

Job Summary

Ticket Number
TN# BCO-1904-0067

Ticket Date
4/15/2019

COUNTY	COMPANY	API Number
Weld	PDC ENERGY	05-123-45883
WELL NAME	RIG	JOB TYPE
Jagged 4N	Ensign 152	Production Casing
SURFACE WELL LOCATION	CJES Field Supervisor	CUSTOMER REP
40.3256 -104.57556	Brian Douglass	Chris McMullen

EMPLOYEES
Justin Collins
Aaron Davidson
Sam Cheal
Mike Arthur

WELL PROFILE			
Max Treating Pressure (psi):		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	1673	11867		
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	1673		
Type	Size (in)	Weight (lb/ft)	Grade	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
Production	5.5	20#		0	11862		
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):	2400	To Depth (ft):	6941
Type: Lead cement	Volume (sacks):	780	Volume (bbls):	190
Cement & Additives:				
50% CJ914+50% CJ010-74+2% CJ020+.4% CJ548+.3% CJ240+10% CJ041+.3% CJX157011+1G				
	Density (ppg)	14	Yield (ft³/sk)	1.37
	Water Req.	4.71		

Stage 2:	From Depth (ft):	6941	To Depth (ft):	11867
Type: tail cement	Volume (sacks):	925	Volume (bbls):	201
Cement & Additives:				
65% CJ914+35% CJ010-74+.3% CJ704+.15% CJ210K+.5% CJ511				
	Density (ppg)	14.5	Yield (ft³/sk)	1.22
	Water Req.	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:	Weighted Spacer	Calculated Displacement (bbl):	Stage 1	Stage 2
80 bbls of	SAPP	263	263	
80 bbls of		263		
6 bbls of	Fresh Water			
Total Preflush/Spacer Volume (bbl):	166	Plug Bump (Y/N):	yes	Bump Pressure (psi):
Total Slurry Volume (bbl):	391	Lost Returns (Y/N):	n	2500
Total Fluid Pumped	820			
Returns to Surface:	Preflush	33 bbls		

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

Pumped job per program and customers request

Customer Representative Signature:

Thank You For Using
CJES O-TEX Cementing


Cement Job Log



Customer:	PDC ENERGY		Date:	4/13/2019		Serv. Supervisor:			Brian Douglass		
Cust. Rep.:	Chris McMullen		Ticket #:	BCO-1904-0067		Serv. Center			Brighton - 3021		
Lease:	Jagged 4N		API Well #:	05-123-45883		County:	Weld		State:	CO	
Well Type:	Oil		Rig:	Ensign 152		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	6.00	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	84.00	85
C&J Tail 1-1		65 % CJ914+35 % CJ010-74 +0.3 % CJ704+0.15 % CJ210K+0.5 % CJ511			925	14.5		1.22	5.41	201.00	119
Displacement										263.00	
50 % CJ914+50 % CJ010-74+2.0 % CJ02											
Displacement Chemicals:											

Cement Job Log

C&J ENERGY SERVICES											
Customer: PDC ENERGY				Date: 4/13/2019				Serv. Supervisor: Brian Douglass			
Cust. Rep.: Chris McMullen				Ticket #: BCO-1904-0067				Serv. Center Brighton - 3021			
Lease: Jagged 4N				API Well #: 05-123-45883				County: Weld State: CO			
Well Type: Oil				Rig: Ensign 152				Type of Job: Production Casing			
OPEN HOLE DATA				TUBULAR DATA							
8.5" OH (1673-11867')		5.5" 20# (0-11862')		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 1,673 ft)				TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
								11862			
WELL FLUID		DISPLACEMENT FLUID		DIFF PRESS (psi)	CSG LIFT (psi)	MAX PRESS (psi)				WATER ON LOC (bbl)	
TYPE	DENSITY	VOLUME	TYPE	DENSITY							
mud	11.0 ppg	263 bbl	H2O	8.3 ppg	2000	4500				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				
7:05 AM						0	tailgate meeting				
7:20 AM						0	spot trucks and containment				
8:00 AM						0	rig in				
11:00 AM						0	safety meeting				
11:34 AM	2.5	450			3	3	fill lines				
11:36 AM						3	pressure test lines to 5000 psi				
11:43 AM	7.5	1200			80	83	sapp				
12:01 PM	7	900			3	86	fresh h2o				
12:03 PM	7.5	900			80	166	weighted spacer at 12.5ppg				
12:14 PM	6.5	700			190	356	latex lead cement @ 14.0 ppg				
12:41 PM	7.5	550			201	557	tail cement @ 14.5ppg				
1:15 PM						557	shutdown/ wash lines and pump				
1:25 PM	7.5	2000			263	820	displace fluid				
2:07 PM						820	slow down to 3bpm last 30 bbls				
2:12 PM		2500				820	bump plug 500 psi over				
2:13 PM	2	3900			1	821	open WSS				
2:14 PM	4	2300			5	826	displace fluid				
2:16 PM						826	check float (float held) (1bbl back)				
2:21 PM						826	rig out				
3:00 PM						826	leave location				
						826					
						826					
Left Yard	4/15/19 6:00 AM		Left Loc.	4/15/19 3:00 PM		Start Pump		4/15/19 11:34 AM			
Arrived Loc.	4/15/19 7:00 AM		Returned Yd.	4/15/19 4:00 PM		End Pump		4/15/19 2:16 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	2000	yes	n/a	0	2400	yes	4500	n/a	0	n/a	
							Brian Douglas		4/15/2019		
							Service Supervisor		Date		

	PDC ENERGY	YARD CALL	4/15/2019	4:00	DISTRICT Brighton
	Jagged 4N	RTS DATE	4/15/2019	7:00 AM	
		YARD RTN	4/15/2019	4:00 PM	

Personnel/Equipment				
Driver	Assignment	Tractor	Trailer	Comments
Brian Douglass	Supervisor	130971	449087	
Justin Collins	Supervisor	745070	445070	
Aaron Davidson	Bulker	745051	445051	
Mike Arthur	Bulker	201400	444002	

BLEND INFO					
Amount	Units	System/Additives	Density (ppg)	Yield (cuft/sk)	Water Req. (gal/sk)
0		0			
80.00	bbl	80 bbls water + 1600 lbs SAPP +20.0 PPB CJ890			
80.00	bbl	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 +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			
6.00	bbl	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			
184.00	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
925	sx	C&J Tail 1-1			
201.00	bbl	65 % CJ914+35 % CJ010-74 +0.3 % CJ704+0.15 % CJ210K+0.5 % CJ511	14.5	1.22	5.41
		Displacement			
263.00	bbl				