Bison Oil Well Cementing
Single Cement Surface Pipe

Date: 7/17/2017
Invoice # 900137
API# 05-123-44622
Foreman: Corey B.

Customer: Anadarko Petroleum Corporation

Well Name: RW 29N-29HZ

County: Weld
State: Colorado

Sec: 29
Twp: 3N
Range: 65W

Consultant: Matt
Rig Name & Number: Xtreme 22
Distance To Location: 28
Units On Location: 027/3103-4033/3212-4020/321
Time Requested: 430
Time Arrived On Location: 330
Time Left Location:

WELL DATA

Casing Size OD (in) :	_9.625
Casing Weight (lb) :	36.00
Casing Depth (ft.) :	1,860
Total Depth (ft) :	1870
Open Hole Diameter (in.) :	13.50
Conductor Length (ft) :	80
Conductor ID :	15.25
Shoe Joint Length (ft) :	44
Landing Joint (ft) :	15
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):	20.0

Spacer Ahead Makeup
30 bbl with Die in @nd 10

Casing ID 8.921 Casing Grade J-55 only used

Calculated Results

cuft of Shoe 19.10 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 61.05 cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 956.93 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 1037.08 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 184.70 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 701 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 123.46 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 141.55 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 1372.12 PSI

Pressure of the fluids inside casing

Displacement: 783.02 psi
Shoe Joint: 32.46 psi
Total 815.48 psi

Differential Pressure: 556.64 psi

Collapse PSI: 2020.00 psi
Burst PSI: 3520.00 psi

Total Water Needed: 315.01 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.

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LOCATION	Weld
FOREMAN	Corey B.
Date	7/17/2017

Customer	Anadarko Petroleum Corporation
Well Name	RW 29N-29HZ

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DESCRIPTION OF JOB EVENTS

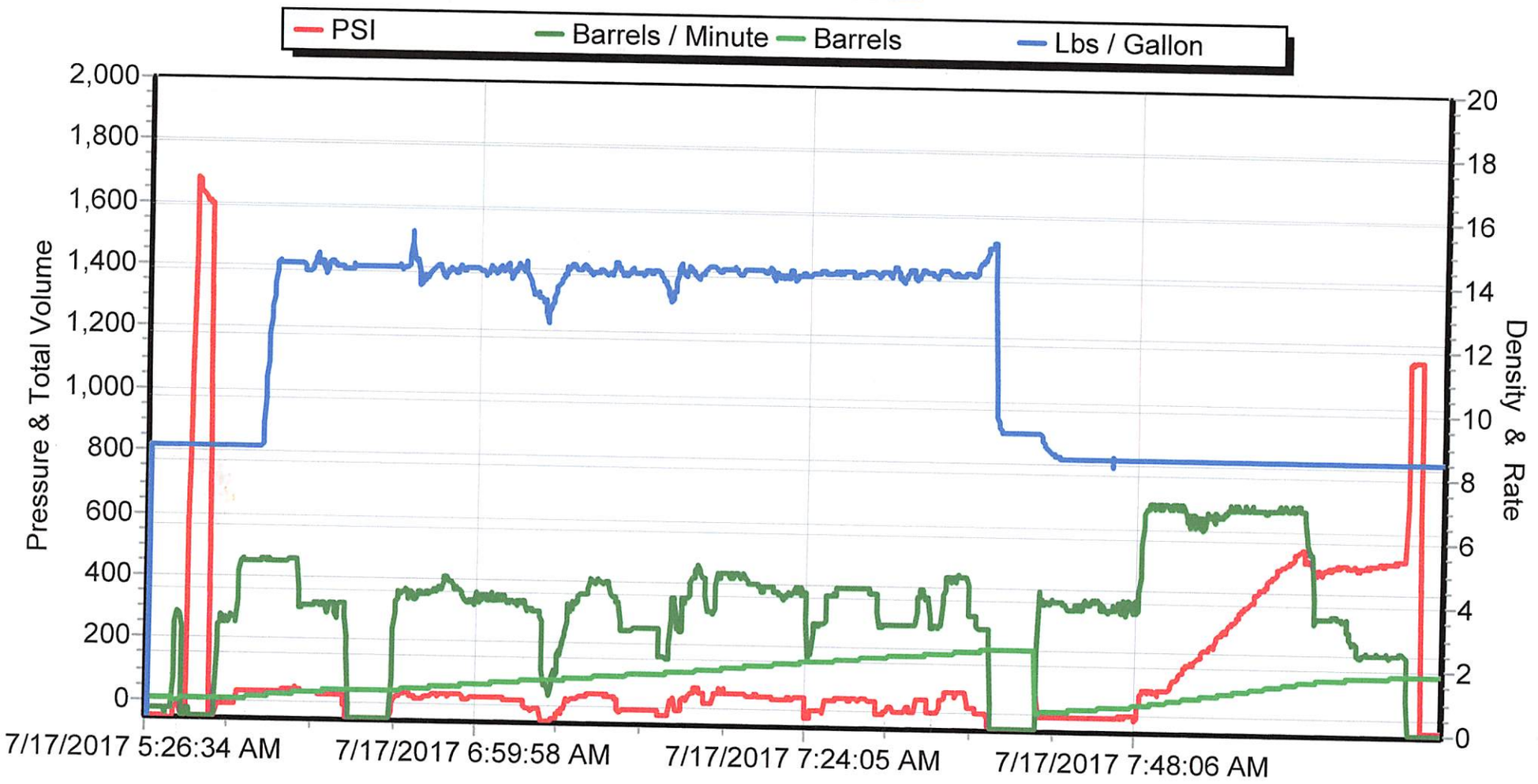
Amount Pumped		Time	Event	Description	Rate	BBLs	Pressure
% Excess	10%	330	What rig is doing upon Bison Arrival	Running casing			
Mixed bbls	123.46	335	JSA	Bison Crew			
Total Sacks	701	500	Rig up				
bbl Returns	24	600	Safety Meeting	Bison and Rig crew			
Water Temp	62	635	Start Job				
		638	Pressure Test				
Notes:							
		638	Spacer Ahead	2nd 10 with die	5	30	40
		642	Lead Cement	14.2 ppg	5	184	60
		735	Shutdown				
		737	Drop Plug	Preloaded in plug container			
		740	Start Displacement		7	90	390
		805	Bump Plug	500 over final lift 1150 psi	2	141	510
		807	Floats Held	Held for 2 MIN with 1/2 bll back			
		810	End Job				
		820	Rig Down				
		900	Leave Location				

X _____ Work Preformed

X _____ Title

X _____ Date

RW 29N-29HZ


PSI
Barrels / Minute
Barrels
Lbs / Gallon
Pressure & Total Volume
Density & Rate
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
20
18
16
14
12
10
8
6
4
2
0
7/17/2017 5:26:34 AM
7/17/2017 6:59:58 AM
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