



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/6/2015
Invoice #: 45122
API#: 05-123-41025
Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation
Well Name: GRISWOLD 29-11HZ

County: Weld
State: Colorado
Sec: 11
Twp: 1N
Range: 66W
Consultant: TOBY
Rig Name & Number: ADVANCED 10
Distance To Location: 27
Units On Location: 4031-3107, 4024-3203
Time Requested: 2200
Time Arrived On Location: 2100
Time Left Location: 230

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,717
Total Depth (ft) : 1732
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 47
Conductor ID : 15.25
Shoe Joint Length (ft) : 42
Landing Joint (ft) : 5

Max Rate: 6
Max Pressure: 1500

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: 11.0
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
30 BBL WATER W/ DYE IN 2ND 10

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.04 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)
cuft of Conductor 35.87 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)
cuft of Casing 938.68 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 992.59 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 176.78 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 666 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 118.64 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 129.92 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 1266.73 PSI

Pressure of the fluids inside casing

Displacement: 722.47 psi

Shoe Joint: 30.67 psi

Total 753.14 psi

Differential Pressure: 513.59 psi

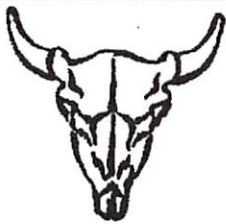
Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 298.56 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
GRISWOLD 29-11HZ

INVOICE #
LOCATION
FOREMAN
Date

45122
Weld
JASON KELEHER
2/6/2015

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Safety Meeting		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
MIRU		BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI
CIRCULATE		0	1243	0	0			0			0			0		
Drop Plug		10	1245	30	10			10			10			10		
1243		20	1247	30	20			20			20			20		
		30	1250	30	30			30			30			30		
		40	1254	60	40			40			40			40		
M & P		50	1257	120	50			50			50			50		
Time Sacks		60	1259	190	60			60			60			60		
1208-1241	666	70	102	240	70			70			70			70		
		80	105	290	80			80			80			80		
		90	108	350	90			90			90			90		
		100	111	425	100			100			100			100		
		110	114	490	110			110			110			110		
% Excess	15%	120	118	540	120			120			120			120		
Mixed bbls	118.6	130	121	550	130			130			130			130		
Total Sacks	666	140	BUMP	1490	140			140			140			140		
bbl Returns	11	150			150			150			150			150		
Water Temp	45															

Notes:

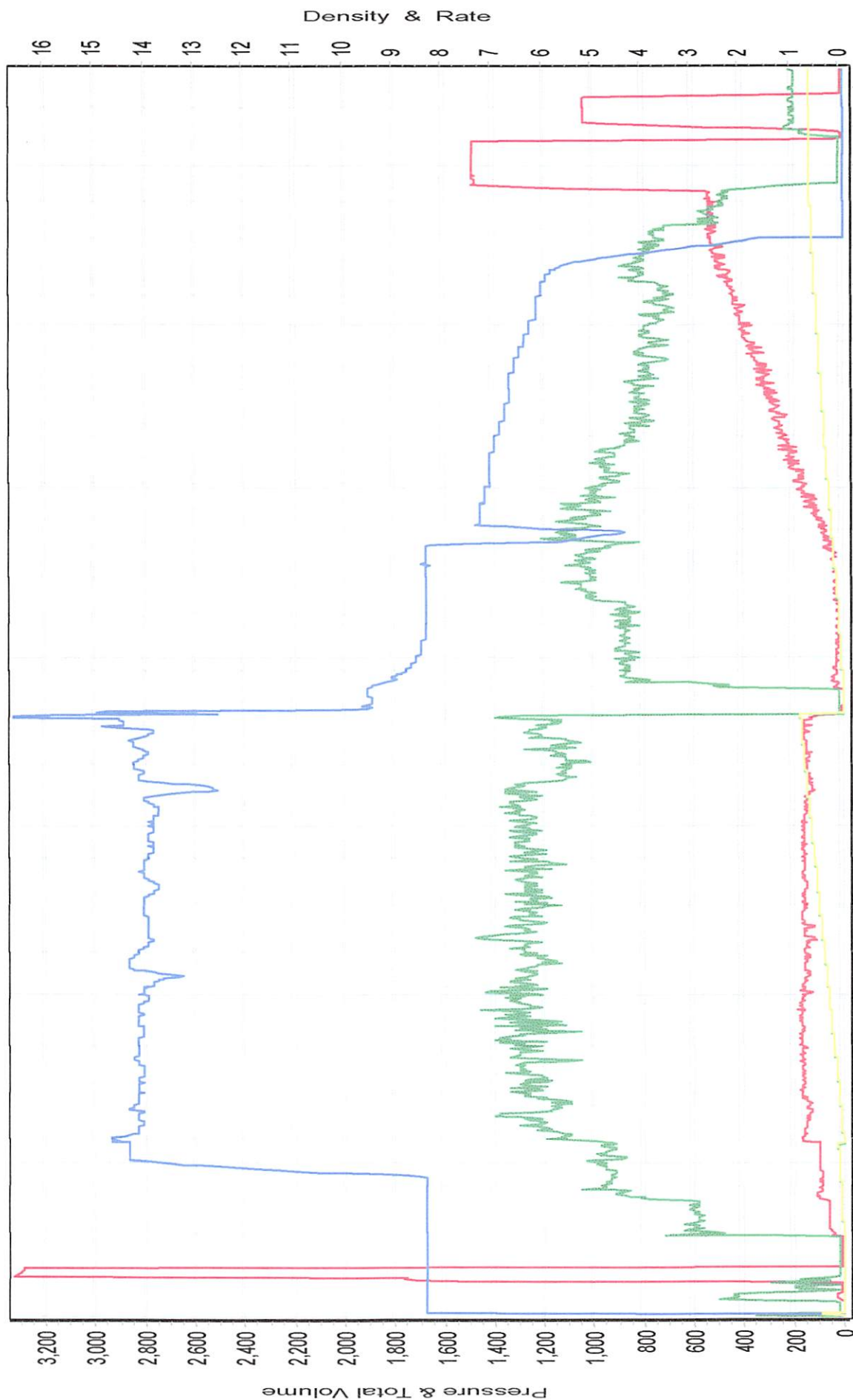
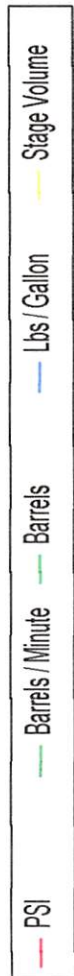
PERFORMED PRESSURE TEST TO 2000 PSI AT 2357, PUMPED 30 BBL WATER WITH DYE IN 2ND 10 AT 0000, MIXED AND PUMPED 666 SKS AT 14.2,
176.7 BBL AT 0008, SHUT DOWN AT 0041, STARTED DISPLACEMENT AT 0043, PLUG LANDED AT 550 PSI AT 0121 AND PRESSURED UP TO 1490, HELD
FOR 2 MINUTES AND RELEASED TO CHECK FLOATS, GOT .75 BBL BACK, FLOATS HELD, PRESSURED BACK UP TO 1000 PSI FOR 2 MINUTES AND RELEASED

X 
Work Performed

X
Title

X
Date

GRISWOLD 29-11HZ SURFACE



2/5/2015 10:01:30 PM 2/6/2015 12:05:12 AM 2/6/2015 12:18:08 AM 2/6/2015 12:31:09 AM 2/6/2015 12:44:10 AM 2/6/2015 12:57:06 AM 2/6/2015 1:09:42 AM 2/6/2015 1:21:58 AM