



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/27/2015

Invoice # 35115

API#

Foreman: kirk kallhoff

Customer: Anadarko Petroleum Corporation

Well Name: green 5n-8hz

County: Weld

State: Colorado

Sec: 7

Twp: 1n

Range: 67w

Consultant: don

Rig Name & Number: major 42

Distance To Location: 25

Units On Location: 4030-3203/4024-3203

Time Requested: 730 am

Time Arrived On Location: 730 am

Time Left Location: 12:45 pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,538
Total Depth (ft) : 1556
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 90
Conductor ID : 16
Shoe Joint Length (ft) : 42
Landing Joint (ft) : 8

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: 10%
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 18.23 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 80.19 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 778.45 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 876.87 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 156.17 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 589 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 104.81 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 116.27 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1134.58 PSI

Pressure of the fluids inside casing

Displacement: 645.05 psi

Shoe Joint: 30.98 psi

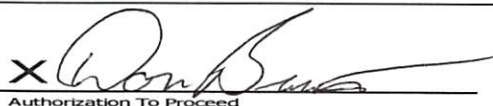
Total 676.03 psi

Differential Pressure: 458.55 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 261.08 bbls

X 
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
green 5n-8hz

INVOICE #
LOCATION
FOREMAN
Date

35115
Weld
kirk kallhoff
1/27/2015

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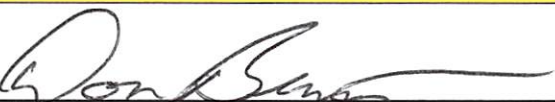
DESCRIPTION OF JOB EVENTS

Safety Meeting		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
MIRU	1031a	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI
CIRCULATE	1000a	0	1135a	10	0			0			0			0		
Drop Plug	1051a	10	1137a	10	10			10			10			10		
1135 am		20	1139a	10	20			20			20			20		
		30	1141a	60	30			30			30			30		
		40	1143a	140	40			40			40			40		
M & P		50	1145a	190	50			50			50			50		
Time	Sacks	60	1147a	270	60			60			60			60		
1058 am	589	70	1149a	310	70			70			70			70		
1132 am stop		80	1151a	380	80			80			80			80		
		90	1154a	430	90			90			90			90		
		100	1156a	480	100			100			100			100		
		110	1159a	500	110			110			110			110		
% Excess	10%	120			120			120			120			120		
Mixed bbls	104.9	130			130			130			130			130		
Total Sacks	589	140			140			140			140			140		
bbl Returns	22	150			150			150			150			150		
Water Temp																

Notes:

bumped plug at 1202 pm 1480 psi

floats held

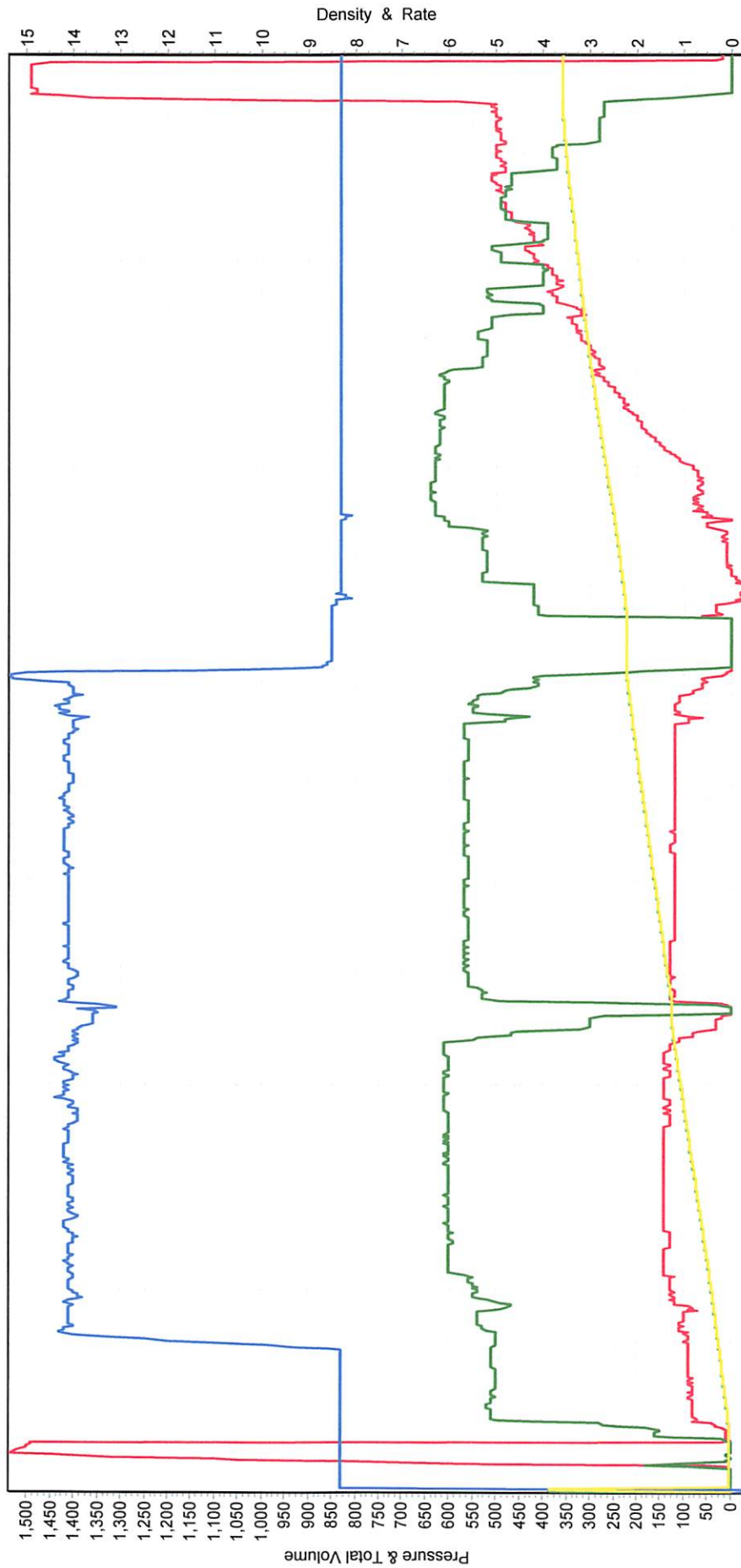
X 
Work Performed

X 
Title

X 1-27-15
Date

M/D TOTCO 2000 SERIES

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



1/27/2015 10:20:03 AM 1/27/2015 10:59:47 AM 1/27/2015 11:10:48 AM 1/27/2015 11:21:44 AM 1/27/2015 11:32:45 AM 1/27/2015 11:43:46 AM 1/27/2015 11:54:47 AM 1/27/2015 12:05:43 PM