
	PDC ENERGY	YARD CALL			DISTRICT					
	Challenger 8N	RTS DATE			Brighton					
		YARD RTN								
CUSTOMER INFORMATION		1.08d								
Customer Name	PDC ENERGY	WELL INFORMATION		WELL DATA		TUBULAR DATA				
Customer #:	1000700	API #:	05-123-45894	Casing Size	9.625	Size	Grade	Weight	Depth	
Customer #:	1000700	Field Name:	Wattenberg	Depth		5.5		20#	4,138	
AFE #:		Well Name:	Challenger 8N	TVD	6,700 ft	Casing				5.5 in. 20#, ( 0 to 14,138 ft)
Cust Rep on Loc:				MD	14,138 ft	CEMENTING PLUG				
Cust Phone #:		Well Type:	Oil	OH		Qty	Size	Type	Material	
Order Placed By:		Formation:	NBRR	OH Depth						
Phone #:		Rig Contractor:	Ensign	BHST	200°F					
Proposed Job Amt:	\$94,671.81	Rig Name/Num.:	Ensign 152	BHCT	180°F					
JOB INFORMATION		Rig Phone:		Est. BHST/BHCT		200°F / 180°F (0) (2.99°F/100ft)				
Ticket #:	BCO-1903-0060	County:	Weld	MD / TVD	14,138 ft / 6,700 ft		TOP CONNECTION			
PO #:		State:	CO	Mud Weight & Type	10#, Water Based		Size	Type	Thread	
Order Taken By:	Milo	Latitude:	40.33019	Open Hole	8.5 in. O.H. (1,673 to 14,138 ft)					
Order Date:		Longitude:	-105			JOB TYPE				
CJES Acct. Manager:	Michael Salyers	Township:	SENW 8 4N64W 6 PM	Previous Casing	9.625 in. 36# ( 0 to 1,673 ft)		Production Casing			
CJES Engineer	Michael Salyers	Quote Number:	1-BCO_190313083050							
COMMENTS										
Call Titan once on cement to set up time for vac truck, rig in both pump on location, rig in for wash-up in cement waste tank										
SPECIAL JOB INSTRUCTIONS										
radios for OSR, check iron trailer for valves, fittings, latex trailer with totes and 1600# SAPP										
5.5" cement head, swage bowl, 150# sugar, alpha defoamer										
DIRECTIONS TO WELL										
CR 48 & CR 55, E 1/2, S into										
Emergency Contacts										
Nearest Hospital						Phone Number:				
Police Department						Phone Number:				
Fire Department						Phone Number:				
Designated Emergency Vehicle						Vehicle Location:				
MSDS on Dash of Emergency Vehicle? (y/n)										
Muster Area #1										
Muster Area #2										
Cell Phone Service on location? (y/n)										
If not, nearest working phone										
Iron Tracking										
	Taken Out			Returned						
Iron Type	Taken By	Date Out	Time Out	Returned By	Date In	Time In				

	PDC ENERGY	YARD CALL			DISTRICT
	Challenger 8N	RTS DATE			Brighton
		YARD RTN			
Personnel/Equipment					
Driver	Assignment	Tractor	Trailer	Comments	
BLEND INFO					
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	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			
80.00	bbl	+219.63 PPB CJ300+1.0 PPB CJ209+0.5 PPB CJ776+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+1.0 GPS CJ550L+0.2 GPS CJ891	14	1.37	4.71
1350	SX	C&J Tail 1-1			
292.16	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				
312.61	bbl				


## Cement Job Log



Customer:	PDC ENERGY		Date:	3/16/2019		Serv. Supervisor:	Rich Devine				
Cust. Rep.:	Antonio Barrientos		Ticket #:	BCO-1903-0060		Serv. Center	Brighton - 3021				
Lease:	Challenger 8N		API Well #:	05-123-45894		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 CJ776+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	6.08	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+1.0 GPS CJ550L+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			1350	14.5		1.22	5.41	292.30	174
Displacement										312.61	
50 % CJ914+50 % CJ010-74+2.0 % CJ020											
Displacement Chemicals:											

## Cement Job Log



Customer:	PDC ENERGY				Date: 3/16/2019				Serv. Supervisor: Rich Devine			
Cust. Rep.:	Antonio Barrientos				Ticket #: BCO-1903-0060				Serv. Center Brighton - 3021			
Lease:	Challenger 8N				API Well #: 05-123-45894				County: Weld		State: CO	
Well Type:	Oil				Rig: Ensign 152				Type of Job: Production Casing			
OPEN HOLE DATA				TUBULAR DATA								
8.5 in. O.H. (1,673 to 14,138 ft)				5.5 in. 20#, ( 0 to 14,138 ft)		SIZE WEIGHT	THREAD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)
PREVIOUS CASING DATA				PERFORATED INTERVAL DATA								
9.625 in. 36# ( 0 to 1,673 ft)				TOP		BTM	SPF	SIZE				
WELL FLUID		DISPLACEMENT FLUID			DIFF PRESS (psi)		MAX PRESS (psi)				WATER ON LOC (bbl)	
TYPE	DENSITY	VOLUME	TYPE	DENSITY								
Mud	10.0 ppg	313.8 bbl	Water	8.3 ppg	2200		5000				1000	
Time	Rate (bbl/min)	Csg. Press. (psi)	Tbg. Press. (psi)	Ann. Press. (psi)	Stg. Vol. (bbl)	Cum. Vol. (bbl)	Stage Details					
2:00 PM						0	Depart CJ Yard					
3:00 PM						0	Arrive Location					
4:00 PM						0	Spot Vehicles					
5:00 PM						0	Rig In					
7:00 PM						0	Mix Latex					
10:00 PM						0	Safety Brief					
10:45 PM	2	600			1	1	Fill Lines					
10:48 PM		5000				1	Pressure Test					
10:57 PM	5	660			80	81	Pump 1600lbs of SAPP					
11:07 PM	7	1100			80	161	Mix and Pump Weighted Spacer @12.5 ppg					
11:28 PM		0				161	Shutdown					
11:32 PM	4	57				161	Drop Plug					
11:34 PM	7	670			6	167	Mix and Pump Non latex Lead @ 14 ppg					
11:38 PM	7	680			184.2	351.2	Mix and Pump Latex Lead @ 14 ppg					
11:55 PM	7	640			293.3	644.5	Pump and Mix Tail @14.5 ppg					
12:45 PM		0				644.5	Shut down / Wash up / Drop Plug					
1:03 AM	7.5	1300			313.8	958.3	Displacement with Fresh Water					
1:44 AM	4	3000				958.3	Pump Plug Hold for 5min.					
1:50 AM	1.5	4000			5	963.3	Displace @4 bbls /min					
2:00 AM		0					Shutdown / Check floats					
3:00 AM							Rig Out					
4:00 AM							Depart Location					
Left Yard	3/15/19 2:00 PM			Left Loc.	3/16/19 4:00 AM			Start Pump	3/15/19 10:45 PM			
Arrived Loc.	3/15/19 3:00 PM			Returned Yd.	3/16/19 6:00 AM			End Pump	3/16/19 2:00 AM			
							<div style="text-align: center;">               Service Supervisor         </div>					
							Date					



## PDC ENERGY

Prepared for  
**John Sinesi / Mike Schweizer**

05-123-47811  
***Challenger 8N***

*Located in  
Weld County, CO*

Prepared by  
Michael Salyers  
on  
Wednesday, March 13, 2019

Serviced from the Brighton Facility  
For Customer Service Call: 303-857-7948

Rig Name: Ensign 152

Proposal Version: 0

13-Mar-19

7:02 PM

Michael Salyers

43357:2.05c

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**Production Casing**

0

**Job Data**

<b>MD / TVD</b>	14,138 ft / 6,700 ft	<b>Casing</b>	5.5 in. 20#, ( 0 to 14,138 ft)
<b>Est. BHST/BHCT</b>	200°F / 180°F (0) (2.99°F/100ft)	<b>Open Hole</b>	8.5 in. O.H. (1,673 to 14,138 ft)
<b>Mud Weight &amp; Type</b>	10#, Water Based	<b>Previous Casing</b>	9.625 in. 36# ( 0 to 1,673 ft)
		<b>Round Trip Miles</b>	80
<b>Comment</b>	Spacer Recipe: Y = 3.43 cf/sk, WR = 21.3 gal/sk, SKWT = 135 lb/sk - Total Mix fluid for Latex lead is 6.0 gal/sk		

C&J Latex Lead 1-1	4,500	8.500	5.500	0%	0.229	1,030.8	183.6
C&J Tail 1-1	7,138	8.500	5.500	0%	0.229	1,635.1	291.2
Shoe Track	42	4.778			0.125	5.23	0.9

**80 bbls water + 1600 lbs SAPP**

Concentration	Item Code	Description
20 PPB	CJ890	Dust Flush
<b>Spacer Volume (bbl)</b>		
80.00		

**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

Concentration	Item Code	Description
219.63 PPB	CJ300	Barite
1 PPB	CJ209	CI-Tric (powder citric acid)
0.5 PPB	CJ776	X-Air P (Antifoam)
12.46 PPB	CJ801	PureBond MS Spacer
<b>Volume (bbl)</b>		
80.00		

**C&J Non Latex Lead 1-1**

Concentration	Item Code	Description
50 %	CJ914	Class G Cement
50 %	CJ010-74	Pozzolan Extender (74 LB/cuft) Class F
2.0 %	CJ020	Bentonite (cementing grade)
0.4 %	CJ548	MT Fluid Loss/Gas Migration
0.3 %	CJ240	Synthetic Retarder
10.0 %	CJ041	Undensified Silica Fume
0.3 %	CJX157011	Solid Antifoam
<b>Slurry Density (ppg)</b>		
14.00		
<b>Volume (sx)</b>	25	<b>Yield (cf/sx)</b>
<b>Excess (%)</b>	0	<b>Water (gps)</b>
		5.98

**Production Casing**

0

C&J Latex Lead 1-1				
	Concentration	Item Code	Description	
	50 %	CJ914	Class G Cement	
	50 %	CJ010-74	Pozzolan Extender (74 LB/cuft) Class F	
	2.0 %	CJ020	Bentonite (cementing grade)	
	0.4 %	CJ548	MT Fluid Loss/Gas Migration	
	0.3 %	CJ240	Synthetic Retarder	
	10.0 %	CJ041	Undensified Silica Fume	
	0.3 %	CJX157011	Solid Antifoam	
	1 GPS	CJ550L	Fluid Loss (Latex)	
	0.2 GPS	CJ891	Latex Stabilizer-RS	
Top Depth (ft)		2,500	Slurry Density (ppg)	14.00
Volume (sx)		755	Yield (cf/sx)	1.37
Excess (%)		0	Water (gps)	4.71
C&J Tail 1-1				
	Concentration	Item Code	Description	
	65 %	CJ914	Class G Cement	
	35 %	CJ010-74	Pozzolan Extender (74 LB/cuft) Class F	
	0.3 %	CJ704	Anti Settling Control	
	0.15 %	CJ210K	LT Retarder	
	0.5 %	CJ511	HT Fluid Loss (Salt Tolerant)	
Top Depth (ft)		7,000	Slurry Density (ppg)	14.50
Volume (sx)		1,350	Yield (cf/sx)	1.22
Excess (%)		0	Water (gps)	5.41
Displacement				
			Volume (bbl)	312.61