

Cement Post Job Report

Client: PDC Energy

Well Name: George 14N

API #: 05-123-51769

Job Date: April 14, 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 14N	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)
17,315	6770	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			1952
Production	P110	5.5	20	4.778	8.5	0	0	17,305
MAXIMUM CASING/TUBING/DP PSI						MAXIMUM ANNULAR PSI		

Mud Type	OBM	Rotate Y,N	YES	Circulation Data				Water Requirements (bbls)		
Mud ppg		Rate (rpm)	30	Circulate Time (hrs)		1.5	Spacers		160	
Flow Temp		Torque Val.	12000	Circulation Rate (bpm)		10	PSI	1100	Stage 1 Lead	148
Vis. Sec/qt		Time (hr)	3HRS	Full Circulation ? (Y,N,P)		Yes			Stage 1 Tail	243
PV (cP)		Pipe Reciprocation		Gas Present (Y,N)		NO	Units		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	1414	Sacks		Sacks		Dens. ppg	8.33
Volume	160	Vol/bbls	319.0	Vol/bbls	345.0	Vol/bbls	0.0	Vol/bbls	0.0	Vol. bbl	384
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	364
Rate		TOL (ft)	0	TOT (ft)	7548	TOL (ft)		TOT (ft)		Bump PSI	3000

Final Displacement (bbls)	384
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	4
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 14N		True 41		Production		4/14/2024		Temp / Hum / Air Press 76 Deg F / 12% / 24.78 in	
DATE (dd/mm)	TIME (hh:mm)	DENSITY (ppg)	RATE (bpm)	VOL. (bbl)	TOTAL VOL.	PRESSURE	TREATMENT COMMENTS				
4/14/2024	8:00:00 AM						CREW CALLED OUT FOR AN ON LOCATION TIME OF 4:30 PM				
	2:00:00 PM						CREW ARRIVES ON LOCATION/CHECK IN WITH CO REP/CALCULATE JOB				
	4:45:00 PM						CASING LANDED/SPOT IN AND RIG UP EQUIPMENT				
	6:15:00 PM						SAFETY MEETING				
	6:30:00 PM						RIG UP FLOOR/DROP 1ST BOTTOM PLUG				
	6:45:00 PM	8.3	3.0	5	5	650	FILL LINES				
	6:48:00 PM	8.3	1.0	1	1	7400	PRESSURE TEST				
	6:50:00 PM	12	10.0	160	160	1850	PUMP 160 BBLs OF SPACER AT 12 PPG				
	7:07:00 PM						SHUT DOWN AND DROP 2ND BOTTOM PLUG				
	7:13:00 PM	12.9	9.0	319	319	2100	PUMP 319 BBLs OF LEAD AT 12.9 PPG TOL-0' (1643 SKS, 1.09 YLD, 3.77 GPS, 148 MXH20)				
	7:50:00 PM	13.7	10.0	345	345	2100	PUMP 345 BBLs OF TAIL AT 13.7 PPG TOT-7548' (1414 SKS, 1.37 YLD, 6.63 GPS, 223 MXH20)				
	8:37:00 PM	8.3	10.0	8	8	1700	PUMP 8 BBLs OF SUGAR WATER				
	8:39:00 PM						SHUT DOWN AND WAHSUP PUMPS AND LINES/DROP TOP PLUG				
	8:44:00 PM	8.3	10.0			900	BEGIN DISPLACEMENT USING FRESHWATER WITH BIOCIDES IN ALL				
	8:50:00 PM	8.3	10.0	50	50	2300	FRESHWATER DISPLACEMENT				
	8:57:00 PM	8.3	10.0	50	100	3200	FRESHWATER DISPLACEMENT				
	9:02:00 PM	8.3	10.0	50	150	3500	FRESHWATER DISPLACEMENT				
	9:04:00 PM						SHUT DOWN DUE TO CHICKSEN LEAK/REPLACE CHICKSEN				
	9:08:00 PM	8.3	7.5	5	155	3750	BACK ON LINE WITH FRESHWATER DISPLACEMENT				
	9:11:00 PM						SHUT DOWN DUE TO CHICKSEN LEAK/REPLACE CHICKSEN				
	9:14:00 PM	8.3	7.5	20	175	3800	BACK ON LINE WITH FRESHWATER DISPLACEMENT				
	9:16:00 PM	8.3	7.5	5	180	3900	FRESHWATER DISPLACEMENT/INTERFACE VISIBLE AT SHAKERS/SWAPPED TO OPEN TOPS				
	9:19:00 PM	8.3	7.5	20	200	3750	FRESHWATER DISPLACEMENT				
	9:25:00 PM	8.3	7.5	50	250	3900	FRESHWATER DISPLACEMENT				
	9:27:00 PM	8.3	7.5	20	270	3900	FRESHWATER DISPLACEMENT/GOOD SPACER VISIBLE AT THE OPEN TOPS				
	9:32:00 PM	8.3	7.5	30	300	3800	FRESHWATER DISPLACEMENT				
	9:39:00 PM	8.3	7.5	50	350	3800	FRESHWATER DISPLACEMENT				
	9:40:00 PM	8.3	3.8	14	364	2900	FRESHWATER DISPLACEMENT				
	9:45:00 PM	8.3	3.8	16	380	3000	FRESHWATER DISPLACEMENT/LEAD CEMENT VISIBLE AT OPEN TOPS				
	9:50:00 PM	8.3	3.8	4	384	3500	LAND PLUG GOING 500 OVER FCP/4 BBLs LEAD BACK/160 BBLs SPACER BACK				
	9:53:00 PM	8.3	2.8			3500	PRESSURE UP TO BURST DISK				
	9:54:00 PM	8.3	2.8	2	2	4800	DISK RUPTURED				
	9:54:00 PM	8.3	2.8	5	5	2700	PUMP 5 BBL WET SHOE				
	9:59:00 PM						CHECK FLOATS/FLOATS HELD/RECEIVED 4.5 BBLs BACK				
	10:05:00 PM	8.3	5.0	40	40	150	RIG IN TO FLUSH STACK/PUMP 40 BBLs THRU BOP				
	10:10:00 PM						RIG DOWN EQUIPMENT/FINISH PAPER WORK				
	11:30:00 PM						DEPART LOCATION				

George 14N Production Pump Chart – Pressure / Rate / Density

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

