

Cement Post Job Report

Client: PDC Energy

Well Name: George 6N

API #: 05-123-51776

Job Date: March 23, 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 06N	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)
17,947		90	1	230	230

PACKER/RETAINER/CIBP/DV TOOL DEPTHS (FT)	TOOL TYPE	TOP OF PERFS (FT)	BOTTOM OF PERFS (FT)	NUMBER OF HOLES
3475	PACKER			

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			1963
Production	P110	5.5	20	4.778	8.5	0	0	17,938
MAXIMUM CASING/TUBING/DP PSI			MAXIMUM ANNULAR PSI					

Mud Type	OBM	Rotate Y,N	NO	Circulation Data				Water Requirements (bbls)		
Mud ppg	10.2	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	238	
PV (cP)		Pipe Reciprocation		Gas Present (Y,N)		NO	Units	Stage 2 Lead		
Yield Pt		Recip Y,N	NO	Centralizers/Plugs				Stage 2 Tail		
10 sec gel		Stroke (ft)		Quantity & Type		Customer Provided		Displacement	398	
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	1060	

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	1508	Sacks		Sacks		Dens. ppg	8.33
Volume	160	Vol/bbls	319.0	Vol/bbls	367.9	Vol/bbls	0.0	Vol/bbls	0.0	Vol. bbl	398
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)	7657	TOL (ft)		TOT (ft)		Bump PSI	3000

Final Displacement (bbls)	398
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	40
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)	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 06N	True 41	Production	3/23/2024	Temp / Hum / Air Press 33 Deg F / 75% / 24.86 in

DATE (dd/mm)	TIME (hh:mm)	DENSITY (ppg)	RATE (bpm)	VOL. (bbl)	TOTAL VOL.	PRESSURE	TREATMENT COMMENTS
3/22/2024	7:00:00 PM						CREW CALLED OUT FOR AN ON LOCATION TIME OF 03:00 AM 03/23/24
3/23/2024	2:00:00 AM						CREW ARRIVES ON LOCATION/CHECK IN WITH CO REP/CALCULATE JOB
	2:30:00 AM						CASING LANDED/CIRCULATE WELL/SPOT IN AND RIG UP EQUIPMENT
	4:15:00 AM						SAFETY MEETING
	4:30:00 AM						RIG UP FLOOR/DROP BOTTOM PLUG
	4:38:00 AM	8.3	3.0	3	3	700	FILL LINES
	4:39:00 AM	8.3	1.0	1	1	6400	PRESSURE TEST
	4:43:00 AM	12	10.0	160	160	1200	PUMP 160 BBLs OF SPACER AT 12 PPG WITH FIBER AND SURFACTANTS
	4:58:00 AM	12.9	10.0	319	319	1300	PUMP 319 BBLs LEAD AT 12.9 PPG TOL AT SURFACE (1643 SKS, 1.09 YLD, 3.77 GPS, 148 MXH20)
	5:30:00 AM	13.7	10.0	368	368	1000	PUMP 368 BBLs TAIL AT 13.7 PPG TOT AT 7657' (1508 SKS, 1.37 YLD, 6.63 GPS, 238 MXH20)
	6:12:00 AM	8.3	10.0	8	8	1100	PUMP 8 BBLs SUGAR WATER
	6:13:00 AM						SHUT DOWN/WASHUP PUMPS AND LINES/DROP TOP PLUG
	6:19:00 AM	8.3	10.0			750	BEGIN DISPLACEMENT USING FRESHWATER WITH BIOCIDES IN ALL
	6:26:00 AM	8.3	10.0	50	50	2100	FRESHWATER DISPLACEMENT
	6:31:00 AM	8.3	10.0	50	100	3700	FRESHWATER DISPLACEMENT
	6:36:00 AM	8.3	10.0	50	150	3400	FRESHWATER DISPLACEMENT
	6:42:00 AM	8.3	10.0	50	200	3600	FRESHWATER DISPLACEMENT
	6:47:00 AM	8.3	10.0	50	250	3750	FRESHWATER DISPLACEMENT
	6:49:00 AM	8.3	10.0	20	270	4000	FRESHWATER DISPLACEMENT/SPACER VISIBLE AT SHAKERS/SWAPPED TO OPEN TOPS
	6:53:00 AM	8.3	9.0	30	300	3900	FRESHWATER DISPLACEMENT
	6:58:00 AM	8.3	9.0	50	350	3900	FRESHWATER DISPLACEMENT/LEAD CEMENT VISIBLE AT OPEN TOPS
	7:01:00 AM	8.3	4.0	30	380	3000	FRESHWATER DISPLACEMENT/SLOWED RATE TO LAND PLUG
	7:03:00 AM	8.3	4.0	18	398	3500	LAND PLUG AT CALCULATED DISPLACEMENT/RECEIVED
	7:08:00 AM	8.3	1.0	19	19	5700	PACKER PROCEDURE
	7:50:00 AM	8.3	5.0	100	100	150	RIG IN TO FLUSH BOP STACK/ PUMP UNTIL CLEAN
	8:13:00 AM						RIG DOWN FLOOR AND REMAINING EQUIPMENT/FINISH PAPERWORK
	9:00:00 AM						DEPART LOCATION

George 6N Production Pump Chart – Pressure / Rate / Density

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

