

Cement Post Job Report

Client: PDC Energy

Well Name: George 7NA

API #: 05-123-51774

Job Date: March 26, 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 07NA	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)
18,088	6719	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		9.625	36	8.921	12.25			1928
Production	P110	5.5	20	4.778	8.5	0	0	18,079
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)	30	Circulate Time (hrs)		3	Spacers		160	
Flow Temp		Torque Val.	30000	Circulation Rate (bpm)		10	PSI	1850	Stage 1 Lead	148
Vis. Sec/qt	53	Time (hr)	job	Full Circulation ? (Y,N,P)		Yes		Stage 1 Tail	244	
PV (cP)		Pipe Reciprocation		Gas Present (Y,N)		NO	Units	NA	Stage 2 Lead	
Yield Pt	13	Recip Y,N	NO	Centralizers/Plugs				Stage 2 Tail		
10 sec gel		Stroke (ft)		Quantity & Type		Customer Provided		Displacement	402	
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	1071	

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	1538	Sacks		Sacks		Dens. ppg	8.33
Volume	160	Vol/bbls	319.0	Vol/bbls	375.3	Vol/bbls	0.0	Vol/bbls	0.0	Vol. bbl	401
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	381
Rate		TOL (ft)	1029	TOT (ft)	8696	TOL (ft)		TOT (ft)		Bump PSI	3350

Final Displacement (bbls)	401
Bump Plug?	Yes
Final Bump Pressure (psi)	3850
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)	111
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)	145
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 07NA	True 41	Production	3/26/2024	Temp / Hum / Air Press 18 Deg F / 84% / 24.74 in		
DATE (dd/mm)	TIME (hh:mm)	DENSITY (ppg)	RATE (bpm)	VOL. (bbl)	TOTAL VOL.	PRESSURE	TREATMENT COMMENTS
3/25/2024	10:30:00 PM						Arrived on location/ Wait for rig to finish running casing
3/26/2024	4:15:00 AM						Spot equipment
3/26/2024	4:30:00 AM						Rig up/ Wait for rig to finish circulation
3/26/2024	6:35:00 AM						Safety meeting
3/26/2024	6:45:00 AM						Rig up floor
3/26/2024	6:55:00 AM						Load 1st BOTTOM plug
3/26/2024	7:00:00 AM	8.33	4.0	3	3	450	Fill surface lines
3/26/2024	7:13:00 AM	8.33				8000	Pressure test
3/26/2024	7:15:00 AM	12	9.5	160	160	1500	Pump 160 bbl SPACER with surfactant and fiber
3/26/2024	7:34:00 AM						Shutdown/ Drop 2nd BOTTOM plug
3/26/2024	7:38:00 AM	12.9	10.0	319	319	1950	Pump 319 bbl (1643sks) LEAD cement @ 12.9#, 1.09Y,3.77gal/sk TOL @ 1029'
3/26/2024	8:09:00 AM	13.7	10.0	375	375	2000	Pump 375 bbl (1538sks) TAIL cement @ 13.7#, 1.37Y, 6.63gal/sk TOT @ 8696'
3/26/2024	8:48:00 AM	8.33	10.0	8	8	2000	Pump 8 bbl SUGAR water
3/26/2024	8:49:00 AM	8.33					Shutdown/ Rig up washup sub/ Wash pump
3/26/2024	9:03:00 AM						Drop TOP plug
3/26/2024	9:06:00 AM	8.33					Pump 401 bbl Freshwater Displacement with biocide in all
3/26/2024	9:07:00 AM	8.33	8.0	10	10	2500	Pump Freshwater Displacement
3/26/2024	9:12:00 AM	8.33	9.8	50	50	2950	Pump Freshwater Displacement
3/26/2024	9:18:00 AM	8.33	9.8	100	100	3650	Pump Freshwater Displacement
3/26/2024	9:24:00 AM	8.33	9.0	150	150	3900	Pump Freshwater Displacement
3/26/2024	9:30:00 AM	8.33	8.0	200	200	3950	Pump Freshwater Displacement
3/26/2024	9:37:00 AM	8.33	8.0	250	250	4000	Pump Freshwater Displacement, Spacer to surface at 290 away, circulate 111 bbl spacer to surface.
3/26/2024	9:43:00 AM	8.33	7.5	300	300	4000	Pump Freshwater Displacement
3/26/2024	9:51:00 AM	8.33	6.8	350	350	4050	Pump Freshwater Displacement
3/26/2024	9:56:00 AM	8.33	3.0	381	381	3200	Pump Freshwater Displacement, Slow rate to 3bbl/ min to bump plug
3/26/2024	10:01:00 AM	8.33	BUMP	401	401	3350-3850	Bump plug/ Shutdown FCP- 3350psi, bumped to 3850psi
3/26/2024	10:07:00 AM	8.33					Check Float/ Float held/ 6.25 bbl back to truck
3/26/2024	10:09:00 AM	8.33	2.0			3500	Shift wet shoe sub per co rep/ Sleeve shifted at 3500psi
3/26/2024	10:14:00 AM	8.33	2.0	5	5	3200	Pump 5 bbl wet shoe- FCP 3200psi
3/26/2024	10:17:00 AM	8.33					Shutdown
3/26/2024	10:18:00 AM	8.33					Check Float/ Float held/ 5 bbl back to truck
3/26/2024	10:20:00 AM	8.33	8.0	30	30	450	Rig up and flush stack clean/ Begin 30 min inflow test
3/26/2024	10:40:00 AM						Rig down
3/26/2024	10:50:00 AM						End 30 min inflow test, 27 gal freshwater to surface
3/26/2024	11:30:00 AM						Depart location

George 7NA Production Pump Chart – Pressure / Rate / Density

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

