

<div>C&J ENERGY SERVICES</div> <div><small>1-BCO_190724104314-JLPjob 1.xlsm]-1</small></div>	PDC ENERGY		YARD CALL	7/26/2019		DISTRICT
	Red Cloud - 8N		RTS DATE	7/26/2019		Brighton
			YARD RTN	7/29/2019		
Personnel/Equipment						
Driver	Assignment		Tractor	Trailer	Comments	
Anthony Field	Operator	Primary Pump Unit:		445052		
Josh McCaffery	bulk	Secondary Pump Unit:		445051		
Mike Arthur	Transport					
Jared Cross	bulk			201400		
Israel Davila	Supervisor			449088	131155	

Job Summary

Ticket Number		Ticket Date	
TN#	BCO-1907-0131	7/29/2019	
COUNTY	COMPANY	API Number	
Weld	PDC ENERGY	05-123-49454	
WELL NAME	RIG	JOB TYPE	
Red Cloud - 8N	Ensign 152	CM-PROD. CASING	
SURFACE WELL LOCATION	CJES Field Supervisor	CUSTOMER REP	
40.34448 -104.49222	Israel Davila	Brandon Young	
EMPLOYEES			
Tony Field			
Mike Arthur			
Jared Cross		Josh McCaffery	
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	1680	16683	1680	6628
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	1680	0	1680
Type	Size (in)	Weight (lb/ft)	Grade	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
Production	5.5	20		0	16683	0	6628
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):	500	To Depth (ft):	7000
Type:	Volume (sacks):	1150	Volume (bbls):	280
Cement & Additives:		Density (ppg)	Yield (ft³/sk)	Water Req.
Latex Lead		14	1.37	6.00
Stage 2:	From Depth (ft):	7000	To Depth (ft):	16683
Type:	Volume (sacks):	1840	Volume (bbls):	400
Cement & Additives:		Density (ppg)	Yield (ft³/sk)	Water Req.
Production 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)

SUMMARY

Preflushes:	80 bbls of SAPP	Calculated Displacement (bbl):	369	Stage 1
	100 bbls of Weighted Spacer	Actual Displacement (bbl):	369	Stage 2
	bbls of			
Total Preflush/Spacer Volume (bbl):	180	Plug Bump (Y/N):	Y	Bump Pressure (psi):
Total Slurry Volume (bbl):	680	Lost Returns (Y/N):	N	(if Y, when)
Total Fluid Pumped	1239			
Returns to Surface:	Spacer	30 bbls		

Job Notes (fluids pumped / procedures / tools / etc.): Loaded bottom Plug 1. pumped 80 bbls SAPP, Pumped 100 bbls Weighted Spacer. Load bottom plug#2. Pump 1150sks latex lead @ 14ppg from 500' to 7000'. Pumped 1840 sks @ 14.5ppg from 7000' to 16683' Load Top plug, clean lines. Displace 369 bbls to land plug. 30 bbls Weighted spacer back. Bumped @ 3000psi. Opened Wet shoe @ 4017psi. Floats held. 2 bbls back to pump.

Thank You For Using
 CJES O-TEX Cementing

Customer Representative Signature: _____

Cement Job Log



Customer:	PDC ENERGY				Date:	7/29/2019		Serv. Supervisor:	Israel Davila			
Cust. Rep.:	Brandon Young				Ticket #:	BCO-1907-0131		Serv. Center	Brighton - 3021			
Lease:	Red Cloud - 8N				API Well #:	05-123-49454		County:	Weld		State:	CO
Well Type:	Oil				Rig:	Ensign 152		Type of Job:	CM-PROD. 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)
80 bbls water + 1600 lbs SAPP		+20.0 PPB CJ890									80.00	
100 bbl 12.5ppg Weighted Spacer - 100 bbl		+213.21 PPB CJ300+1.0 PPB CJ209+0.5 PPB CJX157011+12.46 PPB CJ801									100.00	
C&J Non Latex Lead		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		50 % CJ914+50 % CJ010-74 +2.0 % CJ020+0.4 % CJ548+0.3 % CJ240+10.0 % CJ041+0.3 % CJX157011+0.2 GPS CJ891				1125	14		1.37	4.71	273.66	126
C&J Tail		65 % CJ914+35 % CJ010-74 +0.3 % CJ704+0.15 % CJ210K+0.5 % CJ511				1840	14.5		1.22	5.41	398.39	237
Displacement											369.91	
65 % CJ914+35 % CJ010-74+0.3 % CJ704												
Displacement Chemicals:												
OPEN HOLE DATA		TUBULAR DATA										
8.5" O.H. (1680' to 16683')		5.5" 20# (0' to 16683')		SIZE WEIGHT	THREAD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)		
Mix Cemt. Temperature °F	Lead Temp.	Middle Temp.	Tail Temp.									
PREVIOUS CASING DATA		PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS						
9.625 in. 36# (0 to 1,680 ft)		TOP		BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP		
							16651					
WELL FLUID		DISPLACEMENT FLUID		DIFF PRESS (psi)	CSG LIFT (psi)	MAX PRESS (psi)	Total Number of Runs			WATER ON LOC (bbl)		
TYPE	DENSITY	VOLUME	TYPE	DENSITY								
Mud	10.9 ppg	369 bbl	H2O	8.3 ppg		4500				1500		

Cement Job Log



Customer:	PDC ENERGY					Date:	7/29/2019		Serv. Supervisor: Israel Davila			
Cust. Rep.:	Brandon Young					Ticket #:	BCO-1907-0131		Serv. Center Brighton - 3021			
Lease:	Red Cloud - 8N					API Well #:	05-123-49454		County:	Weld	State:	CO
Well Type:	Oil					Rig:	Ensign 152		Type of Job:	CM-PROD. CASING		

Time	Rate (bbl/min)	Csg. Press. (psi)	Tbg. Press. (psi)	Ann. Press. (psi)	Stg. Vol. (bbl)	Cum. Vol. (bbl)	Stage Num. Stage	Stage Details
2:00 PM							1	Arrive on location
2:05 PM							1	Tailgate meeting
2:15 PM							1	Finish latex
3:00 PM							1	Spot equipment
3:30 PM							1	Rig in
8:45 PM							1	JSA/Safety meeting
8:59 PM	4	450			4.0 bbl	4.0 bbl	1	drop bottom plug#1/Load lines to pressure test
9:01 PM							1	Pressure test iron to 5000psi
9:03 PM	5	500			80.0 bbl	84.0 bbl	1	Pump 1600# SAPP in fresh water
9:24 PM	6	900			100.0 bbl	184.0 bbl	1	Pump Weighted Spacer@12.5ppg
9:42 PM							1	Shut down/Load Bottom plug#2
9:56 PM	7	800			280.0 bbl	464.0 bbl	1	Pump 1150 sks Latex Lead@14ppg, from 7000' to 500'. 1st 25 sks non-latex
10:40 PM	7.5	700			400.0 bbl	864.0 bbl	1	Pump Tail cement @ 14.5ppg from 16683' to 7000'
11:35 PM							1	Shut down.
11:37 PM							1	Load top plug/Wash lines & Pump
11:48 PM	8	2300			369.0 bbl	1233.0 bbl	1	Displace top plug.
12:29 AM		3000					1	Land Plug
12:32 AM	2	4017			1.0 bbl	1234.0 bbl	1	Open Wet Shoe Sub
12:33 AM	4	2300			5.0 bbl	1239.0 bbl	1	Pump 5 bbls through Wet Shoe
12:34 AM		1946					1	Shut down
12:35 AM		0					1	Check floats/Float held, 2 bbls back
12:40 AM							1	Rig out
2:00 AM							1	Depart location

Left Yard	7/28/19 1:00 PM		Left Loc.	7/29/19 2:00 AM		Start Pump	7/28/19 8:55 PM		
Arrived Loc.	7/28/19 2:00 PM		Returned Yd.	7/29/19 4:00 AM		End Pump	7/29/19 12:40 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 Pressur	Casing Rotation	Standby Charged(hrs)	Casing Reciprocation	Wireline Co.
											0

Israel Davila							7/29/2019				
Service Supervisor							Date				