

# Cement Post Job Report

**Client:** PDC Energy

**Well Name:** George 19NA

**API #:** 05-123-51780

**Job Date:** April 28, 2024

**Job Type:** New Well - 5.5" Production String

**Cement Company & Contact:** EXERO Well Integrity -  
Cheve Meyer 720-239-3819

# EXERO

## TREATMENT REPORT

CLIENT	WELL	RIG	JOB TYPE	THREAD TYPE	WELLHEAD CONNECTION
PDC Energy	George 19NA	True 41	Production	Buttress	5 1/2" HP Cement Head

WELL MD (FT)	WELL TVD (FT)	DEVIATION (DEG)	NUMBER OF STAGES	BHST (DEG)	BHCT (DEG)
17,546	6745	90	1	230	230

PACKER/RETAINER/CIBP/DV TOOL DEPTHS (FT)	TOOL TYPE	TOP OF PERFS (FT)	BOTTOM OF PERFS (FT)	NUMBER OF HOLES

CASING/TUBING/DP DETAILS								
STRING TYPE	GRADE	OD"	WT/FT	ID"	OH SIZE"	% EXCESS LEAD	% EXCESS TAIL	TOTAL DEPTH (FT)
Surface	K55	9.625	36	8.921	12.25			1990
Production	P110	5.5	20	4.778	8.5	0	0	17,446
MAXIMUM CASING/TUBING/DP PSI						MAXIMUM ANNULAR PSI		

Mud Type	OBM	Rotate Y,N	Yes	Circulation Data				Water Requirements (bbls)		
Mud ppg	10.2	Rate (rpm)		Circulate Time (hrs)		1.5	Spacers		160	
Flow Temp	140	Torque Val.	13000	Circulation Rate (bpm)		10.5	PSI	1400	Stage 1 Lead	148
Vis. Sec/qt	61	Time (hr)	3	Full Circulation ? (Y,N,P)		Yes			Stage 1 Tail	225
PV (cP)	20	Pipe Reciprocation		Gas Present (Y,N)		NO	Units		Stage 2 Lead	
Yield Pt	14	Recip Y,N		Centralizers/Plugs				Stage 2 Tail		
10 sec gel	6	Stroke (ft)		Quantity & Type		Customer Provided			Displacement	387
10 min gel	9	Recip time		Top Plug/Type		Customer Provided			Wash up	20
30 min gel	13	Stuck ?		Bottom Plug/Type		Customer Provided			Total + 10% Safety	1034

Preflush & Spacers		Stage 1 Lead - Class G		Stage 1 Tail - Class G		Stage 2 Lead		Stage 2 Tail		Displacement	
Spacer 1	Spacer	Density	12.9	Density	13.7	Density		Density		Fluid Type	Water
Density	12	Sacks	1643	Sacks	1443	Sacks		Sacks		Dens. ppg	8.33
Volume	160	Vol/bbls	319.0	Vol/bbls	352.1	Vol/bbls	0.0	Vol/bbls	0.0	Vol. bbl	387
Rate	10	Rate	10	Rate	10	Rate		Rate		Rate bpm	
Spacer 2		Yield	1.09	Yield	1.37	Yield		Yield		Clay Stay?	
Density		Gal/Sk	3.77	Gal/Sk	6.63	Gal/Sk		Gal/Sk		Biocide ?	
Volume		% Excess	0	% Excess	0	% Excess		% Excess		Slow @ bbl	367
Rate		TOL (ft)	946	TOT (ft)	8581	TOL (ft)		TOT (ft)		Bump PSI	2900

Final Displacement (bbls)	387
Bump Plug?	Yes
Final Bump Pressure (psi)	3400
Full Returns throughout job?	Full
Vol. away/Time when returns lost	
Vol. away when returns were regained	
Spacer to Surface?	Yes
Spacer volume returned (bbls)	115
Cement to surface?	No
Cement volume to surface stage 1	
Cement volume to surface stage 2	

Surface Top Out Details-Pumped		Job Summary & Chems Used	
Cement Type		MFC 47 (gal)	112
Dens. ppg		MFC 67 (gal)	160
Sacks qty		Defoamer (gal)	35
Gal/sk		Biocide (gal)	20
Yield		Corr. Inhib (gal)	
Lbs. of chloride used		Fiber (lbs)	
Top out pipe used ?		Chloride (lbs)	
Feet of top out pipe		Retarder (lbs)	
Annulus holding?		Clay Stay (gal)	
Sodium Silicate Used		Other	

## JOB LOG

CLIENT	WELL	RIG	JOB TYPE	START DATE	Ambient Conditions		
PDC Energy	George 19NA	True 41	Production	4/28/2024	Temp / Hum / Air Press 63 Deg F / 35% / 24.80 in		
DATE (dd/mm)	TIME (hh:mm)	DENSITY (ppg)	RATE (bpm)	VOL. (bbl)	TOTAL VOL.	PRESSURE	TREATMENT COMMENTS
4/28/2024	12:45:00 PM						Arrived on location/ Wait for rig to finish running casing
4/28/2024	3:00:00 PM						Spot Equipment
4/28/2024	3:30:00 PM						Rig up/ Wait for rig to finish circulation
4/28/2024	4:20:00 PM						Safety meeting
4/28/2024	4:58:00 PM						Rig up floor/ Drop 1st BOTTOM plug
4/28/2024	5:06:00 PM	8.33	6.2	3	3	1300	Fill surface lines
4/28/2024	5:08:00 PM	8.33				8200	Pressure test
4/28/2024	5:09:00 PM	12	10.0	160	160	2100	Pump 160 bbl SPACER @ 12# with surfactant
4/28/2024	5:27:00 PM						Shutdown/ Drop 2nd BOTTOM plug
4/28/2024	5:30:00 PM	12.9	9.5	319	319	2000	Pump 319 bbl (1643sks) LEAD cement @ 12.9#, 1.09Y, 3.77 gal/sk, TOL- 946'
4/28/2024	6:06:00 PM	13.7	10.0	352	352	1900	Pump 352 bbl (1443sks) TAIL cement @ 13.7#, 1.37Y, 6.63gal/sk, TOT @ 8581'
4/28/2024	6:42:00 PM	8.33	9.0	10	10	1800	Pump 10 bbl Fresh water to wash pump
4/28/2024	6:44:00 PM						Drop Top plug
4/28/2024	6:50:00 PM	8.33					Pump 387bbl Freshwater Displacement with biocide in all
4/28/2024	6:51:00 PM	8.33	10.0	10	10	2100	Pump Freshwater Displacement
4/28/2024	6:56:00 PM	8.33	10.0	50	50	2100	Pump Freshwater Displacement
4/28/2024	7:01:00 PM	8.33	10.0	100	100	2700	Pump Freshwater Displacement
4/28/2024	7:06:00 PM	8.33	9.8	150	150	3400	Pump Freshwater Displacement
4/28/2024	7:11:00 PM	8.33	9.8	200	200	3700	Pump Freshwater Displacement
4/28/2024	7:17:00 PM	8.33	8.5	250	250	3500	Pump Freshwater Displacement, Spacer to surface @ 272 away, circulate 115bbl spacer to surface
4/28/2024	7:23:00 PM	8.33	8.5	300	300	3700	Pump Freshwater Displacement
4/28/2024	7:29:00 PM	8.33	8.5	350	350	3700	Pump Freshwater Displacement
4/28/2024	7:31:00 PM	8.33	4.0	367	367	2800	Pump Freshwater Displacement
4/28/2024	7:36:00 PM	8.33	BUMP	387	387	2900-3400	Bump plug/ Shutdown
4/28/2024	7:40:00 PM	8.33					Sheer wet shoe/ Sheered @ 5100psi
4/28/2024	7:41:00 PM	8.33		5	5		Pump 5 bbl wet shoe
4/28/2024	7:43:00 PM						Shutdown
4/28/2024	7:46:00 PM						Check float/ float held/ 5 bbl back to truck
4/28/2024	7:49:00 PM	8.33					Begin 30 min inflow test
4/28/2024	7:54:00 PM	8.33	10.0	30	30	500	Rig up/ Flush stack clean
4/28/2024	8:00:00 PM						Rig down
4/28/2024	8:04:00 PM						End 30 min inflow test 21 gal to surface
4/28/2024	9:00:00 PM						Depart location

# George 19N Production Pump Chart – Pressure / Rate / Density

— pressure1 psi    — density backup lbs/gal    — Combined Rate

