

Cement Post Job Report

Client: PDC Energy

Well Name: Elkhead 8N

API #: 05-123-48482-00

Job Date: April 12, 2021

Job Type: New Well - 5.5" Production String

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



Job Treatment Log



Client: PDC Energy	Well Name and Number: Elkhead 8N	Rig Name: Ensign 142	Date: 4/12/2021	Ambient Conditions (Temperature / Humidity / Air Pressure) 35 deg F / 48% / 25.05 in
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Date (MM/DD/YY)	Time (HH:MM)	Density (ppg)	Rate (BPM)	Volume	Cumulative Volume	Pressure	Treatment Details
4/11/2021							Crew gets called out. Requested time 4/12/21 at 500
4/12/2021	3:30:00 AM						Crew arrives on location
	4:00:00 AM						Spot units and rigged up
	5:00:00 AM						Crew waits for rig to finish running casing
	10:00:00 AM						Crew has a safety meeting with rig crew and company man discussing the job
	10:18:00 AM	8.33	3.00	3.0	3.0	600.0	Filled lines 3 bbls
	10:21:00 AM						Pressure tested to 8000psi
	10:23:00 AM	12.00	10.00	120.0	123.0	2200.0	Pumped 120bbls of Spacer at 12ppg with surfactant and fiber
	10:38:00 AM						Shutdown drop bottom plug
	10:40:00 AM	12.90	11.00	216.0	339.0	1600.0	Pumped 216bbls of lead at 12.9ppg first 20bbls had fiber(1076sks,1.13yld,3.937gal/sk)
	11:03:00 AM	13.70	11.00	334.0	673.0	1600.0	Pumped 334bbls of Tail at 13.7ppg(1375sks,1.37yld,6.61gal/sk) Before shutting down to wash pump and lines pumped 8bbls of sugar water behind cement Shutdown wash pump and lines
	11:40:00 AM						Drop top plug
	11:45:00 AM						
	11:46:00 AM	8.33	8.00	10.0	683.0	600.0	Pumped 8bpm till we caught the plug
	11:56:00 AM	8.33	11.00	90.0	773.0	2600.0	100 bbls away
	12:10:00 PM	8.33	11.00	100.0	873.0	3500.0	200 bbls away
	12:27:00 PM	8.33	8.00	100.0	973.0	3600.0	300 bbls away
	12:30:00 PM	8.33	4.00	20.0	993.0	3300.0	At 326 away slowed rate to 4bpm to land plug. Got calculated spacer back to surface at 326
	12:34:00 PM						Landed plug on calculated displacement which was 346 went 500psi over FCP. FCP was 3300psi brought it up to 3900psi
	12:37:00 PM						Check floats
	12:48:00 PM						Burst wet shoe at 7900psi. Got 4 bbls back when checking floats
	12:55:00 PM						Check floats rigged down



Centralizer Depths

Well Name: Elkhead 8N

Production, Set Depth: 15,645.0ftKB

API 05123484820000		Surface Legal Location SWNE 06 3N 65W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,968.00		Original KB Elevation (ft) 4,996.00		KB-Ground Distance (ft) 28.00		Spud Date 4/9/2021 09:30		Rig Release Date 4/12/2021 15:00		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)
8	1	Casing Joints	5 1/2	20.00	P-110	Yes	47.22	Yes			15,559.9	85.06
10	3	Casing Joints	5 1/2	20.00	P-110	Yes	44.57	Yes			15,468.2	176.78
12	5	Casing Joints	5 1/2	20.00	P-110	Yes	47.23	Yes			15,373.8	271.18
14	7	Casing Joints	5 1/2	20.00	P-110	Yes	47.24	Yes			15,279.4	365.65
16	9	Casing Joints	5 1/2	20.00	P-110	Yes	47.25	Yes			15,184.9	460.13
18		Marker Joint	5 1/2	20.00	P-110	Yes	23.53	Yes			15,114.1	530.89
20	12	Casing Joints	5 1/2	20.00	P-110	Yes	47.22	Yes			15,019.7	625.34
22	14	Casing Joints	5 1/2	20.00	P-110	Yes	47.16	Yes			14,925.3	719.74
24	16	Casing Joints	5 1/2	20.00	P-110	Yes	46.86	Yes			14,831.2	813.77
26	18	Casing Joints	5 1/2	20.00	P-110	Yes	47.01	Yes			14,737.4	907.65
28	20	Casing Joints	5 1/2	20.00	P-110	Yes	47.20	Yes			14,642.9	1,002.07
30	22	Casing Joints	5 1/2	20.00	P-110	Yes	47.23	Yes			14,548.5	1,096.52
32	24	Casing Joints	5 1/2	20.00	P-110	Yes	47.18	Yes			14,454.1	1,190.94
34	26	Casing Joints	5 1/2	20.00	P-110	Yes	47.12	Yes			14,360.1	1,284.94
36	28	Casing Joints	5 1/2	20.00	P-110	Yes	47.18	Yes			14,265.7	1,379.29
38	30	Casing Joints	5 1/2	20.00	P-110	Yes	47.24	Yes			14,171.3	1,473.67
40	32	Casing Joints	5 1/2	20.00	P-110	Yes	46.33	Yes			14,078.2	1,566.84
42	34	Casing Joints	5 1/2	20.00	P-110	Yes	47.03	Yes			13,984.2	1,660.77
44	36	Casing Joints	5 1/2	20.00	P-110	Yes	44.61	Yes			13,895.2	1,749.77
46	38	Casing Joints	5 1/2	20.00	P-110	Yes	47.26	Yes			13,800.7	1,844.27
48	40	Casing Joints	5 1/2	20.00	P-110	Yes	46.99	Yes			13,706.9	1,938.10
50	42	Casing Joints	5 1/2	20.00	P-110	Yes	46.84	Yes			13,613.1	2,031.93
52	44	Casing Joints	5 1/2	20.00	P-110	Yes	46.91	Yes			13,519.2	2,125.85
54	46	Casing Joints	5 1/2	20.00	P-110	Yes	46.93	Yes			13,425.2	2,219.77
56	48	Casing Joints	5 1/2	20.00	P-110	Yes	46.93	Yes			13,331.4	2,313.62
58	50	Casing Joints	5 1/2	20.00	P-110	Yes	46.98	Yes			13,237.6	2,407.44
60	52	Casing Joints	5 1/2	20.00	P-110	Yes	45.80	Yes			13,144.8	2,500.25
62	54	Casing Joints	5 1/2	20.00	P-110	Yes	46.92	Yes			13,051.0	2,594.02
64	56	Casing Joints	5 1/2	20.00	P-110	Yes	46.83	Yes			12,957.2	2,687.76
66	58	Casing Joints	5 1/2	20.00	P-110	Yes	38.88	Yes			12,871.4	2,773.62
68	60	Casing Joints	5 1/2	20.00	P-110	Yes	45.83	Yes			12,778.4	2,866.65



Centralizer Depths

Well Name: Elkhead 8N

Production, Set Depth: 15,645.0ftKB

API 0512348482000		Surface Legal Location SWNE 06 3N 65W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,968.00	Original KB Elevation (ft) 4,996.00	KB-Ground Distance (ft) 28.00	Spud Date 4/9/2021 09:30	Rig Release Date 4/12/2021 15:00	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)
70	62	Casing Joints	5 1/2	20.00	P-110	Yes	46.90	Yes			12,684.2	2,960.77
72	64	Casing Joints	5 1/2	20.00	P-110	Yes	46.90	Yes			12,590.4	3,054.65
74	66	Casing Joints	5 1/2	20.00	P-110	Yes	47.24	Yes			12,496.3	3,148.71
76	68	Casing Joints	5 1/2	20.00	P-110	Yes	47.14	Yes			12,401.9	3,243.08
78	70	Casing Joints	5 1/2	20.00	P-110	Yes	47.10	Yes			12,307.6	3,337.38
80	72	Casing Joints	5 1/2	20.00	P-110	Yes	45.82	Yes			12,214.9	3,430.13
82	74	Casing Joints	5 1/2	20.00	P-110	Yes	47.22	Yes			12,120.5	3,524.48
84	76	Casing Joints	5 1/2	20.00	P-110	Yes	47.19	Yes			12,026.1	3,618.90
86	78	Casing Joints	5 1/2	20.00	P-110	Yes	47.20	Yes			11,931.7	3,713.31
88	80	Casing Joints	5 1/2	20.00	P-110	Yes	46.99	Yes			11,837.8	3,807.21
90		Marker Joint	5 1/2	20.00	P-110	Yes	11.37	Yes			11,779.2	3,865.80
92	83	Casing Joints	5 1/2	20.00	P-110	Yes	47.21	Yes			11,684.9	3,960.15
94	85	Casing Joints	5 1/2	20.00	P-110	Yes	47.23	Yes			11,590.5	4,054.54
96	87	Casing Joints	5 1/2	20.00	P-110	Yes	47.23	Yes			11,500.2	4,144.84
98	89	Casing Joints	5 1/2	20.00	P-110	Yes	47.17	Yes			11,405.8	4,239.22
100	91	Casing Joints	5 1/2	20.00	P-110	Yes	47.17	Yes			11,311.5	4,333.53
102	93	Casing Joints	5 1/2	20.00	P-110	Yes	45.23	Yes			11,219.0	4,425.97
104	95	Casing Joints	5 1/2	20.00	P-110	Yes	47.22	Yes			11,124.6	4,520.39
106	97	Casing Joints	5 1/2	20.00	P-110	Yes	47.25	Yes			11,030.1	4,614.87
108	99	Casing Joints	5 1/2	20.00	P-110	Yes	47.17	Yes			10,938.5	4,706.52
110	101	Casing Joints	5 1/2	20.00	P-110	Yes	47.14	Yes			10,844.2	4,800.82
112	103	Casing Joints	5 1/2	20.00	P-110	Yes	47.20	Yes			10,749.8	4,895.24
114	105	Casing Joints	5 1/2	20.00	P-110	Yes	47.14	Yes			10,655.5	4,989.53
116	107	Casing Joints	5 1/2	20.00	P-110	Yes	47.11	Yes			10,561.3	5,083.74
118	109	Casing Joints	5 1/2	20.00	P-110	Yes	46.92	Yes			10,467.4	5,177.57
120	111	Casing Joints	5 1/2	20.00	P-110	Yes	46.98	Yes			10,373.5	5,271.48
122	113	Casing Joints	5 1/2	20.00	P-110	Yes	46.92	Yes			10,279.7	5,365.28
124	115	Casing Joints	5 1/2	20.00	P-110	Yes	46.98	Yes			10,185.5	5,459.49
126	117	Casing Joints	5 1/2	20.00	P-110	Yes	46.93	Yes			10,091.7	5,553.33
128	119	Casing Joints	5 1/2	20.00	P-110	Yes	46.88	Yes			9,997.8	5,647.18
130	121	Casing Joints	5 1/2	20.00	P-110	Yes	46.92	Yes			9,903.9	5,741.09



Centralizer Depths

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Ground Elevation (ft) 4,968.00	Original KB Elevation (ft) 4,996.00	KB-Ground Distance (ft) 28.00	Spud Date 4/9/2021 09:30	Rig Release Date 4/12/2021 15:00	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)
132	123	Casing Joints	5 1/2	20.00	P-110	Yes	46.98	Yes			9,810.0	5,834.98
134	125	Casing Joints	5 1/2	20.00	P-110	Yes	47.13	Yes			9,715.7	5,929.34
136	127	Casing Joints	5 1/2	20.00	P-110	Yes	46.87	Yes			9,621.9	6,023.12
138	129	Casing Joints	5 1/2	20.00	P-110	Yes	44.93	Yes			9,530.0	6,115.02
140	131	Casing Joints	5 1/2	20.00	P-110	Yes	46.92	Yes			9,436.2	6,208.81
142	133	Casing Joints	5 1/2	20.00	P-110	Yes	46.92	Yes			9,342.3	6,302.72
144	135	Casing Joints	5 1/2	20.00	P-110	Yes	46.91	Yes			9,248.5	6,396.53
146	137	Casing Joints	5 1/2	20.00	P-110	Yes	46.87	Yes			9,154.7	6,490.30
148	139	Casing Joints	5 1/2	20.00	P-110	Yes	46.98	Yes			9,060.8	6,584.20
150	141	Casing Joints	5 1/2	20.00	P-110	Yes	46.98	Yes			8,966.9	6,678.09
152	143	Casing Joints	5 1/2	20.00	P-110	Yes	47.01	Yes			8,872.9	6,772.09
154	145	Casing Joints	5 1/2	20.00	P-110	Yes	46.98	Yes			8,778.9	6,866.06
156	147	Casing Joints	5 1/2	20.00	P-110	Yes	46.89	Yes			8,685.1	6,959.94
158	149	Casing Joints	5 1/2	20.00	P-110	Yes	47.02	Yes			8,591.1	7,053.89
160	151	Casing Joints	5 1/2	20.00	P-110	Yes	46.97	Yes			8,497.3	7,147.69
162	153	Casing Joints	5 1/2	20.00	P-110	Yes	46.41	Yes			8,404.5	7,240.47
164	155	Casing Joints	5 1/2	20.00	P-110	Yes	46.90	Yes			8,310.7	7,334.34
166	157	Casing Joints	5 1/2	20.00	P-110	Yes	46.86	Yes			8,216.9	7,428.08
168	159	Casing Joints	5 1/2	20.00	P-110	Yes	44.83	Yes			8,125.1	7,519.92
170	161	Casing Joints	5 1/2	20.00	P-110	Yes	47.01	Yes			8,031.1	7,613.86
171		Marker Joint	5 1/2	20.00	P-110	Yes	11.56	Yes			8,019.6	7,625.42
172	162	Casing Joints	5 1/2	20.00	P-110	Yes	46.94	Yes			7,972.6	7,672.36
173	163	Casing Joints	5 1/2	20.00	P-110	Yes	45.83	Yes			7,926.8	7,718.19
174	164	Casing Joints	5 1/2	20.00	P-110	Yes	43.27	Yes			7,883.5	7,761.46
175	165	Casing Joints	5 1/2	20.00	P-110	Yes	39.22	Yes			7,844.3	7,800.68
176	166	Casing Joints	5 1/2	20.00	P-110	Yes	44.92	Yes			7,799.4	7,845.60
177	167	Casing Joints	5 1/2	20.00	P-110	Yes	46.94	Yes			7,752.5	7,892.54
178	168	Casing Joints	5 1/2	20.00	P-110	Yes	46.87	Yes			7,705.6	7,939.41
179	169	Casing Joints	5 1/2	20.00	P-110	Yes	46.88	Yes			7,658.7	7,986.29
180	170	Casing Joints	5 1/2	20.00	P-110	Yes	46.87	Yes			7,611.8	8,033.16
181	171	Casing Joints	5 1/2	20.00	P-110	Yes	46.91	Yes			7,564.9	8,080.07



Centralizer Depths

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Production, Set Depth: 15,645.0ftKB

API 05123484820000		Surface Legal Location SWNE 06 3N 65W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,968.00	Original KB Elevation (ft) 4,996.00	KB-Ground Distance (ft) 28.00	Spud Date 4/9/2021 09:30	Rig Release Date 4/12/2021 15:00	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)
182	172	Casing Joints	5 1/2	20.00	P-110	Yes	46.97	Yes			7,518.0	8,127.04
183	173	Casing Joints	5 1/2	20.00	P-110	Yes	46.98	Yes			7,471.0	8,174.02
184	174	Casing Joints	5 1/2	20.00	P-110	Yes	47.01	Yes			7,424.0	8,221.03
185	175	Casing Joints	5 1/2	20.00	P-110	Yes	46.83	Yes			7,377.1	8,267.86
186	176	Casing Joints	5 1/2	20.00	P-110	Yes	46.93	Yes			7,330.2	8,314.79
187	177	Casing Joints	5 1/2	20.00	P-110	Yes	46.92	Yes			7,283.3	8,361.71
188	178	Casing Joints	5 1/2	20.00	P-110	Yes	47.01	Yes			7,236.3	8,408.72
189	179	Casing Joints	5 1/2	20.00	P-110	Yes	46.97	Yes			7,189.3	8,455.69
190	180	Casing Joints	5 1/2	20.00	P-110	Yes	44.98	Yes			7,144.3	8,500.67
191	181	Casing Joints	5 1/2	20.00	P-110	Yes	45.87	Yes			7,098.5	8,546.54
192	182	Casing Joints	5 1/2	20.00	P-110	Yes	45.95	Yes			7,052.5	8,592.49
193	183	Casing Joints	5 1/2	20.00	P-110	Yes	45.42	Yes			7,007.1	8,637.91
194	184	Casing Joints	5 1/2	20.00	P-110	Yes	36.40	Yes			6,970.7	8,674.31
195	185	Casing Joints	5 1/2	20.00	P-110	Yes	45.92	Yes			6,924.8	8,720.23
196	186	Casing Joints	5 1/2	20.00	P-110	Yes	46.92	Yes			6,877.9	8,767.15
197	187	Casing Joints	5 1/2	20.00	P-110	Yes	45.83	Yes			6,832.0	8,812.98
198	188	Casing Joints	5 1/2	20.00	P-110	Yes	46.99	Yes			6,785.0	8,859.97
199	189	Casing Joints	5 1/2	20.00	P-110	Yes	46.92	Yes			6,738.1	8,906.89
200		Marker Joint	5 1/2	20.00	P-110	Yes	11.34	Yes			6,726.8	8,918.23
201	190	Casing Joints	5 1/2	20.00	P-110	Yes	46.98	Yes			6,679.8	8,965.21
202	191	Casing Joints	5 1/2	20.00	P-110	Yes	47.22	Yes			6,632.6	9,012.43
203	192	Casing Joints	5 1/2	20.00	P-110	Yes	47.10	Yes			6,585.5	9,059.53
204	193	Casing Joints	5 1/2	20.00	P-110	Yes	47.12	Yes			6,538.4	9,106.65
205	194	Casing Joints	5 1/2	20.00	P-110	Yes	47.11	Yes			6,491.2	9,153.76
206	195	Casing Joints	5 1/2	20.00	P-110	Yes	47.01	Yes			6,444.2	9,200.77
207	196	Casing Joints	5 1/2	20.00	P-110	Yes	47.11	Yes			6,397.1	9,247.88
208	197	Casing Joints	5 1/2	20.00	P-110	Yes	47.15	Yes			6,350.0	9,295.03
209	198	Casing Joints	5 1/2	20.00	P-110	Yes	47.27	Yes			6,302.7	9,342.30
210	199	Casing Joints	5 1/2	20.00	P-110	Yes	46.89	Yes			6,255.8	9,389.19
211	200	Casing Joints	5 1/2	20.00	P-110	Yes	44.85	Yes			6,211.0	9,434.04
212	201	Casing Joints	5 1/2	20.00	P-110	Yes	47.23	Yes			6,163.7	9,481.27



Centralizer Depths

Well Name: Elkhead 8N

Production, Set Depth: 15,645.0ftKB

API 05123484820000		Surface Legal Location SWNE 06 3N 65W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,968.00	Original KB Elevation (ft) 4,996.00	KB-Ground Distance (ft) 28.00	Spud Date 4/9/2021 09:30	Rig Release Date 4/12/2021 15:00	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)
213	202	Casing Joints	5 1/2	20.00	P-110	Yes	47.21	Yes			6,116.5	9,528.48
214	203	Casing Joints	5 1/2	20.00	P-110	Yes	47.27	Yes			6,069.3	9,575.75
215	204	Casing Joints	5 1/2	20.00	P-110	Yes	47.10	Yes			6,022.2	9,622.85
216	205	Casing Joints	5 1/2	20.00	P-110	Yes	45.17	Yes			5,977.0	9,668.02
217	206	Casing Joints	5 1/2	20.00	P-110	Yes	46.92	Yes			5,930.1	9,714.94
218	207	Casing Joints	5 1/2	20.00	P-110	Yes	46.91	Yes			5,883.2	9,761.85
219	208	Casing Joints	5 1/2	20.00	P-110	Yes	44.30	Yes			5,838.9	9,806.15
220	209	Casing Joints	5 1/2	20.00	P-110	Yes	46.91	Yes			5,791.9	9,853.06
221	210	Casing Joints	5 1/2	20.00	P-110	Yes	47.22	Yes			5,744.7	9,900.28
222	211	Casing Joints	5 1/2	20.00	P-110	Yes	46.93	Yes			5,697.8	9,947.21
223	212	Casing Joints	5 1/2	20.00	P-110	Yes	46.95	Yes			5,650.8	9,994.16
224	213	Casing Joints	5 1/2	20.00	P-110	Yes	46.91	Yes			5,603.9	10,041.07
225	214	Casing Joints	5 1/2	20.00	P-110	Yes	45.93	Yes			5,558.0	10,087.00
226	215	Casing Joints	5 1/2	20.00	P-110	Yes	46.89	Yes			5,511.1	10,133.89
227	216	Casing Joints	5 1/2	20.00	P-110	Yes	47.22	Yes			5,463.9	10,181.11
228	217	Casing Joints	5 1/2	20.00	P-110	Yes	47.16	Yes			5,416.7	10,228.27
229	218	Casing Joints	5 1/2	20.00	P-110	Yes	47.05	Yes			5,369.7	10,275.32
230	219	Casing Joints	5 1/2	20.00	P-110	Yes	46.98	Yes			5,322.7	10,322.30
231	220	Casing Joints	5 1/2	20.00	P-110	Yes	47.16	Yes			5,275.5	10,369.46
232	221	Casing Joints	5 1/2	20.00	P-110	Yes	44.94	Yes			5,230.6	10,414.40
233	222	Casing Joints	5 1/2	20.00	P-110	Yes	46.99	Yes			5,183.6	10,461.39
234	223	Casing Joints	5 1/2	20.00	P-110	Yes	46.87	Yes			5,136.7	10,508.26
235	224	Casing Joints	5 1/2	20.00	P-110	Yes	46.94	Yes			5,089.8	10,555.20
236	225	Casing Joints	5 1/2	20.00	P-110	Yes	45.93	Yes			5,043.9	10,601.13
237	226	Casing Joints	5 1/2	20.00	P-110	Yes	46.39	Yes			4,997.5	10,647.52
238	227	Casing Joints	5 1/2	20.00	P-110	Yes	46.98	Yes			4,950.5	10,694.50
239	228	Casing Joints	5 1/2	20.00	P-110	Yes	47.02	Yes			4,903.5	10,741.52
240	229	Casing Joints	5 1/2	20.00	P-110	Yes	44.32	Yes			4,859.2	10,785.84
241	230	Casing Joints	5 1/2	20.00	P-110	Yes	46.99	Yes			4,812.2	10,832.83
242	231	Casing Joints	5 1/2	20.00	P-110	Yes	46.99	Yes			4,765.2	10,879.82
243	232	Casing Joints	5 1/2	20.00	P-110	Yes	47.02	Yes			4,718.2	10,926.84



Centralizer Depths

Well Name: Elkhead 8N

Production, Set Depth: 15,645.0ftKB

API 05123484820000		Surface Legal Location SWNE 06 3N 65W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,968.00	Original KB Elevation (ft) 4,996.00	KB-Ground Distance (ft) 28.00	Spud Date 4/9/2021 09:30	Rig Release Date 4/12/2021 15:00	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)
244	233	Casing Joints	5 1/2	20.00	P-110	Yes	46.99	Yes			4,671.2	10,973.83
245	234	Casing Joints	5 1/2	20.00	P-110	Yes	47.01	Yes			4,624.2	11,020.84
246	235	Casing Joints	5 1/2	20.00	P-110	Yes	46.99	Yes			4,577.2	11,067.83
247	236	Casing Joints	5 1/2	20.00	P-110	Yes	47.22	Yes			4,530.0	11,115.05
248	237	Casing Joints	5 1/2	20.00	P-110	Yes	46.99	Yes			4,483.0	11,162.04
249	238	Casing Joints	5 1/2	20.00	P-110	Yes	46.91	Yes			4,436.1	11,208.95
250	239	Casing Joints	5 1/2	20.00	P-110	Yes	47.16	Yes			4,388.9	11,256.11
251	240	Casing Joints	5 1/2	20.00	P-110	Yes	42.74	Yes			4,346.2	11,298.85
252	241	Casing Joints	5 1/2	20.00	P-110	Yes	47.10	Yes			4,299.1	11,345.95
253	242	Casing Joints	5 1/2	20.00	P-110	Yes	47.17	Yes			4,251.9	11,393.12
254	243	Casing Joints	5 1/2	20.00	P-110	Yes	44.54	Yes			4,207.3	11,437.66
255	244	Casing Joints	5 1/2	20.00	P-110	Yes	47.18	Yes			4,160.2	11,484.84
256	245	Casing Joints	5 1/2	20.00	P-110	Yes	47.15	Yes			4,113.0	11,531.99
257	246	Casing Joints	5 1/2	20.00	P-110	Yes	47.24	Yes			4,065.8	11,579.23
258	247	Casing Joints	5 1/2	20.00	P-110	Yes	47.22	Yes			4,018.6	11,626.45
259	248	Casing Joints	5 1/2	20.00	P-110	Yes	47.15	Yes			3,971.4	11,673.60
260	249	Casing Joints	5 1/2	20.00	P-110	Yes	47.23	Yes			3,924.2	11,720.83
261	250	Casing Joints	5 1/2	20.00	P-110	Yes	47.18	Yes			3,877.0	11,768.01
262	251	Casing Joints	5 1/2	20.00	P-110	Yes	47.18	Yes			3,829.8	11,815.19
263	252	Casing Joints	5 1/2	20.00	P-110	Yes	47.26	Yes			3,782.6	11,862.45
264	253	Casing Joints	5 1/2	20.00	P-110	Yes	47.25	Yes			3,735.3	11,909.70
265	254	Casing Joints	5 1/2	20.00	P-110	Yes	47.23	Yes			3,688.1	11,956.93
266	255	Casing Joints	5 1/2	20.00	P-110	Yes	47.17	Yes			3,640.9	12,004.10
267	256	Casing Joints	5 1/2	20.00	P-110	Yes	45.06	Yes			3,595.8	12,049.16
268	257	Casing Joints	5 1/2	20.00	P-110	Yes	45.15	Yes			3,550.7	12,094.31
269	258	Casing Joints	5 1/2	20.00	P-110	Yes	47.24	Yes			3,503.5	12,141.55
270	259	Casing Joints	5 1/2	20.00	P-110	Yes	47.12	Yes			3,456.3	12,188.67
271	260	Casing Joints	5 1/2	20.00	P-110	Yes	47.23	Yes			3,409.1	12,235.90
272	261	Casing Joints	5 1/2	20.00	P-110	Yes	47.19	Yes			3,361.9	12,283.09
273	262	Casing Joints	5 1/2	20.00	P-110	Yes	47.22	Yes			3,314.7	12,330.31
274	263	Casing Joints	5 1/2	20.00	P-110	Yes	47.13	Yes			3,267.6	12,377.44



Centralizer Depths

Well Name: Elkhead 8N

Production, Set Depth: 15,645.0ftKB

API 05123484820000		Surface Legal Location SWNE 06 3N 65W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,968.00	Original KB Elevation (ft) 4,996.00	KB-Ground Distance (ft) 28.00	Spud Date 4/9/2021 09:30	Rig Release Date 4/12/2021 15:00	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)
275	264	Casing Joints	5 1/2	20.00	P-110	Yes	47.24	Yes			3,220.3	12,424.68
276	265	Casing Joints	5 1/2	20.00	P-110	Yes	45.21	Yes			3,175.1	12,469.89
277	266	Casing Joints	5 1/2	20.00	P-110	Yes	47.23	Yes			3,127.9	12,517.12
278	267	Casing Joints	5 1/2	20.00	P-110	Yes	47.20	Yes			3,080.7	12,564.32
279	268	Casing Joints	5 1/2	20.00	P-110	Yes	47.17	Yes			3,033.5	12,611.49
280	269	Casing Joints	5 1/2	20.00	P-110	Yes	47.23	Yes			2,986.3	12,658.72
281	270	Casing Joints	5 1/2	20.00	P-110	Yes	45.01	Yes			2,941.3	12,703.73
282	271	Casing Joints	5 1/2	20.00	P-110	Yes	47.23	Yes			2,894.0	12,750.96
283	272	Casing Joints	5 1/2	20.00	P-110	Yes	44.37	Yes			2,849.7	12,795.33
284	273	Casing Joints	5 1/2	20.00	P-110	Yes	47.10	Yes			2,802.6	12,842.43
285	274	Casing Joints	5 1/2	20.00	P-110	Yes	45.18	Yes			2,757.4	12,887.61
286	275	Casing Joints	5 1/2	20.00	P-110	Yes	47.19	Yes			2,710.2	12,934.80
287	276	Casing Joints	5 1/2	20.00	P-110	Yes	47.13	Yes			2,663.1	12,981.93
288	277	Casing Joints	5 1/2	20.00	P-110	Yes	47.16	Yes			2,615.9	13,029.09
289	278	Casing Joints	5 1/2	20.00	P-110	Yes	45.18	Yes			2,570.7	13,074.27
290	279	Casing Joints	5 1/2	20.00	P-110	Yes	47.20	Yes			2,523.5	13,121.47
291	280	Casing Joints	5 1/2	20.00	P-110	Yes	47.10	Yes			2,476.4	13,168.57
292	281	Casing Joints	5 1/2	20.00	P-110	Yes	47.10	Yes			2,429.3	13,215.67
293	282	Casing Joints	5 1/2	20.00	P-110	Yes	47.06	Yes			2,382.3	13,262.73
294	283	Casing Joints	5 1/2	20.00	P-110	Yes	47.11	Yes			2,335.2	13,309.84
295	284	Casing Joints	5 1/2	20.00	P-110	Yes	47.15	Yes			2,288.0	13,356.99
296	285	Casing Joints	5 1/2	20.00	P-110	Yes	47.20	Yes			2,240.8	13,404.19
297	286	Casing Joints	5 1/2	20.00	P-110	Yes	47.16	Yes			2,193.7	13,451.35
298	287	Casing Joints	5 1/2	20.00	P-110	Yes	47.17	Yes			2,146.5	13,498.52
299	288	Casing Joints	5 1/2	20.00	P-110	Yes	47.24	Yes			2,099.2	13,545.76
300	289	Casing Joints	5 1/2	20.00	P-110	Yes	47.25	Yes			2,052.0	13,593.01
301	290	Casing Joints	5 1/2	20.00	P-110	Yes	47.18	Yes			2,004.8	13,640.19
302	291	Casing Joints	5 1/2	20.00	P-110	Yes	46.53	Yes			1,958.3	13,686.72
303	292	Casing Joints	5 1/2	20.00	P-110	Yes	47.17	Yes			1,911.1	13,733.89
304	293	Casing Joints	5 1/2	20.00	P-110	Yes	47.11	Yes			1,864.0	13,781.00
305	294	Casing Joints	5 1/2	20.00	P-110	Yes	47.19	Yes			1,816.8	13,828.19



Centralizer Depths

Well Name: Elkhead 8N

Production, Set Depth: 15,645.0ftKB

API 05123484820000		Surface Legal Location SWNE 06 3N 65W		Field Name Wattenberg		State CO		Well Configuration Type Horizontal			
Ground Elevation (ft) 4,968.00	Original KB Elevation (ft) 4,996.00	KB-Ground Distance (ft) 28.00	Spud Date 4/9/2021 09:30	Rig Release Date 4/12/2021 15:00	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)
306	295	Casing Joints	5 1/2	20.00	P-110	Yes	47.17	Yes			1,769.6	13,875.36
307	296	Casing Joints	5 1/2	20.00	P-110	Yes	47.24	Yes			1,722.4	13,922.60
308	297	Casing Joints	5 1/2	20.00	P-110	Yes	47.25	Yes			1,675.2	13,969.85
309	298	Casing Joints	5 1/2	20.00	P-110	Yes	47.26	Yes			1,627.9	14,017.11
310	299	Casing Joints	5 1/2	20.00	P-110	Yes	47.17	Yes			1,580.7	14,064.28
311	300	Casing Joints	5 1/2	20.00	P-110	Yes	46.54	Yes			1,534.2	14,110.82
312	301	Casing Joints	5 1/2	20.00	P-110	Yes	47.13	Yes			1,487.1	14,157.95
313	302	Casing Joints	5 1/2	20.00	P-110	Yes	47.12	Yes			1,439.9	14,205.07
314	303	Casing Joints	5 1/2	20.00	P-110	Yes	47.18	Yes			1,392.8	14,252.25
315	304	Casing Joints	5 1/2	20.00	P-110	Yes	47.17	Yes			1,345.6	14,299.42
316	305	Casing Joints	5 1/2	20.00	P-110	Yes	47.18	Yes			1,298.4	14,346.60
317	306	Casing Joints	5 1/2	20.00	P-110	Yes	47.20	Yes			1,251.2	14,393.80
318	307	Casing Joints	5 1/2	20.00	P-110	Yes	47.10	Yes			1,204.1	14,440.90
319	308	Casing Joints	5 1/2	20.00	P-110	Yes	44.43	Yes			1,159.7	14,485.33
320	309	Casing Joints	5 1/2	20.00	P-110	Yes	47.22	Yes			1,112.5	14,532.55
321	310	Casing Joints	5 1/2	20.00	P-110	Yes	47.12	Yes			1,065.3	14,579.67
322	311	Casing Joints	5 1/2	20.00	P-110	Yes	47.23	Yes			1,018.1	14,626.90
323	312	Casing Joints	5 1/2	20.00	P-110	Yes	47.21	Yes			970.9	14,674.11
324	313	Casing Joints	5 1/2	20.00	P-110	Yes	42.96	Yes			927.9	14,717.07
325	314	Casing Joints	5 1/2	20.00	P-110	Yes	39.14	Yes			888.8	14,756.21
326	315	Casing Joints	5 1/2	20.00	P-110	Yes	47.03	Yes			841.8	14,803.24
327	316	Casing Joints	5 1/2	20.00	P-110	Yes	47.16	Yes			794.6	14,850.40
328	317	Casing Joints	5 1/2	20.00	P-110	Yes	47.23	Yes			747.4	14,897.63
329	318	Casing Joints	5 1/2	20.00	P-110	Yes	47.24	Yes			700.1	14,944.87
330	319	Casing Joints	5 1/2	20.00	P-110	Yes	47.23	Yes			652.9	14,992.10
331	320	Casing Joints	5 1/2	20.00	P-110	Yes	44.95	Yes			607.9	15,037.05
332	321	Casing Joints	5 1/2	20.00	P-110	Yes	47.11	Yes			560.8	15,084.16
333	322	Casing Joints	5 1/2	20.00	P-110	Yes	47.10	Yes			513.7	15,131.26