

<div>C&amp;J ENERGY SERVICES</div> <div>1-BCO_190716130044-JLPjob 1.xlsm]-</div>	PDC ENERGY		YARD CALL	7/21/2019	14:00	DISTRICT	
	Red Cloud - 7N		RTS DATE	7/21/2019	10:00 PM	Brighton	
			YARD RTN	7/22/2019	10:25 AM		
Personnel/Equipment							
Driver		Assignment		Tractor	Trailer	Comments	
Derek Scott		Supervisor		131151	449088		
Ryan Peterson		Pumper		745070	445070		
David Cicalla		Pumper		927073	944528		
Travis Gamblin		Batch Mixer		927293	990470		
Vernon Fox		Water Transport		745030	446903		
Tyler Ingalls		Flatbed Trailer		201356	444004		
BLEND INFO <div>1-BCO_190716130044-JLPjob 1.xlsm]-Main-</div>							
Amount	Units	System/Additives			Density (ppg)	Yield (cuft/sk)	Water Req. (gal/sk)
0	SX	80 bbls water + 1600 lbs SAPP					
80.00	bbl	+20.0 PPB CJ890					
0.00	SX	100 bbl 12.5ppg 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					
25	SX	C&J Non Latex Lead					
6.08	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
1125	SX	C&J Latex Lead					
273.47	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
1820	SX	C&J Tail					
393.51	bbl	65 % CJ914+35 % CJ010-74 +0.3 % CJ704+0.15 % CJ210K+0.5 % CJ511			14.5	1.22	5.41
0	SX	Displacement					
367.69	bbl						
0	SX						
0	SX						
0	SX						
0.00							

# Job Summary

Ticket Number	Ticket Date
TN# <b>BCO-1907-0096</b>	<b>7/22/2019</b>

COUNTY	COMPANY	API Number
<b>Weld</b>	<b>PDC ENERGY</b>	<b>05-123-49449</b>
WELL NAME	RIG	JOB TYPE
<b>Red Cloud - 7N</b>	<b>Ensign 152</b>	<b>CM-PROD. CASING</b>
SURFACE WELL LOCATION	CJES Field Supervisor	CUSTOMER REP
<b>40.34448 -104.49217</b>	<b>Derek Scott</b>	<b>Brandon Young</b>

EMPLOYEES

<b>WELL PROFILE</b>			
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)
	8.5	1661	16646		
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	J-55	0	1661		
Type	Size (in)	Weight (lb/ft)	Grade	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
Production	5.5	20	HCP-110	0	16646		
Type	Size (in)	Weight (lb/ft)	Grade	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)

## CEMENT DATA

<b>Stage 1:</b>	From Depth (ft):	871	To Depth (ft):	3044
Type: <b>Spacer</b>	Volume (sacks):		Volume (bbls):	100
	Cement & Additives:	Density (ppg)	Yield (ft³/sk)	Water Req.
	Weighted Spacer	12.5	3.43	21.30

<b>Stage 2:</b>	From Depth (ft):	2922	To Depth (ft):	8612
Type: <b>Lead</b>	Volume (sacks):	1150	Volume (bbls):	274.5
	Cement & Additives:	Density (ppg)	Yield (ft³/sk)	Water Req.
	Lead	14	1.37	6.00

<b>Stage 3:</b>	From Depth (ft):	8612	To Depth (ft):	16646
Type: <b>Tail</b>	Volume (sacks):	1820	Volume (bbls):	395.4
	Cement & Additives:	Density (ppg)	Yield (ft³/sk)	Water Req.
	Tail	14.5	1.22	5.41

<b>Stage 4:</b>	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	369.1	
100 bbls of Weighted Spacer	369.1	
Total Preflush/Spacer Volume (bbl):	180	
Total Slurry Volume (bbl):	669.9	
Total Fluid Pumped	1219	
Returns to Surface:	Preflush	50 bbls

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

Got 50bbls of SAPP back. TOC is based on those numbers.

Thank You For Using  
 CJES O-TEX Cementing

Customer Representative Signature:

## Cement Job Log



Customer:	PDC ENERGY				Date:	7/22/2019		Serv. Supervisor:	Derek Scott			
Cust. Rep.:	Brandon Young				Ticket #:	BCO-1907-0096		Serv. Center	Brighton - 3021			
Lease:	Red Cloud - 7N				API Well #:	05-123-49449		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				1820	14.5		1.22	5.41	394.06	234
Displacement											367.69	
65 % CJ914+35 % CJ010-74+0.3 % CJ704												
Displacement Chemicals:												
OPEN HOLE DATA		TUBULAR DATA										
8.5 in. O.H. (1,661 to 16,622 ft)		5.5 in. 20#, ( 0 to 16,622 ft)				SIZE WEIGHT	THREAD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)
Mix Cemt. Temperature °F	Lead Temp.	Middle Temp.	Tail Temp.		5.5" 20	BTC	16646	P-110	4.778	12640	11080	
45.0 °F	34.0 °F	34.0 °F	75.0 °F									
PREVIOUS CASING DATA				PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS				
9.625 in. 36# ( 0 to 1,661 ft)				TOP		BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
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								
H2O Mud	10.0 ppg		Water	8.3 ppg	2800	10909	3500				1000	

**Cement Job Log**



Customer: <b>PDC ENERGY</b>		Date: <b>7/22/2019</b>		Serv. Supervisor: <b>Derek Scott</b>	
Cust. Rep.: <b>Brandon Young</b>		Ticket #: <b>BCO-1907-0096</b>		Serv. Center <b>Brighton - 3021</b>	
Lease: <b>Red Cloud - 7N</b>		API Well #: <b>05-123-49449</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>	

  

Time	Rate	Csg. Press.	Tbg. Press.	Ann. Press.	Stg. Vol.	Cum. Vol.	Stage Num.	Stage Details			
	(bbl/min)	(psi)	(psi)	(psi)	(bbl)	(bbl)	Stage				
7:00 PM						0.0 bbl	1	Leave yard			
8:30 PM						0.0 bbl	1	Arrive on location			
8:35 PM						0.0 bbl	1	Tailgate meeting			
8:45 PM						0.0 bbl	1	Spot trucks and Rig in			
10:00 PM						0.0 bbl	1	Batch up the remainder of latex			
11:00 PM						0.0 bbl	1	Wait for rig to circulate well			
4:50 AM						0.0 bbl	1	Safety meeting			
5:07 AM						0.0 bbl	1	Drop first bottom plug			
5:08 AM	3		270		6.0 bbl	6.0 bbl	1	Fill lines			
5:11 AM			5300			6.0 bbl	1	Pressure test			
5:16 AM	7.1		1000		80.0 bbl	86.0 bbl	1	Pump SAPP			
5:29 AM	7.3		1300		100.0 bbl	186.0 bbl	1	Pump Weighted spacer			
5:42 AM						186.0 bbl	1	Stop and drop second bottom plug			
5:49 AM	8		750		280.0 bbl	466.0 bbl	1	Pump 1150sx lead @ 14.0ppg 1.37 yield			
6:12 AM	8		750		396.0 bbl	862.0 bbl	1	Pump 1820sx Tail @ 14.5ppg 1.22yield			
7:27 AM						862.0 bbl	1	Stop and wash up pump and drop top plug			
7:38 AM	6.1		2500		320.0 bbl	1182.0 bbl	1	Displace with fresh water			
8:20 AM	5		2500		49.0 bbl	1231.0 bbl	1	Slow down			
8:39 AM			2800			1231.0 bbl	1	Bump plug			
8:41 AM	3		4300		3.0 bbl	1234.0 bbl	1	Pressure up and open wet shoe			
8:42 AM	4		2400		5.0 bbl	1239.0 bbl	1	Pump 5bbls wet shoe			
8:44 AM						1239.0 bbl	1	Stop			
8:45 AM						1239.0 bbl	1	Check floats -2bbls back			
8:50 AM						1239.0 bbl	1	Rig down			
Left Yard	7/21/19 7:00 PM			Left Loc.	7/22/19 9:35 AM		Start Pump	7/22/19 5:08 AM			
Arrived Loc.	7/21/19 8:30 PM			Returned Yd.	7/22/19 10:25 AM		End Pump	7/22/19 8:45 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.
											Unknown
							Derek Scott		7/22/2019		
							Service Supervisor		Date		