

Cement Post Job Report

Client: PDC Energy

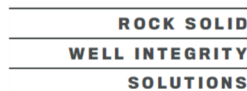
Well Name: Erwin 1N

API #: 05-123-49378-00

Job Date: February 12, 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 1N	Ensign 142	2/12/2021		
Job Type:	Well Head Connection:	Casing/Tubing Thread Type:	Well MD:	Well TVD:	Deg. Dev:
Production	5 1/2" HP Cement Head	Buttress	13665	6706	90
Max Casing/Tubing/DP PSI:	Max Allowed Ann. PSI:	No. of Stages:	DV Tool Depth (ft):		
50000					
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	8.5	0	1694
Production	Casing	5.5	20	4.778	8.5	0	13654

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	862.00	Sacks	1269.00	Vol/bbls	303.0
Volume	75	Vol/bbls	234.89	Vol/bbls	309.63	Density	8.3
Rate	8	Rate	8.00	Rate	8.00	Clay Stab.?	yes
Spacer 2		Yield	1.53	Yield	1.37	Bump to?	2500.0
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)	6013	Final volume	303.0

Pre-Job Details:			
Mud Properties:		Circulation Data:	
Mud Type:	OBM	Time Circulated (hrs)	3
Mud Weight (ppg)	10.4	Circulation Rate (bpm)	10
Flow Line Temp (F)	101.0	Full Circulation	Yes
Visc. (sec/qt)	55	Gas Present	No
PV (cP)	18	Units of Gas	0
Yield Point	7	Centralizers & Plugs:	
10 Sec Gel	6	Quantity/Type	
10 Min Gel	11	Top Plug Used	
30 Min Gel	13	Bottom Plug Used	

Job Circulation Details:			
Calc. Displacement (bbls)	303	Gas After Placement?	No
Actual Pumped Displ. (bbls)	303	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:			



ROCK SOLID
WELL INTEGRITY
SOLUTIONS

Job Treatment Log

Client:		Well Name and Number:		Rig Name:		Date:	Ambient Conditions (Temperature/ Humidity/ Air Pressure)	
PDC Energy		Erwin 1N		Ensign 142		2/12/2021	-2 deg F / 79% / 24.97 in	
Date (MM/DD/YY)	Time (HH:MM)	Density (ppg)	Rate (BPM)	Volume	Cumulative Volume	Pressure	Comments	
2/12/2021	5:30:00 AM						Arrive on location and meet with customer to get well information and discuss the job.	
	6:30:00 AM						Spot equipment and rig up all ground equipment.	
	8:00:00 AM						Wait for the rig to circulate to condition the well.	
	9:00:00 AM						Pre job safety meeting with the rig crew.	
	9:12:00 AM						Rig up the floor.	
	9:24:00 AM	8.4	2.3	3.0		250.0	Fill lines with water.	
	9:28:00 AM						Test lines to 5000 PSI.	
	9:30:00 AM	11.5	5.0	25.0		900.0	Mix and pump spacer1.	
	9:34:00 AM	12.0	6.0	25.0		1000.0	Mix and pump spacer2.	
	9:39:00 AM	12.5	7.0	25.0		1000.0	Mix and pump 83 sks scavenger @ 12.5 # , 1.68 cuft/sk and 8.93 gals/sk.	
	9:48:00 AM						Drop bottom plug.	
	9:51:00 AM	12.9	10.0	235.0		1050.0	Mix and pump 862 sks Lead @ 12.9# , 1.53 cuft/sk and 7.83 gals/sk , Top of lead cement @ 325'.	
	10:18:00 AM	13.7	10.5	310.0		1150.0	Mix and pump 1269 sks Tail @ 13.7# , 1.37 cuft/sk and 6.66 gals/sk , Top of Tail cement @ 6084'.	
	10:50:00 AM						Wash pumps and lines.	
	10:55:00 AM						Drop top Plug.	
	11:01:00 AM	8.4	10.0	50.0	50.0	1400.0	Start water displacement , Sugar in the first 10 bbls.	
	11:08:00 AM	8.4	10.0	50.0	100.0	2000.0	Water displacement	
	11:13:00 AM	8.4	10.0	50.0	150.0	2800.0	Water displacement	
	11:18:00 AM	8.4	10.0	50.0	200.0	3000.0	Water displacement	
	11:24:00 AM	8.4	10.0	50.0	250.0	3400.0	Water displacement	
	11:29:00 AM	8.4	8.0	50.0	300.0	2400.0	Water displacement , 40 bbls of spacer returned to surface.	
	11:37:00 AM	8.4	3.0	3.0	303.0	2000.0	Land plug (500 Over)	
	11:43:00 AM					3900.0	Open Sleeve.	
	11:44:00 AM	8.4	4.0	5.0		1400.0	Pump wet shoe.	
	11:46:00 AM						Check floats.	
	11:52:00 AM	8.4		18.0			Flush BOP clean.	
	12:00:00 PM						Rig down all equipment.	
	1:00:00 PM						Depart location.	



Centralizer Depths

Well Name: Erwin 1N

Production, Set Depth: 13,654.0ftKB

API 05123493780000		Surface Legal Location SWSE 27 5N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal					
Ground Elevation (ft) 4,639.00		Original KB Elevation (ft) 4,667.00		KB-Ground Distance (ft) 28.00		Spud Date 2/9/2021 01:45		Rig Release Date 2/13/2021 06:00		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	47.61	Yes			13,571.8	82.19
11	3	Casing Joints	5 1/2	20.00	P-110	Yes	47.60	Yes			13,481.2	172.79
13	5	Casing Joints	5 1/2	20.00	P-110	Yes	47.40	Yes			13,387.6	266.44
15	7	Casing Joints	5 1/2	20.00	P-110	Yes	44.70	Yes			13,295.8	358.19
17	9	Casing Joints	5 1/2	20.00	P-110	Yes	47.55	Yes			13,200.4	453.65
19		Marker Joint A	5 1/2	20.00	P-110	Yes	10.01	Yes			13,147.3	506.71
21	12	Casing Joints	5 1/2	20.00	P-110	Yes	42.60	Yes			13,063.8	590.16
23	14	Casing Joints	5 1/2	20.00	P-110	Yes	47.54	Yes			12,970.1	683.90
25	16	Casing Joints	5 1/2	20.00	P-110	Yes	43.20	Yes			12,879.4	774.65
27	18	Casing Joints	5 1/2	20.00	P-110	Yes	40.71	Yes			12,795.6	858.36
29	20	Casing Joints	5 1/2	20.00	P-110	Yes	47.55	Yes			12,707.7	946.32
31	22	Casing Joints	5 1/2	20.00	P-110	Yes	46.65	Yes			12,617.8	1,036.25
33	24	Casing Joints	5 1/2	20.00	P-110	Yes	47.44	Yes			12,523.1	1,130.94
35	26	Casing Joints	5 1/2	20.00	P-110	Yes	42.60	Yes			12,433.0	1,220.99
37	28	Casing Joints	5 1/2	20.00	P-110	Yes	46.75	Yes			12,343.8	1,310.24
39	30	Casing Joints	5 1/2	20.00	P-110	Yes	44.60	Yes			12,257.4	1,396.65
41	32	Casing Joints	5 1/2	20.00	P-110	Yes	42.60	Yes			12,171.8	1,482.16
43	34	Casing Joints	5 1/2	20.00	P-110	Yes	43.05	Yes			12,086.2	1,567.76
45	36	Casing Joints	5 1/2	20.00	P-110	Yes	47.61	Yes			11,996.9	1,657.07
47	38	Casing Joints	5 1/2	20.00	P-110	Yes	42.60	Yes			11,910.7	1,743.28
49	40	Casing Joints	5 1/2	20.00	P-110	Yes	41.85	Yes			11,825.5	1,828.53
51	42	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			11,730.5	1,923.51
53	44	Casing Joints	5 1/2	20.00	P-110	Yes	43.00	Yes			11,641.7	2,012.31
55	46	Casing Joints	5 1/2	20.00	P-110	Yes	47.38	Yes			11,554.0	2,099.99
57	48	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			11,461.3	2,192.70
59	50	Casing Joints	5 1/2	20.00	P-110	Yes	45.80	Yes			11,368.0	2,286.00
61	52	Casing Joints	5 1/2	20.00	P-110	Yes	47.48	Yes			11,273.1	2,380.93
63	54	Casing Joints	5 1/2	20.00	P-110	Yes	46.65	Yes			11,179.0	2,475.03
65	56	Casing Joints	5 1/2	20.00	P-110	Yes	43.21	Yes			11,089.7	2,564.34
67	58	Casing Joints	5 1/2	20.00	P-110	Yes	47.48	Yes			10,995.5	2,658.47
69	60	Casing Joints	5 1/2	20.00	P-110	Yes	47.60	Yes			10,900.4	2,753.57



Centralizer Depths

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Production, Set Depth: 13,654.0ftKB

API 05123493780000		Surface Legal Location SWSE 27 5N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal	
Ground Elevation (ft) 4,639.00		Original KB Elevation (ft) 4,667.00		KB-Ground Distance (ft) 28.00		Spud Date 2/9/2021 01:45		Rig Release Date 2/13/2021 06:00	
						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	44.10	Yes			10,813.2	2,840.82
73	64	Casing Joints	5 1/2	20.00	P-110	Yes	43.10	Yes			10,727.1	2,926.94
75	66	Casing Joints	5 1/2	20.00	P-110	Yes	47.51	Yes			10,632.8	3,021.20
77		Marker Joint B	5 1/2	20.00	P-110	Yes	10.15	Yes			10,575.2	3,078.80
79	69	Casing Joints	5 1/2	20.00	P-110	Yes	47.45	Yes			10,481.6	3,172.45
81	71	Casing Joints	5 1/2	20.00	P-110	Yes	42.95	Yes			10,395.5	3,258.55
83	73	Casing Joints	5 1/2	20.00	P-110	Yes	47.05	Yes			10,301.0	3,353.05
85	75	Casing Joints	5 1/2	20.00	P-110	Yes	46.71	Yes			10,206.8	3,447.21
87	77	Casing Joints	5 1/2	20.00	P-110	Yes	43.00	Yes			10,120.7	3,533.26
89	79	Casing Joints	5 1/2	20.00	P-110	Yes	43.15	Yes			10,034.6	3,619.43
91	81	Casing Joints	5 1/2	20.00	P-110	Yes	42.85	Yes			9,948.5	3,705.53
93	83	Casing Joints	5 1/2	20.00	P-110	Yes	43.30	Yes			9,860.2	3,793.83
95	85	Casing Joints	5 1/2	20.00	P-110	Yes	41.85	Yes			9,772.0	3,881.99
97	87	Casing Joints	5 1/2	20.00	P-110	Yes	43.08	Yes			9,685.7	3,968.32
99	89	Casing Joints	5 1/2	20.00	P-110	Yes	39.45	Yes			9,603.0	4,050.97
101	91	Casing Joints	5 1/2	20.00	P-110	Yes	47.20	Yes			9,512.7	4,141.32
103	93	Casing Joints	5 1/2	20.00	P-110	Yes	42.92	Yes			9,426.5	4,227.54
105	95	Casing Joints	5 1/2	20.00	P-110	Yes	43.05	Yes			9,340.3	4,313.74
107	97	Casing Joints	5 1/2	20.00	P-110	Yes	47.25	Yes			9,245.5	4,408.53
109	99	Casing Joints	5 1/2	20.00	P-110	Yes	46.50	Yes			9,151.5	4,502.54
111	101	Casing Joints	5 1/2	20.00	P-110	Yes	45.90	Yes			9,066.7	4,587.29
113	103	Casing Joints	5 1/2	20.00	P-110	Yes	36.34	Yes			8,984.5	4,669.53
115	105	Casing Joints	5 1/2	20.00	P-110	Yes	43.55	Yes			8,902.6	4,751.43
117	107	Casing Joints	5 1/2	20.00	P-110	Yes	47.38	Yes			8,816.4	4,837.65
119	109	Casing Joints	5 1/2	20.00	P-110	Yes	44.00	Yes			8,725.1	4,928.90
121	111	Casing Joints	5 1/2	20.00	P-110	Yes	46.45	Yes			8,631.3	5,022.75
123	113	Casing Joints	5 1/2	20.00	P-110	Yes	47.20	Yes			8,536.6	5,117.45
125	115	Casing Joints	5 1/2	20.00	P-110	Yes	41.78	Yes			8,447.2	5,206.83
127	117	Casing Joints	5 1/2	20.00	P-110	Yes	46.45	Yes			8,354.0	5,300.03
129	119	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			8,259.6	5,394.38
131	121	Casing Joints	5 1/2	20.00	P-110	Yes	47.05	Yes			8,165.5	5,488.48



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Ground Elevation (ft) 4,639.00		Original KB Elevation (ft) 4,667.00		KB-Ground Distance (ft) 28.00		Spud Date 2/9/2021 01:45		Rig Release Date 2/13/2021 06:00	
						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)
133	123	Casing Joints	5 1/2	20.00	P-110	Yes	47.55	Yes			8,070.8	5,583.18
135	125	Casing Joints	5 1/2	20.00	P-110	Yes	44.80	Yes			7,979.1	5,674.88
137	127	Casing Joints	5 1/2	20.00	P-110	Yes	45.70	Yes			7,885.9	5,768.09
139	129	Casing Joints	5 1/2	20.00	P-110	Yes	43.43	Yes			7,799.2	5,854.83
141	131	Casing Joints	5 1/2	20.00	P-110	Yes	47.10	Yes			7,707.5	5,946.53
143	133	Casing Joints	5 1/2	20.00	P-110	Yes	42.40	Yes			7,619.7	6,034.33
145	135	Casing Joints	5 1/2	20.00	P-110	Yes	45.80	Yes			7,527.0	6,127.03
147	137	Casing Joints	5 1/2	20.00	P-110	Yes	41.10	Yes			7,441.7	6,212.33
148		Marker Joint C	5 1/2	20.00	P-110	Yes	10.01	Yes			7,431.7	6,222.34
149	138	Casing Joints	5 1/2	20.00	P-110	Yes	45.53	Yes			7,386.1	6,267.87
150	139	Casing Joints	5 1/2	20.00	P-110	Yes	45.35	Yes			7,340.8	6,313.22
151	140	Casing Joints	5 1/2	20.00	P-110	Yes	47.35	Yes			7,293.4	6,360.57
152	141	Casing Joints	5 1/2	20.00	P-110	Yes	43.10	Yes			7,250.3	6,403.67
153	142	Casing Joints	5 1/2	20.00	P-110	Yes	44.78	Yes			7,205.6	6,448.45
154	143	Casing Joints	5 1/2	20.00	P-110	Yes	40.95	Yes			7,164.6	6,489.40
155	144	Casing Joints	5 1/2	20.00	P-110	Yes	47.15	Yes			7,117.5	6,536.55
156	145	Casing Joints	5 1/2	20.00	P-110	Yes	47.55	Yes			7,069.9	6,584.10
157	146	Casing Joints	5 1/2	20.00	P-110	Yes	45.15	Yes			7,024.8	6,629.25
158	147	Casing Joints	5 1/2	20.00	P-110	Yes	45.45	Yes			6,979.3	6,674.70
159	148	Casing Joints	5 1/2	20.00	P-110	Yes	43.00	Yes			6,936.3	6,717.70
160	149	Casing Joints	5 1/2	20.00	P-110	Yes	44.35	Yes			6,892.0	6,762.05
161	150	Casing Joints	5 1/2	20.00	P-110	Yes	41.45	Yes			6,850.5	6,803.50
162	151	Casing Joints	5 1/2	20.00	P-110	Yes	47.35	Yes			6,803.2	6,850.85
163	152	Casing Joints	5 1/2	20.00	P-110	Yes	43.15	Yes			6,760.0	6,894.00
164	153	Casing Joints	5 1/2	20.00	P-110	Yes	43.55	Yes			6,716.5	6,937.55
165	154	Casing Joints	5 1/2	20.00	P-110	Yes	43.18	Yes			6,673.3	6,980.73
166	155	Casing Joints	5 1/2	20.00	P-110	Yes	46.40	Yes			6,626.9	7,027.13
167	156	Casing Joints	5 1/2	20.00	P-110	Yes	47.25	Yes			6,579.6	7,074.38
168	157	Casing Joints	5 1/2	20.00	P-110	Yes	45.61	Yes			6,534.0	7,119.99
169	158	Casing Joints	5 1/2	20.00	P-110	Yes	38.28	Yes			6,495.7	7,158.27
170	159	Casing Joints	5 1/2	20.00	P-110	Yes	47.25	Yes			6,448.5	7,205.52



Centralizer Depths

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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)
171	160	Casing Joints	5 1/2	20.00	P-110	Yes	46.75	Yes			6,401.7	7,252.27
172	161	Casing Joints	5 1/2	20.00	P-110	Yes	42.60	Yes			6,359.1	7,294.87
173	162	Casing Joints	5 1/2	20.00	P-110	Yes	43.10	Yes			6,316.0	7,337.97
174	163	Casing Joints	5 1/2	20.00	P-110	Yes	43.10	Yes			6,272.9	7,381.07
175	164	Casing Joints	5 1/2	20.00	P-110	Yes	42.65	Yes			6,230.3	7,423.72
176	165	Casing Joints	5 1/2	20.00	P-110	Yes	46.70	Yes			6,183.6	7,470.42
177	166	Casing Joints	5 1/2	20.00	P-110	Yes	42.15	Yes			6,141.4	7,512.57
178	167	Casing Joints	5 1/2	20.00	P-110	Yes	43.15	Yes			6,098.3	7,555.72
179		Marker Joint E	5 1/2	20.00	P-110	Yes	23.88	Yes			6,074.4	7,579.60
180	168	Casing Joints	5 1/2	20.00	P-110	Yes	43.10	Yes			6,031.3	7,622.70
181	169	Casing Joints	5 1/2	20.00	P-110	Yes	43.00	Yes			5,988.3	7,665.70
182	170	Casing Joints	5 1/2	20.00	P-110	Yes	42.55	Yes			5,945.8	7,708.25
183	171	Casing Joints	5 1/2	20.00	P-110	Yes	47.40	Yes			5,898.4	7,755.65
184	172	Casing Joints	5 1/2	20.00	P-110	Yes	43.15	Yes			5,855.2	7,798.80
185	173	Casing Joints	5 1/2	20.00	P-110	Yes	42.60	Yes			5,812.6	7,841.40
186	174	Casing Joints	5 1/2	20.00	P-110	Yes	47.58	Yes			5,765.0	7,888.98
187	175	Casing Joints	5 1/2	20.00	P-110	Yes	43.05	Yes			5,722.0	7,932.03
188	176	Casing Joints	5 1/2	20.00	P-110	Yes	47.55	Yes			5,674.4	7,979.58
189	177	Casing Joints	5 1/2	20.00	P-110	Yes	47.40	Yes			5,627.0	8,026.98
190	178	Casing Joints	5 1/2	20.00	P-110	Yes	44.40	Yes			5,582.6	8,071.38
191	179	Casing Joints	5 1/2	20.00	P-110	Yes	47.40	Yes			5,535.2	8,118.78
192	180	Casing Joints	5 1/2	20.00	P-110	Yes	47.35	Yes			5,487.9	8,166.13
193	181	Casing Joints	5 1/2	20.00	P-110	Yes	43.15	Yes			5,444.7	8,209.28
194	182	Casing Joints	5 1/2	20.00	P-110	Yes	41.90	Yes			5,402.8	8,251.18
195	183	Casing Joints	5 1/2	20.00	P-110	Yes	43.00	Yes			5,359.8	8,294.18
196	184	Casing Joints	5 1/2	20.00	P-110	Yes	41.35	Yes			5,318.5	8,335.53
197	185	Casing Joints	5 1/2	20.00	P-110	Yes	43.20	Yes			5,275.3	8,378.73
198	186	Casing Joints	5 1/2	20.00	P-110	Yes	43.11	Yes			5,232.2	8,421.84
199	187	Casing Joints	5 1/2	20.00	P-110	Yes	43.02	Yes			5,189.1	8,464.86
200	188	Casing Joints	5 1/2	20.00	P-110	Yes	42.18	Yes			5,147.0	8,507.04
201	189	Casing Joints	5 1/2	20.00	P-110	Yes	43.25	Yes			5,103.7	8,550.29



Centralizer Depths

Well Name: Erwin 1N

Production, Set Depth: 13,654.0ftKB

API 05123493780000		Surface Legal Location SWSE 27 5N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal	
Ground Elevation (ft) 4,639.00		Original KB Elevation (ft) 4,667.00		KB-Ground Distance (ft) 28.00		Spud Date 2/9/2021 01:45		Rig Release Date 2/13/2021 06:00	
						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)
202	190	Casing Joints	5 1/2	20.00	P-110	Yes	42.55	Yes			5,061.2	8,592.84
203	191	Casing Joints	5 1/2	20.00	P-110	Yes	45.61	Yes			5,015.6	8,638.45
204	192	Casing Joints	5 1/2	20.00	P-110	Yes	47.40	Yes			4,968.2	8,685.85
205	193	Casing Joints	5 1/2	20.00	P-110	Yes	46.50	Yes			4,921.7	8,732.35
206	194	Casing Joints	5 1/2	20.00	P-110	Yes	43.80	Yes			4,877.9	8,776.15
207	195	Casing Joints	5 1/2	20.00	P-110	Yes	47.00	Yes			4,830.9	8,823.15
208	196	Casing Joints	5 1/2	20.00	P-110	Yes	39.91	Yes			4,790.9	8,863.06
209	197	Casing Joints	5 1/2	20.00	P-110	Yes	42.80	Yes			4,748.1	8,905.86
210	198	Casing Joints	5 1/2	20.00	P-110	Yes	46.45	Yes			4,701.7	8,952.31
211	199	Casing Joints	5 1/2	20.00	P-110	Yes	46.10	Yes			4,655.6	8,998.41
212	200	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			4,608.1	9,045.91
213	201	Casing Joints	5 1/2	20.00	P-110	Yes	43.11	Yes			4,565.0	9,089.02
214	202	Casing Joints	5 1/2	20.00	P-110	Yes	43.00	Yes			4,522.0	9,132.02
215	203	Casing Joints	5 1/2	20.00	P-110	Yes	43.15	Yes			4,478.8	9,175.17
216	204	Casing Joints	5 1/2	20.00	P-110	Yes	43.10	Yes			4,435.7	9,218.27
217	205	Casing Joints	5 1/2	20.00	P-110	Yes	43.25	Yes			4,392.5	9,261.52
218	206	Casing Joints	5 1/2	20.00	P-110	Yes	44.15	Yes			4,348.3	9,305.67
219	207	Casing Joints	5 1/2	20.00	P-110	Yes	40.00	Yes			4,308.3	9,345.67
220	208	Casing Joints	5 1/2	20.00	P-110	Yes	42.65	Yes			4,265.7	9,388.32
221	209	Casing Joints	5 1/2	20.00	P-110	Yes	42.05	Yes			4,223.6	9,430.37
222	210	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			4,176.1	9,477.87
223	211	Casing Joints	5 1/2	20.00	P-110	Yes	42.80	Yes			4,133.3	9,520.67
224	212	Casing Joints	5 1/2	20.00	P-110	Yes	46.30	Yes			4,087.0	9,566.97
225	213	Casing Joints	5 1/2	20.00	P-110	Yes	42.45	Yes			4,044.6	9,609.42
226	214	Casing Joints	5 1/2	20.00	P-110	Yes	43.15	Yes			4,001.4	9,652.57
227	215	Casing Joints	5 1/2	20.00	P-110	Yes	42.61	Yes			3,958.8	9,695.18
228	216	Casing Joints	5 1/2	20.00	P-110	Yes	43.30	Yes			3,915.5	9,738.48
229	217	Casing Joints	5 1/2	20.00	P-110	Yes	43.10	Yes			3,872.4	9,781.58
230	218	Casing Joints	5 1/2	20.00	P-110	Yes	43.08	Yes			3,829.3	9,824.66
231	219	Casing Joints	5 1/2	20.00	P-110	Yes	43.15	Yes			3,786.2	9,867.81
232	220	Casing Joints	5 1/2	20.00	P-110	Yes	42.15	Yes			3,744.0	9,909.96



Centralizer Depths

Well Name: Erwin 1N

Production, Set Depth: 13,654.0ftKB

API 05123493780000		Surface Legal Location SWSE 27 5N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal	
Ground Elevation (ft) 4,639.00		Original KB Elevation (ft) 4,667.00		KB-Ground Distance (ft) 28.00		Spud Date 2/9/2021 01:45		Rig Release Date 2/13/2021 06:00	
						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)
233	221	Casing Joints	5 1/2	20.00	P-110	Yes	43.00	Yes			3,701.0	9,952.96
234	222	Casing Joints	5 1/2	20.00	P-110	Yes	43.08	Yes			3,658.0	9,996.04
235	223	Casing Joints	5 1/2	20.00	P-110	Yes	43.00	Yes			3,615.0	10,039.04
236	224	Casing Joints	5 1/2	20.00	P-110	Yes	42.65	Yes			3,572.3	10,081.69
237	225	Casing Joints	5 1/2	20.00	P-110	Yes	43.15	Yes			3,529.2	10,124.84
238	226	Casing Joints	5 1/2	20.00	P-110	Yes	43.25	Yes			3,485.9	10,168.09
239	227	Casing Joints	5 1/2	20.00	P-110	Yes	39.70	Yes			3,446.2	10,207.79
240	228	Casing Joints	5 1/2	20.00	P-110	Yes	42.55	Yes			3,403.7	10,250.34
241	229	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			3,356.2	10,297.84
242	230	Casing Joints	5 1/2	20.00	P-110	Yes	39.80	Yes			3,316.4	10,337.64
243	231	Casing Joints	5 1/2	20.00	P-110	Yes	43.21	Yes			3,273.2	10,380.85
244	232	Casing Joints	5 1/2	20.00	P-110	Yes	43.10	Yes			3,230.1	10,423.95
245	233	Casing Joints	5 1/2	20.00	P-110	Yes	40.88	Yes			3,189.2	10,464.83
246	234	Casing Joints	5 1/2	20.00	P-110	Yes	42.61	Yes			3,146.6	10,507.44
247	235	Casing Joints	5 1/2	20.00	P-110	Yes	43.15	Yes			3,103.4	10,550.59
248	236	Casing Joints	5 1/2	20.00	P-110	Yes	42.50	Yes			3,060.9	10,593.09
249	237	Casing Joints	5 1/2	20.00	P-110	Yes	43.25	Yes			3,017.7	10,636.34
250	238	Casing Joints	5 1/2	20.00	P-110	Yes	42.65	Yes			2,975.0	10,678.99
251	239	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			2,927.5	10,726.49
252	240	Casing Joints	5 1/2	20.00	P-110	Yes	47.44	Yes			2,880.1	10,773.93
253	241	Casing Joints	5 1/2	20.00	P-110	Yes	43.25	Yes			2,836.8	10,817.18
254	242	Casing Joints	5 1/2	20.00	P-110	Yes	43.61	Yes			2,793.2	10,860.79
255	243	Casing Joints	5 1/2	20.00	P-110	Yes	42.81	Yes			2,750.4	10,903.60
256	244	Casing Joints	5 1/2	20.00	P-110	Yes	42.80	Yes			2,707.6	10,946.40
257	245	Casing Joints	5 1/2	20.00	P-110	Yes	43.15	Yes			2,664.5	10,989.55
258	246	Casing Joints	5 1/2	20.00	P-110	Yes	47.55	Yes			2,616.9	11,037.10
259	247	Casing Joints	5 1/2	20.00	P-110	Yes	47.24	Yes			2,569.7	11,084.34
260	248	Casing Joints	5 1/2	20.00	P-110	Yes	47.55	Yes			2,522.1	11,131.89
261	249	Casing Joints	5 1/2	20.00	P-110	Yes	46.95	Yes			2,475.2	11,178.84
262	250	Casing Joints	5 1/2	20.00	P-110	Yes	43.05	Yes			2,432.1	11,221.89
263	251	Casing Joints	5 1/2	20.00	P-110	Yes	43.25	Yes			2,388.9	11,265.14



Centralizer Depths

Well Name: Erwin 1N

Production, Set Depth: 13,654.0ftKB

API 05123493780000		Surface Legal Location SWSE 27 5N 64W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal	
Ground Elevation (ft) 4,639.00		Original KB Elevation (ft) 4,667.00		KB-Ground Distance (ft) 28.00		Spud Date 2/9/2021 01:45		Rig Release Date 2/13/2021 06:00	
						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)
264	252	Casing Joints	5 1/2	20.00	P-110	Yes	43.00	Yes			2,345.9	11,308.14
265	253	Casing Joints	5 1/2	20.00	P-110	Yes	43.51	Yes			2,302.4	11,351.65
266	254	Casing Joints	5 1/2	20.00	P-110	Yes	43.00	Yes			2,259.4	11,394.65
267	255	Casing Joints	5 1/2	20.00	P-110	Yes	46.75	Yes			2,212.6	11,441.40
268	256	Casing Joints	5 1/2	20.00	P-110	Yes	43.05	Yes			2,169.6	11,484.45
269	257	Casing Joints	5 1/2	20.00	P-110	Yes	41.35	Yes			2,128.2	11,525.80
270	258	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			2,080.7	11,573.30
271	259	Casing Joints	5 1/2	20.00	P-110	Yes	43.30	Yes			2,037.4	11,616.60
272	260	Casing Joints	5 1/2	20.00	P-110	Yes	43.24	Yes			1,994.2	11,659.84
273	261	Casing Joints	5 1/2	20.00	P-110	Yes	47.65	Yes			1,946.5	11,707.49
274	262	Casing Joints	5 1/2	20.00	P-110	Yes	46.65	Yes			1,899.9	11,754.14
275	263	Casing Joints	5 1/2	20.00	P-110	Yes	45.85	Yes			1,854.0	11,799.99
276	264	Casing Joints	5 1/2	20.00	P-110	Yes	42.60	Yes			1,811.4	11,842.59
277	265	Casing Joints	5 1/2	20.00	P-110	Yes	44.75	Yes			1,766.7	11,887.34
278	266	Casing Joints	5 1/2	20.00	P-110	Yes	47.48	Yes			1,719.2	11,934.82
279	267	Casing Joints	5 1/2	20.00	P-110	Yes	47.45	Yes			1,671.7	11,982.27
280	268	Casing Joints	5 1/2	20.00	P-110	Yes	47.41	Yes			1,624.3	12,029.68
281	269	Casing Joints	5 1/2	20.00	P-110	Yes	47.45	Yes			1,576.9	12,077.13
282	270	Casing Joints	5 1/2	20.00	P-110	Yes	43.11	Yes			1,533.8	12,120.24
283	271	Casing Joints	5 1/2	20.00	P-110	Yes	43.15	Yes			1,490.6	12,163.39
284	272	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			1,443.1	12,210.89
285	273	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			1,395.6	12,258.39
286	274	Casing Joints	5 1/2	20.00	P-110	Yes	47.35	Yes			1,348.3	12,305.74
287	275	Casing Joints	5 1/2	20.00	P-110	Yes	47.50	Yes			1,300.8	12,353.24
288	276	Casing Joints	5 1/2	20.00	P-110	Yes	46.75	Yes			1,254.0	12,399.99
289	277	Casing Joints	5 1/2	20.00	P-110	Yes	46.61	Yes			1,207.4	12,446.60
290	278	Casing Joints	5 1/2	20.00	P-110	Yes	47.40	Yes			1,160.0	12,494.00
291	279	Casing Joints	5 1/2	20.00	P-110	Yes	47.45	Yes			1,112.6	12,541.45
292	280	Casing Joints	5 1/2	20.00	P-110	Yes	42.60	Yes			1,070.0	12,584.05