

Cement Post Job Report

Client: PDC Energy

Well Name: Hen 2N

API #: 05-123-51795

Job Date: August 12, 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 02N	Patterson 272	Production	Buttress	5 1/2" Cement Head

WELL MD (FT)	WELL TVD (FT)	DEVIATION (DEG)	NUMBER OF STAGES	BHST (DEG)	BHCT (DEG)
15174	6816	90	1	225	185

PACKER/RETAINER/CIBP/DV TOOL DEPTHS	TOOL TYPE	TOP OF PERFS (FT)	BOTTOM OF PERFS (FT)	NUMBER OF HOLES
3436	PACKER			

CASING/TUBING/DP DETAILS								
STRING TYPE	GRADE	OD"	WT/FT	ID"	OH SIZE"	% EXCESS LEAD	% EXCESS TAIL	TOTAL DEPTH (FT)
Surface		9.625			13.50			1748
Production	P-110	5.5	20	4.778	20	0	0	15160
MAXIMUM CASING/TUBING/DP PSI				MAXIMUM ANNULAR PSI				

Mud Type	OBM	Rotate Y,N	No	Circulation Data				Water Requirements (bbls)		
Mud ppg	10.6	Rate (rpm)		Circulate Time (hrs)		2		Spacers	140	
Flow Temp	154	Torque Val.		Circulation Rate (bpm)		11		Stage 1 Lead	112	
Vis. Sec/qt	45	Time (hr)		Full Circulation ? (Y,N,P)		Yes		Stage 1 Tail	173	
PV (cP)	14	Pipe Reciprocation		Gas Present (Y,N)		No	Units	0	Stage 2 Lead	
Yield Pt	7	Recip Y,N	No	Centralizers/Plugs				Stage 2 Tail		
10 sec gel	5	Stroke (ft)		Quantity & Type		Customer Provided		Displacement	337	
10 min gel	11	Recip time		Top Plug/Type		Customer Provided		Wash up	20	
30 min gel	14	Stuck ?		Bottom Plug/Type		Customer Provided		Total + 10% Safety	860	

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
		Sacks	1276	Sacks	1085	Sacks		Sacks		Dens. ppg	8.34
		Vol/bbbls	256.8	Vol/bbbls	264.7	Vol/bbbls	0.0	Vol/bbbls	0.0	Vol. bbl	336.3
		Rate	11	Rate	11	Rate		Rate		Rate bpm	11
Spacer 2		Yield	1.13	Yield	1.37	Yield		Yield		Clay Stay?	No
		Gal/Sk	3.68	Gal/Sk	6.63	Gal/Sk		Gal/Sk		Biocide ?	Yes
		% Excess	0	% Excess	0	% Excess		% Excess		Slow @ bbl	316
		TOL (ft)	2019	TOT (ft)	8313	TOL (ft)		TOT (ft)		Bump PSI	2650

Final Displacement (bbbls)	336.3
Bump Plug?	Yes
Final Bump Pressure (psi)	3150
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)	45
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

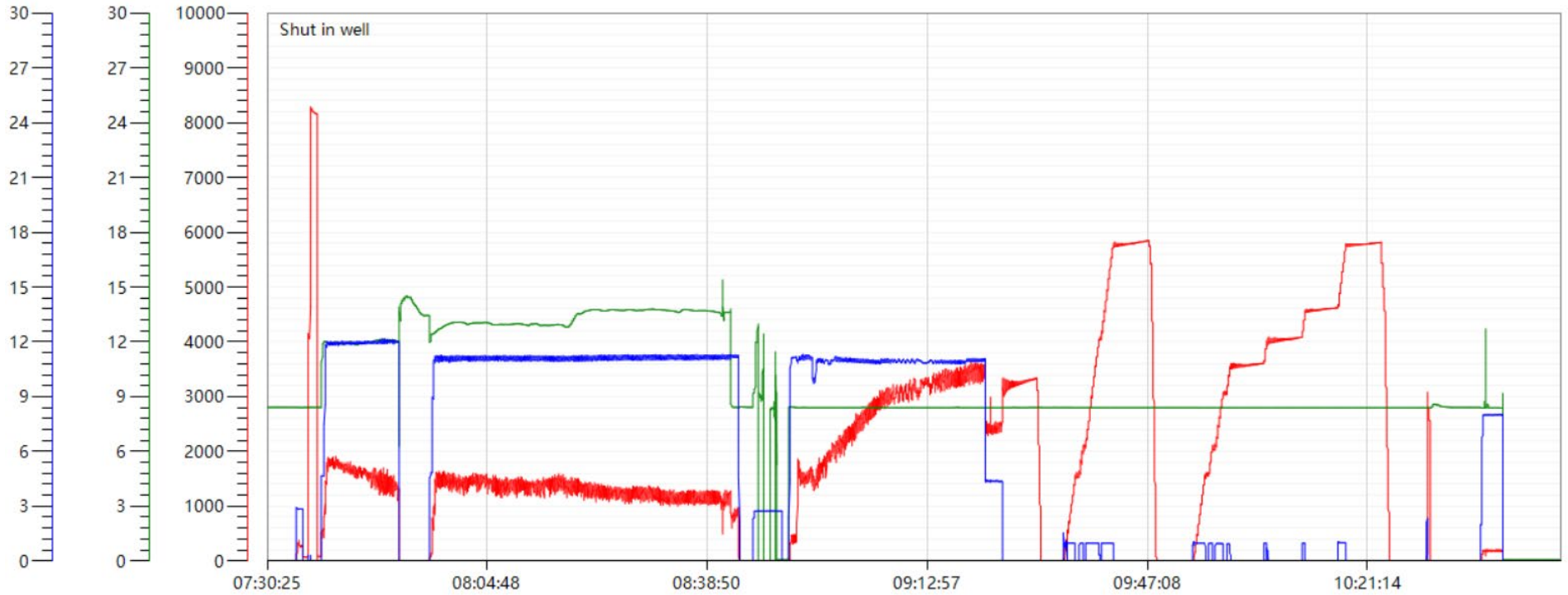
JOB LOG

CLIENT	WELL	RIG	JOB TYPE	START DATE	Ambient Conditions		
PDC Energy	Hen 02N	Patterson 272	Production	8/12/2023	Temp / Hum / Air Press 67 Deg F / 66% / 25.06 in		
DATE (dd/mm)	TIME (hh:mm)	DENSITY (ppg)	RATE (bpm)	VOL. (bbl)	TOTAL VOL.	PRESSURE	TREATMENT COMMENTS
8/11/2023	6:30:00 PM						CREW CALLED OUT FOR ON LOCATION TIME OF 05:00 08/12/2023
8/11/2023	7:00:00 PM						CREW ARRIVES AT CUSTOMER LOCATION
8/11/2023	7:00:00 AM						WAITING ON RIG TO FINISH RUNNING CASING
8/12/2023	5:00:00 AM						RIG UP ALL IRON AND HOSES
8/12/2023	6:00:00 AM						RIG CIRCULATING
8/12/2023	6:45:00 AM						SAFETY MEETING WITH EXERO CREW, RIG CREW, TOOL REP, AND CUSTOMER REP
8/12/2023	7:33:00 AM	8.34	3.0	3	3	300	FILL LINES WITH 3 BBLs FRESH WATER
8/12/2023	7:35:00 AM					8200	PRESSURE TEST PUMP AND LINES
8/12/2023	7:37:00 AM	12	12.0	0	0	1500	BEGIN PUMPING 12 PPG SPACER + SURFACTANT + FIBER
8/12/2023	7:41:00 AM	12	12.0	50	50	1700	PUMPING SPACER
8/12/2023	7:45:00 AM	12	12.0	50	100	1500	PUMPING SPACER
8/12/2023	7:49:00 AM	12	12.0	40	140	1400	PUMPING SPACER
8/12/2023	7:49:00 AM						SHUT DOWN, DROP BOTTOM PLUG
8/12/2023	7:54:00 AM	12.9	11.0	0	0	900	BEGIN PUMPING 12.9 PPG LEAD CEMENT, DENSITY VERIFIED WITH PRESSURIZED MUD SCALE
8/12/2023	7:59:00 AM	12.9	11.0	50	50	1400	PUMPING LEAD CEMENT
8/12/2023	8:03:00 AM	12.9	11.0	50	100	1500	PUMPING LEAD CEMENT
8/12/2023	8:08:00 AM	12.9	11.0	50	150	1400	PUMPING LEAD CEMENT
8/12/2023	8:12:00 AM	12.9	11.0	50	200	1380	PUMPING LEAD CEMENT
8/12/2023	8:17:00 AM	12.9	11.0	56.8	256.8	1500	PUMPING LEAD CEMENT
8/12/2023	8:17:00 AM	13.7	11.0	0	0	1400	BEGIN PUMPING 13.7 PPG TAIL CEMENT, DENSITY VERIFIED WITH PRESSURIZED MUD SCALE
8/12/2023	8:22:00 AM	13.7	11.0	50	50	1230	PUMPING TAIL CEMENT
8/12/2023	8:26:00 AM	13.7	11.0	50	100	1300	PUMPING TAIL CEMENT
8/12/2023	8:31:00 AM	13.7	11.0	50	150	1070	PUMPING TAIL CEMENT
8/12/2023	8:35:00 AM	13.7	11.0	50	200	1200	PUMPING TAIL CEMENT
8/12/2023	8:41:00 AM	13.7	11.0	64.7	264.7	1100	PUMPING TAIL CEMENT
8/12/2023	8:41:00 AM	8.34	11.0	15	15	820	PUMP 15 BBLs SUGAR WATER FOR WET SHOE
8/12/2023	8:42:00 AM						SHUT DOWN, WASH UP PUMP
8/12/2023	8:50:00 AM	8.34	11.0	0	0	400	DROP TOP PLUG, BEGIN WATER + BIOCIDES DISPLACEMENT
8/12/2023	8:55:00 AM	8.34	11.0	50	50	1700	PUMPING DISPLACEMENT
8/12/2023	9:00:00 AM	8.34	11.0	50	100	2300	PUMPING DISPLACEMENT
8/12/2023	9:05:00 AM	8.34	11.0	50	150	3200	PUMPING DISPLACEMENT
8/12/2023	9:10:00 AM	8.34	11.0	50	200	3000	PUMPING DISPLACEMENT
8/12/2023	9:15:00 AM	8.34	11.0	50	250	3300	PUMPING DISPLACEMENT
8/12/2023	9:19:00 AM	8.34	11.0	50	300	3300	PUMPING DISPLACEMENT. SPACER TO SURFACE AT 291 BBLs PUMPED. 45 BBLs TO SURFACE
8/12/2023	9:21:00 AM	8.34	11.0	16	316	3320	PUMPING DISPLACEMENT
8/12/2023	9:23:00 AM	8.34	4.5	20.3	336.3	2650	PUMPING DISPLACEMENT
8/12/2023	9:23:00 AM					3150	LAND PLUG. FCP - 2650 PSI, BUMPED TO 3150 PSI
8/12/2023	9:28:00 AM						CHECK FLOATS. FLOATS HELD, 4 BBLs BACK
8/12/2023	9:33:00 AM	8.34	1.0			5700	SET PACKER AS PER TOOL REP INSTRUCTIONS
8/12/2023	10:22:00 AM						RELEASE PRESSURE
8/12/2023	10:38:00 AM	8.34					FLUSH STACK
8/12/2023	10:41:00 AM						RIG DOWN ALL IRON AND HOSES
8/12/2023	11:30:00 AM						DEPART CUSTOMER LOCATION

Hen 2N Production Pump Chart – Pressure / Rate / Density

Chart Report

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





Centralizer Depths

Well Name: Hen 02N

Production, Set Depth: 15,160.0ftKB

API 0512351795000		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 8/9/2023 12:00		Rig Release Date 8/12/2023 13:00		On Production Date Abandon Date	

Casing Run Tally												
Run #	Ref #	Item Des	OD (in)	Wt (lb/ft)	Grade	Run?	Len (ft)	Centralized?	Ext Jwry	Connections	Top (ftKB)	Cum Len (ft)
7	1	Casing Joints	5 1/2	20.00	P-110	Yes	42.97	Yes			15,081.0	78.98
9	3	Casing Joints	5 1/2	20.00	P-110	Yes	41.81	Yes			14,994.1	165.92
11	5	Casing Joints	5 1/2	20.00	P-110	Yes	44.83	Yes			14,906.7	253.30
13	7	Casing Joints	5 1/2	20.00	P-110	Yes	45.12	Yes			14,816.7	343.29
15	9	Casing Joints	5 1/2	20.00	P-110	Yes	44.92	Yes			14,726.9	433.09
17		Marker Joint	5 1/2	20.00	P-110	Yes	11.57	Yes			14,672.4	487.57
19	12	Casing Joints	5 1/2	20.00	P-110	Yes	43.92	Yes			14,583.4	576.61
21	14	Casing Joints	5 1/2	20.00	P-110	Yes	44.93	Yes			14,493.6	666.40
23	16	Casing Joints	5 1/2	20.00	P-110	Yes	40.61	Yes			14,410.6	749.41
25	18	Casing Joints	5 1/2	20.00	P-110	Yes	42.36	Yes			14,325.7	834.27
27	20	Casing Joints	5 1/2	20.00	P-110	Yes	45.06	Yes			14,235.7	924.26
29	22	Casing Joints	5 1/2	20.00	P-110	Yes	45.02	Yes			14,146.3	1,013.73
31	24	Casing Joints	5 1/2	20.00	P-110	Yes	45.01	Yes			14,058.4	1,101.64
33	26	Casing Joints	5 1/2	20.00	P-110	Yes	41.07	Yes			13,972.4	1,187.57
35	28	Casing Joints	5 1/2	20.00	P-110	Yes	44.91	Yes			13,888.8	1,271.24
37	30	Casing Joints	5 1/2	20.00	P-110	Yes	44.92	Yes			13,800.3	1,359.73
39	32	Casing Joints	5 1/2	20.00	P-110	Yes	44.91	Yes			13,714.9	1,445.07
41	34	Casing Joints	5 1/2	20.00	P-110	Yes	44.91	Yes			13,628.9	1,531.07
43	36	Casing Joints	5 1/2	20.00	P-110	Yes	44.92	Yes			13,539.2	1,620.77
45	38	Casing Joints	5 1/2	20.00	P-110	Yes	42.92	Yes			13,451.3	1,708.69
47	40	Casing Joints	5 1/2	20.00	P-110	Yes	36.88	Yes			13,369.6	1,790.44
49	42	Casing Joints	5 1/2	20.00	P-110	Yes	44.84	Yes			13,280.3	1,879.71
51	44	Casing Joints	5 1/2	20.00	P-110	Yes	44.93	Yes			13,192.4	1,967.64
53	46	Casing Joints	5 1/2	20.00	P-110	Yes	44.86	Yes			13,102.7	2,057.35
55	48	Casing Joints	5 1/2	20.00	P-110	Yes	41.90	Yes			13,015.8	2,144.25
57	50	Casing Joints	5 1/2	20.00	P-110	Yes	40.79	Yes			12,930.1	2,229.95
59	52	Casing Joints	5 1/2	20.00	P-110	Yes	44.34	Yes			12,841.9	2,318.14
61	54	Casing Joints	5 1/2	20.00	P-110	Yes	44.45	Yes			12,752.6	2,407.45
63	56	Casing Joints	5 1/2	20.00	P-110	Yes	44.92	Yes			12,664.7	2,495.30
65	58	Casing Joints	5 1/2	20.00	P-110	Yes	40.76	Yes			12,581.6	2,578.43
67	60	Casing Joints	5 1/2	20.00	P-110	Yes	44.39	Yes			12,493.4	2,666.60



Centralizer Depths

Well Name: Hen 02N

Production, Set Depth: 15,160.0ftKB

API 0512351795000		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 8/9/2023 12:00		Rig Release Date 8/12/2023 13:00		On Production Date Abandon Date	

Casing Run Tally

Run #	Ref #	Item Des	OD (in)	Wt (lb/ft)	Grade	Run?	Len (ft)	Centralized?	Ext Jwry	Connections	Top (ftKB)	Cum Len (ft)
69	62	Casing Joints	5 1/2	20.00	P-110	Yes	42.01	Yes			12,406.3	2,753.74
71	64	Casing Joints	5 1/2	20.00	P-110	Yes	45.02	Yes			12,316.6	2,843.43
73	66	Casing Joints	5 1/2	20.00	P-110	Yes	44.83	Yes			12,226.9	2,933.10
75	68	Casing Joints	5 1/2	20.00	P-110	Yes	44.86	Yes			12,137.4	3,022.57
77	70	Casing Joints	5 1/2	20.00	P-110	Yes	45.12	Yes			12,047.5	3,112.54
79	72	Casing Joints	5 1/2	20.00	P-110	Yes	37.49	Yes			11,965.1	3,194.95
81	74	Casing Joints	5 1/2	20.00	P-110	Yes	44.83	Yes			11,877.1	3,282.93
83	76	Casing Joints	5 1/2	20.00	P-110	Yes	44.35	Yes			11,787.9	3,372.13
85	78	Casing Joints	5 1/2	20.00	P-110	Yes	45.14	Yes			11,698.9	3,461.09
87	80	Casing Joints	5 1/2	20.00	P-110	Yes	42.65	Yes			11,611.3	3,548.66
89	82	Casing Joints	5 1/2	20.00	P-110	Yes	44.93	Yes			11,521.6	3,638.43
91	84	Casing Joints	5 1/2	20.00	P-110	Yes	45.01	Yes			11,431.8	3,728.25
93	85	Casing Joints	5 1/2	20.00	P-110	Yes	44.85	Yes			11,375.5	3,784.54
95	87	Casing Joints	5 1/2	20.00	P-110	Yes	45.13	Yes			11,285.4	3,874.57
97	89	Casing Joints	5 1/2	20.00	P-110	Yes	45.01	Yes			11,195.6	3,964.41
99	91	Casing Joints	5 1/2	20.00	P-110	Yes	44.84	Yes			11,105.9	4,054.14
101	93	Casing Joints	5 1/2	20.00	P-110	Yes	40.55	Yes			11,020.2	4,139.80
103	95	Casing Joints	5 1/2	20.00	P-110	Yes	44.91	Yes			10,933.5	4,226.51
105	97	Casing Joints	5 1/2	20.00	P-110	Yes	41.35	Yes			10,850.1	4,309.91
107	99	Casing Joints	5 1/2	20.00	P-110	Yes	44.86	Yes			10,763.8	4,396.23
109	101	Casing Joints	5 1/2	20.00	P-110	Yes	45.12	Yes			10,673.7	4,486.35
111	103	Casing Joints	5 1/2	20.00	P-110	Yes	44.30	Yes			10,584.2	4,575.78
113	105	Casing Joints	5 1/2	20.00	P-110	Yes	44.92	Yes			10,494.4	4,665.60
115	107	Casing Joints	5 1/2	20.00	P-110	Yes	44.86	Yes			10,406.5	4,753.47
117	109	Casing Joints	5 1/2	20.00	P-110	Yes	45.01	Yes			10,320.4	4,839.59
119	111	Casing Joints	5 1/2	20.00	P-110	Yes	43.64	Yes			10,231.8	4,928.23
121	113	Casing Joints	5 1/2	20.00	P-110	Yes	44.93	Yes			10,143.6	5,016.41
123	115	Casing Joints	5 1/2	20.00	P-110	Yes	45.12	Yes			10,053.6	5,106.44
125	117	Casing Joints	5 1/2	20.00	P-110	Yes	45.00	Yes			9,963.6	5,196.37
127	119	Casing Joints	5 1/2	20.00	P-110	Yes	45.03	Yes			9,876.3	5,283.73
129	121	Casing Joints	5 1/2	20.00	P-110	Yes	44.82	Yes			9,793.3	5,366.66



Centralizer Depths

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Casing Run Tally

Run #	Ref #	Item Des	OD (in)	Wt (lb/ft)	Grade	Run?	Len (ft)	Centralized?	Ext Jwry	Connections	Top (ftKB)	Cum Len (ft)
131	123	Casing Joints	5 1/2	20.00	P-110	Yes	44.92	Yes			9,703.5	5,456.49
133	125	Casing Joints	5 1/2	20.00	P-110	Yes	45.13	Yes			9,613.5	5,546.48
135	127	Casing Joints	5 1/2	20.00	P-110	Yes	45.15	Yes			9,523.2	5,636.77
137	129	Casing Joints	5 1/2	20.00	P-110	Yes	44.93	Yes			9,435.5	5,724.50
139	131	Casing Joints	5 1/2	20.00	P-110	Yes	45.02	Yes			9,345.6	5,814.39
141	133	Casing Joints	5 1/2	20.00	P-110	Yes	44.92	Yes			9,256.0	5,904.00
143	135	Casing Joints	5 1/2	20.00	P-110	Yes	45.00	Yes			9,165.9	5,994.15
145	137	Casing Joints	5 1/2	20.00	P-110	Yes	42.99	Yes			9,085.7	6,074.29
147	139	Casing Joints	5 1/2	20.00	P-110	Yes	43.97	Yes			8,996.6	6,163.36
149	141	Casing Joints	5 1/2	20.00	P-110	Yes	42.46	Yes			8,909.2	6,250.77
151	143	Casing Joints	5 1/2	20.00	P-110	Yes	44.94	Yes			8,819.5	6,340.55
153	145	Casing Joints	5 1/2	20.00	P-110	Yes	43.59	Yes			8,730.9	6,429.06
155	147	Casing Joints	5 1/2	20.00	P-110	Yes	45.12	Yes			8,641.0	6,519.04
157	149	Casing Joints	5 1/2	20.00	P-110	Yes	44.83	Yes			8,551.3	6,608.73
159	151	Casing Joints	5 1/2	20.00	P-110	Yes	44.81	Yes			8,461.6	6,698.36
161	153	Casing Joints	5 1/2	20.00	P-110	Yes	44.86	Yes			8,374.1	6,785.95
163	155	Casing Joints	5 1/2	20.00	P-110	Yes	44.87	Yes			8,284.3	6,875.75
165	157	Casing Joints	5 1/2	20.00	P-110	Yes	44.55	Yes			8,197.4	6,962.56
167	159	Casing Joints	5 1/2	20.00	P-110	Yes	44.85	Yes			8,110.6	7,049.43
169	161	Casing Joints	5 1/2	20.00	P-110	Yes	44.91	Yes			8,020.7	7,139.27
171	163	Casing Joints	5 1/2	20.00	P-110	Yes	44.85	Yes			7,932.6	7,227.43
173	165	Casing Joints	5 1/2	20.00	P-110	Yes	45.14	Yes			7,849.3	7,310.68
175	167	Casing Joints	5 1/2	20.00	P-110	Yes	44.92	Yes			7,759.6	7,400.45
177		Marker Joint	5 1/2	20.00	P-110	Yes	11.27	Yes			7,703.4	7,456.65
178	169	Casing Joints	5 1/2	20.00	P-110	Yes	44.91	Yes			7,658.4	7,501.56
179	170	Casing Joints	5 1/2	20.00	P-110	Yes	39.51	Yes			7,618.9	7,541.07
180	171	Casing Joints	5 1/2	20.00	P-110	Yes	44.91	Yes			7,574.0	7,585.98
181	172	Casing Joints	5 1/2	20.00	P-110	Yes	42.79	Yes			7,531.2	7,628.77
182	173	Casing Joints	5 1/2	20.00	P-110	Yes	44.64	Yes			7,486.6	7,673.41
183	174	Casing Joints	5 1/2	20.00	P-110	Yes	41.72	Yes			7,444.9	7,715.13
184	175	Casing Joints	5 1/2	20.00	P-110	Yes	44.86	Yes			7,400.0	7,759.99



Centralizer Depths

Well Name: Hen 02N

Production, Set Depth: 15,160.0ftKB

API 05123517950000		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 8/9/2023 12:00		Rig Release Date 8/12/2023 13:00		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)
185	176	Casing Joints	5 1/2	20.00	P-110	Yes	44.61	Yes			7,355.4	7,804.60
186	177	Casing Joints	5 1/2	20.00	P-110	Yes	44.12	Yes			7,311.3	7,848.72
187	178	Casing Joints	5 1/2	20.00	P-110	Yes	38.17	Yes			7,273.1	7,886.89
188	179	Casing Joints	5 1/2	20.00	P-110	Yes	44.78	Yes			7,228.3	7,931.67
189	180	Casing Joints	5 1/2	20.00	P-110	Yes	44.35	Yes			7,184.0	7,976.02
190	181	Casing Joints	5 1/2	20.00	P-110	Yes	39.27	Yes			7,144.7	8,015.29
191	182	Casing Joints	5 1/2	20.00	P-110	Yes	39.26	Yes			7,105.5	8,054.55
192	183	Casing Joints	5 1/2	20.00	P-110	Yes	44.87	Yes			7,060.6	8,099.42
193	184	Casing Joints	5 1/2	20.00	P-110	Yes	45.03	Yes			7,015.6	8,144.45
194	185	Casing Joints	5 1/2	20.00	P-110	Yes	44.63	Yes			6,970.9	8,189.08
195	186	Casing Joints	5 1/2	20.00	P-110	Yes	44.62	Yes			6,926.3	8,233.70
196	187	Casing Joints	5 1/2	20.00	P-110	Yes	39.34	Yes			6,887.0	8,273.04
197	188	Casing Joints	5 1/2	20.00	P-110	Yes	39.02	Yes			6,847.9	8,312.06
198	189	Casing Joints	5 1/2	20.00	P-110	Yes	44.38	Yes			6,803.6	8,356.44
199	190	Casing Joints	5 1/2	20.00	P-110	Yes	38.10	Yes			6,765.5	8,394.54
200	191	Casing Joints	5 1/2	20.00	P-110	Yes	44.86	Yes			6,720.6	8,439.40
201	192	Casing Joints	5 1/2	20.00	P-110	Yes	44.67	Yes			6,675.9	8,484.07
202	193	Casing Joints	5 1/2	20.00	P-110	Yes	44.29	Yes			6,631.6	8,528.36
203	194	Casing Joints	5 1/2	20.00	P-110	Yes	44.86	Yes			6,586.8	8,573.22
204	195	Casing Joints	5 1/2	20.00	P-110	Yes	40.20	Yes			6,546.6	8,613.42
205	196	Casing Joints	5 1/2	20.00	P-110	Yes	44.80	Yes			6,501.8	8,658.22
206	197	Casing Joints	5 1/2	20.00	P-110	Yes	38.50	Yes			6,463.3	8,696.72
207	198	Casing Joints	5 1/2	20.00	P-110	Yes	43.13	Yes			6,420.2	8,739.85
208	199	Casing Joints	5 1/2	20.00	P-110	Yes	38.42	Yes			6,381.7	8,778.27
209		Marker Joint	5 1/2	20.00	P-110	Yes	11.52	Yes			6,370.2	8,789.79
210	200	Casing Joints	5 1/2	20.00	P-110	Yes	44.68	Yes			6,325.5	8,834.47
211	201	Casing Joints	5 1/2	20.00	P-110	Yes	44.82	Yes			6,280.7	8,879.29
212	202	Casing Joints	5 1/2	20.00	P-110	Yes	36.75	Yes			6,244.0	8,916.04
213	203	Casing Joints	5 1/2	20.00	P-110	Yes	44.02	Yes			6,199.9	8,960.06
214	204	Casing Joints	5 1/2	20.00	P-110	Yes	37.68	Yes			6,162.3	8,997.74
215	205	Casing Joints	5 1/2	20.00	P-110	Yes	43.76	Yes			6,118.5	9,041.50



Centralizer Depths

Well Name: Hen 02N

Production, Set Depth: 15,160.0ftKB

API 0512351795000		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 8/9/2023 12:00		Rig Release Date 8/12/2023 13:00		On Production Date Abandon Date	

Casing Run Tally

Run #	Ref #	Item Des	OD (in)	Wt (lb/ft)	Grade	Run?	Len (ft)	Centralized?	Ext Jwly	Connections	Top (ftKB)	Cum Len (ft)
216	206	Casing Joints	5 1/2	20.00	P-110	Yes	44.85	Yes			6,073.7	9,086.35
217	207	Casing Joints	5 1/2	20.00	P-110	Yes	44.38	Yes			6,029.3	9,130.73
218	208	Casing Joints	5 1/2	20.00	P-110	Yes	45.00	Yes			5,984.3	9,175.73
219	209	Casing Joints	5 1/2	20.00	P-110	Yes	38.37	Yes			5,945.9	9,214.10
220	210	Casing Joints	5 1/2	20.00	P-110	Yes	43.11	Yes			5,902.8	9,257.21
221	211	Casing Joints	5 1/2	20.00	P-110	Yes	44.94	Yes			5,857.9	9,302.15
222	212	Casing Joints	5 1/2	20.00	P-110	Yes	36.12	Yes			5,821.7	9,338.27
223	213	Casing Joints	5 1/2	20.00	P-110	Yes	44.68	Yes			5,777.1	9,382.95
224	214	Casing Joints	5 1/2	20.00	P-110	Yes	44.46	Yes			5,732.6	9,427.41
225	215	Casing Joints	5 1/2	20.00	P-110	Yes	43.68	Yes			5,688.9	9,471.09
226	216	Casing Joints	5 1/2	20.00	P-110	Yes	44.83	Yes			5,644.1	9,515.92
227	217	Casing Joints	5 1/2	20.00	P-110	Yes	40.96	Yes			5,603.1	9,556.88
228	218	Casing Joints	5 1/2	20.00	P-110	Yes	43.33	Yes			5,559.8	9,600.21
229	219	Casing Joints	5 1/2	20.00	P-110	Yes	44.68	Yes			5,515.1	9,644.89
230	220	Casing Joints	5 1/2	20.00	P-110	Yes	43.12	Yes			5,472.0	9,688.01
231	221	Casing Joints	5 1/2	20.00	P-110	Yes	45.03	Yes			5,427.0	9,733.04
232	222	Casing Joints	5 1/2	20.00	P-110	Yes	39.22	Yes			5,387.7	9,772.26
233	223	Casing Joints	5 1/2	20.00	P-110	Yes	42.19	Yes			5,345.6	9,814.45
234	224	Casing Joints	5 1/2	20.00	P-110	Yes	44.98	Yes			5,300.6	9,859.43
235	225	Casing Joints	5 1/2	20.00	P-110	Yes	44.84	Yes			5,255.7	9,904.27
236	226	Casing Joints	5 1/2	20.00	P-110	Yes	44.81	Yes			5,210.9	9,949.08
237	227	Casing Joints	5 1/2	20.00	P-110	Yes	44.65	Yes			5,166.3	9,993.73
238	228	Casing Joints	5 1/2	20.00	P-110	Yes	43.10	Yes			5,123.2	10,036.83
239	229	Casing Joints	5 1/2	20.00	P-110	Yes	42.25	Yes			5,080.9	10,079.08
240	230	Casing Joints	5 1/2	20.00	P-110	Yes	44.60	Yes			5,036.3	10,123.68
241	231	Casing Joints	5 1/2	20.00	P-110	Yes	43.39	Yes			4,992.9	10,167.07
242	232	Casing Joints	5 1/2	20.00	P-110	Yes	44.60	Yes			4,948.3	10,211.67
243	233	Casing Joints	5 1/2	20.00	P-110	Yes	43.20	Yes			4,905.1	10,254.87
244	234	Casing Joints	5 1/2	20.00	P-110	Yes	40.92	Yes			4,864.2	10,295.79
245	235	Casing Joints	5 1/2	20.00	P-110	Yes	41.89	Yes			4,822.3	10,337.68
246	236	Casing Joints	5 1/2	20.00	P-110	Yes	44.60	Yes			4,777.7	10,382.28



Centralizer Depths

Well Name: Hen 02N

Production, Set Depth: 15,160.0ftKB

API 0512351795000		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 8/9/2023 12:00		Rig Release Date 8/12/2023 13:00		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)
247	237	Casing Joints	5 1/2	20.00	P-110	Yes	44.69	Yes			4,733.0	10,426.97
248	238	Casing Joints	5 1/2	20.00	P-110	Yes	44.81	Yes			4,688.2	10,471.78
249	239	Casing Joints	5 1/2	20.00	P-110	Yes	44.62	Yes			4,643.6	10,516.40
250	240	Casing Joints	5 1/2	20.00	P-110	Yes	44.67	Yes			4,598.9	10,561.07
251	241	Casing Joints	5 1/2	20.00	P-110	Yes	44.82	Yes			4,554.1	10,605.89
252	242	Casing Joints	5 1/2	20.00	P-110	Yes	44.61	Yes			4,509.5	10,650.50
253	243	Casing Joints	5 1/2	20.00	P-110	Yes	44.60	Yes			4,464.9	10,695.10
254	244	Casing Joints	5 1/2	20.00	P-110	Yes	44.35	Yes			4,420.6	10,739.45
255	245	Casing Joints	5 1/2	20.00	P-110	Yes	44.61	Yes			4,375.9	10,784.06
256	246	Casing Joints	5 1/2	20.00	P-110	Yes	43.19	Yes			4,332.8	10,827.25
257	247	Casing Joints	5 1/2	20.00	P-110	Yes	44.60	Yes			4,288.2	10,871.85
258	248	Casing Joints	5 1/2	20.00	P-110	Yes	42.90	Yes			4,245.3	10,914.75
259	249	Casing Joints	5 1/2	20.00	P-110	Yes	44.66	Yes			4,200.6	10,959.41
260	250	Casing Joints	5 1/2	20.00	P-110	Yes	44.63	Yes			4,156.0	11,004.04
261	251	Casing Joints	5 1/2	20.00	P-110	Yes	44.65	Yes			4,111.3	11,048.69
262	252	Casing Joints	5 1/2	20.00	P-110	Yes	44.85	Yes			4,066.5	11,093.54
263	253	Casing Joints	5 1/2	20.00	P-110	Yes	44.58	Yes			4,021.9	11,138.12
264	254	Casing Joints	5 1/2	20.00	P-110	Yes	44.41	Yes			3,977.5	11,182.53
265	255	Casing Joints	5 1/2	20.00	P-110	Yes	44.61	Yes			3,932.9	11,227.14
266	256	Casing Joints	5 1/2	20.00	P-110	Yes	44.68	Yes			3,888.2	11,271.82
267	257	Casing Joints	5 1/2	20.00	P-110	Yes	42.99	Yes			3,845.2	11,314.81
268	258	Casing Joints	5 1/2	20.00	P-110	Yes	44.61	Yes			3,800.6	11,359.42
269	259	Casing Joints	5 1/2	20.00	P-110	Yes	44.68	Yes			3,755.9	11,404.10
270	260	Casing Joints	5 1/2	20.00	P-110	Yes	44.59	Yes			3,711.3	11,448.69
271	261	Casing Joints	5 1/2	20.00	P-110	Yes	44.61	Yes			3,666.7	11,493.30
272	262	Casing Joints	5 1/2	20.00	P-110	Yes	44.69	Yes			3,622.0	11,537.99
273	263	Casing Joints	5 1/2	20.00	P-110	Yes	44.67	Yes			3,577.3	11,582.66
274	264	Casing Joints	5 1/2	20.00	P-110	Yes	44.68	Yes			3,532.7	11,627.34
275	265	Casing Joints	5 1/2	20.00	P-110	Yes	44.81	Yes			3,487.9	11,672.15
276	266	Casing Joints	5 1/2	20.00	P-110	Yes	44.83	Yes			3,443.0	11,716.98
278	267	Casing Joints	5 1/2	20.00	P-110	Yes	44.66	Yes			3,384.0	11,776.01



Centralizer Depths

Well Name: Hen 02N

Production, Set Depth: 15,160.0ftKB

API 0512351795000		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 8/9/2023 12:00		Rig Release Date 8/12/2023 13:00		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)
279	268	Casing Joints	5 1/2	20.00	P-110	Yes	44.67	Yes			3,339.3	11,820.68
280	269	Casing Joints	5 1/2	20.00	P-110	Yes	44.61	Yes			3,294.7	11,865.29
281	270	Casing Joints	5 1/2	20.00	P-110	Yes	44.38	Yes			3,250.3	11,909.67
282	271	Casing Joints	5 1/2	20.00	P-110	Yes	44.63	Yes			3,205.7	11,954.30
283	272	Casing Joints	5 1/2	20.00	P-110	Yes	44.68	Yes			3,161.0	11,998.98
284	273	Casing Joints	5 1/2	20.00	P-110	Yes	44.61	Yes			3,116.4	12,043.59
285	274	Casing Joints	5 1/2	20.00	P-110	Yes	44.64	Yes			3,071.8	12,088.23
286	275	Casing Joints	5 1/2	20.00	P-110	Yes	44.65	Yes			3,027.1	12,132.88
287	276	Casing Joints	5 1/2	20.00	P-110	Yes	44.00	Yes			2,983.1	12,176.88
288	277	Casing Joints	5 1/2	20.00	P-110	Yes	44.82	Yes			2,938.3	12,221.70
289	278	Casing Joints	5 1/2	20.00	P-110	Yes	44.61	Yes			2,893.7	12,266.31
290	279	Casing Joints	5 1/2	20.00	P-110	Yes	40.24	Yes			2,853.5	12,306.55
291	280	Casing Joints	5 1/2	20.00	P-110	Yes	44.52	Yes			2,808.9	12,351.07
292	281	Casing Joints	5 1/2	20.00	P-110	Yes	42.75	Yes			2,766.2	12,393.82
293	282	Casing Joints	5 1/2	20.00	P-110	Yes	44.09	Yes			2,722.1	12,437.91
294	283	Casing Joints	5 1/2	20.00	P-110	Yes	44.62	Yes			2,677.5	12,482.53
295	284	Casing Joints	5 1/2	20.00	P-110	Yes	44.66	Yes			2,632.8	12,527.19
296	285	Casing Joints	5 1/2	20.00	P-110	Yes	43.65	Yes			2,589.2	12,570.84
297	286	Casing Joints	5 1/2	20.00	P-110	Yes	44.64	Yes			2,544.5	12,615.48
298	287	Casing Joints	5 1/2	20.00	P-110	Yes	44.81	Yes			2,499.7	12,660.29
299	288	Casing Joints	5 1/2	20.00	P-110	Yes	44.63	Yes			2,455.1	12,704.92
300	289	Casing Joints	5 1/2	20.00	P-110	Yes	44.60	Yes			2,410.5	12,749.52
301	290	Casing Joints	5 1/2	20.00	P-110	Yes	44.83	Yes			2,365.7	12,794.35
302	291	Casing Joints	5 1/2	20.00	P-110	Yes	44.70	Yes			2,321.0	12,839.05
303	292	Casing Joints	5 1/2	20.00	P-110	Yes	44.67	Yes			2,276.3	12,883.72
304	293	Casing Joints	5 1/2	20.00	P-110	Yes	42.83	Yes			2,233.5	12,926.55
305	294	Casing Joints	5 1/2	20.00	P-110	Yes	44.13	Yes			2,189.3	12,970.68
306	295	Casing Joints	5 1/2	20.00	P-110	Yes	44.61	Yes			2,144.7	13,015.29
307	296	Casing Joints	5 1/2	20.00	P-110	Yes	44.27	Yes			2,100.4	13,059.56
308	297	Casing Joints	5 1/2	20.00	P-110	Yes	44.68	Yes			2,055.8	13,104.24
309	298	Casing Joints	5 1/2	20.00	P-110	Yes	44.32	Yes			2,011.4	13,148.56



Centralizer Depths

Well Name: Hen 02N

Production, Set Depth: 15,160.0ftKB

API 0512351795000		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 8/9/2023 12:00		Rig Release Date 8/12/2023 13:00		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)
310	299	Casing Joints	5 1/2	20.00	P-110	Yes	42.78	Yes			1,968.7	13,191.34
311	300	Casing Joints	5 1/2	20.00	P-110	Yes	42.91	Yes			1,925.8	13,234.25
312	301	Casing Joints	5 1/2	20.00	P-110	Yes	44.64	Yes			1,881.1	13,278.89
313	302	Casing Joints	5 1/2	20.00	P-110	Yes	44.67	Yes			1,836.4	13,323.56
314	303	Casing Joints	5 1/2	20.00	P-110	Yes	44.61	Yes			1,791.8	13,368.17
315	304	Casing Joints	5 1/2	20.00	P-110	Yes	42.71	Yes			1,749.1	13,410.88
316	305	Casing Joints	5 1/2	20.00	P-110	Yes	44.65	Yes			1,704.5	13,455.53
317	306	Casing Joints	5 1/2	20.00	P-110	Yes	44.70	Yes			1,659.8	13,500.23
318	307	Casing Joints	5 1/2	20.00	P-110	Yes	44.81	Yes			1,615.0	13,545.04
319	308	Casing Joints	5 1/2	20.00	P-110	Yes	43.34	Yes			1,571.6	13,588.38
320	309	Casing Joints	5 1/2	20.00	P-110	Yes	44.67	Yes			1,527.0	13,633.05
321	310	Casing Joints	5 1/2	20.00	P-110	Yes	43.61	Yes			1,483.3	13,676.66
322	311	Casing Joints	5 1/2	20.00	P-110	Yes	44.25	Yes			1,439.1	13,720.91
323	312	Casing Joints	5 1/2	20.00	P-110	Yes	43.93	Yes			1,395.2	13,764.84
324	313	Casing Joints	5 1/2	20.00	P-110	Yes	44.84	Yes			1,350.3	13,809.68
325	314	Casing Joints	5 1/2	20.00	P-110	Yes	43.90	Yes			1,306.4	13,853.58
326	315	Casing Joints	5 1/2	20.00	P-110	Yes	44.68	Yes			1,261.7	13,898.26
327	316	Casing Joints	5 1/2	20.00	P-110	Yes	41.13	Yes			1,220.6	13,939.39
328	317	Casing Joints	5 1/2	20.00	P-110	Yes	44.60	Yes			1,176.0	13,983.99
329	318	Casing Joints	5 1/2	20.00	P-110	Yes	44.15	Yes			1,131.9	14,028.14
330	319	Casing Joints	5 1/2	20.00	P-110	Yes	43.92	Yes			1,087.9	14,072.06
331	320	Casing Joints	5 1/2	20.00	P-110	Yes	44.69	Yes			1,043.3	14,116.75
332	321	Casing Joints	5 1/2	20.00	P-110	Yes	44.69	Yes			998.6	14,161.44
333	322	Casing Joints	5 1/2	20.00	P-110	Yes	44.66	Yes			953.9	14,206.10
334	323	Casing Joints	5 1/2	20.00	P-110	Yes	44.35	Yes			909.5	14,250.45
335	324	Casing Joints	5 1/2	20.00	P-110	Yes	41.85	Yes			867.7	14,292.30
336	325	Casing Joints	5 1/2	20.00	P-110	Yes	44.68	Yes			823.0	14,336.98
337	326	Casing Joints	5 1/2	20.00	P-110	Yes	43.52	Yes			779.5	14,380.50
338	327	Casing Joints	5 1/2	20.00	P-110	Yes	44.67	Yes			734.8	14,425.17
339	328	Casing Joints	5 1/2	20.00	P-110	Yes	42.68	Yes			692.1	14,467.85
340	329	Casing Joints	5 1/2	20.00	P-110	Yes	37.25	Yes			654.9	14,505.10



Centralizer Depths

Well Name: Hen 02N

Production, Set Depth: 15,160.0ftKB

API 05123517950000		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 8/9/2023 12:00	Rig Release Date 8/12/2023 13:00	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)
341	330	Casing Joints	5 1/2	20.00	P-110	Yes	43.87	Yes			611.0	14,548.97
342	331	Casing Joints	5 1/2	20.00	P-110	Yes	44.70	Yes			566.3	14,593.67
343	332	Casing Joints	5 1/2	20.00	P-110	Yes	44.61	Yes			521.7	14,638.28
344	333	Casing Joints	5 1/2	20.00	P-110	Yes	42.09	Yes			479.6	14,680.37