HR Vertilog

Magnetic Flux Leakage Inspection

Advanced Analysis

Company	Southern California Gas Company
Well	Porter 26C
Field	Aliso Canyon
County	Los Angeles
State	California

Location:
575.22 S & 3292.97 W
From STA 84

Section 28	Township 3N	Range 16W

Date	Jul. 11, 2016
Service Order	US108283
Recorded by	B. Deal
Witnessed by	T. McMahon
API Serial No.	04-037-21353-02

Permanent Datum:	G.L	Elevation: 2505.000 ft.	
Log Measured From:	K.B.	12.000 ft. above Perm. Datum	
Drilling Measured From:	K.B	12.000 ft. above Perm. Datum	

Depth	8255.000
Btm. Log Interval	7850.000
Top Log Interval	0.000
Fluid Type	KCL

Casing Data

Size	Weight	Grade	From	To	Length
7 inch	23 lb/ft	L-80 (HR Std)	4968	7950	2982.0
8 5/8 inch	36 lb/ft	N-80	5379	7574	2195.0
8 5/8 inch	36 lb/ft	K-55	0	5379	5379.0
13 3/8 inch	48 lb/ft	K-55	0	801	801.0

Equipment Data

Tool	7 to 9-5/8 Inch HRVRT 96 FL + 96 DIS Tool
Magnetizer	7 to 9-5/8 Inch HRVRT 96 FL + 96 DIS Tool
Telemetry	MUX-DB
Software Version	6.0.0.0

Calibration Data

Calibration File Name	4997-7-001-PA10409822-U.CAL
Date of Calibration	06/16/2016 16:01
Calibration Identifier	DD951406-2BC6-4CA6-9841-78038796FBD9
Tool Number	4997-00

Calibrator Number	4997-7-001
Calibrator Size	(7 In - 178 mm)
Calibration Source File	20160616_153229_MEM.MVL
Calibration Software Rev	Microvision 32-bit 7.3.4.0
Comment	RMA1333

Calibration Data

Calibration File Name	4997-7-001-QA10409830-L.CAL
Date of Calibration	06/16/2016 16:01
Calibration Identifier	DD951406-2BC6-4CA6-9841-78038796FBD9
Tool Number	4997-00
Calibrator Number	4997-7-001
Calibrator Size	(7 In - 178 mm)
Calibration Source File	20160616_153229_MEM.MVL
Calibration Software Rev	Microvision 32-bit 7.3.4.0
Comment	RMA1333

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 Baker Hughes processed HRVRT for 8 5/8" casing logged July 11, 2016. The HRVRT for 8 5/8" casing was correlated to SLB Ultrasonic/CBL/VDL/Neutron GR/Collar log logged November 9, 2005.

Short joints were detected at 4962.04 ft (Joint 121) and 5346.07 ft (Joint 132).

7563.76 ft Hardware - Possible Bottom of 8 5/8" external casing, Segment # 1.
7568.22 ft Hardware - Possible Top of 8 5/8" external casing, Segment # 2.
7577.14 ft Hardware - Possible Bottom of 8 5/8" external casing, Segment # 2.

7813.73 ft Perforated Interval: 7811.6' - 7816'.

Joint Interpretation Summary

Joint	From	To	Length	Class	Max Depth	Position	ID/OD
121	4962.04	4964.00	1.96	Class 1	-	-	-
122	4964.00	5001.34	37.34	Class 1	-	-	-
123	5001.34	5040.54	39.20	Class 1	-	-	-
124	5040.54	5079.13	38.59	Class 1	-	-	-
125	5079.13	5116.12	36.99	Class 1	-	-	-
126	5116.12	5153.92	37.80	Class 1	-	-	-
127	5153.92	5192.41	38.49	Class 1			

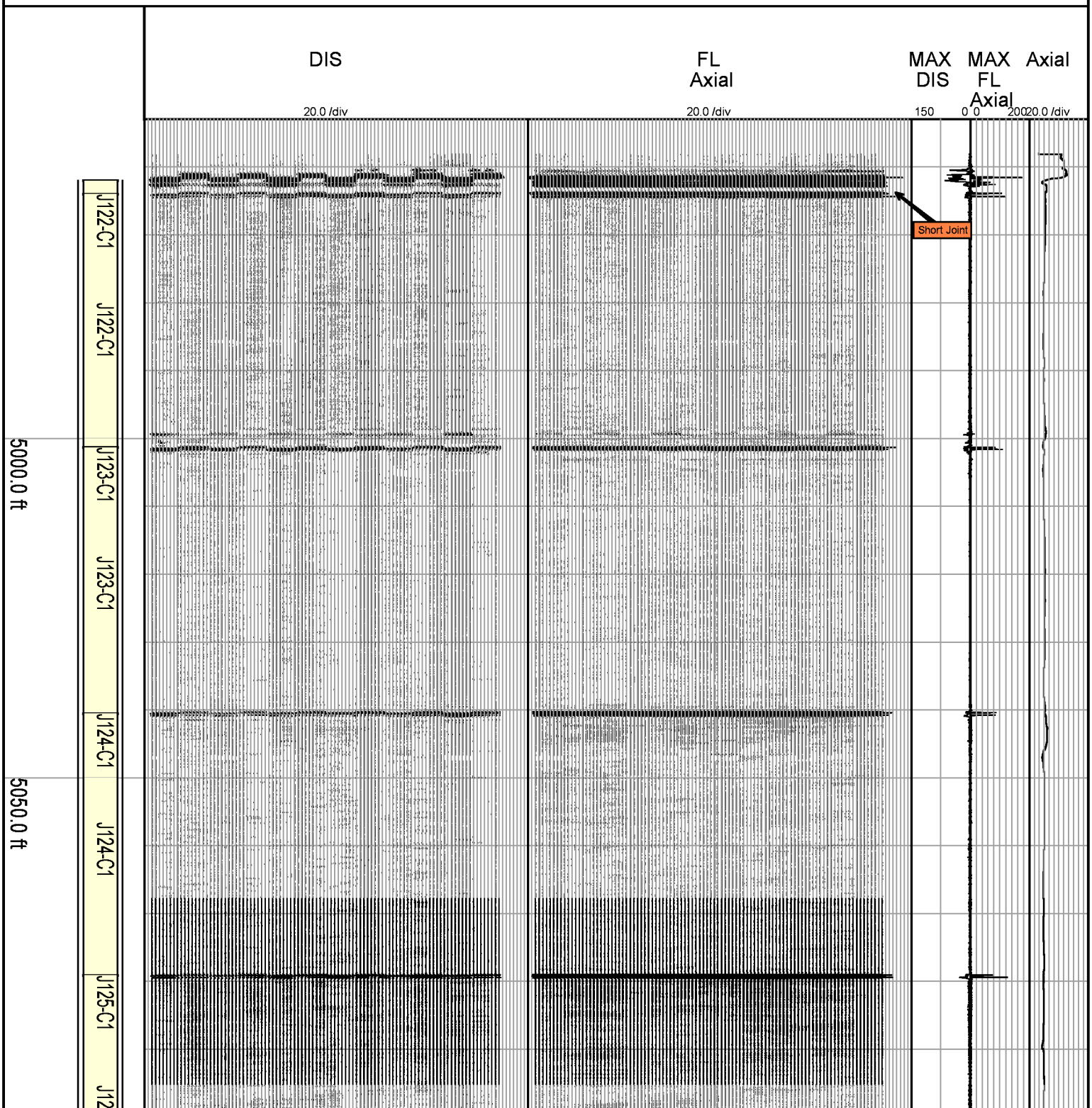
127	5153.92	5192.41	38.49	Class	1	-	-	-
128	5192.41	5230.77	38.36	Class	1	-	-	-
129	5230.77	5269.21	38.44	Class	1	-	-	-
130	5269.21	5308.13	38.92	Class	1	-	-	-
131	5308.13	5346.07	37.94	Class	1	-	-	-
132	5346.07	5348.51	2.44	Class	1	-	-	-
133	5348.51	5393.68	45.17	Class	1	-	-	-
134	5393.68	5439.39	45.71	Class	1	-	-	-
135	5439.39	5484.90	45.51	Class	1	-	-	-
136	5484.90	5529.32	44.42	Class	1	-	-	-
137	5529.32	5573.24	43.92	Class	1	-	-	-
138	5573.24	5618.20	44.96	Class	1	-	-	-
139	5618.20	5663.71	45.51	Class	1	-	-	-
140	5663.71	5708.17	44.46	Class	1	-	-	-
141	5708.17	5754.16	45.99	Class	1	-	-	-
142	5754.16	5799.94	45.78	Class	1	-	-	-
143	5799.94	5845.79	45.85	Class	1	-	-	-
144	5845.79	5890.63	44.84	Class	1	-	-	-
145	5890.63	5937.09	46.46	Class	1	-	-	-
146	5937.09	5983.17	46.08	Class	1	-	-	-
147	5983.17	6027.64	44.47	Class	1	-	-	-
148	6027.64	6071.98	44.34	Class	1	-	-	-
149	6071.98	6116.73	44.75	Class	1	-	-	-
150	6116.73	6161.48	44.75	Class	1	-	-	-
151	6161.48	6202.63	41.15	Class	1	-	-	-
152	6202.63	6247.61	44.98	Class	1	-	-	-
153	6247.61	6292.98	45.37	Class	1	-	-	-
154	6292.98	6339.17	46.19	Class	1	-	-	-
155	6339.17	6385.44	46.27	Class	1	-	-	-
156	6385.44	6431.57	46.13	Class	1	-	-	-
157	6431.57	6475.79	44.22	Class	1	-	-	-
158	6475.79	6522.66	46.87	Class	1	-	-	-
159	6522.66	6568.68	46.02	Class	1	-	-	-
160	6568.68	6614.88	46.20	Class	1	-	-	-
161	6614.88	6660.89	46.01	Class	1	-	-	-
162	6660.89	6706.20	45.31	Class	1	-	-	-
163	6706.20	6752.11	45.91	Class	1	-	-	-
164	6752.11	6799.04	46.93	Class	1	-	-	-
165	6799.04	6845.56	46.52	Class	1	-	-	-
166	6845.56	6892.27	46.71	Class	1	-	-	-
167	6892.27	6936.26	43.99	Class	1	-	-	-
168	6936.26	6980.61	44.35	Class	1	-	-	-
169	6980.61	7027.12	46.51	Class	1	-	-	-
170	7027.12	7073.08	45.96	Class	1	-	-	-
171	7073.08	7119.33	46.25	Class	1	-	-	-
172	7119.33	7166.00	46.67	Class	1	-	-	-
173	7166.00	7212.37	46.37	Class	1	-	-	-
174	7212.37	7258.74	46.37	Class	1	-	-	-
175	7258.74	7305.24	46.50	Class	1	-	-	-
176	7305.24	7351.39	46.15	Class	1	-	-	-
177	7351.39	7397.12	45.73	Class	1	-	-	-
178	7397.12	7442.77	45.65	Class	1	-	-	-
179	7442.77	7483.71	40.94	Class	1	-	-	-
180	7483.71	7527.28	43.57	Class	1	-	-	-
181	7527.28	7573.07	45.79	Class	1	-	-	-
182	7573.07	7615.15	42.08	Class	1	-	-	-
183	7615.15	7660.04	44.89	Class	1	-	-	-
184	7660.04	7705.42	45.38	Class	1	-	-	-
185	7705.42	7750.51	45.09	Class	1	-	-	-
186	7750.51	7796.04	45.53	Class	1	-	-	-
187	7796.04	7841.85	45.81	Class	3	41.0%	7807.39	ID
188	7841.85	7856.50	14.65	Class	1	-	-	-

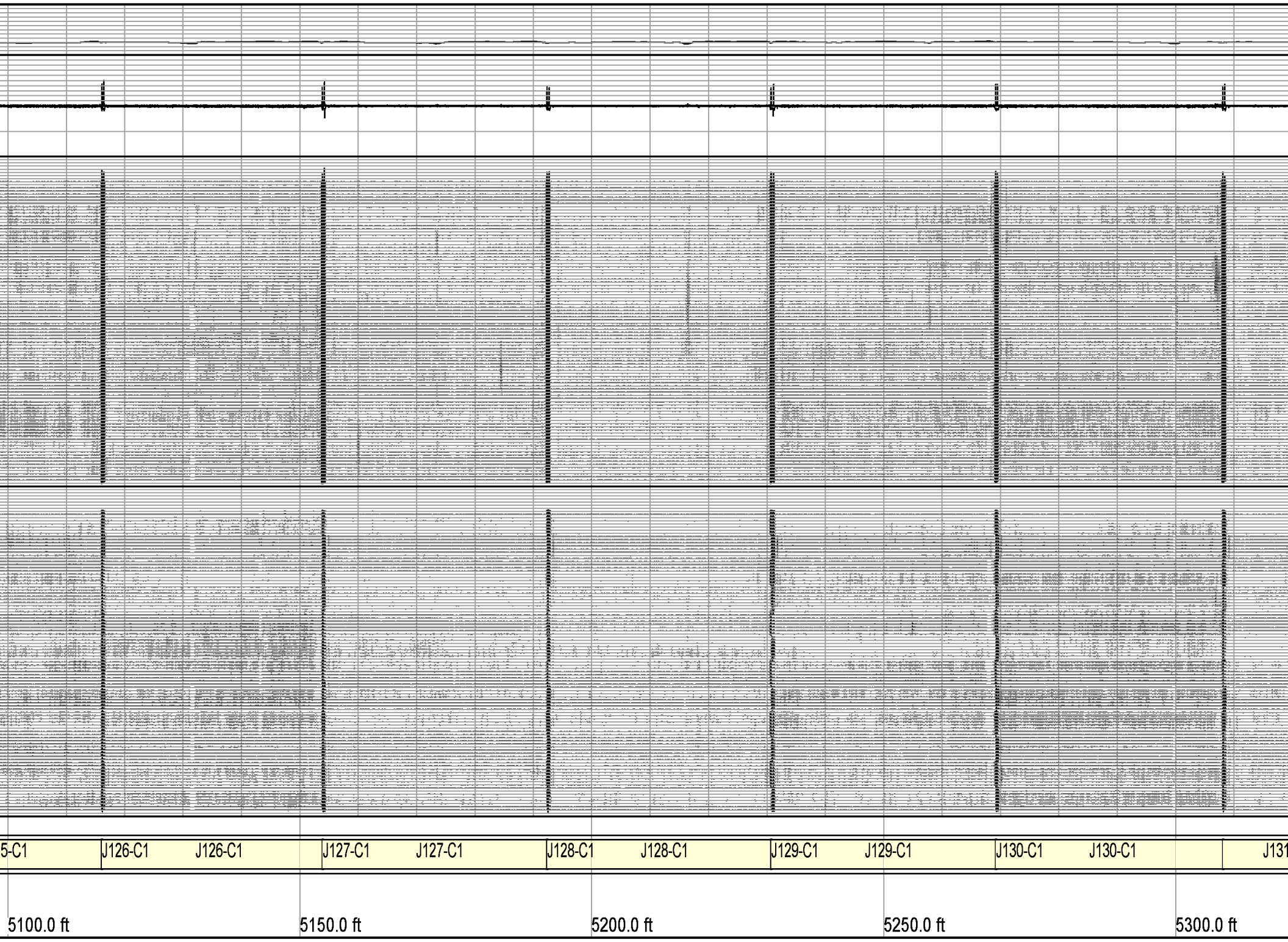
Southern California Gas Company Porter 26C

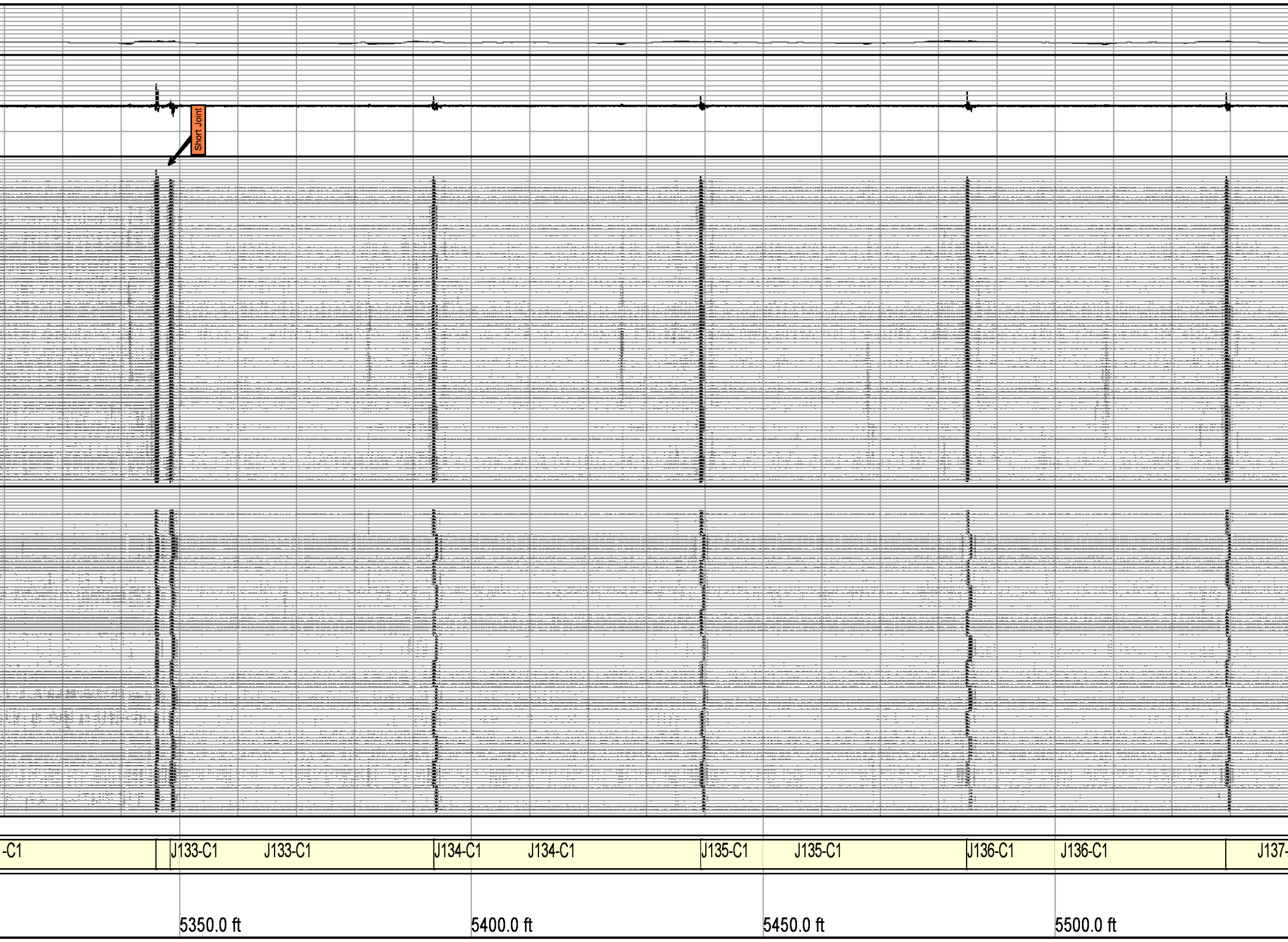
File 20160711_124235_RSP_0_0_0_0_0_0_0.mvl

MAIN LOG
5" /100'

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




5-C1
J126-C1
J126-C1
J127-C1
J127-C1
J128-C1
J128-C1
J129-C1
J129-C1
J130-C1
J130-C1
J131
5100.0 ft
5150.0 ft
5200.0 ft
5250.0 ft
5300.0 ft


Short Joint
-C1
J133-C1
J133-C1
J134-C1
J134-C1
J135-C1
J135-C1
J136-C1
J136-C1
J137-
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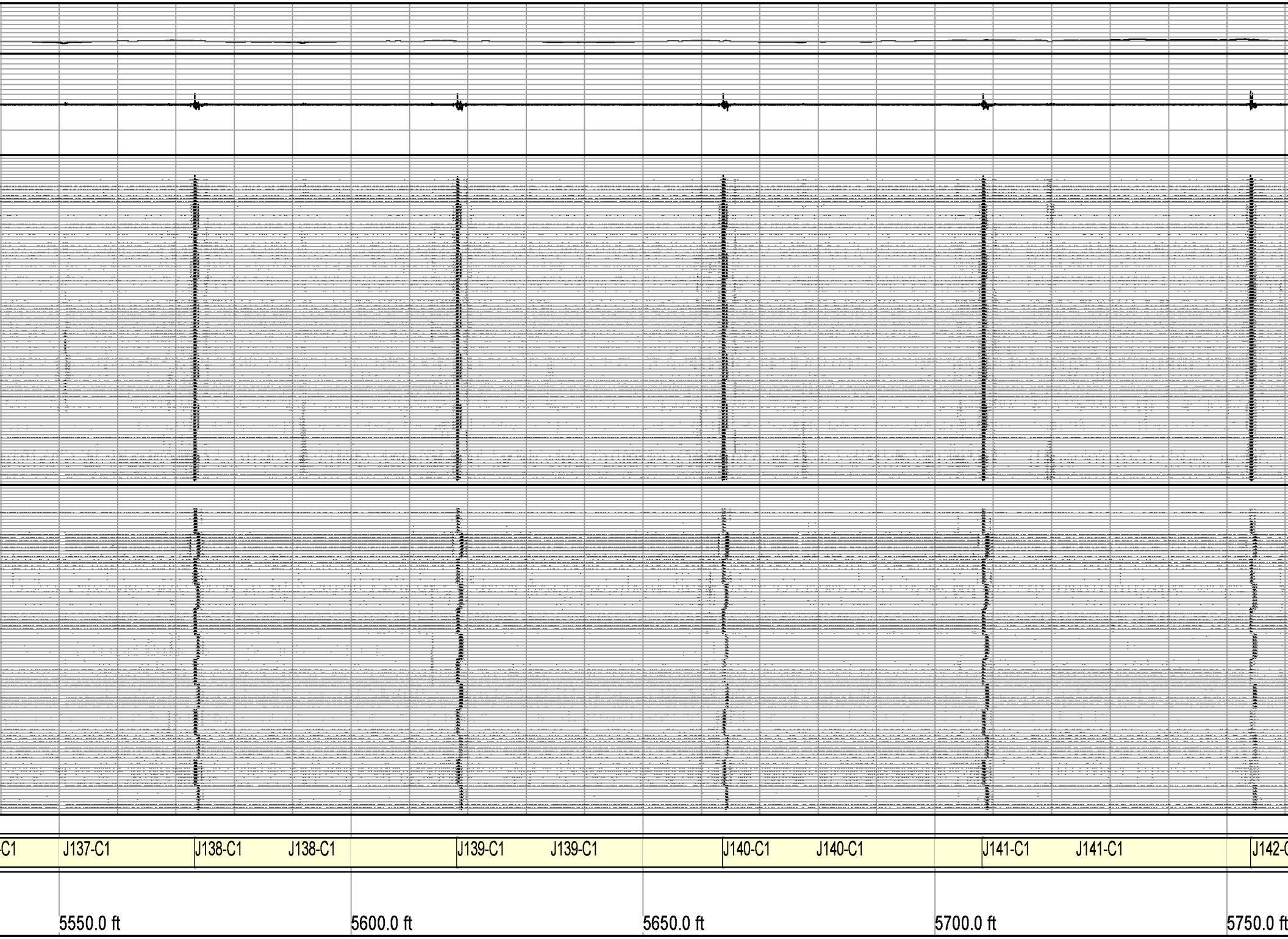
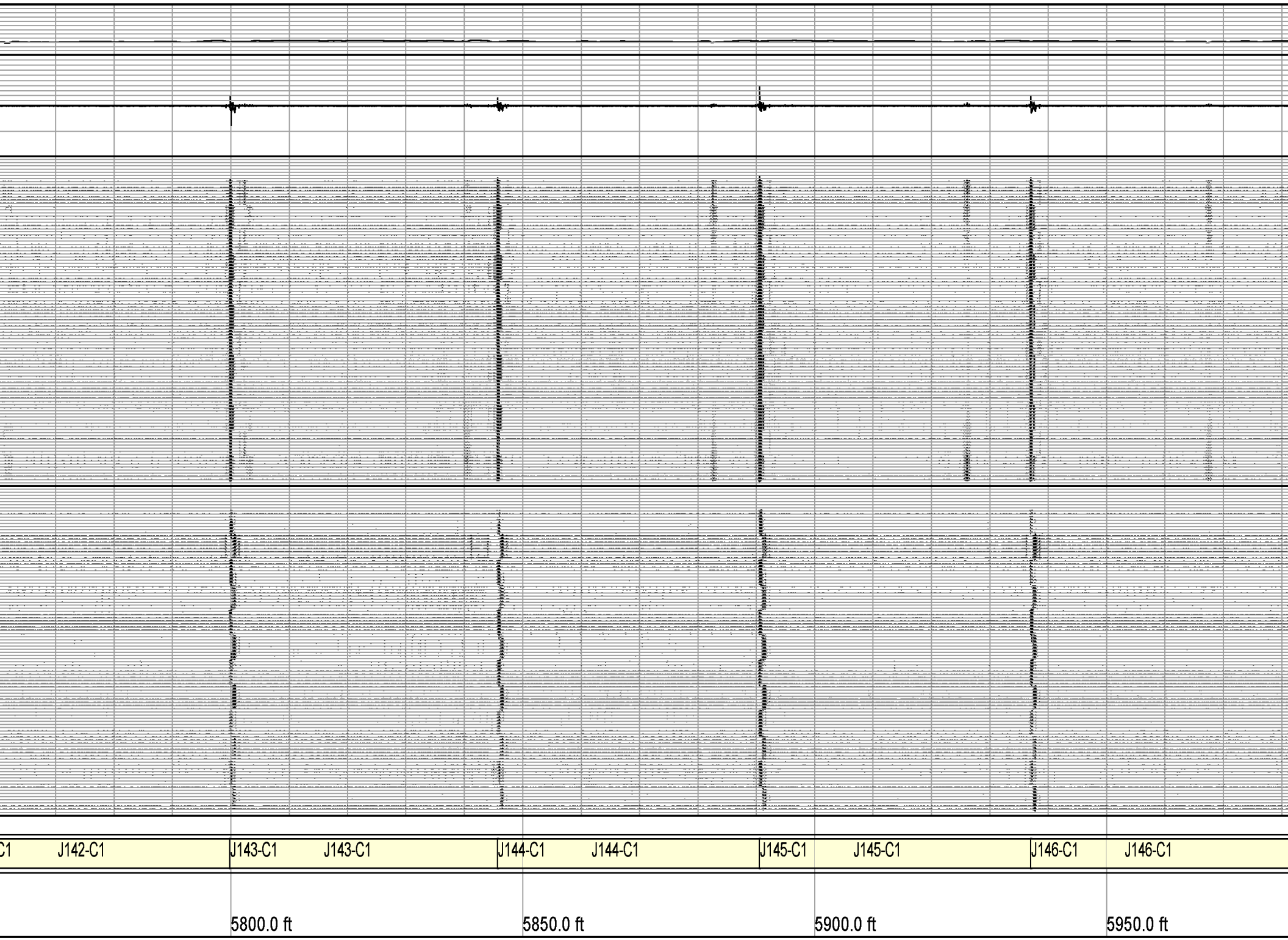
5450.0 ft
5500.0 ft


-C1
J137-C1
J138-C1
J138-C1
J139-C1
J139-C1
J140-C1
J140-C1
J141-C1
J141-C1
J142-C
5550.0 ft
5600.0 ft
5650.0 ft
5700.0 ft
5750.0 ft


C1
J142-C1
J143-C1
J143-C1
J144-C1
J144-C1
J145-C1
J145-C1
J146-C1
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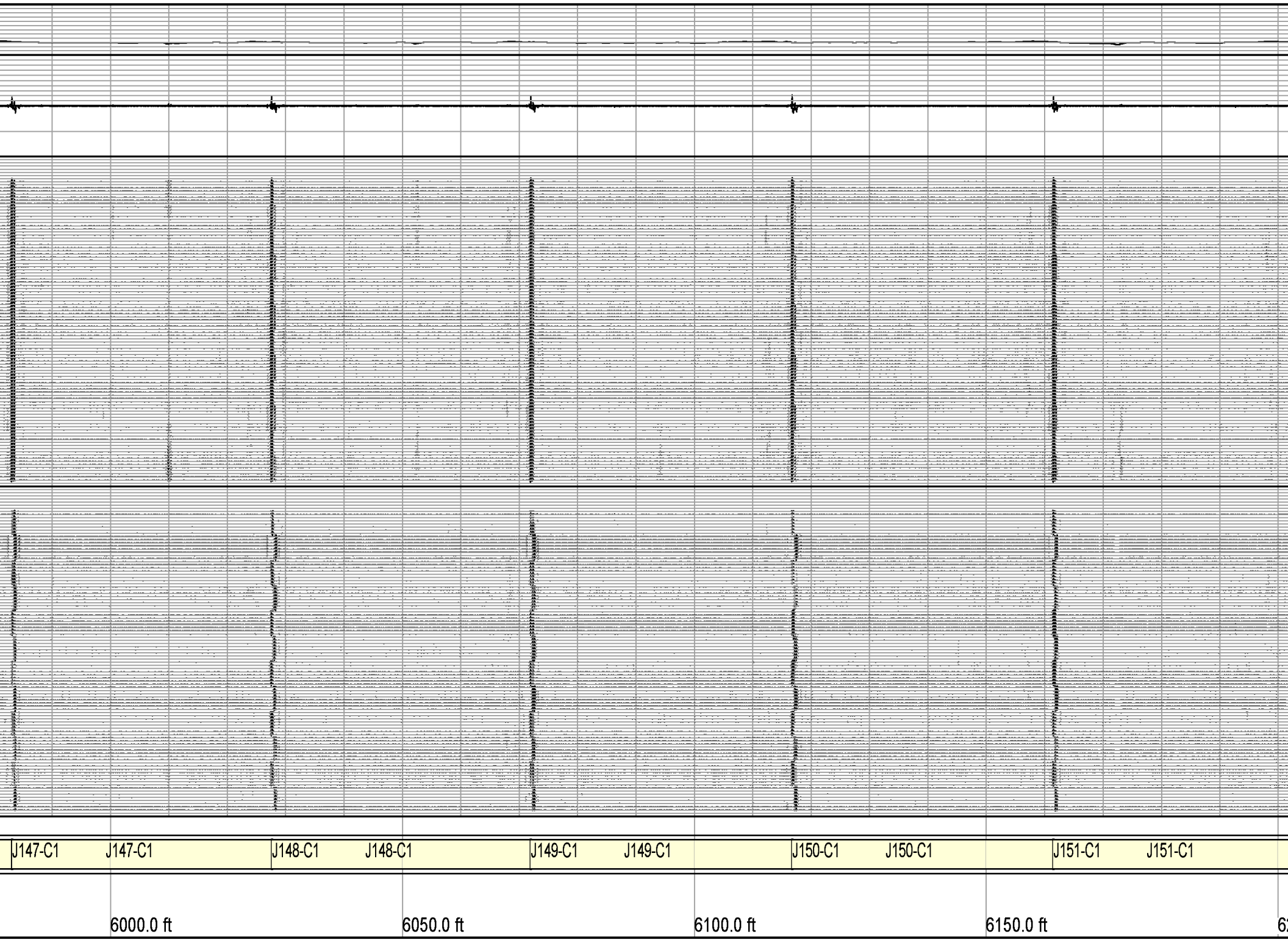
5900.0 ft
5950.0 ft


J147-C1
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J148-C1
J148-C1
J149-C1
J149-C1
J150-C1
J150-C1
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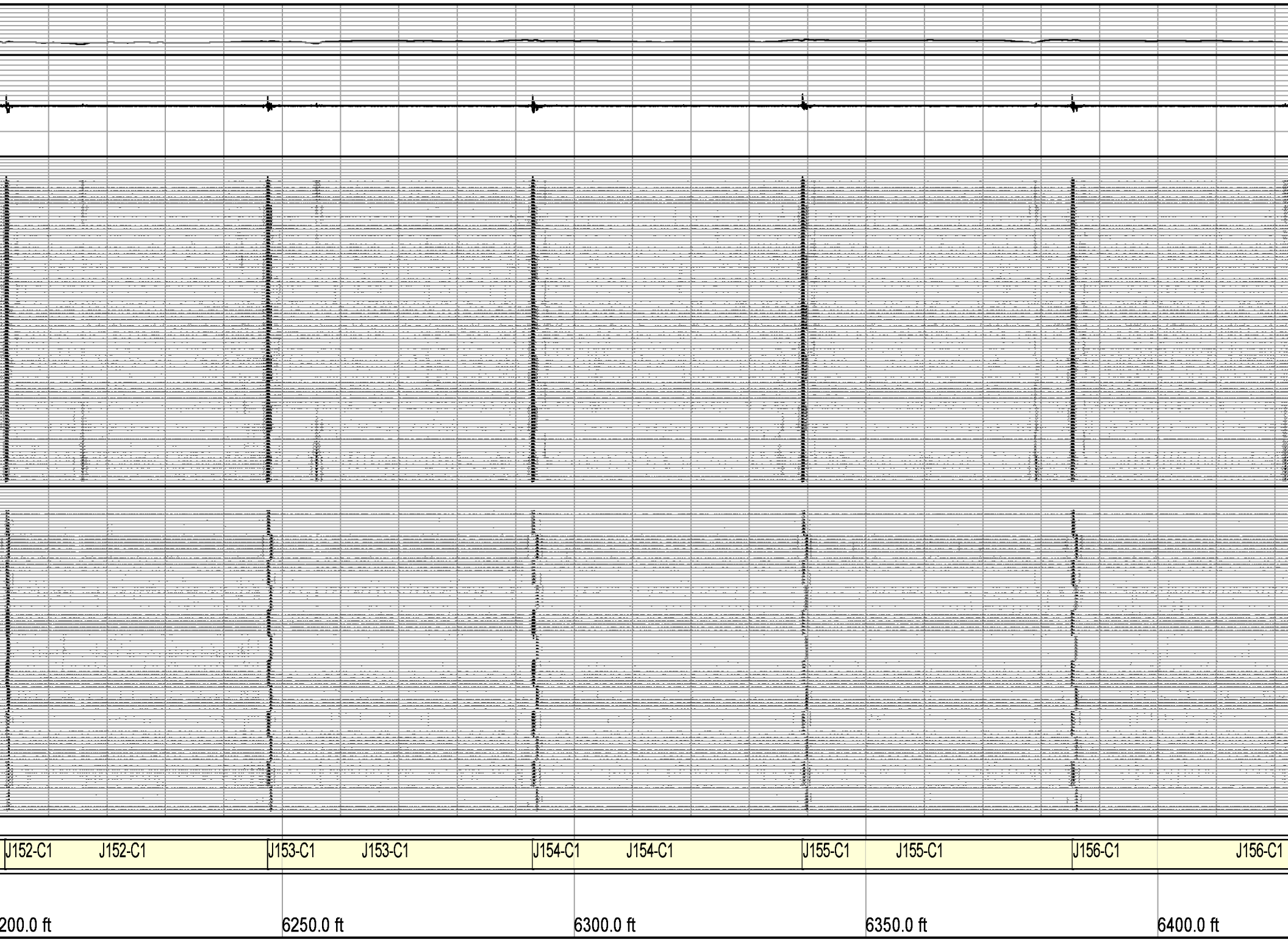
6100.0 ft
6150.0 ft


J152-C1
J152-C1
J153-C1
J153-C1
J154-C1
J154-C1
J155-C1
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J156-C1
J156-C1
200.0 ft
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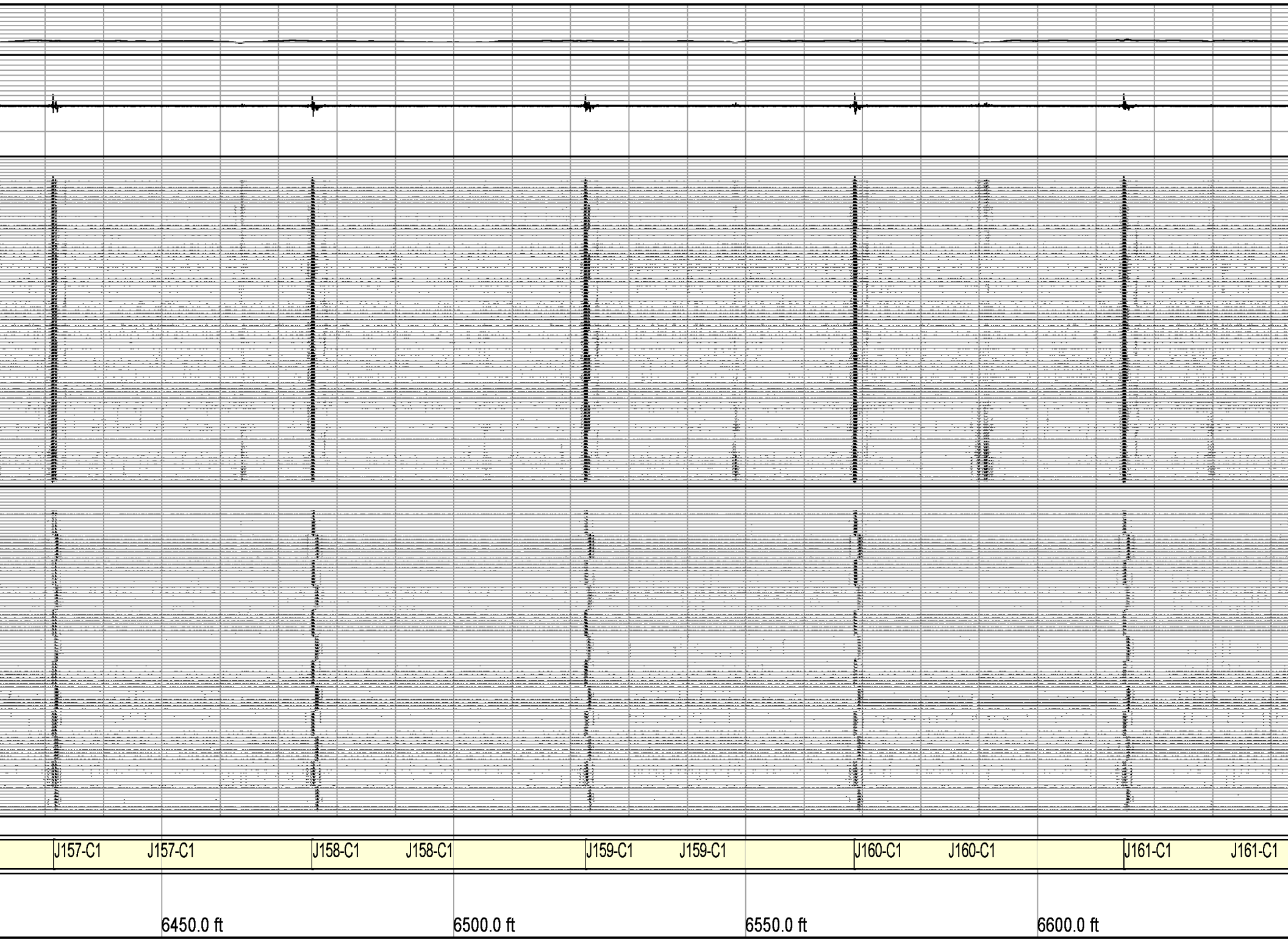
6350.0 ft
6400.0 ft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J157-C1
J158-C1
J158-C1
J159-C1
J159-C1
J160-C1
J160-C1
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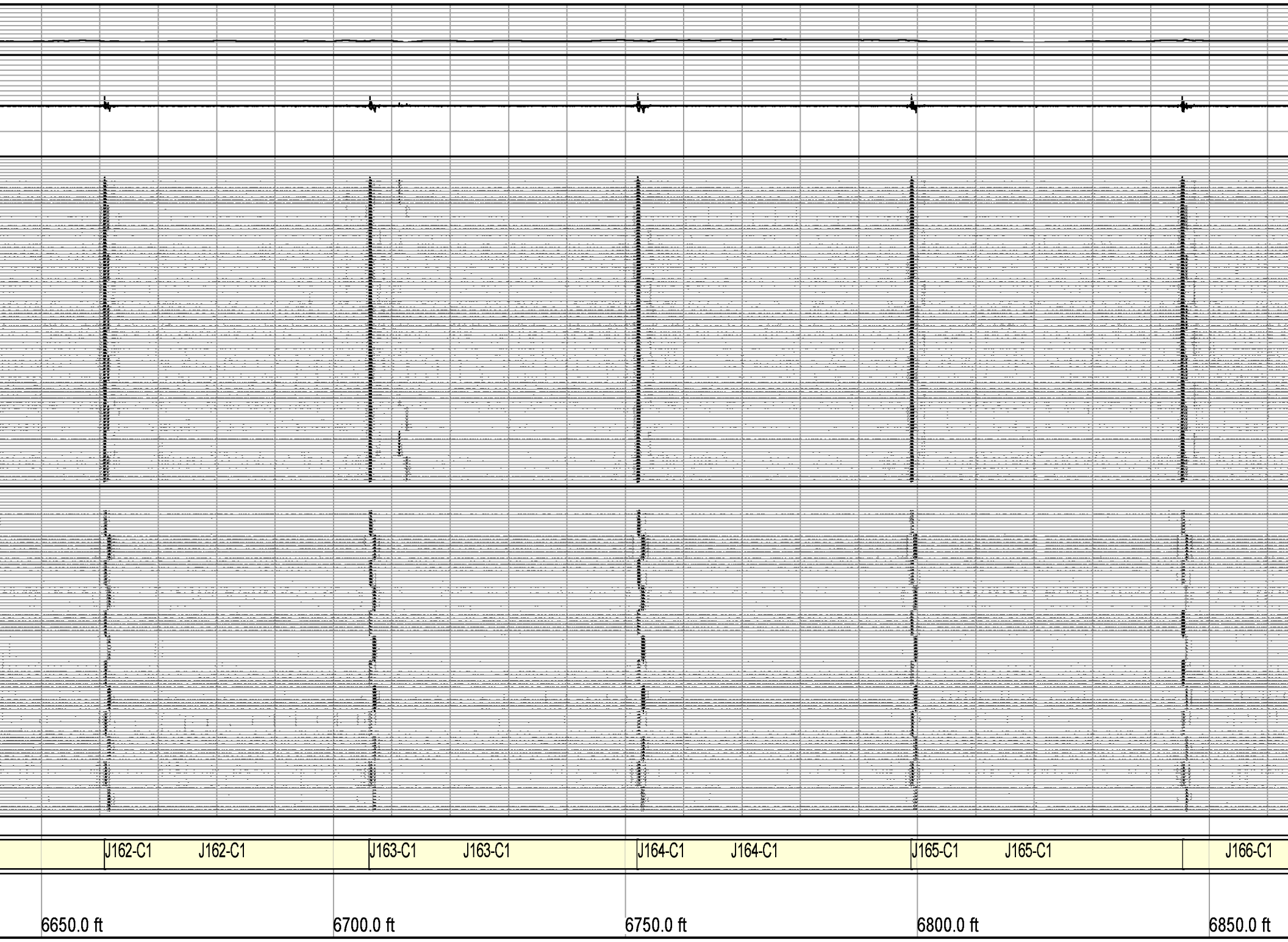
6550.0 ft
6600.0 ft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J162-C1
J163-C1
J163-C1
J164-C1
J164-C1
J165-C1
J165-C1
J166-C1
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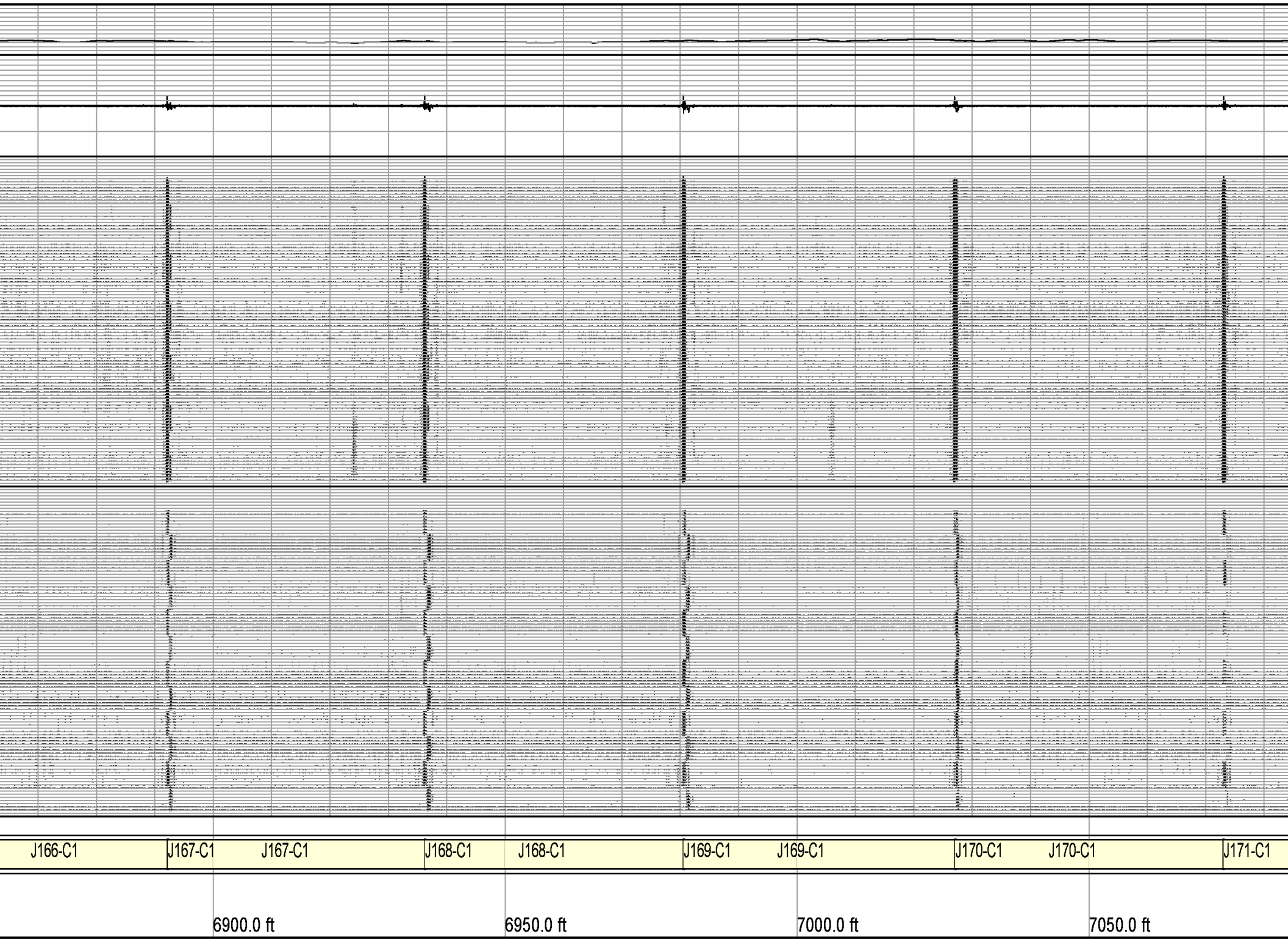
6800.0 ft
6850.0 ft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J167-C1
J167-C1
J168-C1
J168-C1
J169-C1
J169-C1
J170-C1
J170-C1
J171-C1
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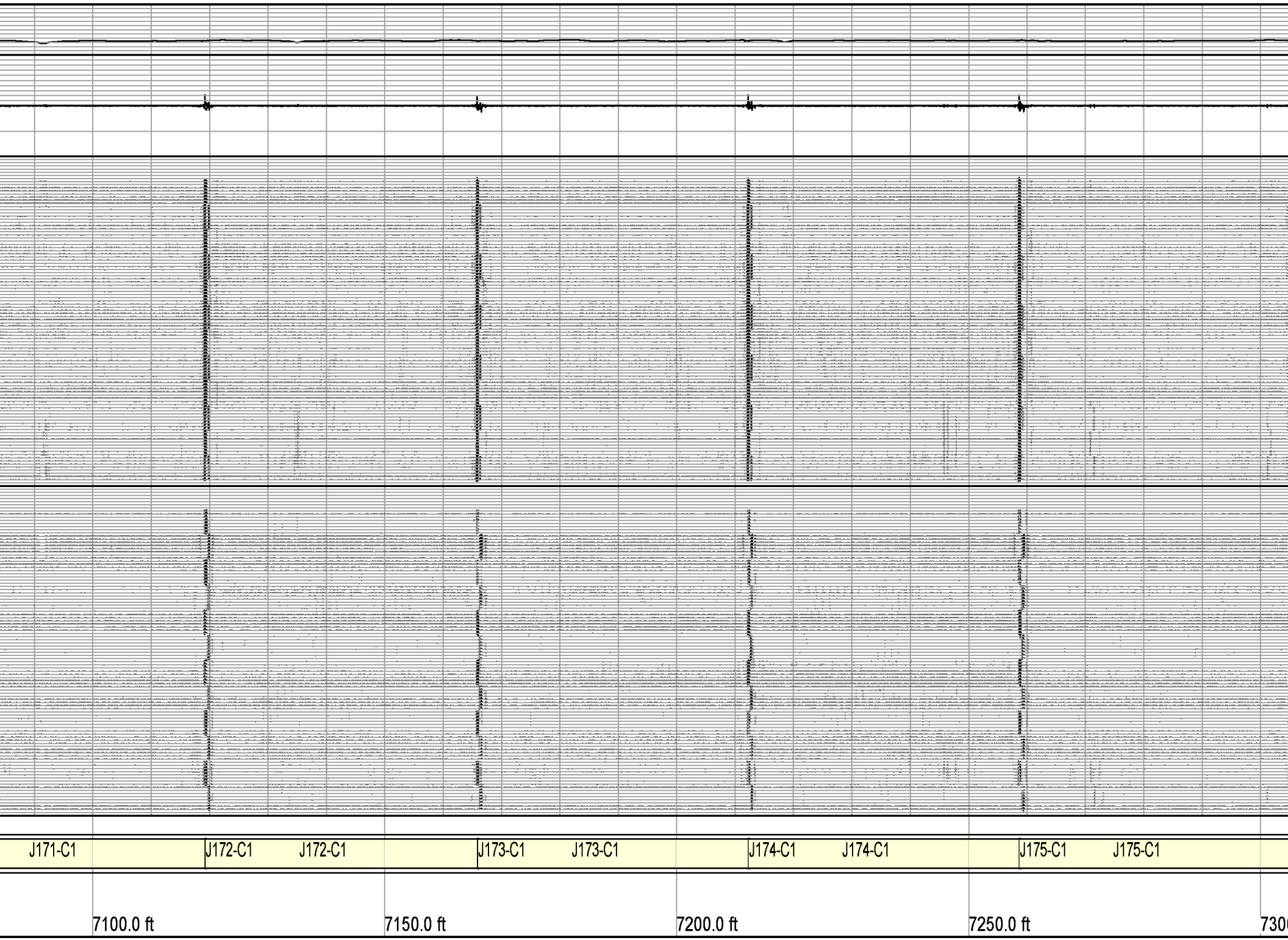
7000.0 ft
7050.0 ft


J171-C1
J172-C1
J172-C1
J173-C1
J173-C1
J174-C1
J174-C1
J175-C1
J175-C1
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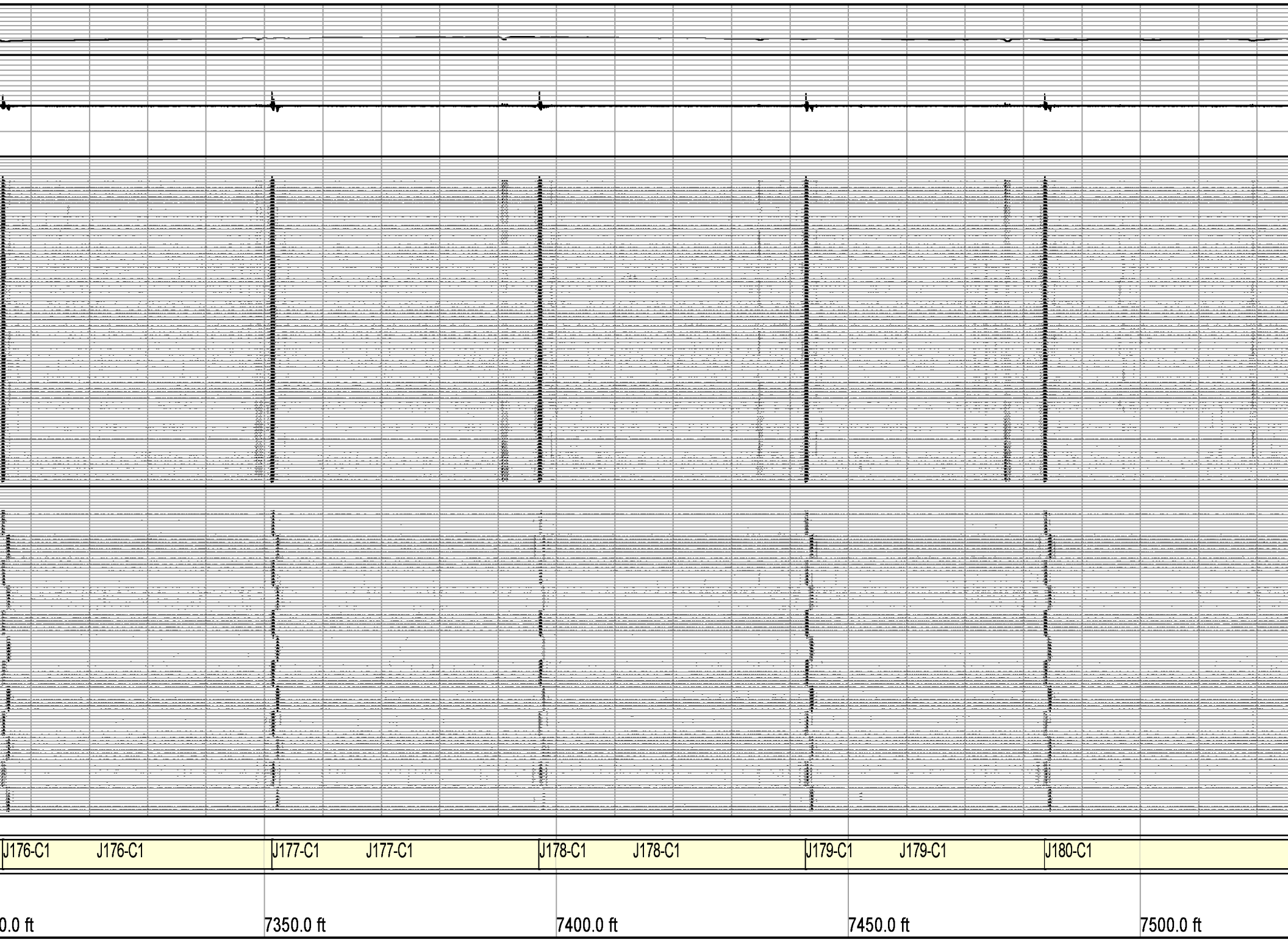
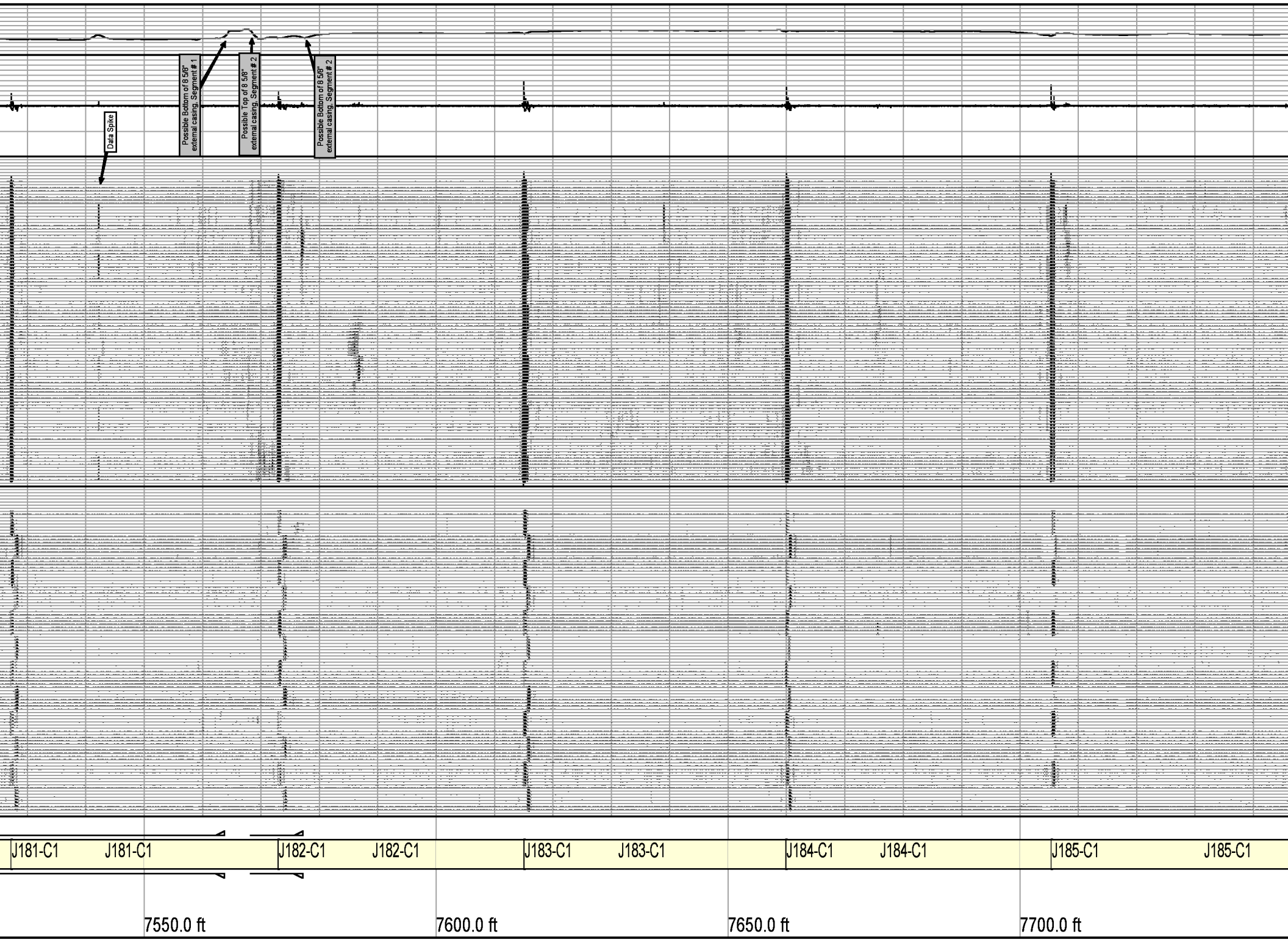
7200.0 ft
7250.0 ft


J176-C1
J176-C1
J177-C1
J177-C1
J178-C1
J178-C1
J179-C1
J179-C1
J180-C1
0.0 ft
7350.0 ft
7400.0 ft
7450.0 ft
7500.0 ft


Data Spike
Possible Bottom of 8 5/8" external casing, Segment # 1
Possible Top of 8 5/8" external casing, Segment # 2
Possible Bottom of 8 5/8" external casing, Segment # 2
J181-C1
J181-C1
J182-C1
J182-C1
J183-C1
J183-C1
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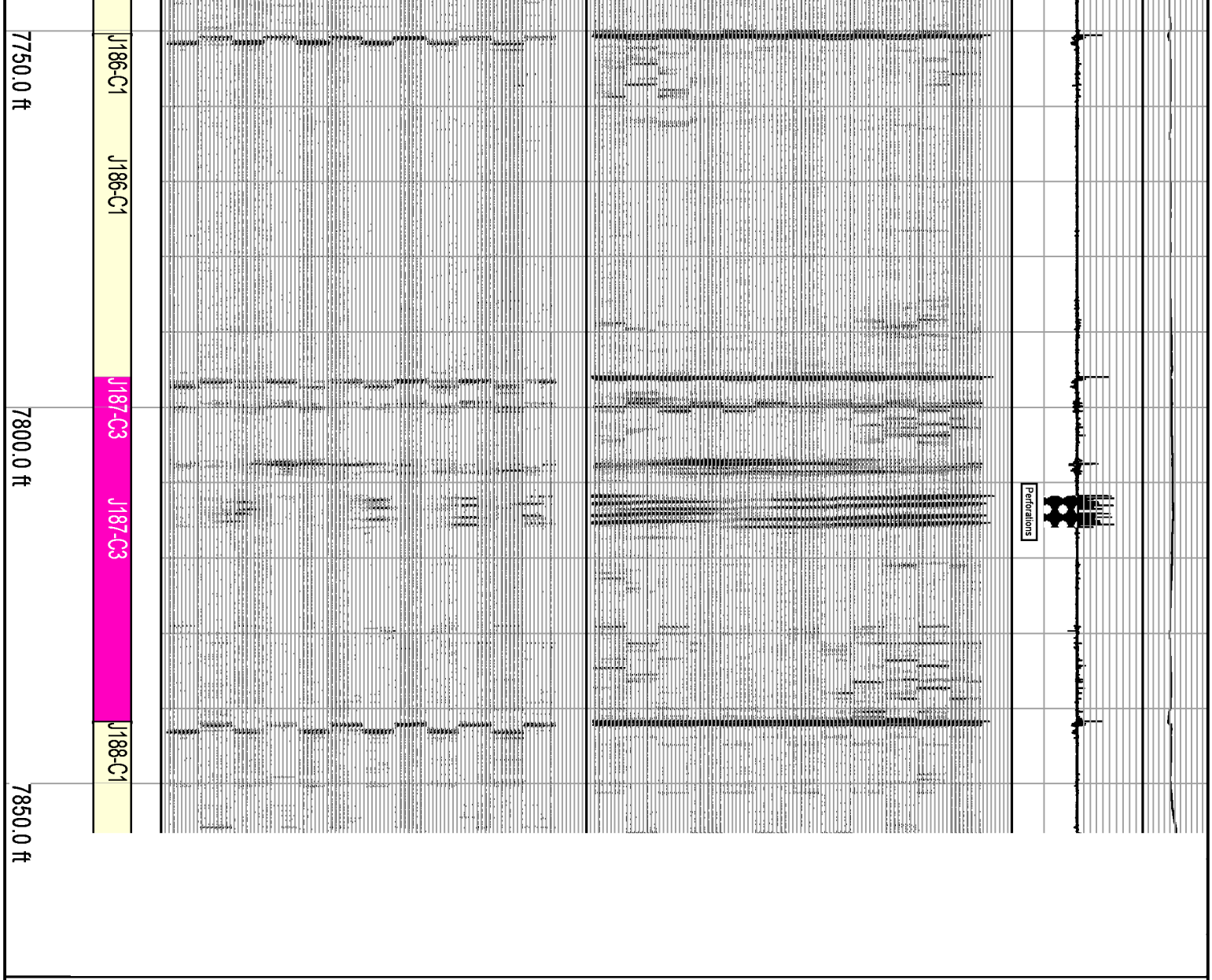
7650.0 ft
7700.0 ft



Southern California Gas Company Porter 26C

File 20160711_124235_RSP_0_0_0_0_0_0_0.mvl

Joint Summary

Southern California Gas Company
Aliso Canyon
Porter 26C

Identifier	Start Log Depth	Joint Length	Diameter	Wall Thickness	Weight	Max ML Depth	Max ML Position	Min Burst Pressure	Joint Depth Class
	ft	ft	in	in	lb/ft	%	ft	psi	
JT-121	4962.04	1.96	7.000	0.362	26	0			1
JT-122	4964.00	37.34	7.000	0.362	26	0			1
JT-123	5001.34	39.20	7.000	0.362	26	0			1
JT-124	5040.54	38.59	7.000	0.362	26	0			1
JT-125	5079.13	36.99	7.000	0.362	26	0			1
JT-126	5116.12	37.80	7.000	0.362	26	0			1
JT-127	5153.92	38.49	7.000	0.362	26	0			1
JT-128	5192.41	38.36	7.000	0.362	26	0			1
JT-129	5230.77	38.44	7.000	0.362	26	0			1
JT-130	5269.21	38.92	7.000	0.362	26	0			1
JT-131	5308.13	37.93	7.000	0.362	26	0			1
JT-132	5346.07	2.44	7.000	0.362	26	0			1
JT-133	5348.51	45.18	7.000	0.362	26	0			1
JT-134	5393.68	45.71	7.000	0.362	26	0			1
JT-135	5439.39	45.51	7.000	0.362	26	0			1
JT-136	5484.90	44.41	7.000	0.362	26	0			1

JT-137	5529.32	43.92	7.000	0.362	26	0			1
JT-138	5573.24	44.96	7.000	0.362	26	0			1
JT-139	5618.20	45.51	7.000	0.362	26	0			1
JT-140	5663.71	44.46	7.000	0.362	26	0			1
JT-141	5708.17	45.99	7.000	0.362	26	0			1
JT-142	5754.16	45.78	7.000	0.362	26	0			1
JT-143	5799.94	45.85	7.000	0.362	26	0			1
JT-144	5845.79	44.84	7.000	0.362	26	0			1
JT-145	5890.63	46.47	7.000	0.362	26	0			1
JT-146	5937.09	46.08	7.000	0.362	26	0			1
JT-147	5983.17	44.47	7.000	0.362	26	0			1
JT-148	6027.64	44.34	7.000	0.362	26	0			1
JT-149	6071.98	44.75	7.000	0.362	26	0			1
JT-150	6116.73	44.75	7.000	0.362	26	0			1
JT-151	6161.48	41.16	7.000	0.362	26	0			1
JT-152	6202.63	44.98	7.000	0.362	26	0			1
JT-153	6247.61	45.37	7.000	0.362	26	0			1
JT-154	6292.98	46.19	7.000	0.362	26	0			1
JT-155	6339.17	46.26	7.000	0.362	26	0			1
JT-156	6385.44	46.14	7.000	0.362	26	0			1
JT-157	6431.57	44.22	7.000	0.362	26	0			1
JT-158	6475.79	46.87	7.000	0.362	26	0			1
JT-159	6522.66	46.03	7.000	0.362	26	0			1
JT-160	6568.68	46.20	7.000	0.362	26	0			1
JT-161	6614.88	46.01	7.000	0.362	26	0			1
JT-162	6660.89	45.31	7.000	0.362	26	0			1
JT-163	6706.20	45.91	7.000	0.362	26	0			1
JT-164	6752.11	46.92	7.000	0.362	26	0			1
JT-165	6799.04	46.53	7.000	0.362	26	0			1
JT-166	6845.56	46.71	7.000	0.362	26	0			1
JT-167	6892.27	43.99	7.000	0.362	26	0			1
JT-168	6936.26	44.34	7.000	0.362	26	0			1
JT-169	6980.61	46.51	7.000	0.362	26	0			1
JT-170	7027.12	45.97	7.000	0.362	26	0			1
JT-171	7073.08	46.25	7.000	0.362	26	0			1
JT-172	7119.33	46.67	7.000	0.362	26	0			1
JT-173	7166.00	46.37	7.000	0.362	26	0			1
JT-174	7212.37	46.37	7.000	0.362	26	0			1
JT-175	7258.74	46.50	7.000	0.362	26	0			1
JT-176	7305.24	46.15	7.000	0.362	26	0			1
JT-177	7351.39	45.73	7.000	0.362	26	0			1
JT-178	7397.12	45.65	7.000	0.362	26	0			1
JT-179	7442.77	40.94	7.000	0.362	26	0			1
JT-180	7483.71	43.56	7.000	0.362	26	0			1
JT-181	7527.28	45.79	7.000	0.362	26	0			1
JT-182	7573.07	42.08	7.000	0.362	26	0			1
JT-183	7615.15	44.89	7.000	0.362	26	0			1
JT-184	7660.04	45.38	7.000	0.362	26	0			1
JT-185	7705.42	45.09	7.000	0.362	26	0			1
JT-186	7750.51	45.53	7.000	0.362	26	0			1
JT-187	7796.04	45.81	7.000	0.362	26	41	7807.39	8662	3
JT-188	7841.85	14.65	7.000	0.362	26	0			1

Inspection Date: 07-11-2016
Report Date: 07-12-2016