

	<b>PDC ENERGY</b>	YARD CALL	9/25/2018		<b>DISTRICT</b> <b>Brighton</b>					
	Wilmoth 5A-204	RTS DATE	9/25/2018							
		YARD RTN	9/25/2018							
<b>CUSTOMER INFORMATION</b>		1.06								
Customer Name	<b>PDC ENERGY</b>	<b>WELL INFORMATION</b>		<b>WELL DATA</b>		<b>TUBULAR DATA</b>				
Customer #:	1000700	API #:	05-123-45489	Casing Size	9.625	Size	Grade	Weight	Depth	
Customer #:	1000700	Field Name:	Wattenberg	Depth		5.5		20#	3,120	
A/E #:		Well Name:	Wilmoth 5A-204	TVD	6,700 ft	Casing				5.5 in. 20#, ( 0 to 13,120 ft)
Cust Rep on Loc:	John Falton			MD	13,120 ft	<b>CEMENTING PLUG</b>				
Cust Phone #:	9705805364	Well Type:	Oil	OH		Qty	Size	Type	Material	
Order Placed By:		Formation:	NBRR	OH Depth						
Phone #:		Rig Contractor:	Ensign	BHST	200°F					
Proposed Job Amt:	\$90,812.70	Rig Name/Num.:	Ensign 161	BHCT	180°F					
<b>JOB INFORMATION</b>		Rig Phone:		Est. BHST/BHCT		200°F / 180°F (0) (2.99°F/100ft)				
Ticket #:	BCO-1809-0126	County:	Weld	MD / TVD	13,120 ft / 6,700 ft		<b>TOP CONNECTION</b>			
PO #:		State:	CO	Mud Weight & Type	10#, Water Based		Size	Type	Thread	
Order Taken By:	Milo	Latitude:	40.34535	Open Hole	8.5 in. O.H. (1,674 to 13,120 ft)					
Order Date:		Longitude:	-105			<b>JOB TYPE</b>				
CJES Acct. Manager:	Paul Novotny	Township:	NWNW 5 4N64W 6 PM	Previous Casing	9.625 in. 36# ( 0 to 1,674 ft)		<b>Production Casing</b>			
CJES Engineer	Paul Novotny	Quote Number:	1-BCO_180921084315							
<b>COMMENTS</b>										
<b>SPECIAL JOB INSTRUCTIONS</b>										
5.5" cement head, bowl, swage, 200# sugar, Flat bed with chemicals										
Radios for OSR, changeover fittings for latex mix										
<b>DIRECTIONS TO WELL</b>										
CR 50 & CR 51, S .2, SE .1 into										
<b>Emergency Contacts</b>										
Nearest Hospital		Greeley, Co.				Phone Number:				
Police Department						Phone Number:				
Fire Department						Phone Number:				
Designated Emergency Vehicle		201386		Vehicle Location:						
MSDS on Dash of Emergency Vehicle? (y/n)		Y								
Muster Area #1		Lease entrance								
Muster Area #2		Wind depending								
Cell Phone Service on location? (y/n)										
If not, nearest working phone										
<b>Iron Tracking</b>										
	Taken Out			Returned						
Iron Type	Taken By	Date Out	Time Out	Returned By	Date In	Time In				

	PDC ENERGY	YARD CALL	9/25/2018		DISTRICT	
	Wilmoth 5A-204	RTS DATE	9/25/2018		Brighton	
		YARD RTN	9/25/2018			
Personnel/Equipment						
Driver	Assignment	Tractor	Trailer	Comments		
BLEND INFO						
Amount	Units	System/Additives		Density (ppg)	Yield (cuft/sk)	Water Req. (gal/sk)
0	SX	80 bbls water + 1600 lbs SAPP				
80.00	bbl	+20.0 PPB CJ890				
0.00	SX	20 bbls water				
0.00						
0	SX	80 bbls ppg Weighted Spacer - 80 bbls of 12.5 ppg Weighted Spacer: 66.3 bbl Fresh Water + 17570 lbs Barite + 80 lbs Citric Acid + 997 lbs MS Spacer + 40 lbs X-Air				
80.00	bbl	+219.63 PPB CJ300+1.0 PPB CJ209+0.5 PPB CJ776+12.46 PPB CJ801		12.5		
25	SX	Non Latex Lead				
0.00		50 % CJ914+50 % CJ010-74 +2.0 % CJ020+0.4 % CJ548+0.3 % CJ240+10.0 % CJ041+0.3 % CJX157011		14	1.37	5.98
755	SX	Latex Lead				
183.60	bbl	50 % CJ914+50 % CJ010-74 +2.0 % CJ020+0.4 % CJ548+0.3 % CJ240+10.0 % CJ041+0.3 % CJX157011		14	1.37	4.79
1160	SX	Tail				
250.63	bbl	65 % CJ914+35 % CJ010-74 +0.3 % CJ704+0.15 % CJ210K+0.5 % CJ511		14.5	1.22	5.41
0	SX	Displacement				
0	SX					
0	SX					
290.03	bbl					

		<h1>Job Summary</h1>		Ticket Number <b>TN# BCO-1809-0126</b>		Ticket Date <b>9/25/2018</b>	
COUNTY		COMPANY		API Number			
<b>Weld</b>		<b>PDC ENERGY</b>		<b>05-123-45489</b>			
WELL NAME		RIG		JOB TYPE			
<b>Wilmoth 5A-204</b>		<b>Ensign 161</b>		<b>Production Casing</b>			
SURFACE WELL LOCATION		CJES Field Supervisor		CUSTOMER REP			
<b>40.34535 -104.57954</b>		<b>Jeff Kopp</b>		<b>John Falton</b>			
EMPLOYEES							
Robert		John					
James							
Windston							
<b>WELL PROFILE</b>							
Max Treating Pressure (psi):		4500		Bottom Hole Static Temperature (°F):			
Bottom Hole Circulating Temperature (°F):				Well Type:			

Open Hole

	Size (in)	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
1	8.5	13120	1674		
2					

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 5/8	36		1674	0		
Production	5.5	20		13120	0		

<b>CEMENT DATA</b>							
<b>Stage 1:</b>		From Depth (ft):		6943	To Depth (ft):		2287
Type: <b>Production Lead</b>		Volume (sacks):		780	Volume (bbls):		190
Cement & Additives:				Density (ppg)	Yield (ft³/sk)	Water Req.	
				14	1.37	4.79	
<b>Stage 2:</b>		From Depth (ft):		13120	To Depth (ft):		6943
Type: <b>Production Tail</b>		Volume (sacks):		1160	Volume (bbls):		252
Cement & Additives:				Density (ppg)	Yield (ft³/sk)	Water Req.	
				14.5	1.22	5.41	
<b>Stage 3:</b>		From Depth (ft):			To Depth (ft):		
Type:		Volume (sacks):			Volume (bbls):		
Cement & Additives:				Density (ppg)	Yield (ft³/sk)	Water Req.	
<b>Stage 4:</b>		From Depth (ft):			To Depth (ft):		
Type:		Volume (sacks):			Volume (bbls):		
Cement & Additives:				Density (ppg)	Yield (ft³/sk)	Water Req.	

<b>SUMMARY</b>							
Preflushes:		80 bbls of	SAPP	Calculated Displacement (bbl):		290	Stage 1
		20 bbls of	Fresh Water	Actual Displacement (bbl):		290	Stage 2
		80 bbls of	Weighted Spacer				
Total Preflush/Spacer Volume (bbl):		180		Plug Bump (Y/N):		Y	Bump Pressure (psi):
Total Slurry Volume (bbl):		442		Lost Returns (Y/N):		N	(if Y, when)
Total Fluid Pumped		622					2500
Returns to Surface:							

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

During pressure test the line was not holding pressure. Eliminated every possibility and discovered that two O-rings were sucked out and in turn made the pressure not hold. Cement crew fixed the issue and began pump procedure.

Customer Representative Signature: \_\_\_\_\_

Thank You For Using  
CJES O-TEX Cementing

## Cement Job Log

C&J ENERGY SERVICES													
Customer: PDC ENERGY				Date: 9/25/2018				Serv. Supervisor: Jeff Kopp					
Cust. Rep.: John Falton				Ticket #: BCO-1809-0126				Serv. Center Brighton - 3021					
Lease: Wilmoth 5A-204				API Well #: 05-123-45489				County:		Weld		State: CO	
Well Type: Oil				Rig: Ensign 161				Type of Job:		Production Casing			
Materials Furnished by C&J ENERGY SERVICES													
Plugs		Casing Hardware				Physical Slurry Properties							
						Sacks of Cement	Fluid Dens (lb/gal)	Excess	Yield (cuft/sk)	Mix Water (gal/sk)	Fluid Volume (bbls)	Mix Water (bbls)	
80 bbls water + 1600 lbs SAPP		+20.0 PPB CJ890									80.00		
20 bbls water											-		
80 bbls ppg Weighted Spacer - 80 bbls of 12.5		+219.63 PPB CJ300+1.0 PPB CJ209+0.5 PPB CJ776+12.46 PPB CJ801					12.5				80.00		
Non Latex Lead		50 % CJ914+50 % CJ010-74 +2.0 % CJ020+0.4 % CJ548+0.3 % CJ240+10.0 % CJ041+0.3 % CJX157011				25	14		1.37	5.98	6.08	4	
Latex Lead		50 % CJ914+50 % CJ010-74 +2.0 % CJ020+0.4 % CJ548+0.3 % CJ240+10.0 % CJ041+0.3 % CJX157011				755	14		1.37	4.79	183.83	86	
Tail		65 % CJ914+35 % CJ010-74 +0.3 % CJ704+0.15 % CJ210K+0.5 % CJ511				1160	14.5		1.22	5.41	251.16	149	
Displacement											290.03		
50 % CJ914+50 % CJ010-74+2.0 % CJ020+0.4													
Displacement Chemicals:													
OPEN HOLE DATA		TUBULAR DATA											
8.5 in. O.H. (1,674 to 13,120 ft)		5.5 in. 20#, ( 0 to 13,120 ft)		SIZE WEIGHT	THREAD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)			
PREVIOUS CASING DATA		PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS							
9.625 in. 36# ( 0 to 1,674 ft)		TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP				
WELL FLUID		DISPLACEMENT FLUID			DIFF PRESS	CSG LIFT	MAX PRESS	WATER ON LOC (bbl)					
TYPE	DENSITY	VOLUME	TYPE	DENSITY	(psi)	(psi)	(psi)						
		290 bbl	Water	8.3 ppg			4500						
Time	Rate (bbl/min)	Csg. Press. (psi)	Tbg. Press. (psi)	Ann. Press. (psi)	Stg. Vol. (bbl)	Cum. Vol. (bbl)	Stage Details						
8:00 PM							0 ARRIVE ON LOCATION						
8:05 PM							0 PRE JOB SAFETY MEETING						
8:10 PM							0 SPOT EQUIPMENT						
8:15 PM							0 MIX LATEX						
9:23 PM							0 WAIT ON CASING						
11:45 PM							0 RIG UP						
12:16 AM							0 WAIT ON RIG TO FINISH CIRCULATING						
3:00 AM							0 SAFETY MEETING						
3:23 AM	3.5	600			6		6 DROP PLUG/FILL LINES						
3:35 AM							6 PRESSURE TEST						
3:45 AM							6 ISSUE WITH PRESSURE NOT HOLDING/FIXED THE ISSUE						
5:43 AM	6.5	900			80		86 SAPP						
5:50 AM	6.5	900			20		106 FRESH						
5:58 AM	5.5	800			80		186 WEIGHTED SPACER @12.5PPG						
6:14 AM	3.7	477			6		192 LEAD WITH NO LATEX 25SXS @14PPG 1.37Y 5.98WR						
6:17 AM	5	125			184		376 PUMP 755SXS @14PPG 1.37Y 4.79WR						
7:01 AM	5.7	225			252		628 PUMP 1160SXS @14.5PPG 1.22Y 5.41WR						
8:10 AM							628 SHUT DOWN						
8:15 AM							628 WASH UP PUMPS AND LINES						
8:44 AM							628 DROP PLUG						
8:45 AM	8	1800			290		918 DISPLACE						
9:25 AM		2500					918 BUMP PLUG						
9:26 AM							918 SHUT DOWN						
9:26 AM	2	3441			2		920 BURST DISK						
Left Yard	9/25/18 7:00 PM			Left Loc.				Start Pump					
Arrived Loc.	9/25/18 8:00 PM			Returned Yd.				End Pump					
Bumped Plug (psi)	Final Differential (psi)	Floats Held (Y/N)	PSI Left on Casing	Cement to Surface (bbl)	Top of Cement (ft)	Full Circ. During Job (Y/N)	Max Pump Pressure (psi)	Casing Rotation	Standby Charged (hrs)	Casing Reciprocation			
Yes		Yes	0	0	2287	Yes	4500		8				
							<div>Jeff Kopp</div> <div>Service Supervisor</div>						
							Date						

## Cement Job Log

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