



Job Summary

Ticket Number	Ticket Date
TN# BCO-1811-0085	11/17/2018

COUNTY	COMPANY	API Number
Weld	PDC ENERGY	05-123-45484
WELL NAME	RIG	JOB TYPE
Wilmoth E 5A-312	Ensign 161	Production Casing
SURFACE WELL LOCATION	CJES Field Supervisor	CUSTOMER REP
40.34572 104.57952	Barlen Joyner	John Falton

EMPLOYEES		
<i>Justin Collin</i>		
<i>Shawn Williamson</i>		
<i>Ryan Peterson</i>		

WELL PROFILE			
Max Treating Pressure (psi):	3500	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 1/2	1661	16434		
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	24	J-55	0	1661		
Type	Size (in)	Weight (lb/ft)	Grade	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
Production	5 1/2	20	P-110	0	16425		
Type	Size (in)	Weight (lb/ft)	Grade	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)

CEMENT DATA

Stage 1: Type: Latex Lead	From Depth (ft):	2244	To Depth (ft):	6908
	Volume (sacks):	780	Volume (bbls):	190.3
	Cement & Additives:			Density (ppg) Yield (ft³/sk) Water Req.
	1:1:0 G + ads : Latex Lead			14 1.37 4.71

Stage 2: Type: Tail	From Depth (ft):	6908	To Depth (ft):	16425
	Volume (sacks):	1790	Volume (bbls):	388.9
	Cement & Additives:			Density (ppg) Yield (ft³/sk) Water Req.
	1:2:0 G + ads : Tail			14.5 1.22 5.41

SUMMARY

Preflushes:	80 bbls of	SAPP	Calculated Displacement (bbl):	363.6	Stage 1	Stage 2
	80 bbls of	Weighted Spacer	Actual Displacement (bbl):	363.6		
	10 bbls of	Fresh Water				
Total Preflush/Spacer Volume (bbl):	170		Plug Bump (Y/N):	Y	Bump Pressure (psi):	2150
Total Slurry Volume (bbl):	590.5		Lost Returns (Y/N):	N	(if Y, when)	N/A
Total Fluid Pumped	1124.1					
Returns to Surface:	Preflush	65 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

													
Customer: PDC ENERGY				Date: 11/17/2018				Serv. Supervisor: Barlen Joyner					
Cust. Rep.: John Falton				Ticket #: BCO-1811-0085				Serv. Center Brighton - 3021					
Lease: Wilmoth E 5A-312				API Well #: 05-123-45484				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 12.5		+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				1790	14.5		1.22	5.41	387.57	230	
Displacement											364.15		
50 % CJ914+50 % CJ010-74+2.0 % CJ020+0.4													
Displacement Chemicals:													
OPEN HOLE DATA		TUBULAR DATA											
8 1/2 from 1661' to 16434'		N/A		SIZE WEIGHT	THREAD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)			
				5 1/2 20#	BTC	16425	P-110	4.778	12640	11080			
PREVIOUS CASING DATA		PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS							
9 5/8 36# from 0' to 1661'		TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP				
		N/A				16425	16394						
WELL FLUID		DISPLACEMENT FLUID		DIFF PRESS (psi)	CSG LIFT (psi)	MAX PRESS (psi)		WATER ON LOC (bbl)					
TYPE	DENSITY	VOLUME	TYPE	DENSITY									
Mud	10.8 ppg		Water	8.3 ppg	1456	65621	3500		900				
Time	Rate (bbl/min)	Csg. Press. (psi)	Tbg. Press. (psi)	Ann. Press. (psi)	Stg. Vol. (bbl)	Cum. Vol. (bbl)	Stage Details						
5:30 PM							0 Arrive on location / sign in (requested OL @ 00:00)						
5:35 PM							0 Wait for water & chemicals to arrive						
12:00 AM							0 Pre-mix latex mix-water						
2:00 AM							0 Spot trucks/ rig in						
3:00 AM							0 Wait for rig to finish circulating						
5:45 AM							0 Safety meeting						
6:16 AM	3.8	600			5		5 Drop bottom plug / fill lines with fresh water						
6:18 AM		5060					5 Pressure test						
6:24 AM	4	500			80	85	SAPP spacer						
6:51 AM	6	1100			80	165	Weighted spacer @ 12.5ppg						
7:07 AM	3.5	600			5	170	Fresh water spacer						
7:13 AM	4.3	500			189.5	359.5	Mix, weigh & pump 780sx Latex Lead @ 14ppg - Lead from 2244' to 6908'						
7:57 AM	6.5	400			401	760.5	Mix, weigh & pump 1790sx Tail @ 14.5ppg - Tail from 6908' to 16425'						
9:04 AM						760.5	Stop / Wash up pump & lines / Drop top plug						
9:18 AM	5.3	180			38	798.5	Start displacement						
9:26 AM	8	780			302	1100.5	Catch cement / increase rate						
10:05 AM	5.1	2135			23.6	1124.1	Drop rate						
10:08 AM	5.1	2150				1124.1	Bump plug						
10:08 AM		2804				1124.1	Plug down @ 363.6 bbls away						
10:11 AM	2	3707			2	1126.1	Rupture shoe disc						
10:12 AM	4	1970			5	1131.1	Fresh water spacer						
10:14 AM							Shut-down / check floats - bbls back						
10:20 AM							Rig out						
11:00 AM							Leave location						
Left Yard	11/16/18 4:00 PM		Left Loc.		11/17/18 11:00 AM		Start Pump		11/17/18 6:16 AM				
Arrived Loc.	11/16/18 5:30 PM		Returned Yd.		11/17/18 12:00 PM		End Pump		11/17/18 10:14 AM				
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	2244	Yes	1100	N/A		N/A			
									11/17/2018				
							Service Supervisor		Date				