

<div>C&J ENERGY SERVICES</div>	PDC ENERGY	YARD CALL	4/6/2019		DISTRICT
	Popham 20N	RTS DATE	4/7/2019		Brighton
		YARD RTN	4/9/2019		
Personnel/Equipment					
Driver	Assignment	Tractor	Trailer	Comments	
Israel Davila	Supervisor	131155	449084		
Tony Field	Operator		445052		
Jared Cross	Driver		445024		
Chad Brantley	Operator		445024		
John Clark	Bulk	201400	444002		
Hamilton Manuel	Driver	201400	444002		
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 CJX157011+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
1065	SX	C&J Tail 1-1			
230.59	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				
279.14	bbl				

Job Summary

Ticket Number	Ticket Date
TN# BCO-1904-0021	4/9/2019

COUNTY	COMPANY	API Number
Weld	PDC ENERGY	05-123-47813
WELL NAME	RIG	JOB TYPE
Popham 20N	Ensign 161	Production Casing
SURFACE WELL LOCATION	CJES Field Supervisor	CUSTOMER REP
40.33732 -104.53751	Israel Davila	Antonio Barrientos

EMPLOYEES		
Tony Field	John Clark	
Chad Brantley	Hamilton Manuel	
Jared Cross		

WELL PROFILE			
Max Treating Pressure (psi):	5000	Bottom Hole Static Temperature (°F):	
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	1632	12623		
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		0	1632		
Type	Size (in)	Weight (lb/ft)	Grade	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
Production	5.5	20		0	12623		
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):	2500	To Depth (ft):	7000
Type: Lead Cement	Volume (sacks):	780	Volume (bbls):	190
Cement & Additives:		Density (ppg)	Yield (ft³/sk)	Water Req.
Latex Lead		14	1.37	4.71

Stage 2:	From Depth (ft):	7000	To Depth (ft):	12623
Type: Tail Cement	Volume (sacks):	1065	Volume (bbls):	231
Cement & Additives:		Density (ppg)	Yield (ft³/sk)	Water Req.
Tail Cement		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):	279	Stage 1	Stage 2
	80 bbls of	Weighted Spacer	Actual Displacement (bbl):	279		
	bbls of					
Total Preflush/Spacer Volume (bbl):	160	Plug Bump (Y/N):	Y	Bump Pressure (psi):	2504	
Total Slurry Volume (bbl):	421	Lost Returns (Y/N):	N	(if Y, when)		
Total Fluid Pumped	871					
Returns to Surface:	Preflush	30 bbls				

Job Notes (fluids pumped / procedures / tools / etc.): Pumped 80 bbls SAPP, 80 bbls Weighted Spacer @12.5ppg, Shut down/Drop bottom plug, Pump 780 sks@14ppg, 1.37 yield from 2500' ETOC to 7000'. Pump 1065 sks@ 14.5, 1.22 yield from 7000' to 12630'. Displace, caught pressure at 60 bbls away. Slowed to 5 bbls minute last 20 bbls. 30 bbls SAPP back. Float held, 1.5 bbls back.

Thank You For Using
CJES O-TEX Cementing

Customer Representative Signature: _____

Cement Job Log



Customer:	PDC ENERGY		Date:	4/8/2019		Serv. Supervisor:	Israel Davila				
Cust. Rep.:	Antonio Barrientos		Ticket #:	BCO-1904-0021		Serv. Center	Brighton - 3021				
Lease:	Popham 20N		API Well #:	05-123-47813		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 CJX157011+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			1065	14.5		1.22	5.41	230.59	137
Displacement										279.14	
50 % CJ914+50 % CJ010-74+2.0 % CJ020											
Displacement Chemicals:											

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4/16/2019