C&J ENERGY SERVICES — O-TEX CEMENTING

Job Summary

Ticket Number	Ticket Date
TN# BCO-1812-0062	12/14/2018

COUNTY	COMPANY	API Number
Weld	PDC ENERGY	05-123-45749
WELL NAME	**RIG**	**JOB TYPE**
Harold 6X-302	Ensign 161	Production Casing
SURFACE WELL LOCATION	**CJES Field Supervisor**	**CUSTOMER REP**
40.33578 104.58549	Francisco Corral-Flores	John Falton

EMPLOYEES

Cori White	*Brett Moll*	
Tony Fields		
Serge Dzmitryieu		

WELL PROFILE

Max Treating Pressure (psi):	3500	Bottom Hole Static Temperature (°F):	
Bottom Hole Circulating Temperature (°F):		Well Type:	Oil

Open Hole

	Size (in)	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
1	8.5	1631	17653		
2					

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		1631	0		
Production	5.5	20		17653	0		

CEMENT DATA

Stage 1: Type: **Lead Cement**

From Depth (ft): 6918 To Depth (ft): 2256

Volume (sacks): 780 Volume (bbls): 190.2

Cement & Additives:	Density (ppg)	Yield (ft^3/sk)	Water Req.
	14	1.37	4.71

Stage 2: Type: **Tail Cement**

From Depth (ft): 17653 To Depth (ft): 6918

Volume (sacks): 2020 Volume (bbls): 439

Cement & Additives:	Density (ppg)	Yield (ft^3/sk)	Water Req.
	14	1.22	5.41

Stage 3: Type:

From Depth (ft): To Depth (ft):

Volume (sacks): Volume (bbls):

Cement & Additives:	Density (ppg)	Yield (ft^3/sk)	Water Req.

Stage 4: Type:

From Depth (ft): To Depth (ft):

Volume (sacks): Volume (bbls):

Cement & Additives:	Density (ppg)	Yield (ft^3/sk)	Water Req.

SUMMARY

				Stage 1	Stage 2
Preflushes:	3 bbls of	Fresh Water	Calculated Displacement (bbl):	391	
	150 bbls of	Weighted Spacer	Actual Displacement (bbl):	391	
	bbls of				
TotalPreflush/Spacer Volume (bbl):		153	Plug Bump (Y/N):	Y	Bump Pressure (psi): 3012
Total Slurry Volume (bbl):		629.2	Lost Returns (Y/N):	N	(if Y, when)
Total Fluid Pumped		1173.2			
Returns to Surface:		Spacer	46 bbls		

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

Mix & pump 150bbls of weighted spacer@12.5ppg 3.14Y. Followed by 25sx@14ppg 1.37Y of non-latex lead. Mix & pump 755sx@14ppg 1.37Y Latex lead. Mix & pump 2020sx@14.5ppg 1.22Y of tail cement. Shut down, wash up SCM and drop bottom plug. Displace 391 bbls of treated fresh water. Pumped job per customers request. Job went well. Thank you!

Customer Representative Signature:

Thank You For Using
CJES O-TEX Cementing

C&J ENERGY SERVICES

Customer: PDC ENERGY	**Date:** 12/14/2018	**Serv. Supervisor:** Francisco Corral-Flores	
Cust. Rep.: John Falton	**Ticket #:** BCO-1812-0062	**Serv. Center** Brighton - 3021	
Lease: Harold 6X-302	**API Well #:** 05-123-45749	**County:** Weld	**State:** CO
Well Type: Oil	**Rig:** Ensign 161	**Type of Job:** Production Casing	

Materials Furnished by C&J ENERGY SERVICES

Plugs	Casing Hardware	Sacks of Cement	Fluid Dens (lb/gal)	Excess	Yield (cuft/sk)	Mix Water (gal/sk)	Fluid Volume (bbls)	Mix Water (bbls)
0								
0								
150 bbls ppg Weighted Spacer - 150 bbls of 12	+10.0 PPB CJ890+222.16 PPB CJ300+1.0 PPB CJ209+0.5 PPB CJ776+8.1 PPB CJ801		12.5		3.14	18.98	150.00	
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	2020	14.5		1.22	5.41	437.37	260
Displacement							391.29	
50 % CJ914+50 % CJ010-74+2.0 % CJ020+0.4								
Displacement Chemicals:								

OPEN HOLE DATA	TUBULAR DATA	SIZE WEIGHT	THREAD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)
8.5 in OH (1631 to 17653)	5.5 in 20# (0 to 17653)							

PREVIOUS CASING DATA	PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS			
	TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
9.625 in 36# (0 to 1631)					17609			

WELL FLUID		DISPLACEMENT FLUID			DIFF PRESS (psi)	CSG LIFT (psi)	MAX PRESS (psi)		WATER ON LOC (bbl)
TYPE	DENSITY	VOLUME	TYPE	DENSITY			3500		1200

Time	Rate (bbl/min)	Csg. Press. (psi)	Tbg. Press (psi)	Ann. Press. (psi)	Stg. Vol. (bbl)	Cum. Vol. (bbl)	Stage Details
12:05 PM						0	Tailgate meeting
12:15 PM						0	Spot equipment
1:00 PM						0	Mix latex
2:30 PM						0	Rig in iron
6:15 PM						0	Safety meeting
6:36 PM	2	390			3	3	Fill lines
6:39 PM		5080				3	Pressure test iron
6:46 PM	6	438			150	153	Mix & pump weighted spacer@12.5ppg
7:22 PM	6	560			6	159	Mix & pump 25sx@14ppg 1.37Y Non-latex lead
7:25 PM	5.3	365			184.2	343.2	Mix & pump 755sx@14ppg 1.37Y latex lead
8:00 PM	6.6	434			439	782.2	Mix & pump 2020sx@14.5ppg 1.22Y
9:24 PM						782.2	Wash up SCM/ drop top plug
9:38 PM	8	2310			391	1173.2	Displacement
10:30 PM	5	3012				1173.2	Bump plug
10:32 PM	2	4253				1173.2	Burst wet shoe sub
10:40 PM						1173.2	Check floats
						1173.2	Rig out
						1173.2	
						1173.2	
						1173.2	
						1173.2	
						1173.2	
						1173.2	
						1173.2	

Left Yard	12/14/18 11:00 AM	Left Loc.	12/14/18 11:00 PM	Start Pump	12/14/18 6:36 PM
Arrived Loc.	12/14/18 12:00 PM	Returned Yd.	12/15/18 12:00 AM	End Pump	12/14/18 10:40 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 Pressure (psi)	Casing Rotation	Standby Charged(hrs)	Casing Reciprocation		
Yes	4253	Yes	0	0	2256	Yes	3500		3			

Francisco Flores — Service Supervisor

12/14/2018 — Date