

<div><div><div>C&J ENERGY SERVICES</div><div>3N_1-8CO_190621093103-ILPjob 1.xlsm</div></div></div>	PDC ENERGY	YARD CALL			DISTRICT
	Red Cloud 3N	RTS DATE			Brighton
		YARD RTN			
Personnel/Equipment					
Driver	Assignment	Tractor	Trailer	Comments	
BLEND INFO					
3N_1-8CO_190621093103-ILPjob 1.xlsmMain					
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	100 bbls ppg Weighted Spacer - 100 bbls of 12.5 ppg Weighted Spacer: 85.3 bbl Fresh Water + 21321 lbs Barite + 100 lbs Citric Acid + 1246 lbs MS Spacer + 50 lbs X-Air			
100.00	bbl	+213.21 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+0.2 GPS CJ891	14	1.37	4.71
1830	SX	C&J Tail 1-1			
396.04	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				
369.07	bbl				

Job Summary

Ticket Number	Ticket Date
TN# BCO-1906-0101	6/26/2019

COUNTY	COMPANY	API Number
Weld	PDC ENERGY	05-123-49446
WELL NAME	RIG	JOB TYPE
Red Cloud 3N	Ensign 152	Production Casing
SURFACE WELL LOCATION	CJES Field Supervisor	CUSTOMER REP
40.34448 -104.49195	Tony Yates	Chric McMullin

EMPLOYEES

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 1/2	16,665	1,664	6,610	0
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				1664	0
Type	Size (in)	Weight (lb/ft)	Grade	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
Production	5 1/2	20		16,657	0	6,610	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):	6,932	To Depth (ft):	2270
Type: Latex lead	Volume (sacks):	780	Volume (bbls):	190.2
	Cement & Additives:	Density (ppg)	Yield (ft³/sk)	Water Req.
	latex lead	14	1.37	4.71

	From Depth (ft):	16,657	To Depth (ft):	6932
Type: Non latex lead	Volume (sacks):	1830	Volume (bbls):	397.6
	Cement & Additives:	Density (ppg)	Yield (ft³/sk)	Water Req.
	Non latex tail	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

	Stage 1	Stage 2
Preflushes:		
80 bbls of SAPP	Calculated Displacement (bbl): 369	
100 bbls of Weighted Spacer	Actual Displacement (bbl): 369	
Total Preflush/Spacer Volume (bbl): 180	Plug Bump (Y/N): Y	Bump Pressure (psi): 2580
Total Slurry Volume (bbl): 587.8	Lost Returns (Y/N):	(if Y, when)
Total Fluid Pumped 767.8		
Returns to Surface:		
Preflush	30 bbls	

Job Notes (fluids pumped / procedures / tools / etc.): **Dropped bottom plug. Loaded lines with 6 bbls water. Pumped 80 bbls SAPP. Mixed and pumped 100 bbls Barite at 12.5 ppg. Mixed and pumped 190.2 bbls latex lead cement at 14 ppg. Mixed and pumped 397.6 bbls tail cement at 14.5 ppg. Dropped top plug. Displaced 369 bbls water. Landed plug at 2580 psi. Held pressure for 2 min. Opened WSS at 3928 psi. Pumped 5 bbl water. Checked floats, got 2 bbls back. Got 30 bbls SAPP to surface See job log for details.**

Customer Representative Signature:

Thank You For Using
CJES O-TEX Cementing

Cement Job Log



Customer:	PDC ENERGY		Date:	6/26/2019		Serv. Supervisor:	Tony Yates				
Cust. Rep.:	Chric McMullin		Ticket #:	BCO-1906-0101		Serv. Center	Brighton - 3021				
Lease:	Red Cloud 3N		API Well #:	05-123-49446		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	
100 bbls ppg Weighted Spacer - 100 bbls		+213.21 PPB CJ300+1.0 PPB CJ209+0.5 PPB CJX157011+12.46 PPB CJ801				12.5				100.00	
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+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			1830	14.5		1.22	5.41	396.23	236
Displacement										369.07	
50 % CJ914+50 % CJ010-74+2.0 % CJ020											
Displacement Chemicals:											

Cement Job Log



Customer: PDC ENERGY		Date: 6/26/2019		Serv. Supervisor: Tony Yates	
Cust. Rep.: Chric McMullin		Ticket #: BCO-1906-0101		Serv. Center Brighton - 3021	
Lease: Red Cloud 3N		API Well #: 05-123-49446		County: Weld	State: CO
Well Type: Oil		Rig: Ensign 152		Type of Job: Production Casing	

OPEN HOLE DATA		TUBULAR DATA						
SIZE	WEIGHT	THREAD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)	
8.5 in. O.H. (1,664 to 16,684 ft)	5.5 in. 20#, (0 to 16,684 ft)							

PREVIOUS CASING DATA		PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS			
SIZE	WT	TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
9.625 in. 36# (0 to 1,664 ft)						16629			

WELL FLUID		DISPLACEMENT FLUID		DIFF PRESS (psi)	CSG LIFT (psi)	MAX PRESS (psi)	WATER ON LOC (bbl)
TYPE	DENSITY	VOLUME	TYPE	DENSITY			
MUD	10.9 ppg	369 bbl	WATER	8.3 ppg	1750	4500	1400

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
5:45 PM						0	SPOT EQUIPMENT
6:00 PM						0	RIG UP IRON AND HOSES
10:00 PM						0	PRE JOB SAFETY MEETING
10:25 PM	4		600		6	6	DROP BOTTOM PLUG / FILL LINES
10:28 PM			5250			6	TEST PUMP AND LINES TO 5250 PSI
						6	
10:38 PM	5.5		850		80	86	PUMP 80 BBLS SAPP
10:47 PM	7		1200		100	186	MIX AND PUMP 100 BBLS BARITE AT 12.5 PPG
11:00 PM					6	192	BATCH UP 6 BBLS NON LATEX LEAD CEMENT AT 14 PPG
11:04 PM	6.2		1000		184.2	376.2	MIX AND PUMP 184.2 BBLS LATEX LEAD AT 14 PPG
11:48 PM	8.2		1000		397.6	773.8	MIX AND PUMP 397.6 BBLS TAIL CEMENT AT 14.5 PPG
12:42 AM						773.8	SHUT DOWN / WASH PUMP
12:48 AM						773.8	DROP TOP PLUG
12:53 AM	9.6		2500		369	1142.8	DISPLACE 369 BBLS WATER
1:34 AM	5		2580			1142.8	LAND PLUG 500 PSI OVER WORKING PRESSURE
1:36 AM						1142.8	HOLD 2 MINUATES
1:38 AM			3928			1142.8	OPEN WSS AT 3928 PSI
1:40 AM	4		2000		5	1147.8	PUMP 5 BBLS WATER
1:42 AM							SHUT DOWN
1:43 AM							CHECK FLOATS. GOT 2 BBLS BACK
1:50 AM							RIG OUT

Left Yard	6/26/19 4:00 PM	Left Loc.		Start Pump	6/26/19 10:25 PM
Arrived Loc.	6/26/19 5:30 PM	Returned Yd.		End Pump	6/27/19 1:42 AM

Bumped Plug (psi)	Final Differential (psi)	Floater 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	2080	Yes			2,270	Yes	3928		0	

Tony Yates

Service Supervisor

Date