

<b>C&amp;J ENERGY SERVICES</b> <small>6N_1-BCO_190501100354-JLPjob 1.xlsm]</small>	PDC ENERGY	YARD CALL	5/3/2019		DISTRICT
	Popham 6N	RTS DATE	5/4/2019		Brighton
		YARD RTN	5/4/2019		
Personnel/Equipment					
Driver	Assignment	Tractor	Trailer	Comments	
Siarhei Dzmitryieu	Service supervisor	131153	449088		
Derek Scott	Service supervisor		445051		
Ryan Peterson	Operator		445067		
Eddie Melgarejo	Operator		446903		
Vernon Fox	Operator		201400		
BLEND INFO <span style="float:right;">6N_1-BCO_190501100354-JLPjob 1.xlsm]Main</span>					
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
985	sx	C&J Tail 1-1			
212.56	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				
269.34	bbl				

# Job Summary

 Ticket Number: **BCO-1905-0016** Ticket Date: **5/4/2019**  
 TN#

COUNTY	COMPANY	API Number
<b>Weld</b>	<b>PDC ENERGY</b>	<b>05-123-47812</b>
WELL NAME	RIG	JOB TYPE
<b>Popham 6N</b>	<b>Ensign 161</b>	<b>Production Casing</b>
SURFACE WELL LOCATION	CJES Field Supervisor	CUSTOMER REP
<b>40.33712 -104.53805</b>	<b>Siarhei Dzmitryieu</b>	<b>Chris McMullen</b>

EMPLOYEES		
<i>Derek Scott</i>	<i>Vernon Fox</i>	
<i>Ryan Peterson</i>		
<i>Eddie Melgarejo</i>		

WELL PROFILE			
Max Treating Pressure (psi):	4000	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	1631	12182	1631	6670
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	1631	0	1631
Type	Size (in)	Weight (lb/ft)	Grade	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
Production	5.5	20		1631	12182	1631	6670
Type	Size (in)	Weight (lb/ft)	Grade	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)

## CEMENT DATA

<b>Stage 1:</b>	From Depth (ft):	0	To Depth (ft):	835
Type: <b>SAPP Spacer</b>	Volume (sacks):		Volume (bbls):	
Cement & Additives:				
80 bbl of H2O + 1600 lbs of SAPP				
	Density (ppg)		Yield (ft³/sk)	Water Req.

<b>Stage 2:</b>	From Depth (ft):	835	To Depth (ft):	2660
Type: <b>Barite Spacer</b>	Volume (sacks):	135	Volume (bbls):	80
Cement & Additives:				
Barite				
	Density (ppg)	12.5	Yield (ft³/sk)	Water Req.
			3.43	21.30

<b>Stage 3:</b>	From Depth (ft):	2660	To Depth (ft):	7316
Type: <b>Lead Cement</b>	Volume (sacks):	780	Volume (bbls):	190
Cement & Additives:				
Class G Latex Cement + Additives				
	Density (ppg)	14	Yield (ft³/sk)	Water Req.
			1.37	4.71

<b>Stage 4:</b>	From Depth (ft):	7316	To Depth (ft):	12182
Type: <b>Tail Cement</b>	Volume (sacks):	985	Volume (bbls):	214
Cement & Additives:				
Class G + Additives				
	Density (ppg)	14.5	Yield (ft³/sk)	Water Req.
			1.22	5.41

## SUMMARY

Preflushes:	80 bbls of SAPP	Calculated Displacement (bbl):	269.5	Stage 1
	80 bbls of Weighted Spacer	Actual Displacement (bbl):	269.5	Stage 2
Total Preflush/Spacer Volume (bbl):	160	Plug Bump (Y/N):	Y	Bump Pressure (psi):
Total Slurry Volume (bbl):	404	Lost Returns (Y/N):	N	(if Y, when)
Total Fluid Pumped	838.5			
Returns to Surface:	Spacer	40 bbls		

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

See job log

 Thank You For Using  
 CJES O-TEX Cementing

Customer Representative Signature:

## Cement Job Log

<b>C&amp;J ENERGY SERVICES</b>											
Customer:	PDC ENERGY			Date: 5/4/2019			Serv. Supervisor: Siarhei Dzmitryieu				
Cust. Rep.:	Chris McMullen			Ticket #: BCO-1905-0016			Serv. Center Brighton - 3021				
Lease:	Popham 6N			API Well #: 05-123-47812			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			985	14.5		1.22	5.41	213.27	127
Displacement										269.34	
50 % CJ914+50 % CJ010-74+2.0 % CJ020											
Displacement Chemicals:											

## Cement Job Log



Customer:	PDC ENERGY				Date: 5/4/2019				Serv. Supervisor: Sjarhei Dzmitryieu			
Cust. Rep.:	Chris McMullen				Ticket #: BCO-1905-0016				Serv. Center Brighton - 3021			
Lease:	Popham 6N				API Well #: 05-123-47812				County: Weld		State: CO	
Well Type:	Oil				Rig: Ensign 161				Type of Job: Production Casing			
OPEN HOLE DATA				TUBULAR DATA								
8.5 in (1631-12189')				5.5 in 20# ( 1631-12182')		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 1,631 ft)				TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP	
								12182	12150			
WELL FLUID		DISPLACEMENT FLUID			DIFF PRESS (psi)	CSG LIFT (psi)	MAX PRESS (psi)	WATER ON LOC (bbl)				
TYPE	DENSITY	VOLUME	TYPE	DENSITY								
Mud	10.7 ppg	269.5 bbl	Water	8.3 ppg	1683		4000	1000				
Time	Rate (bbl/min)	Csg. Press. (psi)	Tbg. Press (psi)	Ann. Press. (psi)	Stg. Vol. (bbl)	Cum. Vol. (bbl)	Stage Details					
7:00 AM						0	ARRIVE ON LOCATION					
7:10 AM						0	SPOT EQUIPMENT					
7:30 AM						0	RIG UP IRON AND HOSES					
4:30 PM						0	PRE JOB SAFETY MEETING					
4:40 PM	1.5	80			3	3	LOAD LINES TO TEST					
4:42 PM		6120				3	TEST PUMP AND LINES TO 5000 PSI					
4:45 PM	5.5	550			77	80	START SAPP SPACER					
4:59 PM	5.9	800			80	160	START BARITE SPACER					
5:12 PM						160	DROP BOTTOM PLUG					
5:12 PM	6	743			6	166	START 25 SX OF NON LATEX LEAD AT 14/1.37					
5:13 PM	7.5	1000			184	350	START 755 SX OF LATEX LEAD AT 14/1.37					
5:39 PM	7.75	750			214	564	START 985 SX OF TAIL CEMENT AT 14.5/1.22					
6:08 PM						564	SHUT DOWN WASH PUMPS AND LINES DROP TOP PLUG					
6:26 PM	8	700			269.5	833.5	START DIPLACEMENT					
7:06 PM		2600				833.5	BUMP PLUG					
7:07 PM	4	2565			5	838.5	OPEN WET SHOE SUB ( OPENED AT 3666 PSI )					
7:10 PM	0	2050				838.5	SHUT DOWN					
7:10 PM	0	0					CHECK FLOATS ( FLOATS HOLDING 2 BBL BACK )					
7:20 PM							RIG DOWN					
8:30 PM							LEAVE LOCATION					
Left Yard	5/4/19 5:30 AM			Left Loc.	5/4/19 8:30 PM			Start Pump	5/4/19 4:40 PM			
Arrived Loc.	5/4/19 7:00 AM			Returned Yd.	5/4/19 10:00 PM			End Pump	5/4/19 7:10 PM			
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	2600			0	2660	Yes	4000		0			
							<div>Sjarhei Dzmitryieu</div> <div>5/4/2019</div>					
							<div>Service Supervisor</div> <div>Date</div>					