HR Vertilog

Magnetic Flux Leakage Inspection

Advanced Analysis

Company	Southern California Gas Company
Well	Porter 68A
Field	Aliso Canyon
County	Los Angeles
State	California

Location:
496.0' S & 1388.0' W of Station #84

Section 27	Township 3W	Range 16W	

Date	May. 26, 2016
Service Order	US107514
Recorded by	Brandon Deal
Witnessed by	Ben Kohner
API Serial No.	04-037-22742

Permanent Datum:	G.L.	Elevation:	2080.000 ft.	Depth	7304.000
Log Measured From:	K.B.	18.000	ft. above Perm. Datum	Btm. Log Interval	6834.440
Drilling Measured From:	K.B.	18.000	ft. above Perm. Datum	Top Log Interval	17.280
				Fluid Type	KCL

Casing Data

Size	Weight	Grade	From	To	Length
9 5/8 inch	43.5 lb/ft	N-80	Surface	4231	4231.0
9 5/8 inch	47.0 lb/ft	N-80	4231.0	6237.0	2006.0
9 5/8 inch	43.5 lb/ft	N-80	6237	7044	807.0
13 3/8 inch	54.5 lb/ft	K-55	Surface	1015	1015.0
5 1/2 inch	17.0 lb/ft	K-55	6933	7304	371.0

Software Version 6.0.0.0

Equipment Data

Run	Trip	Tool Type	Tool Series	Serial Number	Position
1	1	HRVRT MFL	4997	PA10409819	LOWER
1	1	HRVRT MFL	4997	QA10409827	UPPER
1	1	HRVRT TELEM	4993		

Calibration Data

Calibration File Name	4997-9-001-PA10409819-U.CAL

Date of Calibration	05/04/2015 14:03
Calibration Identifier	B067D5B8-C234-468C-82A0-CD1751E099F9
Tool Number	4997-00
Calibrator Number	4997-9-001
Calibrator Size	(9-5/8 In - 238 mm)
Calibration Source File	20150504_072254_MEM.MVL
Calibration Software Rev	Microvision 32-bit 7.3.2.2
Comment	RMA1200

Calibration Data

Calibration File Name	4997-9-001-QA10409827-L.CAL
Date of Calibration	05/04/2015 14:03
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In making interpretations of logs our employees will give customer the benefit of their best judgment. But since all interpretations are opinions based on inferences from electrical or other measurements, we cannot, and we do not guarantee the accuracy or correctness of any interpretation. We shall not be liable or responsible for any loss, cost, damages, or expenses whatsoever incurred or sustained by the customer resulting from any interpretation made by any of our employees.

Interpretation

HRVRT analysis was depth correlated to B.H. HCAL logged 25 May 2016.

Interpretation was zoned for variable casing weights and grades.

4235.43 ft 9 5/8" Casing weight change; 43.5 lb. N-80 above, 47.0 lb. N-80 below.

6241.46 ft 9 5/8" Casing weight change; 47.0 lb. N-80 above, 53.5 lb. N-80 below.

The top joint and joint JT-102 are short joints.

18.52 ft Hardware - External Casing Head Response.

62.21 ft Hardware - Multiple Centralizers can be seen throughout the logged interval, see the Feature List for a complete listing

1015.41 ft Hardware - Bottom of 13 3/8" External Casing.

1059.29 ft Internal metal loss feature is in the area of a centralizer. This area of metal mass change could have an adverse effect on the metal loss calculation of this feature.

1061.10 ft Internal metal loss feature is in the area of a centralizer. This area of metal mass change could have an adverse effect on the metal loss calculation of this feature.

1061.71 ft Internal metal loss feature is in the area of a centralizer. This area of metal mass change could have an adverse effect on the metal loss calculation of this feature.

1060.32 ft Anomalous - Collar.

1522.22 ft Anomalous - Collar.

1565.71 ft Anomalous - Collar.

Collars Identified as anomalous have apparent metal loss features at the edges of the makeup region and accurate

metal loss cannot be qualified.

6721.95 ft Hardware - Unidentified External Hardware.
6728.81 ft Hardware - Centralizer
6740.57 ft Hardware - Unidentified External Hardware.
6746.08 ft Hardware - Centralizer
6747.79 ft Hardware - Unidentified External Hardware.
6778.33 ft Hardware - Unidentified External Hardware.
6780.85 ft Hardware - Centralizer
6787.97 ft Hardware - Unidentified External Hardware.
6790.44 ft Hardware - Centralizer
6823.12 ft Hardware - Unidentified External Hardware.
6825.72 ft Hardware - Centralizer
6827.70 ft Hardware - Unidentified External Hardware.
6832.36 ft Hardware - Centralizer

6832.01 ft Internal metal loss feature is in the area of a centralizer. This area of metal mass change could have an adverse effect on the metal loss calculation of this feature.
6832.01 ft Internal metal loss feature is in the area of a centralizer. This area of metal mass change could have an adverse effect on the metal loss calculation of this feature.
6832.24 ft Internal metal loss feature is in the area of a centralizer. This area of metal mass change could have an adverse effect on the metal loss calculation of this feature.
6832.66 ft Internal metal loss feature is in the area of a centralizer. This area of metal mass change could have an adverse effect on the metal loss calculation of this feature.

Joint Interpretation Summary

Joint	From	To	Length	Class	Max Depth	Position	Type	ID/OD
1	17.28	21.32	4.04	Class 1	-	-	-	-
2	21.32	61.76	40.44	Class 1	-	-	-	-
3	61.76	103.08	41.32	Class 1	-	-	-	-
4	103.08	144.05	40.97	Class 2	36.0%	119.83	ISO	OD
5	144.05	183.83	39.78	Class 1	-	-	-	-
6	183.83	226.78	42.95	Class 1	-	-	-	-
7	226.78	267.66	40.88	Class 1	-	-	-	-
8	267.66	309.46	41.80	Class 2	23.0%	272.18	ISO	OD
9	309.46	354.02	44.56	Class 1	-	-	-	-
10	354.02	396.50	42.48	Class 1	-	-	-	-
11	396.50	438.87	42.37	Class 1	-	-	-	-
12	438.87	477.90	39.03	Class 1	-	-	-	-
13	477.90	516.69	38.79	Class 1	-	-	-	-
14	516.69	553.21	36.52	Class 1	-	-	-	-
15	553.21	595.52	42.31	Class 1	-	-	-	-
16	595.52	634.13	38.61	Class 1	-	-	-	-
17	634.13	677.16	43.03	Class 1	-	-	-	-
18	677.16	716.94	39.78	Class 1	-	-	-	-
19	716.94	759.29	42.35	Class 1	-	-	-	-
20	759.29	802.14	42.85	Class 1	-	-	-	-
21	802.14	845.54	43.40	Class 1	-	-	-	-
22	845.54	890.01	44.47	Class 1	-	-	-	-
23	890.01	931.07	41.06	Class 1	-	-	-	-
24	931.07	972.18	41.11	Class 1	-	-	-	-
25	972.18	1014.91	42.73	Class 1	-	-	-	-
26	1014.91	1060.32	45.41	Class 2	28.0%	1058.85	ISO	OD
27	1060.32	1101.07	40.75	Class 2	33.0%	1079.80	ISO	OD

28	1101.07	1140.65	39.58	Class	2	22.0%	1110.20	ISO	OD
29	1140.65	1180.44	39.79	Class	2	33.0%	1145.26	ISO	OD
30	1180.44	1220.87	40.43	Class	2	24.0%	1209.25	ISO	OD
31	1220.87	1264.48	43.61	Class	2	37.0%	1229.40	ISO	OD
32	1264.48	1306.64	42.16	Class	2	33.0%	1271.61	ISO	OD
33	1306.64	1348.77	42.13	Class	2	27.0%	1335.69	ISO	OD
34	1348.77	1391.54	42.77	Class	2	24.0%	1372.45	ISO	OD
35	1391.54	1436.23	44.69	Class	2	23.0%	1400.49	ISO	OD
36	1436.23	1479.08	42.85	Class	1	17.0%	1463.63	ISO	OD
37	1479.08	1522.22	43.14	Class	2	35.0%	1519.35	ISO	OD
38	1522.22	1565.71	43.49	Class	3	46.0%	1537.05	ISO	OD
39	1565.71	1608.05	42.34	Class	2	27.0%	1593.45	ISO	OD
40	1608.05	1651.35	43.30	Class	2	25.0%	1615.69	ISO	OD
41	1651.35	1695.00	43.65	Class	2	22.0%	1687.57	ISO	OD
42	1695.00	1737.99	42.99	Class	2	24.0%	1701.58	ISO	OD
43	1737.99	1776.08	38.09	Class	1	-	-	-	-
44	1776.08	1816.99	40.91	Class	1	17.0%	1794.85	ISO	OD
45	1816.99	1858.43	41.44	Class	1	-	-	-	-
46	1858.43	1900.08	41.65	Class	1	-	-	-	-
47	1900.08	1940.73	40.65	Class	1	-	-	-	-
48	1940.73	1982.24	41.51	Class	1	-	-	-	-
49	1982.24	2023.85	41.61	Class	1	-	-	-	-
50	2023.85	2063.99	40.14	Class	2	22.0%	2050.75	ISO	OD
51	2063.99	2105.42	41.43	Class	1	20.0%	2089.20	ISO	OD
52	2105.42	2146.30	40.88	Class	1	19.0%	2113.85	ISO	OD
53	2146.30	2187.83	41.53	Class	1	-	-	-	-
54	2187.83	2228.60	40.77	Class	1	-	-	-	-
55	2228.60	2271.59	42.99	Class	1	-	-	-	-
56	2271.59	2313.01	41.42	Class	1	-	-	-	-
57	2313.01	2355.37	42.36	Class	1	-	-	-	-
58	2355.37	2396.53	41.16	Class	1	18.0%	2372.79	ISO	OD
59	2396.53	2438.38	41.85	Class	1	-	-	-	-
60	2438.38	2479.35	40.97	Class	2	25.0%	2473.06	ISO	OD
61	2479.35	2521.73	42.38	Class	1	-	-	-	-
62	2521.73	2564.11	42.38	Class	1	-	-	-	-
63	2564.11	2604.77	40.66	Class	1	-	-	-	-
64	2604.77	2646.64	41.87	Class	1	-	-	-	-
65	2646.64	2688.12	41.48	Class	1	-	-	-	-
66	2688.12	2729.21	41.09	Class	1	-	-	-	-
67	2729.21	2771.83	42.62	Class	1	-	-	-	-
68	2771.83	2814.18	42.35	Class	1	-	-	-	-
69	2814.18	2859.71	45.53	Class	1	-	-	-	-
70	2859.71	2902.76	43.05	Class	1	-	-	-	-
71	2902.76	2946.18	43.42	Class	2	23.0%	2924.21	ISO	OD
72	2946.18	2990.19	44.01	Class	1	-	-	-	-
73	2990.19	3033.25	43.06	Class	1	-	-	-	-
74	3033.25	3076.81	43.56	Class	1	-	-	-	-
75	3076.81	3117.86	41.05	Class	1	-	-	-	-
76	3117.86	3159.46	41.60	Class	1	-	-	-	-
77	3159.46	3201.20	41.74	Class	1	-	-	-	-
78	3201.20	3242.75	41.55	Class	1	16.0%	3223.19	ISO	OD
79	3242.75	3284.55	41.80	Class	1	18.0%	3262.30	ISO	OD
80	3284.55	3325.96	41.41	Class	1	-	-	-	-
81	3325.96	3365.50	39.54	Class	1	-	-	-	-
82	3365.50	3410.16	44.66	Class	1	15.0%	3400.61	ISO	OD
83	3410.16	3451.96	41.80	Class	1	-	-	-	-
84	3451.96	3497.10	45.14	Class	1	-	-	-	-
85	3497.10	3540.38	43.28	Class	2	21.0%	3499.91	ISO	OD
86	3540.38	3583.70	43.32	Class	1	-	-	-	-
87	3583.70	3627.00	43.30	Class	1	15.0%	3586.82	ISO	OD
88	3627.00	3670.06	43.06	Class	1	-	-	-	-
89	3670.06	3713.23	43.17	Class	1	-	-	-	-
90	3713.23	3757.27	44.04	Class	1	-	-	-	-
91	3757.27	3802.05	44.78	Class	1				

91	3757.27	3802.05	44.78	Class	1	-	-	-	-
92	3802.05	3845.19	43.14	Class	1	-	-	-	-
93	3845.19	3888.44	43.25	Class	1	-	-	-	-
94	3888.44	3930.97	42.53	Class	1	-	-	-	-
95	3930.97	3974.39	43.42	Class	1	-	-	-	-
96	3974.39	4019.56	45.17	Class	1	-	-	-	-
97	4019.56	4062.24	42.68	Class	1	-	-	-	-
98	4062.24	4105.87	43.63	Class	1	-	-	-	-
99	4105.87	4146.11	40.24	Class	1	-	-	-	-
100	4146.11	4186.77	40.66	Class	1	-	-	-	-
101	4186.77	4232.04	45.27	Class	1	-	-	-	-
102	4232.04	4235.43	3.39	Class	1	-	-	-	-
103	4235.43	4275.92	40.49	Class	1	-	-	-	-
104	4275.92	4316.39	40.47	Class	1	-	-	-	-
105	4316.39	4352.55	36.16	Class	1	-	-	-	-
106	4352.55	4388.77	36.22	Class	1	-	-	-	-
107	4388.77	4429.76	40.99	Class	1	-	-	-	-
108	4429.76	4472.06	42.30	Class	1	-	-	-	-
109	4472.06	4514.13	42.07	Class	1	-	-	-	-
110	4514.13	4557.38	43.25	Class	1	-	-	-	-
111	4557.38	4600.50	43.12	Class	1	-	-	-	-
112	4600.50	4638.07	37.57	Class	1	-	-	-	-
113	4638.07	4680.58	42.51	Class	1	-	-	-	-
114	4680.58	4718.76	38.18	Class	1	-	-	-	-
115	4718.76	4760.53	41.77	Class	1	-	-	-	-
116	4760.53	4804.53	44.00	Class	1	-	-	-	-
117	4804.53	4843.74	39.21	Class	1	-	-	-	-
118	4843.74	4883.75	40.01	Class	1	-	-	-	-
119	4883.75	4916.58	32.83	Class	1	-	-	-	-
120	4916.58	4952.67	36.09	Class	1	-	-	-	-
121	4952.67	4991.57	38.90	Class	1	-	-	-	-
122	4991.57	5031.51	39.94	Class	1	-	-	-	-
123	5031.51	5071.75	40.24	Class	1	-	-	-	-
124	5071.75	5114.61	42.86	Class	1	-	-	-	-
125	5114.61	5158.07	43.46	Class	1	-	-	-	-
126	5158.07	5200.18	42.11	Class	1	-	-	-	-
127	5200.18	5241.00	40.82	Class	1	-	-	-	-
128	5241.00	5283.72	42.72	Class	1	-	-	-	-
129	5283.72	5323.35	39.63	Class	1	-	-	-	-
130	5323.35	5366.31	42.96	Class	1	-	-	-	-
131	5366.31	5409.73	43.42	Class	1	-	-	-	-
132	5409.73	5450.16	40.43	Class	1	-	-	-	-
133	5450.16	5490.28	40.12	Class	1	-	-	-	-
134	5490.28	5529.05	38.77	Class	2	23.0%	5525.79	ISO	ID
135	5529.05	5569.33	40.28	Class	1	-	-	-	-
136	5569.33	5608.48	39.15	Class	1	-	-	-	-
137	5608.48	5648.36	39.88	Class	1	-	-	-	-
138	5648.36	5687.78	39.42	Class	1	-	-	-	-
139	5687.78	5726.28	38.50	Class	1	-	-	-	-
140	5726.28	5765.78	39.50	Class	1	-	-	-	-
141	5765.78	5805.53	39.75	Class	1	-	-	-	-
142	5805.53	5845.90	40.37	Class	1	-	-	-	-
143	5845.90	5880.74	34.84	Class	1	-	-	-	-
144	5880.74	5919.41	38.67	Class	1	-	-	-	-
145	5919.41	5960.36	40.95	Class	1	-	-	-	-
146	5960.36	5996.42	36.06	Class	1	-	-	-	-
147	5996.42	6036.52	40.10	Class	1	-	-	-	-
148	6036.52	6077.65	41.13	Class	1	-	-	-	-
149	6077.65	6118.09	40.44	Class	1	-	-	-	-
150	6118.09	6157.96	39.87	Class	1	-	-	-	-
151	6157.96	6197.57	39.61	Class	1	-	-	-	-
152	6197.57	6241.46	43.89	Class	1	-	-	-	-
153	6241.46	6281.72	40.26	Class	1	-	-	-	-
154	6281.72	6325.02	43.30	Class	1	-	-	-	-

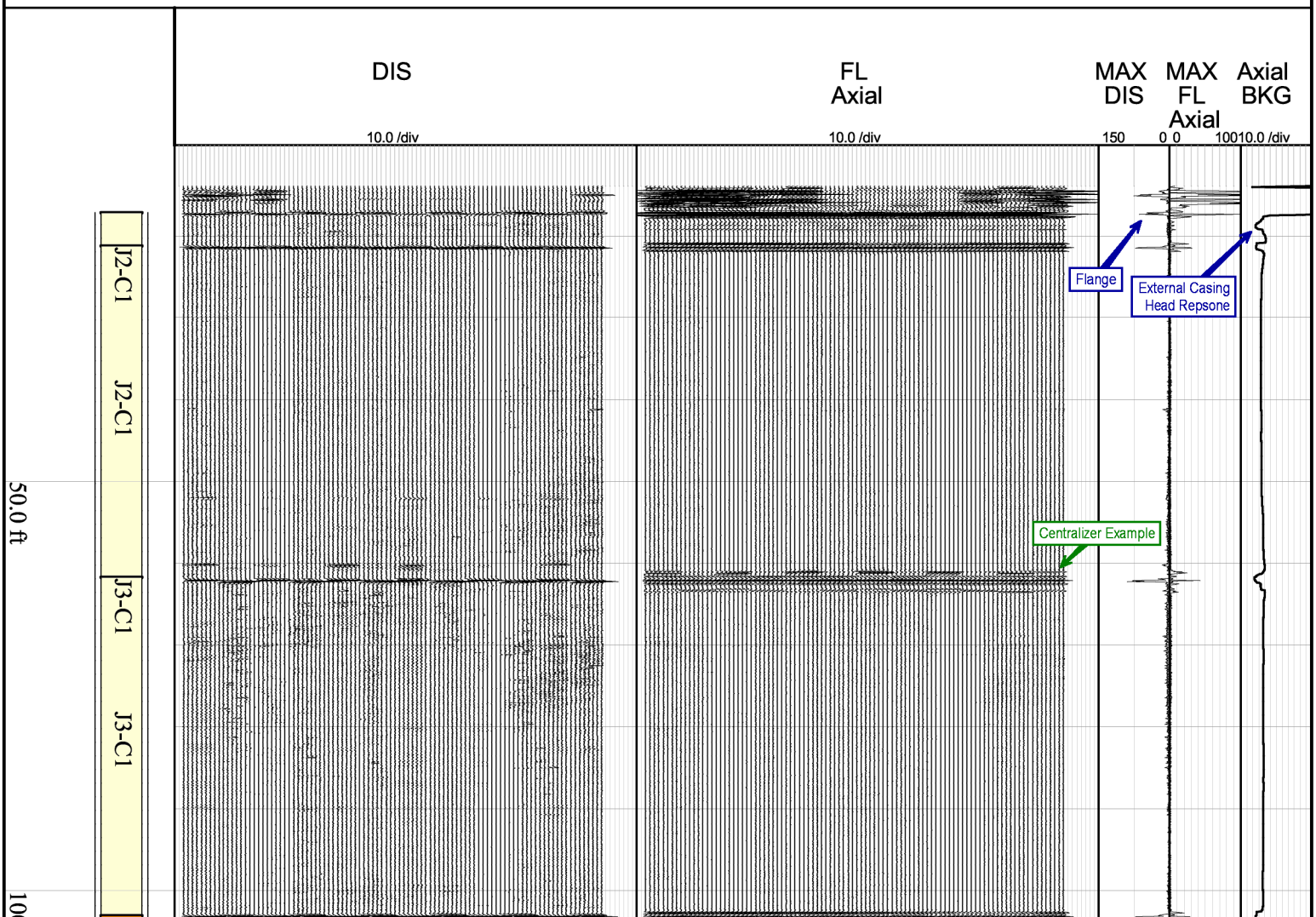
155	6325.02	6368.05	43.03	Class	1	-	-	-	-
156	6368.05	6412.52	44.47	Class	1	-	-	-	-
157	6412.52	6458.03	45.51	Class	1	-	-	-	-
158	6458.03	6498.44	40.41	Class	1	-	-	-	-
159	6498.44	6538.48	40.04	Class	1	-	-	-	-
160	6538.48	6582.22	43.74	Class	1	-	-	-	-
161	6582.22	6623.87	41.65	Class	1	-	-	-	-
162	6623.87	6666.06	42.19	Class	1	-	-	-	-
163	6666.06	6705.45	39.39	Class	1	-	-	-	-
164	6705.45	6746.38	40.93	Class	1	-	-	-	-
165	6746.38	6790.00	43.62	Class	2	21.0%	6786.74	ISO	ID
166	6790.00	6833.56	43.56	Class	3	59.0%	6803.50	ISO	ID
167	6833.56	6834.44	0.88	Class	1	-	-	-	-

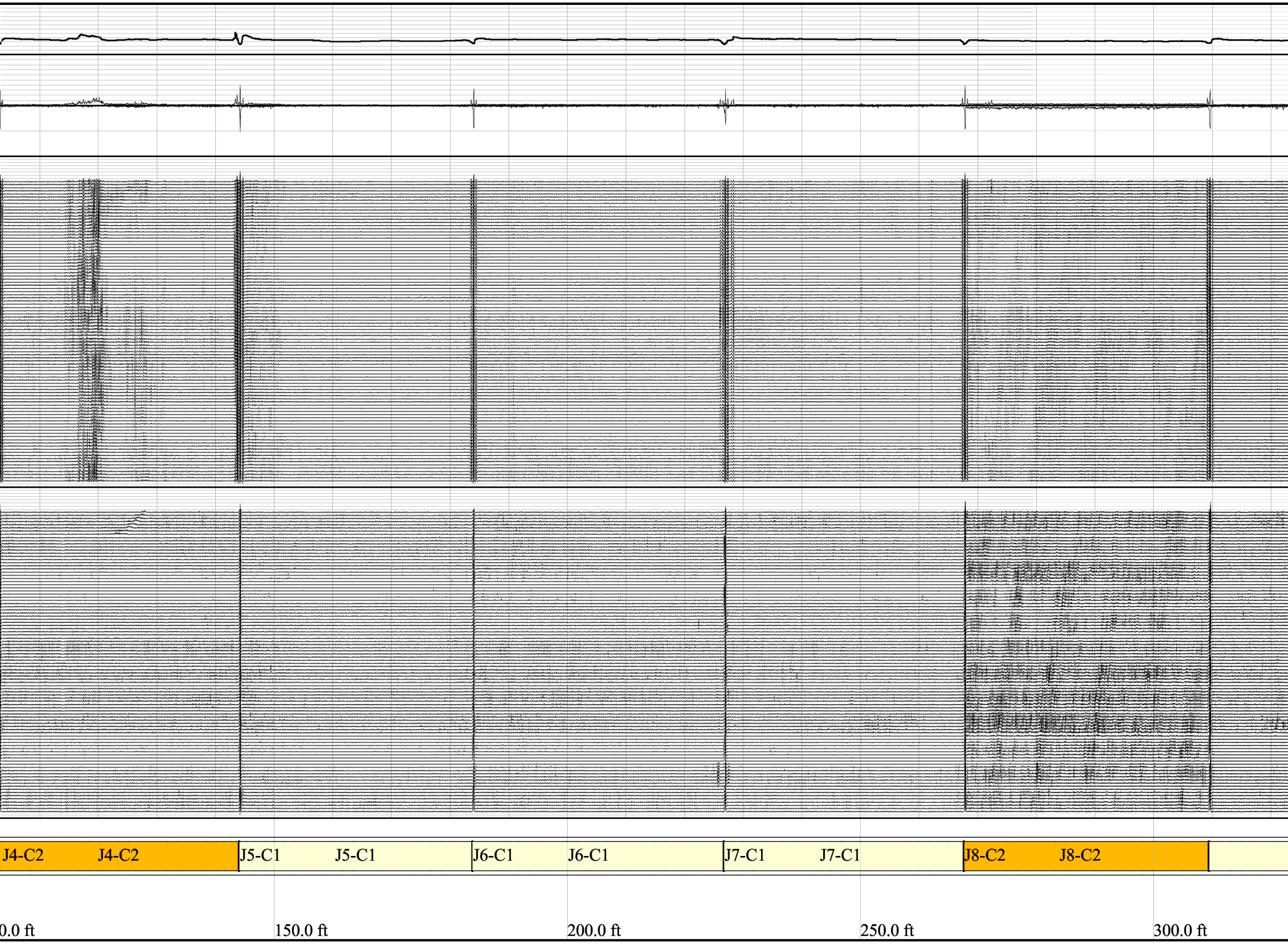
Southern California Gas Company Porter 68A

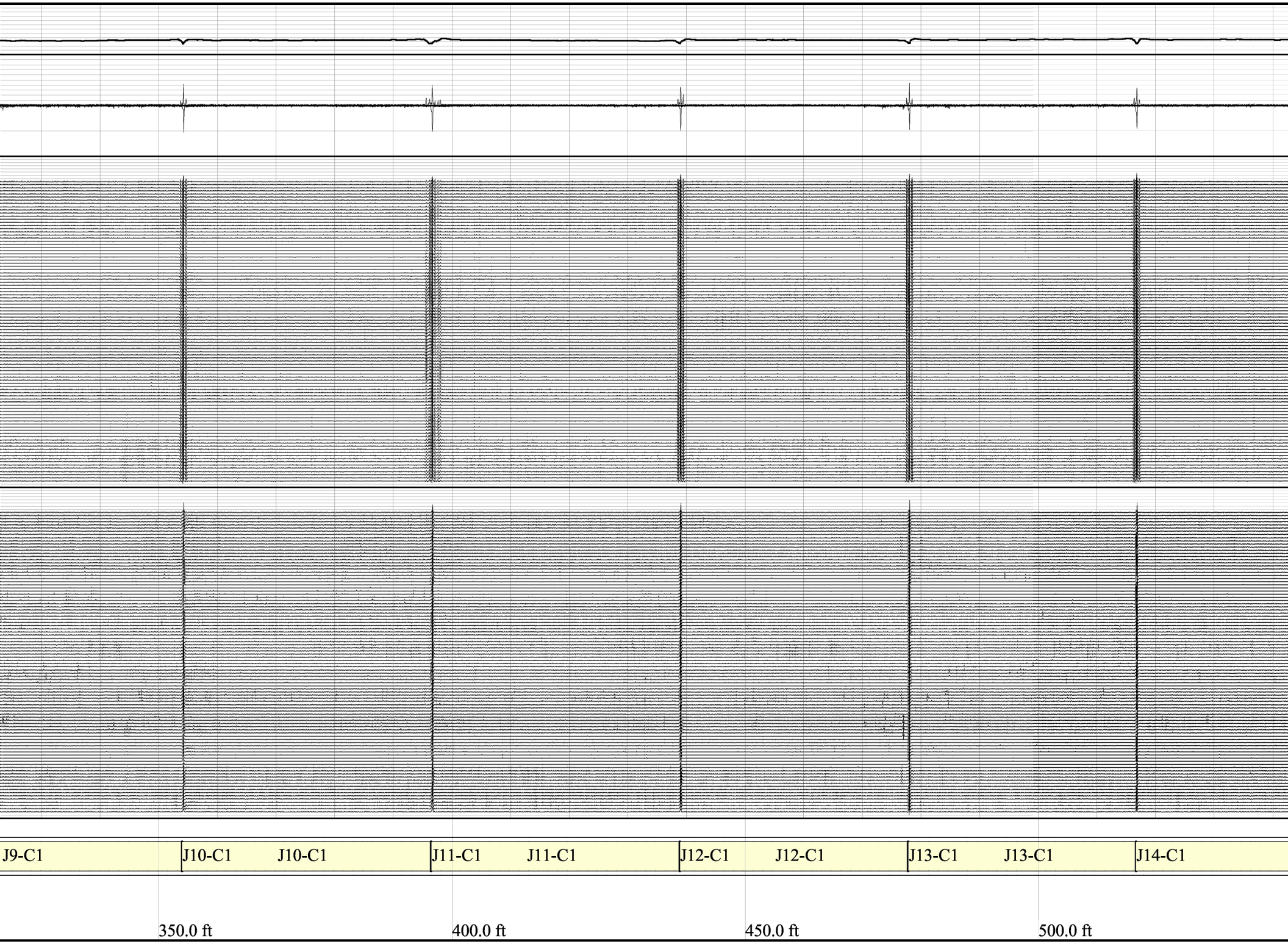
File 20160526_091439_RSP_0_0_0_0_0_0_0_0_0.mvl

Main Log
5" / 100'

Class 1	Class 2	Class 3	Class 4
0 - 20%	20 - 40%	40 - 60%	60 - 100%




J4-C2
J4-C2
J5-C1
J5-C1
J6-C1
J6-C1
J7-C1
J7-C1
J8-C2
J8-C2
0.0 ft
150.0 ft
200.0 ft
250.0 ft
300.0 ft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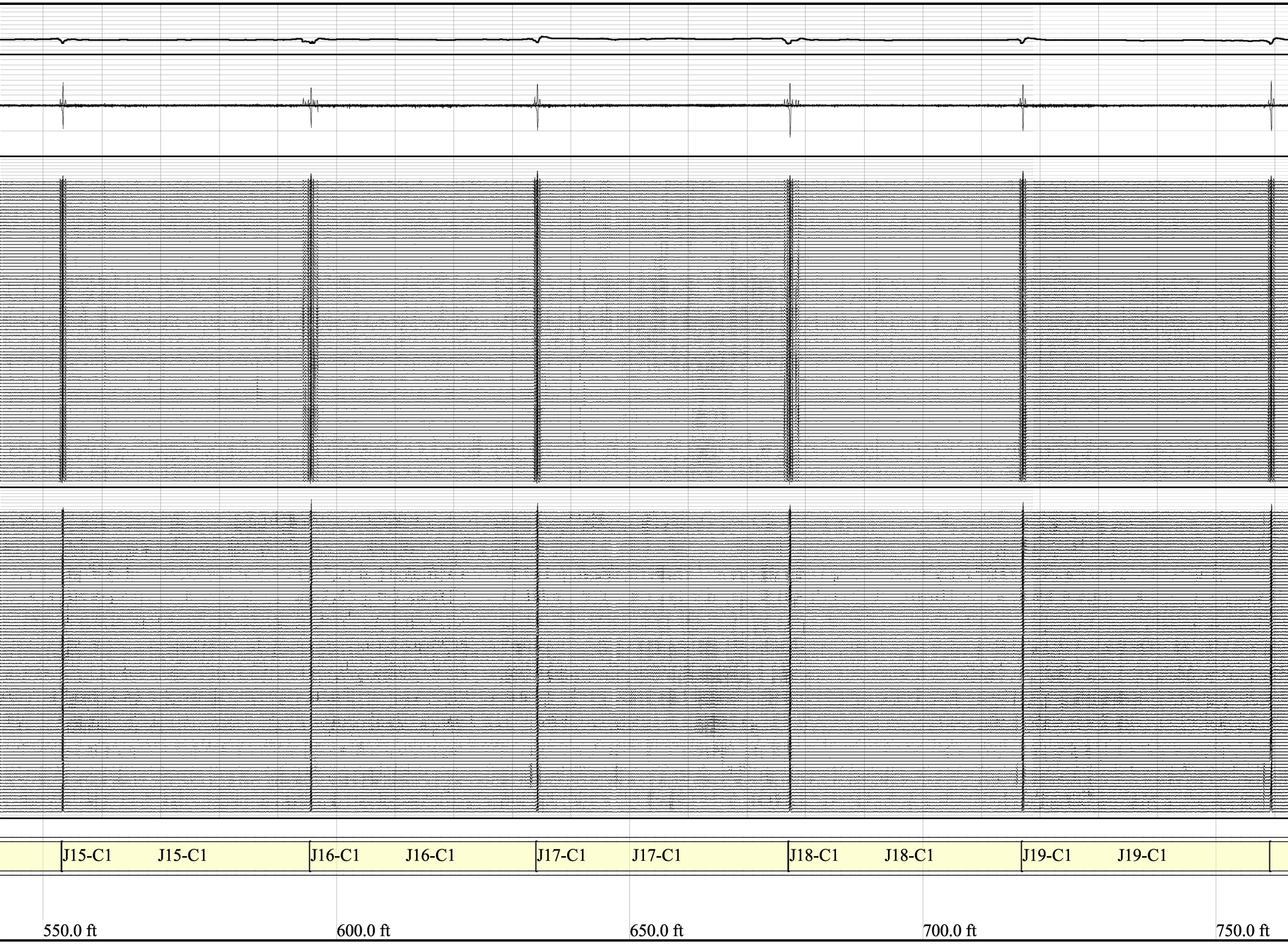
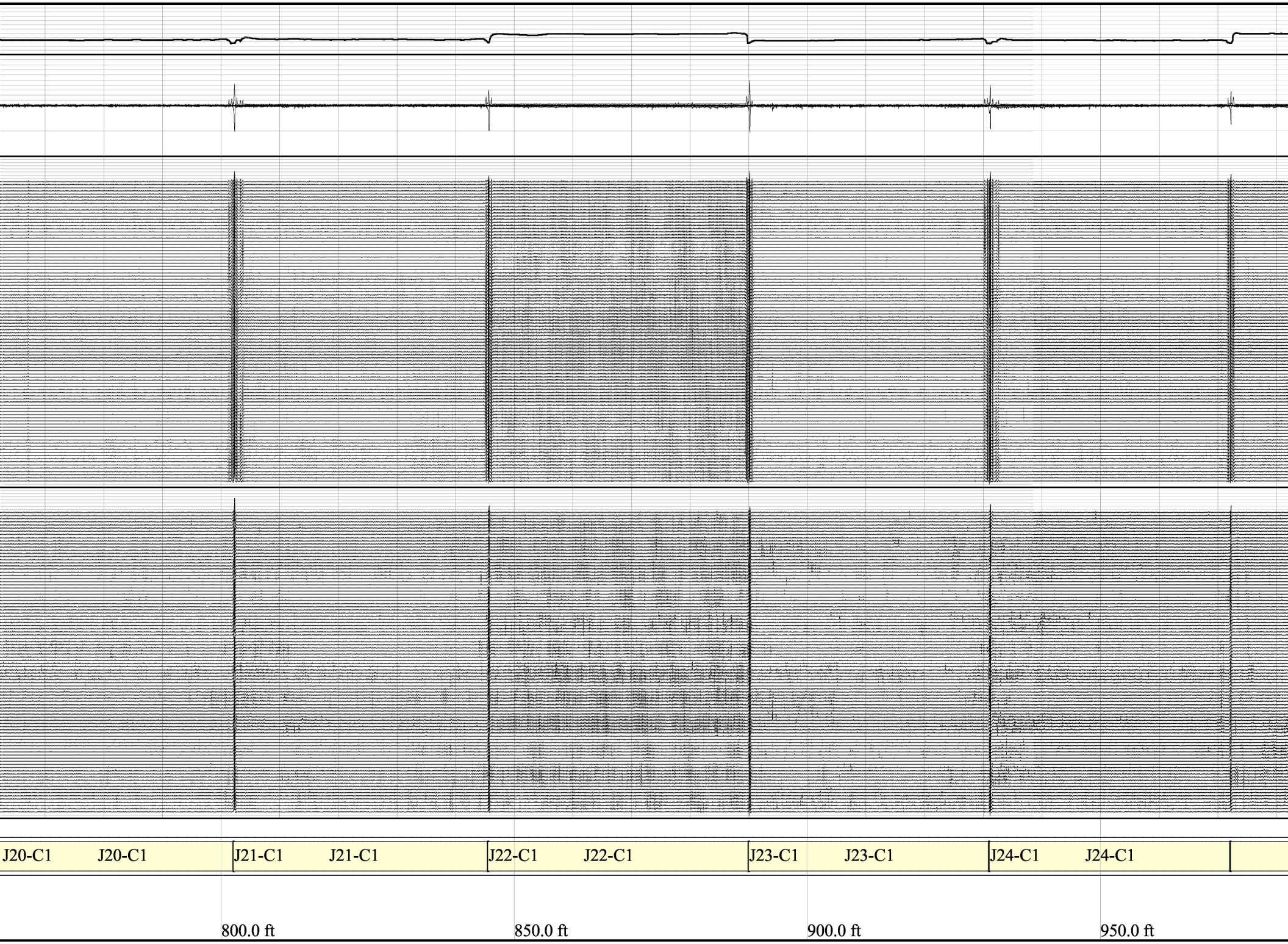
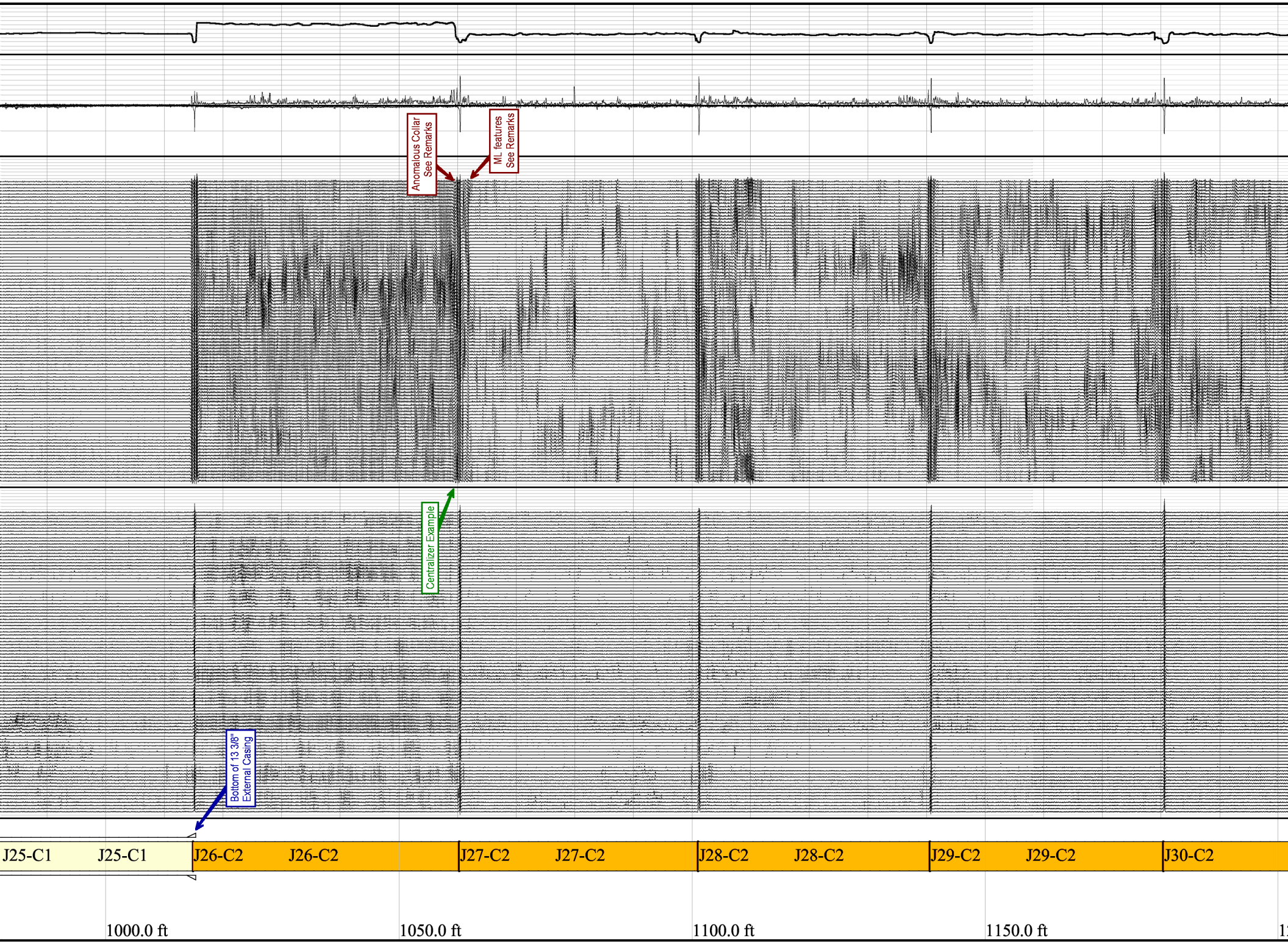
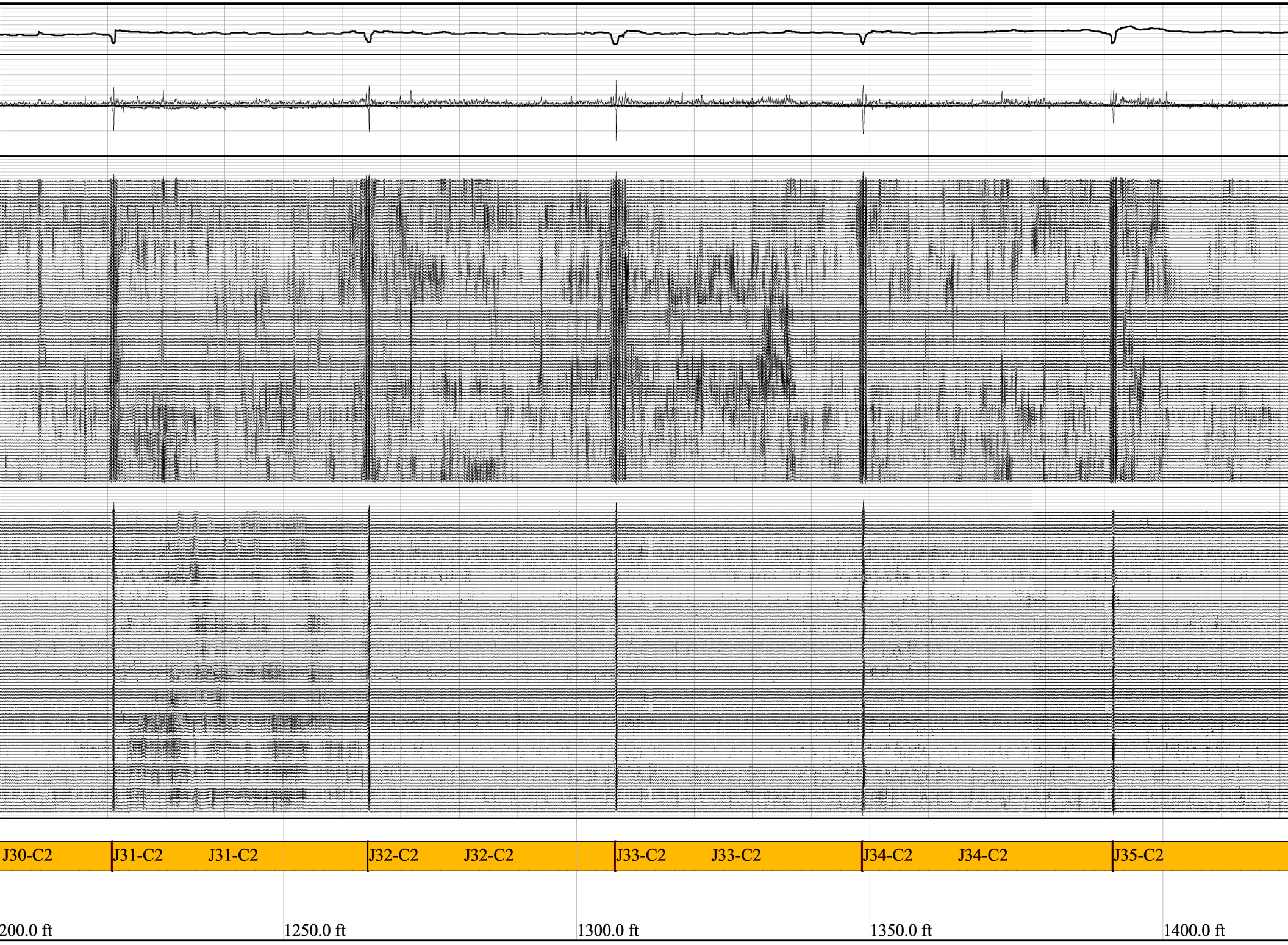
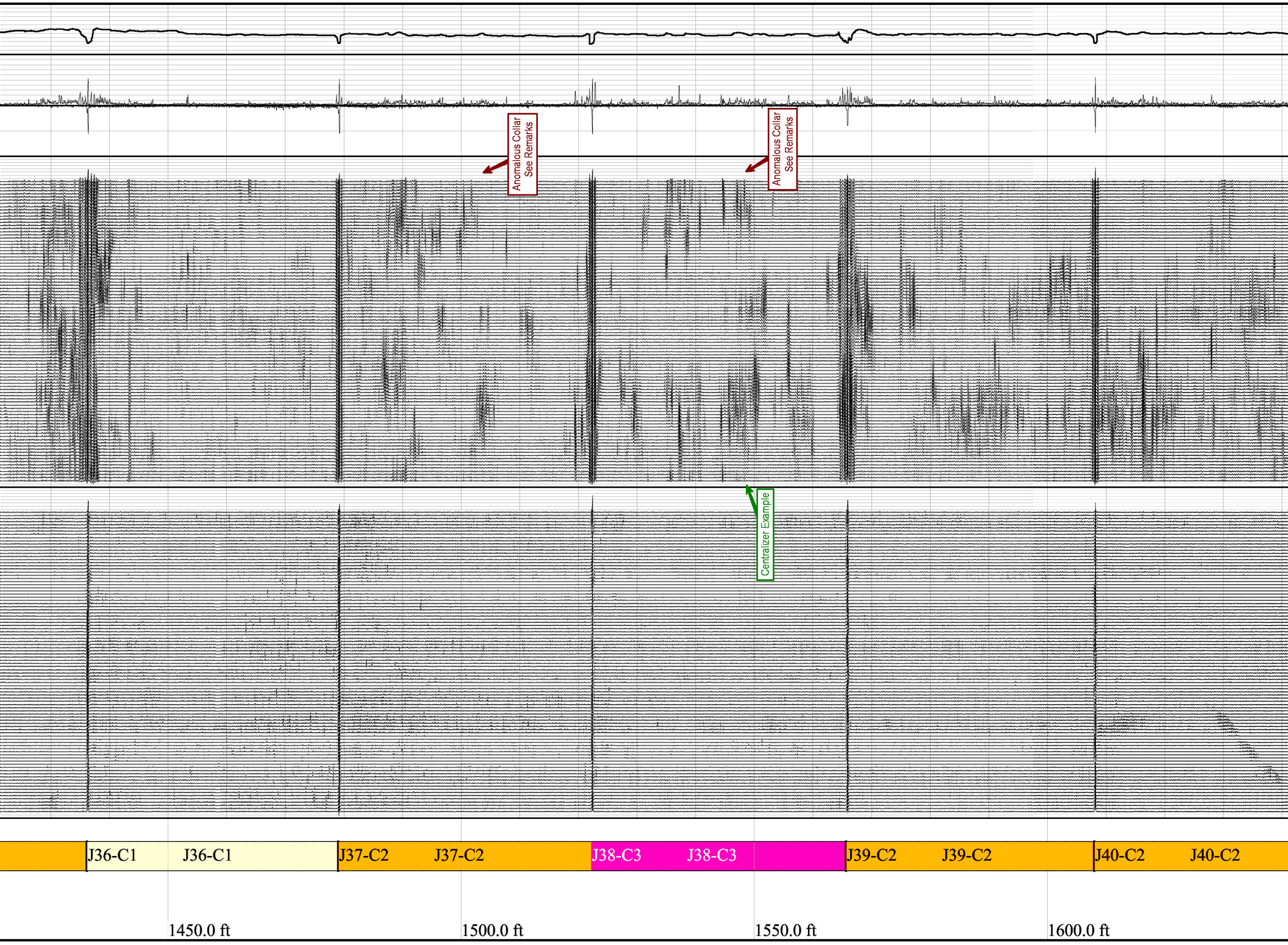
J10-C1
J10-C1
J11-C1
J11-C1
J12-C1
J12-C1
J13-C1
J13-C1
J14-C1
350.0 ft
400.0 ft
450.0 ft
500.0 ft

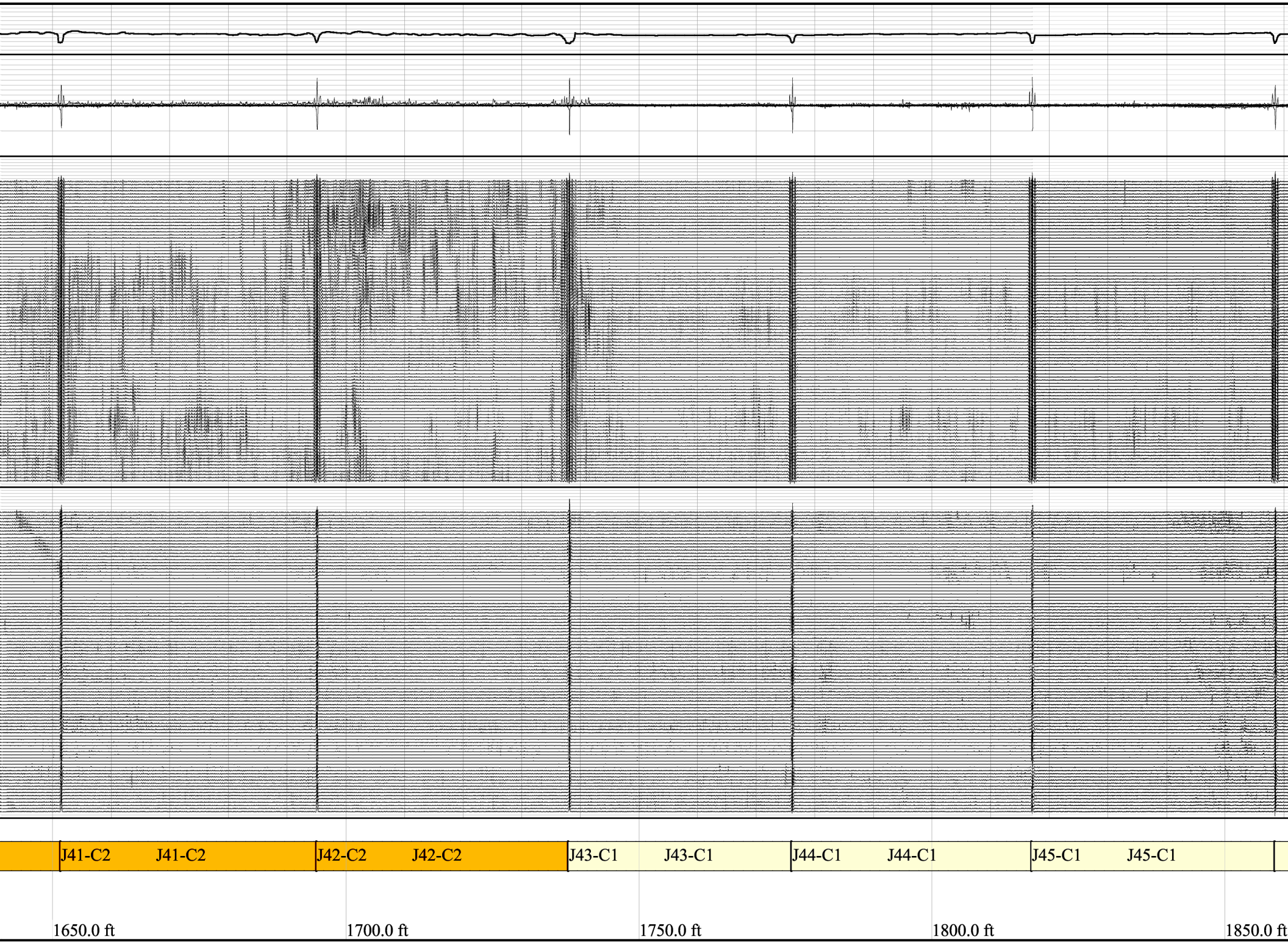

J15-C1
J15-C1
J16-C1
J16-C1
J17-C1
J17-C1
J18-C1
J18-C1
J19-C1
J19-C1
550.0 ft
600.0 ft
650.0 ft
700.0 ft
750.0 ft

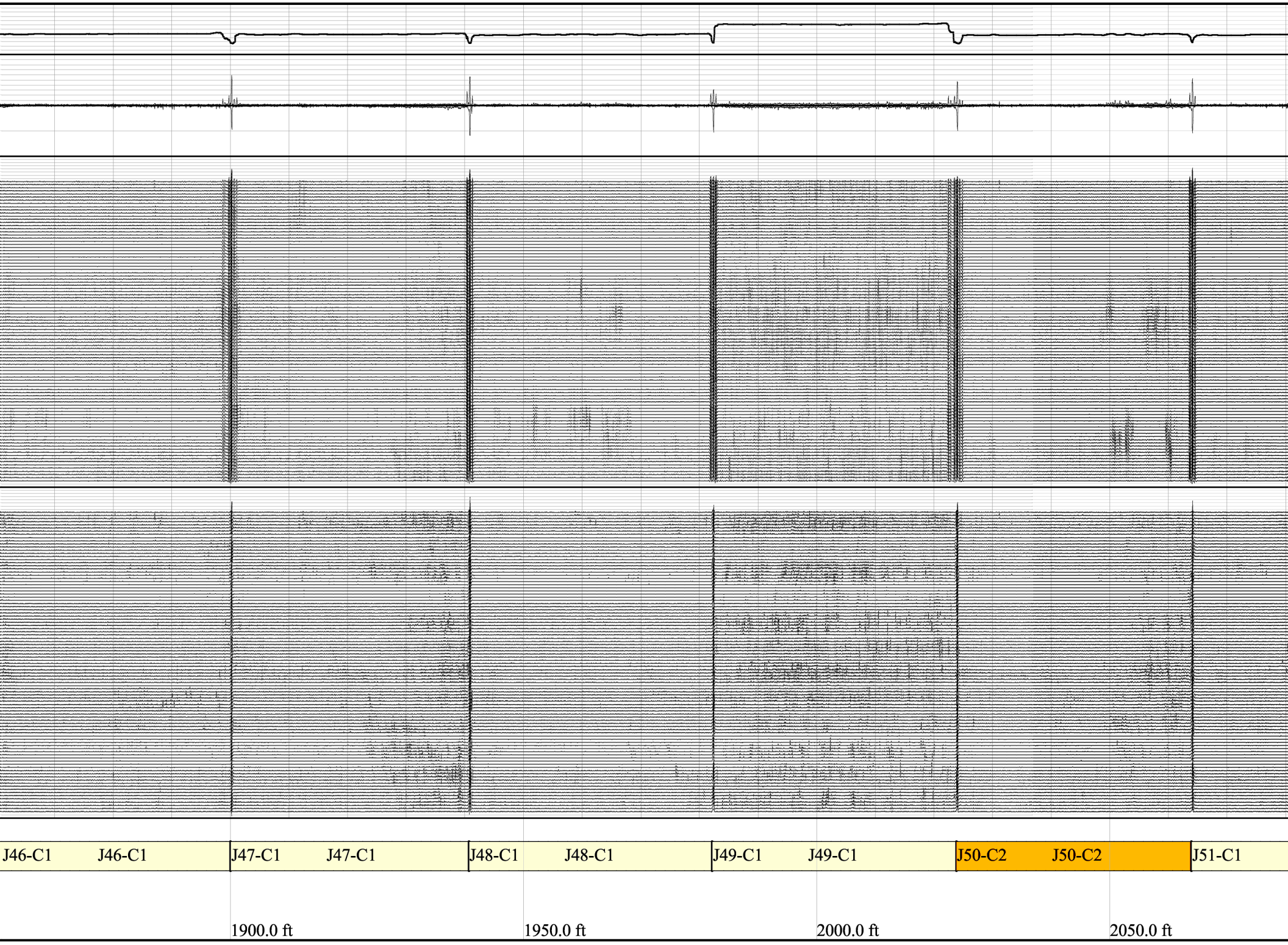

J20-C1
J20-C1
J21-C1
J21-C1
J22-C1
J22-C1
J23-C1
J23-C1
J24-C1
J24-C1
800.0 ft
850.0 ft
900.0 ft
950.0 ft

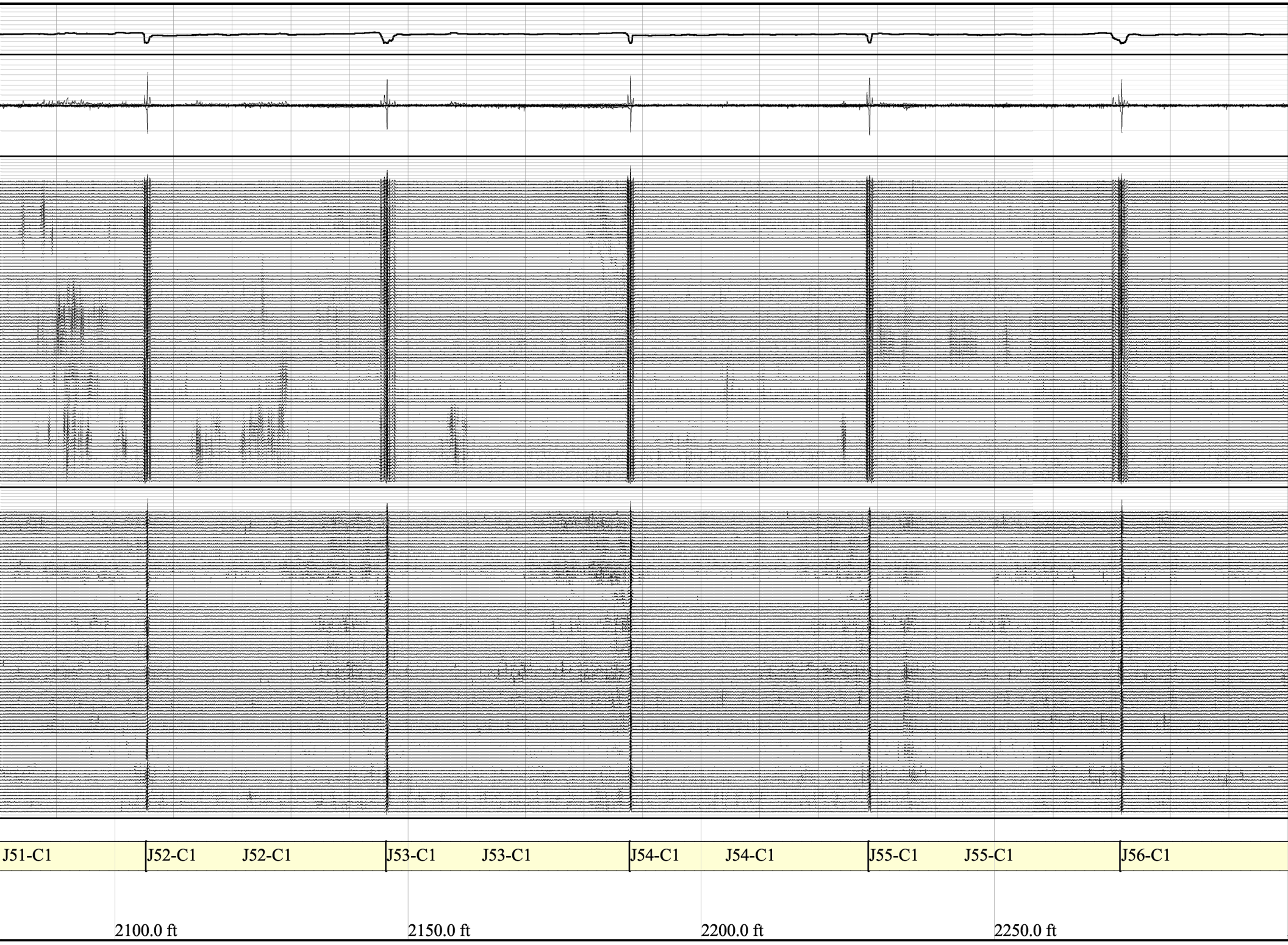

Anomalous Collar
See Remarks
ML features
See Remarks
Centralizer Example
Bottom of 13 3/8"
External Casing
J25-C1
J25-C1
J26-C2
J26-C2
J27-C2
J27-C2
J28-C2
J28-C2
J29-C2
J29-C2
J30-C2
1000.0 ft
1050.0 ft
1100.0 ft
1150.0 ft

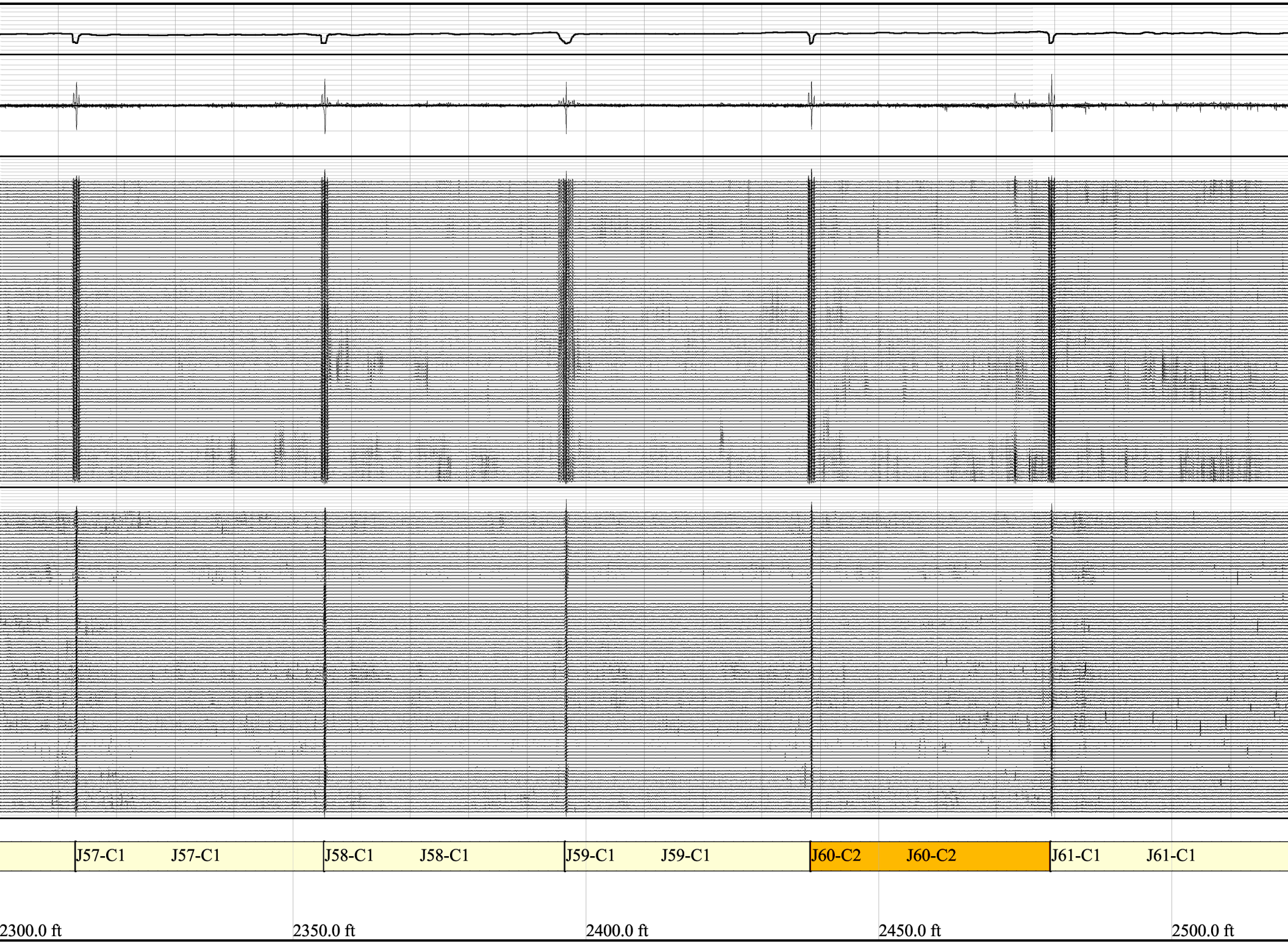

J30-C2
J31-C2
J31-C2
J32-C2
J32-C2
J33-C2
J33-C2
J34-C2
J34-C2
J35-C2
200.0 ft
1250.0 ft
1300.0 ft
1350.0 ft
1400.0 ft

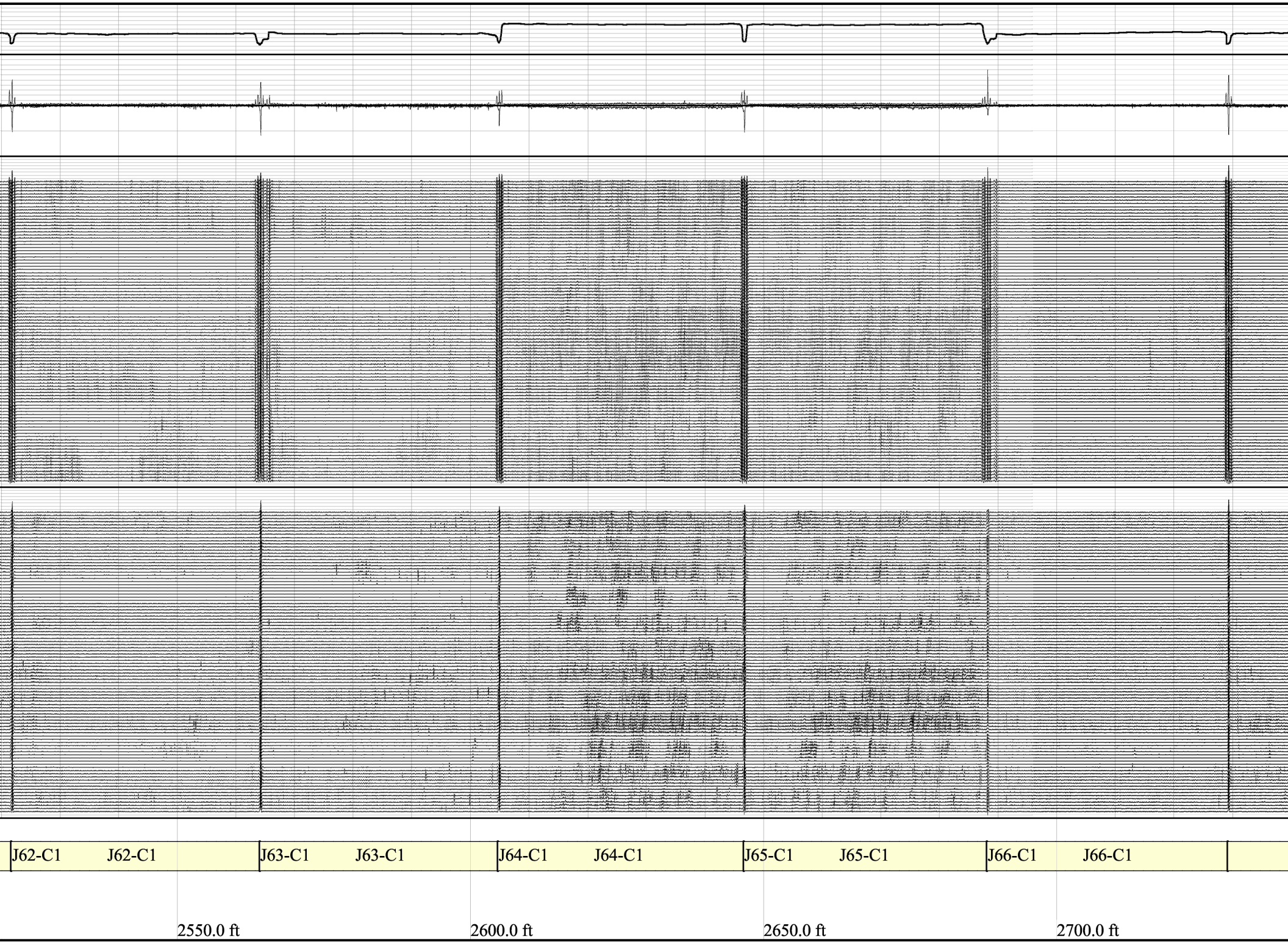

Anomalous Collar
See Remarks
Anomalous Collar
See Remarks
Centralizer Example
J36-C1
J36-C1
J37-C2
J37-C2
J38-C3
J38-C3
J39-C2
J39-C2
J40-C2
J40-C2
1450.0 ft
1500.0 ft
1550.0 ft
1600.0 ft

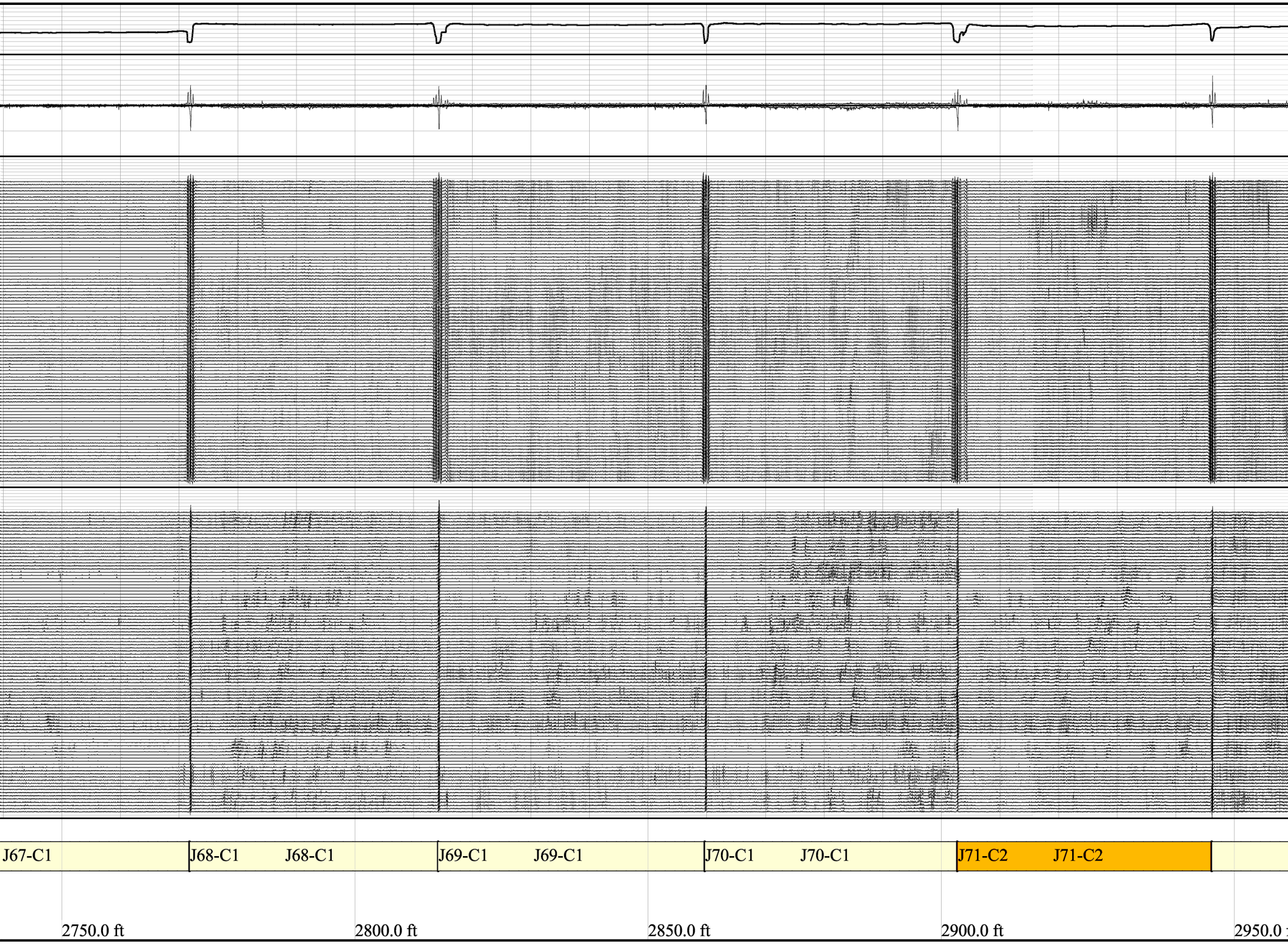

J41-C2
J41-C2
J42-C2
J42-C2
J43-C1
J43-C1
J44-C1
J44-C1
J45-C1
J45-C1
1650.0 ft
1700.0 ft
1750.0 ft
1800.0 ft
1850.0 ft

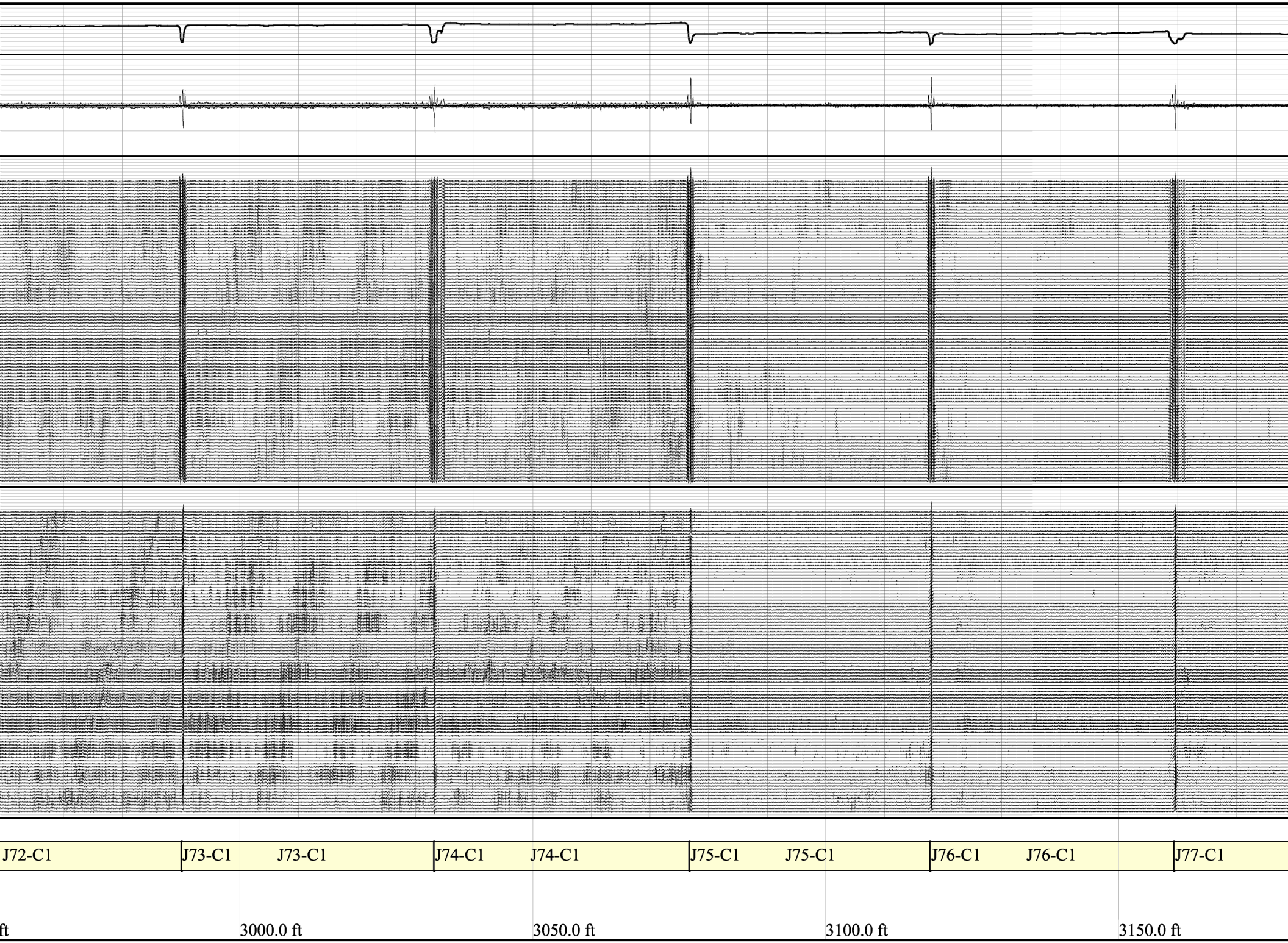

J46-C1
J46-C1
J47-C1
J47-C1
J48-C1
J48-C1
J49-C1
J49-C1
J50-C2
J50-C2
J51-C1
1900.0 ft
1950.0 ft
2000.0 ft
2050.0 ft

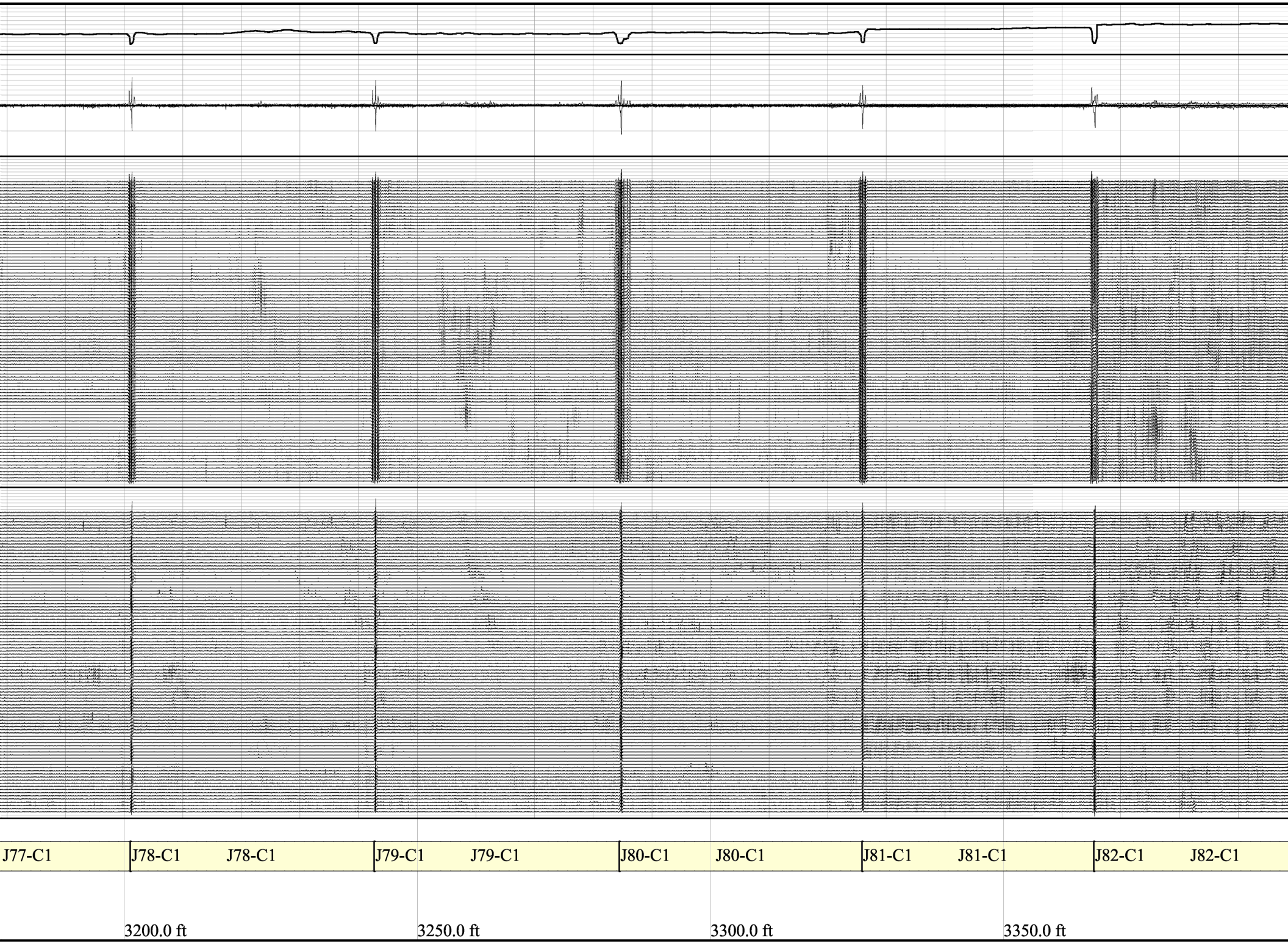

J51-C1
J52-C1
J52-C1
J53-C1
J53-C1
J54-C1
J54-C1
J55-C1
J55-C1
J56-C1
2100.0 ft
2150.0 ft
2200.0 ft
2250.0 ft

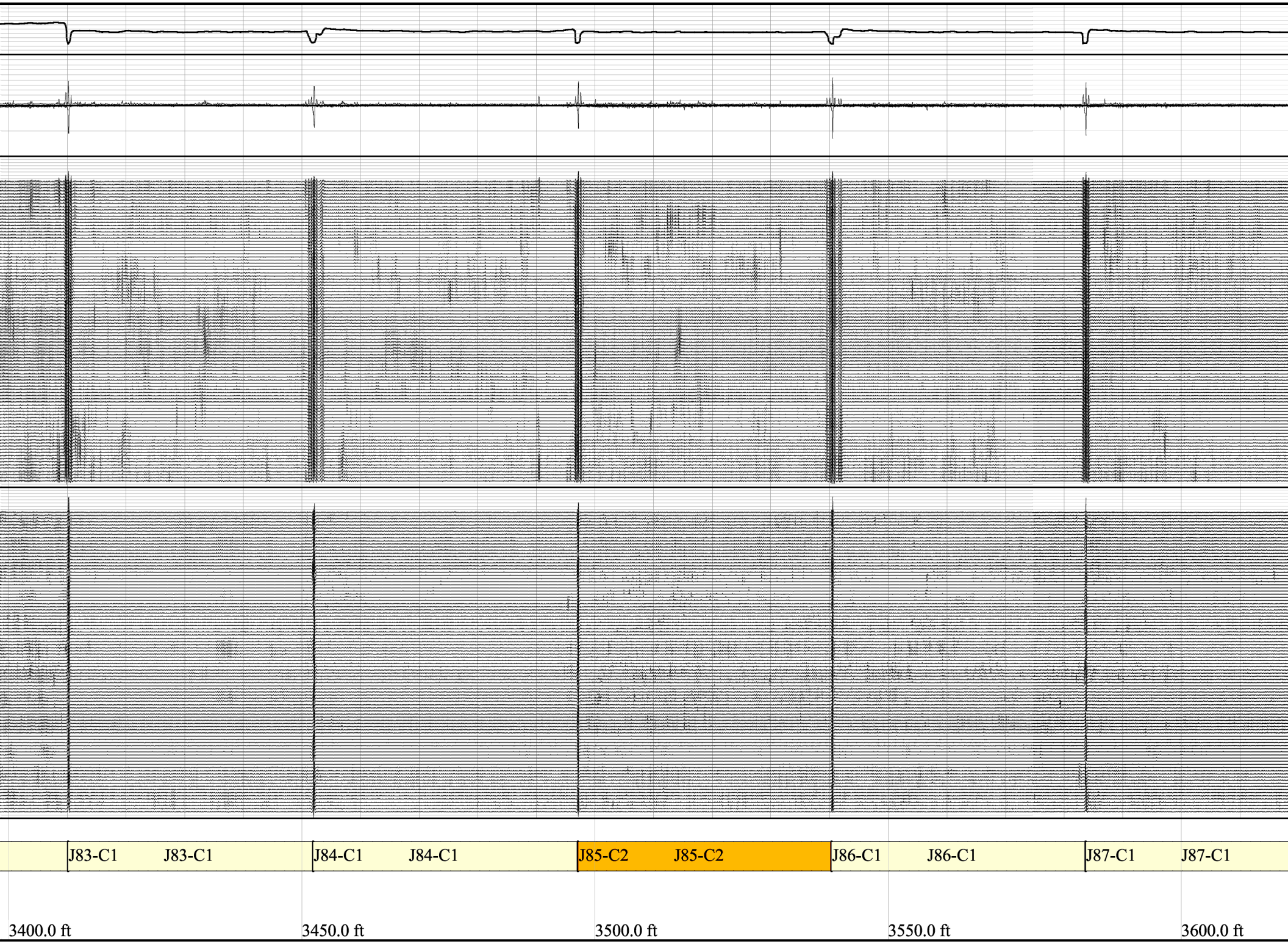

J57-C1
J57-C1
J58-C1
J58-C1
J59-C1
J59-C1
J60-C2
J60-C2
J61-C1
J61-C1
2300.0 ft
2350.0 ft
2400.0 ft
2450.0 ft
2500.0 ft

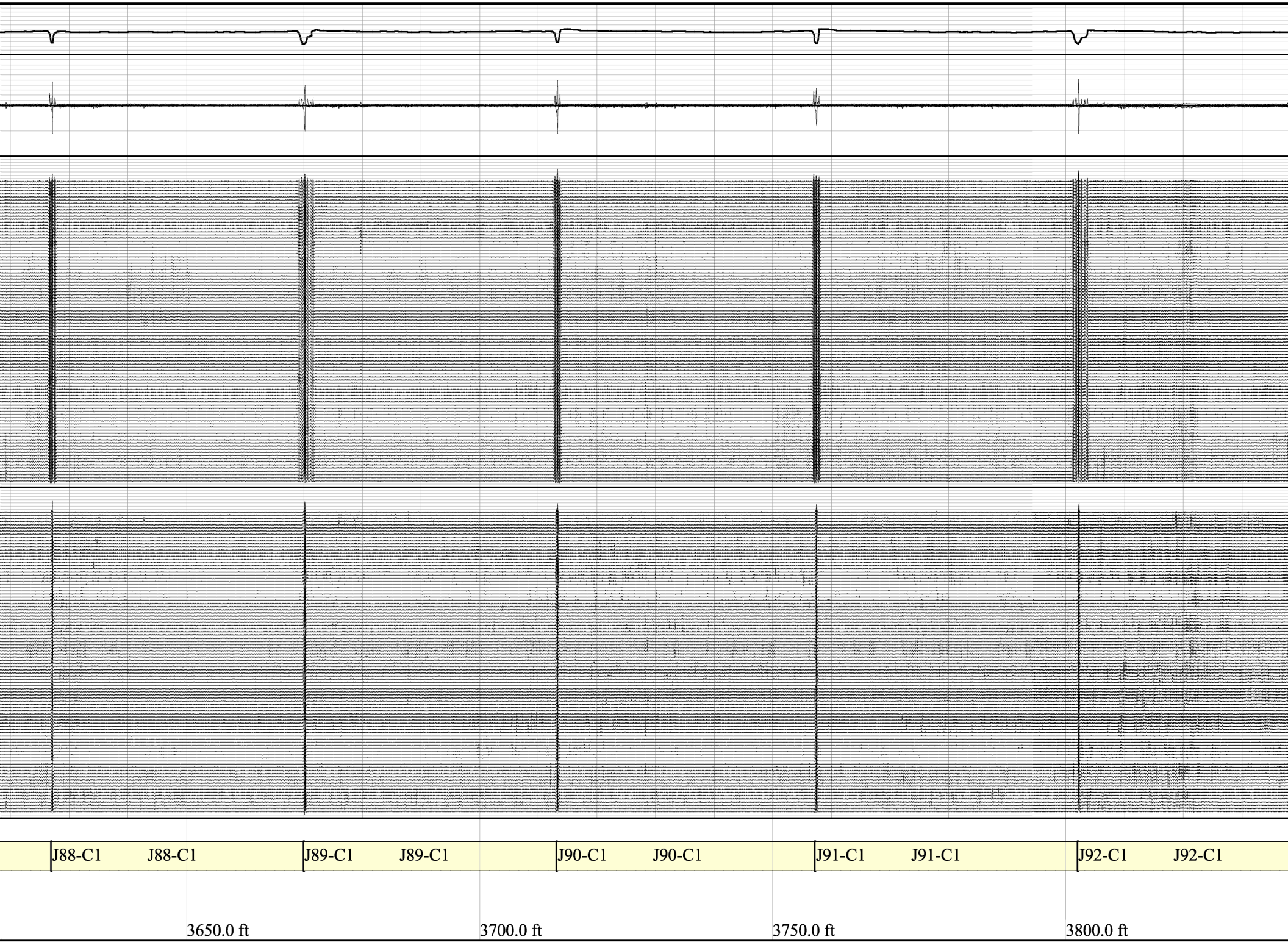

J62-C1
J62-C1
J63-C1
J63-C1
J64-C1
J64-C1
J65-C1
J65-C1
J66-C1
J66-C1
2550.0 ft
2600.0 ft
2650.0 ft
2700.0 ft

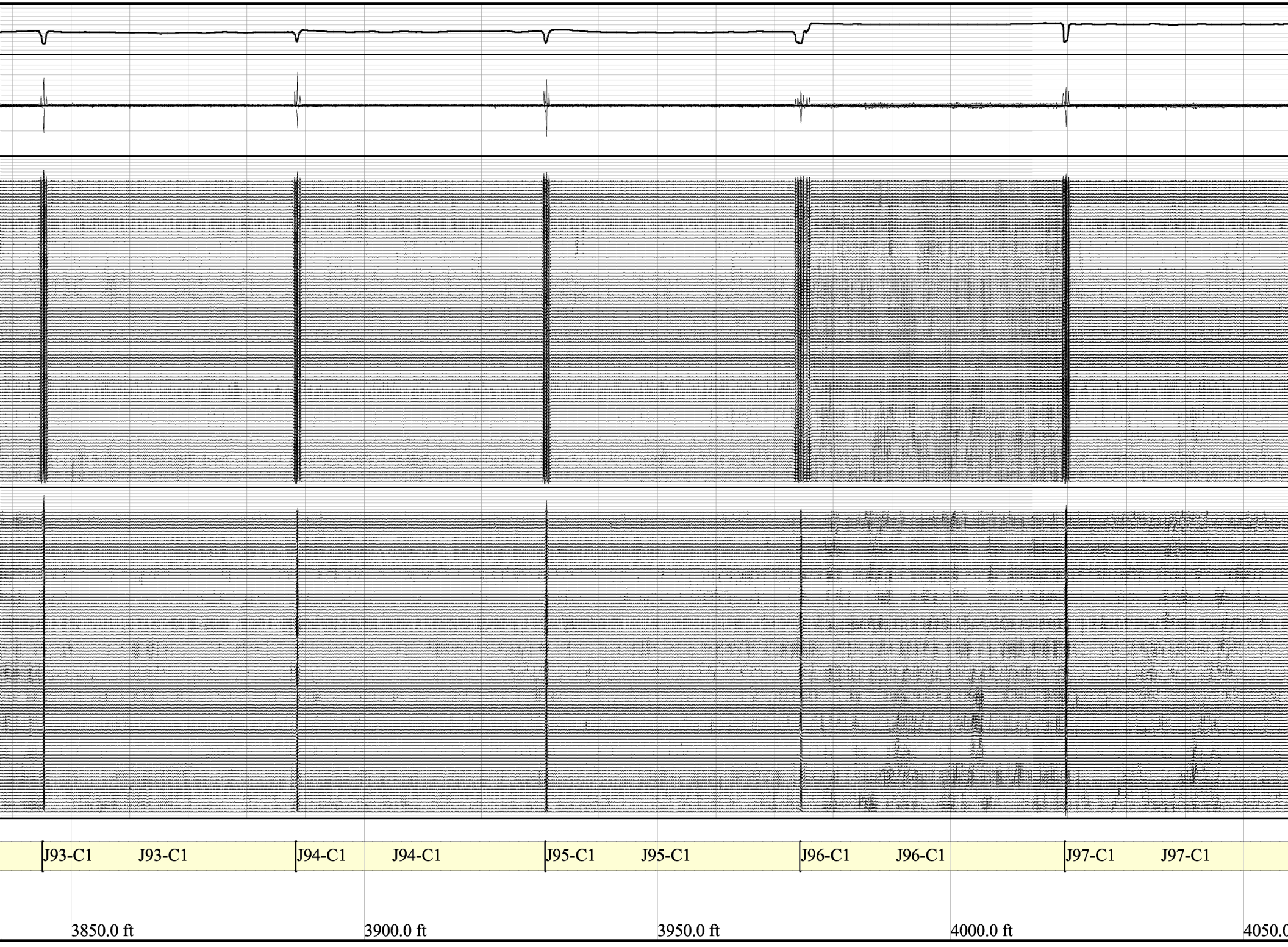

J67-C1
J68-C1
J68-C1
J69-C1
J69-C1
J70-C1
J70-C1
J71-C2
J71-C2
2750.0 ft
2800.0 ft
2850.0 ft
2900.0 ft

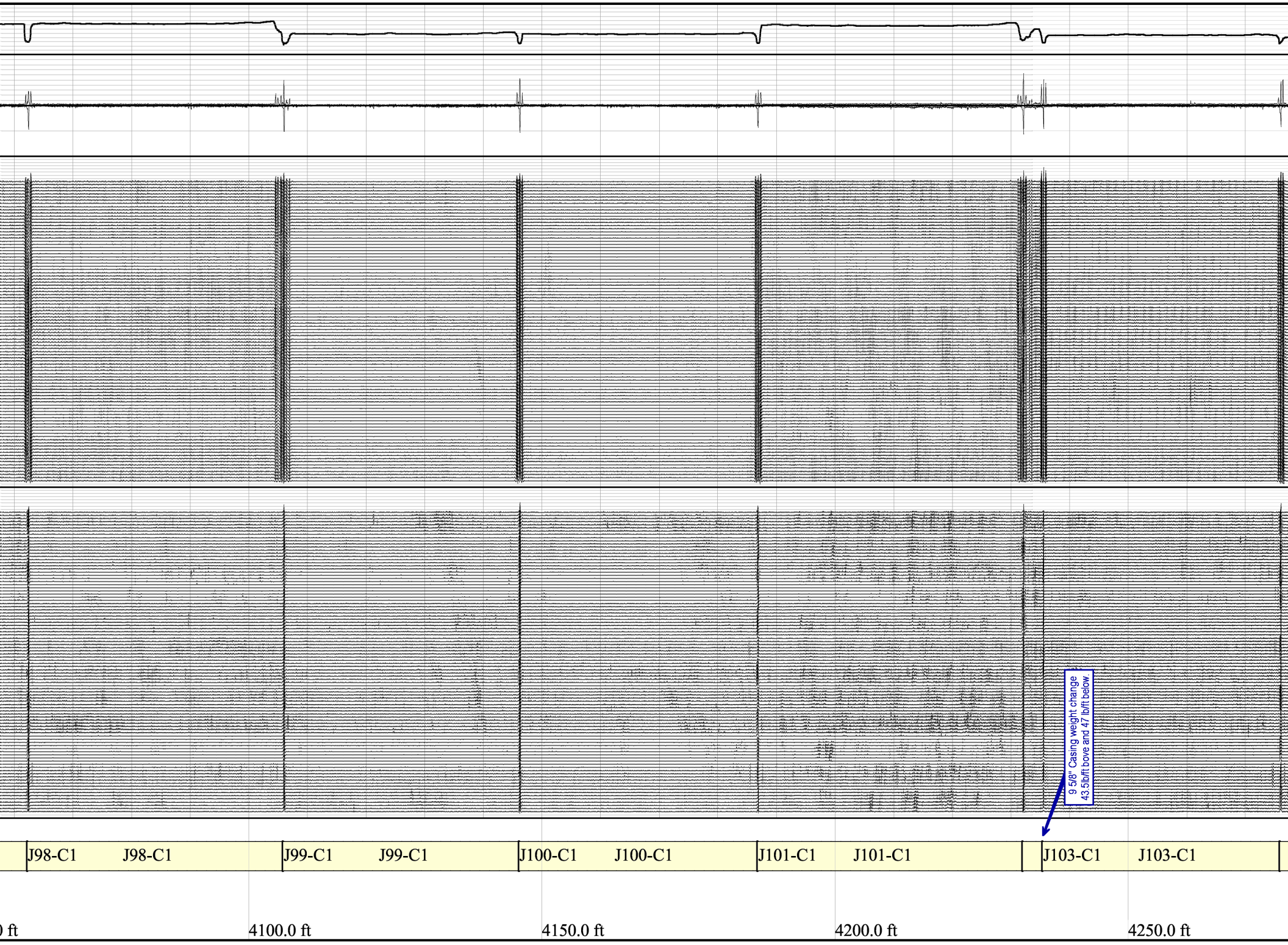

J72-C1
J73-C1
J73-C1
J74-C1
J74-C1
J75-C1
J75-C1
J76-C1
J76-C1
J77-C1
ft
3000.0 ft
3050.0 ft
3100.0 ft
3150.0 ft

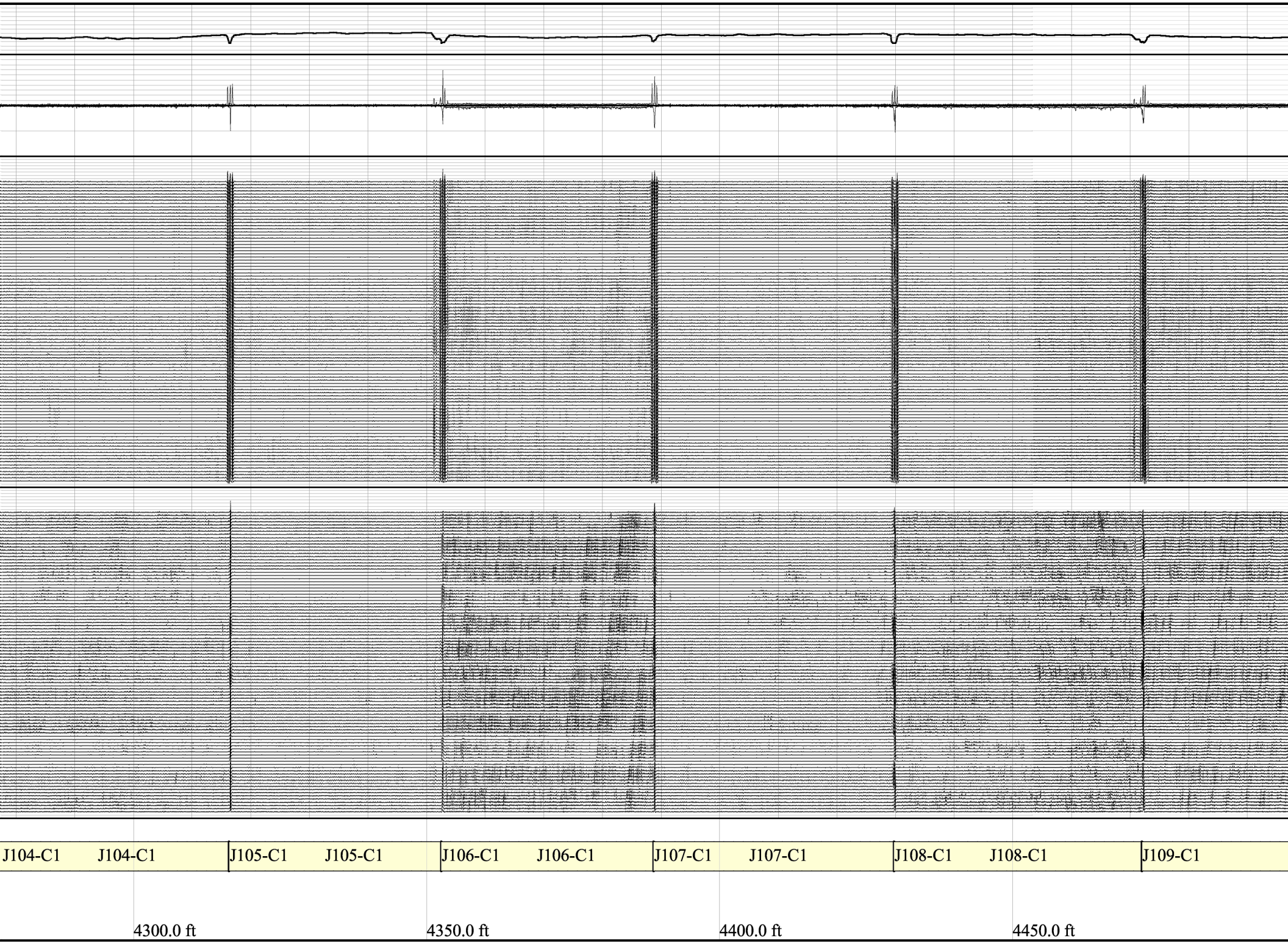

J77-C1
J78-C1
J78-C1
J79-C1
J79-C1
J80-C1
J80-C1
J81-C1
J81-C1
J82-C1
J82-C1
3200.0 ft
3250.0 ft
3300.0 ft
3350.0 ft

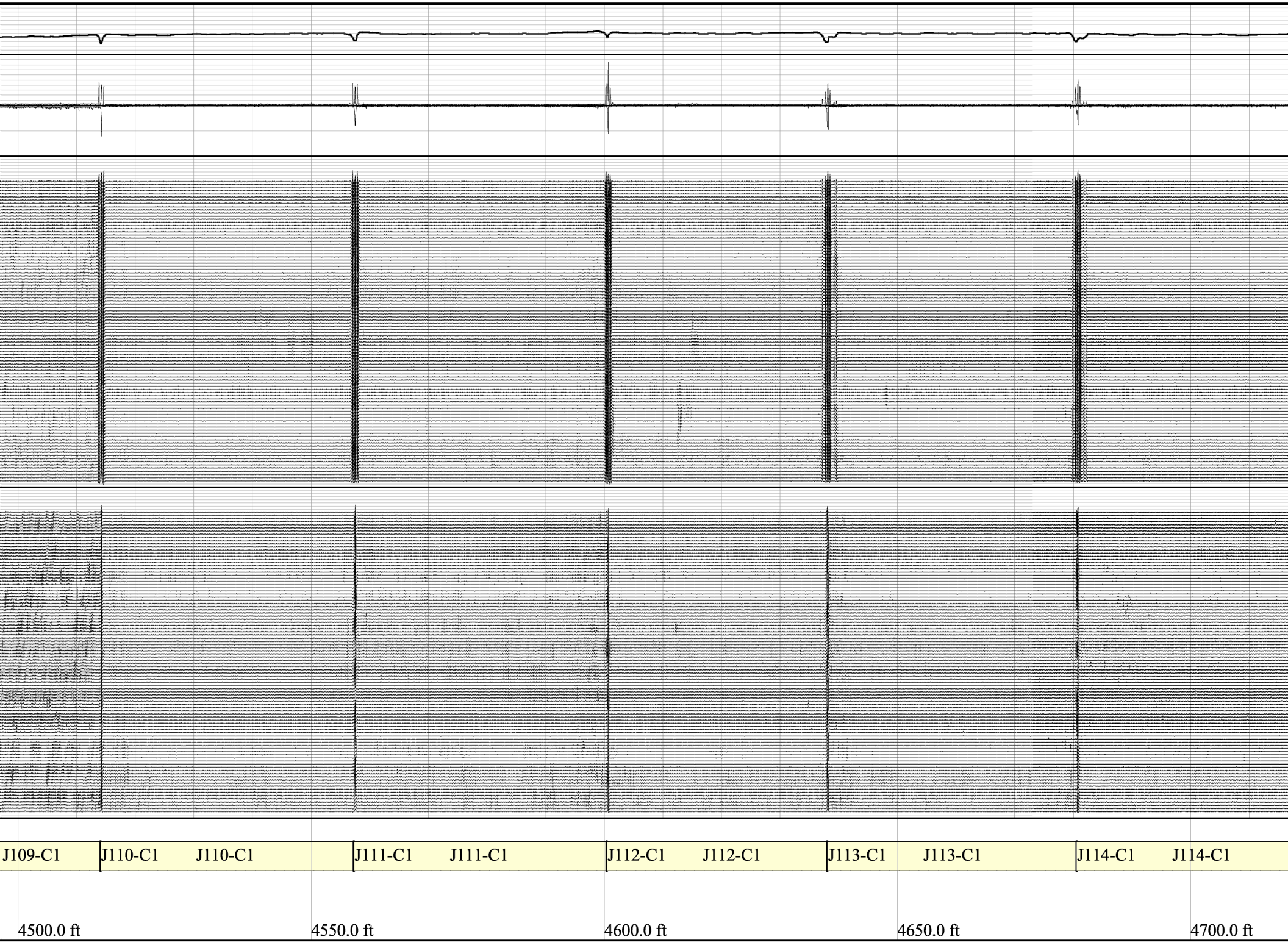

J83-C1
J83-C1
J84-C1
J84-C1
J85-C2
J85-C2
J86-C1
J86-C1
J87-C1
J87-C1
3400.0 ft
3450.0 ft
3500.0 ft
3550.0 ft
3600.0 ft

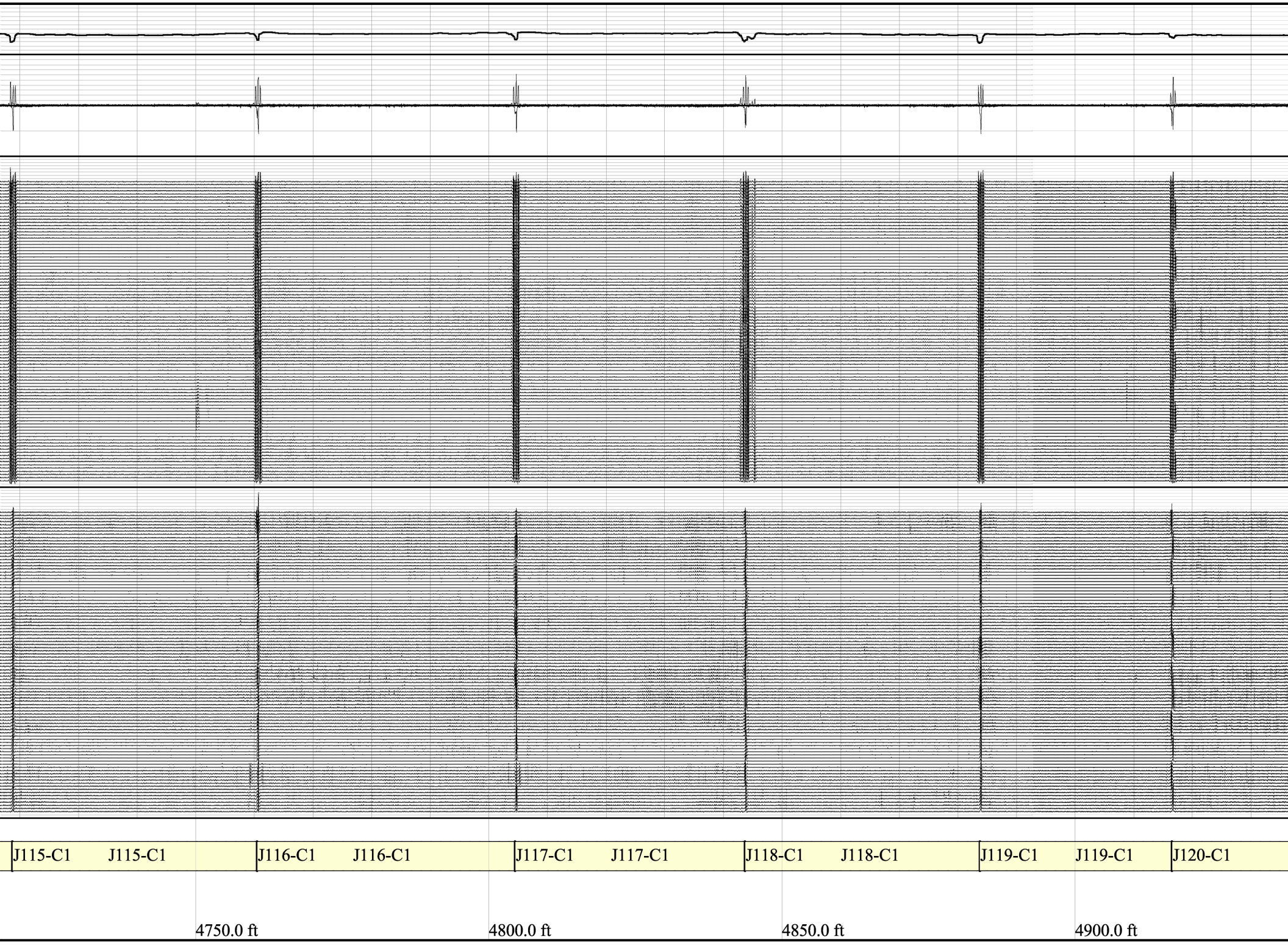

J88-C1
J88-C1
J89-C1
J89-C1
J90-C1
J90-C1
J91-C1
J91-C1
J92-C1
J92-C1
3650.0 ft
3700.0 ft
3750.0 ft
3800.0 ft

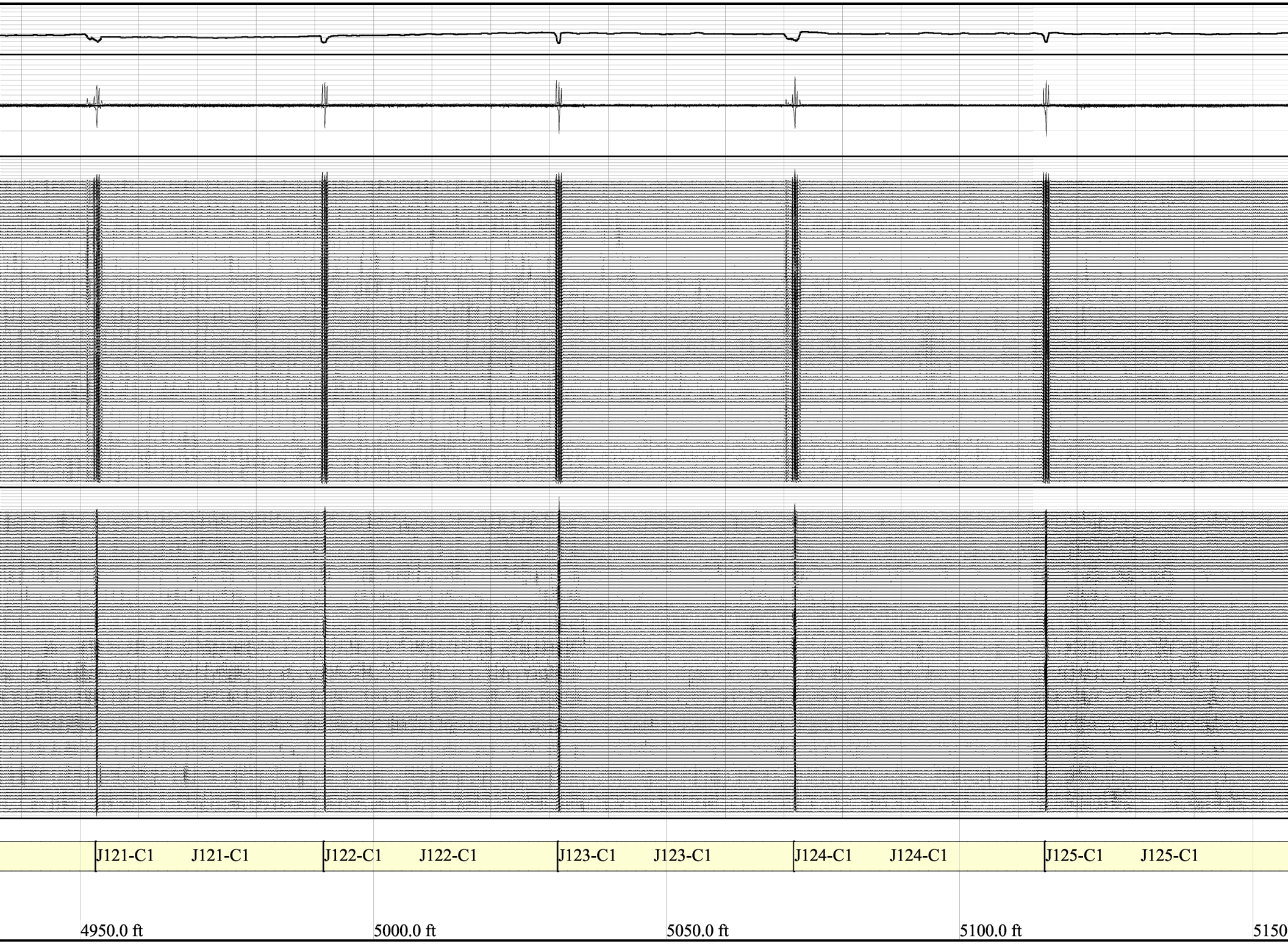

J93-C1
J93-C1
J94-C1
J94-C1
J95-C1
J95-C1
J96-C1
J96-C1
J97-C1
J97-C1
3850.0 ft
3900.0 ft
3950.0 ft
4000.0 ft
4050.0

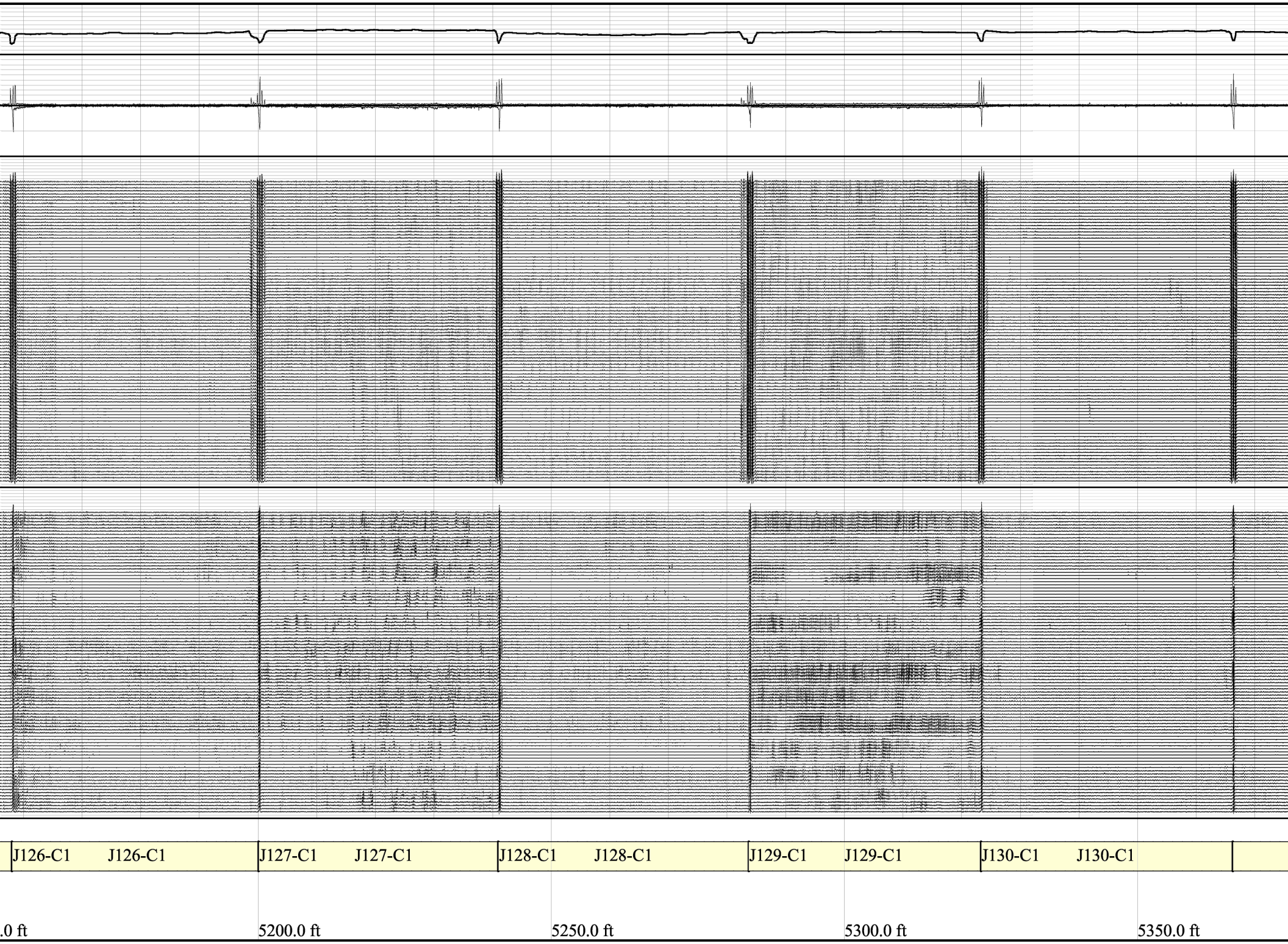

9 5/8" Casing weight change
43.5lb/ft bove and 47 lb/ft below.
J98-C1
J98-C1
J99-C1
J99-C1
J100-C1
J100-C1
J101-C1
J101-C1
J103-C1
J103-C1
0 ft
4100.0 ft
4150.0 ft
4200.0 ft
4250.0 ft

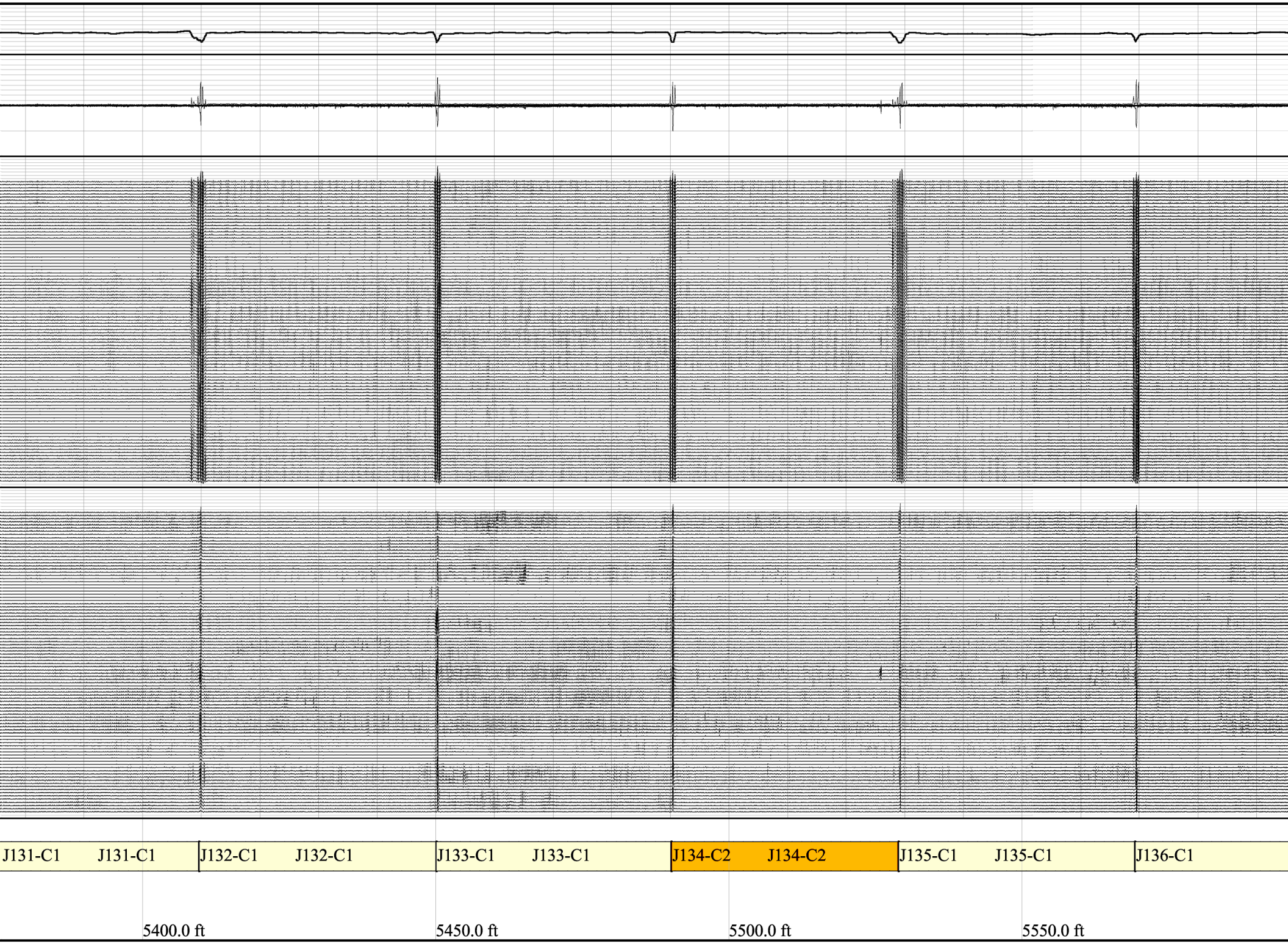

J104-C1
J104-C1
J105-C1
J105-C1
J106-C1
J106-C1
J107-C1
J107-C1
J108-C1
J108-C1
J109-C1
4300.0 ft
4350.0 ft
4400.0 ft
4450.0 ft

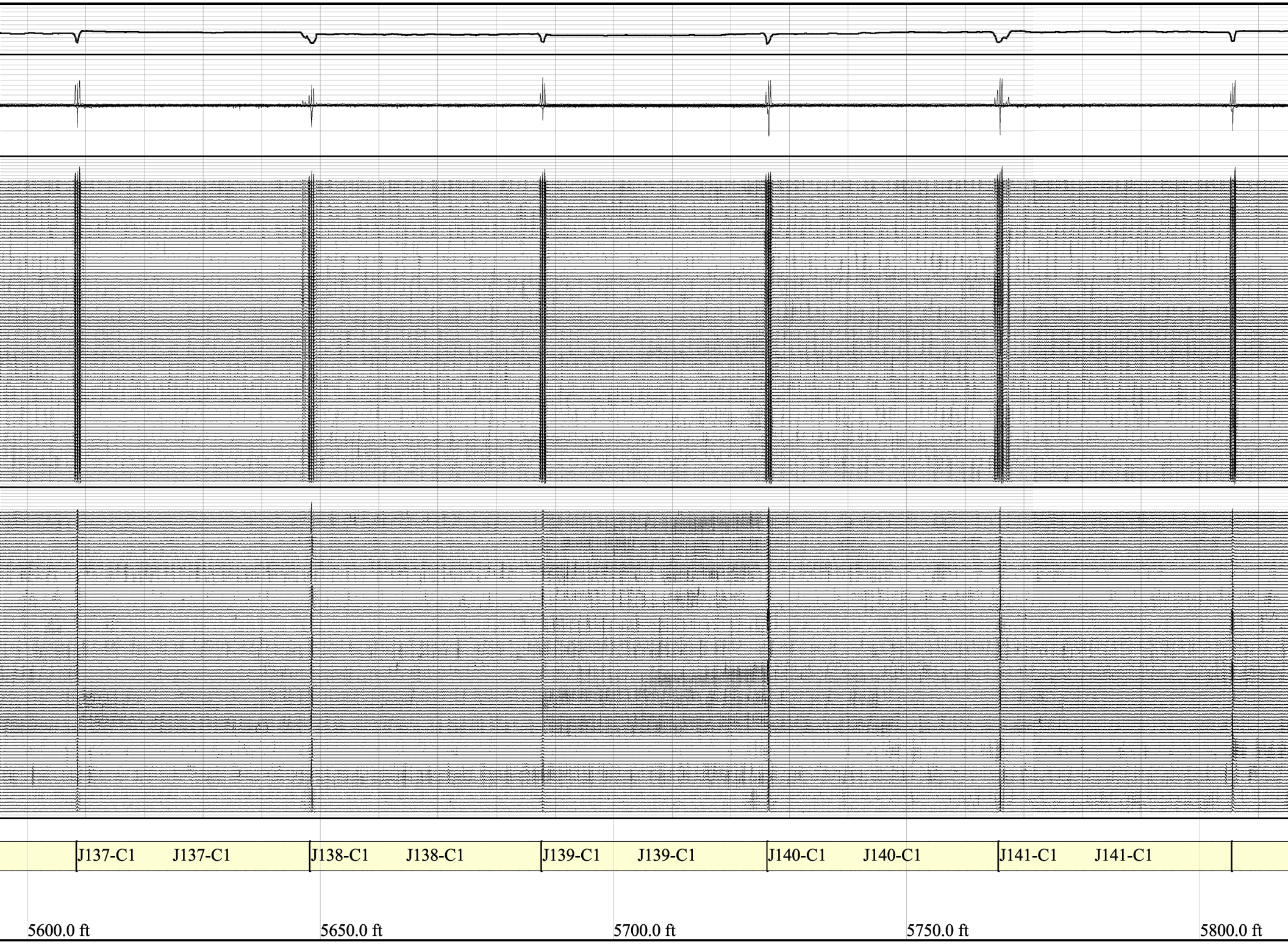

J109-C1
J110-C1
J110-C1
J111-C1
J111-C1
J112-C1
J112-C1
J113-C1
J113-C1
J114-C1
J114-C1
4500.0 ft
4550.0 ft
4600.0 ft
4650.0 ft
4700.0 ft

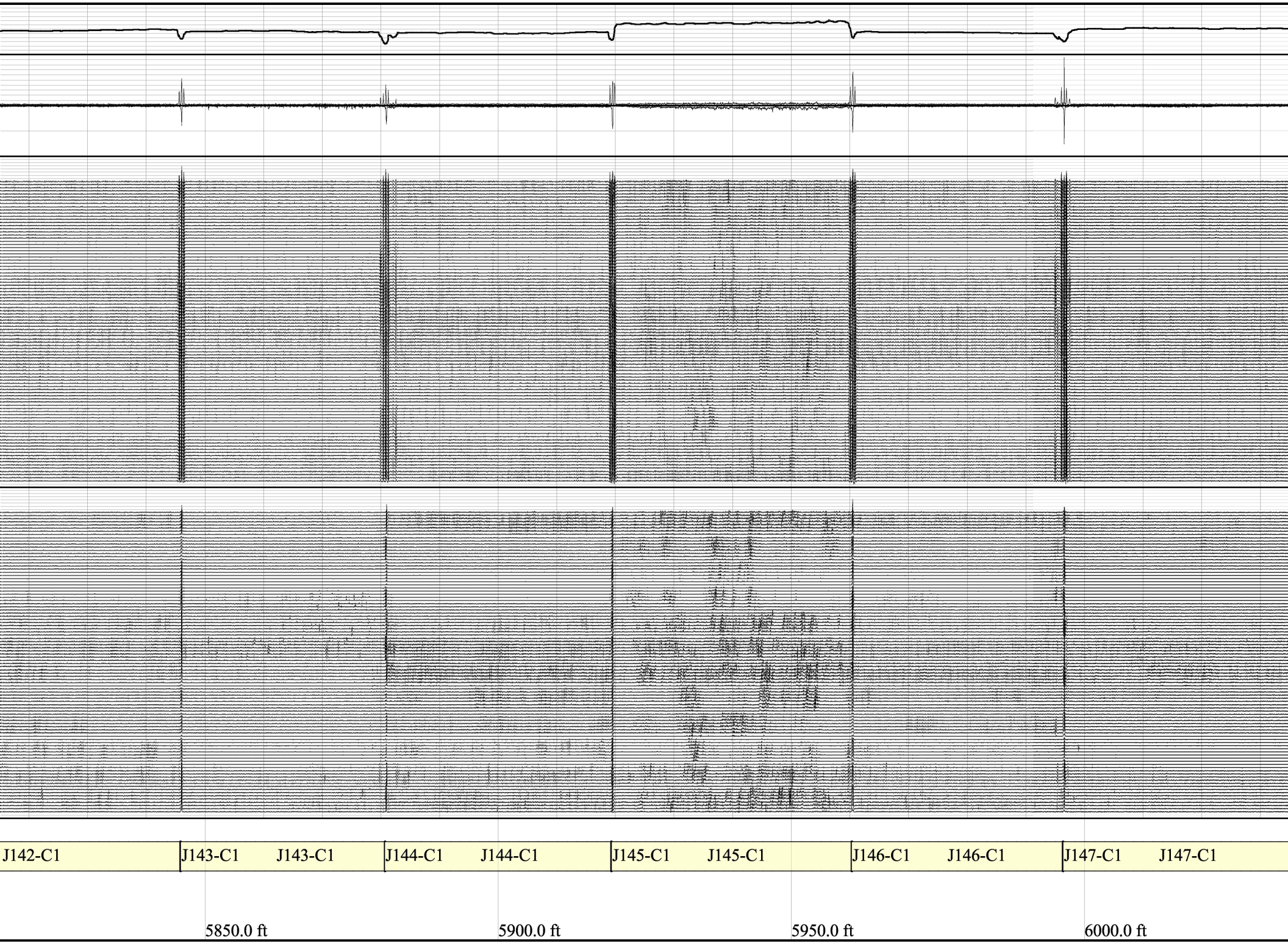

J115-C1
J115-C1
J116-C1
J116-C1
J117-C1
J117-C1
J118-C1
J118-C1
J119-C1
J119-C1
J120-C1
4750.0 ft
4800.0 ft
4850.0 ft
4900.0 ft

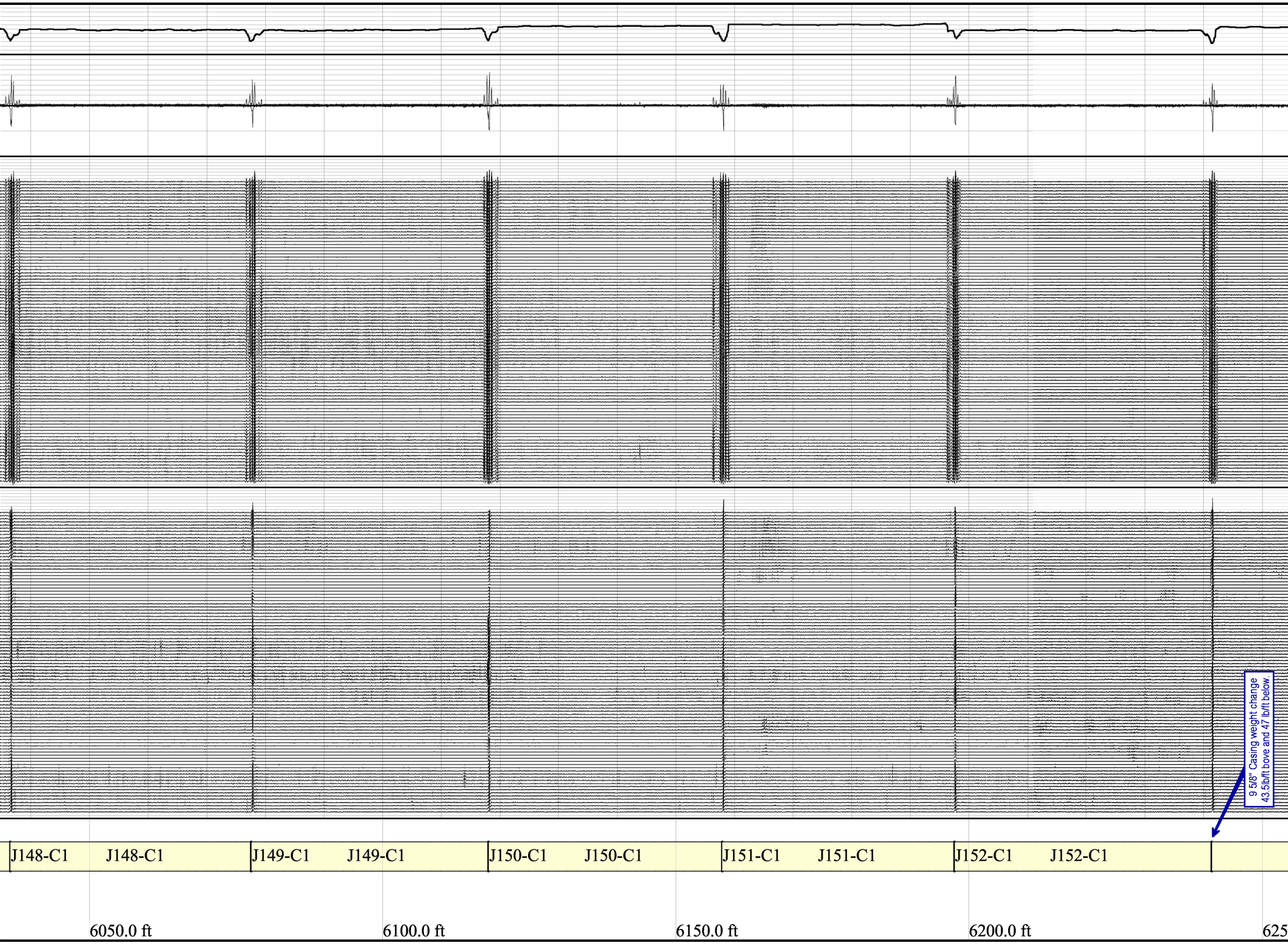

J121-C1
J121-C1
J122-C1
J122-C1
J123-C1
J123-C1
J124-C1
J124-C1
J125-C1
J125-C1
4950.0 ft
5000.0 ft
5050.0 ft
5100.0 ft
5150

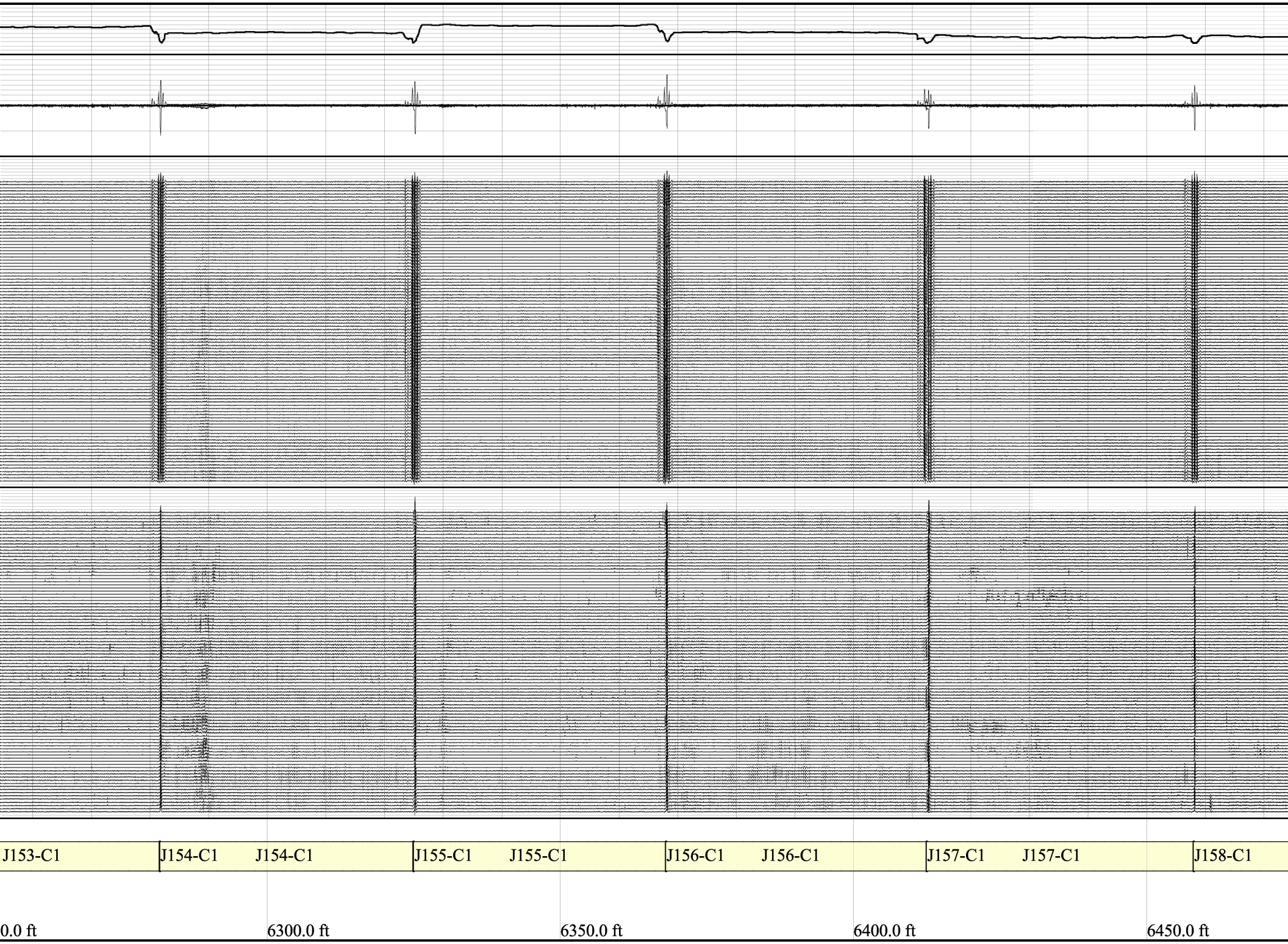

J126-C1
J126-C1
J127-C1
J127-C1
J128-C1
J128-C1
J129-C1
J129-C1
J130-C1
J130-C1
.0 ft
5200.0 ft
5250.0 ft
5300.0 ft
5350.0 ft

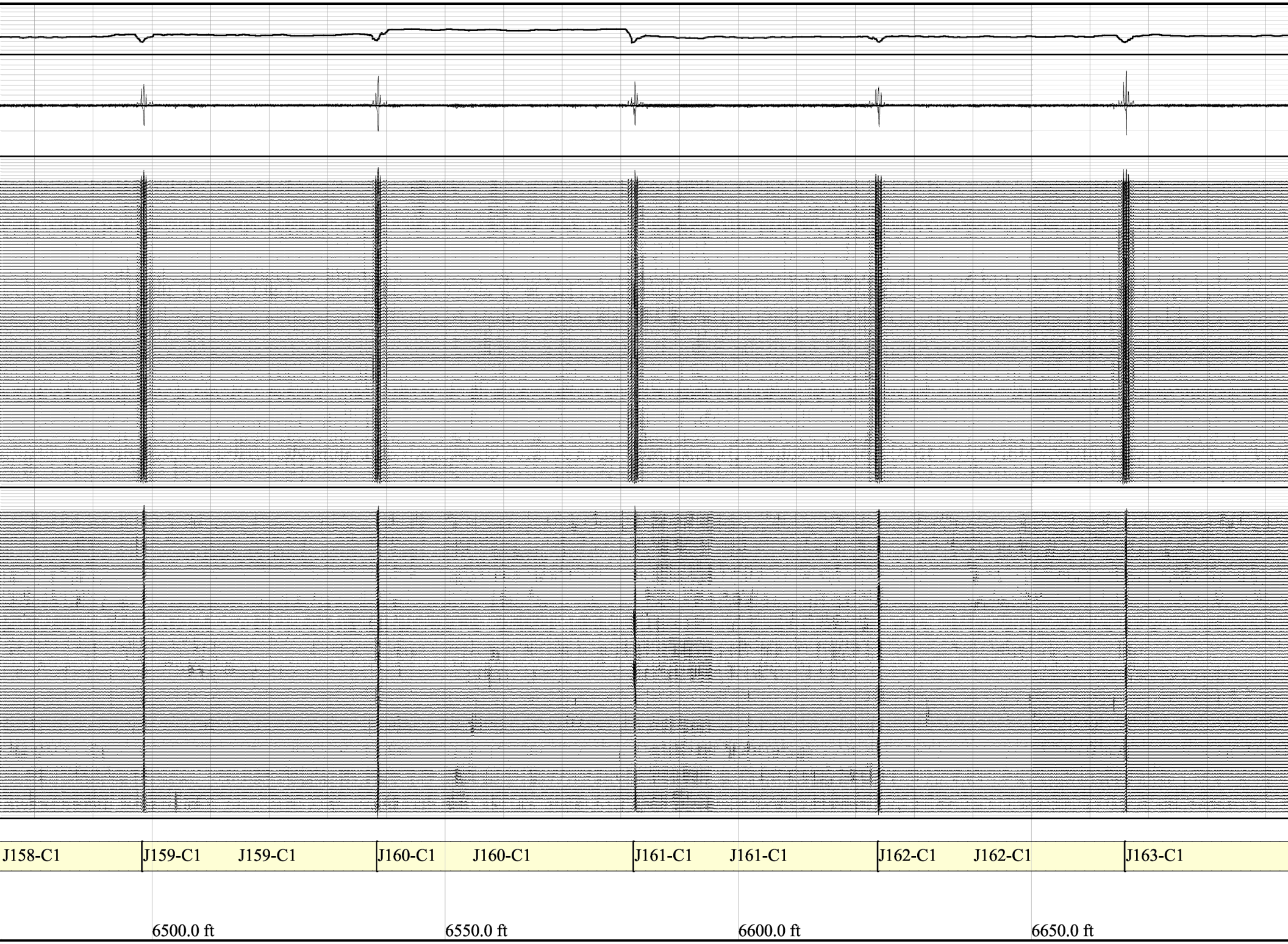

J131-C1
J131-C1
J132-C1
J132-C1
J133-C1
J133-C1
J134-C2
J134-C2
J135-C1
J135-C1
J136-C1
5400.0 ft
5450.0 ft
5500.0 ft
5550.0 ft

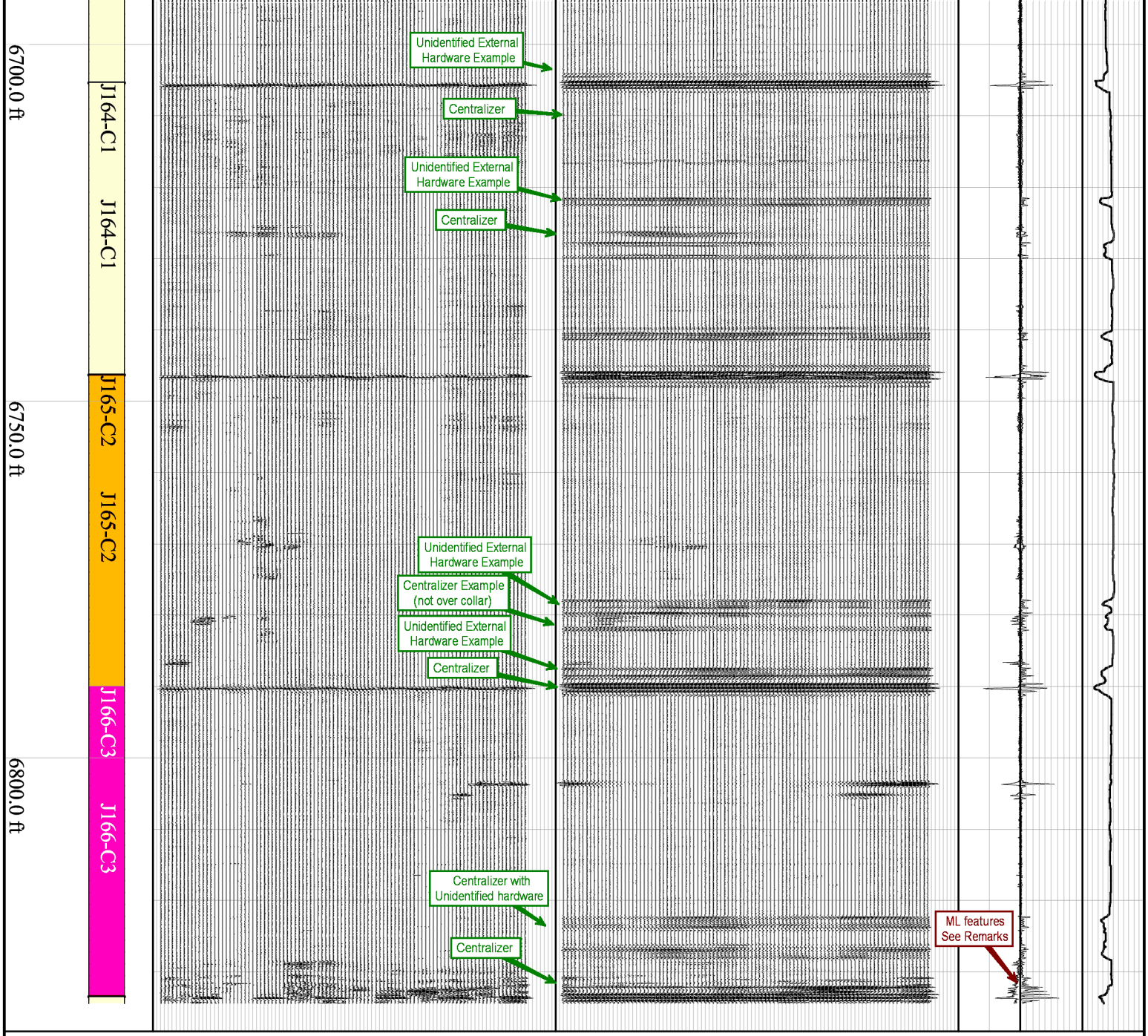

J137-C1
J137-C1
J138-C1
J138-C1
J139-C1
J139-C1
J140-C1
J140-C1
J141-C1
J141-C1
5600.0 ft
5650.0 ft
5700.0 ft
5750.0 ft
5800.0 ft


J142-C1
J143-C1
J143-C1
J144-C1
J144-C1
J145-C1
J145-C1
J146-C1
J146-C1
J147-C1
J147-C1
5850.0 ft
5900.0 ft
5950.0 ft
6000.0 ft


9 5/8" Casing weight change
43.5lb/ft bove and 47 lb/ft below.
J148-C1
J148-C1
J149-C1
J149-C1
J150-C1
J150-C1
J151-C1
J151-C1
J152-C1
J152-C1
6050.0 ft
6100.0 ft
6150.0 ft
6200.0 ft
625


J153-C1
J154-C1
J154-C1
J155-C1
J155-C1
J156-C1
J156-C1
J157-C1
J157-C1
J158-C1
0.0 ft
6300.0 ft
6350.0 ft
6400.0 ft
6450.0 ft


J158-C1
J159-C1
J159-C1
J160-C1
J160-C1
J161-C1
J161-C1
J162-C1
J162-C1
J163-C1
6500.0 ft
6550.0 ft
6600.0 ft
6650.0 ft



Southern California Gas Company Porter 68A

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