



5.5" Production Cement Post Job Report

Prepared For: Mr. Mike Schweizer
Prepared Date: 1/19/2017
Job Date: 1/18/2017

PDC Energy, Inc.
Brown 23P-221
Weld County, CO

Prepared By: Matt Spirek
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Job Summary

Ticket Number	Ticket Date
TN# FL1353	1/18/2017

COUNTY	COMPANY	API Number
Weld	PDC Energy, Inc.	05-123-42657
WELL NAME	RIG	JOB TYPE
Brown 23P-221	Ensign 161	Production
SURFACE WELL LOCATION	O-TEX Field Supervisor	CUSTOMER REP
SWSE 23-5N-65W	Clark, Shaun	Mr. John Falton

EMPLOYEES		
	Begano, Brian	
Madsen, Dewayne		
	Phillips, James	

WELL PROFILE			
Max Treating Pressure (psi):		Bottom Hole Static Temperature (°F):	210
Bottom Hole Circulating Temperature (°F):		Well Type:	Oil

Open Hole

1	Size (in)	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
2	Size (in)	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)

Casing/Tubing/Drill Pipe

Type	Size (in)	Weight (lb/ft)	Grade	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
Surface	9.625	36	J-55	0	15047		
Type	Size (in)	Weight (lb/ft)	Grade	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
Production	5.5	20	P-110	15047	15257		
Type	Size (in)	Weight (lb/ft)	Grade	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)

CEMENT DATA

Stage 1:	From Depth (ft):	<div>0</div>	To Depth (ft):	<div>0</div>	
	Type: Weighted Spacer				
	Volume (sacks):	<div>170</div>	Volume (bbls):	<div>40</div>	
Cement & Additives:			Density (ppg)	Yield (ft³/sk)	Water Req.
100% POZ F+0.1% WG-4P			12.5	1.35	6.64

Stage 2: Type: Lead	From Depth (ft):	0	To Depth (ft):	3231	
	Volume (sacks):	720	Volume (bbls):	194	
Cement & Additives:			Density (ppg)	Yield (ft³/sk)	Water Req.
100% 35:65:0(POZ:G:GEL)+4% Gel+0.4% FL-17+0.2% C-20			13.5	1.52	7.62

Stage 3:	From Depth (ft):	3231	To Depth (ft):	15257	
	Type: Tail				
	Volume (sacks):	1785	Volume (bbls):	575	
Cement & Additives:			Density (ppg)	Yield (ft³/sk)	Water Req
100% 35:65:0(POZ:G:GEL)+25% Silica Flour+0.3% ASM-3+0.5% FL-17+0.2% C-49			13.5	1.81	8.99

SUMMARY

		Stage 1	Stage 2
Preflushes:	40 bbls of Weighted Spacer	Calculated Displacement (bbl):	138
	20 bbls of Mudflush	Actual Displacement (bbl)	134
	5 bbls of Fresh Water		
Total Preflush/Spacer Volume (bbl):	65	Plug Bump (Y/N):	y
Total Slurry Volume (bbl):	809	Lost Returns (Y/N):	(if Y, when)
Total Fluid Pumped	1008	Bump Pressure (psi):	2500
Returns to Surface:	Cement 78 bbls		

Job Notes (fluids pumped / procedures / tools / etc.):

job went as planned

Thank You For Using

O - TEX Pumping

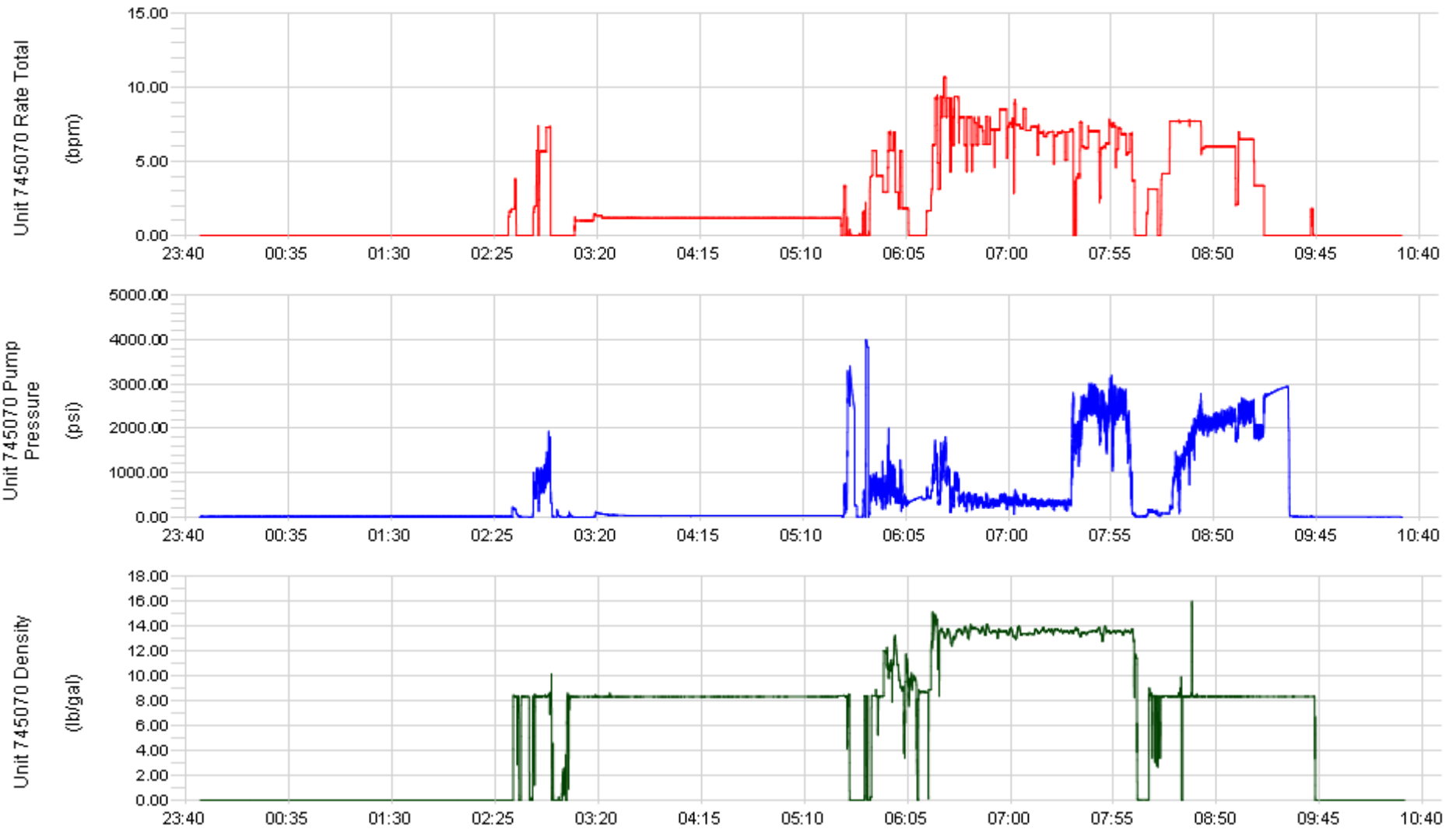
Customer Representative Signature:

[illegible]

Client PDC
Ticket No. 1353
Location Weld
Comments See program

Client Rep John Falton
Well Name Brown 23P-221
Job Type Production Casing

Supervisor Shaun Clark
Unit No. 745070
Service District Brrington
Job Date 01/17/2017

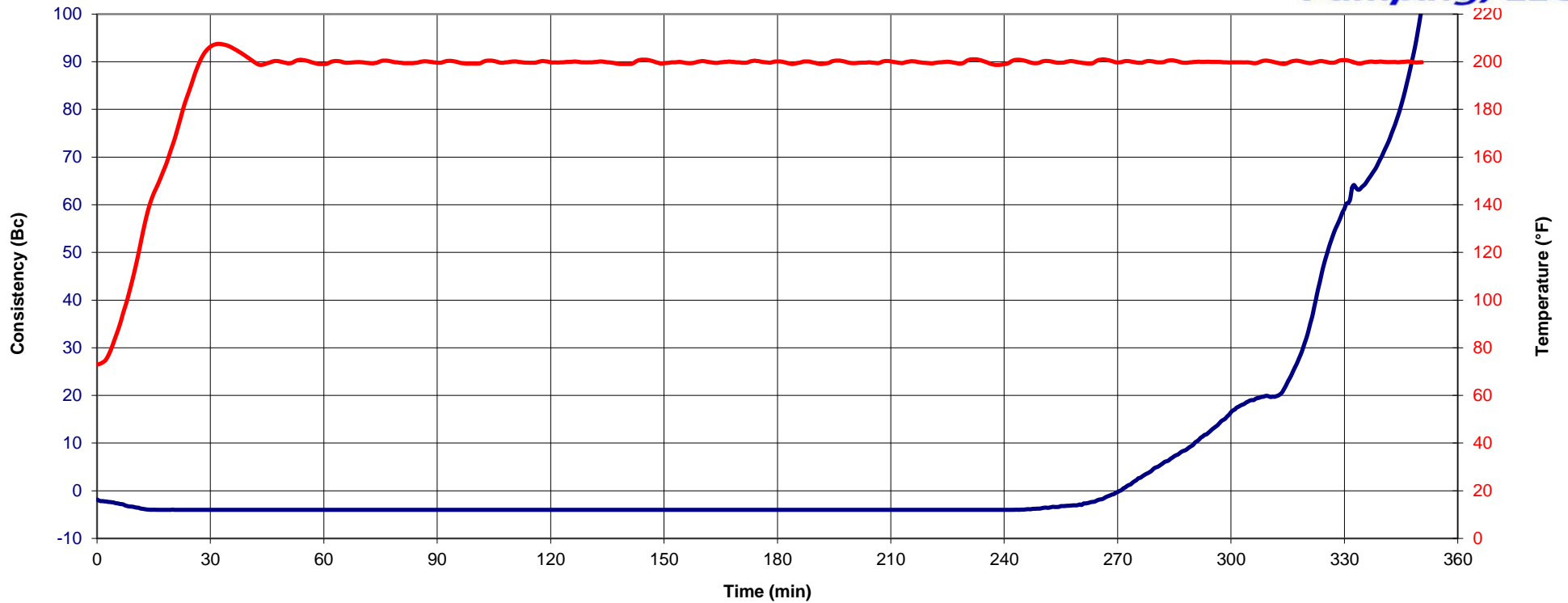


Thickening Time

PDC Energy

Brown 23P-221 Ensign 161

O-Tex
Pumping, LLC



BASE BLEND: 1-2-4 'G'

0.4% FL-17

0.2% LTR

BHCT: 200 °F

SCHEDULE: Production Casing Lead

INSTRUMENT #: 168

TEST DATE: 1/10/2017

WATER SOURCE: Lab Water C

CEMENT SOURCE: Field Blend

Cement: *Dacotah GK6*

Fly Ash: *Boral*

Working Time _{40Bc}: 5:22 Hr:Min.

Thickening Time _{70Bc}: 5:40 Hr:Min.

Thickening Time _{100 Bc}: 5:50 Hr:Min.

Density: 13.50 lbs/gal

Yield: 1.52 ft³/sack

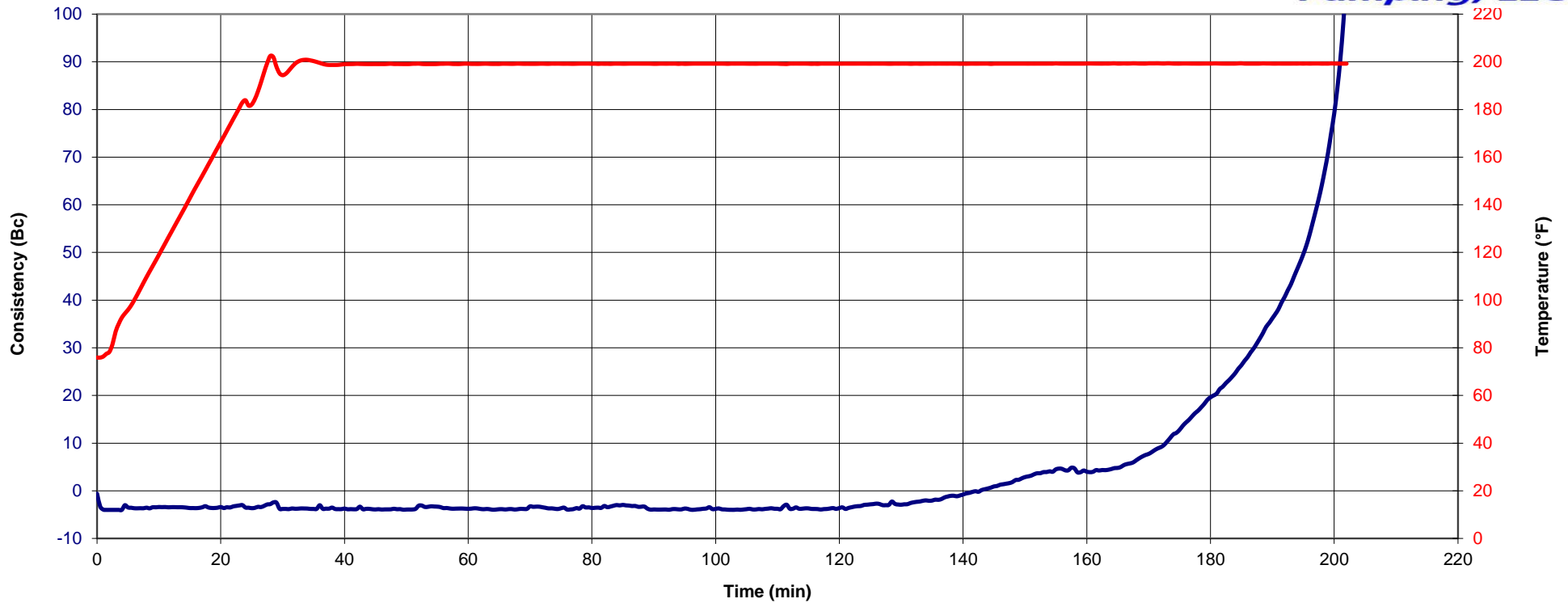
Water Requirement: 7.54 gal/sack

Thickening Time

PDC Energy

Brown 23P-221 Ensign 161

O-Tex
Pumping, LLC



BASE BLEND: 1-2-0 'G'

0.3% ASM-3
25% Flour
0.5% FL-17
0.1% LTR
0.2% SPC-II

BHCT: 200 °F

SCHEDULE: Production Casing Tail

INSTRUMENT #: 183

TEST DATE: 1/9/2017

WATER SOURCE: Lab Water C

CEMENT SOURCE: Field Blend

Cement: *Dacotah GK6*

Fly Ash: *Boral*

Working Time _{40Bc}: 3:12 Hr:Min.

Thickening Time _{70Bc}: 3:19 Hr:Min.

Thickening Time _{100 Bc}: 3:22 Hr:Min.

Density: 13.50 lbs/gal

Yield: 1.82 ft³/sack

Water Requirement: 8.95 gal/sack