



5.5" Production

Cement Post Job Report

Prepared For: Mr. Mike Schweizer
Prepared Date: 3/1/2017
Job Date: 2/28/2017

PDC Energy, Inc.

Brown 23X-241

Weld County, CO

Prepared By: Matt Spirek
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Job Summary

Ticket Number	Ticket Date
TN# FL1475	2/28/2017

COUNTY	COMPANY	API Number
Weld	PDC Energy, Inc.	05-123-42655
WELL NAME	RIG	JOB TYPE
Brown 23X-241	Ensign 161	Production
SURFACE WELL LOCATION	O-TEX Field Supervisor	CUSTOMER REP
SWSE 23-5N-65W	Klosterman, Austin	Mr. Brady Sharp

EMPLOYEES
Peterson, Ryan
Davila, Isreal
Forsyth, Scott

WELL PROFILE			
Max Treating Pressure (psi):	3500	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)
	8.5	1554	15430		
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	1554		
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	0	15428		
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	1.29	5.91

Stage 2: Type: Lead	From Depth (ft):	0	To Depth (ft):	4000	
	Volume (sacks):	790	Volume (bbls):	194	
Cement & Additives:			Density (ppg)	Yield (ft³/sk)	Water Req.
100% 50:50:0(POZ:Type III:GEL)+0.3% ASM-3+2% FWC-2+0.5% FL-17+0.2% C-20			13.5	1.38	6.54

Stage 3: Type: Tail	From Depth (ft):	4000	To Depth (ft):	15430	
	Volume (sacks):	1770	Volume (bbls):	567	
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	1.80	8.78

SUMMARY

Preflushes:	40 bbls of	Mudflush	Calculated Displacement (bbl):	341	Stage 1	Stage 2
	40 bbls of	Weighted Spacer	Actual Displacement (bbl)	341		
	10 bbls of	Fresh Water				
Total Preflush/Spacer Volume (bbl):	90	Plug Bump (Y/N):	Y	Bump Pressure (psi):	2500	
Total Slurry Volume (bbl):	761	Lost Returns (Y/N):	N (if Y, when)			
Total Fluid Pumped	1192					
Returns to Surface:	Cement	50 bbls				

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

Job went according to program and customer's request. Job went well.

Thank You For Using

O - TEX Pumping

Customer Representative Signature:

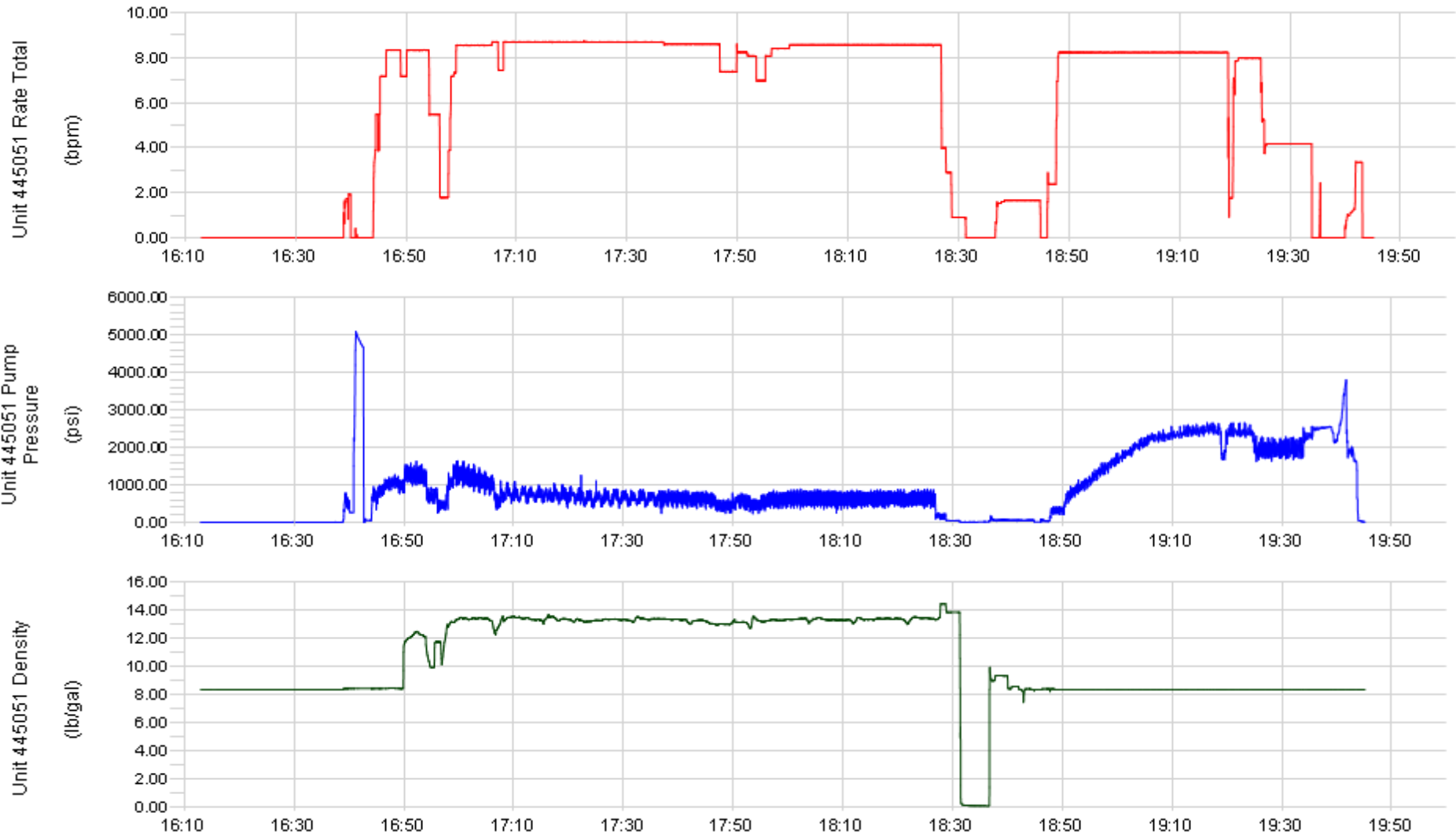
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Client PDC
Ticket No. 1475
Location Sec23:T5N:R65W
Comments Mix up and pump lead 790sx @ 13.5ppg
Mix up and pump tail 1770sx @ 13.5ppg
Displace 341bbbls

Client Rep Brady Sharp
Well Name Brown 23X-241
Job Type Production Casing

Supervisor A. Klosterman
Unit No. 445051
Service District Brighton, CO
Job Date 02/28/2017

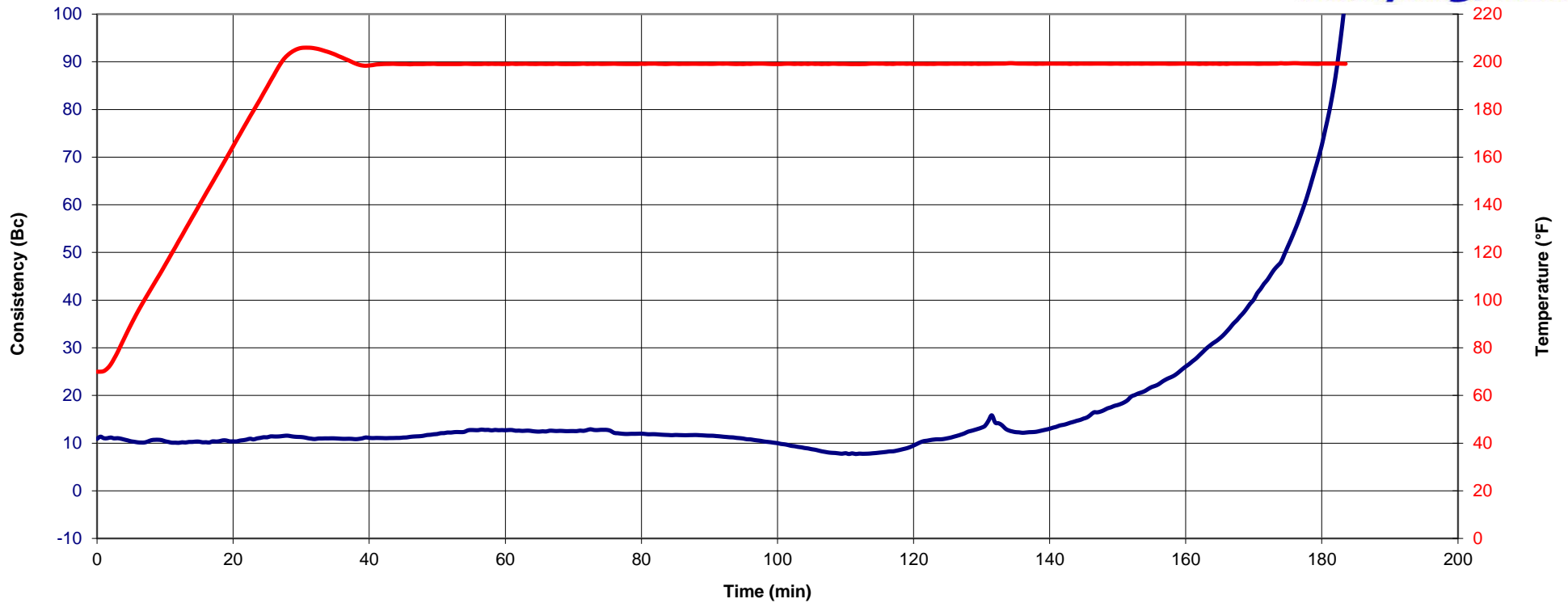


Thickening Time

PDC Energy

Brown 23X-241 Ensign 161

O-Tex
Pumping, LLC



BASE BLEND: 1-1-0 'III'

0.3% ASM-3

2% FWC-2

0.5% FL-17

0.2% LTR

BHCT: 200 °F

SCHEDULE: Production Casing Lead

INSTRUMENT #: 186

TEST DATE: 2/23/2017

WATER SOURCE: Lab Water C

CEMENT SOURCE: Field Blend

Cement: *Dacotah III*

Fly Ash: *Boral*

Working Time _{40Bc}: 2:50 Hr:Min.

Thickening Time _{70Bc}: 3:00 Hr:Min.

Thickening Time _{100 Bc}: 3:03 Hr:Min.

Density: 13.50 lbs/gal

Yield: 1.38 ft³/sack

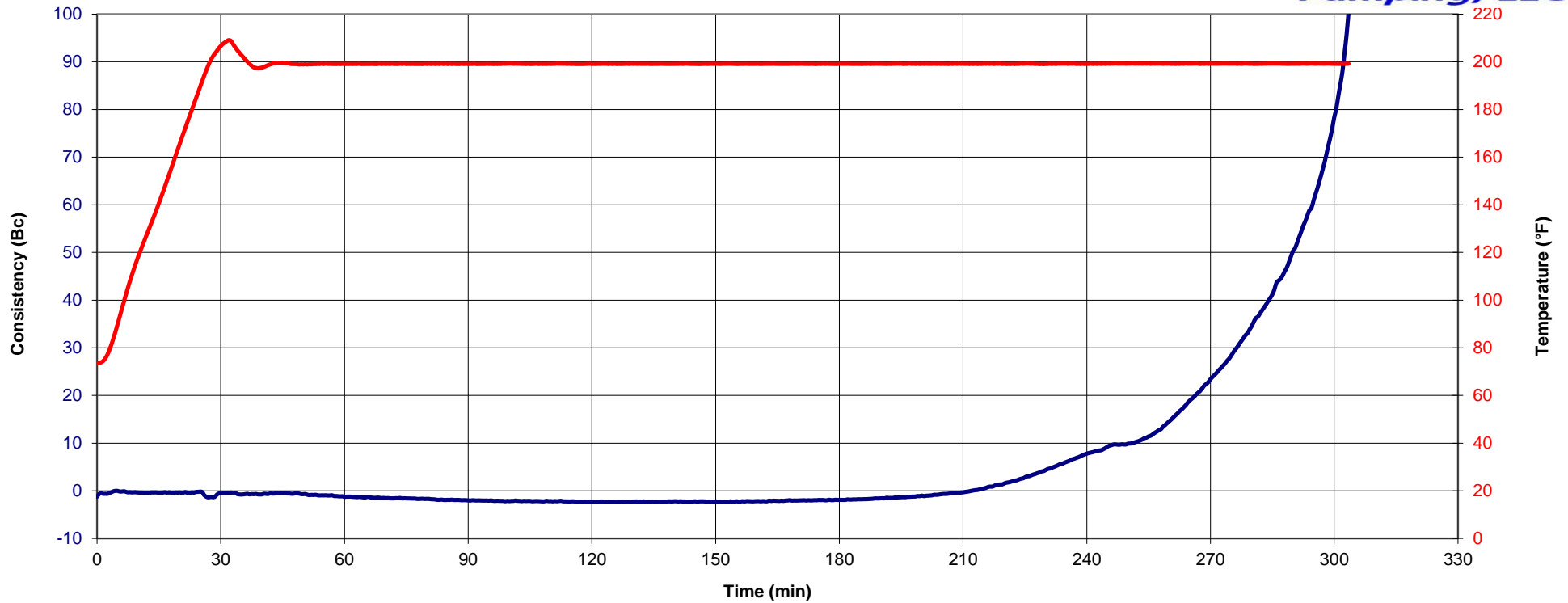
Water Requirement: 6.52 gal/sack

Thickening Time

PDC Energy

Brown 23X-241 Ensign 161

O-Tex
Pumping, LLC



BASE BLEND: 1-2-0 'G'

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

BHCT: 200 °F

SCHEDULE: Production Casing Tail

INSTRUMENT #: 189

TEST DATE: 2/23/2017

WATER SOURCE: Lab Water C

CEMENT SOURCE: Field Blend

Cement: *Dacotah GK6*

Fly Ash: *Boral*

Working Time _{40Bc}: 4:44 Hr:Min.

Thickening Time _{70Bc}: 4:58 Hr:Min.

Thickening Time _{100 Bc}: 5:03 Hr:Min.

Density: 13.50 lbs/gal

Yield: 1.81 ft³/sack

Water Requirement: 8.86 gal/sack