

Cement Post Job Report

Client: PDC Energy

Well Name: Erwin 6N

API #: 05-123-49377-00

Job Date: January 26, 2021

Job Type: New Well - 5.5" Production String

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



Treatment Report

Client:	Well Name and Number:	Rig Name:	Date:		
PDC Energy	Erwin 6N	Ensign 142	1/26/2021		
Job Type:	Well Head Connection:	Casing/Tubing Thread Type:	Well MD:	Well TVD:	Deg. Dev:
Production	5 1/2" HP Cement Head	Buttress	13611	6642	90
Max Casing/Tubing/DP PSI:	Max Allowed Ann. PSI:	No. of Stages:	DV Tool Depth (ft):		
5000					
Packer/Retainer Depth (ft)	Top of Perfs:	Bottom of Perfs:	Tapered String:		
			No		

String Details:							
String:	Type:	OD (in)	Wt. (lb/ft)	ID (in)	Bit/OH (in)	Excess %	Depth (ft)
Surface	Casing	9.625	36	8.921		0	1689
Production	Casing	5.5	20	4.778	8.5	0	13596

Preflush/Spacers:		Lead System: Class G		Tail System: Class G		Displacement:	
Spacer 1	Production OBM Spacer	Density	12.90	Density	13.70	Fluid Type	Water
Density	11.5,12.0,12.5	Sacks	865.00	Sacks	1261.00	Vol/bbls	301.0
Volume	75	Vol/bbls	235.71	Vol/bbls	307.68	Density	8.3
Rate	8	Rate	8.00	Rate	8.00	Clay Stab.?	yes
Spacer 2		Yield	1.53	Yield	1.37	Bump to?	2600.0
Density		Gal/Sack	7.83	Gal/Sack	6.66	Rate (bpm)	10.0
Volume		% Excess	0.00	% Excess	0.00	Last 10 Rate	3.0
Rate		TOL (ft)	500	TOT (ft)	6071	Final volume	301.0

Pre-Job Details:			
Mud Properties:		Circulation Data:	
Mud Type:	OBM	Time Circulated (hrs)	3
Mud Weight (ppg)	10.8	Circulation Rate (bpm)	10
Flow Line Temp (F)	114.0	Full Circulation	Yes
Visc. (sec/qt)		Gas Present	No
PV (cP)	21	Units of Gas	0
Yield Point	8	Centralizers & Plugs:	
10 Sec Gel	7	Quantity/Type	
10 Min Gel	10	Top Plug Used	Yes
30 Min Gel	11	Bottom Plug Used	Yes

Job Circulation Details:			
Calc. Displacement (bbls)	301	Gas After Placement?	No
Actual Pumped Displ. (bbls)	301	Cement to Surface?	No
Bump Plug?	Yes	Cement to Surface (bbls)	0
Floats Holding?	Yes	Top Out?	No
Qty. Returned to Tank (bbls)	3	Top Out Volume (bbls)	0

Additional Treatment Comments:			



Job Treatment Log

Client:		Well Name and Number:		Rig Name:		Date:	Ambient Conditions (Temperature/ Humidity/ Air Pressure)
PDC Energy		Erwin 6N		Ensign 142		1/26/2021	19 Deg F / 92% / 24.77 in
Date (MM/DD/YY)	Time (HH:MM)	Density (ppg)	Rate (BPM)	Volume	Cumulative Volume	Pressure	Comments
1/26/2021	2:00:00 AM						Arrive on location and meet with customer to get well information and discuss the job.
	2:15:00 AM						Spot equipment and rig up.
	3:00:00 AM						Wait for rig to circulate to condition the well
	6:00:00 AM						Pre job safety meeting wit the rig crew.
	6:20:00 AM						Rig up the floor and stand pipe, And drop 1 st. bottom plug.
	7:03:00 AM	8.3	1.5	3.0		500.0	Fill lines
	7:08:00 AM						Test lines to 5000 PSI.
	7:09:00 AM	11.5	4.0	25.0		900.0	Mix and pump OBM spacer @ 11.5# , with surfactants and fiber.
	7:15:00 AM	12.0	4.0	25.0		850.0	Mix and pump OBM spacer @ 12.0# , with surfactants and fiber.
	7:22:00 AM	12.5	4.0	25.0		750.0	Mix and pump 83 sks Scavenger @ 12.5# , 1.68 cuft/sk and 8.93 gals/sk.
	7:31:00 AM						Drop 2 nd. Bottom plug
	7:45:00 AM	12.9	7.0	236.0		800.0	Mix and pump 865 sks Lead @ 12.9# , 1.53 cuft/sk and 7.83 gals/sk , TOP of Lead cement @ 500'.
	8:18:00 AM	13.7	7.0	308.0		600.0	Mix and pump 1261 sks Tail @ 13.7# , 1.37 cuft/sk and 6.66 gals/sk , TOP of Tail cement @ 6072'.
	9:11:00 AM						Shut down and wash pumps and lines.
	9:15:00 AM						Drop top plug
	9:17:00 AM	8.3	8.3	50.0	0.0	1600.0	Water displacement
	9:24:00 AM	8.3	8.3	50.0	50.0	1740.0	Water displacement
	9:29:00 AM	8.3	10.0	50.0	100.0	2900.0	Water displacement
	9:34:00 AM	8.3	8.5	50.0	150.0	2950.0	Water displacement
	9:40:00 AM	8.3	8.5	50.0	200.0	3100.0	Water displacement
	9:47:00 AM	8.3	7.6	51.0	250.0	2900.0	Water displacement
	10:01:00 AM	8.3	3.0		301.0	2200.0	Land plug , 500 PSI over. Bumped plug to 2600 PSI.
	10:05:00 AM					3750.0	Pressure up and shift sleeve
	10:06:00 AM	8.3	4.0	5.0		2000.0	Pump wet shoe.
	10:08:00 AM	8.3		5.0			Check floats , floats held 2.5 bbls back.
	10:15:00 AM	8.3	4.0	15.0		300.0	Flush BOP stack.
	10:20:00 AM						Rig down
	11:30:00 AM						Depart location



Centralizer Depths

Well Name: Erwin 6N

Production, Set Depth: 13,596.0ftKB

API 05123493770000		Surface Legal Location SWSE 27 5N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal					
Ground Elevation (ft) 4,640.00		Original KB Elevation (ft) 4,668.00		KB-Ground Distance (ft) 28.00		Spud Date 1/23/2021 07:45		Rig Release Date 1/26/2021 12:00		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)
9	1	Casing Joints	5 1/2	20.00	P-110	Yes	47.25	Yes			13,513.8	82.17
11	3	Casing Joints	5 1/2	20.00	P-110	Yes	47.45	Yes			13,423.9	172.07
13	5	Casing Joints	5 1/2	20.00	P-110	Yes	47.45	Yes			13,329.6	266.42
15	7	Casing Joints	5 1/2	20.00	P-110	Yes	47.05	Yes			13,240.2	355.78
17	9	Casing Joints	5 1/2	20.00	P-110	Yes	46.38	Yes			13,146.6	449.41
19		Marker Joint A	5 1/2	20.00	P-110	Yes	11.41	Yes			13,089.4	506.57
21	12	Casing Joints	5 1/2	20.00	P-110	Yes	45.05	Yes			12,997.1	598.93
23	14	Casing Joints	5 1/2	20.00	P-110	Yes	47.02	Yes			12,903.1	692.95
25	16	Casing Joints	5 1/2	20.00	P-110	Yes	42.61	Yes			12,813.9	782.11
27	18	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			12,726.0	870.01
29	20	Casing Joints	5 1/2	20.00	P-110	Yes	42.00	Yes			12,637.9	958.11
31	22	Casing Joints	5 1/2	20.00	P-110	Yes	46.05	Yes			12,544.8	1,051.21
33	24	Casing Joints	5 1/2	20.00	P-110	Yes	43.25	Yes			12,454.8	1,141.16
35	26	Casing Joints	5 1/2	20.00	P-110	Yes	46.80	Yes			12,367.9	1,228.11
37	28	Casing Joints	5 1/2	20.00	P-110	Yes	47.48	Yes			12,273.4	1,322.59
39	30	Casing Joints	5 1/2	20.00	P-110	Yes	42.30	Yes			12,183.7	1,412.34
41	32	Casing Joints	5 1/2	20.00	P-110	Yes	47.15	Yes			12,089.3	1,506.74
43	34	Casing Joints	5 1/2	20.00	P-110	Yes	47.35	Yes			11,995.6	1,600.40
45	36	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			11,900.8	1,695.20
47	38	Casing Joints	5 1/2	20.00	P-110	Yes	47.46	Yes			11,805.9	1,790.11
49	40	Casing Joints	5 1/2	20.00	P-110	Yes	47.25	Yes			11,712.2	1,883.81
51	42	Casing Joints	5 1/2	20.00	P-110	Yes	43.75	Yes			11,625.9	1,970.06
53	44	Casing Joints	5 1/2	20.00	P-110	Yes	47.30	Yes			11,531.5	2,064.46
55	46	Casing Joints	5 1/2	20.00	P-110	Yes	46.95	Yes			11,437.3	2,158.66
57	48	Casing Joints	5 1/2	20.00	P-110	Yes	47.35	Yes			11,348.3	2,247.72
59	50	Casing Joints	5 1/2	20.00	P-110	Yes	43.50	Yes			11,261.2	2,334.82
61	52	Casing Joints	5 1/2	20.00	P-110	Yes	45.45	Yes			11,176.5	2,419.46
63	54	Casing Joints	5 1/2	20.00	P-110	Yes	46.30	Yes			11,083.1	2,512.91
65	56	Casing Joints	5 1/2	20.00	P-110	Yes	47.15	Yes			10,990.1	2,605.91
67	58	Casing Joints	5 1/2	20.00	P-110	Yes	37.75	Yes			10,908.6	2,687.36
69	60	Casing Joints	5 1/2	20.00	P-110	Yes	47.51	Yes			10,820.4	2,775.62



Centralizer Depths

Well Name: Erwin 6N

Production, Set Depth: 13,596.0ftKB

API 05123493770000		Surface Legal Location SWSE 27 5N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal					
Ground Elevation (ft) 4,640.00		Original KB Elevation (ft) 4,668.00		KB-Ground Distance (ft) 28.00		Spud Date 1/23/2021 07:45		Rig Release Date 1/26/2021 12:00		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)
71	62	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			10,728.4	2,867.63
73	64	Casing Joints	5 1/2	20.00	P-110	Yes	45.55	Yes			10,639.1	2,956.94
75	66	Casing Joints	5 1/2	20.00	P-110	Yes	43.85	Yes			10,551.5	3,044.49
77	67	Casing Joints	5 1/2	20.00	P-110	Yes	42.00	Yes			10,497.6	3,098.37
79	69	Casing Joints	5 1/2	20.00	P-110	Yes	47.08	Yes			10,410.0	3,186.05
81	71	Casing Joints	5 1/2	20.00	P-110	Yes	44.92	Yes			10,321.5	3,274.49
83	73	Casing Joints	5 1/2	20.00	P-110	Yes	46.02	Yes			10,228.2	3,367.81
85	75	Casing Joints	5 1/2	20.00	P-110	Yes	42.60	Yes			10,139.2	3,456.82
87	77	Casing Joints	5 1/2	20.00	P-110	Yes	46.40	Yes			10,050.1	3,545.92
89	79	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			9,955.1	3,640.87
91	81	Casing Joints	5 1/2	20.00	P-110	Yes	43.61	Yes			9,864.8	3,731.23
93	83	Casing Joints	5 1/2	20.00	P-110	Yes	43.31	Yes			9,774.0	3,822.04
95	85	Casing Joints	5 1/2	20.00	P-110	Yes	42.41	Yes			9,692.6	3,903.36
97	87	Casing Joints	5 1/2	20.00	P-110	Yes	45.20	Yes			9,602.2	3,993.84
99	89	Casing Joints	5 1/2	20.00	P-110	Yes	44.20	Yes			9,510.5	4,085.49
101	91	Casing Joints	5 1/2	20.00	P-110	Yes	44.24	Yes			9,422.2	4,173.83
103	93	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			9,329.3	4,266.68
105	95	Casing Joints	5 1/2	20.00	P-110	Yes	47.30	Yes			9,235.0	4,361.00
107	97	Casing Joints	5 1/2	20.00	P-110	Yes	47.32	Yes			9,140.3	4,455.72
109	99	Casing Joints	5 1/2	20.00	P-110	Yes	41.65	Yes			9,051.3	4,544.68
111	101	Casing Joints	5 1/2	20.00	P-110	Yes	47.32	Yes			8,965.7	4,630.30
113	103	Casing Joints	5 1/2	20.00	P-110	Yes	47.31	Yes			8,870.9	4,725.12
115	105	Casing Joints	5 1/2	20.00	P-110	Yes	47.55	Yes			8,779.9	4,816.15
117	107	Casing Joints	5 1/2	20.00	P-110	Yes	47.45	Yes			8,687.2	4,908.82
119	109	Casing Joints	5 1/2	20.00	P-110	Yes	47.55	Yes			8,592.4	5,003.57
121	111	Casing Joints	5 1/2	20.00	P-110	Yes	46.80	Yes			8,498.2	5,097.78
123	113	Casing Joints	5 1/2	20.00	P-110	Yes	47.44	Yes			8,405.3	5,190.74
125	115	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			8,310.3	5,285.69
127	117	Casing Joints	5 1/2	20.00	P-110	Yes	47.49	Yes			8,215.2	5,380.76
129	119	Casing Joints	5 1/2	20.00	P-110	Yes	41.60	Yes			8,126.1	5,469.86
131	121	Casing Joints	5 1/2	20.00	P-110	Yes	44.45	Yes			8,034.2	5,561.81



Centralizer Depths

Well Name: Erwin 6N

Production, Set Depth: 13,596.0ftKB

API 05123493770000		Surface Legal Location SWSE 27 5N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal					
Ground Elevation (ft) 4,640.00		Original KB Elevation (ft) 4,668.00		KB-Ground Distance (ft) 28.00		Spud Date 1/23/2021 07:45		Rig Release Date 1/26/2021 12:00		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)
133	123	Casing Joints	5 1/2	20.00	P-110	Yes	46.65	Yes			7,942.7	5,653.26
135	125	Casing Joints	5 1/2	20.00	P-110	Yes	47.21	Yes			7,848.0	5,747.97
137	127	Casing Joints	5 1/2	20.00	P-110	Yes	47.51	Yes			7,760.0	5,836.03
139	129	Casing Joints	5 1/2	20.00	P-110	Yes	40.45	Yes			7,672.0	5,924.03
141	131	Casing Joints	5 1/2	20.00	P-110	Yes	45.15	Yes			7,579.3	6,016.68
143	133	Casing Joints	5 1/2	20.00	P-110	Yes	41.85	Yes			7,490.0	6,106.04
145		Marker Joint E	5 1/2	20.00	P-110	Yes	23.91	Yes			7,427.5	6,168.49
146	135	Casing Joints	5 1/2	20.00	P-110	Yes	47.31	Yes			7,380.2	6,215.80
147	136	Casing Joints	5 1/2	20.00	P-110	Yes	41.60	Yes			7,338.6	6,257.40
148	137	Casing Joints	5 1/2	20.00	P-110	Yes	47.55	Yes			7,291.1	6,304.95
149	138	Casing Joints	5 1/2	20.00	P-110	Yes	38.50	Yes			7,252.6	6,343.45
150	139	Casing Joints	5 1/2	20.00	P-110	Yes	47.45	Yes			7,205.1	6,390.90
151	140	Casing Joints	5 1/2	20.00	P-110	Yes	42.00	Yes			7,163.1	6,432.90
152	141	Casing Joints	5 1/2	20.00	P-110	Yes	43.55	Yes			7,119.6	6,476.45
153	142	Casing Joints	5 1/2	20.00	P-110	Yes	41.60	Yes			7,078.0	6,518.05
154	143	Casing Joints	5 1/2	20.00	P-110	Yes	47.35	Yes			7,030.6	6,565.40
155	144	Casing Joints	5 1/2	20.00	P-110	Yes	41.37	Yes			6,989.2	6,606.77
156	145	Casing Joints	5 1/2	20.00	P-110	Yes	47.24	Yes			6,942.0	6,654.01
157	146	Casing Joints	5 1/2	20.00	P-110	Yes	47.10	Yes			6,894.9	6,701.11
158	147	Casing Joints	5 1/2	20.00	P-110	Yes	45.30	Yes			6,849.6	6,746.41
159	148	Casing Joints	5 1/2	20.00	P-110	Yes	42.31	Yes			6,807.3	6,788.72
160	149	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			6,759.8	6,836.22
161	150	Casing Joints	5 1/2	20.00	P-110	Yes	43.51	Yes			6,716.3	6,879.73
162	151	Casing Joints	5 1/2	20.00	P-110	Yes	47.46	Yes			6,668.8	6,927.19
163	152	Casing Joints	5 1/2	20.00	P-110	Yes	47.35	Yes			6,621.5	6,974.54
164	153	Casing Joints	5 1/2	20.00	P-110	Yes	47.10	Yes			6,574.4	7,021.64
165	154	Casing Joints	5 1/2	20.00	P-110	Yes	46.90	Yes			6,527.5	7,068.54
166	155	Casing Joints	5 1/2	20.00	P-110	Yes	47.00	Yes			6,480.5	7,115.54
167	156	Casing Joints	5 1/2	20.00	P-110	Yes	46.75	Yes			6,433.7	7,162.29
168	157	Casing Joints	5 1/2	20.00	P-110	Yes	45.35	Yes			6,388.4	7,207.64
169	158	Casing Joints	5 1/2	20.00	P-110	Yes	42.55	Yes			6,345.8	7,250.19



Centralizer Depths

Well Name: Erwin 6N

Production, Set Depth: 13,596.0ftKB

API 05123493770000		Surface Legal Location SWSE 27 5N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal					
Ground Elevation (ft) 4,640.00		Original KB Elevation (ft) 4,668.00		KB-Ground Distance (ft) 28.00		Spud Date 1/23/2021 07:45		Rig Release Date 1/26/2021 12:00		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)
170	159	Casing Joints	5 1/2	20.00	P-110	Yes	43.80	Yes			6,302.0	7,293.99
171	160	Casing Joints	5 1/2	20.00	P-110	Yes	46.15	Yes			6,255.9	7,340.14
172	161	Casing Joints	5 1/2	20.00	P-110	Yes	47.10	Yes			6,208.8	7,387.24
173	162	Casing Joints	5 1/2	20.00	P-110	Yes	39.70	Yes			6,169.1	7,426.94
174	163	Casing Joints	5 1/2	20.00	P-110	Yes	45.65	Yes			6,123.4	7,472.59
175		Marker Joint F	5 1/2	20.00	P-110	Yes	23.55	Yes			6,099.9	7,496.14
176	164	Casing Joints	5 1/2	20.00	P-110	Yes	44.84	Yes			6,055.0	7,540.98
177	165	Casing Joints	5 1/2	20.00	P-110	Yes	44.75	Yes			6,010.3	7,585.73
178	166	Casing Joints	5 1/2	20.00	P-110	Yes	47.35	Yes			5,962.9	7,633.08
179	167	Casing Joints	5 1/2	20.00	P-110	Yes	46.45	Yes			5,916.5	7,679.53
180	168	Casing Joints	5 1/2	20.00	P-110	Yes	45.85	Yes			5,870.6	7,725.38
181	169	Casing Joints	5 1/2	20.00	P-110	Yes	46.25	Yes			5,824.4	7,771.63
182	170	Casing Joints	5 1/2	20.00	P-110	Yes	46.10	Yes			5,778.3	7,817.73
183	171	Casing Joints	5 1/2	20.00	P-110	Yes	34.13	Yes			5,744.1	7,851.86
184	172	Casing Joints	5 1/2	20.00	P-110	Yes	46.60	Yes			5,697.5	7,898.46
185	173	Casing Joints	5 1/2	20.00	P-110	Yes	43.10	Yes			5,654.4	7,941.56
186	174	Casing Joints	5 1/2	20.00	P-110	Yes	46.05	Yes			5,608.4	7,987.61
187	175	Casing Joints	5 1/2	20.00	P-110	Yes	46.24	Yes			5,562.2	8,033.85
188	176	Casing Joints	5 1/2	20.00	P-110	Yes	47.60	Yes			5,514.6	8,081.45
189	177	Casing Joints	5 1/2	20.00	P-110	Yes	46.85	Yes			5,467.7	8,128.30
190	178	Casing Joints	5 1/2	20.00	P-110	Yes	47.10	Yes			5,420.6	8,175.40
191	179	Casing Joints	5 1/2	20.00	P-110	Yes	46.45	Yes			5,374.2	8,221.85
192	180	Casing Joints	5 1/2	20.00	P-110	Yes	41.95	Yes			5,332.2	8,263.80
193	181	Casing Joints	5 1/2	20.00	P-110	Yes	44.40	Yes			5,287.8	8,308.20
194	182	Casing Joints	5 1/2	20.00	P-110	Yes	46.65	Yes			5,241.2	8,354.85
195	183	Casing Joints	5 1/2	20.00	P-110	Yes	42.30	Yes			5,198.9	8,397.15
196	184	Casing Joints	5 1/2	20.00	P-110	Yes	46.75	Yes			5,152.1	8,443.90
197	185	Casing Joints	5 1/2	20.00	P-110	Yes	47.05	Yes			5,105.1	8,490.95
198	186	Casing Joints	5 1/2	20.00	P-110	Yes	45.90	Yes			5,059.2	8,536.85
199	187	Casing Joints	5 1/2	20.00	P-110	Yes	47.45	Yes			5,011.7	8,584.30
200	188	Casing Joints	5 1/2	20.00	P-110	Yes	44.74	Yes			4,967.0	8,629.04



Centralizer Depths

Well Name: Erwin 6N

Production, Set Depth: 13,596.0ftKB

API 05123493770000		Surface Legal Location SWSE 27 5N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal					
Ground Elevation (ft) 4,640.00		Original KB Elevation (ft) 4,668.00		KB-Ground Distance (ft) 28.00		Spud Date 1/23/2021 07:45		Rig Release Date 1/26/2021 12:00		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)
201	189	Casing Joints	5 1/2	20.00	P-110	Yes	45.45	Yes			4,921.5	8,674.49
202	190	Casing Joints	5 1/2	20.00	P-110	Yes	46.10	Yes			4,875.4	8,720.59
203	191	Casing Joints	5 1/2	20.00	P-110	Yes	47.05	Yes			4,828.4	8,767.64
204	192	Casing Joints	5 1/2	20.00	P-110	Yes	46.95	Yes			4,781.4	8,814.59
205	193	Casing Joints	5 1/2	20.00	P-110	Yes	46.85	Yes			4,734.6	8,861.44
206	194	Casing Joints	5 1/2	20.00	P-110	Yes	42.61	Yes			4,692.0	8,904.05
207	195	Casing Joints	5 1/2	20.00	P-110	Yes	45.00	Yes			4,647.0	8,949.05
208	196	Casing Joints	5 1/2	20.00	P-110	Yes	47.00	Yes			4,600.0	8,996.05
209	197	Casing Joints	5 1/2	20.00	P-110	Yes	47.05	Yes			4,552.9	9,043.10
210	198	Casing Joints	5 1/2	20.00	P-110	Yes	46.71	Yes			4,506.2	9,089.81
211	199	Casing Joints	5 1/2	20.00	P-110	Yes	47.05	Yes			4,459.1	9,136.86
212	200	Casing Joints	5 1/2	20.00	P-110	Yes	46.31	Yes			4,412.8	9,183.17
213	201	Casing Joints	5 1/2	20.00	P-110	Yes	45.90	Yes			4,366.9	9,229.07
214	202	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			4,319.4	9,276.57
215	203	Casing Joints	5 1/2	20.00	P-110	Yes	47.01	Yes			4,272.4	9,323.58
216	204	Casing Joints	5 1/2	20.00	P-110	Yes	47.02	Yes			4,225.4	9,370.60
217	205	Casing Joints	5 1/2	20.00	P-110	Yes	46.65	Yes			4,178.8	9,417.25
218	206	Casing Joints	5 1/2	20.00	P-110	Yes	44.60	Yes			4,134.2	9,461.85
219	207	Casing Joints	5 1/2	20.00	P-110	Yes	44.10	Yes			4,090.1	9,505.95
220	208	Casing Joints	5 1/2	20.00	P-110	Yes	47.05	Yes			4,043.0	9,553.00
221	209	Casing Joints	5 1/2	20.00	P-110	Yes	47.20	Yes			3,995.8	9,600.20
222	210	Casing Joints	5 1/2	20.00	P-110	Yes	46.95	Yes			3,948.9	9,647.15
223	211	Casing Joints	5 1/2	20.00	P-110	Yes	44.90	Yes			3,904.0	9,692.05
224	212	Casing Joints	5 1/2	20.00	P-110	Yes	46.81	Yes			3,857.1	9,738.86
225	213	Casing Joints	5 1/2	20.00	P-110	Yes	46.60	Yes			3,810.5	9,785.46
226	214	Casing Joints	5 1/2	20.00	P-110	Yes	46.90	Yes			3,763.6	9,832.36
227	215	Casing Joints	5 1/2	20.00	P-110	Yes	46.70	Yes			3,716.9	9,879.06
228	216	Casing Joints	5 1/2	20.00	P-110	Yes	46.75	Yes			3,670.2	9,925.81
229	217	Casing Joints	5 1/2	20.00	P-110	Yes	47.05	Yes			3,623.1	9,972.86
230	218	Casing Joints	5 1/2	20.00	P-110	Yes	39.50	Yes			3,583.6	10,012.36
231	219	Casing Joints	5 1/2	20.00	P-110	Yes	47.05	Yes			3,536.6	10,059.41



Centralizer Depths

Well Name: Erwin 6N

Production, Set Depth: 13,596.0ftKB

API 05123493770000		Surface Legal Location SWSE 27 5N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal					
Ground Elevation (ft) 4,640.00		Original KB Elevation (ft) 4,668.00		KB-Ground Distance (ft) 28.00		Spud Date 1/23/2021 07:45		Rig Release Date 1/26/2021 12:00		On Production Date		Abandon Date	

Casing Run Tally

Run #	Ref #	Item Des	OD (in)	Wt (lb/ft)	Grade	Run?	Len (ft)	Centralized?	Ext Jwlry	Connections	Top (ftKB)	Cum Len (ft)
232	220	Casing Joints	5 1/2	20.00	P-110	Yes	47.10	Yes			3,489.5	10,106.51
233	221	Casing Joints	5 1/2	20.00	P-110	Yes	46.20	Yes			3,443.3	10,152.71
234	222	Casing Joints	5 1/2	20.00	P-110	Yes	46.30	Yes			3,397.0	10,199.01
235	223	Casing Joints	5 1/2	20.00	P-110	Yes	46.85	Yes			3,350.1	10,245.86
236	224	Casing Joints	5 1/2	20.00	P-110	Yes	46.65	Yes			3,303.5	10,292.51
237	225	Casing Joints	5 1/2	20.00	P-110	Yes	47.10	Yes			3,256.4	10,339.61
238	226	Casing Joints	5 1/2	20.00	P-110	Yes	47.00	Yes			3,209.4	10,386.61
239	227	Casing Joints	5 1/2	20.00	P-110	Yes	47.56	Yes			3,161.8	10,434.17
240	228	Casing Joints	5 1/2	20.00	P-110	Yes	47.16	Yes			3,114.7	10,481.33
241	229	Casing Joints	5 1/2	20.00	P-110	Yes	46.95	Yes			3,067.7	10,528.28
242	230	Casing Joints	5 1/2	20.00	P-110	Yes	47.20	Yes			3,020.5	10,575.48
243	231	Casing Joints	5 1/2	20.00	P-110	Yes	47.00	Yes			2,973.5	10,622.48
244	232	Casing Joints	5 1/2	20.00	P-110	Yes	47.20	Yes			2,926.3	10,669.68
245	233	Casing Joints	5 1/2	20.00	P-110	Yes	47.08	Yes			2,879.2	10,716.76
246	234	Casing Joints	5 1/2	20.00	P-110	Yes	45.30	Yes			2,833.9	10,762.06
247	235	Casing Joints	5 1/2	20.00	P-110	Yes	46.80	Yes			2,787.1	10,808.86
248	236	Casing Joints	5 1/2	20.00	P-110	Yes	46.98	Yes			2,740.2	10,855.84
249	237	Casing Joints	5 1/2	20.00	P-110	Yes	47.03	Yes			2,693.1	10,902.87
250	238	Casing Joints	5 1/2	20.00	P-110	Yes	47.02	Yes			2,646.1	10,949.89
251	239	Casing Joints	5 1/2	20.00	P-110	Yes	46.91	Yes			2,599.2	10,996.80
252	240	Casing Joints	5 1/2	20.00	P-110	Yes	46.95	Yes			2,552.3	11,043.75
253	241	Casing Joints	5 1/2	20.00	P-110	Yes	47.41	Yes			2,504.8	11,091.16
254	242	Casing Joints	5 1/2	20.00	P-110	Yes	47.20	Yes			2,457.6	11,138.36
255	243	Casing Joints	5 1/2	20.00	P-110	Yes	47.05	Yes			2,410.6	11,185.41
256	244	Casing Joints	5 1/2	20.00	P-110	Yes	46.91	Yes			2,363.7	11,232.32
257	245	Casing Joints	5 1/2	20.00	P-110	Yes	47.15	Yes			2,316.5	11,279.47
258	246	Casing Joints	5 1/2	20.00	P-110	Yes	47.10	Yes			2,269.4	11,326.57
259	247	Casing Joints	5 1/2	20.00	P-110	Yes	45.90	Yes			2,223.5	11,372.47
260	248	Casing Joints	5 1/2	20.00	P-110	Yes	47.00	Yes			2,176.5	11,419.47
261	249	Casing Joints	5 1/2	20.00	P-110	Yes	47.05	Yes			2,129.5	11,466.52
262	250	Casing Joints	5 1/2	20.00	P-110	Yes	47.15	Yes			2,082.3	11,513.67



Centralizer Depths

Well Name: Erwin 6N

Production, Set Depth: 13,596.0ftKB

API 05123493770000		Surface Legal Location SWSE 27 5N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal					
Ground Elevation (ft) 4,640.00		Original KB Elevation (ft) 4,668.00		KB-Ground Distance (ft) 28.00		Spud Date 1/23/2021 07:45		Rig Release Date 1/26/2021 12:00		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)
263	251	Casing Joints	5 1/2	20.00	P-110	Yes	44.02	Yes			2,038.3	11,557.69
264	252	Casing Joints	5 1/2	20.00	P-110	Yes	46.55	Yes			1,991.8	11,604.24
265	253	Casing Joints	5 1/2	20.00	P-110	Yes	47.48	Yes			1,944.3	11,651.72
266	254	Casing Joints	5 1/2	20.00	P-110	Yes	47.48	Yes			1,896.8	11,699.20
267	255	Casing Joints	5 1/2	20.00	P-110	Yes	46.45	Yes			1,850.4	11,745.65
268	256	Casing Joints	5 1/2	20.00	P-110	Yes	47.45	Yes			1,802.9	11,793.10
269	257	Casing Joints	5 1/2	20.00	P-110	Yes	47.45	Yes			1,755.5	11,840.55
270	258	Casing Joints	5 1/2	20.00	P-110	Yes	47.42	Yes			1,708.0	11,887.97
271	259	Casing Joints	5 1/2	20.00	P-110	Yes	47.41	Yes			1,660.6	11,935.38
272	260	Casing Joints	5 1/2	20.00	P-110	Yes	47.15	Yes			1,613.5	11,982.53
273	261	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			1,566.0	12,030.03
274	262	Casing Joints	5 1/2	20.00	P-110	Yes	44.50	Yes			1,521.5	12,074.53
275	263	Casing Joints	5 1/2	20.00	P-110	Yes	47.40	Yes			1,474.1	12,121.93
276	264	Casing Joints	5 1/2	20.00	P-110	Yes	47.31	Yes			1,426.8	12,169.24
277	265	Casing Joints	5 1/2	20.00	P-110	Yes	44.18	Yes			1,382.6	12,213.42
278	266	Casing Joints	5 1/2	20.00	P-110	Yes	47.35	Yes			1,335.2	12,260.77
279	267	Casing Joints	5 1/2	20.00	P-110	Yes	45.60	Yes			1,289.6	12,306.37
280	268	Casing Joints	5 1/2	20.00	P-110	Yes	46.50	Yes			1,243.1	12,352.87
281	269	Casing Joints	5 1/2	20.00	P-110	Yes	46.65	Yes			1,196.5	12,399.52
282	270	Casing Joints	5 1/2	20.00	P-110	Yes	47.24	Yes			1,149.2	12,446.76
283	271	Casing Joints	5 1/2	20.00	P-110	Yes	47.05	Yes			1,102.2	12,493.81
284	272	Casing Joints	5 1/2	20.00	P-110	Yes	47.26	Yes			1,054.9	12,541.07
285	273	Casing Joints	5 1/2	20.00	P-110	Yes	46.00	Yes			1,008.9	12,587.07
286	274	Casing Joints	5 1/2	20.00	P-110	Yes	46.70	Yes			962.2	12,633.77
287	275	Casing Joints	5 1/2	20.00	P-110	Yes	43.85	Yes			918.4	12,677.62
288	276	Casing Joints	5 1/2	20.00	P-110	Yes	45.50	Yes			872.9	12,723.12
289	277	Casing Joints	5 1/2	20.00	P-110	Yes	46.41	Yes			826.5	12,769.53
290	278	Casing Joints	5 1/2	20.00	P-110	Yes	46.65	Yes			779.8	12,816.18
291	279	Casing Joints	5 1/2	20.00	P-110	Yes	42.51	Yes			737.3	12,858.69
292	280	Casing Joints	5 1/2	20.00	P-110	Yes	46.98	Yes			690.3	12,905.67
293	281	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			642.8	12,953.17



Centralizer Depths

Well Name: Erwin 6N

Production, Set Depth: 13,596.0ftKB

API 05123493770000		Surface Legal Location SWSE 27 5N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal	
Ground Elevation (ft) 4,640.00	Original KB Elevation (ft) 4,668.00	KB-Ground Distance (ft) 28.00		Spud Date 1/23/2021 07:45	Rig Release Date 1/26/2021 12:00	On Production Date		Abandon Date	

Casing Run Tally

Run #	Ref #	Item Des	OD (in)	Wt (lb/ft)	Grade	Run?	Len (ft)	Centralized?	Ext Jwlry	Connections	Top (ftKB)	Cum Len (ft)
294	282	Casing Joints	5 1/2	20.00	P-110	Yes	47.52	Yes			595.3	13,000.69
295	283	Casing Joints	5 1/2	20.00	P-110	Yes	47.45	Yes			547.9	13,048.14
296	284	Casing Joints	5 1/2	20.00	P-110	Yes	47.05	Yes			500.8	13,095.19