

Cement Post Job Report

Client: PDC Energy

Well Name: George 1N

API #: 05-123-51766

Job Date: March 8, 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 01N	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)
18300	6842	90	1	230	230

PACKER/RETAINER/CIBP/DV TOOL DEPTHS (FT)	TOOL TYPE	TOP OF PERFS (FT)	BOTTOM OF PERFS (FT)	NUMBER OF HOLES
Packer @ 3552' / Wet Shoe Sub @ 18263'				

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			2040
Production	P110	5.5	20	4.778	8.5	0	0	18292
MAXIMUM CASING/TUBING/DP PSI					MAXIMUM ANNULAR PSI			

Mud Type	OBM	Rotate Y,N	Circulation Data				Water Requirements (bbls)			
Mud ppg	10.2	Rate (rpm)	Circulate Time (hrs)		2	Spacers		160		
Flow Temp		Torque Val.	Circulation Rate (bpm)		10	PSI	1500	Stage 1 Lead	112	
Vis. Sec/qt		Time (hr)	Full Circulation ? (Y,N,P)		Yes			Stage 1 Tail	258	
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	406	
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	1052	

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	1574	Sacks		Sacks		Dens. ppg	8.33
Volume	160	Vol/bbls	319.0	Vol/bbls	384.1	Vol/bbls	0.0	Vol/bbls	0.0	Vol. bbl	406
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	386
Rate		TOL (ft)	1046	TOT (ft)	8692	TOL (ft)		TOT (ft)		Bump PSI	2900

Final Displacement (bbls)	406
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)	110
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)	25
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 01N	True 41	Production	3/7/2024	Temp / Hum / Air Press 28 deg F / 93% / 2494 in		
DATE (dd/mm)	TIME (hh:mm)	DENSITY (ppg)	RATE (bpm)	VOL. (bbl)	TOTAL VOL.	PRESSURE	TREATMENT COMMENTS
3/7/2024	4:00:00 PM						Arrived on location/ Wait for rig to finish running casing
3/7/2024	8:10:00 PM						Spot equipment
3/7/2024	8:20:00 PM						Rig up/ Wait for rig to finish circulation
3/7/2024	10:15:00 PM						Safety meeting
3/7/2024	10:28:00 PM						Drop BOTTOM plug
3/7/2024	10:35:00 PM						Rig up floor
3/7/2024	10:38:00 PM	8.33	6.2	3	3	850	Fill surface lines
3/7/2024	10:39:00 PM	8.33				7000	Pressure test
3/7/2024	10:41:00 PM	12	10.0	160	160	1400	Pump 160 bbl SPACER @ 12# with surfactant and fiber
3/7/2024	10:57:00 PM	12.9	11.0	319	319	2000	Pump 319 bbl (1643sks) LEAD cement @ 12.9#, 1.09Y, 3.77 gal/sk - TOL- 1046'
3/7/2024	11:28:00 PM	13.7	10.5	384	384	1700	Pump 384 bbl (1574sks) TAIL cement @ 13.7#, 1.37Y, 6.63 gal/sk- TOT-8692'
3/8/2024	12:05:00 AM	8.33	10.0	8	8	1300	Pump 8 bbl SUGAR water
3/8/2024	12:06:00 AM	8.33					Shutdown/ Wash pumps and lines/ Drop TOP plug
3/8/2024	12:15:00 AM	8.33					Pump 406 bbl Freshwater Displacement, first 10 bbl SUGAR water, biocide in all
3/8/2024	12:16:00 AM	8.33	11.2	10	10	2400	Pump Freshwater Displacement
3/8/2024	12:20:00 AM	8.33	11.1	50	50	2600	Pump Freshwater Displacement
3/8/2024	12:24:00 AM	8.33	11.0	100	100	3300	Pump Freshwater Displacement
3/8/2024	12:29:00 AM	8.33	10.0	150	150	3700	Pump Freshwater Displacement
3/8/2024	12:35:00 AM	8.33	9.0	200	200	3800	Pump Freshwater Displacement
3/8/2024	12:40:00 AM	8.33	8.0	250	250	3700	Pump Freshwater Displacement, Spacer to surface @ 296, circulate 110 bbl Spacer to surface
3/8/2024	12:47:00 AM	8.33	8.0	300	300	3700	Pump Freshwater Displacement
3/8/2024	12:53:00 AM	8.33	8.0	350	350	3650	Pump Freshwater Displacement
3/8/2024	12:59:00 AM	8.33	3.6	386	386	2800	Pump Freshwater Displacement, slow rate to 4bbl/min to bump plug
3/8/2024	1:01:00 AM	8.33	BUMP	406	406	2900-3400	Bump plug/ Shutdown FCP-2800 psi, bumped to 3300 psi
3/8/2024	1:03:00 AM	8.33				4000	Begin 1st step in packer procedure per tool rep
3/8/2024	1:04:00 AM	8.33				5700	Begin 2nd step in packer procedure per tool rep
3/8/2024	1:13:00 AM	8.33					Check floats, floats held, 8 bbl back to truck
3/8/2024	1:17:00 AM	8.33				5700	Continue packer procedure per tool rep
3/8/2024	1:44:00 AM	8.33					Check floats, floats held, 7 bbl back to truck
3/8/2024	1:45:00 AM	8.33					Begin 30 min inflow test
3/8/2024	1:50:00 AM	8.33	10.0	30	30	500	Rig up and flush stack clean
3/8/2024	2:00:00 AM						Rig down
3/8/2024	2:15:00 AM						End 30 min inflow test, 17 gal freshwater to surface
3/8/2024	2:45:00 AM						Depart location

George 1N Production Pump Chart – Pressure / Rate / Density

