

	PDC ENERGY	YARD CALL	3/11/2019		DISTRICT
	Popham 15N	RTS DATE	3/11/2019		Brighton
		YARD RTN			
Personnel/Equipment					
Driver	Assignment	Tractor	Trailer	Comments	
Jeff K		131152	449087		
James M			445052		
Ryan A			445070		
Nick M					
Jeremy			Latex		
BLEND INFO					
Amount	Units	System/Additives	Density (ppg)	Yield (cuft/sk)	Water Req. (gal/sk)
0	SX	0			
0.00					
0.00	SX	80 bbls water + 1600 lbs SAPP			
80.00	bbl	+20.0 PPB CJ890			
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	C&J Non Latex Lead 1-1			
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	C&J Latex Lead 1-1			
183.60	bbl	50 % CJ914+50 % CJ010-74 +2.0 % CJ020+0.4 % CJ548+0.3 % CJ240+10.0 % CJ041+0.3 % CJX157011+1.0 GPS CJ550L+0.2 GPS CJ891	14	1.37	4.71
1010	SX	C&J Tail 1-1			
217.66	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				
272.11	bbl				

C&J ENERGY SERVICES O-TEX CEMENTING		Job Summary		Ticket Number TN# BCO-1903-0045		Ticket Date 3/11/2019	
COUNTY		COMPANY		API Number			
Weld		PDC ENERGY		05-123-47811			
WELL NAME Popham 15N		RIG Ensign 161		JOB TYPE Production Casing			
SURFACE WELL LOCATION 40.33712 -104.53751		CJES Field Supervisor Jeff Kopp		CUSTOMER REP Antonio Barrientos			
EMPLOYEES							
WELL PROFILE							
Max Treating Pressure (psi):		4500		Bottom Hole Static Temperature (°F):			
Bottom Hole Circulating Temperature (°F):				Well Type:			

Open Hole

1	Size (in)	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
	8.5	1633	12315		
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 5/8	36		1633	0		
Type	Size (in)	Weight (lb/ft)	Grade	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
Production	5.5	24		12315	0		
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):	2604	To Depth (ft):	7104
Type: Lead	Volume (sacks):	780	Volume (bbls):	190
Cement & Additives:		Density (ppg):	Yield (ft³/sk):	Water Req.
		14	1.37	6.00
Stage 2:	From Depth (ft):	7104	To Depth (ft):	12315
Type: Tail	Volume (sacks):	1010	Volume (bbls):	219
Cement & Additives:		Density (ppg):	Yield (ft³/sk):	Water Req.
		14.5	1.22	5.41
Stage 3:	From Depth (ft):		To Depth (ft):	
Type:	Volume (sacks):		Volume (bbls):	
Cement & Additives:		Density (ppg):	Yield (ft³/sk):	Water Req.
Stage 4:	From Depth (ft):		To Depth (ft):	
Type:	Volume (sacks):		Volume (bbls):	
Cement & Additives:		Density (ppg):	Yield (ft³/sk):	Water Req.

SUMMARY

Preflushes:	80 bbls of SAPP	Calculated Displacement (bbl):	272.5	Stage 1	Stage 2
	80 bbls of Weighted Spacer	Actual Displacement (bbl):	273		
	bbls of				
Total Preflush/Spacer Volume (bbl):	160	Plug Bump (Y/N):	y	Bump Pressure (psi):	2604
Total Slurry Volume (bbl):	409	Lost Returns (Y/N):	n	(if Y, when)	
Total Fluid Pumped	569				
Returns to Surface:	Preflush	43 bbls			

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

Pump 445052 would not hold pressure for the pressure test. Swapped pumps and everything went as planned with no issues.

Thank You For Using

CJES O-TEX Cementing

Customer Representative Signature: _____

Cement Job Log



Customer:	PDC ENERGY	Date:	3/10/2019	Serv. Supervisor:	Jeff Kopp			
Cust. Rep.:	Antonio Barrientos	Ticket #:	BCO-1903-0045	Serv. Center	Brighton - 3021			
Lease:	Popham 15N	API Well #:	05-123-47811	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)
0								
80 bbls water + 1600 lbs SAPP	+20.0 PPB CJ890						80.00	
80 bbls ppg Weighted Spacer - 80 bbls of	+219.63 PPB CJ300+1.0 PPB CJ209+0.5 PPB CJ776+12.46 PPB CJ801		12.5				80.00	
C&J Non Latex Lead 1-1	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
C&J Latex Lead 1-1	50 % CJ914+50 % CJ010-74 +2.0 % CJ020+0.4 % CJ548+0.3 % CJ240+10.0 % CJ041+0.3 % CJX157011+1.0 GPS CJ550L+0.2 GPS CJ891	755	14		1.37	4.71	183.66	85
C&J Tail 1-1	65 % CJ914+35 % CJ010-74 +0.3 % CJ704+0.15 % CJ210K+0.5 % CJ511	1010	14.5		1.22	5.41	218.68	130
Displacement							272.11	
50 % CJ914+50 % CJ010-74+2.0 % CJ020								
Displacement Chemicals:								

Cement Job Log



Customer:	PDC ENERGY				Date: 3/10/2019				Serv. Supervisor: Jeff Kopp			
Cust. Rep.:	Antonio Barrientos				Ticket #: BCO-1903-0045				Serv. Center Brighton - 3021			
Lease:	Popham 15N				API Well #: 05-123-47811				County: Weld		State: CO	
Well Type:	Oil				Rig: Ensign 161				Type of Job: Production Casing			
OPEN HOLE DATA				TUBULAR DATA								
8.5 in O.H. (1633 to 12323ft)				5.5 in 20# (0 to 12,315ft)		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 1,633 ft)				TOP		BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
									12276			
WELL FLUID		DISPLACEMENT FLUID			DIFF PRESS (psi)	CSG LIFT (psi)	MAX PRESS (psi)				WATER ON LOC (bbl)	
TYPE	DENSITY	VOLUME	TYPE	DENSITY								
							4500				1000	
Time	Rate (bbl/min)	Csg. Press. (psi)	Tbg. Press. (psi)	Ann. Press. (psi)	Stg. Vol. (bbl)	Cum. Vol. (bbl)	Stage Details					
3:18 AM						0	ARRIVE ON LOCATION					
3:20 AM						0	PRE JOB SAFETY MEETING					
3:30 AM						0	SPOT EQUIPMENT					
3:40 AM						0	RIG UP IRON AND HOSES/ MIX LATEX WATER					
7:30 AM						0	SAFETY MEETING					
7:52 AM	3	200			3	3	FILL LINES					
7:54 AM		5110				3	PRESSURE TEST/ TEST FAILED					
8:35 AM						3	SWITCHED TO BACKUP PUMP					
9:10 AM		5434				3	PRESSURE TEST					
9:14 AM	4	900			80	83	SAPP					
9:31 AM	7	1000			80	163	WEIGHTED SPACER @12.5PPG					
9:52 AM						163	SHUT DOWN					
9:56 AM						163	DROP PLUG					
9:57 AM	5.5	512			6	169	MIX AND PUMP 25SXS @14PPG 1.37Y 6.0WR					
10:00 AM	5.5	477			184	353	PUMP 75SXS @14PPG 1.37Y 6.0WR					
10:28 AM	8	1000			216	569	PUMP 1010SXS @14.5PPG 1.22Y 5.41WR					
11:00 AM						569	SHUT DOWN					
11:03 AM						569	WASH UP PUMPS AND LINES					
11:13 AM						569	DROP PLUG					
11:14 AM	8	2396			273	842	DISPLACE					
11:48 AM		2604				842	BUMP PLUG					
11:51 AM	2	3811			2	844	BURST DISK					
11:52 AM	4	2335			5	849	FRESH					
11:54 AM							SHUT DOWN					
Left Yard			Left Loc.			Start Pump						
Arrived Loc.			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	0	0	2604	Yes	4500		0			
							<div>Jeff Kopp</div> <div>Service Supervisor</div>					
							Date					

[illegible]