

Cement Post Job Report

Client: PDC Energy

Well Name: Hen 8N

API #: 05-123-51790

Job Date: August 29, 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

TREATMENT REPORT

CLIENT	WELL	RIG	JOB TYPE	THREAD TYPE	WELLHEAD CONNECTION
PDC Energy	Hen 08N	Patterson 272	Production	Buttress	5 1/2" Cement Head

WELL MD (FT)	WELL TVD (FT)	DEVIATION (DEG)	NUMBER OF STAGES	BHST (DEG)	BHCT (DEG)
14912	6856	90	1	225	200

PACKER/RETAINER/CIBP/DV TOOL DEPTHS	TOOL TYPE	TOP OF PERFS (FT)	BOTTOM OF PERFS (FT)	NUMBER OF HOLES
3315	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	13.50			1707
Production	P-110	5.5	20	4.778	20	0	0	14899
MAXIMUM CASING/TUBING/DP PSI			9888			MAXIMUM ANNULAR PSI		8880

Mud Type	OBM	Rotate Y,N	No	Circulation Data				Water Requirements (bbls)	
Mud ppg	10.45	Rate (rpm)		Circulate Time (hrs)		2		Spacers	140
Flow Temp	143	Torque Val.		Circulation Rate (bpm)		11		Stage 1 Lead	112
Vis. Sec/qt	50	Time (hr)		Full Circulation ? (Y,N,P)		Yes		Stage 1 Tail	165
PV (cP)	14	Pipe Reciprocation		Gas Present (Y,N)		No	Units	0	Stage 2 Lead
Yield Pt	8	Recip Y,N	No	Centralizers/Plugs				Stage 2 Tail	
10 sec gel	4	Stroke (ft)		Quantity & Type		Customer Provided		Displacement	331
10 min gel	8	Recip time		Top Plug/Type		Customer Provided		Wash up	20
30 min gel	12	Stuck ?		Bottom Plug/Type		Customer Provided		Total + 10% Safety	845

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
	12	Sacks	1276	Sacks	1043	Sacks		Sacks		Dens. ppg	8.34
Volume	140	Vol/bbbls	256.8	Vol/bbbls	254.5	Vol/bbbls	0.0	Vol/bbbls	0.0	Vol. bbl	330.5
Rate	12	Rate	11	Rate	11	Rate		Rate		Rate bpm	11
Spacer 2		Yield	1.13	Yield	1.37	Yield		Yield		Clay Stay?	No
Density		Gal/Sk	3.68	Gal/Sk	6.63	Gal/Sk		Gal/Sk		Biocide ?	Yes
Volume		% Excess	0	% Excess	0	% Excess		% Excess		Slow @ bbl	311
Rate		TOL (ft)	2007	TOT (ft)	8301	TOL (ft)		TOT (ft)		Bump PSI	2600

Final Displacement (bbbls)	330.5
Bump Plug?	Yes
Final Bump Pressure (psi)	3100
Full Returns throughout job?	Full
Vol. away/Time when returns lost	
Vol. away when returns were regained	
Spacer to Surface?	Yes
Spacer volume returned (bbbls)	46
Cement to surface?	No
Cement volume to surface stage 1	0
Cement volume to surface stage 2	

Surface Top Out Details-Pumped		Job Summary Additional Chems Used	
Cement Type		MFC 47 (gal)	70
Dens. ppg	NA	MFC 67 (gal)	168
Sacks qty	NA	Defoamer (gal)	20
Gal/sk	NA	Biocide (gal)	15
Yield	NA	Corr. Inhib (gal)	0
Lbs. of chloride used	NA	Fiber (lbs)	290
Top out pipe used ?	NA	Chloride (lbs)	0
Feet of top out pipe	NA	Retarder (lbs)	0
Annulus holding?		Clay Stabilizer (gal)	0
Sodium Silicate Used		Other	0

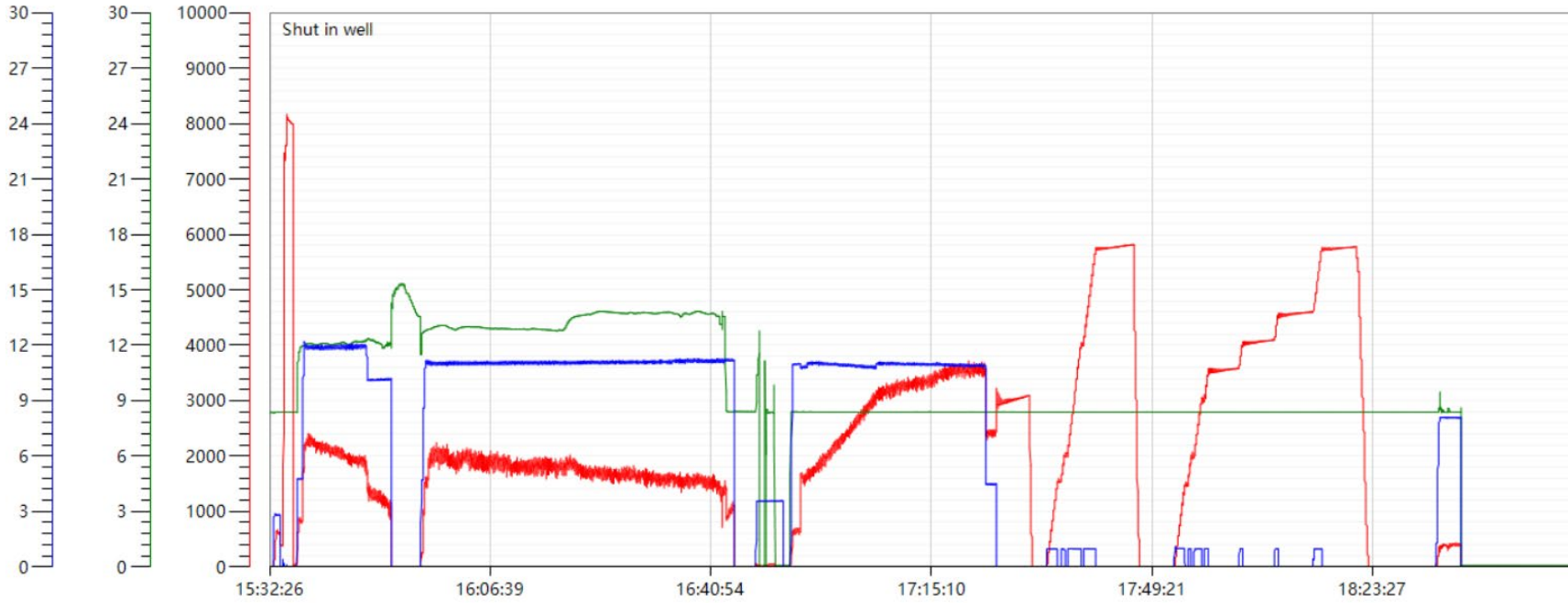
JOB LOG

CLIENT	WELL	RIG	JOB TYPE	START DATE	Ambient Conditions		
PDC Energy	Hen 08N	Patterson 272	Production	8/29/2023	Temp / Hum / Air Press 80 deg F / 32 % / 25.18 in		
DATE (dd/mm)	TIME (hh:mm)	DENSITY (ppg)	RATE (bpm)	VOL. (bbl)	TOTAL VOL.	PRESSURE	TREATMENT COMMENTS
8/29/2023	2:00:00 AM						CREW CALLED OUT FOR ON LOCATION TIME OF 10:00 08/29/2023
8/29/2023	2:00:00 AM						CREW ALREADY ON CUSTOMER LOCATION
8/29/2023	2:00:00 AM						WAITING ON RIG TO FINISH RUNNING CASING
8/29/2023	12:30:00 PM						RIG UP ALL IRON AND HOSES
8/29/2023	1:30:00 PM						RIG CIRCULATING
8/29/2023	3:00:00 PM						SAFETY MEETING WITH EXERO CREW, RIG CREW, TOOL REP, AND CUSTOMER REP
8/29/2023	3:32:00 PM	8.34	3.0	3	3	690	FILL LINES WITH 3 BBLS FRESH WATER
8/29/2023	3:33:00 PM					8000	PRESSURE TEST PUMP AND LINES
8/29/2023	3:35:00 PM	12	12.0	0	0	2200	BEGIN PUMPING 12 PPG SPACER + SURFACTANT + FIBER
8/29/2023	3:40:00 PM	12	12.0	50	50	2100	PUMPING SPACER
8/29/2023	3:44:00 PM	12	12.0	50	100	1900	PUMPING SPACER
8/29/2023	3:50:00 PM	12	10.0	40	140	1500	PUMPING SPACER
8/29/2023	3:50:00 PM						SHUT DOWN, DROP BOTTOM PLUG
8/29/2023	3:54:00 PM	12.9	11.0	0	0	1500	BEGIN PUMPING 12.9 PPG LEAD CEMENT, DENSITY VERIFIED WITH PRESSURIZED MUD SCALE
8/29/2023	3:59:00 PM	12.9	11.0	50	50	1800	PUMPING LEAD CEMENT
8/29/2023	4:03:00 PM	12.9	11.0	50	100	1950	PUMPING LEAD CEMENT
8/29/2023	4:08:00 PM	12.9	11.0	50	150	1770	PUMPING LEAD CEMENT
8/29/2023	4:12:00 PM	12.9	11.0	50	200	1740	PUMPING LEAD CEMENT
8/29/2023	4:17:00 PM	12.9	11.0	56.8	256.8	2000	PUMPING LEAD CEMENT
8/29/2023	4:17:00 PM	13.7	11.0	0	0	1880	BEGIN PUMPING 13.7 PPG TAIL CEMENT, DENSITY VERIFIED WITH PRESSURIZED MUD SCALE
8/29/2023	4:22:00 PM	13.7	11.0	50	50	1700	PUMPING TAIL CEMENT
8/29/2023	4:26:00 PM	13.7	11.0	50	100	1720	PUMPING TAIL CEMENT
8/29/2023	4:30:00 PM	13.7	11.0	50	150	1600	PUMPING TAIL CEMENT
8/29/2023	4:35:00 PM	13.7	11.0	50	200	1570	PUMPING TAIL CEMENT
8/29/2023	4:42:00 PM	13.7	11.0	54.5	254.5	1440	PUMPING TAIL CEMENT
8/29/2023	4:42:00 PM	8.34	11.0	15	15	1400	PUMP 15 BBLS SUGAR WATER FOR WET SHOE
8/29/2023	4:43:00 PM						SHUT DOWN, WASH UP PUMP
8/29/2023	4:52:00 PM	8.34	11.0	0	0	600	DROP TOP PLUG, BEGIN WATER + BIOCIDES DISPLACEMENT
8/29/2023	4:57:00 PM	8.34	11.0	50	50	1800	PUMPING DISPLACEMENT
8/29/2023	5:02:00 PM	8.34	11.0	50	100	2500	PUMPING DISPLACEMENT
8/29/2023	5:07:00 PM	8.34	11.0	50	150	3200	PUMPING DISPLACEMENT
8/29/2023	5:11:00 PM	8.34	11.0	50	200	3300	PUMPING DISPLACEMENT
8/29/2023	5:16:00 PM	8.34	11.0	50	250	3580	PUMPING DISPLACEMENT
8/29/2023	5:21:00 PM	8.34	11.0	50	300	3600	PUMPING DISPLACEMENT. SPACER TO SURFACE AT 285 BBLS PUMPED. 46 BBLS TO SURFACE
8/29/2023	5:22:00 PM	8.34	11.0	11	311	3620	PUMPING DISPLACEMENT
8/29/2023	5:24:00 PM	8.34	4.5	19.5	330.5	2600	PUMPING DISPLACEMENT
8/29/2023	5:24:00 PM					3100	LAND PLUG. FCP - 2600 PSI, BUMPED TO 3100 PSI
8/29/2023	5:29:00 PM						CHECK FLOATS. FLOATS HELD, 4 BBLS BACK
8/29/2023	5:31:00 PM	8.34	1.0			5700	SET PACKER AS PER TOOL REP INSTRUCTIONS
8/29/2023	6:20:00 PM						RELEASE PRESSURE
8/29/2023	6:31:00 PM	8.34					FLUSH STACK
8/29/2023	6:45:00 PM						RIG DOWN ALL IRON AND HOSES
8/29/2023	7:20:00 PM						DEPART CUSTOMER LOCATION

Hen 8N Production Pump Chart – Pressure / Rate / Density

Chart Report

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





Centralizer Depths

Well Name: Hen 08N

Production, Set Depth: 14,899.0ftKB

API 05123517900000		Surface Legal Location SWNE 8 4N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,779.00		Original KB Elevation (ft) 4,807.50		KB-Ground Distance (ft) 28.50		Spud Date 8/26/2023 23:45		Rig Release Date 8/29/2023 21:30		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	43.05	Yes			14,823.1	75.91
9	3	Casing Joints	5 1/2	20.00	P-110	Yes	41.53	Yes			14,738.4	160.59
11	5	Casing Joints	5 1/2	20.00	P-110	Yes	40.20	Yes			14,654.7	244.28
13	7	Casing Joints	5 1/2	20.00	P-110	Yes	37.55	Yes			14,577.7	321.31
15	9	Casing Joints	5 1/2	20.00	P-110	Yes	43.25	Yes			14,491.7	407.31
17		Marker Joint	5 1/2	20.00	P-110	Yes	11.00	Yes			14,437.5	461.46
19	12	Casing Joints	5 1/2	20.00	P-110	Yes	39.28	Yes			14,359.1	539.86
21	14	Casing Joints	5 1/2	20.00	P-110	Yes	43.48	Yes			14,273.9	625.06
23	16	Casing Joints	5 1/2	20.00	P-110	Yes	37.89	Yes			14,192.9	706.14
25	18	Casing Joints	5 1/2	20.00	P-110	Yes	41.89	Yes			14,110.4	788.56
27	20	Casing Joints	5 1/2	20.00	P-110	Yes	39.76	Yes			14,034.8	864.22
29	22	Casing Joints	5 1/2	20.00	P-110	Yes	38.26	Yes			13,953.3	945.66
31	24	Casing Joints	5 1/2	20.00	P-110	Yes	43.55	Yes			13,871.8	1,027.20
33	26	Casing Joints	5 1/2	20.00	P-110	Yes	44.17	Yes			13,788.9	1,110.09
35	28	Casing Joints	5 1/2	20.00	P-110	Yes	43.65	Yes			13,702.1	1,196.88
37	30	Casing Joints	5 1/2	20.00	P-110	Yes	42.92	Yes			13,620.6	1,278.40
39	32	Casing Joints	5 1/2	20.00	P-110	Yes	44.80	Yes			13,530.9	1,368.09
41	34	Casing Joints	5 1/2	20.00	P-110	Yes	39.44	Yes			13,446.2	1,452.85
43	36	Casing Joints	5 1/2	20.00	P-110	Yes	43.05	Yes			13,363.9	1,535.06
45	38	Casing Joints	5 1/2	20.00	P-110	Yes	42.79	Yes			13,276.4	1,622.65
47	40	Casing Joints	5 1/2	20.00	P-110	Yes	44.52	Yes			13,187.1	1,711.94
49	42	Casing Joints	5 1/2	20.00	P-110	Yes	44.49	Yes			13,097.8	1,801.22
51	44	Casing Joints	5 1/2	20.00	P-110	Yes	44.50	Yes			13,008.4	1,890.57
53	46	Casing Joints	5 1/2	20.00	P-110	Yes	44.78	Yes			12,925.8	1,973.16
55	48	Casing Joints	5 1/2	20.00	P-110	Yes	44.29	Yes			12,836.7	2,062.34
57	50	Casing Joints	5 1/2	20.00	P-110	Yes	44.30	Yes			12,747.6	2,151.43
59	52	Casing Joints	5 1/2	20.00	P-110	Yes	42.38	Yes			12,660.9	2,238.09
61	54	Casing Joints	5 1/2	20.00	P-110	Yes	44.32	Yes			12,571.3	2,327.71
63	56	Casing Joints	5 1/2	20.00	P-110	Yes	34.90	Yes			12,491.5	2,407.48
65	58	Casing Joints	5 1/2	20.00	P-110	Yes	44.79	Yes			12,405.0	2,494.02
67	60	Casing Joints	5 1/2	20.00	P-110	Yes	44.58	Yes			12,315.8	2,583.23



Centralizer Depths

Well Name: Hen 08N

Production, Set Depth: 14,899.0ftKB

API 0512351790000		Surface Legal Location SWNE 8 4N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,779.00		Original KB Elevation (ft) 4,807.50		KB-Ground Distance (ft) 28.50		Spud Date 8/26/2023 23:45		Rig Release Date 8/29/2023 21:30		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	44.90	Yes			12,226.4	2,672.64
71	64	Casing Joints	5 1/2	20.00	P-110	Yes	44.87	Yes			12,136.7	2,762.28
73	66	Casing Joints	5 1/2	20.00	P-110	Yes	45.30	Yes			12,047.0	2,851.98
75	68	Casing Joints	5 1/2	20.00	P-110	Yes	44.80	Yes			11,958.9	2,940.06
77	70	Casing Joints	5 1/2	20.00	P-110	Yes	44.50	Yes			11,869.2	3,029.78
79	72	Casing Joints	5 1/2	20.00	P-110	Yes	44.00	Yes			11,781.6	3,117.37
81	74	Casing Joints	5 1/2	20.00	P-110	Yes	40.00	Yes			11,699.1	3,199.88
83	76	Casing Joints	5 1/2	20.00	P-110	Yes	44.70	Yes			11,609.3	3,289.68
85	78	Casing Joints	5 1/2	20.00	P-110	Yes	43.00	Yes			11,522.7	3,376.35
87	80	Casing Joints	5 1/2	20.00	P-110	Yes	44.77	Yes			11,435.8	3,463.18
89	82	Casing Joints	5 1/2	20.00	P-110	Yes	44.80	Yes			11,345.9	3,553.13
91	84	Casing Joints	5 1/2	20.00	P-110	Yes	42.05	Yes			11,259.0	3,639.98
93	86	Casing Joints	5 1/2	20.00	P-110	Yes	43.12	Yes			11,171.5	3,727.48
95	87	Casing Joints	5 1/2	20.00	P-110	Yes	44.79	Yes			11,116.0	3,783.04
97	89	Casing Joints	5 1/2	20.00	P-110	Yes	43.60	Yes			11,027.6	3,871.44
99	91	Casing Joints	5 1/2	20.00	P-110	Yes	35.75	Yes			10,947.0	3,952.00
101	93	Casing Joints	5 1/2	20.00	P-110	Yes	44.40	Yes			10,860.8	4,038.17
103	95	Casing Joints	5 1/2	20.00	P-110	Yes	43.75	Yes			10,773.0	4,126.02
105	97	Casing Joints	5 1/2	20.00	P-110	Yes	44.89	Yes			10,686.1	4,212.89
107	99	Casing Joints	5 1/2	20.00	P-110	Yes	43.18	Yes			10,601.0	4,298.02
109	101	Casing Joints	5 1/2	20.00	P-110	Yes	43.80	Yes			10,512.7	4,386.26
111	103	Casing Joints	5 1/2	20.00	P-110	Yes	42.65	Yes			10,425.3	4,473.71
113	105	Casing Joints	5 1/2	20.00	P-110	Yes	43.78	Yes			10,336.7	4,562.29
115	107	Casing Joints	5 1/2	20.00	P-110	Yes	43.20	Yes			10,248.9	4,650.13
117	109	Casing Joints	5 1/2	20.00	P-110	Yes	45.32	Yes			10,158.7	4,740.35
119	111	Casing Joints	5 1/2	20.00	P-110	Yes	43.25	Yes			10,070.4	4,828.60
121	113	Casing Joints	5 1/2	20.00	P-110	Yes	43.90	Yes			9,983.3	4,915.68
123	115	Casing Joints	5 1/2	20.00	P-110	Yes	43.00	Yes			9,896.0	5,003.05
125	117	Casing Joints	5 1/2	20.00	P-110	Yes	42.75	Yes			9,810.1	5,088.94
127	119	Casing Joints	5 1/2	20.00	P-110	Yes	43.14	Yes			9,723.4	5,175.58
129	121	Casing Joints	5 1/2	20.00	P-110	Yes	43.05	Yes			9,637.1	5,261.93



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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)
131	123	Casing Joints	5 1/2	20.00	P-110	Yes	41.60	Yes			9,558.2	5,340.83
133	125	Casing Joints	5 1/2	20.00	P-110	Yes	43.53	Yes			9,471.5	5,427.51
135	127	Casing Joints	5 1/2	20.00	P-110	Yes	43.16	Yes			9,389.1	5,509.90
137	129	Casing Joints	5 1/2	20.00	P-110	Yes	43.00	Yes			9,303.0	5,595.98
139	131	Casing Joints	5 1/2	20.00	P-110	Yes	43.15	Yes			9,216.8	5,682.18
141	133	Casing Joints	5 1/2	20.00	P-110	Yes	43.48	Yes			9,130.1	5,768.88
143	135	Casing Joints	5 1/2	20.00	P-110	Yes	40.28	Yes			9,049.9	5,849.13
145	137	Casing Joints	5 1/2	20.00	P-110	Yes	43.17	Yes			8,964.4	5,934.56
147	139	Casing Joints	5 1/2	20.00	P-110	Yes	43.04	Yes			8,878.0	6,021.04
149	141	Casing Joints	5 1/2	20.00	P-110	Yes	43.43	Yes			8,791.5	6,107.51
151	143	Casing Joints	5 1/2	20.00	P-110	Yes	42.73	Yes			8,709.3	6,189.75
153	145	Casing Joints	5 1/2	20.00	P-110	Yes	40.34	Yes			8,628.7	6,270.26
155	147	Casing Joints	5 1/2	20.00	P-110	Yes	39.36	Yes			8,546.3	6,352.67
157	149	Casing Joints	5 1/2	20.00	P-110	Yes	39.16	Yes			8,464.4	6,434.58
159	151	Casing Joints	5 1/2	20.00	P-110	Yes	43.12	Yes			8,377.9	6,521.11
161	153	Casing Joints	5 1/2	20.00	P-110	Yes	43.05	Yes			8,293.2	6,605.76
163	155	Casing Joints	5 1/2	20.00	P-110	Yes	43.13	Yes			8,207.1	6,691.94
165	157	Casing Joints	5 1/2	20.00	P-110	Yes	42.73	Yes			8,120.9	6,778.09
167	159	Casing Joints	5 1/2	20.00	P-110	Yes	43.41	Yes			8,035.0	6,864.02
169	161	Casing Joints	5 1/2	20.00	P-110	Yes	42.77	Yes			7,949.5	6,949.54
171	163	Casing Joints	5 1/2	20.00	P-110	Yes	43.48	Yes			7,864.4	7,034.65
173	165	Casing Joints	5 1/2	20.00	P-110	Yes	43.04	Yes			7,781.0	7,117.98
175	167	Casing Joints	5 1/2	20.00	P-110	Yes	39.48	Yes			7,698.4	7,200.63
177	169	Casing Joints	5 1/2	20.00	P-110	Yes	43.04	Yes			7,612.6	7,286.36
179	171	Casing Joints	5 1/2	20.00	P-110	Yes	41.50	Yes			7,534.1	7,364.93
181	173	Casing Joints	5 1/2	20.00	P-110	Yes	43.13	Yes			7,448.0	7,450.98
182		Marker Joint	5 1/2	20.00	P-110	Yes	11.34	Yes			7,436.7	7,462.32
183	174	Casing Joints	5 1/2	20.00	P-110	Yes	42.72	Yes			7,394.0	7,505.04
184	175	Casing Joints	5 1/2	20.00	P-110	Yes	42.50	Yes			7,351.5	7,547.54
185	176	Casing Joints	5 1/2	20.00	P-110	Yes	43.43	Yes			7,308.0	7,590.97
186	177	Casing Joints	5 1/2	20.00	P-110	Yes	41.82	Yes			7,266.2	7,632.79



Centralizer Depths

Well Name: Hen 08N

Production, Set Depth: 14,899.0ftKB

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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)
187	178	Casing Joints	5 1/2	20.00	P-110	Yes	43.43	Yes			7,222.8	7,676.22
188	179	Casing Joints	5 1/2	20.00	P-110	Yes	43.05	Yes			7,179.7	7,719.27
189	180	Casing Joints	5 1/2	20.00	P-110	Yes	41.88	Yes			7,137.9	7,761.15
190	181	Casing Joints	5 1/2	20.00	P-110	Yes	42.79	Yes			7,095.1	7,803.94
191	182	Casing Joints	5 1/2	20.00	P-110	Yes	41.89	Yes			7,053.2	7,845.83
192	183	Casing Joints	5 1/2	20.00	P-110	Yes	43.14	Yes			7,010.0	7,888.97
193	184	Casing Joints	5 1/2	20.00	P-110	Yes	42.72	Yes			6,967.3	7,931.69
194	185	Casing Joints	5 1/2	20.00	P-110	Yes	42.98	Yes			6,924.3	7,974.67
195	186	Casing Joints	5 1/2	20.00	P-110	Yes	42.67	Yes			6,881.7	8,017.34
196	187	Casing Joints	5 1/2	20.00	P-110	Yes	42.07	Yes			6,839.6	8,059.41
197	188	Casing Joints	5 1/2	20.00	P-110	Yes	43.45	Yes			6,796.1	8,102.86
198	189	Casing Joints	5 1/2	20.00	P-110	Yes	43.15	Yes			6,753.0	8,146.01
199	190	Casing Joints	5 1/2	20.00	P-110	Yes	42.75	Yes			6,710.2	8,188.76
200	191	Casing Joints	5 1/2	20.00	P-110	Yes	43.46	Yes			6,666.8	8,232.22
201	192	Casing Joints	5 1/2	20.00	P-110	Yes	37.65	Yes			6,629.1	8,269.87
202	193	Casing Joints	5 1/2	20.00	P-110	Yes	43.41	Yes			6,585.7	8,313.28
203	194	Casing Joints	5 1/2	20.00	P-110	Yes	43.14	Yes			6,542.6	8,356.42
204	195	Casing Joints	5 1/2	20.00	P-110	Yes	43.80	Yes			6,498.8	8,400.22
205	196	Casing Joints	5 1/2	20.00	P-110	Yes	42.74	Yes			6,456.0	8,442.96
206	197	Casing Joints	5 1/2	20.00	P-110	Yes	43.24	Yes			6,412.8	8,486.20
207	198	Casing Joints	5 1/2	20.00	P-110	Yes	43.03	Yes			6,369.8	8,529.23
208	199	Casing Joints	5 1/2	20.00	P-110	Yes	43.02	Yes			6,326.8	8,572.25
209	200	Casing Joints	5 1/2	20.00	P-110	Yes	43.52	Yes			6,283.2	8,615.77
210	201	Casing Joints	5 1/2	20.00	P-110	Yes	43.45	Yes			6,239.8	8,659.22
211	202	Casing Joints	5 1/2	20.00	P-110	Yes	43.06	Yes			6,196.7	8,702.28
212	203	Casing Joints	5 1/2	20.00	P-110	Yes	43.07	Yes			6,153.7	8,745.35
213		Marker Joint	5 1/2	20.00	P-110	Yes	21.51	Yes			6,132.1	8,766.86
214	204	Casing Joints	5 1/2	20.00	P-110	Yes	43.14	Yes			6,089.0	8,810.00
215	205	Casing Joints	5 1/2	20.00	P-110	Yes	43.46	Yes			6,045.5	8,853.46
216	206	Casing Joints	5 1/2	20.00	P-110	Yes	43.48	Yes			6,002.1	8,896.94
217	207	Casing Joints	5 1/2	20.00	P-110	Yes	42.44	Yes			5,959.6	8,939.38



Centralizer Depths

Well Name: Hen 08N

Production, Set Depth: 14,899.0ftKB

API 0512351790000		Surface Legal Location SWNE 8 4N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,779.00	Original KB Elevation (ft) 4,807.50	KB-Ground Distance (ft) 28.50	Spud Date 8/26/2023 23:45	Rig Release Date 8/29/2023 21:30	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)
218	208	Casing Joints	5 1/2	20.00	P-110	Yes	43.06	Yes			5,916.6	8,982.44
219	209	Casing Joints	5 1/2	20.00	P-110	Yes	43.10	Yes			5,873.5	9,025.54
220	210	Casing Joints	5 1/2	20.00	P-110	Yes	43.48	Yes			5,830.0	9,069.02
221	211	Casing Joints	5 1/2	20.00	P-110	Yes	43.13	Yes			5,786.9	9,112.15
222	212	Casing Joints	5 1/2	20.00	P-110	Yes	43.05	Yes			5,743.8	9,155.20
223	213	Casing Joints	5 1/2	20.00	P-110	Yes	43.15	Yes			5,700.7	9,198.35
224	214	Casing Joints	5 1/2	20.00	P-110	Yes	42.40	Yes			5,658.3	9,240.75
225	215	Casing Joints	5 1/2	20.00	P-110	Yes	43.44	Yes			5,614.8	9,284.19
226	216	Casing Joints	5 1/2	20.00	P-110	Yes	43.13	Yes			5,571.7	9,327.32
227	217	Casing Joints	5 1/2	20.00	P-110	Yes	41.60	Yes			5,530.1	9,368.92
228	218	Casing Joints	5 1/2	20.00	P-110	Yes	43.15	Yes			5,486.9	9,412.07
229	219	Casing Joints	5 1/2	20.00	P-110	Yes	44.47	Yes			5,442.5	9,456.54
230	220	Casing Joints	5 1/2	20.00	P-110	Yes	43.12	Yes			5,399.3	9,499.66
231	221	Casing Joints	5 1/2	20.00	P-110	Yes	43.13	Yes			5,356.2	9,542.79
232	222	Casing Joints	5 1/2	20.00	P-110	Yes	43.42	Yes			5,312.8	9,586.21
233	223	Casing Joints	5 1/2	20.00	P-110	Yes	43.15	Yes			5,269.6	9,629.36
234	224	Casing Joints	5 1/2	20.00	P-110	Yes	43.43	Yes			5,226.2	9,672.79
235	225	Casing Joints	5 1/2	20.00	P-110	Yes	42.37	Yes			5,183.8	9,715.16
236	226	Casing Joints	5 1/2	20.00	P-110	Yes	42.40	Yes			5,141.4	9,757.56
237	227	Casing Joints	5 1/2	20.00	P-110	Yes	44.89	Yes			5,096.6	9,802.45
238	228	Casing Joints	5 1/2	20.00	P-110	Yes	41.87	Yes			5,054.7	9,844.32
239	229	Casing Joints	5 1/2	20.00	P-110	Yes	42.73	Yes			5,012.0	9,887.05
240	230	Casing Joints	5 1/2	20.00	P-110	Yes	43.48	Yes			4,968.5	9,930.53
241	231	Casing Joints	5 1/2	20.00	P-110	Yes	41.06	Yes			4,927.4	9,971.59
242	232	Casing Joints	5 1/2	20.00	P-110	Yes	39.52	Yes			4,887.9	10,011.11
243	233	Casing Joints	5 1/2	20.00	P-110	Yes	43.80	Yes			4,844.1	10,054.91
244	234	Casing Joints	5 1/2	20.00	P-110	Yes	45.23	Yes			4,798.9	10,100.14
245	235	Casing Joints	5 1/2	20.00	P-110	Yes	35.38	Yes			4,763.5	10,135.52
246	236	Casing Joints	5 1/2	20.00	P-110	Yes	40.13	Yes			4,723.4	10,175.65
247	237	Casing Joints	5 1/2	20.00	P-110	Yes	44.65	Yes			4,678.7	10,220.30
248	238	Casing Joints	5 1/2	20.00	P-110	Yes	44.50	Yes			4,634.2	10,264.80



Centralizer Depths

Well Name: Hen 08N

Production, Set Depth: 14,899.0ftKB

API 0512351790000		Surface Legal Location SWNE 8 4N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,779.00		Original KB Elevation (ft) 4,807.50		KB-Ground Distance (ft) 28.50		Spud Date 8/26/2023 23:45		Rig Release Date 8/29/2023 21:30		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)
249	239	Casing Joints	5 1/2	20.00	P-110	Yes	44.53	Yes			4,589.7	10,309.33
250	240	Casing Joints	5 1/2	20.00	P-110	Yes	36.94	Yes			4,552.7	10,346.27
251	241	Casing Joints	5 1/2	20.00	P-110	Yes	38.85	Yes			4,513.9	10,385.12
252	242	Casing Joints	5 1/2	20.00	P-110	Yes	45.05	Yes			4,468.8	10,430.17
253	243	Casing Joints	5 1/2	20.00	P-110	Yes	44.90	Yes			4,423.9	10,475.07
254	244	Casing Joints	5 1/2	20.00	P-110	Yes	36.95	Yes			4,387.0	10,512.02
255	245	Casing Joints	5 1/2	20.00	P-110	Yes	35.67	Yes			4,351.3	10,547.69
256	246	Casing Joints	5 1/2	20.00	P-110	Yes	44.80	Yes			4,306.5	10,592.49
257	247	Casing Joints	5 1/2	20.00	P-110	Yes	44.60	Yes			4,261.9	10,637.09
258	248	Casing Joints	5 1/2	20.00	P-110	Yes	44.58	Yes			4,217.3	10,681.67
259	249	Casing Joints	5 1/2	20.00	P-110	Yes	43.04	Yes			4,174.3	10,724.71
260	250	Casing Joints	5 1/2	20.00	P-110	Yes	35.74	Yes			4,138.6	10,760.45
261	251	Casing Joints	5 1/2	20.00	P-110	Yes	44.75	Yes			4,093.8	10,805.20
262	252	Casing Joints	5 1/2	20.00	P-110	Yes	37.72	Yes			4,056.1	10,842.92
263	253	Casing Joints	5 1/2	20.00	P-110	Yes	44.78	Yes			4,011.3	10,887.70
264	254	Casing Joints	5 1/2	20.00	P-110	Yes	35.35	Yes			3,976.0	10,923.05
265	255	Casing Joints	5 1/2	20.00	P-110	Yes	44.80	Yes			3,931.2	10,967.85
266	256	Casing Joints	5 1/2	20.00	P-110	Yes	45.24	Yes			3,885.9	11,013.09
267	257	Casing Joints	5 1/2	20.00	P-110	Yes	41.27	Yes			3,844.6	11,054.36
268	258	Casing Joints	5 1/2	20.00	P-110	Yes	44.90	Yes			3,799.7	11,099.26
269	259	Casing Joints	5 1/2	20.00	P-110	Yes	44.20	Yes			3,755.5	11,143.46
270	260	Casing Joints	5 1/2	20.00	P-110	Yes	35.62	Yes			3,719.9	11,179.08
271	261	Casing Joints	5 1/2	20.00	P-110	Yes	44.41	Yes			3,675.5	11,223.49
272	262	Casing Joints	5 1/2	20.00	P-110	Yes	42.84	Yes			3,632.7	11,266.33
273	263	Casing Joints	5 1/2	20.00	P-110	Yes	44.80	Yes			3,587.9	11,311.13
274	264	Casing Joints	5 1/2	20.00	P-110	Yes	44.79	Yes			3,543.1	11,355.92
275	265	Casing Joints	5 1/2	20.00	P-110	Yes	44.25	Yes			3,498.8	11,400.17
276	266	Casing Joints	5 1/2	20.00	P-110	Yes	40.98	Yes			3,457.9	11,441.15
277	267	Casing Joints	5 1/2	20.00	P-110	Yes	45.21	Yes			3,412.6	11,486.36
278	268	Casing Joints	5 1/2	20.00	P-110	Yes	45.31	Yes			3,367.3	11,531.67
279	269	Casing Joints	5 1/2	20.00	P-110	Yes	45.24	Yes			3,322.1	11,576.91



Centralizer Depths

Well Name: Hen 08N

Production, Set Depth: 14,899.0ftKB

API 0512351790000		Surface Legal Location SWNE 8 4N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,779.00		Original KB Elevation (ft) 4,807.50		KB-Ground Distance (ft) 28.50		Spud Date 8/26/2023 23:45		Rig Release Date 8/29/2023 21:30		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)
281	270	Casing Joints	5 1/2	20.00	P-110	Yes	43.41	Yes			3,264.9	11,634.07
282	271	Casing Joints	5 1/2	20.00	P-110	Yes	44.77	Yes			3,220.2	11,678.84
283	272	Casing Joints	5 1/2	20.00	P-110	Yes	44.93	Yes			3,175.2	11,723.77
284	273	Casing Joints	5 1/2	20.00	P-110	Yes	44.78	Yes			3,130.5	11,768.55
285	274	Casing Joints	5 1/2	20.00	P-110	Yes	45.20	Yes			3,085.3	11,813.75
286	275	Casing Joints	5 1/2	20.00	P-110	Yes	44.90	Yes			3,040.4	11,858.65
287	276	Casing Joints	5 1/2	20.00	P-110	Yes	44.77	Yes			2,995.6	11,903.42
288	277	Casing Joints	5 1/2	20.00	P-110	Yes	45.20	Yes			2,950.4	11,948.62
289	278	Casing Joints	5 1/2	20.00	P-110	Yes	44.53	Yes			2,905.9	11,993.15
290	279	Casing Joints	5 1/2	20.00	P-110	Yes	45.31	Yes			2,860.5	12,038.46
291	280	Casing Joints	5 1/2	20.00	P-110	Yes	44.77	Yes			2,815.8	12,083.23
292	281	Casing Joints	5 1/2	20.00	P-110	Yes	43.04	Yes			2,772.7	12,126.27
293	282	Casing Joints	5 1/2	20.00	P-110	Yes	43.42	Yes			2,729.3	12,169.69
294	283	Casing Joints	5 1/2	20.00	P-110	Yes	43.02	Yes			2,686.3	12,212.71
295	284	Casing Joints	5 1/2	20.00	P-110	Yes	43.13	Yes			2,643.2	12,255.84
296	285	Casing Joints	5 1/2	20.00	P-110	Yes	44.02	Yes			2,599.1	12,299.86
297	286	Casing Joints	5 1/2	20.00	P-110	Yes	42.70	Yes			2,556.4	12,342.56
298	287	Casing Joints	5 1/2	20.00	P-110	Yes	42.53	Yes			2,513.9	12,385.09
299	288	Casing Joints	5 1/2	20.00	P-110	Yes	44.20	Yes			2,469.7	12,429.29
300	289	Casing Joints	5 1/2	20.00	P-110	Yes	44.64	Yes			2,425.1	12,473.93
301	290	Casing Joints	5 1/2	20.00	P-110	Yes	44.09	Yes			2,381.0	12,518.02
302	291	Casing Joints	5 1/2	20.00	P-110	Yes	44.24	Yes			2,336.7	12,562.26
303	292	Casing Joints	5 1/2	20.00	P-110	Yes	42.65	Yes			2,294.1	12,604.91
304	293	Casing Joints	5 1/2	20.00	P-110	Yes	44.92	Yes			2,249.2	12,649.83
305	294	Casing Joints	5 1/2	20.00	P-110	Yes	44.89	Yes			2,204.3	12,694.72
306	295	Casing Joints	5 1/2	20.00	P-110	Yes	43.99	Yes			2,160.3	12,738.71
307	296	Casing Joints	5 1/2	20.00	P-110	Yes	42.30	Yes			2,118.0	12,781.01
308	297	Casing Joints	5 1/2	20.00	P-110	Yes	43.98	Yes			2,074.0	12,824.99
309	298	Casing Joints	5 1/2	20.00	P-110	Yes	44.11	Yes			2,029.9	12,869.10
310	299	Casing Joints	5 1/2	20.00	P-110	Yes	43.64	Yes			1,986.3	12,912.74
311	300	Casing Joints	5 1/2	20.00	P-110	Yes	41.55	Yes			1,944.7	12,954.29



Centralizer Depths

Well Name: Hen 08N

Production, Set Depth: 14,899.0ftKB

API 0512351790000		Surface Legal Location SWNE 8 4N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,779.00	Original KB Elevation (ft) 4,807.50	KB-Ground Distance (ft) 28.50	Spud Date 8/26/2023 23:45	Rig Release Date 8/29/2023 21:30	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)
312	301	Casing Joints	5 1/2	20.00	P-110	Yes	44.65	Yes			1,900.1	12,998.94
313	302	Casing Joints	5 1/2	20.00	P-110	Yes	44.83	Yes			1,855.2	13,043.77
314	303	Casing Joints	5 1/2	20.00	P-110	Yes	39.78	Yes			1,815.5	13,083.55
315	304	Casing Joints	5 1/2	20.00	P-110	Yes	44.10	Yes			1,771.4	13,127.65
316	305	Casing Joints	5 1/2	20.00	P-110	Yes	43.66	Yes			1,727.7	13,171.31
317	306	Casing Joints	5 1/2	20.00	P-110	Yes	43.76	Yes			1,683.9	13,215.07
318	307	Casing Joints	5 1/2	20.00	P-110	Yes	42.85	Yes			1,641.1	13,257.92
319	308	Casing Joints	5 1/2	20.00	P-110	Yes	40.85	Yes			1,600.2	13,298.77
320	309	Casing Joints	5 1/2	20.00	P-110	Yes	44.35	Yes			1,555.9	13,343.12
321	310	Casing Joints	5 1/2	20.00	P-110	Yes	43.64	Yes			1,512.2	13,386.76
322	311	Casing Joints	5 1/2	20.00	P-110	Yes	44.18	Yes			1,468.1	13,430.94
323	312	Casing Joints	5 1/2	20.00	P-110	Yes	43.71	Yes			1,424.4	13,474.65
324	313	Casing Joints	5 1/2	20.00	P-110	Yes	44.65	Yes			1,379.7	13,519.30
325	314	Casing Joints	5 1/2	20.00	P-110	Yes	44.55	Yes			1,335.2	13,563.85
326	315	Casing Joints	5 1/2	20.00	P-110	Yes	43.99	Yes			1,291.2	13,607.84
327	316	Casing Joints	5 1/2	20.00	P-110	Yes	35.15	Yes			1,256.0	13,642.99
328	317	Casing Joints	5 1/2	20.00	P-110	Yes	44.01	Yes			1,212.0	13,687.00
329	318	Casing Joints	5 1/2	20.00	P-110	Yes	38.50	Yes			1,173.5	13,725.50
330	319	Casing Joints	5 1/2	20.00	P-110	Yes	44.47	Yes			1,129.0	13,769.97
331	320	Casing Joints	5 1/2	20.00	P-110	Yes	42.55	Yes			1,086.5	13,812.52
332	321	Casing Joints	5 1/2	20.00	P-110	Yes	44.79	Yes			1,041.7	13,857.31
333	322	Casing Joints	5 1/2	20.00	P-110	Yes	44.76	Yes			996.9	13,902.07
334	323	Casing Joints	5 1/2	20.00	P-110	Yes	45.25	Yes			951.7	13,947.32
335	324	Casing Joints	5 1/2	20.00	P-110	Yes	44.00	Yes			907.7	13,991.32
336	325	Casing Joints	5 1/2	20.00	P-110	Yes	44.82	Yes			862.9	14,036.14
337	326	Casing Joints	5 1/2	20.00	P-110	Yes	40.36	Yes			822.5	14,076.50
338	327	Casing Joints	5 1/2	20.00	P-110	Yes	44.82	Yes			777.7	14,121.32
339	328	Casing Joints	5 1/2	20.00	P-110	Yes	43.77	Yes			733.9	14,165.09
340	329	Casing Joints	5 1/2	20.00	P-110	Yes	43.65	Yes			690.3	14,208.74
341	330	Casing Joints	5 1/2	20.00	P-110	Yes	44.10	Yes			646.2	14,252.84
342	331	Casing Joints	5 1/2	20.00	P-110	Yes	44.12	Yes			602.0	14,296.96



Centralizer Depths

Well Name: Hen 08N

Production, Set Depth: 14,899.0ftKB

API 05123517900000		Surface Legal Location SWNE 8 4N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,779.00	Original KB Elevation (ft) 4,807.50	KB-Ground Distance (ft) 28.50	Spud Date 8/26/2023 23:45	Rig Release Date 8/29/2023 21:30	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)
343	332	Casing Joints	5 1/2	20.00	P-110	Yes	44.55	Yes			557.5	14,341.51
344	333	Casing Joints	5 1/2	20.00	P-110	Yes	44.66	Yes			512.8	14,386.17