

<div>C&amp;J ENERGY SERVICES</div> <div>_1-BCO_190628094312-JLPjob 1.xlsm]-1</div>	PDC ENERGY		YARD CALL	7/3/2019		DISTRICT	
	Red Cloud - 4N		RTS DATE			Brighton	
			YARD RTN				
Personnel/Equipment							
Driver		Assignment		Tractor	Trailer	Comments	
Francisco Flores		Supervisor		530317	449088		
James Verhey		Operator			445046		
Allen Anzai		Operator			445051		
Nick Marcos		Bulker			446903		
Josh McCaffrey		Bulker		201400			
BLEND INFO <div>_1-BCO_190628094312-JLPjob 1.xlsm]-Main-</div>							
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
1840	SX	C&J Tail 1-1					
397.59	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						
369.91	bbl						

COUNTY	COMPANY	API Number
<b>Weld</b>	<b>PDC ENERGY</b>	<b>05-123-49448</b>
WELL NAME	RIG	JOB TYPE
<b>Red Cloud - 4N</b>	<b>Ensign 152</b>	<b>CM-PROD. CASING</b>
SURFACE WELL LOCATION	CJES Field Supervisor	CUSTOMER REP
<b>345 654</b>	<b>Francisco Flores</b>	<b>Vaughn Staples</b>
EMPLOYEES		
<i>James Verhey</i>	<i>Josh McCaffrey</i>	
<i>Allen Anzai</i>		
<i>Nick Marcos</i>		

<b>WELL PROFILE</b>			
Max Treating Pressure (psi):	3500	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	16691	1678		
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	J55	1678	0		
Type	Size (in)	Weight (lb/ft)	Grade	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
Production	5.5	20	J55	16691	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):	2399	To Depth (ft):	2252	
	Type: <b>Non-Latex Lead</b>				
	Volume (sacks):	25	Volume (bbls):	6	
Cement & Additives:			Density (ppg)	Yield (ft³/sk)	Water Req.
			14	1.37	5.98

Stage 2:	From Depth (ft):	6913	To Depth (ft):	2399	
	Type: <b>Latex Lead</b>				
	Volume (sacks):	755	Volume (bbls):	184.2	
Cement & Additives:			Density (ppg)	Yield (ft³/sk)	Water Req.
			14	1.37	4.71

Stage 3:	From Depth (ft):	16691	To Depth (ft):	6913	
	Type: Tail Cement				
	Volume (sacks):	1840	Volume (bbls):	399.8	
Cement & Additives:			Density (ppg)	Yield (ft³/sk)	Water Req.
			14.5	1.22	5.41

**SUMMARY**

Preflushes:	3 bbls of Fresh Water	Calculated Displacement (bbl):	369.9	Stage 1	Stage 2
	80 bbls of SAPP	Actual Displacement (bbl):	369.9		
	100 bbls of Weighted Spacer				
Total Preflush/Spacer Volume (bbl):	183	Plug Bump (Y/N):	Y	Bump Pressure (psi):	2458
Total Slurry Volume (bbl):	590	Lost Returns (Y/N):	N	(if Y, when)	
Total Fluid Pumped	1148.9				
Returns to Surface:	Preflush				
	70 bbls				

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

Fill lines with 3 bbls, shut down and pressure test to 5000psi. Hold for 5 mins after bleed off pressure drop plug. Mix/pump 1600 Lbs(SAPP) 80 bbls followed by 100 bbls weighted barite spacer@12.5ppg. Mix/pump 25sx@14ppg 1.37Y non latex lead, followed by 755sx@14ppg 1.37Y Latex lead cement. ETOL@2252'. Mix/pump 1090sx@14.5ppg 1.22Y Tail cement. ETOT@6913'. Shut down washed up SCM and drop top plug. Displaced 369.9 bbls of fresh treated water bumped plug@2458 Psi. Held for 5 mins. Burst wet shoe sub@3547 Psi. Pumped 5 bbls afterward shut down checked floats and they held, got back 2 bbl. Pumped job per customers request. Thank you!

 Thank You For Using  
 CJES O-TEX Cementing

Customer Representative Signature:

**Cement Job Log**



Customer: <b>PDC ENERGY</b>		Date: <b>7/3/2019</b>		Serv. Supervisor: <b>Francisco Flores</b>	
Cust. Rep.: <b>Vaughn Staples</b>		Ticket #: <b>BCO-1907-0017</b>		Serv. Center <b>Brighton - 3021</b>	
Lease: <b>Red Cloud - 4N</b>		API Well #: <b>05-123-49448</b>		County: <b>Weld</b>	State: <b>CO</b>
Well Type: <b>Oil</b>		Rig: <b>Ensign 152</b>		Type of Job: <b>CM-PROD. CASING</b>	
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 c		+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
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
C&J Tail 1-1		65 % CJ914+35 % CJ010-74 +0.3 % CJ704+0.15 % CJ210K+0.5 % CJ511		1840	14.5
Displacement					369.91
50 % CJ914+50 % CJ010-74+2.0 % CJ020					
Displacement Chemicals:					
OPEN HOLE DATA		TUBULAR DATA			
8.5in O.H. (16,693 to 1678')		5.5in 20# (16691 to 0)		SIZE WEIGHT	DEPTH (ft)
Mix Cemt. Temperature °F	Lead Temp.	Middle Temp.	Tail Temp.	THREAD	GRADE
					ID (in)
					BURST (psi)
					COLLAPSE (psi)
PREVIOUS CASING DATA		PERFORATED INTERVAL DATA		CASING EQUIPMENT DEPTHS	
9.625in 36# (1678 to 0)		TOP	BTM	SPF	SIZE
WELL FLUID		DISPLACEMENT FLUID		DIFF PRESS (psi)	CSG LIFT (psi)
TYPE	DENSITY	VOLUME	TYPE	DENSITY	MAX PRESS (psi)
Mud	10.8 ppg	369.9 bbl	H2O	8.3 ppg	3500
				Total Number of Runs	
				WATER ON LOC (bbl)	
				1200	

## Cement Job Log



Customer:	PDC ENERGY					Date:	7/3/2019		Serv. Supervisor: Francisco Flores			
Cust. Rep.:	Vaughn Staples					Ticket #:	BCO-1907-0017		Serv. Center Brighton - 3021			
Lease:	Red Cloud - 4N					API Well #:	05-123-49448		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 AM						0	1	ARRIVE ON LOCATION
2:15 AM						0		SPOT EQUIPMENT
2:30 AM						0		RIG UP IRON AND HOSES
7:15 AM						0		PRE JOB SAFETY MEETING
7:37 AM	3.5	584			3	3		LOAD LINES TO TEST
7:39 AM		5334				3		TEST PUMP AND LINES TO 5000 PSI
7:45 AM						3		DROP BOTTOM PLUG
7:46 AM	4.1	340			80	83		MIX & PUMP 1600LBS SAPP
8:03 AM	5.4	854			100	183		MIX & PUMP WEIGHTED SPACER@12.5PPG
						183		
8:21 AM	4	367			6	189		MIX & PUMP 25SX@14PPG NON-LATEX LEAD
8:23 AM	5.3	328			184.2	373.2		MIX & PUMP 755SX@14PPG LATEX LEAD
9:00 AM	8	767			399.8	773		MIX & PUMP 1840SX@14.5PPG TAIL CEMENT
10:15 AM						773		SHUT DOWN WASH UP SCM
10:19 AM						773		DROP TOP PLUG
10:30 AM	8	1956			369.9	1142.9		DISPLACEMENT
11:30 AM	3	2458				1142.9		BUMP PLUG
11:31 AM	2	3547			1	1143.9		BWSS
11:33 AM	4	1935			5	1148.9		FRESH WATER
11:39 AM						1148.9		CHECK FLOATS
12:00 PM						1148.9		RIG OUT
						1148.9		
						1148.9		
						1148.9		

  

Left Yard	7/2/19 12:00 AM			Left Loc.	7/3/19 1:00 PM			Start Pump	7/3/19 7:37 AM		
Arrived Loc.	7/3/19 2:00 AM			Returned Yd.	7/3/19 3:00 PM			End Pump	7/3/19 12:00 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 Pressur	Casing Rotation	Standby Charged(hrs)	Casing Reciprocation	Wireline Co.
Yes		Yes	0	0	2252	Yes	3500	N/A	0		Unknown

  

									7/3/2019	
							Service Supervisor		Date	