

Cement Post Job Report

Client: PDC Energy

Well Name: Stugart 13NA

API #: 05-123-51261-00

Job Date: January 26, 2023

Job Type: New Well - 5.5" Production String

Cement Company & Contact: EXERO Well Integrity -
Cheve Meyer 720-239-3819



ROCK SOLID
WELL INTEGRITY
SOLUTIONS

JOB TREATMENT REPORT

Client	Well	Rig	Date	Job Type				
PDC	Stugart State 13NA	Ensign 769	1/26/2023	Production				
Connection Type	Thread Type	Number of Stages	BHST Deg	BHCT Deg				
5 1/2" HP Cement Head	Buttress	1	230	230				
Well MD (ft)	Well TVD (ft)	Deg Dev.	Max-Cas/DP PSI	Max Ann. PSI				
14884	7167	90	4200	3000				
Packer/Retainer/CIBP/DV Tool Depths		Top of Perfs	Bottom of Perfs	Number of Holes				
pkr @ 3607								
String - Surf, Int, Prod. Work etc	Grade	OD	Wt/ft	ID	OH Size	% XS Lead	% XS Tail	Total Depth (ft)
Production		5 1/2"	20		8.5	0	0	14,877
Surface		9 5/8"	36					1654

PRE-JOB MUD AND WELL CONDITIONS

Mud Type	OBM	Pipe Rotation		Circulation Data				Water Requirements (bbls)	
Mud wt. ppg	11.5	Rotate Y,N	Yes	Circulate Time (hrs)		2		Spacers	140
Flow Temp		Rate		Circulation Rate (bpm)		11		Stage 1 Lead	119
Vis. Sec/qt		Torque Val.		Full Circ?		Full		Stage 1 Tail	168
PV (cP)		Time		Gas Present (Y,N)		Yes	Units	Stage 2 Lead	0
Yield Pt		Pipe Reciprocation		Centralizers/Plugs				Stage 2 Tail	0
10 sec gel		Recip Y,N	Yes	Quantity & Type		CUSTOMER PROVIDED		Displacement	336
10 min gel		Stroke (ft)		Top Plug/Type		1-5.5" CUSTOMER PROVIDED		Wash up	20
30 min gel		Recip time		Bottom Plug/Type		2-5.5" CUSTOMER PROVIDED		Total + 10% Safety	861

PRE-JOB CALCULATED MATERIALS, VOLUMES, & RATES

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	1273	Sacks	1034	Sacks		Sacks		Dens. ppg	8.33
Volume	140	Vol/bbls	256.2	Vol/bbls	252.3	Vol/bbls	0.0	Vol/bbls	0.0	Vol. bbl	330
Rate	10	Rate	10	Rate	10	Rate		Rate		Rate bpm	10
Spacer 2		Yield	1.13	Yield	1.37	Yield		Yield		Clay Stay?	
Density		Gal/Sk	3.90	Gal/Sk	6.63	Gal/Sk		Gal/Sk		Biocide ?	Yes
Volume		% Excess	0	% Excess	0	% Excess		% Excess		Slow @ bbl	310
Rate		TOL (ft)	2400	TOL (ft)	8674	TOL (ft)		TOL (ft)		Bump PSI	3000

POST JOB DETAILS, FINAL VOLUMES & PRESSURES

Final Displacement (bbls)	330
Bump Plug?	Yes
Final Bump Pressure (psi)	3000
Full Returns throughout job?	Full
Vol away/Time when returns lost	
Vol away/Time When returns regained	

Top out cement type	NA
Density	NA
Sack Quantity	NA
Mix water requirement (gal/sk)	NA
Yield	NA

Summary of Additives Used on Job

Surfactants (gal)	238
Clay Stabilizer (gal)	
Biocide (gal)	20
Corrosion Inhibitor (gal)	
Defoamer (gal)	55
PhenoSeal (LCM lbs)	
Fiber (LCM lbs)	290

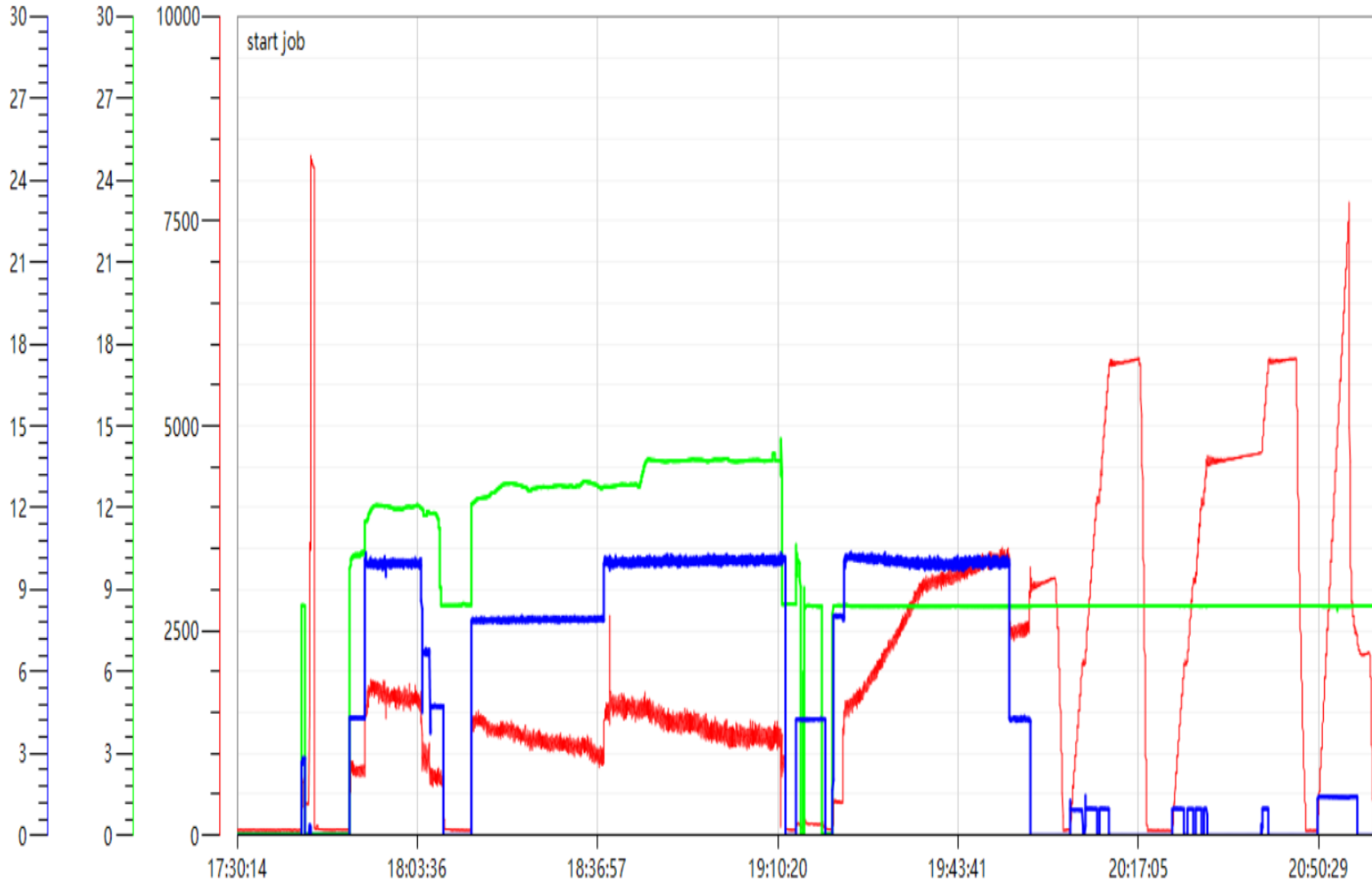
Spacer to Surface?	Yes
Spacer volume returned	50
Cement to surface?	No
Cement volume to surface stage 1 (bbls)	NA Stg 2 NA
Surface top out?	
Top out volume pumped (bbls)	NA

Job Treatment Log

Client		Well					Ambient Conditions (Temp / Humidity / Air Pressure)
PDC		Stugart State 13NA					32 Deg F / 64 % / 24.94 in
Date DD/MM	Time HH:MM	Density (ppg)	Rate (bpm)	Vol. (bbl)	Total Vol. (bbl)	Pressure (psi)	Treatment Comments
1/26/23	4:00 PM						Arrive on location, spot equipment and rig up, WOR to circulate well
	5:30 PM						safety meeting with rig crew
	5:45 PM						rig up floor
	5:54 PM	8.33	3.00	3.0	3.0	700	fill lines
	5:56 PM	8.33				8200	pressure test
	6:00 PM						drop bottom plug #1
	6:03 PM	12.00	10.00	140.0	140.0	1700	pump spacer
	6:20 PM						drop bottom plug #2
	6:25 PM	12.90	10.00	257.0	257.0	1500	pump lead cement 1273 sks 1.13 yield 3.9 gal/sk calculated TOC @ 2419
	6:58 PM	13.70	10.00	252.0	252.0	1600	pump tail cement 1034 sks 1.37 yield 6.63 gal/sk calculated TOC @ 8718
	7:23 PM	8.33	10.00	8.0	8.0	400	pump sugar water
	7:25 PM						drop top plug
	7:33 PM	8.33	8.00	10.0	10.0	400	pump displacement biocide in all
	7:38 PM	8.33	10.00	50.0	50.0	1700	pump displacement
	7:43 PM	8.33	10.00	100.0	100.0	2200	pump displacement
	7:48 PM	8.33	10.00	150.0	150.0	3000	pump displacement
	7:54 PM	8.33	10.00	200.0	200.0	3100	pump displacement
	7:59 PM	8.33	10.00	250.0	250.0	3300	pump displacement
	8:04 PM	8.33	10.00	300.0	300.0	3400	pump displacement
	8:10 PM	8.33	4.00	330.0	330.0	3000	final displacement psi 2500, bump plug to 3000 psi, 50 bbls spacer to pit
	8:14 PM						check floats, 3.5 bbls back to truck
	8:15 PM					5700	set packer per tool hand
	9:02 PM	8.33	1.50	2.0	2.0	7650	shift wet shoe sub and pump 2 bbl wet shoe opening 7650 psi, circ 2600 psi
	9:12 PM						check floats, 3 bbls (packer did not hold)
	9:28 PM						flush stack
	10:00 PM						end job

Stugart 13NA Production Pump Chart – Pressure / Rate / Density

— pressure1 psi — density backup lbs/gal — Combined Rate





Centralizer Depths

Well Name: STUGART 13NA

Production, Set Depth: 14,877.0ftKB

API 0512351261000		Surface Legal Location SENW 20 5N 66W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,885.00		Original KB Elevation (ft) 4,913.00		KB-Ground Distance (ft) 28.00		Spud Date 1/23/2023 08:30		Rig Release Date 1/27/2023 00:00		On Production Date Abandon Date	

Casing Run Tally												
Run #	Ref #	Item Des	OD (in)	Wt (lb/ft)	Grade	Run?	Len (ft)	Centralized?	Ext Jwry	Connections	Top (ftKB)	Cum Len (ft)
7	1	Casing Joints	5 1/2	20.00	P-110	Yes	43.70	Yes			14,795.5	81.55
9	3	Casing Joints	5 1/2	20.00	P-110	Yes	45.82	Yes			14,704.1	172.92
11	5	Casing Joints	5 1/2	20.00	P-110	Yes	45.88	Yes			14,612.6	264.40
13	7	Casing Joints	5 1/2	20.00	P-110	Yes	45.81	Yes			14,521.0	356.03
15	9	Casing Joints	5 1/2	20.00	P-110	Yes	45.62	Yes			14,429.5	447.50
17		Marker Joint	5 1/2	20.00	P-110	Yes	23.69	Yes			14,364.0	512.99
19	12	Casing Joints	5 1/2	20.00	P-110	Yes	45.85	Yes			14,272.6	604.44
21	14	Casing Joints	5 1/2	20.00	P-110	Yes	45.84	Yes			14,180.9	696.11
23	16	Casing Joints	5 1/2	20.00	P-110	Yes	43.60	Yes			14,096.9	780.11
25	18	Casing Joints	5 1/2	20.00	P-110	Yes	43.58	Yes			14,009.7	867.31
27	20	Casing Joints	5 1/2	20.00	P-110	Yes	43.70	Yes			13,922.4	954.60
29	22	Casing Joints	5 1/2	20.00	P-110	Yes	43.71	Yes			13,835.0	1,042.03
31	24	Casing Joints	5 1/2	20.00	P-110	Yes	43.72	Yes			13,747.7	1,129.31
33	26	Casing Joints	5 1/2	20.00	P-110	Yes	45.84	Yes			13,658.2	1,218.82
35	28	Casing Joints	5 1/2	20.00	P-110	Yes	43.05	Yes			13,569.3	1,307.69
37	30	Casing Joints	5 1/2	20.00	P-110	Yes	43.56	Yes			13,482.2	1,394.84
39	32	Casing Joints	5 1/2	20.00	P-110	Yes	45.59	Yes			13,391.0	1,485.98
41	34	Casing Joints	5 1/2	20.00	P-110	Yes	45.68	Yes			13,299.7	1,577.26
43	36	Casing Joints	5 1/2	20.00	P-110	Yes	45.80	Yes			13,208.2	1,668.76
45	38	Casing Joints	5 1/2	20.00	P-110	Yes	45.85	Yes			13,116.6	1,760.44
47	40	Casing Joints	5 1/2	20.00	P-110	Yes	45.75	Yes			13,025.1	1,851.88
49	42	Casing Joints	5 1/2	20.00	P-110	Yes	40.70	Yes			12,940.8	1,936.16
51	44	Casing Joints	5 1/2	20.00	P-110	Yes	45.58	Yes			12,849.7	2,027.31
53	46	Casing Joints	5 1/2	20.00	P-110	Yes	43.71	Yes			12,760.2	2,116.83
55	48	Casing Joints	5 1/2	20.00	P-110	Yes	45.82	Yes			12,668.6	2,208.39
57	50	Casing Joints	5 1/2	20.00	P-110	Yes	45.83	Yes			12,577.0	2,299.99
59	52	Casing Joints	5 1/2	20.00	P-110	Yes	45.56	Yes			12,485.6	2,391.37
61	54	Casing Joints	5 1/2	20.00	P-110	Yes	43.56	Yes			12,396.2	2,480.79
63	56	Casing Joints	5 1/2	20.00	P-110	Yes	45.83	Yes			12,304.8	2,572.17
65	58	Casing Joints	5 1/2	20.00	P-110	Yes	43.70	Yes			12,215.8	2,661.19
67	60	Casing Joints	5 1/2	20.00	P-110	Yes	43.56	Yes			12,128.6	2,748.36



Centralizer Depths

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API 0512351261000		Surface Legal Location SENW 20 5N 66W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,885.00	Original KB Elevation (ft) 4,913.00	KB-Ground Distance (ft) 28.00	Spud Date 1/23/2023 08:30	Rig Release Date 1/27/2023 00:00	On Production Date	Abandon Date					

Casing Run Tally

Run #	Ref #	Item Des	OD (in)	Wt (lb/ft)	Grade	Run?	Len (ft)	Centralized?	Ext Jwry	Connections	Top (ftKB)	Cum Len (ft)
69	62	Casing Joints	5 1/2	20.00	P-110	Yes	45.68	Yes			12,037.4	2,839.60
71	64	Casing Joints	5 1/2	20.00	P-110	Yes	45.61	Yes			11,946.2	2,930.80
73	66	Casing Joints	5 1/2	20.00	P-110	Yes	45.82	Yes			11,854.6	3,022.42
75	68	Casing Joints	5 1/2	20.00	P-110	Yes	45.80	Yes			11,763.1	3,113.87
77	70	Casing Joints	5 1/2	20.00	P-110	Yes	45.83	Yes			11,672.0	3,205.04
79	72	Casing Joints	5 1/2	20.00	P-110	Yes	45.60	Yes			11,580.7	3,296.31
81	74	Casing Joints	5 1/2	20.00	P-110	Yes	45.74	Yes			11,489.1	3,387.89
83	76	Casing Joints	5 1/2	20.00	P-110	Yes	45.64	Yes			11,397.7	3,479.30
85	78	Casing Joints	5 1/2	20.00	P-110	Yes	43.60	Yes			11,308.3	3,568.73
87	79	Casing Joints	5 1/2	20.00	P-110	Yes	45.67	Yes			11,250.7	3,626.27
89	81	Casing Joints	5 1/2	20.00	P-110	Yes	45.65	Yes			11,159.4	3,717.65
91	83	Casing Joints	5 1/2	20.00	P-110	Yes	45.74	Yes			11,068.1	3,808.92
93	85	Casing Joints	5 1/2	20.00	P-110	Yes	45.80	Yes			10,976.5	3,900.51
95	87	Casing Joints	5 1/2	20.00	P-110	Yes	45.74	Yes			10,885.0	3,991.98
97	89	Casing Joints	5 1/2	20.00	P-110	Yes	45.80	Yes			10,793.6	4,083.44
99	91	Casing Joints	5 1/2	20.00	P-110	Yes	45.81	Yes			10,702.0	4,175.04
101	93	Casing Joints	5 1/2	20.00	P-110	Yes	45.59	Yes			10,611.5	4,265.49
103	95	Casing Joints	5 1/2	20.00	P-110	Yes	45.79	Yes			10,519.9	4,357.12
105	97	Casing Joints	5 1/2	20.00	P-110	Yes	45.82	Yes			10,428.4	4,448.57
107	99	Casing Joints	5 1/2	20.00	P-110	Yes	45.59	Yes			10,337.1	4,539.91
109	101	Casing Joints	5 1/2	20.00	P-110	Yes	45.61	Yes			10,245.8	4,631.16
111	103	Casing Joints	5 1/2	20.00	P-110	Yes	45.78	Yes			10,154.4	4,722.59
113	105	Casing Joints	5 1/2	20.00	P-110	Yes	45.80	Yes			10,063.1	4,813.93
115	107	Casing Joints	5 1/2	20.00	P-110	Yes	45.65	Yes			9,973.5	4,903.52
117	109	Casing Joints	5 1/2	20.00	P-110	Yes	45.66	Yes			9,882.2	4,994.79
119	111	Casing Joints	5 1/2	20.00	P-110	Yes	45.78	Yes			9,790.7	5,086.32
121	113	Casing Joints	5 1/2	20.00	P-110	Yes	45.67	Yes			9,699.4	5,177.63
123	115	Casing Joints	5 1/2	20.00	P-110	Yes	45.80	Yes			9,607.8	5,269.25
125	117	Casing Joints	5 1/2	20.00	P-110	Yes	45.70	Yes			9,516.3	5,360.75
127	119	Casing Joints	5 1/2	20.00	P-110	Yes	45.77	Yes			9,424.8	5,452.19
129	121	Casing Joints	5 1/2	20.00	P-110	Yes	45.80	Yes			9,333.2	5,543.78



Centralizer Depths

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Ground Elevation (ft) 4,885.00	Original KB Elevation (ft) 4,913.00	KB-Ground Distance (ft) 28.00	Spud Date 1/23/2023 08:30	Rig Release Date 1/27/2023 00:00	On Production Date	Abandon Date					

Casing Run Tally												
Run #	Ref #	Item Des	OD (in)	Wt (lb/ft)	Grade	Run?	Len (ft)	Centralized?	Ext Jwry	Connections	Top (ftKB)	Cum Len (ft)
131	123	Casing Joints	5 1/2	20.00	P-110	Yes	45.80	Yes			9,241.8	5,635.25
133	125	Casing Joints	5 1/2	20.00	P-110	Yes	45.78	Yes			9,150.2	5,726.84
135	127	Casing Joints	5 1/2	20.00	P-110	Yes	45.59	Yes			9,059.3	5,817.69
137	129	Casing Joints	5 1/2	20.00	P-110	Yes	45.80	Yes			8,967.7	5,909.30
139	131	Casing Joints	5 1/2	20.00	P-110	Yes	43.64	Yes			8,878.3	5,998.73
141	133	Casing Joints	5 1/2	20.00	P-110	Yes	45.56	Yes			8,787.1	6,089.86
143	135	Casing Joints	5 1/2	20.00	P-110	Yes	45.58	Yes			8,700.7	6,176.28
145	137	Casing Joints	5 1/2	20.00	P-110	Yes	45.42	Yes			8,609.8	6,267.25
147	139	Casing Joints	5 1/2	20.00	P-110	Yes	45.43	Yes			8,518.8	6,358.25
149	141	Casing Joints	5 1/2	20.00	P-110	Yes	45.27	Yes			8,427.9	6,449.08
151	143	Casing Joints	5 1/2	20.00	P-110	Yes	45.42	Yes			8,337.2	6,539.80
153	145	Casing Joints	5 1/2	20.00	P-110	Yes	45.57	Yes			8,246.3	6,630.67
155	147	Casing Joints	5 1/2	20.00	P-110	Yes	45.56	Yes			8,155.2	6,721.80
157	149	Casing Joints	5 1/2	20.00	P-110	Yes	45.30	Yes			8,064.5	6,812.51
159	151	Casing Joints	5 1/2	20.00	P-110	Yes	45.27	Yes			7,973.9	6,903.09
161	153	Casing Joints	5 1/2	20.00	P-110	Yes	45.26	Yes			7,883.3	6,993.66
163	155	Casing Joints	5 1/2	20.00	P-110	Yes	45.31	Yes			7,792.5	7,084.54
165		Marker Joint	5 1/2	20.00	P-110	Yes	11.45	Yes			7,735.7	7,141.26
166	157	Casing Joints	5 1/2	20.00	P-110	Yes	45.58	Yes			7,690.2	7,186.84
167	158	Casing Joints	5 1/2	20.00	P-110	Yes	45.60	Yes			7,644.6	7,232.44
168	159	Casing Joints	5 1/2	20.00	P-110	Yes	45.43	Yes			7,599.1	7,277.87
169	160	Casing Joints	5 1/2	20.00	P-110	Yes	45.64	Yes			7,553.5	7,323.51
170	161	Casing Joints	5 1/2	20.00	P-110	Yes	45.52	Yes			7,508.0	7,369.03
171	162	Casing Joints	5 1/2	20.00	P-110	Yes	45.58	Yes			7,462.4	7,414.61
172	163	Casing Joints	5 1/2	20.00	P-110	Yes	40.64	Yes			7,421.8	7,455.25
173	164	Casing Joints	5 1/2	20.00	P-110	Yes	43.80	Yes			7,378.0	7,499.05
174	165	Casing Joints	5 1/2	20.00	P-110	Yes	45.59	Yes			7,332.4	7,544.64
175	166	Casing Joints	5 1/2	20.00	P-110	Yes	45.53	Yes			7,286.8	7,590.17
176	167	Casing Joints	5 1/2	20.00	P-110	Yes	45.55	Yes			7,241.3	7,635.72
177	168	Casing Joints	5 1/2	20.00	P-110	Yes	45.56	Yes			7,195.7	7,681.28
178	169	Casing Joints	5 1/2	20.00	P-110	Yes	43.18	Yes			7,152.5	7,724.46



Centralizer Depths

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Casing Run Tally												
Run #	Ref #	Item Des	OD (in)	Wt (lb/ft)	Grade	Run?	Len (ft)	Centralized?	Ext Jwry	Connections	Top (ftKB)	Cum Len (ft)
179	170	Casing Joints	5 1/2	20.00	P-110	Yes	45.54	Yes			7,107.0	7,770.00
180	171	Casing Joints	5 1/2	20.00	P-110	Yes	45.58	Yes			7,061.4	7,815.58
181	172	Casing Joints	5 1/2	20.00	P-110	Yes	43.28	Yes			7,018.1	7,858.86
182	173	Casing Joints	5 1/2	20.00	P-110	Yes	45.53	Yes			6,972.6	7,904.39
183	174	Casing Joints	5 1/2	20.00	P-110	Yes	45.30	Yes			6,927.3	7,949.69
184	175	Casing Joints	5 1/2	20.00	P-110	Yes	45.55	Yes			6,881.8	7,995.24
185	176	Casing Joints	5 1/2	20.00	P-110	Yes	45.30	Yes			6,836.5	8,040.54
186	177	Casing Joints	5 1/2	20.00	P-110	Yes	45.31	Yes			6,791.2	8,085.85
187	178	Casing Joints	5 1/2	20.00	P-110	Yes	45.30	Yes			6,745.9	8,131.15
188	179	Casing Joints	5 1/2	20.00	P-110	Yes	45.41	Yes			6,700.4	8,176.56
189	180	Casing Joints	5 1/2	20.00	P-110	Yes	45.52	Yes			6,654.9	8,222.08
190	181	Casing Joints	5 1/2	20.00	P-110	Yes	45.31	Yes			6,609.6	8,267.39
191	182	Casing Joints	5 1/2	20.00	P-110	Yes	45.30	Yes			6,564.3	8,312.69
192		Marker Joint	5 1/2	20.00	P-110	Yes	12.06	Yes			6,552.3	8,324.75
193	183	Casing Joints	5 1/2	20.00	P-110	Yes	44.24	Yes			6,508.0	8,368.99
194	184	Casing Joints	5 1/2	20.00	P-110	Yes	45.30	Yes			6,462.7	8,414.29
195	185	Casing Joints	5 1/2	20.00	P-110	Yes	45.56	Yes			6,417.2	8,459.85
196	186	Casing Joints	5 1/2	20.00	P-110	Yes	45.05	Yes			6,372.1	8,504.90
197	187	Casing Joints	5 1/2	20.00	P-110	Yes	38.48	Yes			6,333.6	8,543.38
198	188	Casing Joints	5 1/2	20.00	P-110	Yes	43.72	Yes			6,289.9	8,587.10
199	189	Casing Joints	5 1/2	20.00	P-110	Yes	43.58	Yes			6,246.3	8,630.68
200	190	Casing Joints	5 1/2	20.00	P-110	Yes	45.53	Yes			6,200.8	8,676.21
201	191	Casing Joints	5 1/2	20.00	P-110	Yes	45.55	Yes			6,155.2	8,721.76
202	192	Casing Joints	5 1/2	20.00	P-110	Yes	45.59	Yes			6,109.7	8,767.35
203	193	Casing Joints	5 1/2	20.00	P-110	Yes	45.55	Yes			6,064.1	8,812.90
204	194	Casing Joints	5 1/2	20.00	P-110	Yes	45.56	Yes			6,018.5	8,858.46
205	195	Casing Joints	5 1/2	20.00	P-110	Yes	45.82	Yes			5,972.7	8,904.28
206	196	Casing Joints	5 1/2	20.00	P-110	Yes	45.55	Yes			5,927.2	8,949.83
207	197	Casing Joints	5 1/2	20.00	P-110	Yes	45.42	Yes			5,881.8	8,995.25
208	198	Casing Joints	5 1/2	20.00	P-110	Yes	45.60	Yes			5,836.2	9,040.85
209	199	Casing Joints	5 1/2	20.00	P-110	Yes	45.54	Yes			5,790.6	9,086.39



Centralizer Depths

Well Name: STUGART 13NA

Production, Set Depth: 14,877.0ftKB

API 05123512610000		Surface Legal Location SENW 20 5N 66W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,885.00	Original KB Elevation (ft) 4,913.00	KB-Ground Distance (ft) 28.00	Spud Date 1/23/2023 08:30	Rig Release Date 1/27/2023 00:00	On Production Date	Abandon Date					

Casing Run Tally

Run #	Ref #	Item Des	OD (in)	Wt (lb/ft)	Grade	Run?	Len (ft)	Centralized?	Ext Jwry	Connections	Top (ftKB)	Cum Len (ft)
210	200	Casing Joints	5 1/2	20.00	P-110	Yes	43.53	Yes			5,747.1	9,129.92
211	201	Casing Joints	5 1/2	20.00	P-110	Yes	45.30	Yes			5,701.8	9,175.22
212	202	Casing Joints	5 1/2	20.00	P-110	Yes	45.57	Yes			5,656.2	9,220.79
213	203	Casing Joints	5 1/2	20.00	P-110	Yes	45.58	Yes			5,610.6	9,266.37
214	204	Casing Joints	5 1/2	20.00	P-110	Yes	45.59	Yes			5,565.0	9,311.96
215	205	Casing Joints	5 1/2	20.00	P-110	Yes	43.60	Yes			5,521.4	9,355.56
216	206	Casing Joints	5 1/2	20.00	P-110	Yes	44.41	Yes			5,477.0	9,399.97
217	207	Casing Joints	5 1/2	20.00	P-110	Yes	43.63	Yes			5,433.4	9,443.60
218	208	Casing Joints	5 1/2	20.00	P-110	Yes	43.57	Yes			5,389.8	9,487.17
219	209	Casing Joints	5 1/2	20.00	P-110	Yes	45.43	Yes			5,344.4	9,532.60
220	210	Casing Joints	5 1/2	20.00	P-110	Yes	43.57	Yes			5,300.8	9,576.17
221	211	Casing Joints	5 1/2	20.00	P-110	Yes	45.59	Yes			5,255.2	9,621.76
222	212	Casing Joints	5 1/2	20.00	P-110	Yes	43.08	Yes			5,212.2	9,664.84
223	213	Casing Joints	5 1/2	20.00	P-110	Yes	44.37	Yes			5,167.8	9,709.21
224	214	Casing Joints	5 1/2	20.00	P-110	Yes	41.36	Yes			5,126.4	9,750.57
225	215	Casing Joints	5 1/2	20.00	P-110	Yes	44.20	Yes			5,082.2	9,794.77
226	216	Casing Joints	5 1/2	20.00	P-110	Yes	45.59	Yes			5,036.6	9,840.36
227	217	Casing Joints	5 1/2	20.00	P-110	Yes	45.57	Yes			4,991.1	9,885.93
228	218	Casing Joints	5 1/2	20.00	P-110	Yes	43.61	Yes			4,947.5	9,929.54
229	219	Casing Joints	5 1/2	20.00	P-110	Yes	45.30	Yes			4,902.2	9,974.84
230	220	Casing Joints	5 1/2	20.00	P-110	Yes	45.60	Yes			4,856.6	10,020.44
231	221	Casing Joints	5 1/2	20.00	P-110	Yes	45.41	Yes			4,811.2	10,065.85
232	222	Casing Joints	5 1/2	20.00	P-110	Yes	45.60	Yes			4,765.6	10,111.45
233	223	Casing Joints	5 1/2	20.00	P-110	Yes	45.56	Yes			4,720.0	10,157.01
234	224	Casing Joints	5 1/2	20.00	P-110	Yes	45.30	Yes			4,674.7	10,202.31
235	225	Casing Joints	5 1/2	20.00	P-110	Yes	43.58	Yes			4,631.1	10,245.89
236	226	Casing Joints	5 1/2	20.00	P-110	Yes	43.58	Yes			4,587.5	10,289.47
237	227	Casing Joints	5 1/2	20.00	P-110	Yes	43.60	Yes			4,543.9	10,333.07
238	228	Casing Joints	5 1/2	20.00	P-110	Yes	44.39	Yes			4,499.5	10,377.46
239	229	Casing Joints	5 1/2	20.00	P-110	Yes	45.41	Yes			4,454.1	10,422.87
240	230	Casing Joints	5 1/2	20.00	P-110	Yes	43.42	Yes			4,410.7	10,466.29



Centralizer Depths

Well Name: STUGART 13NA

Production, Set Depth: 14,877.0ftKB

API 05123512610000		Surface Legal Location SENW 20 5N 66W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,885.00	Original KB Elevation (ft) 4,913.00	KB-Ground Distance (ft) 28.00	Spud Date 1/23/2023 08:30	Rig Release Date 1/27/2023 00:00	On Production Date	Abandon Date					

Casing Run Tally												
Run #	Ref #	Item Des	OD (in)	Wt (lb/ft)	Grade	Run?	Len (ft)	Centralized?	Ext Jwry	Connections	Top (ftKB)	Cum Len (ft)
241	231	Casing Joints	5 1/2	20.00	P-110	Yes	43.75	Yes			4,367.0	10,510.04
242	232	Casing Joints	5 1/2	20.00	P-110	Yes	43.72	Yes			4,323.2	10,553.76
243	233	Casing Joints	5 1/2	20.00	P-110	Yes	43.74	Yes			4,279.5	10,597.50
244	234	Casing Joints	5 1/2	20.00	P-110	Yes	43.73	Yes			4,235.8	10,641.23
245	235	Casing Joints	5 1/2	20.00	P-110	Yes	42.55	Yes			4,193.2	10,683.78
246	236	Casing Joints	5 1/2	20.00	P-110	Yes	43.66	Yes			4,149.6	10,727.44
247	237	Casing Joints	5 1/2	20.00	P-110	Yes	43.76	Yes			4,105.8	10,771.20
248	238	Casing Joints	5 1/2	20.00	P-110	Yes	45.72	Yes			4,060.1	10,816.92
249	239	Casing Joints	5 1/2	20.00	P-110	Yes	45.75	Yes			4,014.3	10,862.67
250	240	Casing Joints	5 1/2	20.00	P-110	Yes	43.58	Yes			3,970.8	10,906.25
251	241	Casing Joints	5 1/2	20.00	P-110	Yes	43.73	Yes			3,927.0	10,949.98
252	242	Casing Joints	5 1/2	20.00	P-110	Yes	43.55	Yes			3,883.5	10,993.53
253	243	Casing Joints	5 1/2	20.00	P-110	Yes	43.73	Yes			3,839.7	11,037.26
254	244	Casing Joints	5 1/2	20.00	P-110	Yes	45.67	Yes			3,794.1	11,082.93
255	245	Casing Joints	5 1/2	20.00	P-110	Yes	45.69	Yes			3,748.4	11,128.62
256	246	Casing Joints	5 1/2	20.00	P-110	Yes	43.59	Yes			3,704.8	11,172.21
257	247	Casing Joints	5 1/2	20.00	P-110	Yes	43.74	Yes			3,661.1	11,215.95
258	248	Casing Joints	5 1/2	20.00	P-110	Yes	45.33	Yes			3,615.7	11,261.28
260	249	Casing Joints	5 1/2	20.00	P-110	Yes	43.71	Yes			3,557.1	11,319.95
261	250	Casing Joints	5 1/2	20.00	P-110	Yes	43.57	Yes			3,513.5	11,363.52
262	251	Casing Joints	5 1/2	20.00	P-110	Yes	43.58	Yes			3,469.9	11,407.10
263	252	Casing Joints	5 1/2	20.00	P-110	Yes	45.33	Yes			3,424.6	11,452.43
264	253	Casing Joints	5 1/2	20.00	P-110	Yes	43.55	Yes			3,381.0	11,495.98
265	254	Casing Joints	5 1/2	20.00	P-110	Yes	39.76	Yes			3,341.3	11,535.74
266	255	Casing Joints	5 1/2	20.00	P-110	Yes	43.74	Yes			3,297.5	11,579.48
267	256	Casing Joints	5 1/2	20.00	P-110	Yes	45.60	Yes			3,251.9	11,625.08
268	257	Casing Joints	5 1/2	20.00	P-110	Yes	43.60	Yes			3,208.3	11,668.68
269	258	Casing Joints	5 1/2	20.00	P-110	Yes	43.73	Yes			3,164.6	11,712.41
270	259	Casing Joints	5 1/2	20.00	P-110	Yes	44.35	Yes			3,120.2	11,756.76
271	260	Casing Joints	5 1/2	20.00	P-110	Yes	43.75	Yes			3,076.5	11,800.51
272	261	Casing Joints	5 1/2	20.00	P-110	Yes	45.53	Yes			3,031.0	11,846.04



Centralizer Depths

Well Name: STUGART 13NA

Production, Set Depth: 14,877.0ftKB

API 05123512610000		Surface Legal Location SENW 20 5N 66W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,885.00	Original KB Elevation (ft) 4,913.00	KB-Ground Distance (ft) 28.00	Spud Date 1/23/2023 08:30	Rig Release Date 1/27/2023 00:00	On Production Date	Abandon Date					

Casing Run Tally

Run #	Ref #	Item Des	OD (in)	Wt (lb/ft)	Grade	Run?	Len (ft)	Centralized?	Ext Jw/ry	Connections	Top (ftKB)	Cum Len (ft)
273	262	Casing Joints	5 1/2	20.00	P-110	Yes	39.58	Yes			2,991.4	11,885.62
274	263	Casing Joints	5 1/2	20.00	P-110	Yes	43.73	Yes			2,947.7	11,929.35
275	264	Casing Joints	5 1/2	20.00	P-110	Yes	43.61	Yes			2,904.0	11,972.96
276	265	Casing Joints	5 1/2	20.00	P-110	Yes	39.20	Yes			2,864.8	12,012.16
277	266	Casing Joints	5 1/2	20.00	P-110	Yes	45.30	Yes			2,819.5	12,057.46
278	267	Casing Joints	5 1/2	20.00	P-110	Yes	45.82	Yes			2,773.7	12,103.28
279	268	Casing Joints	5 1/2	20.00	P-110	Yes	41.88	Yes			2,731.8	12,145.16
280	269	Casing Joints	5 1/2	20.00	P-110	Yes	45.81	Yes			2,686.0	12,190.97
281	270	Casing Joints	5 1/2	20.00	P-110	Yes	45.30	Yes			2,640.7	12,236.27
282	271	Casing Joints	5 1/2	20.00	P-110	Yes	45.71	Yes			2,595.0	12,281.98
283	272	Casing Joints	5 1/2	20.00	P-110	Yes	45.52	Yes			2,549.5	12,327.50
284	273	Casing Joints	5 1/2	20.00	P-110	Yes	43.73	Yes			2,505.8	12,371.23
285	274	Casing Joints	5 1/2	20.00	P-110	Yes	41.36	Yes			2,464.4	12,412.59
286	275	Casing Joints	5 1/2	20.00	P-110	Yes	43.54	Yes			2,420.9	12,456.13
287	276	Casing Joints	5 1/2	20.00	P-110	Yes	45.51	Yes			2,375.4	12,501.64
288	277	Casing Joints	5 1/2	20.00	P-110	Yes	45.80	Yes			2,329.6	12,547.44
289	278	Casing Joints	5 1/2	20.00	P-110	Yes	43.65	Yes			2,285.9	12,591.09
290	279	Casing Joints	5 1/2	20.00	P-110	Yes	43.71	Yes			2,242.2	12,634.80
291	280	Casing Joints	5 1/2	20.00	P-110	Yes	42.43	Yes			2,199.8	12,677.23
292	281	Casing Joints	5 1/2	20.00	P-110	Yes	45.63	Yes			2,154.1	12,722.86
293	282	Casing Joints	5 1/2	20.00	P-110	Yes	45.81	Yes			2,108.3	12,768.67
294	283	Casing Joints	5 1/2	20.00	P-110	Yes	45.62	Yes			2,062.7	12,814.29
295	284	Casing Joints	5 1/2	20.00	P-110	Yes	45.82	Yes			2,016.9	12,860.11
296	285	Casing Joints	5 1/2	20.00	P-110	Yes	45.61	Yes			1,971.3	12,905.72
297	286	Casing Joints	5 1/2	20.00	P-110	Yes	45.77	Yes			1,925.5	12,951.49
298	287	Casing Joints	5 1/2	20.00	P-110	Yes	42.28	Yes			1,883.2	12,993.77
299	288	Casing Joints	5 1/2	20.00	P-110	Yes	43.58	Yes			1,839.7	13,037.35
300	289	Casing Joints	5 1/2	20.00	P-110	Yes	42.50	Yes			1,797.2	13,079.85
301	290	Casing Joints	5 1/2	20.00	P-110	Yes	43.68	Yes			1,753.5	13,123.53
302	291	Casing Joints	5 1/2	20.00	P-110	Yes	43.62	Yes			1,709.9	13,167.15
303	292	Casing Joints	5 1/2	20.00	P-110	Yes	45.78	Yes			1,664.1	13,212.93



Centralizer Depths

Well Name: STUGART 13NA

Production, Set Depth: 14,877.0ftKB

API 05123512610000		Surface Legal Location SENW 20 5N 66W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,885.00	Original KB Elevation (ft) 4,913.00	KB-Ground Distance (ft) 28.00	Spud Date 1/23/2023 08:30	Rig Release Date 1/27/2023 00:00	On Production Date	Abandon Date					

Casing Run Tally												
Run #	Ref #	Item Des	OD (in)	Wt (lb/ft)	Grade	Run?	Len (ft)	Centralized?	Ext Jwry	Connections	Top (ftKB)	Cum Len (ft)
304	293	Casing Joints	5 1/2	20.00	P-110	Yes	43.75	Yes			1,620.3	13,256.68
305	294	Casing Joints	5 1/2	20.00	P-110	Yes	45.57	Yes			1,574.8	13,302.25
306	295	Casing Joints	5 1/2	20.00	P-110	Yes	43.74	Yes			1,531.0	13,345.99
307	296	Casing Joints	5 1/2	20.00	P-110	Yes	37.44	Yes			1,493.6	13,383.43
308	297	Casing Joints	5 1/2	20.00	P-110	Yes	45.65	Yes			1,447.9	13,429.08
309	298	Casing Joints	5 1/2	20.00	P-110	Yes	45.79	Yes			1,402.1	13,474.87
310	299	Casing Joints	5 1/2	20.00	P-110	Yes	45.81	Yes			1,356.3	13,520.68
311	300	Casing Joints	5 1/2	20.00	P-110	Yes	45.76	Yes			1,310.6	13,566.44
312	301	Casing Joints	5 1/2	20.00	P-110	Yes	45.60	Yes			1,265.0	13,612.04
313	302	Casing Joints	5 1/2	20.00	P-110	Yes	45.80	Yes			1,219.2	13,657.84
314	303	Casing Joints	5 1/2	20.00	P-110	Yes	45.68	Yes			1,173.5	13,703.52
315	304	Casing Joints	5 1/2	20.00	P-110	Yes	43.58	Yes			1,129.9	13,747.10
316	305	Casing Joints	5 1/2	20.00	P-110	Yes	45.50	Yes			1,084.4	13,792.60
317	306	Casing Joints	5 1/2	20.00	P-110	Yes	45.80	Yes			1,038.6	13,838.40
318	307	Casing Joints	5 1/2	20.00	P-110	Yes	45.70	Yes			992.9	13,884.10
319	308	Casing Joints	5 1/2	20.00	P-110	Yes	45.64	Yes			947.3	13,929.74
320	309	Casing Joints	5 1/2	20.00	P-110	Yes	45.77	Yes			901.5	13,975.51
321	310	Casing Joints	5 1/2	20.00	P-110	Yes	45.78	Yes			855.7	14,021.29
322	311	Casing Joints	5 1/2	20.00	P-110	Yes	43.73	Yes			812.0	14,065.02
323	312	Casing Joints	5 1/2	20.00	P-110	Yes	45.76	Yes			766.2	14,110.78
324	313	Casing Joints	5 1/2	20.00	P-110	Yes	45.53	Yes			720.7	14,156.31
325	314	Casing Joints	5 1/2	20.00	P-110	Yes	45.80	Yes			674.9	14,202.11
326	315	Casing Joints	5 1/2	20.00	P-110	Yes	43.71	Yes			631.2	14,245.82
327	316	Casing Joints	5 1/2	20.00	P-110	Yes	45.80	Yes			585.4	14,291.62
328	317	Casing Joints	5 1/2	20.00	P-110	Yes	45.81	Yes			539.6	14,337.43
329	318	Casing Joints	5 1/2	20.00	P-110	Yes	45.80	Yes			493.8	14,383.23