.0</u>
Max Rate: <u>7</u>	Spacer Ahead Makeup
Max Pressure: <u>2500</u>	<u>30 BBL WATER, DYE IN 2ND 10</u>

Calculated Results	Pressure of cement in annulus
Displacement: <u>83.15 bbls</u> (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	Hydrostatic Pressure: <u>816.51 PSI</u>
cuft of Shoe <u>17.06</u> cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Pressure of the fluids inside casing
cuft of Conductor <u>0.00</u> cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Displacement: <u>460.30 psi</u>
cuft of Casing <u>623.70</u> cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Shoe Joint: <u>28.99 psi</u>
Total Slurry Volume <u>640.76</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Total <u>489.29 psi</u>
bbls of Slurry <u>114.12</u> bbls (Total Slurry Volume) X (.1781)	Differential Pressure: <u>327.22 psi</u>
Sacks Needed <u>430</u> sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Collapse PSI: <u>2020.00 psi</u>
Mix Water <u>76.59</u> bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Burst PSI: <u>3520.00 psi</u>
	Total Water Needed: <u>209.74 bbls</u>



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