

# Cement Post Job Report

**Client:** PDC Energy

**Well Name:** George 12N

**API #:** 05-123-51768

**Job Date:** April 9, 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 12N	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)
18,046		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			1964
Production	P110	5.5	20	4.778	8.5	0	0	18,037
MAXIMUM CASING/TUBING/DP PSI					MAXIMUM ANNULAR PSI			

Mud Type	OBM	Rotate Y,N	Circulation Data				Water Requirements (bbls)			
Mud ppg		Rate (rpm)	Circulate Time (hrs)		1.5	Spacers		160		
Flow Temp		Torque Val.	Circulation Rate (bpm)		10	PSI	1200	Stage 1 Lead	148	
Vis. Sec/qt		Time (hr)	Full Circulation ? (Y,N,P)		Yes			Stage 1 Tail	243	
PV (cP)		Pipe Reciprocation	Gas Present (Y,N)		NO	Units	NA	Stage 2 Lead		
Yield Pt		Recip Y,N	Centralizers/Plugs						Stage 2 Tail	
10 sec gel		Stroke (ft)	Quantity & Type		Customer Provided			Displacement	400	
10 min gel		Recip time	Top Plug/Type		Customer Provided			Wash up	20	
30 min gel		Stuck ?	Bottom Plug/Type		Customer Provided			Total + 10% Safety	1068	

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	1541	Sacks		Sacks		Dens. ppg	8.33
Volume	160	Vol/bbls	319.0	Vol/bbls	376.0	Vol/bbls	0.0	Vol/bbls	0.0	Vol. bbl	400
Rate	10	Rate	10	Rate	10	Rate		Rate		Rate bpm	10
Spacer 2		Yield	1.09	Yield	1.37	Yield		Yield		Clay Stay?	NO
Density		Gal/Sk	3.77	Gal/Sk	6.63	Gal/Sk		Gal/Sk		Biocide ?	YES
Volume		% Excess	0	% Excess	0	% Excess		% Excess		Slow @ bbl	380
Rate		TOL (ft)	0	TOT (ft)	7341	TOL (ft)		TOT (ft)		Bump PSI	3000

Final Displacement (bbls)	400
Bump Plug?	YES
Final Bump Pressure (psi)	3500
Full Returns throughout job?	FULL
Vol. away/Time when returns lost	NA
Vol. away when returns were regained	NA
Spacer to Surface?	YES
Spacer volume returned (bbls)	160
Cement to surface?	YES
Cement volume to surface stage 1	15
Cement volume to surface stage 2	NA

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 12N	True 41	Production	4/9/2024	Temp / Hum / Air Press 33 Deg F / 85% / 25.00in		
DATE (dd/mm)	TIME (hh:mm)	DENSITY (ppg)	RATE (bpm)	VOL. (bbl)	TOTAL VOL.	PRESSURE	TREATMENT COMMENTS
4/8/2024	1:00:00 PM						CREW CALLED OUT FOR AN ON LOCATION TIME OF 9:00 PM
	8:00:00 PM						CREW ARRIVES ON LOCATION/CHECK IN WITH CO REP/CALCULATE JOB
4/9/2024	12:45:00 AM						CASING LANDED/CIRCULATE WELL/SPOT IN AND RIG UP EQUIPMENT
	3:15:00 AM						SAFETY MEETING
	3:30:00 AM						RIG UP FLOOR/DROP 1ST BOTTOM PLUG
	3:42:00 AM	8.3	3.0	3	3	800	FILL LINES
	3:44:00 AM	8.3	1.0	1	1	7300	PRESSURE TEST
	3:48:00 AM	12	8.3	160	160	1000/2800	PUMP SPACER/PRESSURE VARIED FROM 1000-2800 PSI THE ENTIRE TIME
	4:08:00 AM						SHUT DOWN/RIG DOWN CRT
	4:16:00 AM						DROP 2ND BOTTOM PLUG
	4:19:00 AM	12.9	9.2	319	319	1300-2600	PUMP LEAD/PRESSURE VARIED/15 BBLs TO SURFACE(1643 SKS, 1.09 YLD, 3.77 GPS, 148MW)
	5:00:00 AM	13.7	9.2	376	376	1300-3700	PUMP TAIL/PRESSURE VARIED/ TOT-7342' (1541 SKS, 1.37 YLD, 6.63 GPS, 243 MW)
	5:45:00 AM	8.3	9.2	8	8	1500	PUMP SUGAR WATER
	5:45:00 AM						SHUT IN/WASHUP PUMPS AND LINES/DROP TOP PLUG
	5:53:00 AM	8.3	10.0			1850	BEGIN DISPLACEMENT USING FRESHWATER WITH BIOCIDES IN ALL
	5:59:00 AM	8.3	10.0	50	50	2250	FRESHWATER DISPLACEMENT
	6:04:00 AM	8.3	10.0	50	100	2850	FRESHWATER DISPLACEMENT
	6:09:00 AM	8.3	10.0	50	150	3600	FRESHWATER DISPLACEMENT
	6:14:00 AM	8.3	10.0	50	200	3900	FRESHWATER DISPLACEMENT
	6:19:00 AM	8.3	10.0	50	250	3950	FRESHWATER DISPLACEMENT/NEOFLO VISIBLE AT SURFACE/SWAP TO OPEN TOPS
	6:23:00 AM	8.3	10.0	37	287	4050	FRESHWATER DISPLACEMENT/GOOD SPACER VISIBLE AT OPEN TOPS
	6:26:00 AM	8.3	9.5	13	300	4000	FRESHWATER DISPLACEMENT
	6:31:00 AM	8.3	9.0	50	350	4000	FRESHWATER DISPLACEMENT
	6:37:00 AM	8.3	4.0	30	380	3000	FRESHWATER DISPLACEMENT/SLOWED RATE TO LAND PLUG
	6:38:00 AM	8.3	4.0	5	385	3000	FRESHWATER DISPLACEMENT/LEAD CEMENT VISIBLE AT OPEN TOPS
	6:40:00 AM	8.3	4.0	15	400	3500	LAND PLUG ON CALCULATED DISPLACEMENT GOING 500 OVER FCP
	6:43:00 AM	8.3	3.0	1	1	4800	PRESSURE UP TO BURST DISK
	6:44:00 AM	8.3	3.0	5	5	3000	PLUG BURST/PUMP 5 BBL WET SHOE
	6:49:00 AM						CHECK FLOATS/FLOATS HELD/RECEIVED 3.5 BBLs BACK
	6:55:00 AM	8.3	5.0	40	40	150	RIG IN TO FLUSH STACK/PUMP 40 BBLs FRESHWATER THRU BOP
	7:30:00 AM						RIG DOWN EQUIPMENT/FINISH PAPERWORK
	8:30:00 AM						DEPART LOCATION

# George 12N Production Pump Chart – Pressure / Rate / Density

— discharge pressure ds psi    — backup density lbm/galUS    — combined rate bbl/min

