



HR Vertilog

Magnetic Flux Leakage Inspection

Advanced Analysis

Company	Dominion Energy Wexpro
Well	Lasher #4
Field	Hiawatha
County	Moffat
State	Colorado

Location:
 NW NW 25-12N-101W
 805' FNL & 660' FWL

Section 25	Township 12N	Range 101W
Date	Sep. 21, 2020	
Service Order	US173850	
Recorded by	Tim Newell	
Witnessed by	Tim Erickson	
API Serial No.	0508105720	

Permanent Datum:	GL	Elevation: 6649.000 ft.	Depth	3629.000
Log Measured From:	KB	11.500 ft. above Perm. Datum	Btm. Log Interval	3621.000
Drilling Measured From:	KB	11.500 ft. above Perm. Datum	Top Log Interval	0.000
			Fluid Type	Water

Casing Data

Size	Weight	Grade	From	To	Length
4 1/2 inch	11.6 lb/ft	NA	0	4460.44	4460.4
8 5/8 inch	32.0 lb/ft	H40	11.50	326.33	314.8

Equipment Data

Software Version 7.6.2.2

Run	Trip	Tool Type	Tool Series	Serial Number	Position
1	1	HRVRT MFL	4994	QB12325677	LOWER
1	1	HRVRT MFL	4994	PB12355014	UPPER
1	1	HRVRT TELEM	4993EA	10399263	EA

Calibration Data

Calibration File Name	4994-4-001-PB12355014-U.CAL
Date of Calibration	07/23/2013 08:18
Calibration Identifier	7F856380-3D6F-43A7-9D3B-C3851FCC19BF
Tool Number	4994-00

Calibrator Number	4994-4-001
Calibrator Size	(4-1/2 In - 114 mm)
Calibration Source File	20130723_070459_MEM.MVL
Calibration Software Rev	Microvision 32-bit 7.6.1.3
Comment	4505184520

Calibration Data

Calibration File Name	4994-4-001-QB12325677-L.CAL
Date of Calibration	07/23/2013 08:18
Calibration Identifier	7F856380-3D6F-43A7-9D3B-C3851FCC19BF
Tool Number	4994-00
Calibrator Number	4994-4-001
Calibrator Size	(4-1/2 In - 114 mm)
Calibration Source File	20130723_070459_MEM.MVL
Calibration Software Rev	Microvision 32-bit 7.6.1.3
Comment	4505184520

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Remarks

Thanks for choosing Baker Hughes.

Interpretation

The HRVRT data was correlated to the KLX CBL log dated 09/17/2020.

The following external hardware was detected and excluded from analysis:

- 6.25 ft Hardware - External CSG Head Response
- 318.41 ft Hardware - Bottom of 8.625" External Casing

Collars #20 and #62 marked as anomalous showed a response within the collar that has a metal loss signature. Metal Loss in the collar region is not included in our pipe characterization data set, therefore no prediction of metal loss can be reported in this region.

MAOP and 4.5" CSG grade parameters were unknown at the time of the analysis.

MAOP assumed 1000 psi for the analysis

J-55 CSG grade was used in order to produce the most conservative results.

Joint Interpretation Summary

Joint	From	To	Length	Class	Max Depth	Position	ID/OD
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Point	From	To	Length	Class	Max Depth	Position	ID/OD
1	5.10	20.30	15.20	Class 1	-	-	-
2	20.30	53.02	32.72	Class 1	-	-	-
3	53.02	87.01	33.99	Class 1	-	-	-
4	87.01	118.53	31.52	Class 1	-	-	-
5	118.53	151.42	32.89	Class 1	-	-	-
6	151.42	183.91	32.49	Class 1	-	-	-
7	183.91	216.86	32.95	Class 2	21.0%	195.30	ID
8	216.86	249.53	32.67	Class 1	-	-	-
9	249.53	283.08	33.55	Class 1	-	-	-
10	283.08	313.98	30.90	Class 1	-	-	-
11	313.98	346.65	32.67	Class 3	46.0%	333.57	OD
12	346.65	379.12	32.47	Class 2	34.0%	376.41	OD
13	379.12	411.05	31.93	Class 4	81.0%	389.19	OD
14	411.05	444.18	33.13	Class 4	67.0%	411.77	OD
15	444.18	476.86	32.68	Class 4	71.0%	457.03	OD
16	476.86	509.94	33.08	Class 2	37.0%	484.37	OD
17	509.94	542.25	32.31	Class 3	41.0%	527.44	OD
18	542.25	575.00	32.75	Class 4	68.0%	560.07	OD
19	575.00	607.41	32.41	Class 3	44.0%	575.59	OD
20	607.41	639.82	32.41	Class 3	48.0%	612.82	OD
21	639.82	671.00	31.18	Class 3	44.0%	642.06	OD
22	671.00	703.64	32.64	Class 3	45.0%	689.92	OD
23	703.64	736.68	33.04	Class 2	24.0%	710.12	OD
24	736.68	770.06	33.38	Class 1	-	-	-
25	770.06	803.15	33.09	Class 2	22.0%	779.70	OD
26	803.15	836.54	33.39	Class 3	40.0%	808.22	OD
27	836.54	868.91	32.37	Class 1	-	-	-
28	868.91	900.97	32.06	Class 2	24.0%	870.34	OD
29	900.97	934.21	33.24	Class 3	46.0%	931.30	OD
30	934.21	966.80	32.59	Class 2	37.0%	937.50	OD
31	966.80	999.41	32.61	Class 3	52.0%	967.50	OD
32	999.41	1031.41	32.00	Class 3	54.0%	1005.22	OD
33	1031.41	1062.93	31.52	Class 3	48.0%	1061.24	OD
34	1062.93	1093.84	30.91	Class 2	27.0%	1082.50	OD
35	1093.84	1126.70	32.86	Class 3	48.0%	1099.39	OD
36	1126.70	1159.35	32.65	Class 2	26.0%	1158.64	OD
37	1159.35	1191.99	32.64	Class 3	45.0%	1178.14	OD
38	1191.99	1223.15	31.16	Class 2	28.0%	1212.26	OD
39	1223.15	1256.45	33.30	Class 2	26.0%	1247.91	OD
40	1256.45	1286.51	30.06	Class 2	38.0%	1258.13	OD
41	1286.51	1316.69	30.18	Class 3	52.0%	1289.90	OD
42	1316.69	1349.14	32.45	Class 2	35.0%	1346.44	OD
43	1349.14	1381.37	32.23	Class 1	-	-	-
44	1381.37	1414.18	32.81	Class 4	64.0%	1387.76	OD
45	1414.18	1447.36	33.18	Class 3	52.0%	1424.22	OD
46	1447.36	1479.45	32.09	Class 4	74.0%	1459.31	OD
47	1479.45	1510.99	31.54	Class 2	23.0%	1503.79	OD
48	1510.99	1542.40	31.41	Class 2	33.0%	1529.87	OD
49	1542.40	1574.98	32.58	Class 3	42.0%	1543.47	OD
50	1574.98	1607.91	32.93	Class 4	95.0%	1591.88	OD
51	1607.91	1640.28	32.37	Class 2	28.0%	1620.39	OD
52	1640.28	1672.65	32.37	Class 1	-	-	-
53	1672.65	1705.12	32.47	Class 2	22.0%	1674.88	OD
54	1705.12	1738.40	33.28	Class 1	-	-	-
55	1738.40	1770.94	32.54	Class 1	-	-	-
56	1770.94	1801.99	31.05	Class 2	22.0%	1793.47	OD
57	1801.99	1832.53	30.54	Class 3	46.0%	1831.76	OD
58	1832.53	1865.06	32.53	Class 4	82.0%	1846.45	OD
59	1865.06	1897.11	32.05	Class 2	27.0%	1881.43	OD
60	1897.11	1930.29	33.18	Class 4	75.0%	1912.57	OD
61	1930.29	1963.04	32.75	Class 4	82.0%	1947.94	OD
62	1963.04	1995.98	32.94	Class 4	90.0%	1964.59	OD

62	1995.98	2029.01	33.03	Class 4	54.0%	2025.76	OD
63	2029.01	2060.33	31.32	Class 3	48.0%	2049.60	OD
64	2060.33	2093.13	32.80	Class 3	53.0%	2090.46	OD
65	2093.13	2125.98	32.85	Class 4	89.0%	2103.13	OD
66	2125.98	2158.24	32.26	Class 4	66.0%	2131.49	OD
67	2158.24	2188.76	30.52	Class 1	-	-	-
68	2188.76	2221.45	32.69	Class 4	86.0%	2207.69	OD
69	2221.45	2252.82	31.37	Class 4	77.0%	2235.74	OD
70	2252.82	2283.18	30.36	Class 4	71.0%	2261.95	OD
71	2283.18	2315.23	32.05	Class 3	49.0%	2285.77	OD
72	2315.23	2346.62	31.39	Class 2	29.0%	2328.49	OD
73	2346.62	2377.20	30.58	Class 2	36.0%	2365.17	OD
74	2377.20	2408.40	31.20	Class 2	24.0%	2390.99	OD
75	2408.40	2441.71	33.31	Class 1	-	-	-
76	2441.71	2474.49	32.78	Class 1	-	-	-
77	2474.49	2505.74	31.25	Class 1	-	-	-
78	2505.74	2536.61	30.87	Class 1	-	-	-
79	2536.61	2568.24	31.63	Class 1	-	-	-
80	2568.24	2600.01	31.77	Class 1	-	-	-
81	2600.01	2630.82	30.81	Class 1	-	-	-
82	2630.82	2662.16	31.34	Class 1	-	-	-
83	2662.16	2693.94	31.78	Class 1	-	-	-
84	2693.94	2719.91	25.97	Class 1	-	-	-
85	2719.91	2750.73	30.82	Class 1	-	-	-
86	2750.73	2783.04	32.31	Class 1	-	-	-
87	2783.04	2813.38	30.34	Class 1	-	-	-
88	2813.38	2844.05	30.67	Class 1	-	-	-
89	2844.05	2876.13	32.08	Class 1	-	-	-
90	2876.13	2907.90	31.77	Class 1	-	-	-
91	2907.90	2938.36	30.46	Class 1	-	-	-
92	2938.36	2971.06	32.70	Class 1	-	-	-
93	2971.06	3003.87	32.81	Class 1	-	-	-
94	3003.87	3035.44	31.57	Class 1	-	-	-
95	3035.44	3067.17	31.73	Class 1	-	-	-
96	3067.17	3100.13	32.96	Class 1	-	-	-
97	3100.13	3130.20	30.07	Class 1	-	-	-
98	3130.20	3161.61	31.41	Class 1	-	-	-
99	3161.61	3194.67	33.06	Class 2	22.0%	3181.20	OD
100	3194.67	3226.18	31.51	Class 1	-	-	-
101	3226.18	3257.31	31.13	Class 1	-	-	-
102	3257.31	3290.21	32.90	Class 1	-	-	-
103	3290.21	3323.32	33.11	Class 1	-	-	-
104	3323.32	3356.03	32.71	Class 1	-	-	-
105	3356.03	3389.07	33.04	Class 1	-	-	-
106	3389.07	3422.20	33.13	Class 1	-	-	-
107	3422.20	3452.76	30.56	Class 1	-	-	-
108	3452.76	3483.38	30.62	Class 1	-	-	-
109	3483.38	3513.01	29.63	Class 1	-	-	-
110	3513.01	3546.10	33.09	Class 1	-	-	-
111	3546.10	3578.82	32.72	Class 1	-	-	-
112	3578.82	3606.90	28.08	Class 1	-	-	-
113	3606.90	3620.77	13.87	Class 1	-	-	-
114							

Dominion Energy Wexpro Lasher #4

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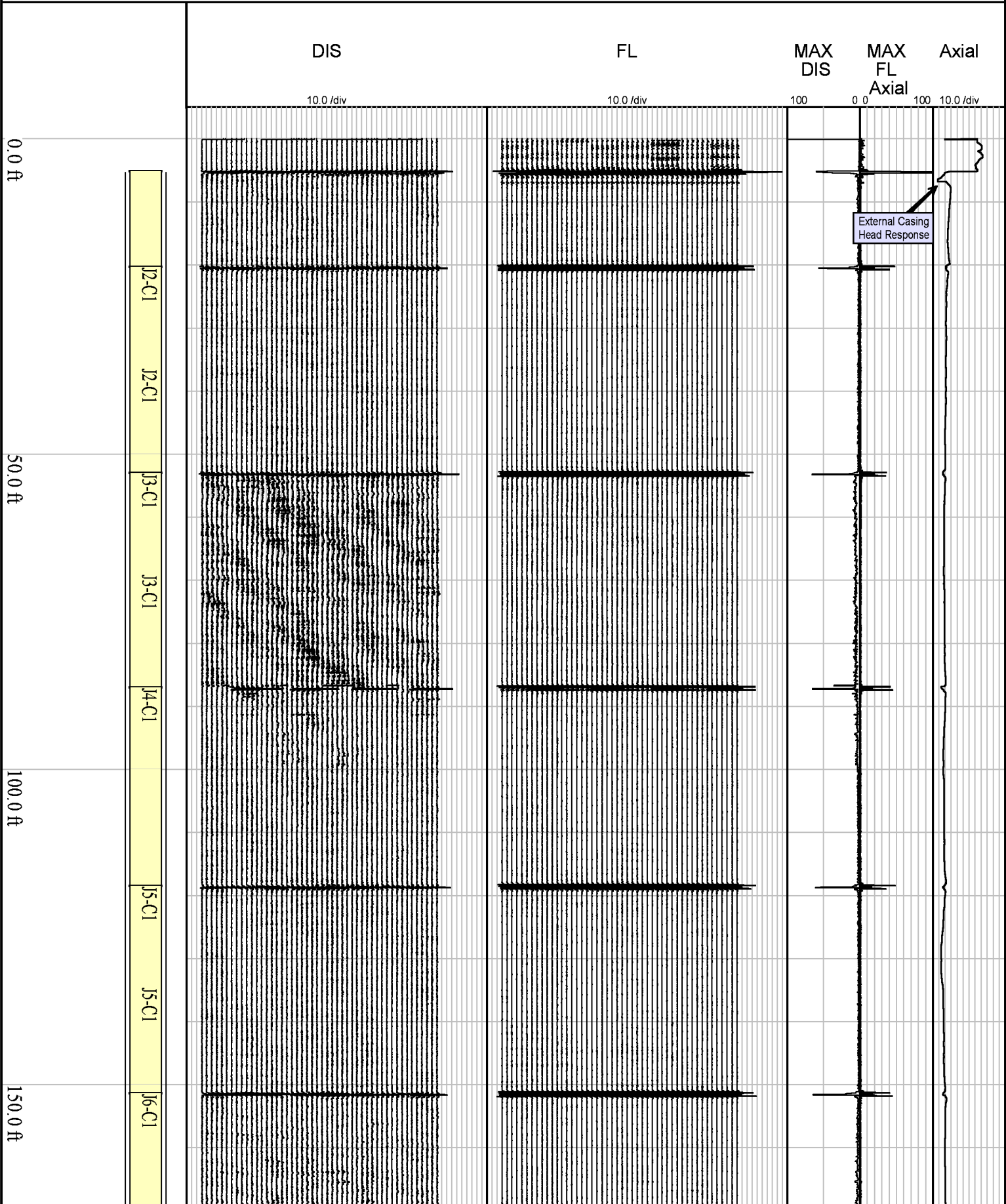
Main Section 5 in / 100 ft

Class 1
0 - 20%

Class 2
20 - 40%

Class 3
40 - 60%

Class 4
60 - 100%



200.0 ft

250.0 ft

300.0 ft

350.0 ft

J7-C2

J7-C2

J8-C1

J8-C1

J9-C1

J9-C1

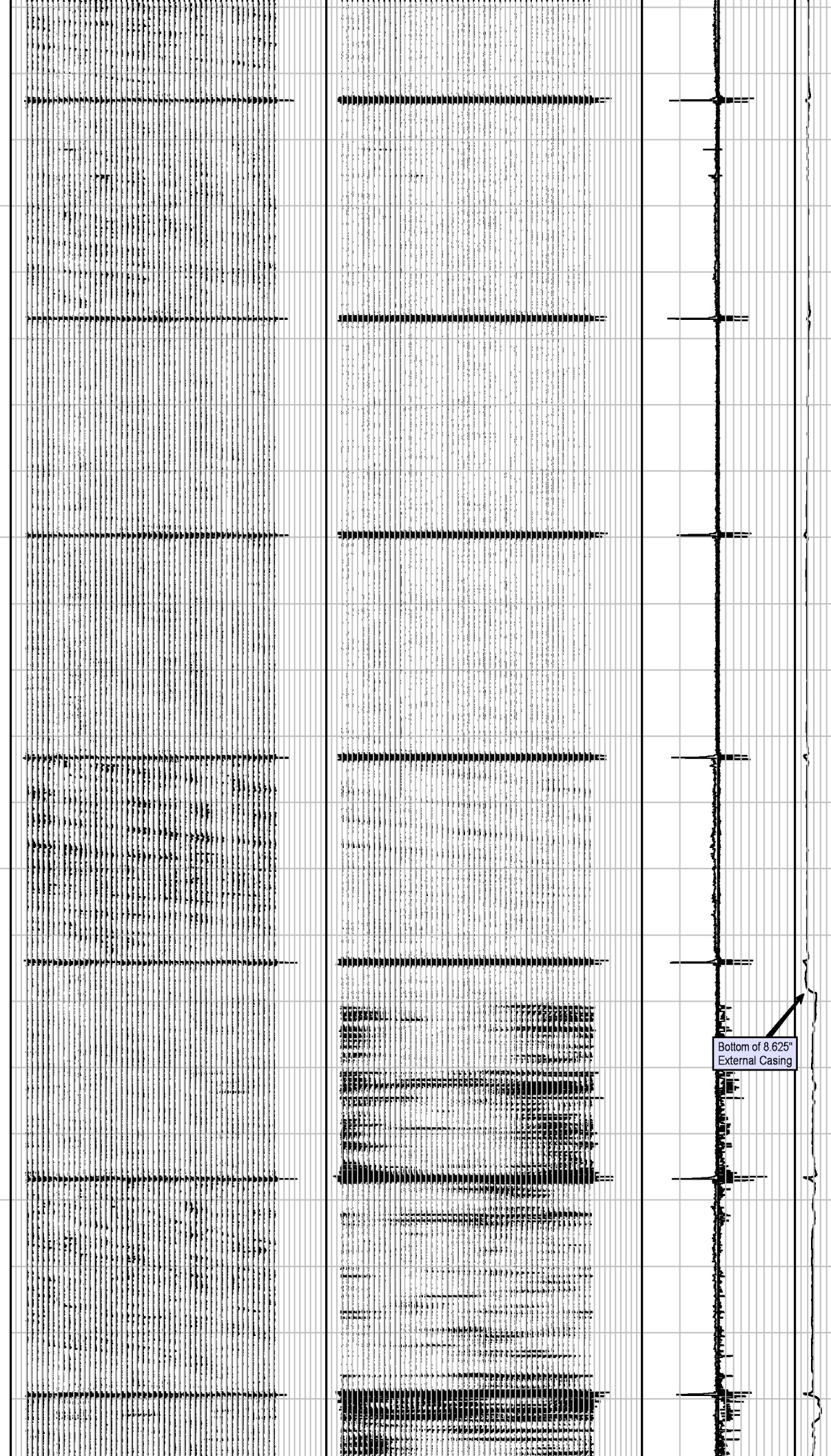
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J11-C3

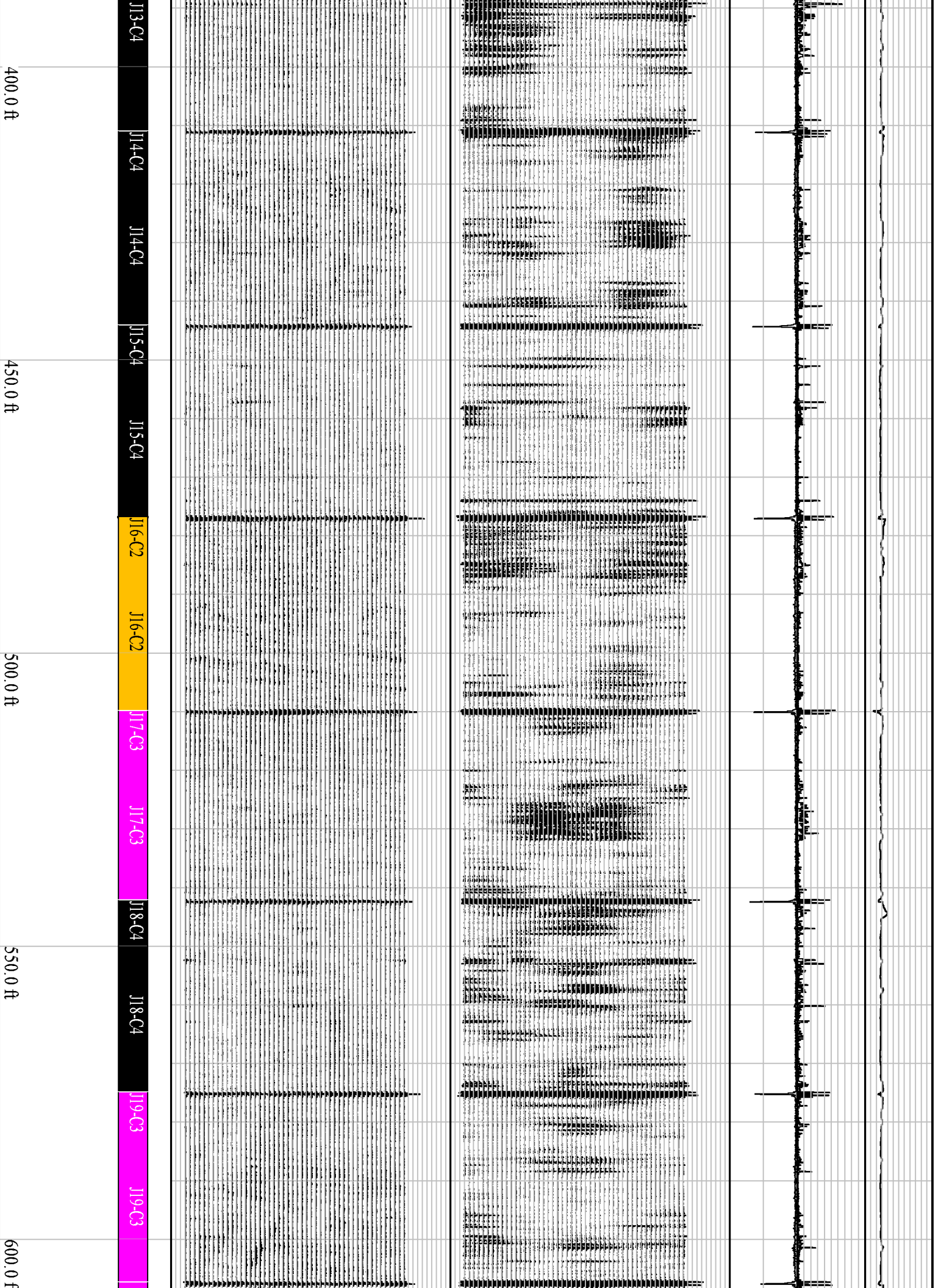
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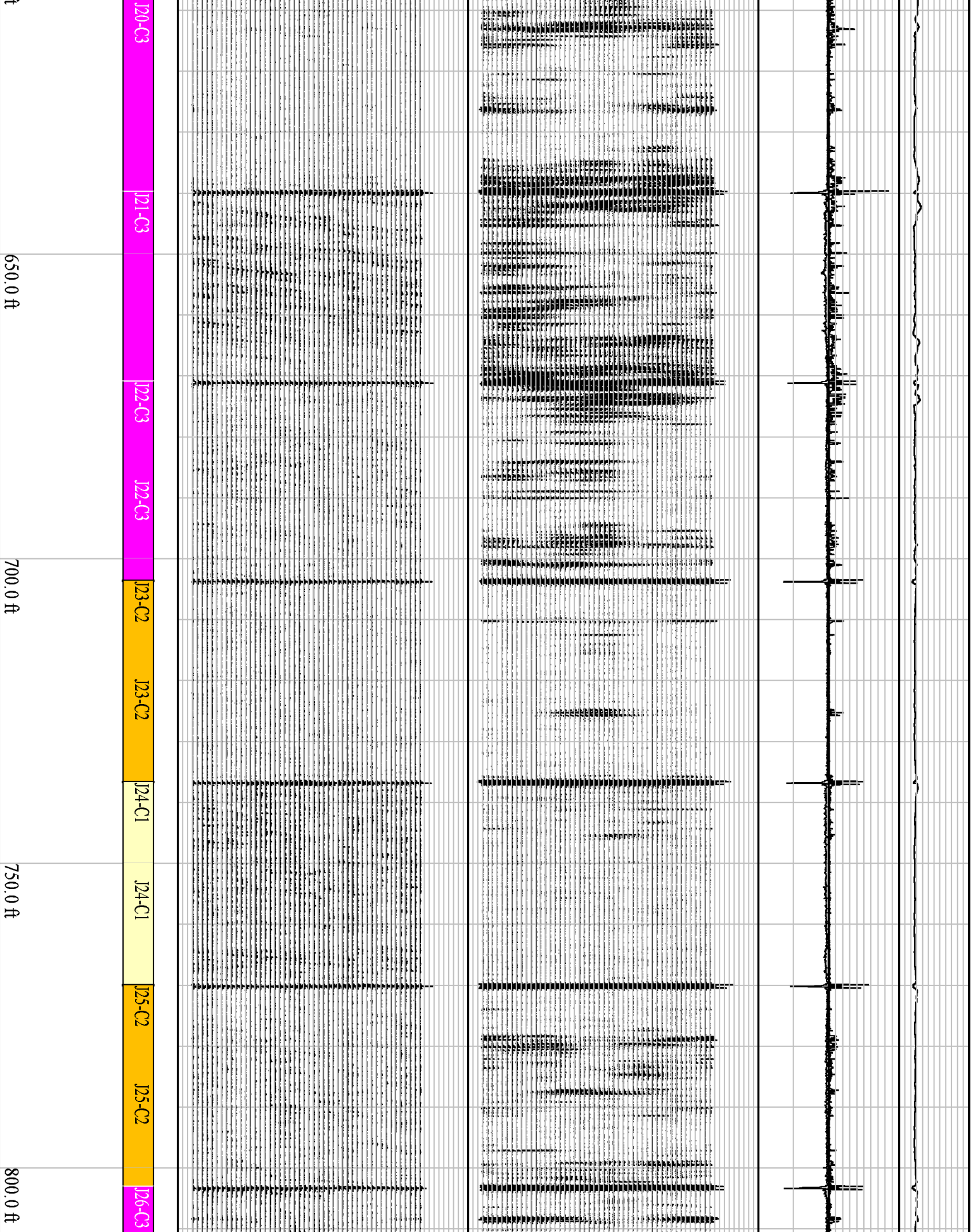
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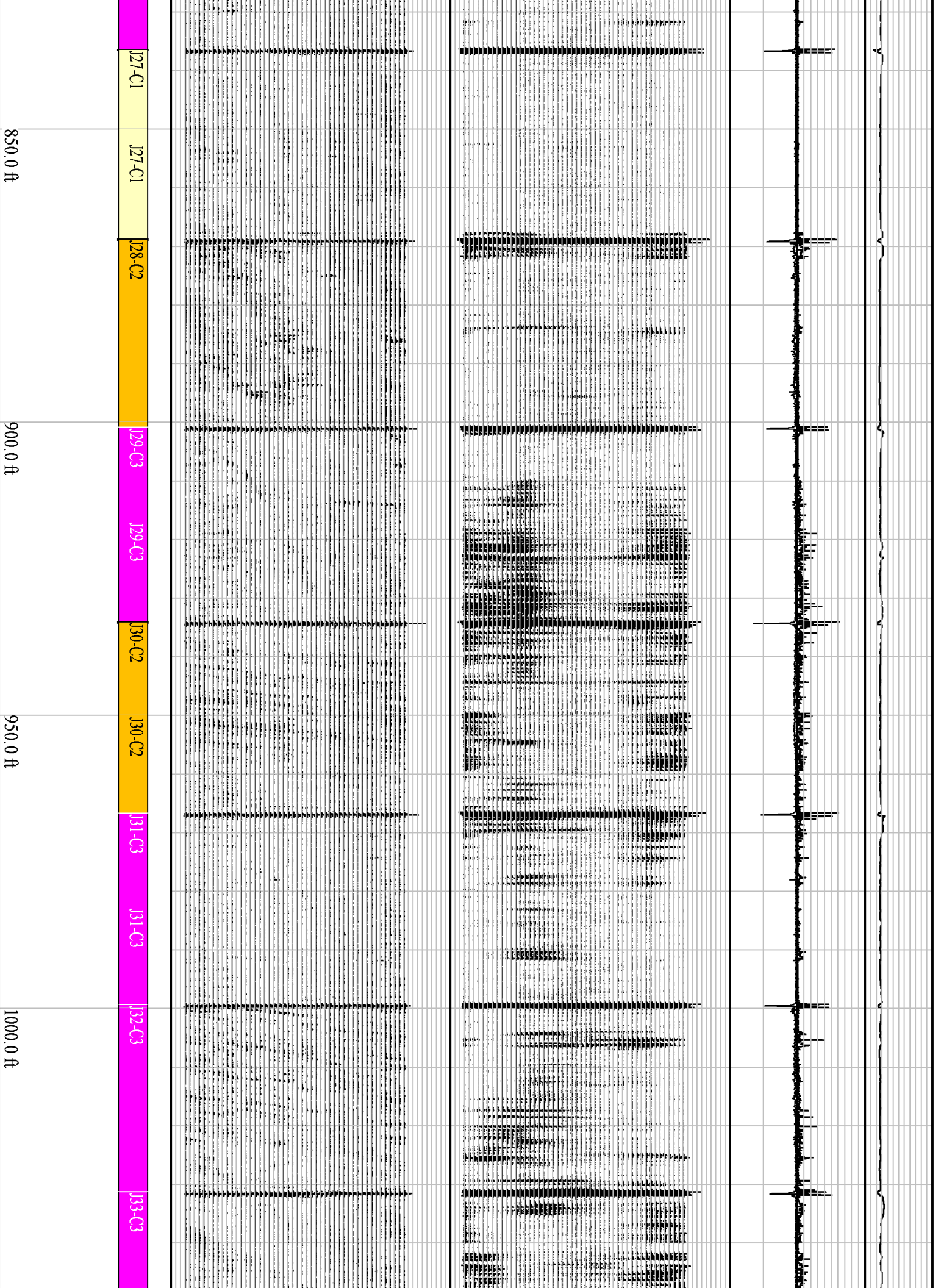
J12-C2



Bottom of 8.625" External Casing







J27-C1

J27-C1

J28-C2

J29-C3

J29-C3

J30-C2

J30-C2

J31-C3

J31-C3

J32-C3

J33-C3

850.0 ft

900.0 ft

950.0 ft

1000.0 ft

1050.0 ft

1100.0 ft

1150.0 ft

1200.0 ft

1250.0 ft

J34-C2

J35-C3

J35-C3

J36-C2

J36-C2

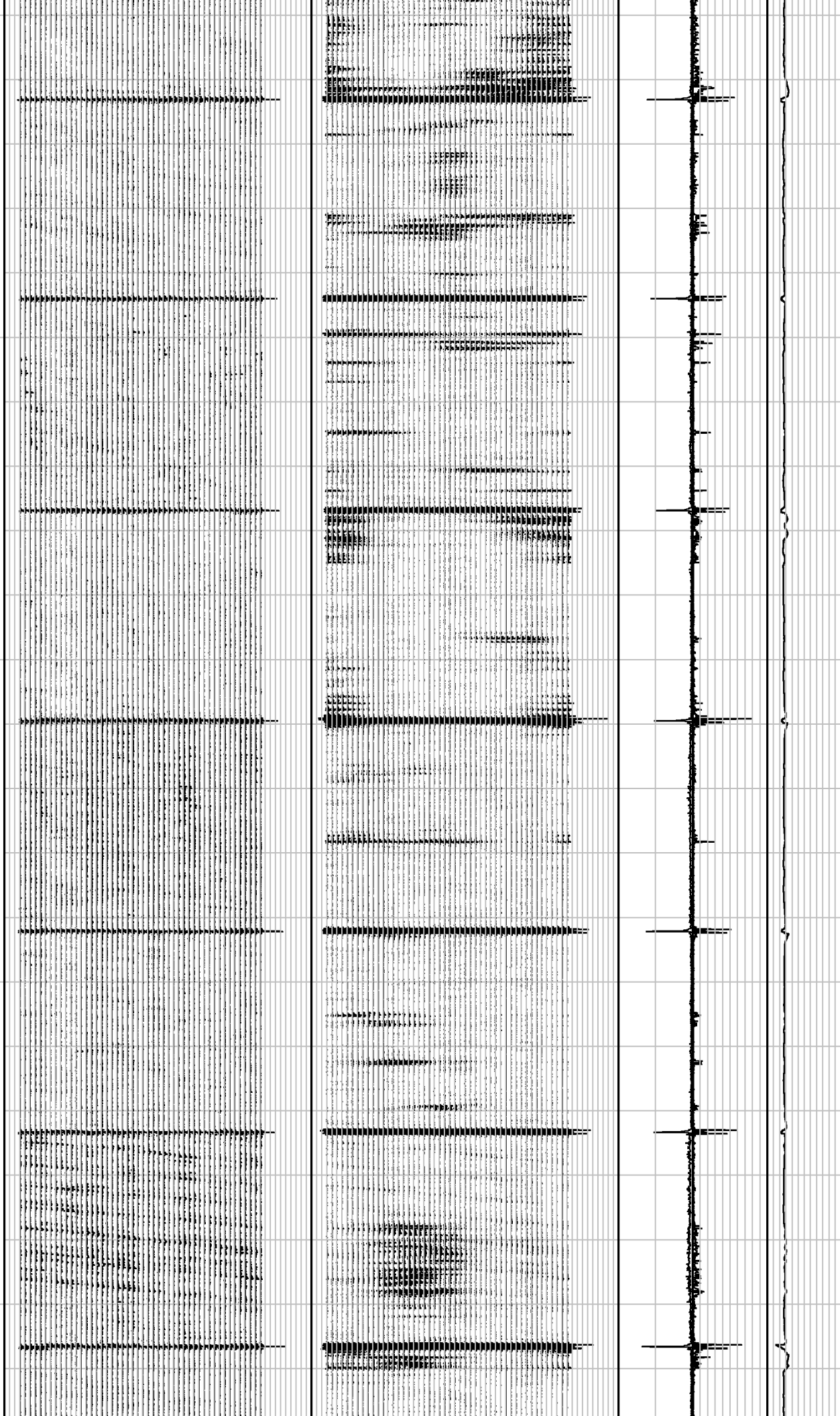
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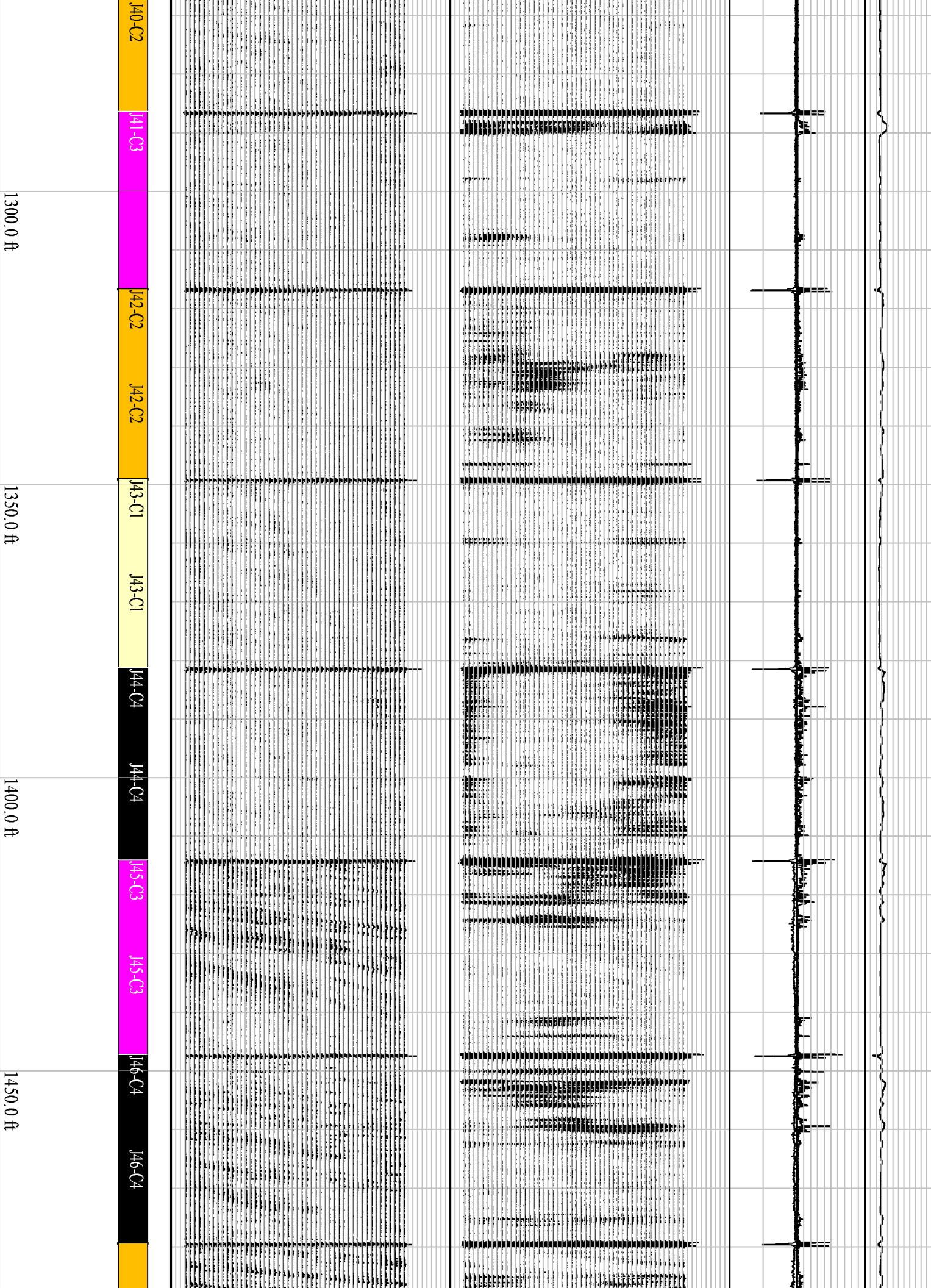
J37-C3

J38-C2

J39-C2

J39-C2





J40-C2

J41-C3

J42-C2

J42-C2

J43-C1

J43-C1

J44-C4

J44-C4

J45-C3

J45-C3

J46-C4

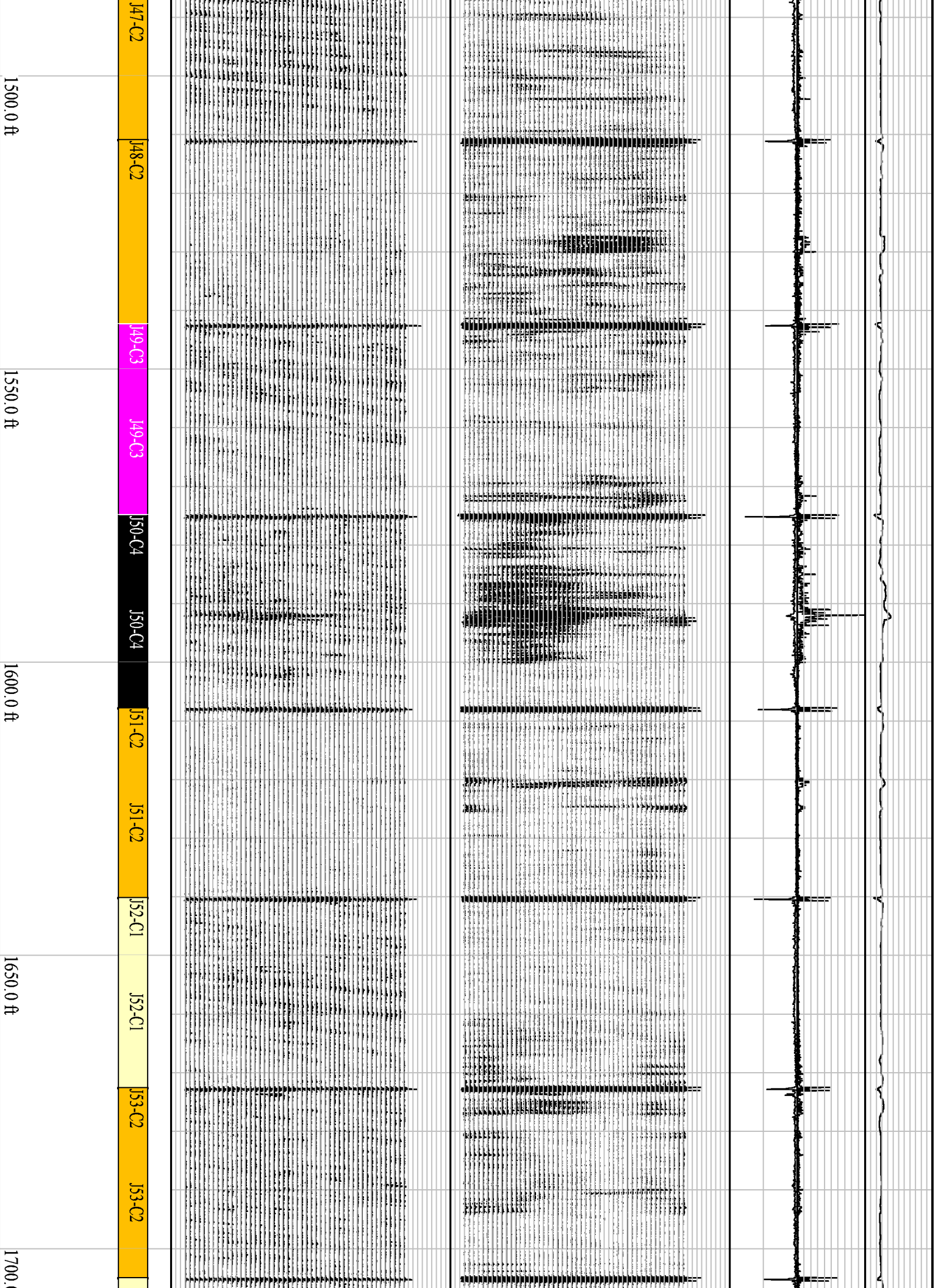
J46-C4

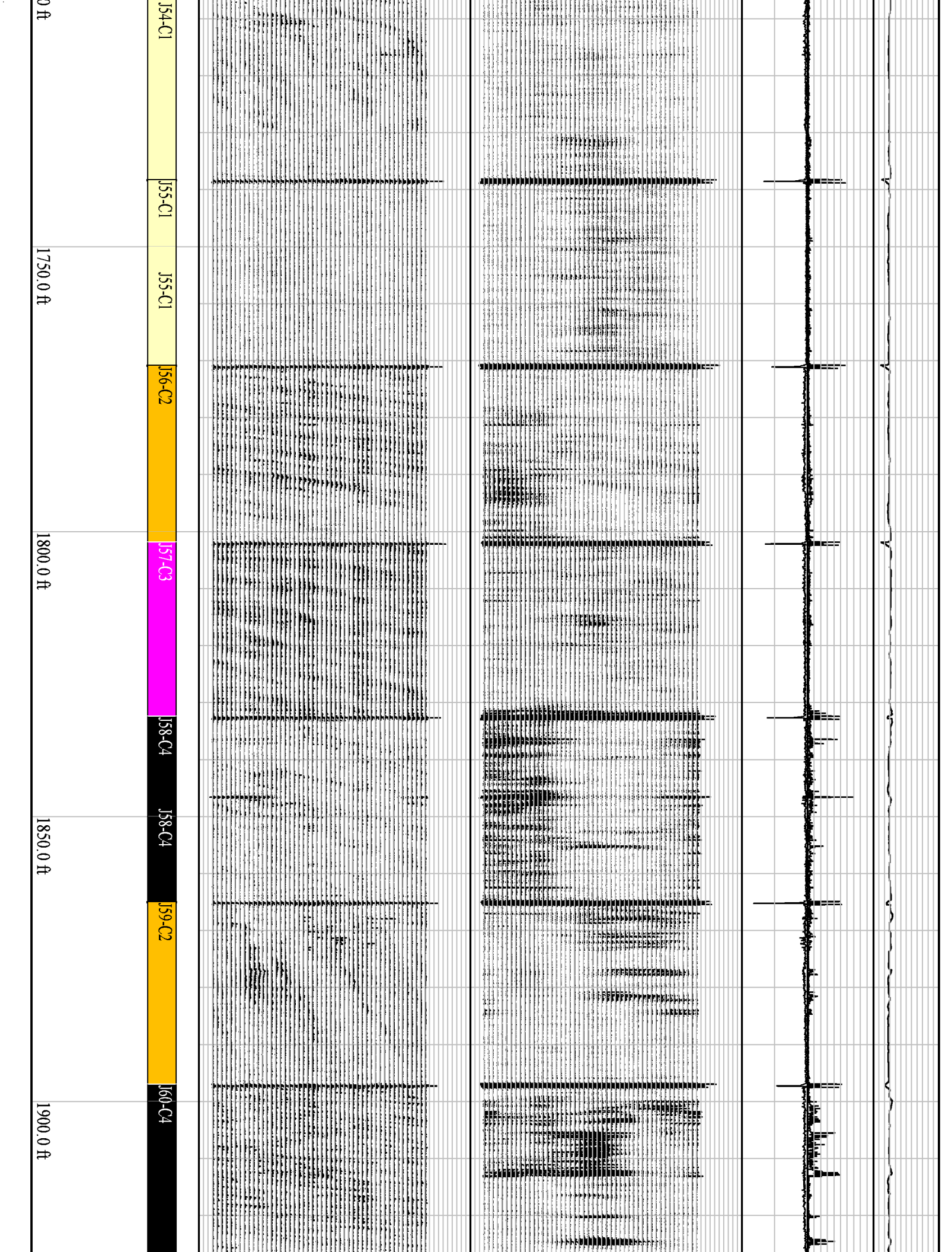
1300.0 ft

1350.0 ft

1400.0 ft

1450.0 ft





0 ft

J54-C1

J55-C1

J55-C1

J56-C2

J57-C3

J58-C4

J58-C4

J59-C2

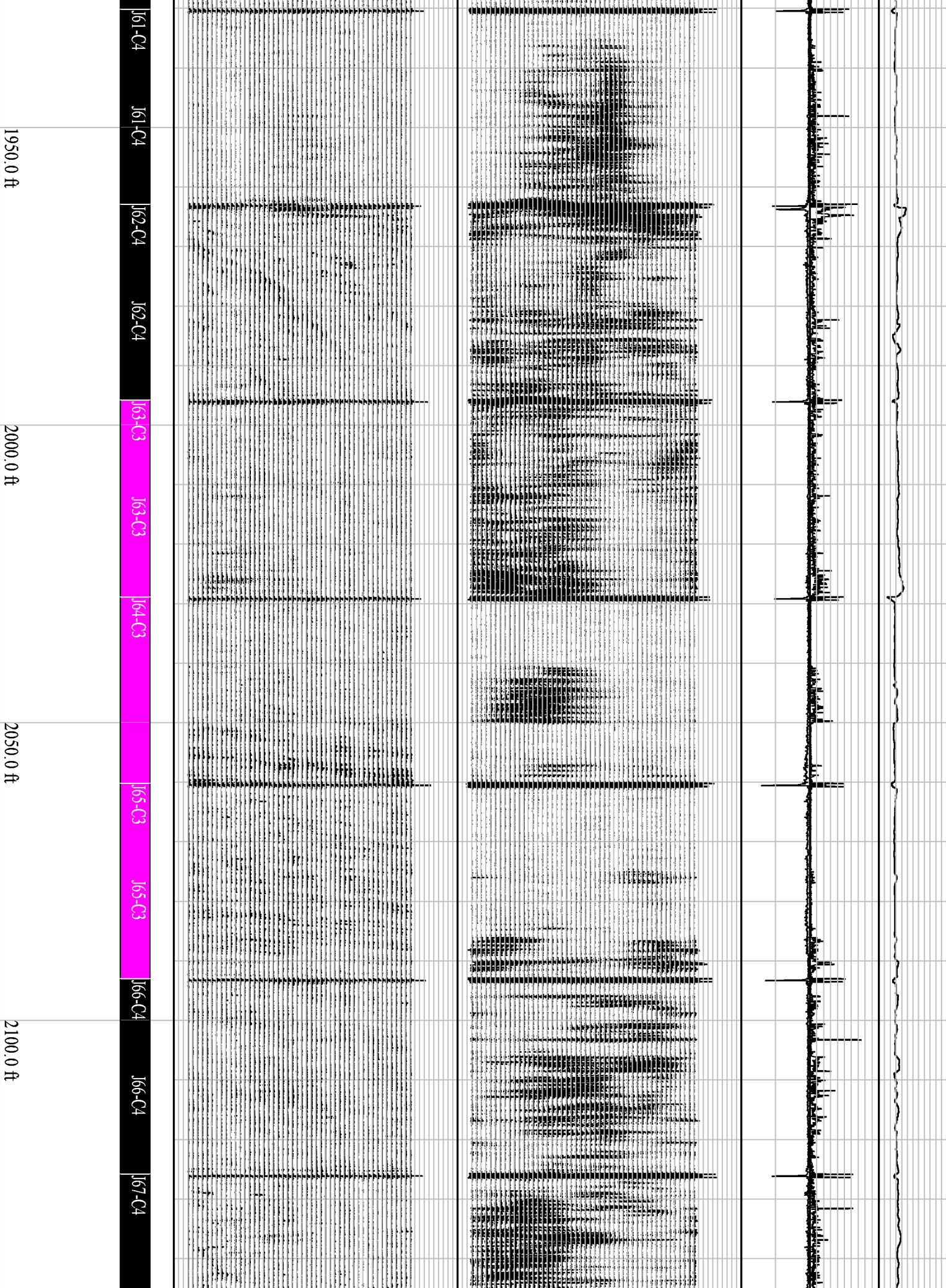
J60-C4

1750.0 ft

1800.0 ft

1850.0 ft

1900.0 ft



2150.0 ft

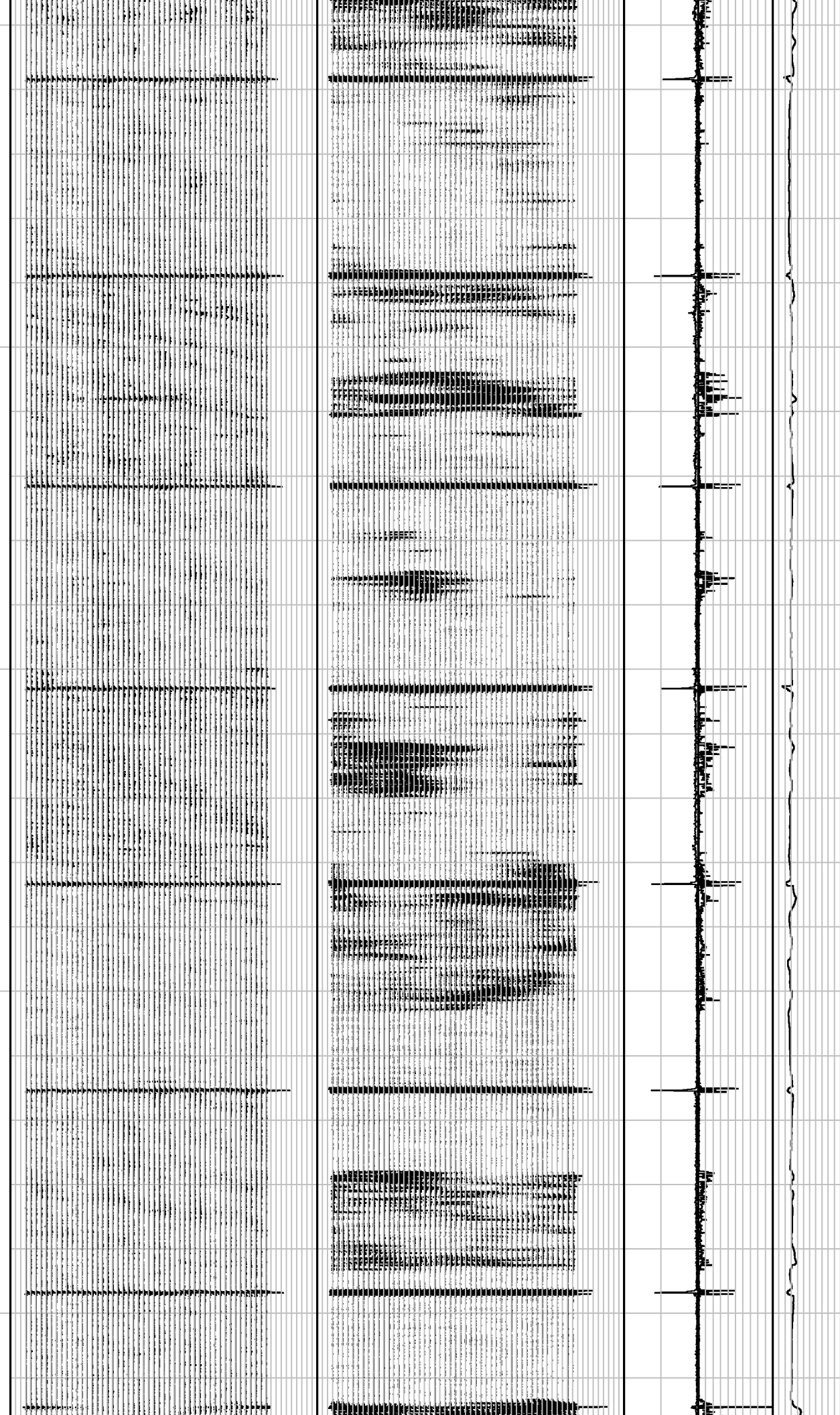
2200.0 ft

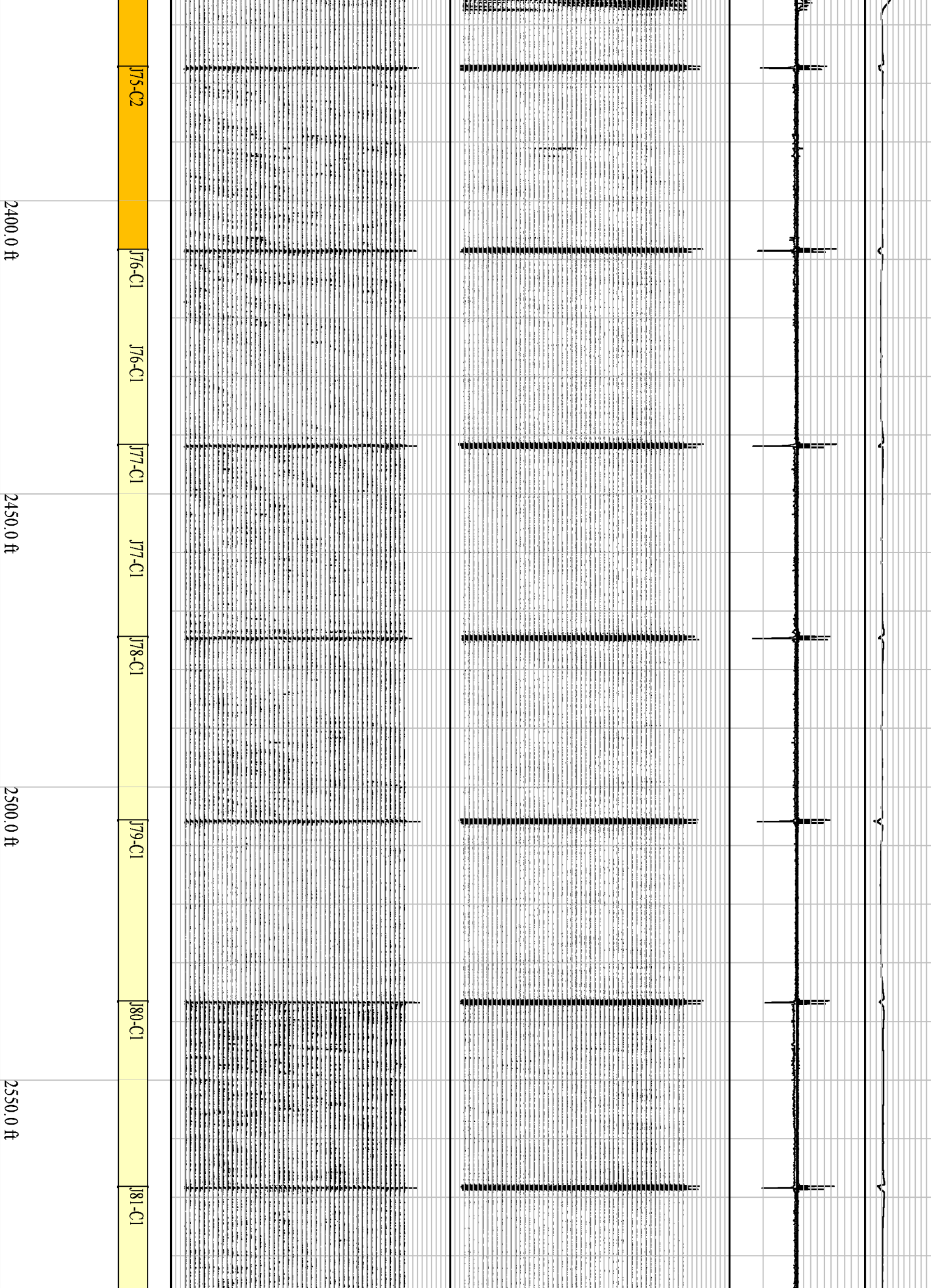
2250.0 ft

2300.0 ft

2350.0 ft

J68-C1
 J69-C4
 J69-C4
 J70-C4
 J71-C4
 J72-C3
 J73-C2
 J74-C2





J75-C2

J76-C1

J76-C1

J77-C1

J77-C1

J78-C1

J79-C1

J80-C1

J81-C1

2400.0 ft

2450.0 ft

2500.0 ft

2550.0 ft

2600.0 ft

2650.0 ft

2700.0 ft

2750.0 ft

2800

J82-C1

J83-C1

J84-C1

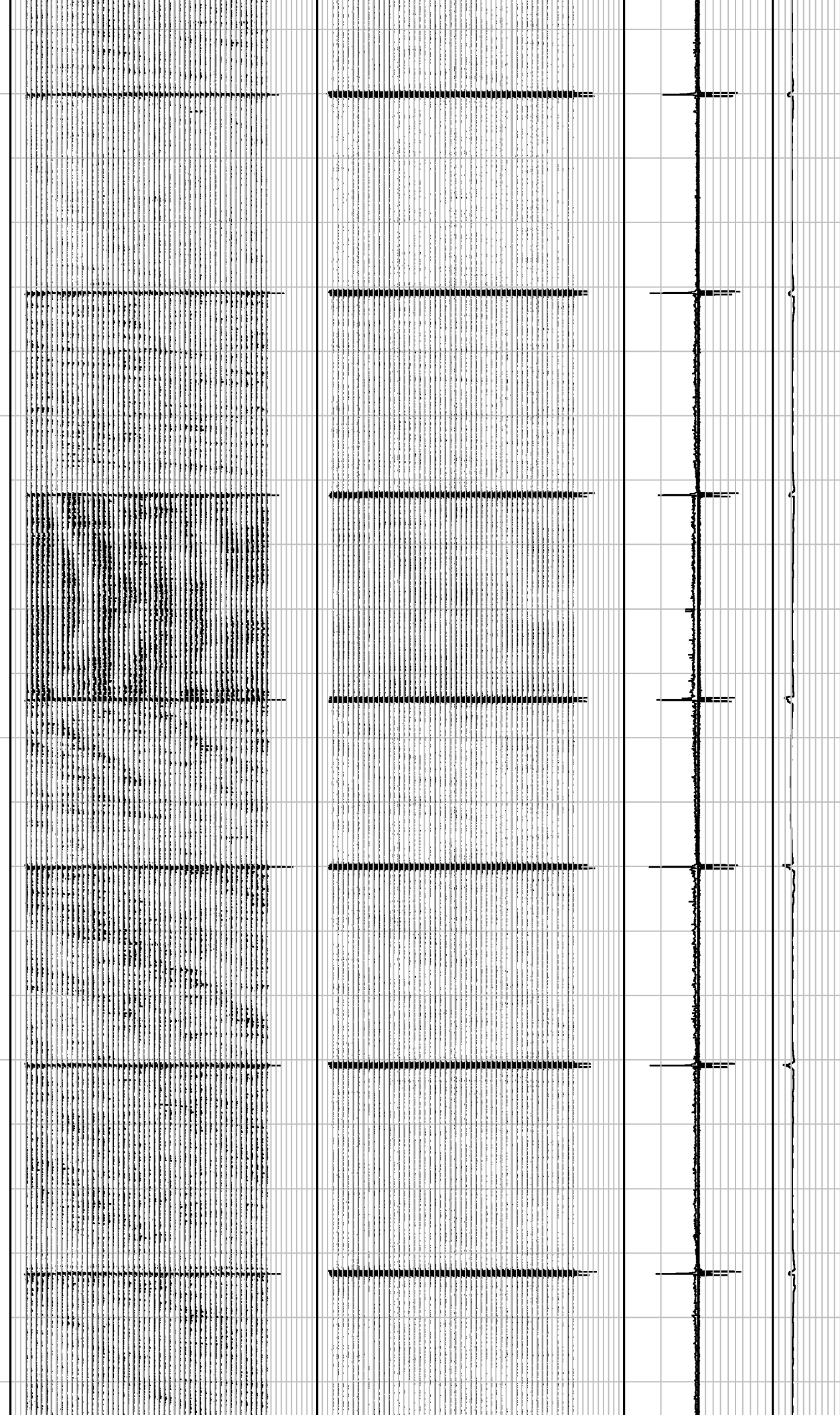
J85-C1

J86-C1

J87-C1

J87-C1

J88-C1



0 ft

2850.0 ft

2900.0 ft

2950.0 ft

3000.0 ft

J89-C1

J90-C1

J91-C1

J92-C1

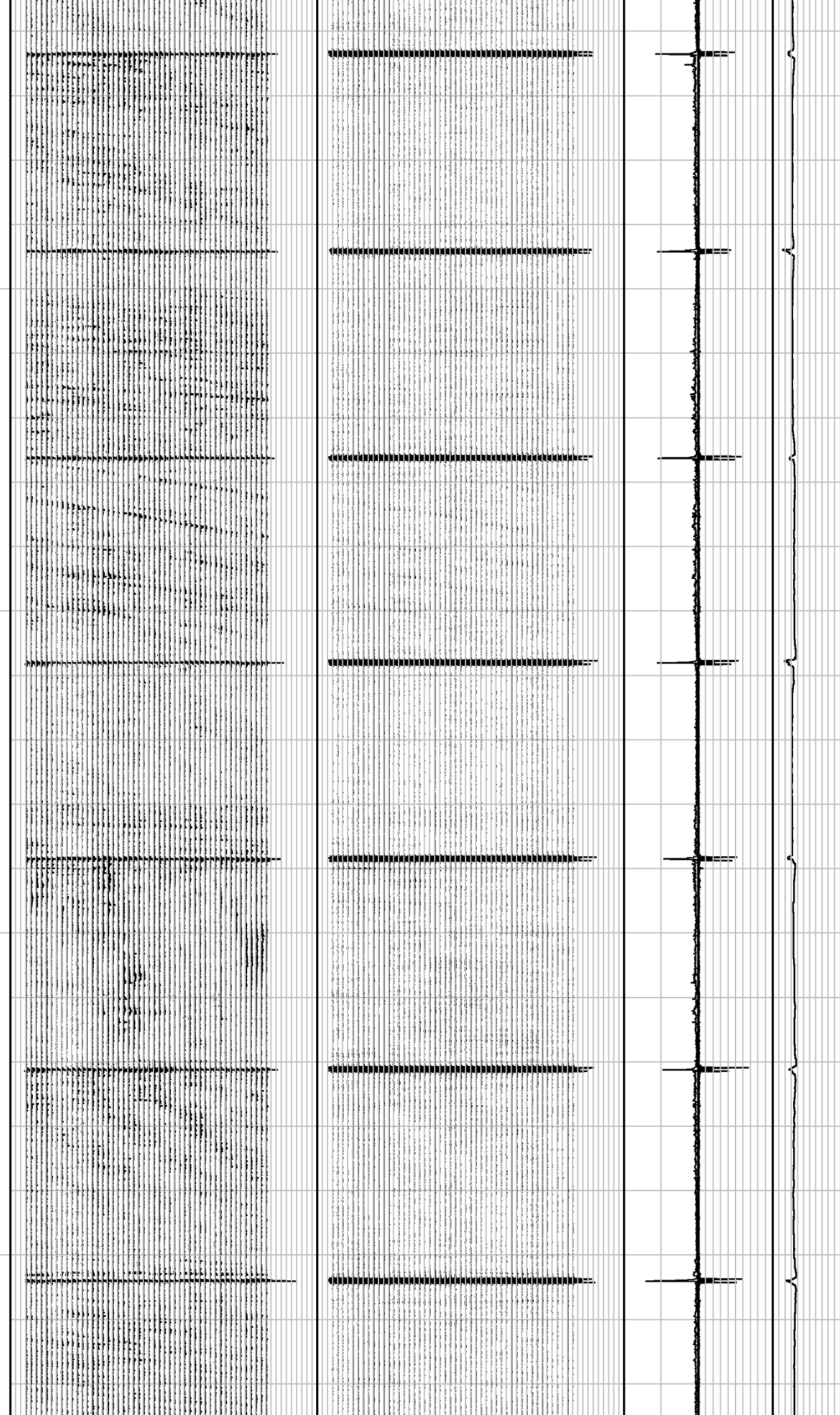
J93-C1

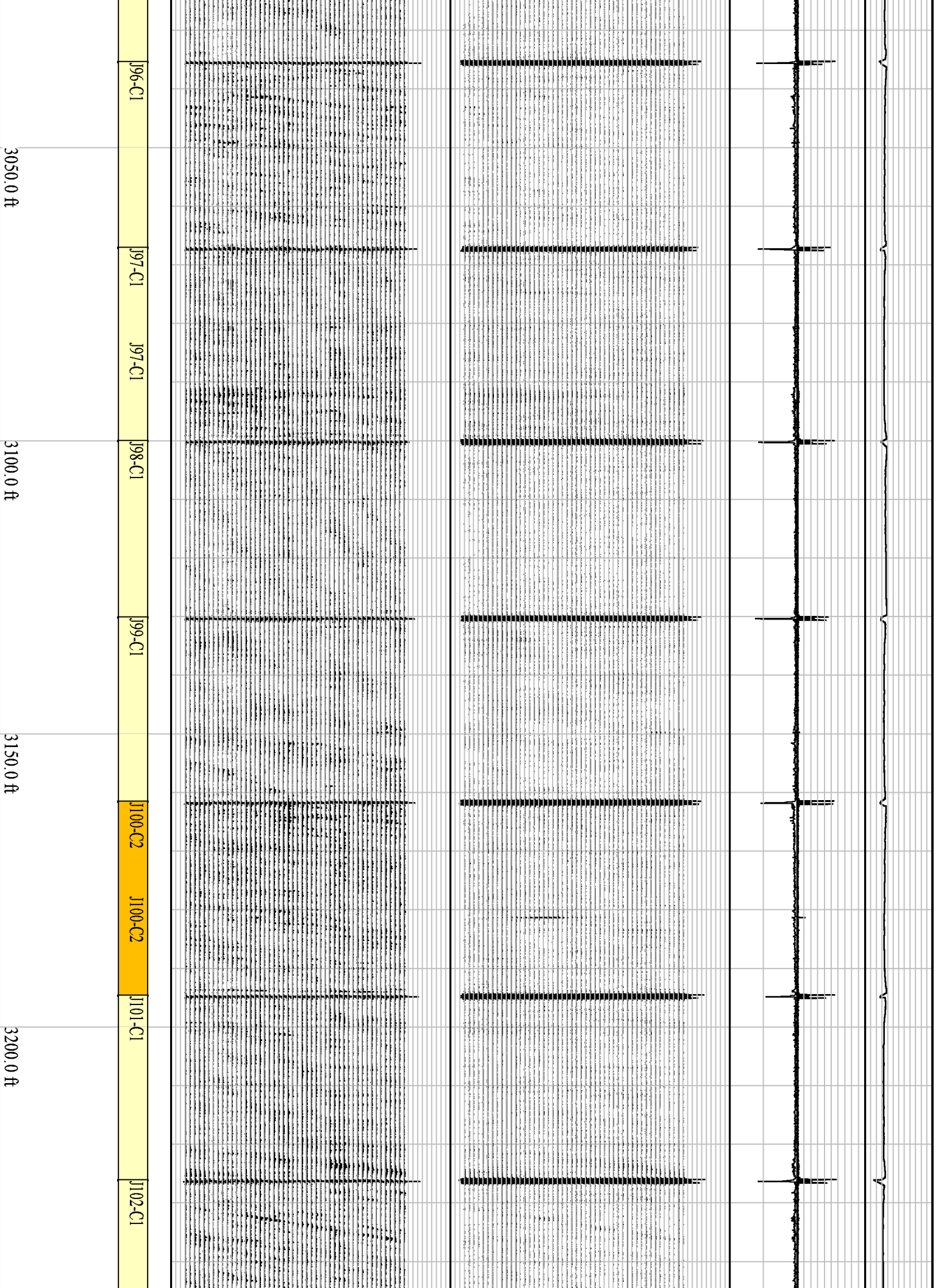
J93-C1

J94-C1

J94-C1

J95-C1





3250.0 ft

3300.0 ft

3350.0 ft

3400.0 ft

3450.0 ft

J103-C1

J103-C1

J104-C1

J104-C1

J105-C1

J105-C1

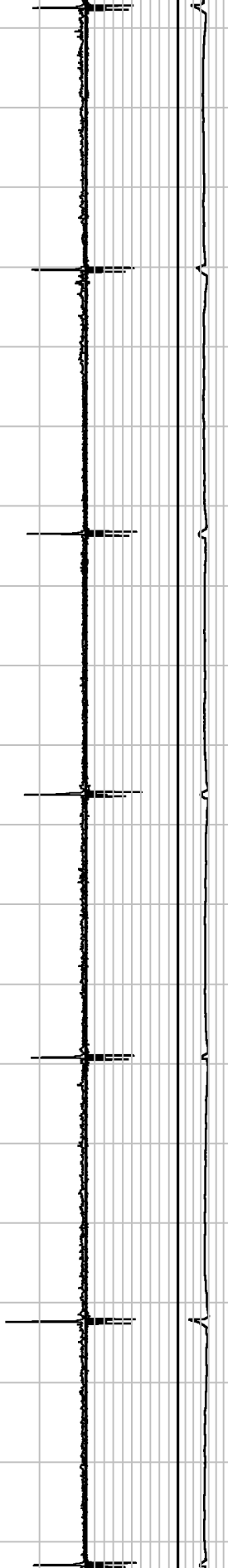
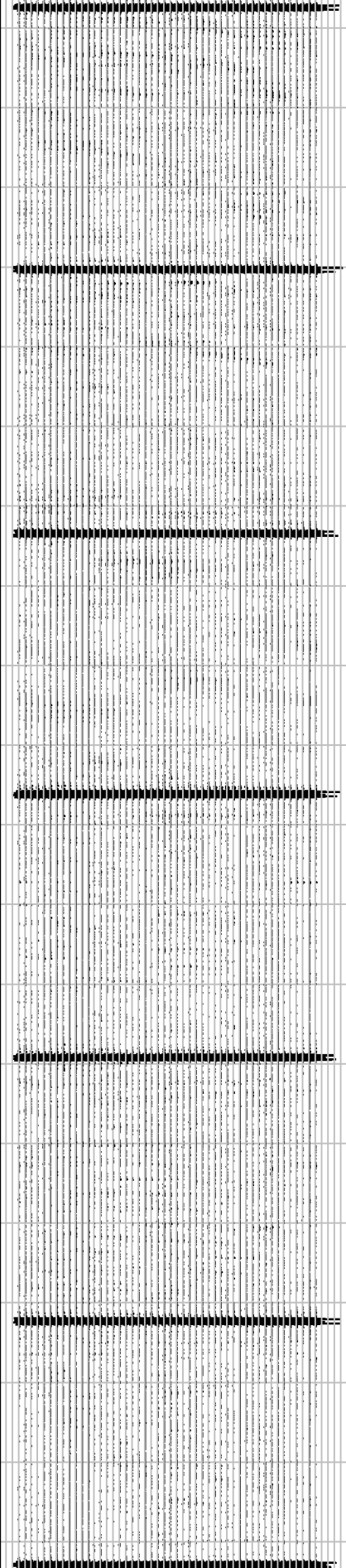
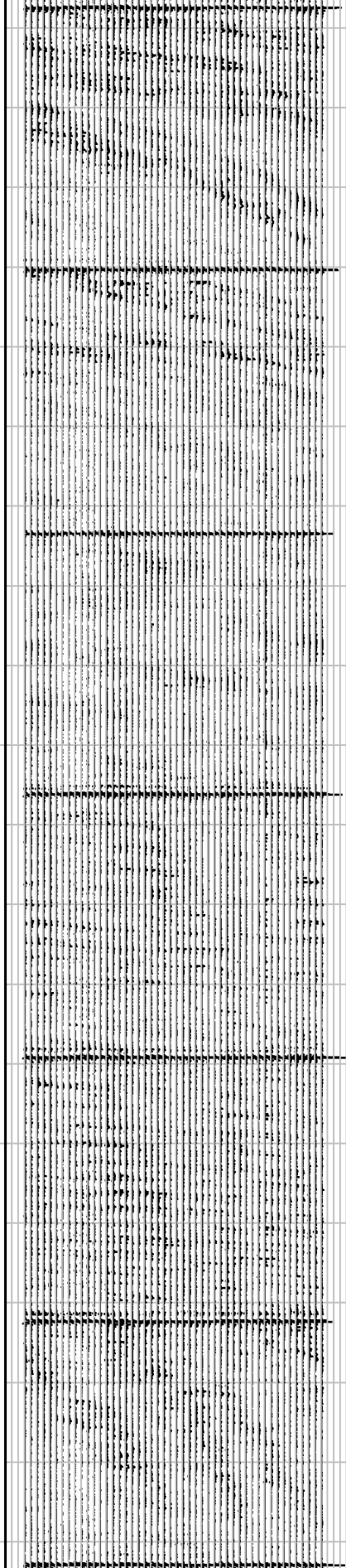
J106-C1

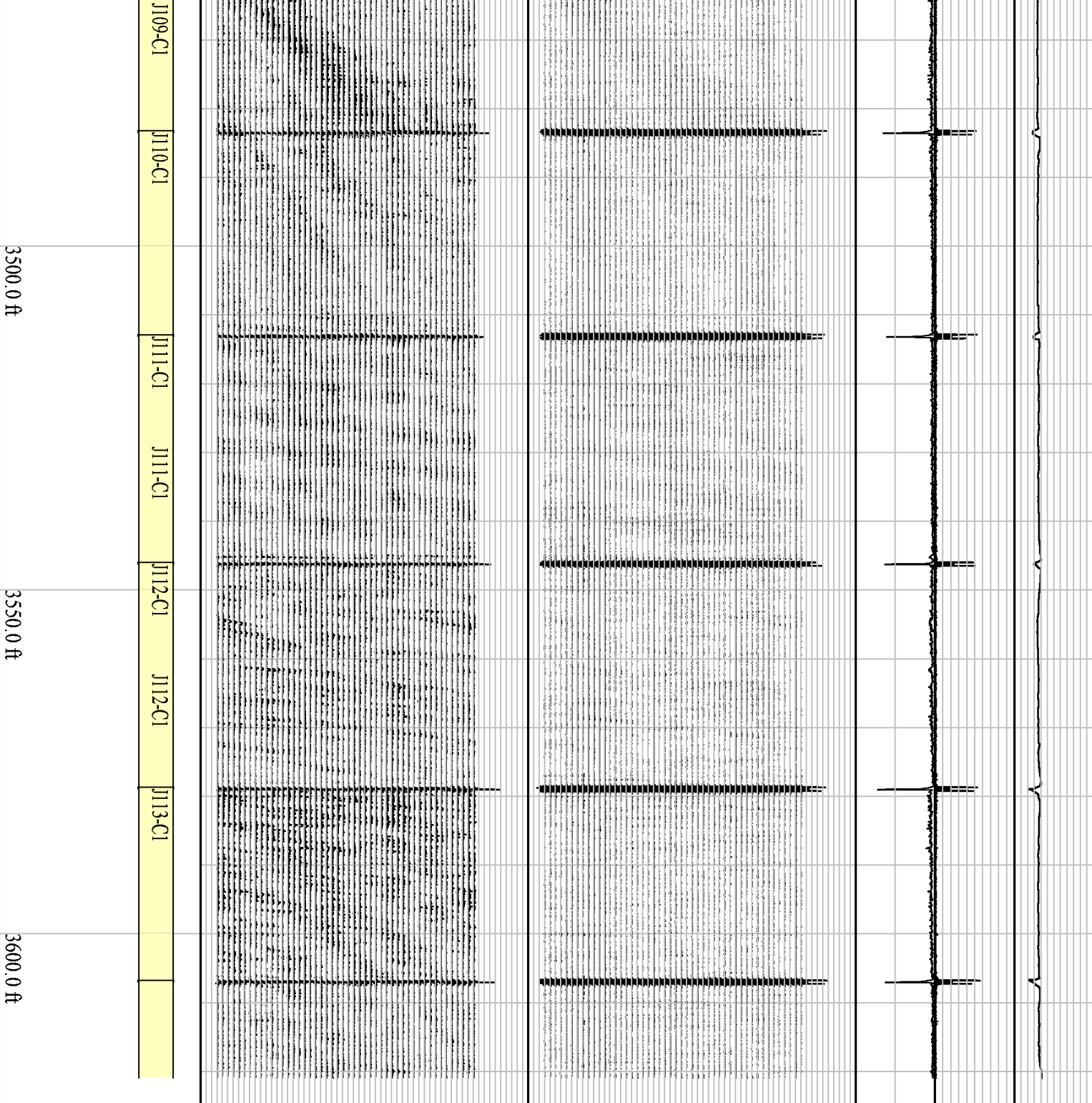
J106-C1

J107-C1

J107-C1

J108-C1





Dominion Energy Wexpro Lasher #4

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