

DOWN HOLE

SIGLA	IMPRESA	ANNO
OC3-Sx	SERVIZI GEOTECNICI	2010

CROSS-HOLE
(OC3S2- OC3S2bis)

Controlli di verticalità su sondaggi con rivestimento liscio

Committente: **SPEA Ingegneria Europea**
 Cantiere: **Opere compensative della A14 tratta Bologna-Dir Ravenna**
 Sondaggio: **S2-S2bis**
 Data: **7 dicembre 2010**
 Intervallo di lettura: **2,0 m**
 Allineamento fori: **N90->N270**
 Distanza fori: **6,10 m**

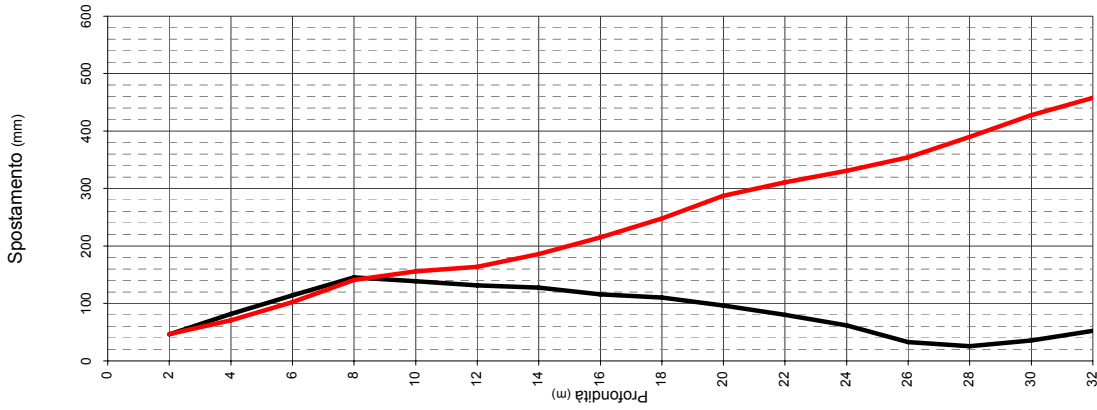
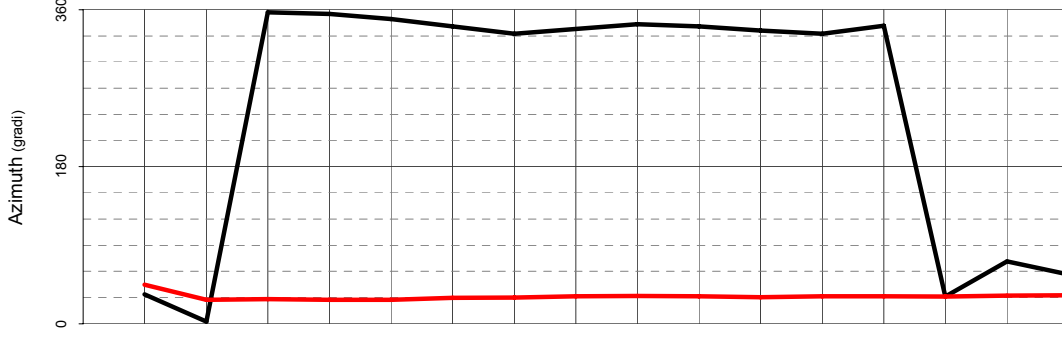
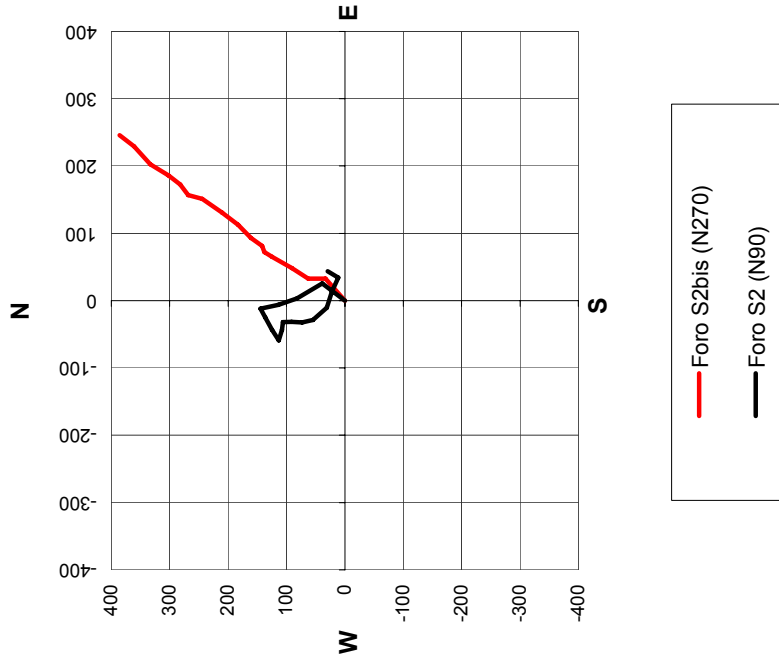
Profondità (m)	Letture di campagna			Elaborazione							
	Orientazione bussola (gradi)	Angolo rolli (gradi)	Angolo pitch (gradi)	Spostamento intervallo (mm)	Azimuth spostamento intervallo (gradi)	Spostamento N-S intervallo (mm)	Spostamento E-W intervallo (mm)	Spostamento N-S totale (mm)	Spostamento E-W totale (mm)	Spostamento totale (mm)	Azimuth spostamento totale (gradi)
0	268,081	0,922	-0,976	46,86	44,728	0,000	0,000	0,000	0,000	0,00	0,000
2	208,435	0,408	-0,734	29,32	359,378	33,294	32,980	33,294	32,980	46,86	44,728
4	254,319	0,650	-0,653	32,15	29,447	29,315	-0,318	62,609	32,661	70,62	27,550
6	321,304	0,989	0,470	38,23	25,903	27,995	15,805	90,604	48,466	102,75	28,143
8	213,896	0,043	-0,423	14,84	28,073	34,389	16,701	124,993	65,167	140,96	27,536
10	192,542	-0,237	-0,166	10,10	67,512	13,093	6,983	138,086	72,150	155,80	27,587
12	222,581	0,117	-0,634	22,52	32,124	3,862	9,330	141,948	81,480	163,67	29,856
14	310,955	0,841	-0,007	29,37	41,433	19,070	11,974	161,018	93,454	186,17	30,131
16	317,302	0,916	0,227	32,95	33,397	22,022	19,438	183,040	112,891	215,05	31,665
18	340,298	0,869	0,723	39,47	30,545	27,513	18,140	210,553	131,031	248,00	31,895
20	311,490	0,620	0,329	24,48	13,539	33,994	20,060	244,547	151,091	287,46	31,709
22	302,419	0,584	-0,173	21,26	48,914	23,803	5,732	268,350	156,822	310,81	30,302
24	314,492	0,663	0,127	23,58	33,646	13,971	16,023	282,321	172,845	331,03	31,476
26	5,169	0,401	0,927	35,27	28,579	19,626	13,062	301,947	185,907	354,59	31,620
28	354,010	0,844	0,724	38,80	43,388	30,973	16,872	332,920	202,780	389,81	31,345
30	329,831	0,768	0,378	29,86	33,646	28,198	26,654	361,118	229,434	427,84	32,430
32	289,581	-0,043	0,101	3,82	266,483	24,859	16,545	385,977	245,980	457,69	32,509
34	219,881	-0,569	-0,451	25,34	91,511	-0,234	-3,811	385,743	242,168	455,46	32,120

Controlli di verticalità su sondaggi con rivestimento liscio

Committente: **SPEA Ingegneria Europea**
 Cantiere: **Opere compensative della A14 tratta Bologna-Dir Ravenna**
 Sondaggio: **S2-S2bis**
 Data: **7 dicembre 2010**
 Intervallo di lettura: **2,0 m**
 Allineamento fori: **N90->N270**
 Distanza fori: **6,10 m**

Profondità (m)	Letture di campagna			Elaborazione							
	Orientazione bussola (gradi)	Angolo roll (gradi)	Angolo pitch (gradi)	Spostamento intervallo (mm)	Azimuth spostamento intervallo (gradi)	Spostamento N-S intervallo (mm)	Spostamento E-W intervallo (mm)	Spostamento N-S totale (mm)	Spostamento E-W totale (mm)	Spostamento totale (mm)	Azimuth spostamento totale (gradi)
0	264,840	1,031	-0,834	46,28	33,794	0,000	0,000	0,000	0,000	0,000	0,000
2	284,490	1,046	0,927	48,78	332,928	38,459	25,740	38,459	25,740	46,28	33,794
4	330,092	0,215	0,930	33,34	343,128	43,433	-22,199	81,892	3,541	81,97	2,476
6	314,779	0,510	0,743	31,45	349,219	31,900	-9,675	113,793	-6,134	113,96	356,915
8	203,148	0,260	0,366	15,67	238,550	30,897	-5,883	144,690	-12,017	145,19	355,252
10	178,688	0,515	0,333	21,41	235,861	-8,174	-13,365	136,516	-25,382	138,86	349,467
12	154,527	0,550	0,097	19,50	234,495	-12,015	-17,721	124,500	-43,103	131,75	340,904
14	89,794	0,164	0,447	16,63	109,912	-11,323	-15,871	113,177	-58,974	127,62	332,477
16	87,652	0,062	0,330	11,72	98,237	-5,662	15,632	107,515	-43,342	115,92	338,044
18	149,588	0,209	0,364	14,65	179,488	-1,679	11,598	105,836	-31,745	110,49	343,304
20	145,631	0,302	0,411	17,80	181,991	-14,646	0,131	91,190	-31,614	96,51	340,880
22	136,623	0,293	0,462	19,10	169,012	-17,788	-0,618	73,402	-32,232	80,17	336,293
24	106,063	0,504	0,689	29,81	142,262	-18,751	3,641	54,651	-28,591	61,68	332,383
26	129,890	-0,237	0,688	25,39	110,904	-23,574	18,245	31,077	-10,346	32,75	341,587
28	98,802	0,213	0,632	23,28	117,379	-9,061	23,722	22,016	13,376	25,76	31,282
30	13,106	0,157	0,560	20,30	28,731	-10,708	20,676	11,308	34,052	35,88	71,629
32	314,504	0,271	0,487	19,45	343,609	17,805	9,760	29,114	43,812	52,60	56,396
34	148,425	0,361	0,837	31,81	171,738	18,660	-5,489	47,774	38,323	61,25	38,736

Committente: SPEA Ingegneria Europea
Cantiere: Opere compensative della A14 tratta Bologna-Dir Ravenna
Sondaggio: S2-S2bis
Data: 7 dicembre 2010
Intervallo di lettura: 2 metri
Allineamento fori: N90->N270
Distanza fori: 6,1 metri



Distanza reale fra i fori	
Profondità (m)	Distanza (m)
0	6,100
2	6,093
4	6,071
6	6,045
8	6,023
10	6,002
12	5,975
14	5,948
16	5,944
18	5,938
20	5,919
22	5,914
24	5,903
26	5,910
28	5,919
30	5,915
32	5,909
34	5,906

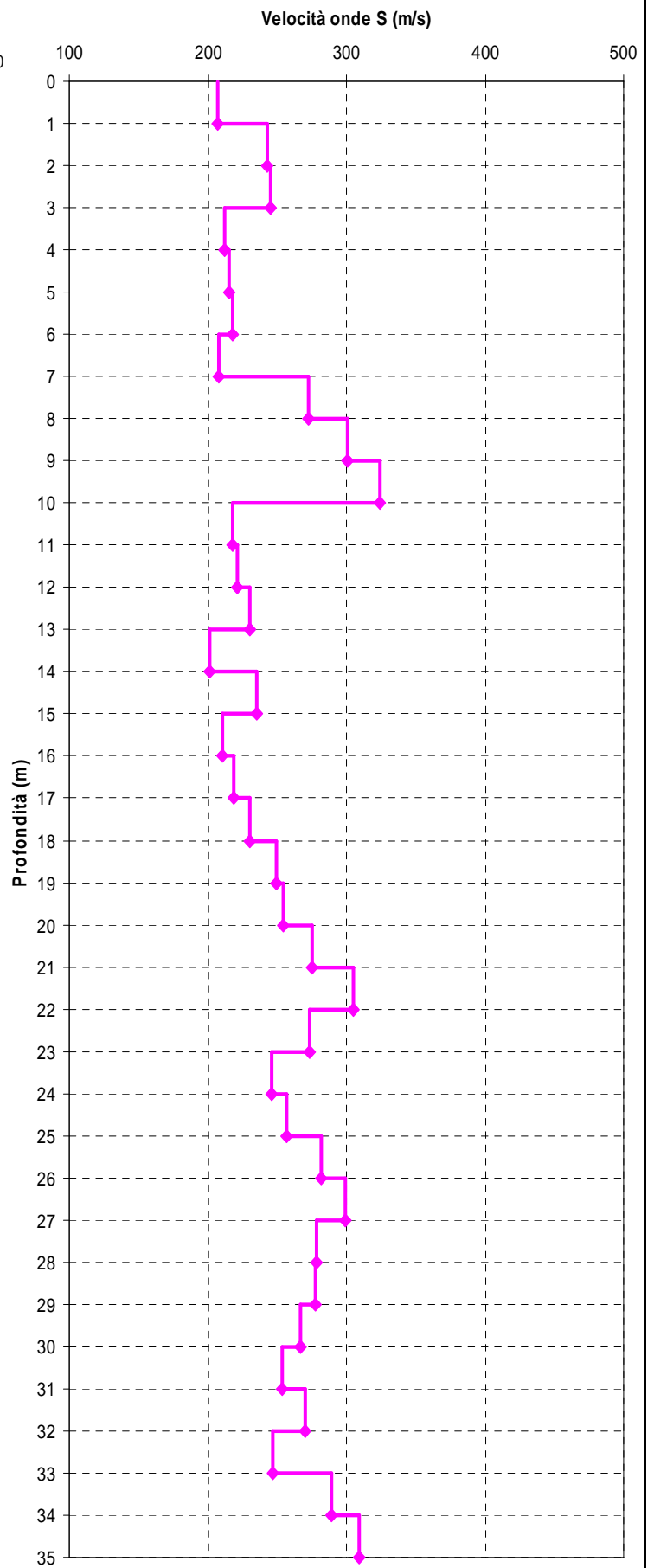
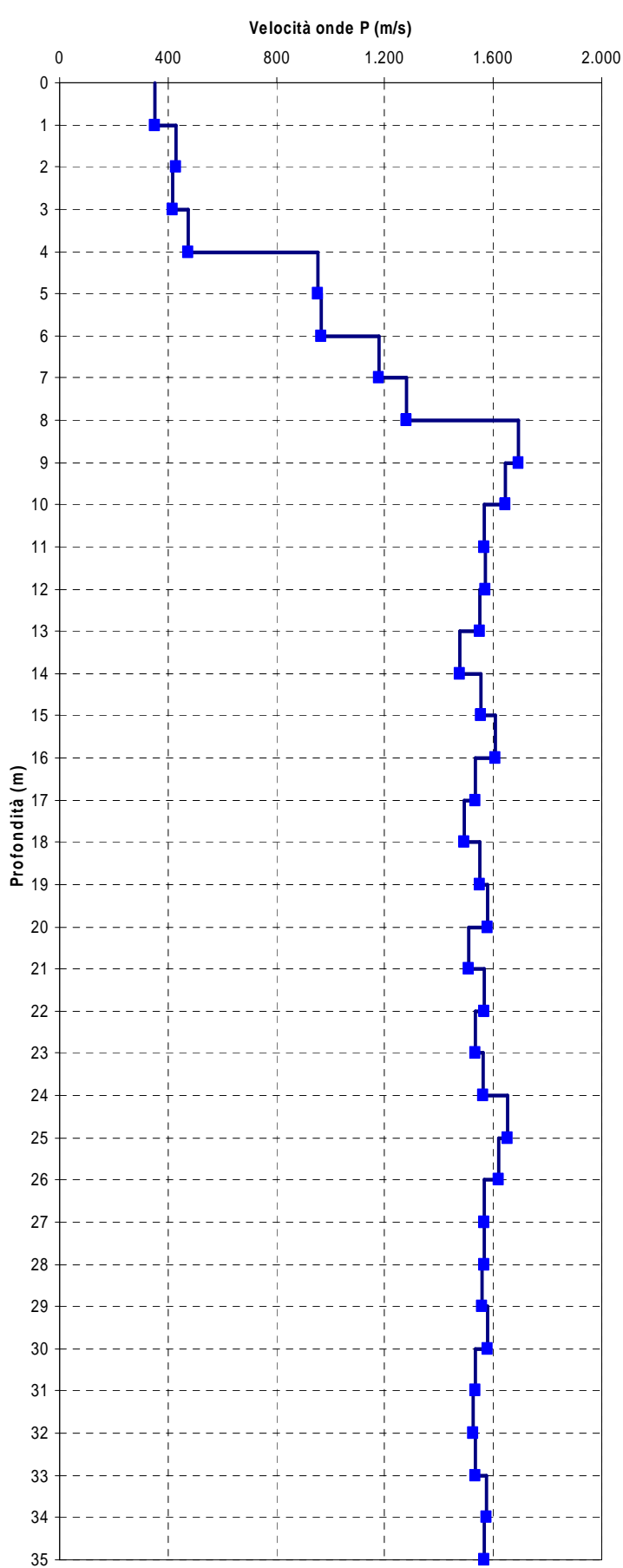
Committente: SPEA Ingegneria Europea S.p.A.		CH OC3S2-2bis
Cantiere:	Opere Compensative A14 – Tratto Bologna diramazione Ravenna	Tabella Riassuntiva
Località:	San Lazzaro di Savena (BO)	
Data	Dicembre 2010	

Prof.	Distanza	T(p)	T(s)	V(p)	V(s)	Poisson	E	G	D *	STRATIGRAFIA
1	6,096	17,300	29,50	352	207	0,24	190	77	1,80	Argilla con limo
2	6,093	14,200	25,10	429	243	0,26	268	106	1,80	Sabbia argillosa
3	6,082	14,575	24,80	417	245	0,24	268	108	1,80	
4	6,071	12,800	28,60	474	212	0,37	235	86	1,90	Argilla Limosa
5	6,058	6,350	28,10	954	216	0,47	260	88	1,90	
6	6,045	6,250	27,70	967	218	0,47	267	91	1,90	
7	6,034	5,125	29,00	1.177	208	0,48	244	82	1,90	
8	6,023	4,700	22,10	1.281	273	0,48	417	141	1,90	Sabbia ghiaiosa Debolmente limosa
9	6,013	3,550	20,00	1.694	301	0,48	523	176	1,95	
10	6,002	3,650	18,50	1.645	324	0,48	608	205	1,95	Argilla limoso-sabbiosa
11	5,989	3,825	27,50	1.566	218	0,49	276	92	1,95	
12	5,975	3,800	27,00	1.572	221	0,49	285	96	1,95	
13	5,962	3,850	25,85	1.548	231	0,49	309	104	1,95	Argilla limosa
14	5,948	4,025	29,60	1.478	201	0,49	235	79	1,95	
15	5,946	3,825	25,25	1.555	235	0,49	322	108	1,95	
16	5,944	3,700	28,30	1.607	210	0,49	257	86	1,95	Sabbia argillosa
17	5,941	3,875	27,20	1.533	218	0,49	277	93	1,95	
18	5,938	3,975	25,80	1.494	230	0,49	307	103	1,95	
19	5,929	3,825	23,75	1.550	250	0,49	361	122	1,95	
20	5,919	3,750	23,25	1.578	255	0,49	376	126	1,95	Argilla limosa
21	5,917	3,925	21,50	1.507	275	0,48	438	148	1,95	
22	5,914	3,775	19,40	1.567	305	0,48	537	181	1,95	Sabbia con argilla
23	5,909	3,850	21,60	1.535	274	0,48	433	146	1,95	
24	5,903	3,775	24,00	1.564	246	0,49	351	118	1,95	Argilla limosa
25	5,906	3,575	23,00	1.652	257	0,49	383	129	1,95	
26	5,910	3,650	20,95	1.619	282	0,48	461	155	1,95	
27	5,914	3,775	19,75	1.567	299	0,48	518	175	1,95	
28	5,919	3,775	21,25	1.568	279	0,48	449	151	1,95	
29	5,917	3,800	21,30	1.557	278	0,48	446	150	1,95	Sabbia argillosa
30	5,915	3,750	22,15	1.577	267	0,49	413	139	1,95	Argilla limoso- Sabbiosa
31	5,912	3,850	23,35	1.536	253	0,49	371	125	1,95	
32	5,909	3,875	21,90	1.525	270	0,48	421	142	1,95	Argilla mimosa
33	5,907	3,85	23,95	1.534	247	0,49	353	119	1,95	
34	5,906	3,75	20,40	1.575	290	0,48	485	163	1,95	Sabbia argillosa
35	5,906	3,78	19,10	1.565	309	0,48	552	186	1,95	

- T(p)** Tempi di arrivo delle onde P
T(s) Tempi di arrivo delle onde S
Vp Velocità delle onde P
Vs Velocità delle onde S
Poisson Coefficiente di Poisson
E Modulo elastico in regime dinamico
G Modulo di taglio in regime dinamico
D Peso naturale del terreno

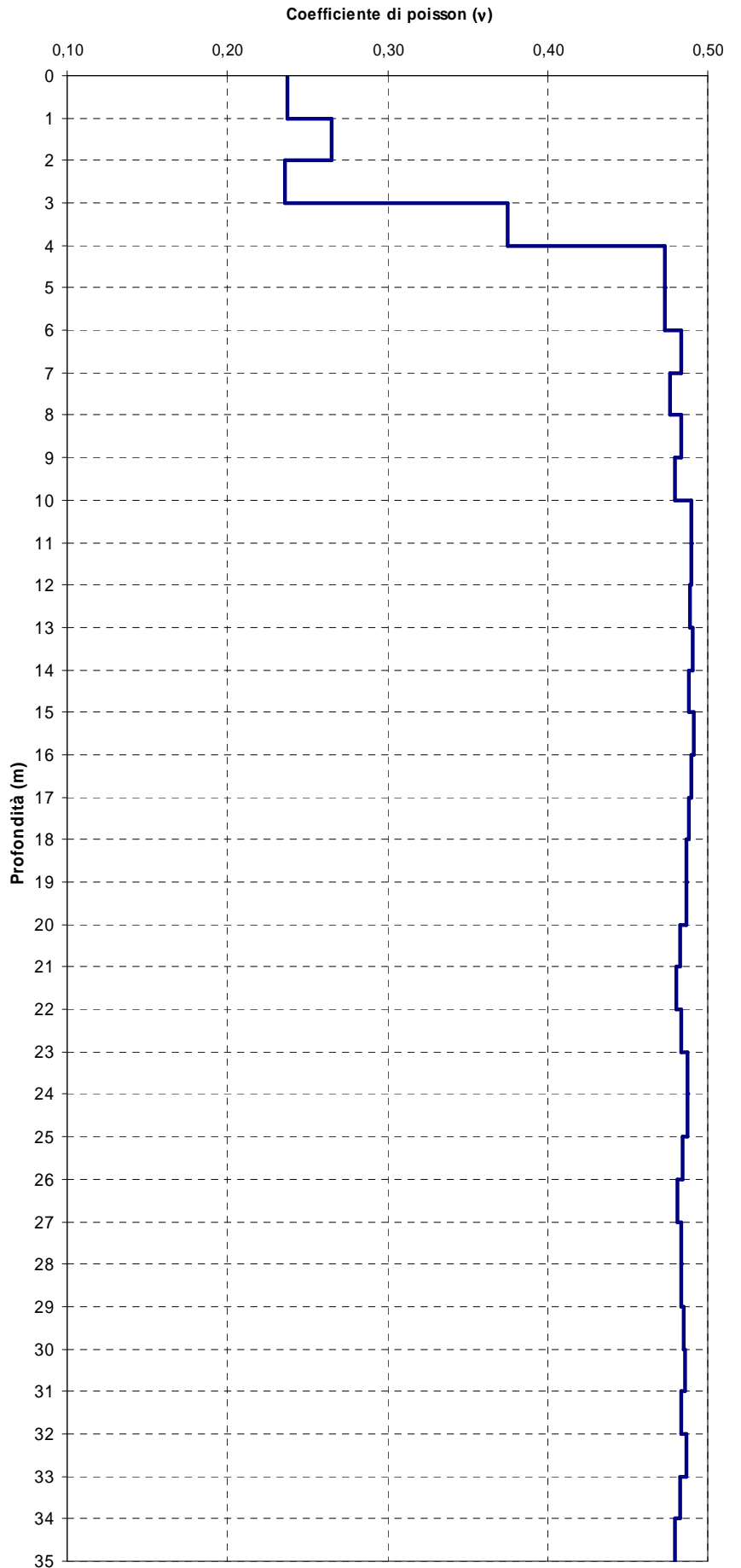
* I valori del peso naturale del terreno sono desunti da dati bibliografici, e quindi suscettibili ad alcune correzioni.

Committente: SPEA Ingegneria Europea S.p.A.	CH OC3S2-2bis
Cantiere: Opere Compensative A14 – Tratto Bologna diramazione Ravenna	GRAFICO Vp e Vs
Località: San Lazzaro di Savena (BO)	
Data: Dicembre 2010	



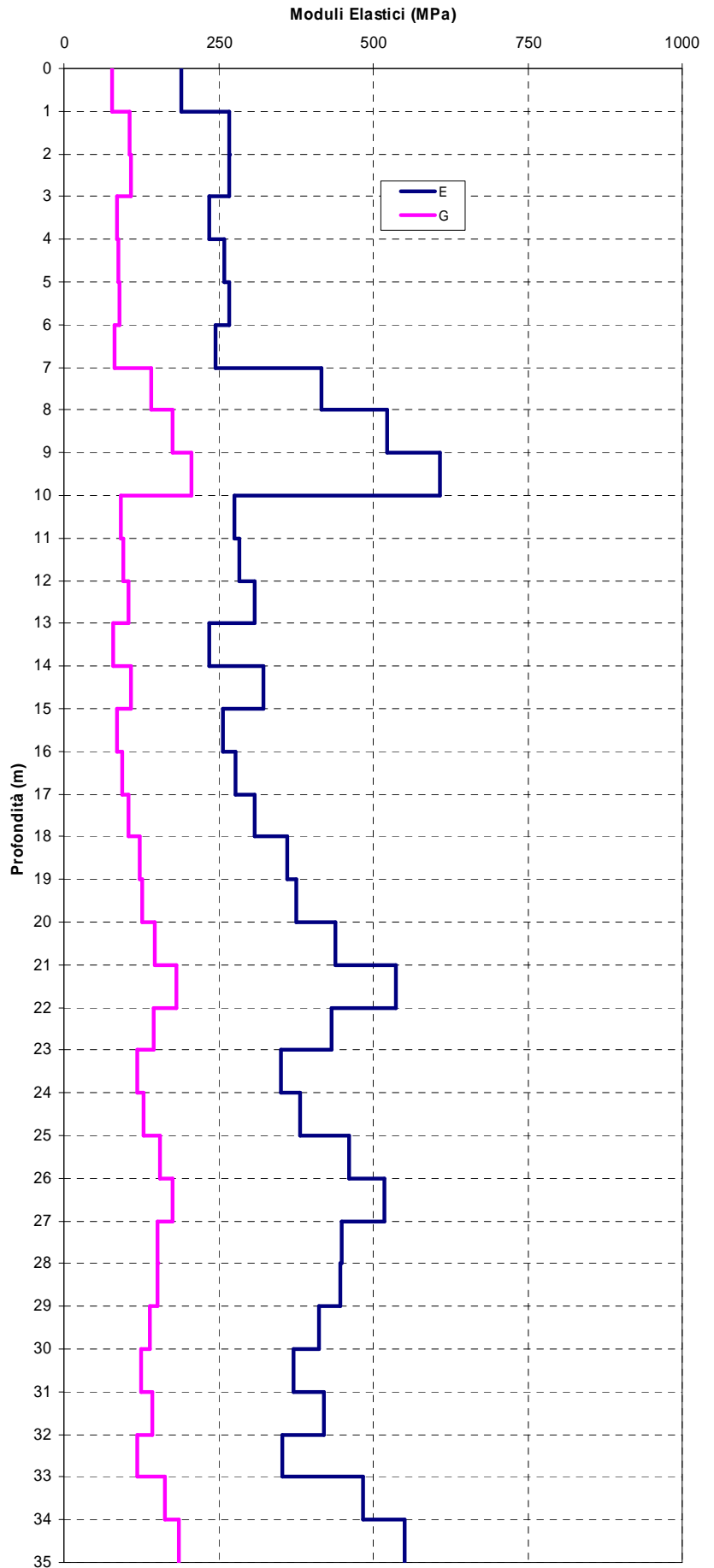
Committente: SPEA Ingegneria Europea S.p.A.		CH OC3S2-2bis
Cantiere:	Opere Compensative A14 – Tratto Bologna diramazione Ravenna	Coefficiente Poisson
Località:	San Lazzaro di Savena (BO)	
Data	Dicembre 2010	

Profondità m	ν
1	0,24
2	0,26
3	0,24
4	0,37
5	0,47
6	0,47
7	0,48
8	0,48
9	0,48
10	0,48
11	0,49
12	0,49
13	0,49
14	0,49
15	0,49
16	0,49
17	0,49
18	0,49
19	0,49
20	0,49
21	0,48
22	0,48
23	0,48
24	0,49
25	0,49
26	0,48
27	0,48
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29	0,48
30	0,49
31	0,49
32	0,48
33	0,49
34	0,48
35	0,48



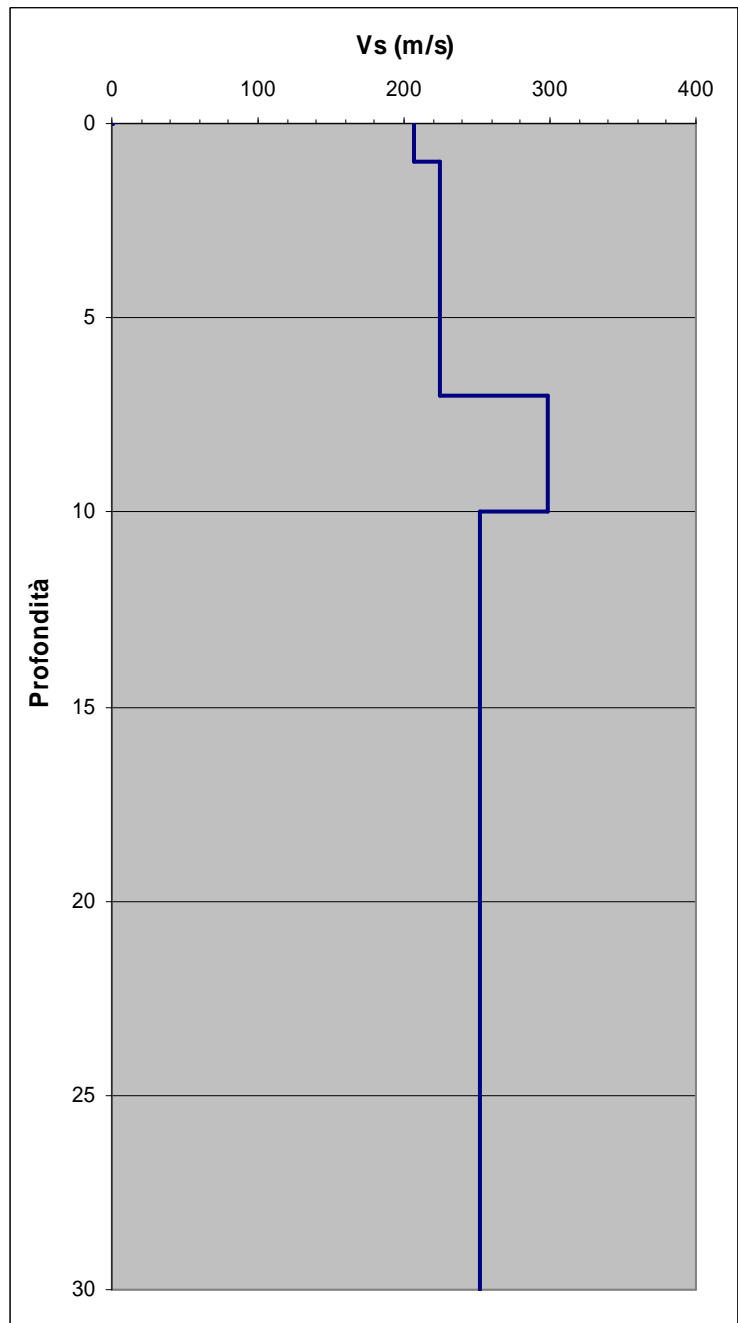
Committente: SPEA Ingegneria Europea S.p.A.	CH OC3S2-2bis
Cantiere: Opere Compensative A14 – Tratto Bologna diramazione Ravenna	MODULI ELASTICI
Località: San Lazzaro di Savena (BO)	
Data Dicembre 2010	

Prof. m	ρ T/mc	E MPa	G MPa
1	1,80	190	77
2	1,80	268	106
3	1,80	268	108
4	1,90	235	86
5	1,90	260	88
6	1,90	267	91
7	1,90	244	82
8	1,90	417	141
9	1,95	523	176
10	1,95	608	205
11	1,95	276	92
12	1,95	285	96
13	1,95	309	104
14	1,95	235	79
15	1,95	322	108
16	1,95	257	86
17	1,95	277	93
18	1,95	307	103
19	1,95	361	122
20	1,95	376	126
21	1,95	438	148
22	1,95	537	181
23	1,95	433	146
24	1,95	351	118
25	1,95	383	129
26	1,95	461	155
27	1,95	518	175
28	1,95	449	151
29	1,95	446	150
30	1,95	413	139
31	1,95	371	125
32	1,95	421	142
33	1,95	353	119
34	1,95	485	163
35	1,95	552	186



Committente: SPEA Ingegneria Europea S.p.A.	CH OC3S2-2bis
Cantiere: Opere Compensative A14 – Tratto Bologna diramazione Ravenna	VS₃₀ – Categoria suolo
Località: San Lazzaro di Savena (BO)	
Data Dicembre 2010	

Prof. (m)	Vs (m/s)
1	207
2	224
3	224
4	224
5	224
6	224
7	224
8	299
9	299
10	299
11	252
12	252
13	252
14	252
15	252
16	252
17	252
18	252
19	252
20	252
21	252
22	252
23	252
24	252
25	252
26	252
27	252
28	252
29	252
30	252



VS₃₀ = 248 m/s

CATEGORIA SUOLO C

In assenza di altre informazioni il valore della VS₃₀ è stato calcolato dal piano campagna

Committente: SPEA Ingegneria Europea	Cross – Hole OC3S2 – S2bis DOCUMENTAZINE FOTOGRAFICA
Cantiere: Opere di mitigazione A14 tratto Bologna – Dir Ravenna	
Località: San Lazzaro di Savena (Bologna)	
Data: Dicembre 2010	



Area cantiere cross hole



Postazione foro OC3S2bis con geofono e sismografo



Postazione foro OC3S2 con sparker



Postazione per misura di verticalità



Foro OC3S2bis: misure di verticalità



Foro OC3S2: misure di verticalità

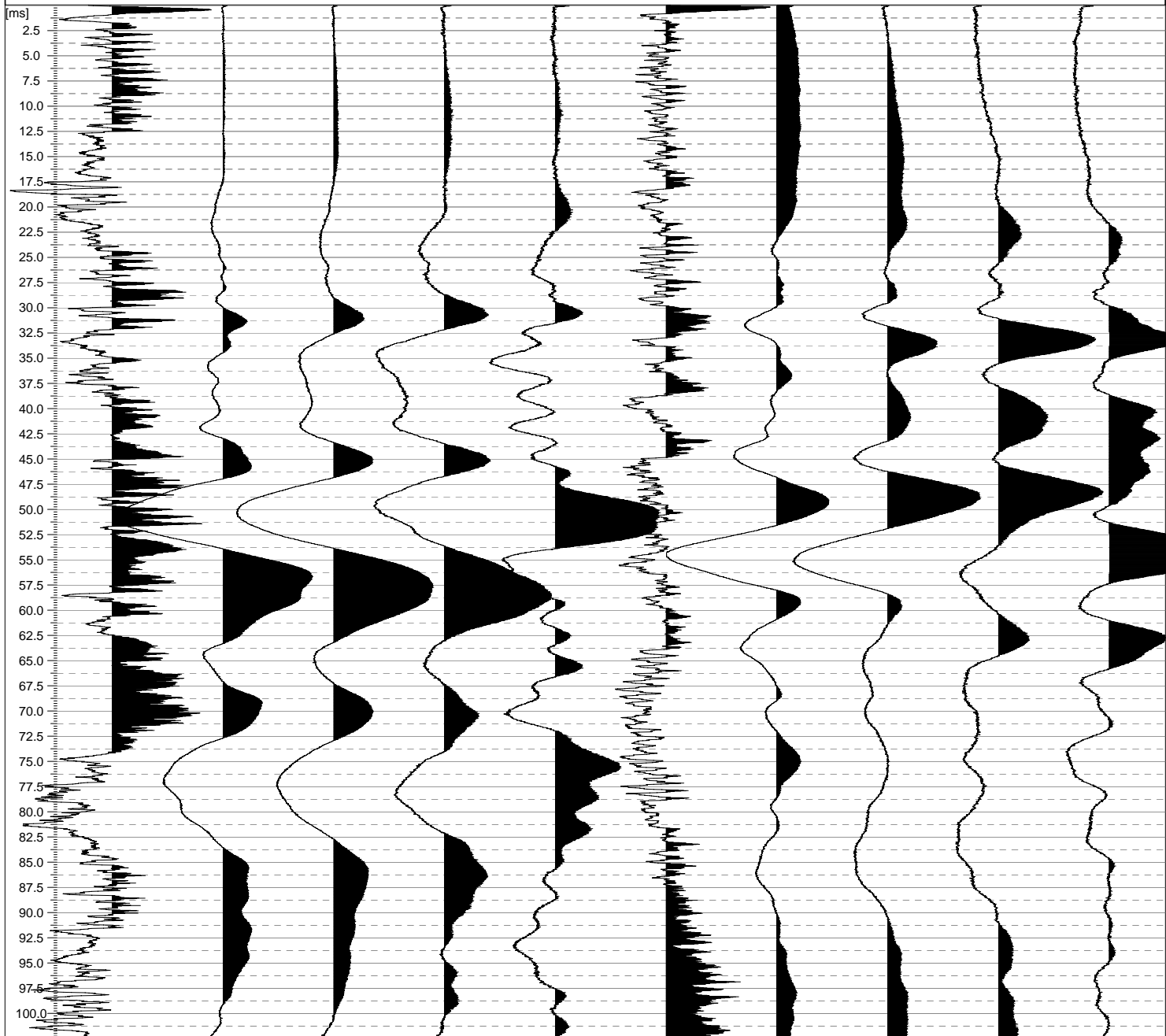
SISMOGRAMMI

Instrument ID: ABEM Instrument AB Terraloc <Not defined>

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No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingeneria Europea S.p.A.
Company:
Observer:

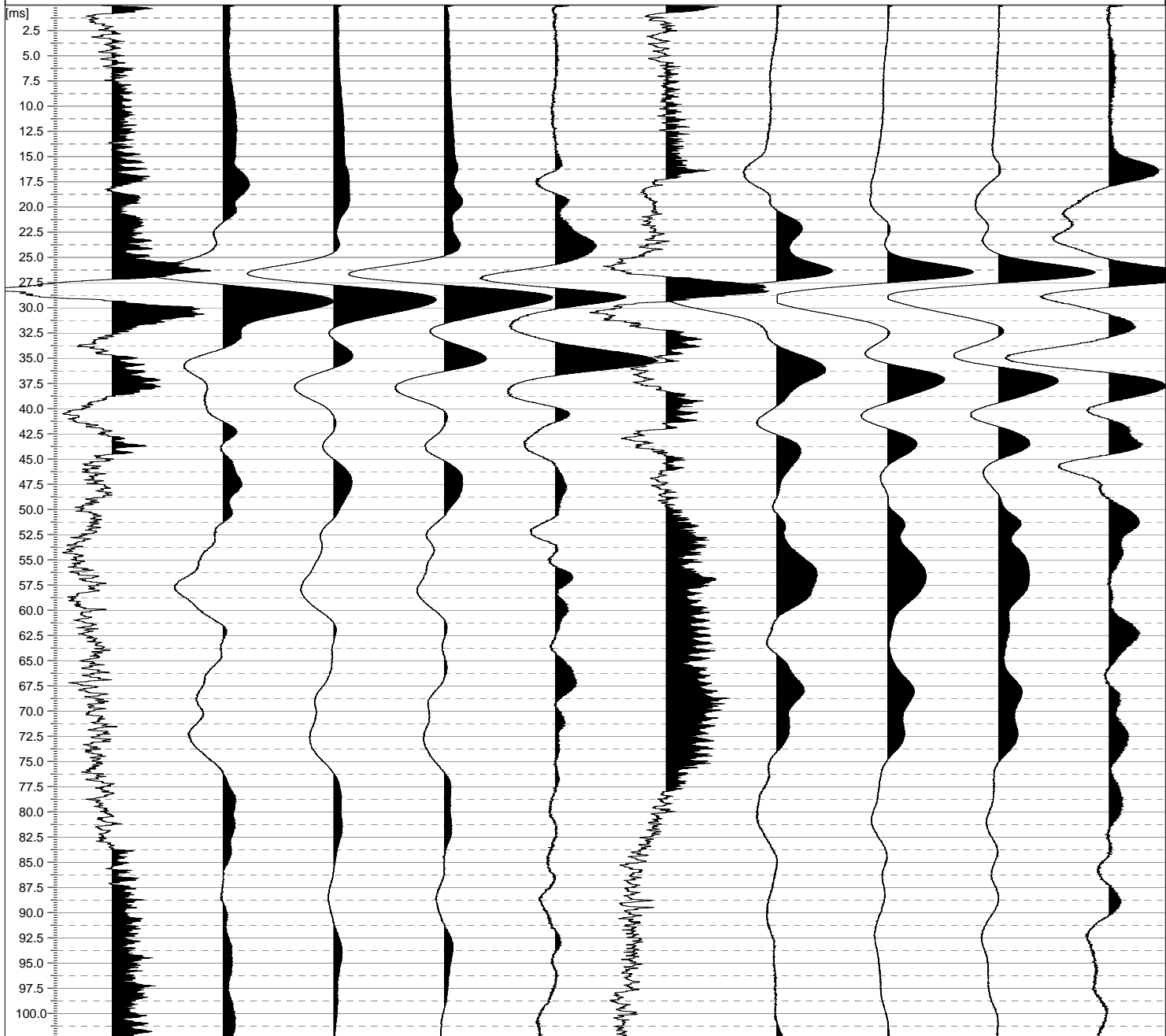


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_2m
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No of samples: 4096
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Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

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Company:
Observer:

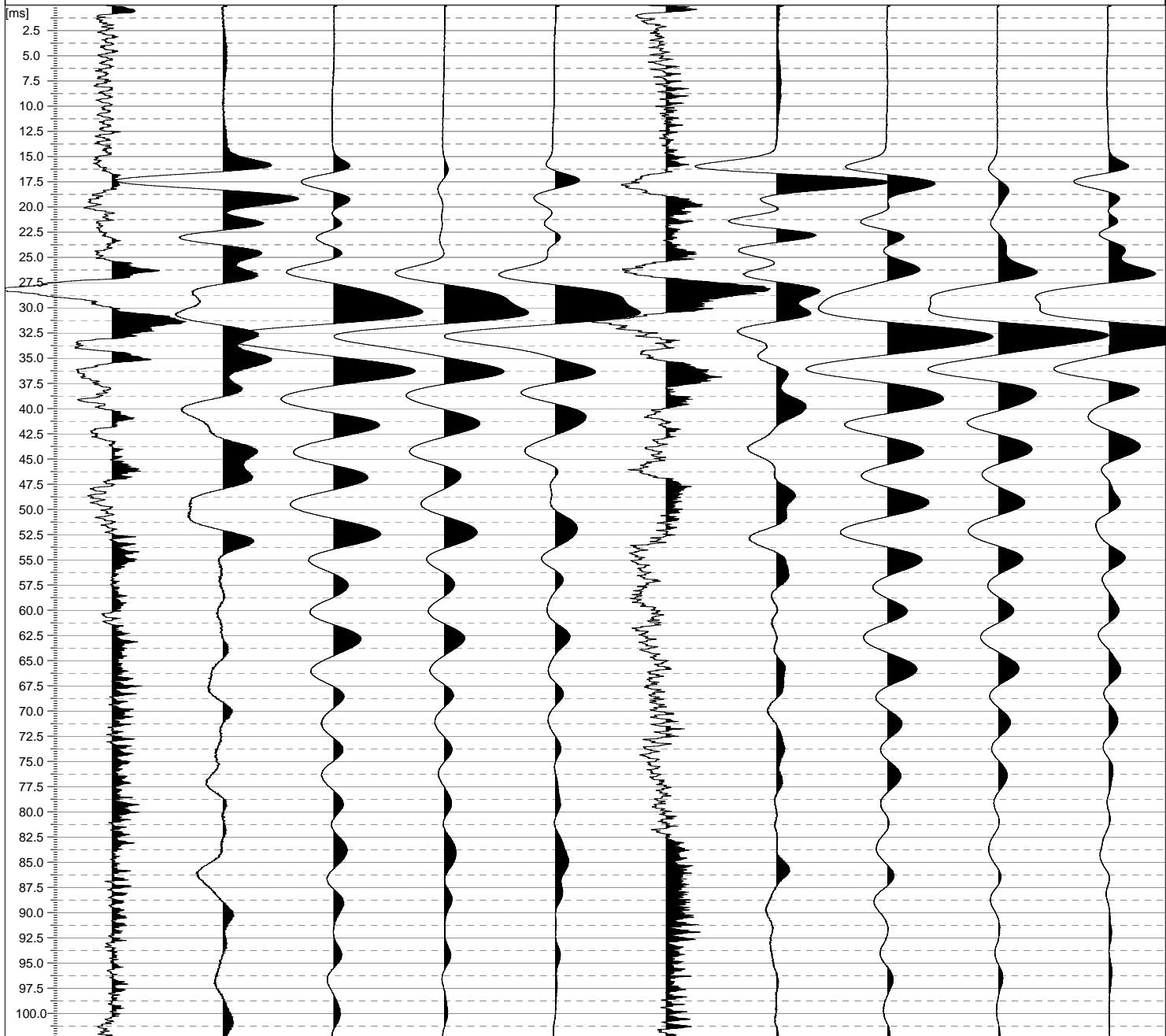


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_3m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

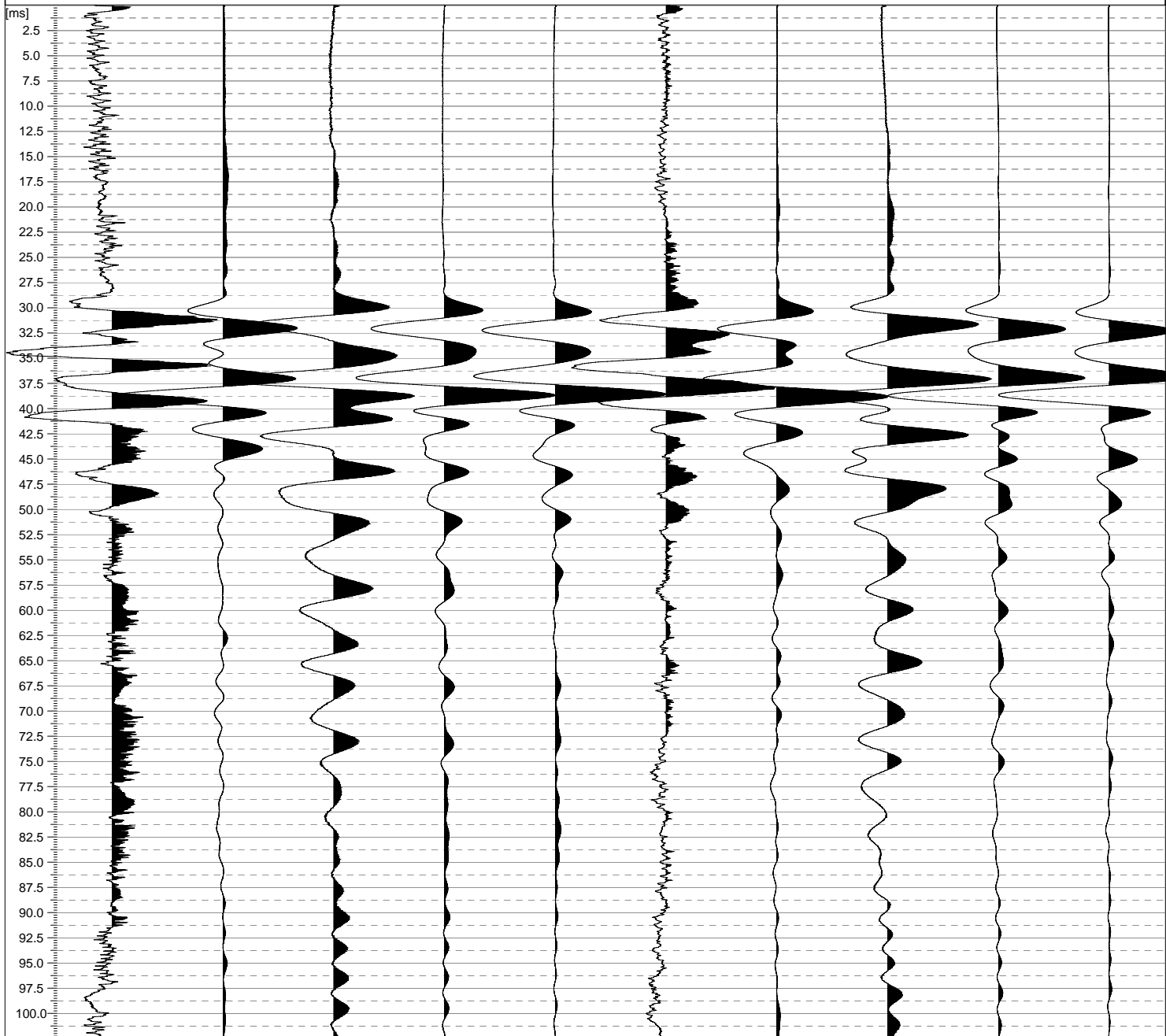


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Record: A14-OC3S2_4m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingeneria Europea S.p.A.
Company:
Observer:

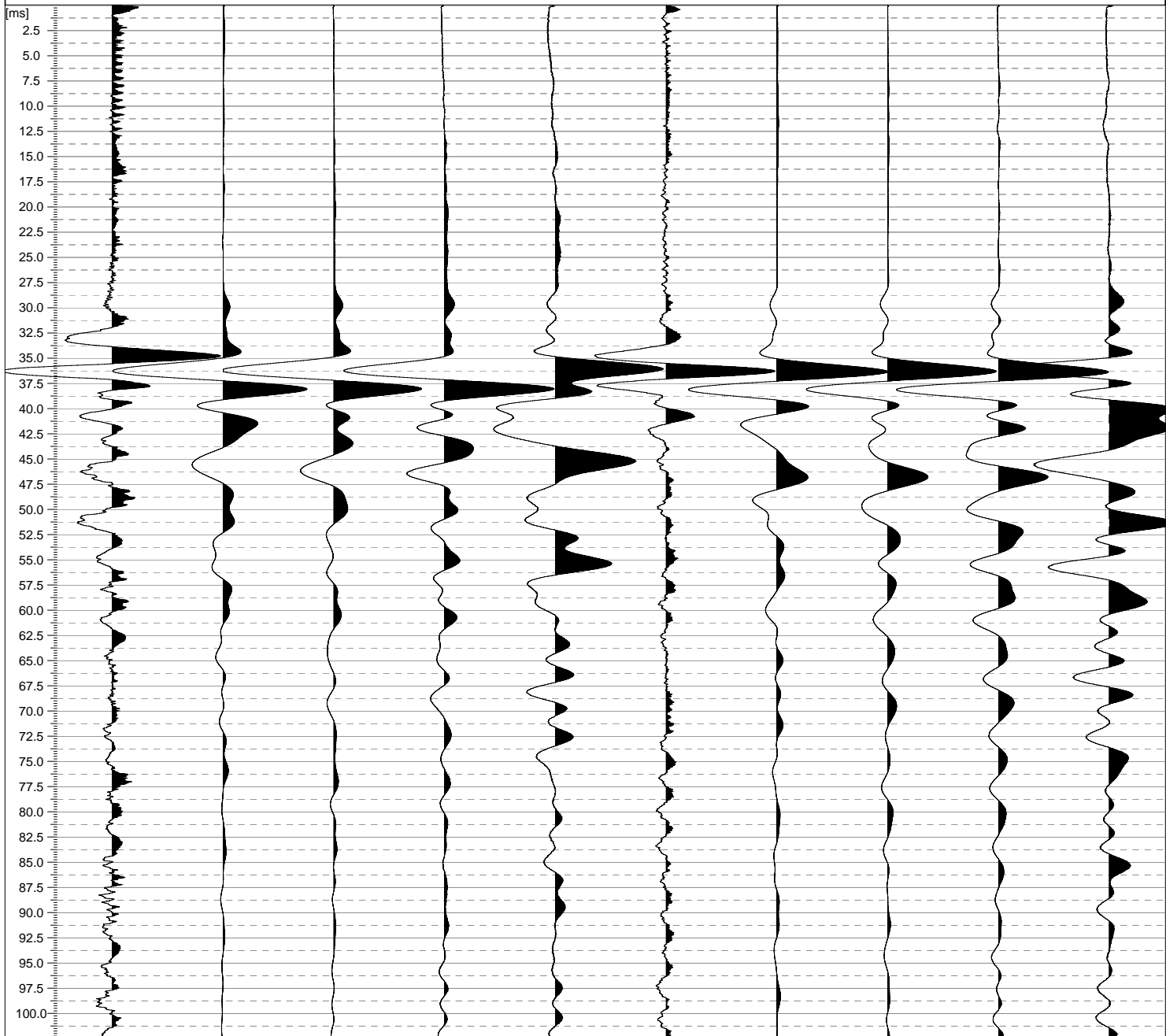


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_5m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingeneria Europea S.p.A.
Company:
Observer:

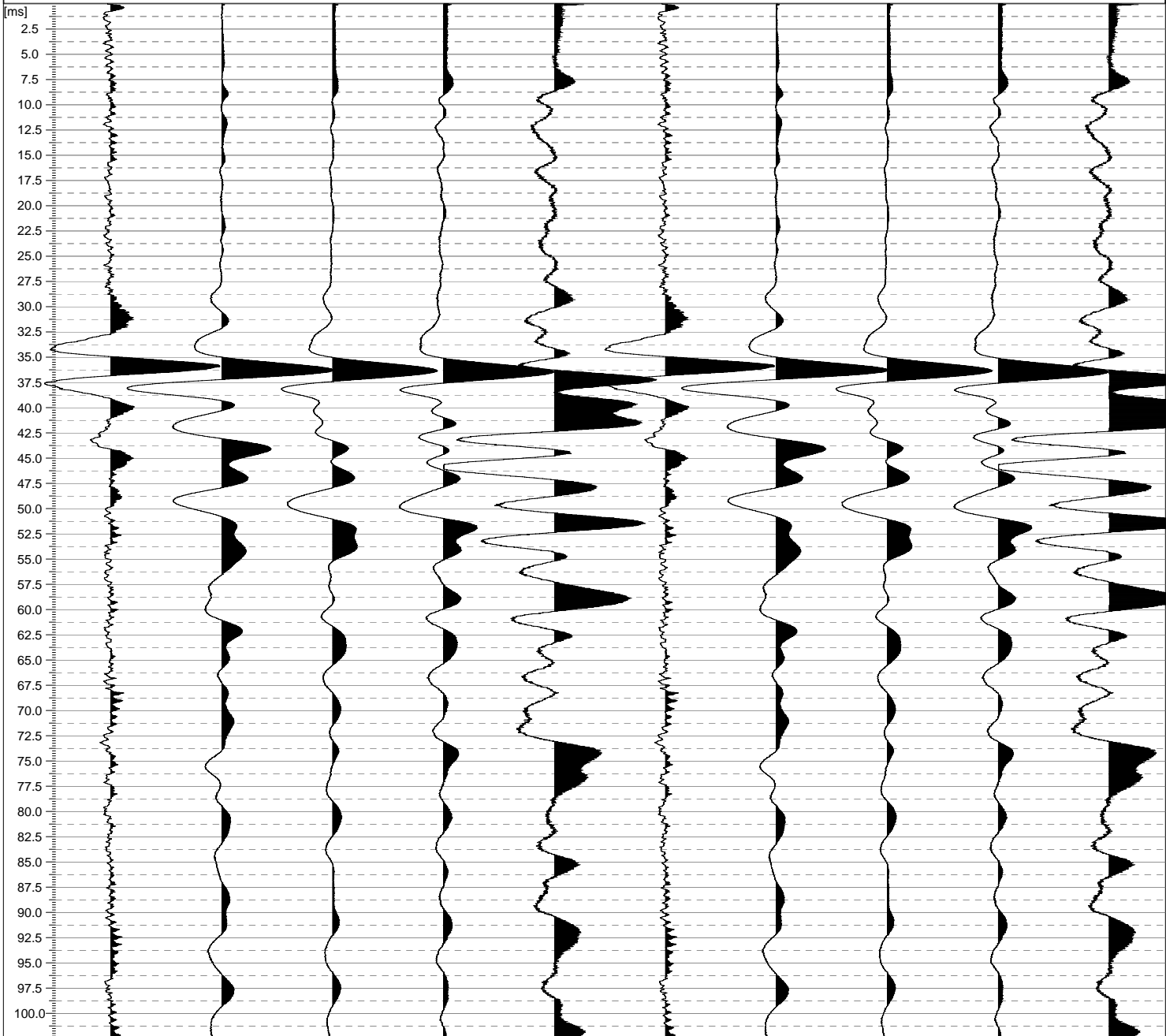


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_5m-P
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

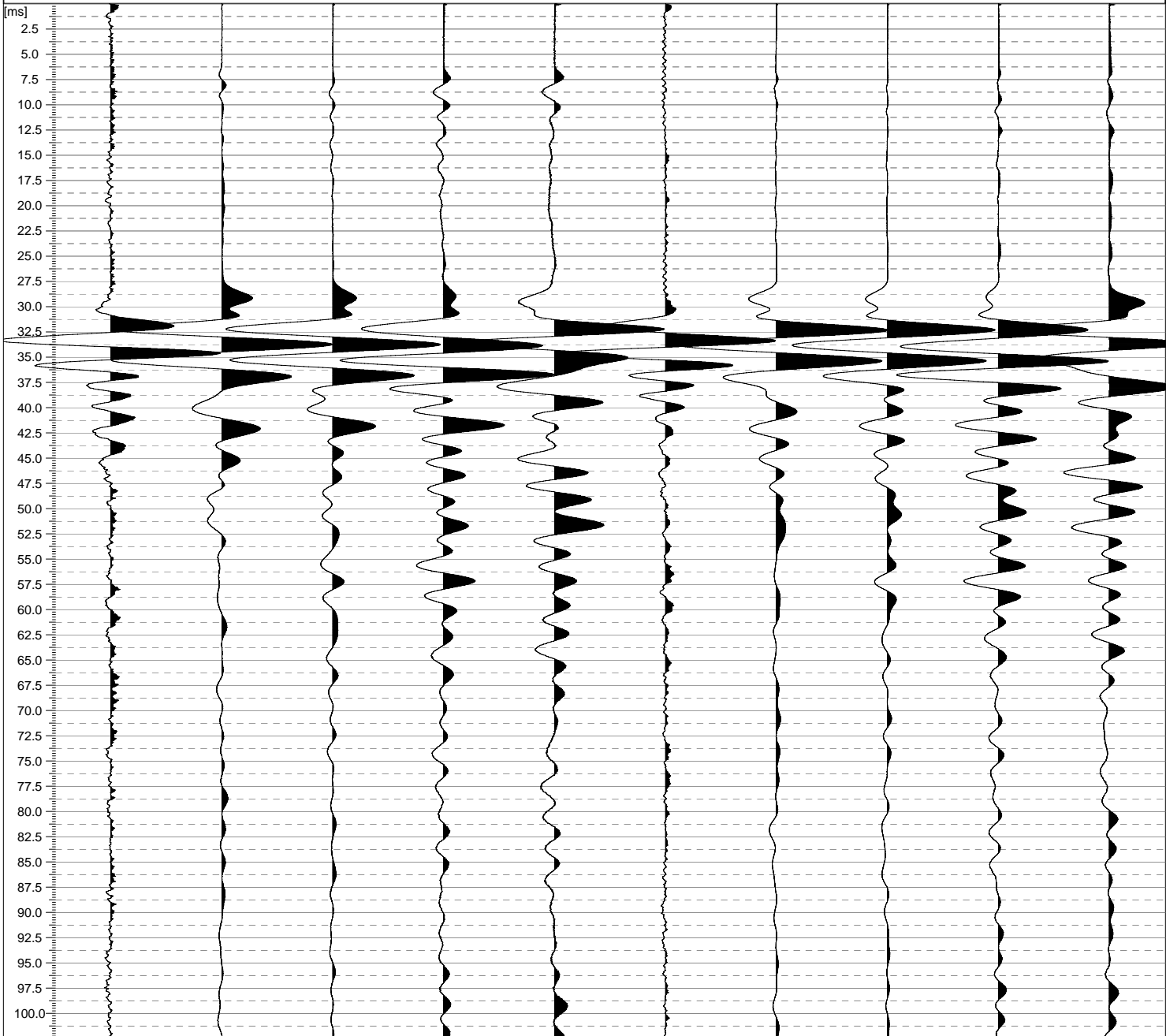


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Record: A14-OC3S2_6m
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No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

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Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

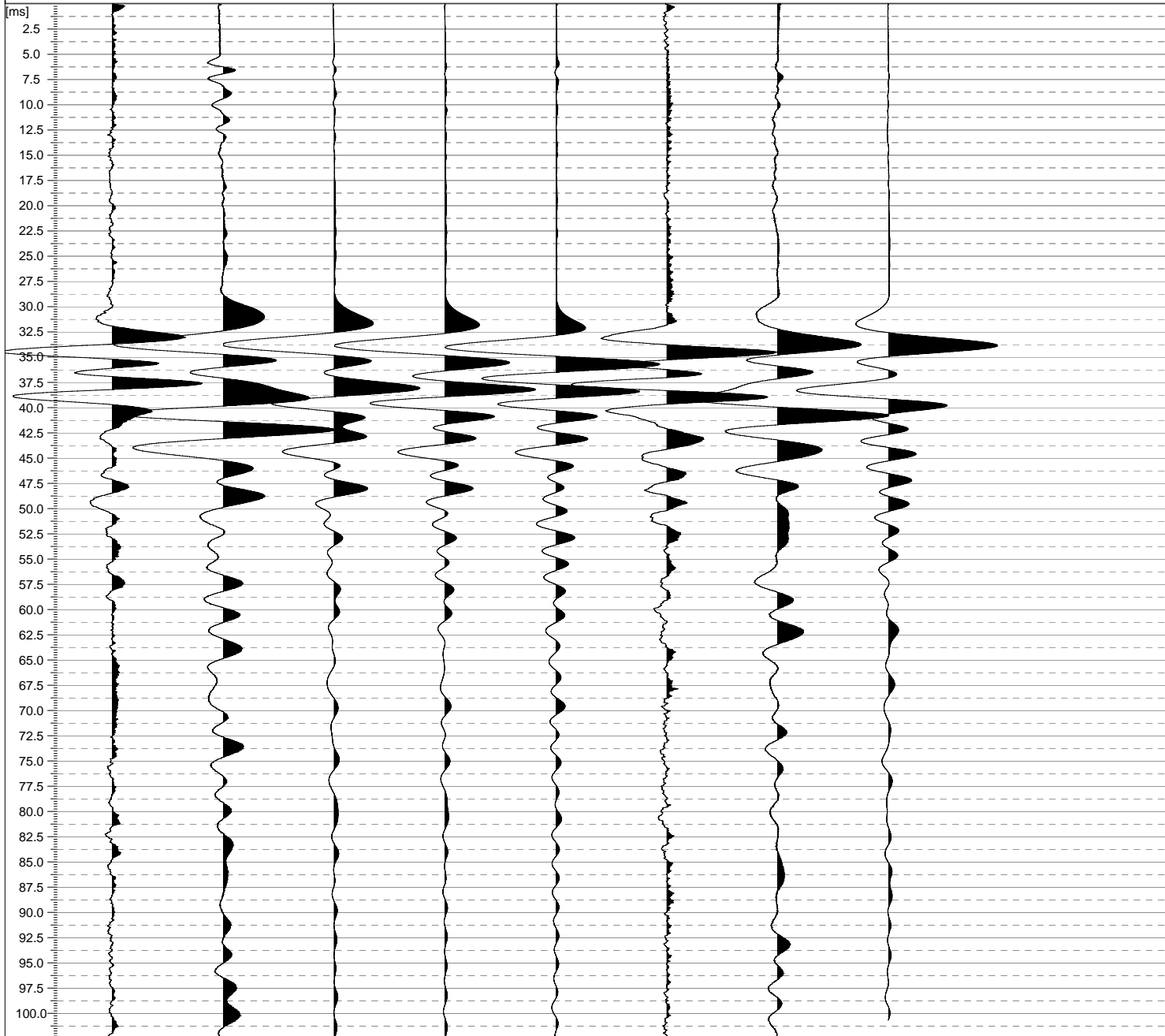


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_7m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

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Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

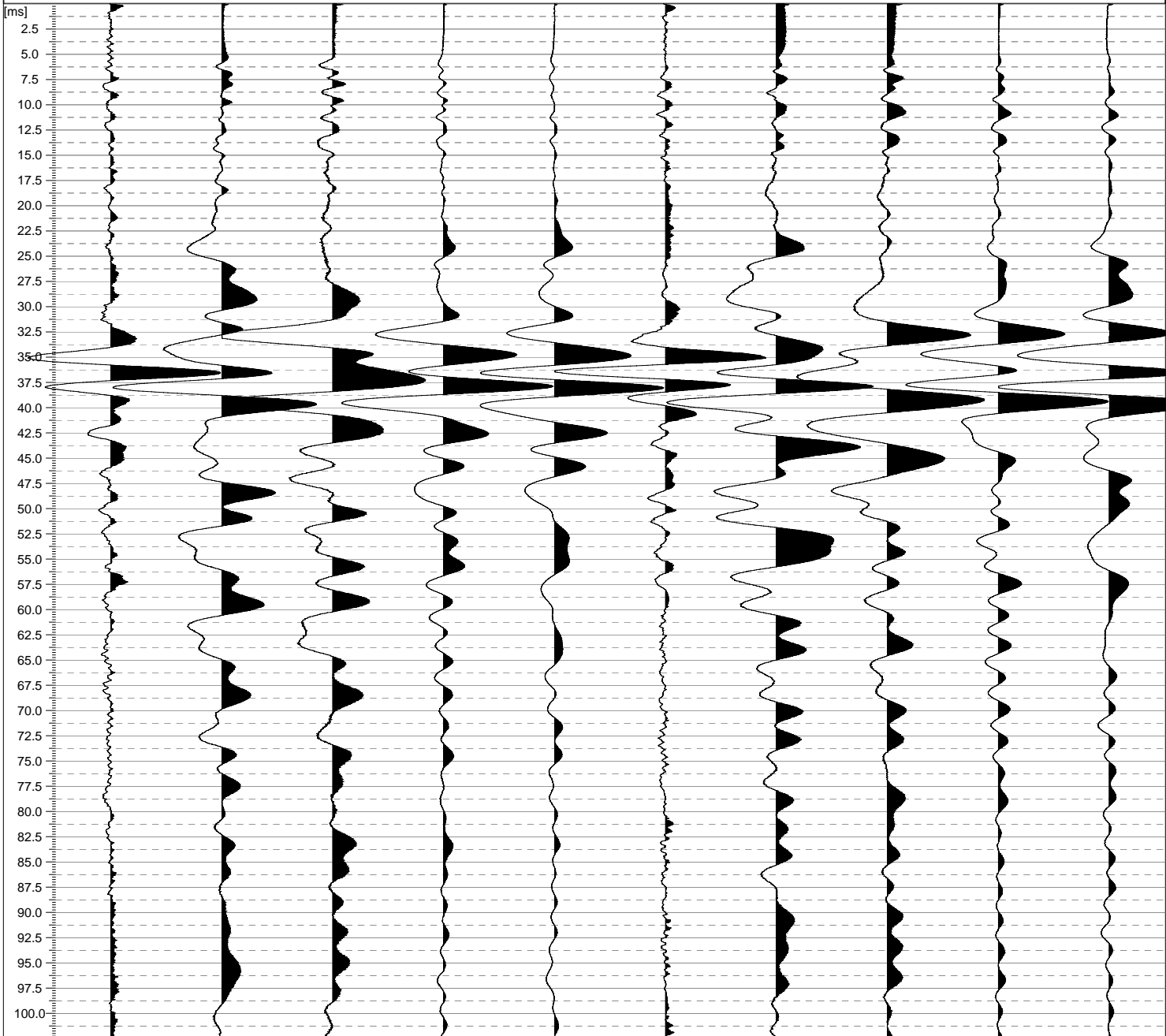


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Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

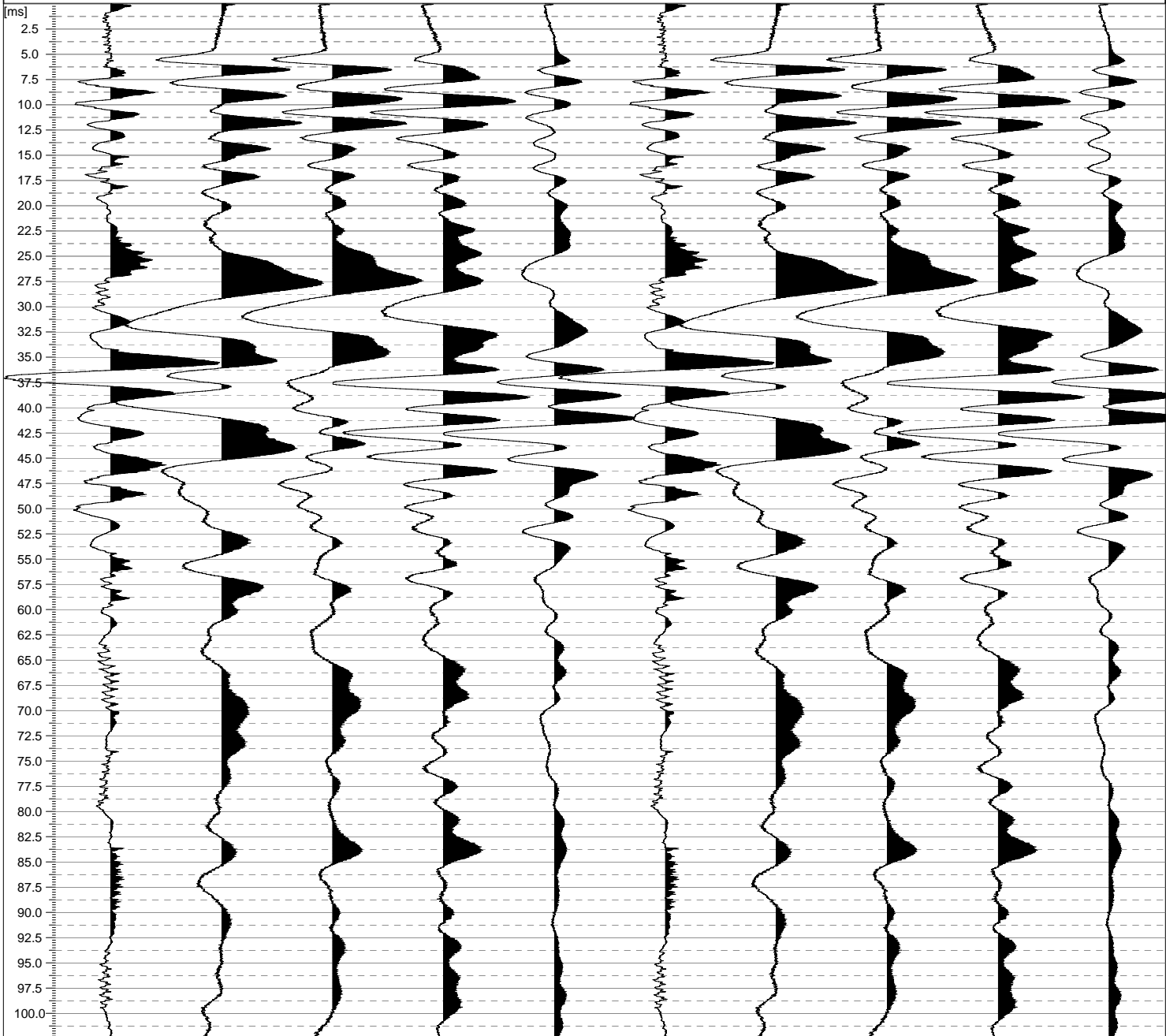


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_8m-P
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

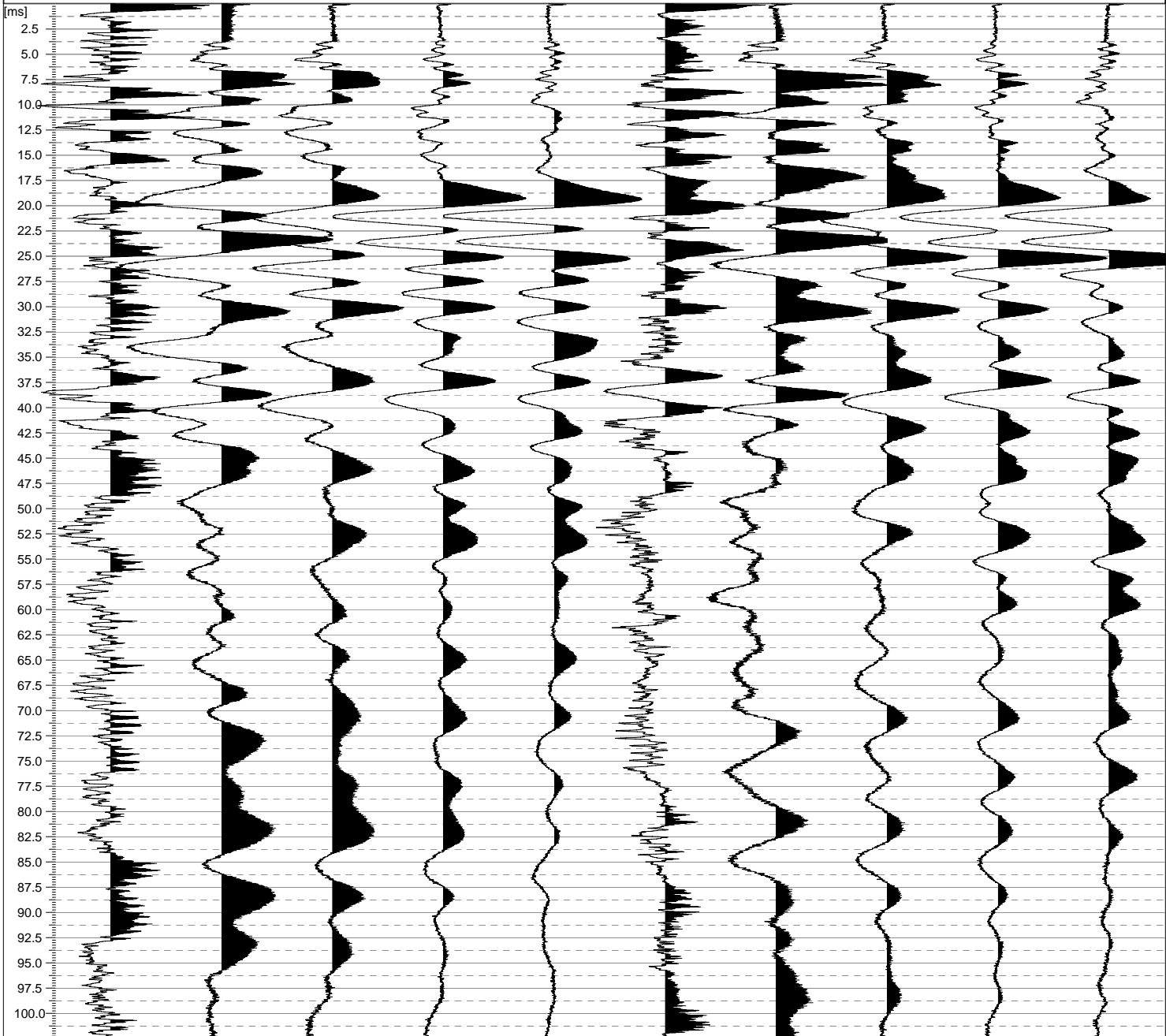


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_9m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingeneria Europea S.p.A.
Company:
Observer:

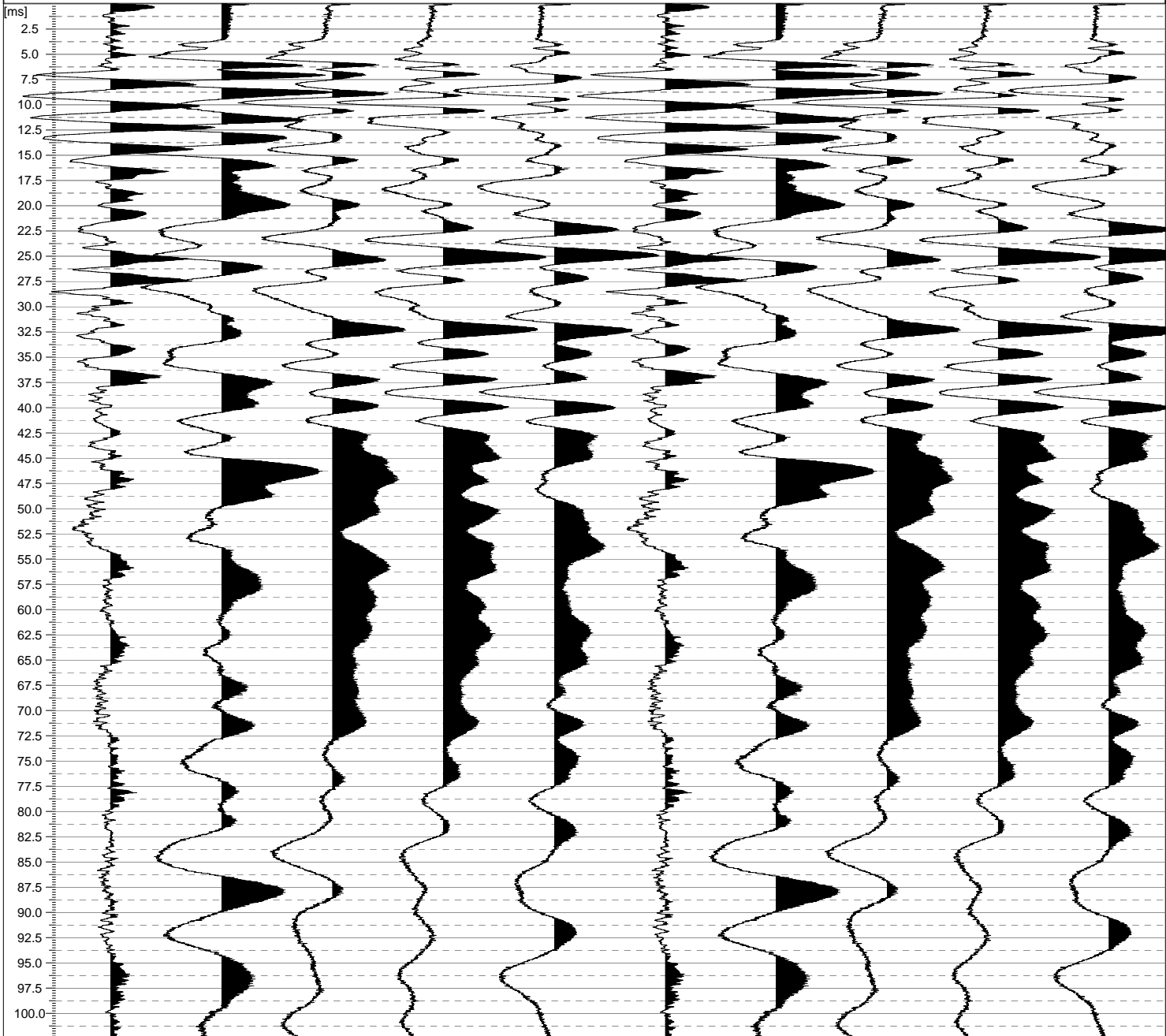


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_9m-P
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

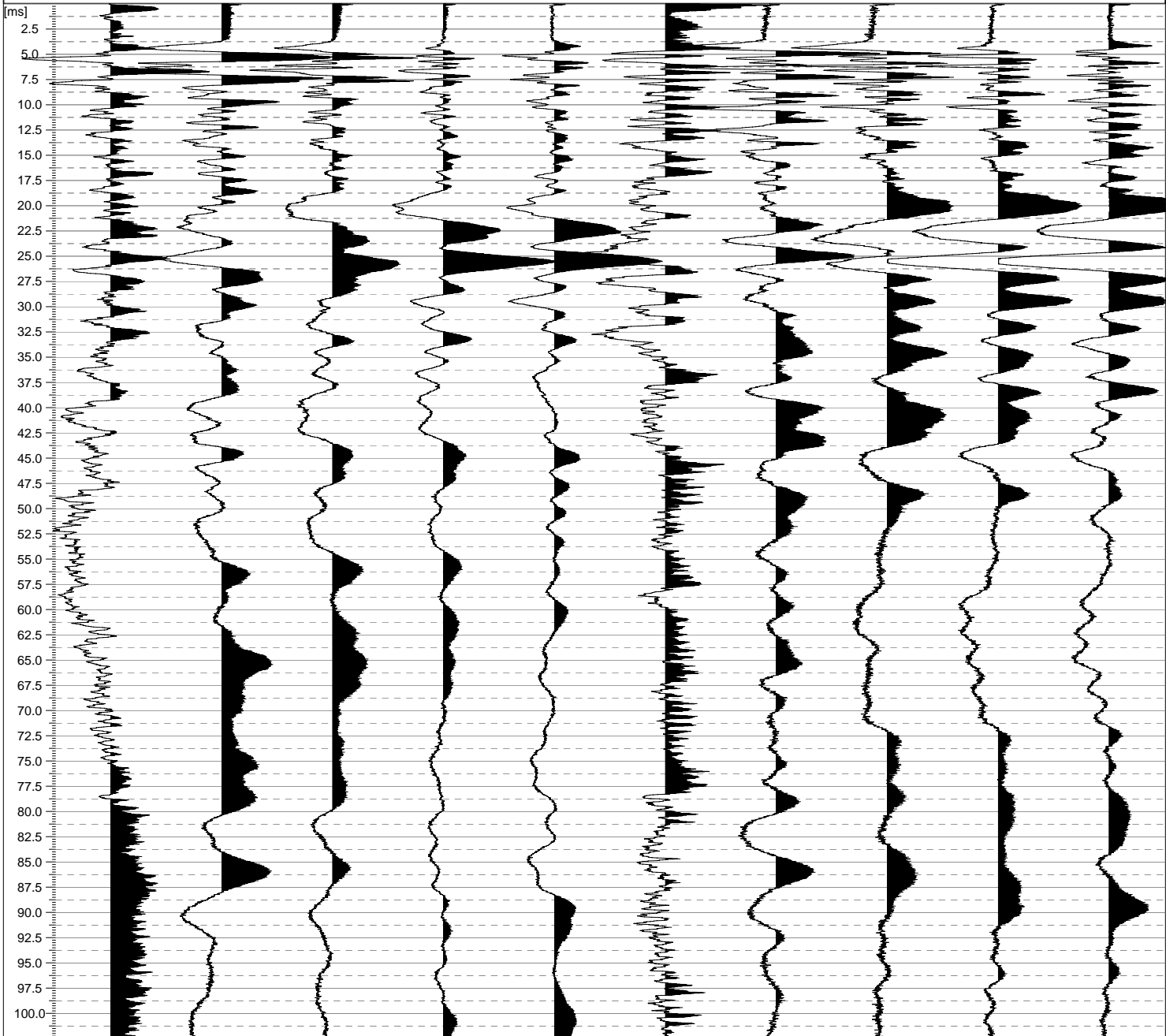


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_10m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingeneria Europea S.p.A.
Company:
Observer:

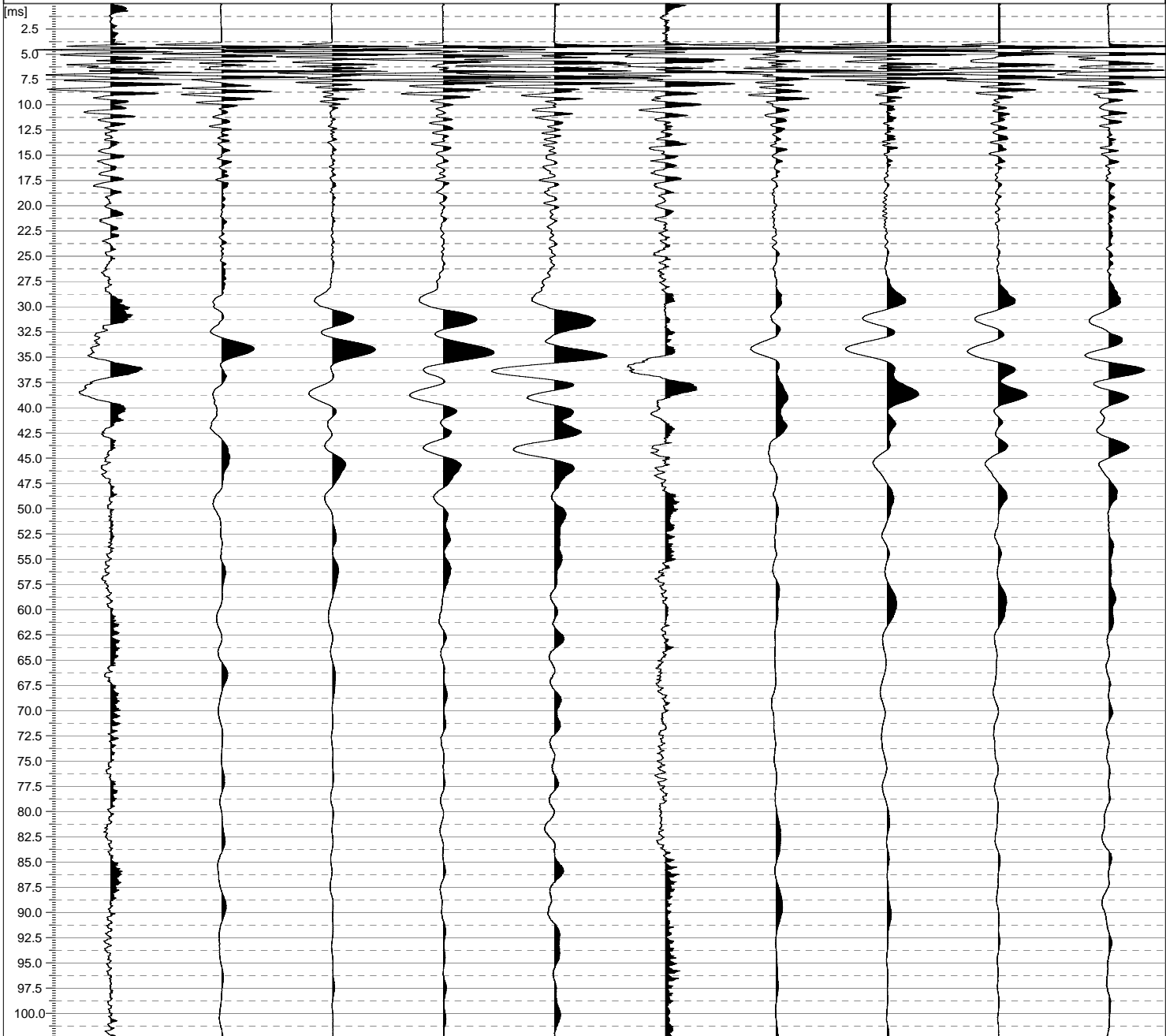


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_11m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

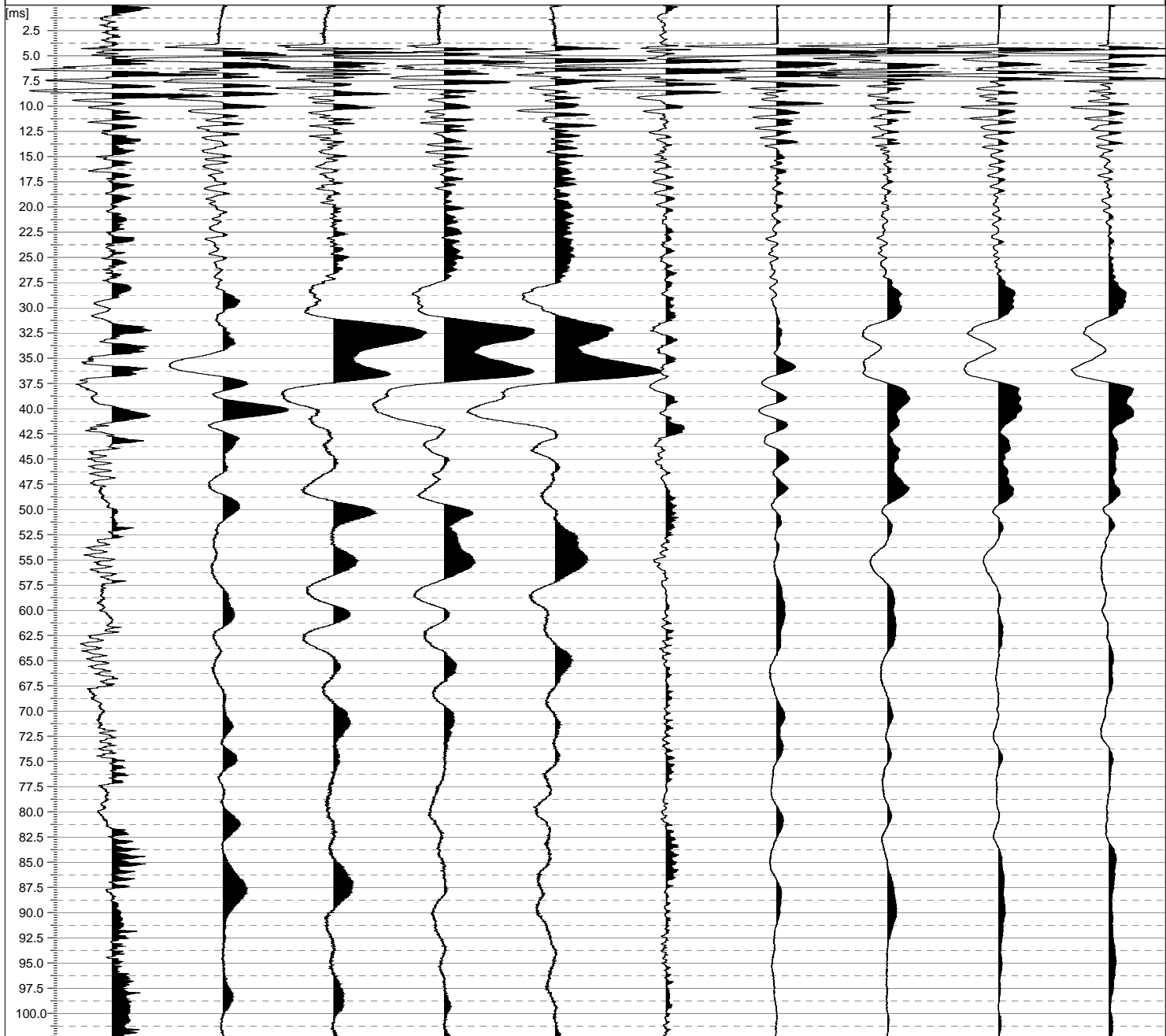


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_12m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

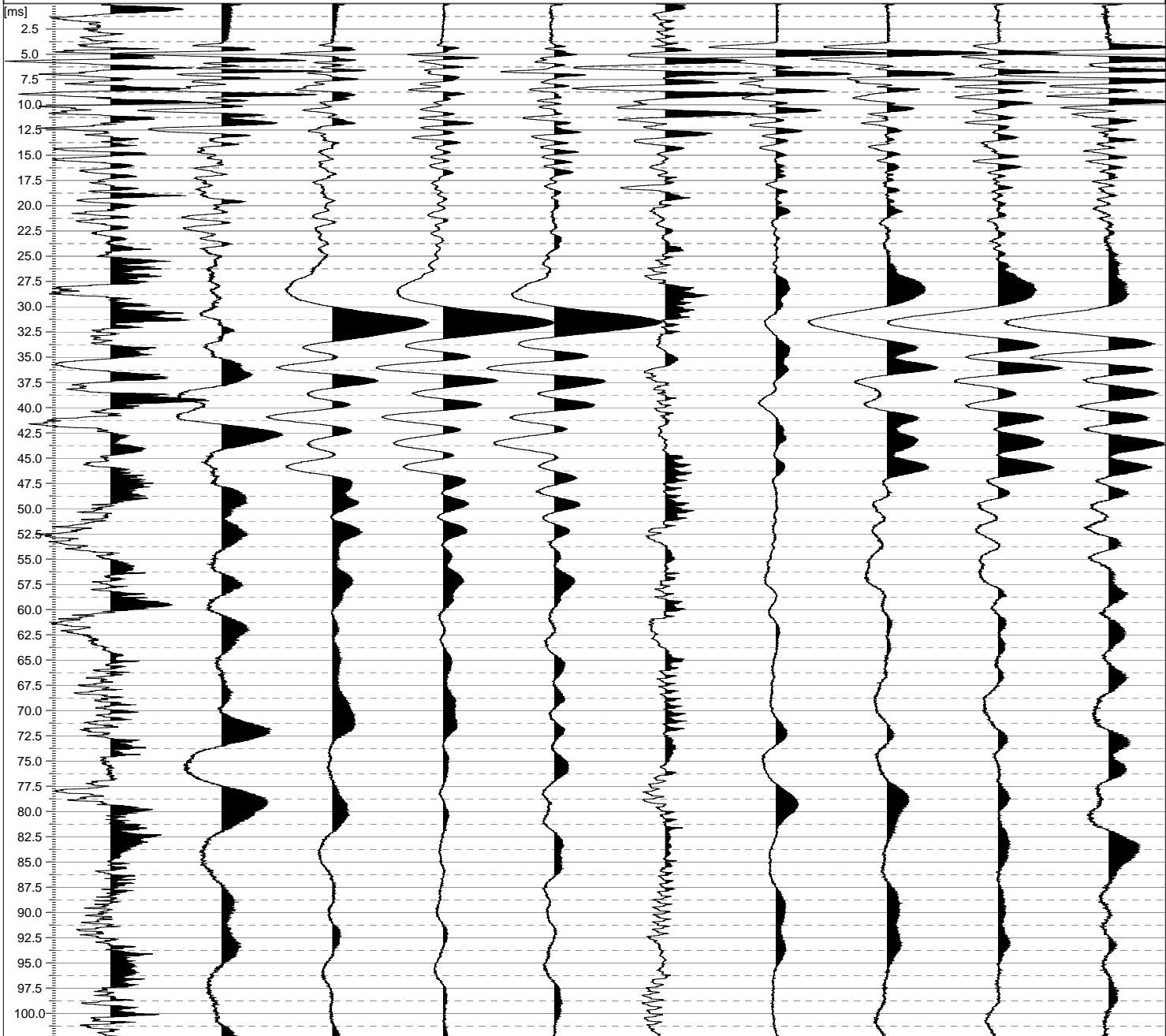


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_13m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

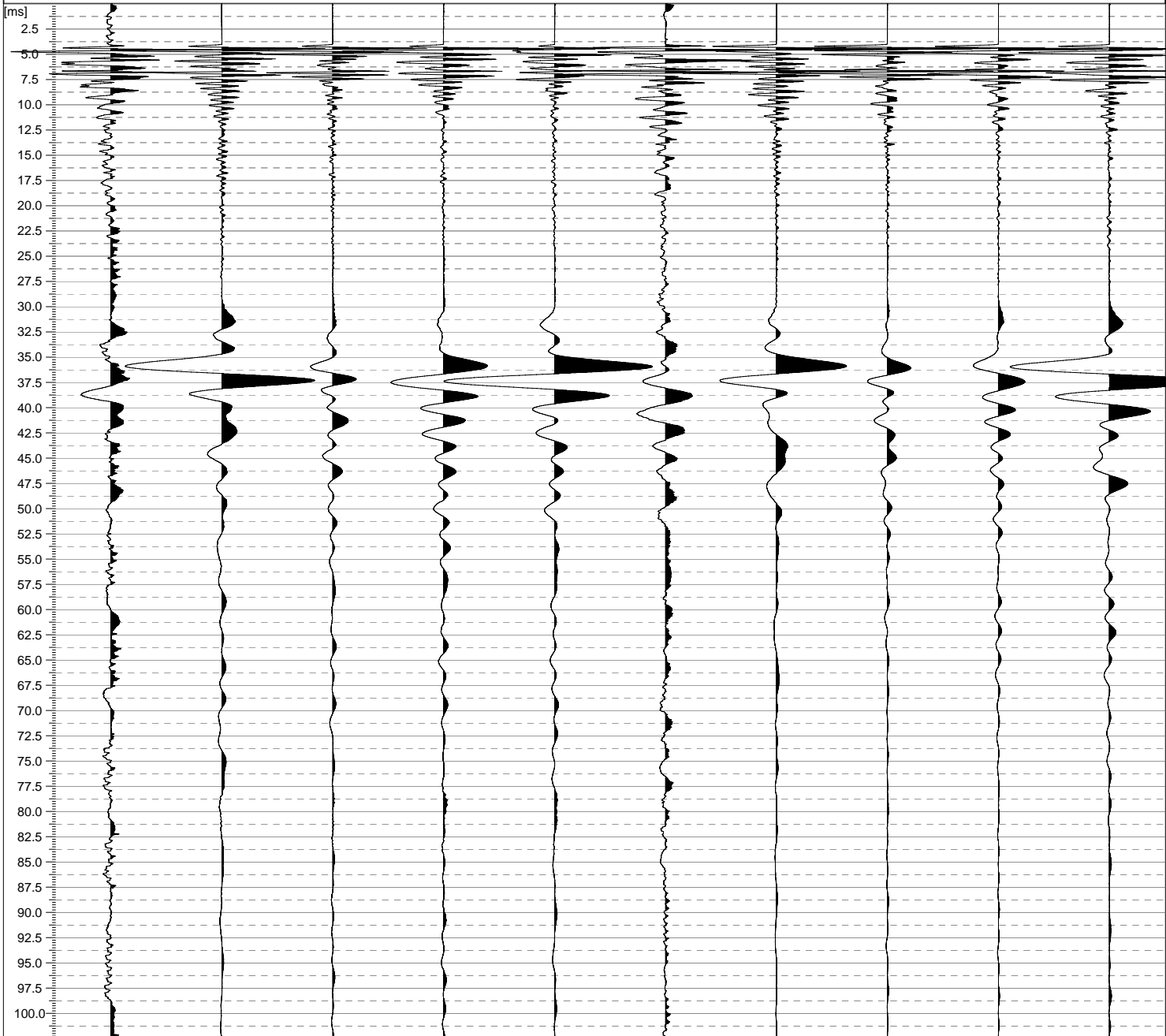


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_14m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

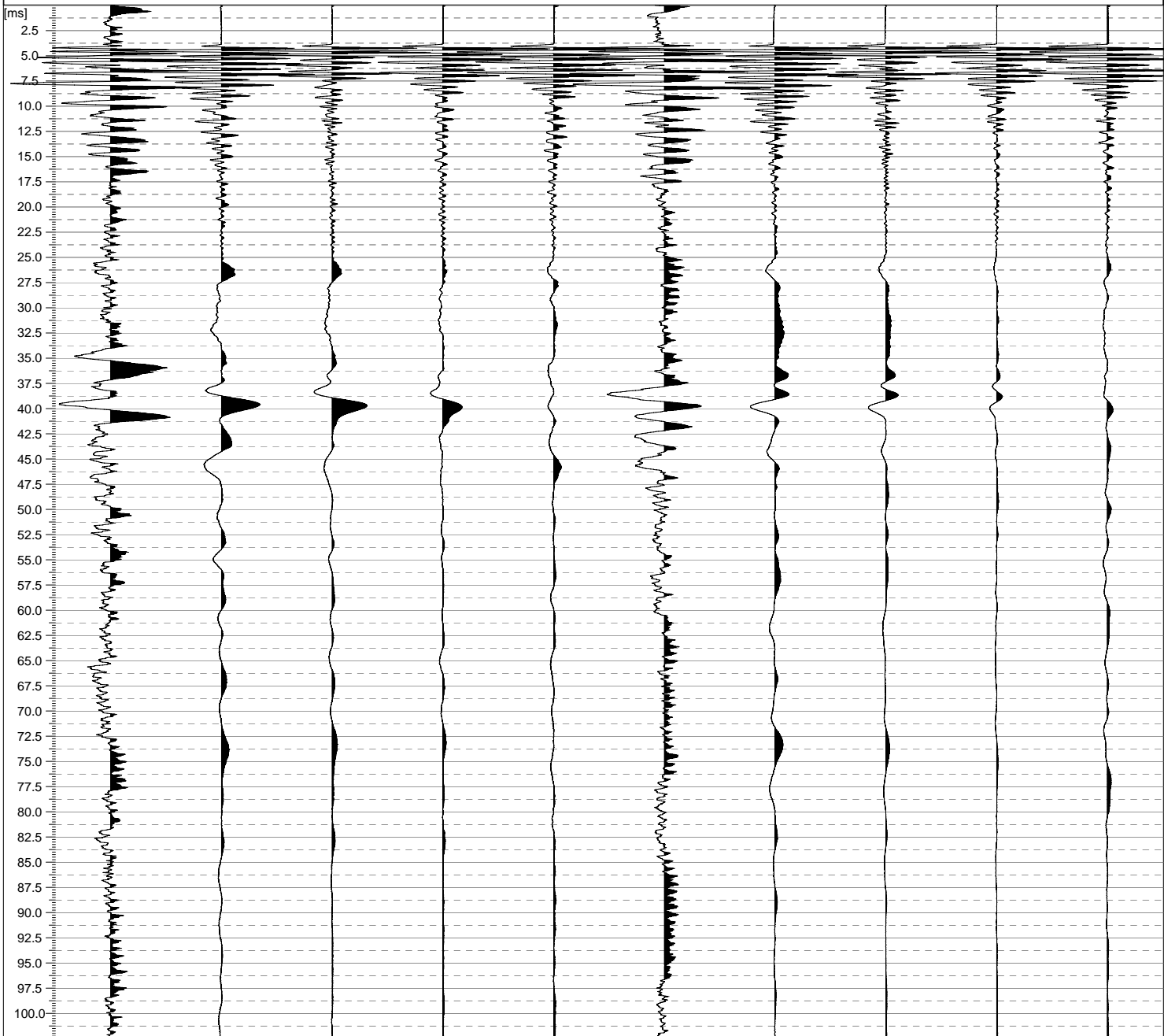


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_15m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

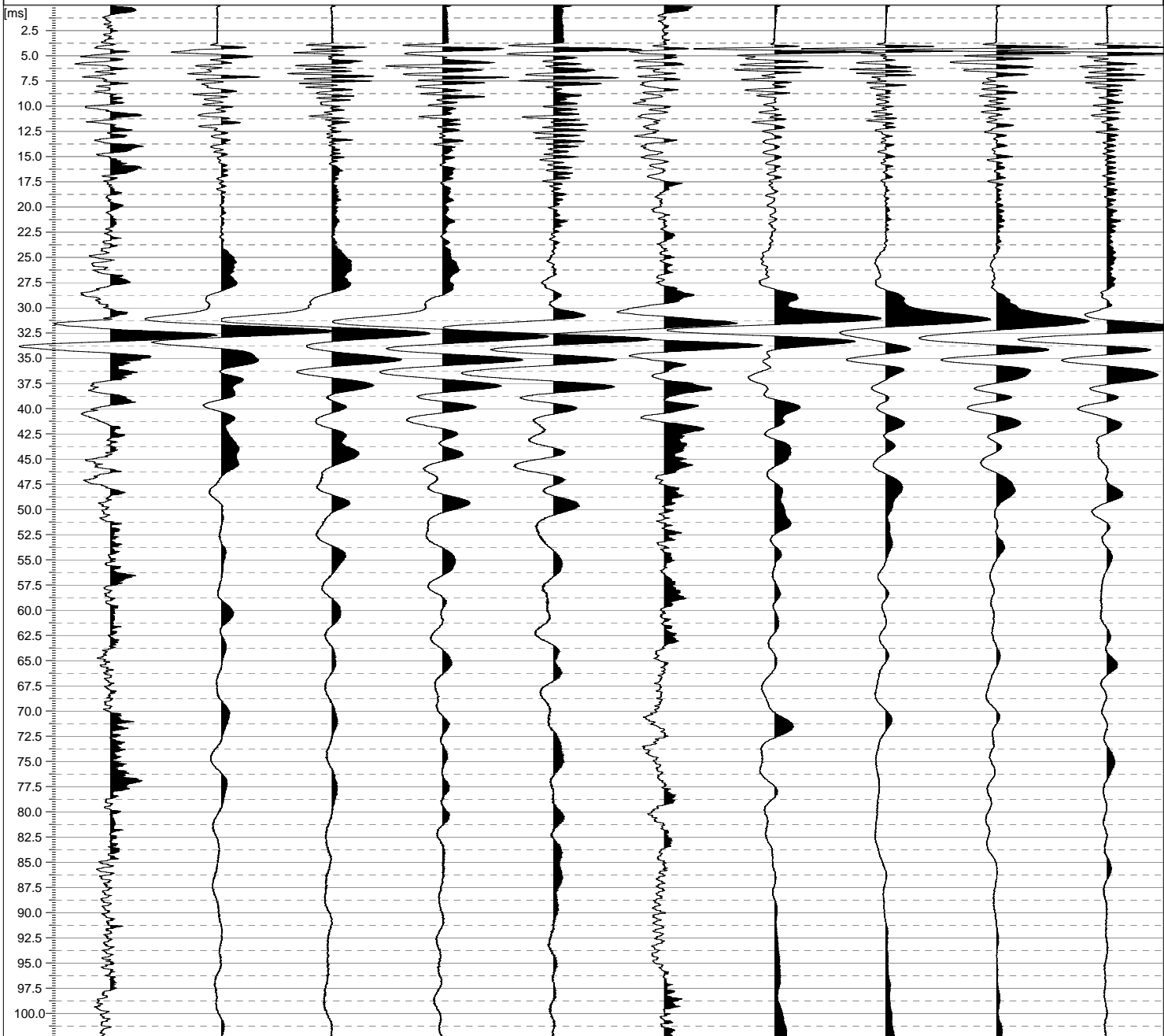


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_16m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

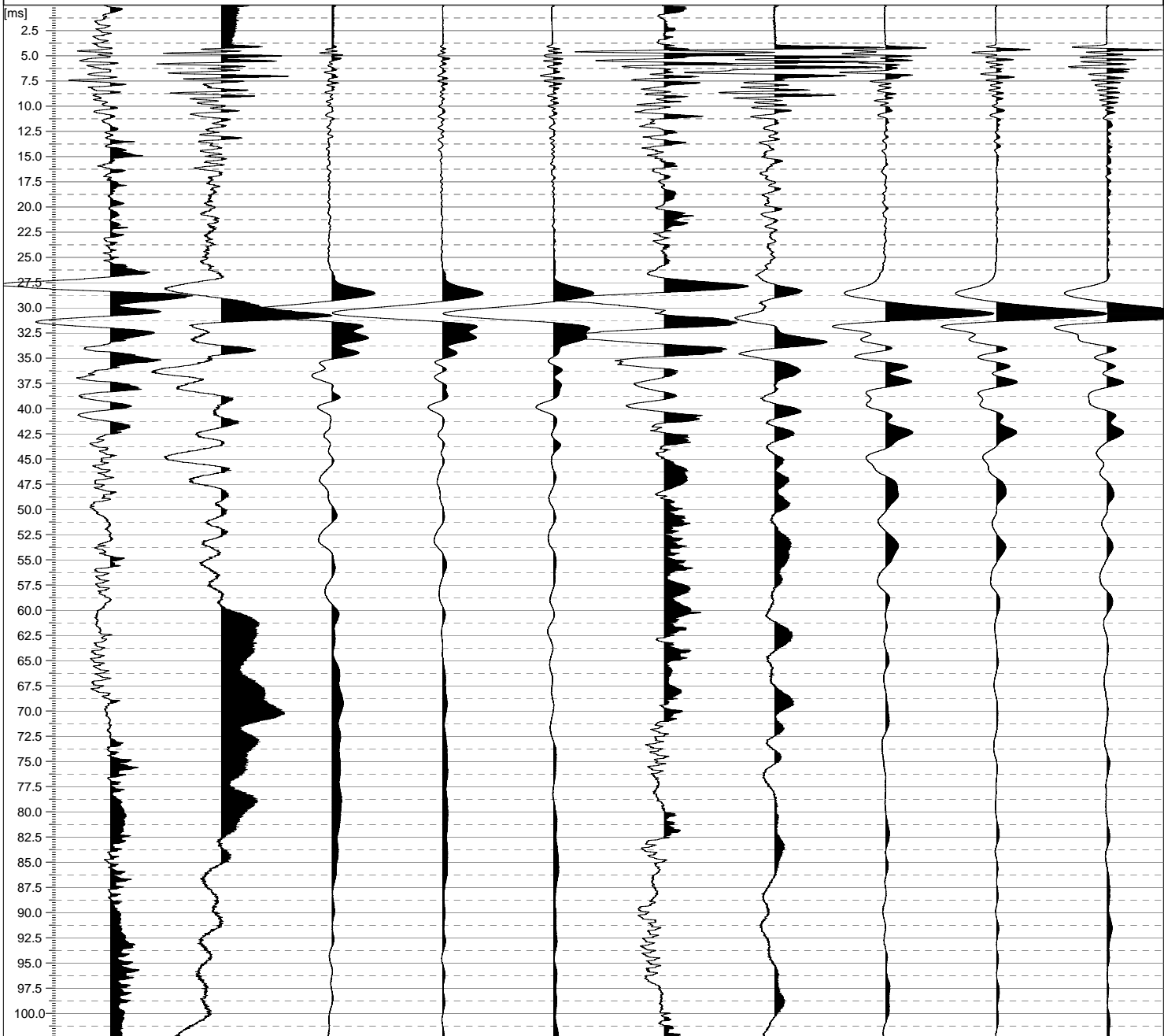


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_17m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

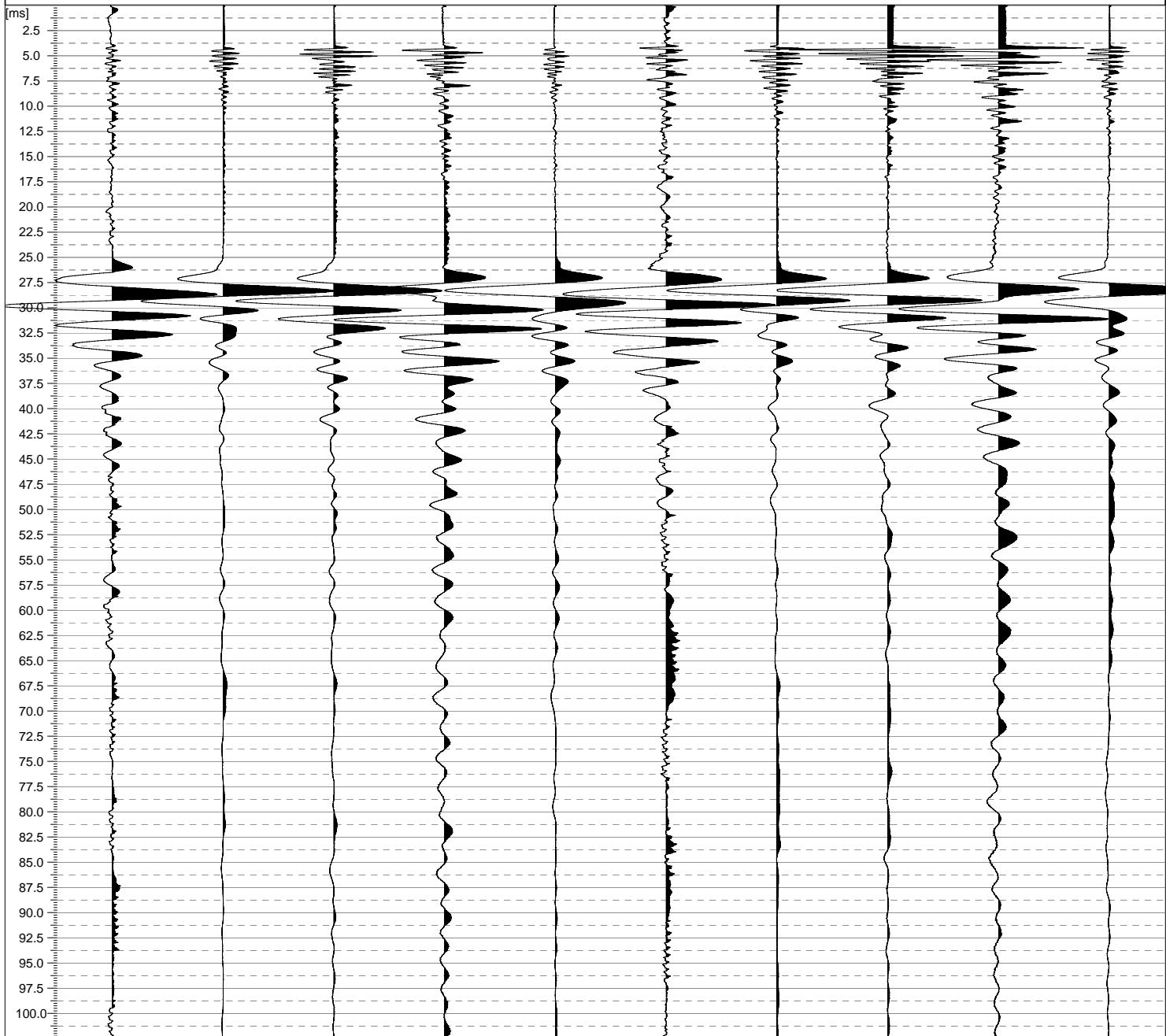


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_18m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

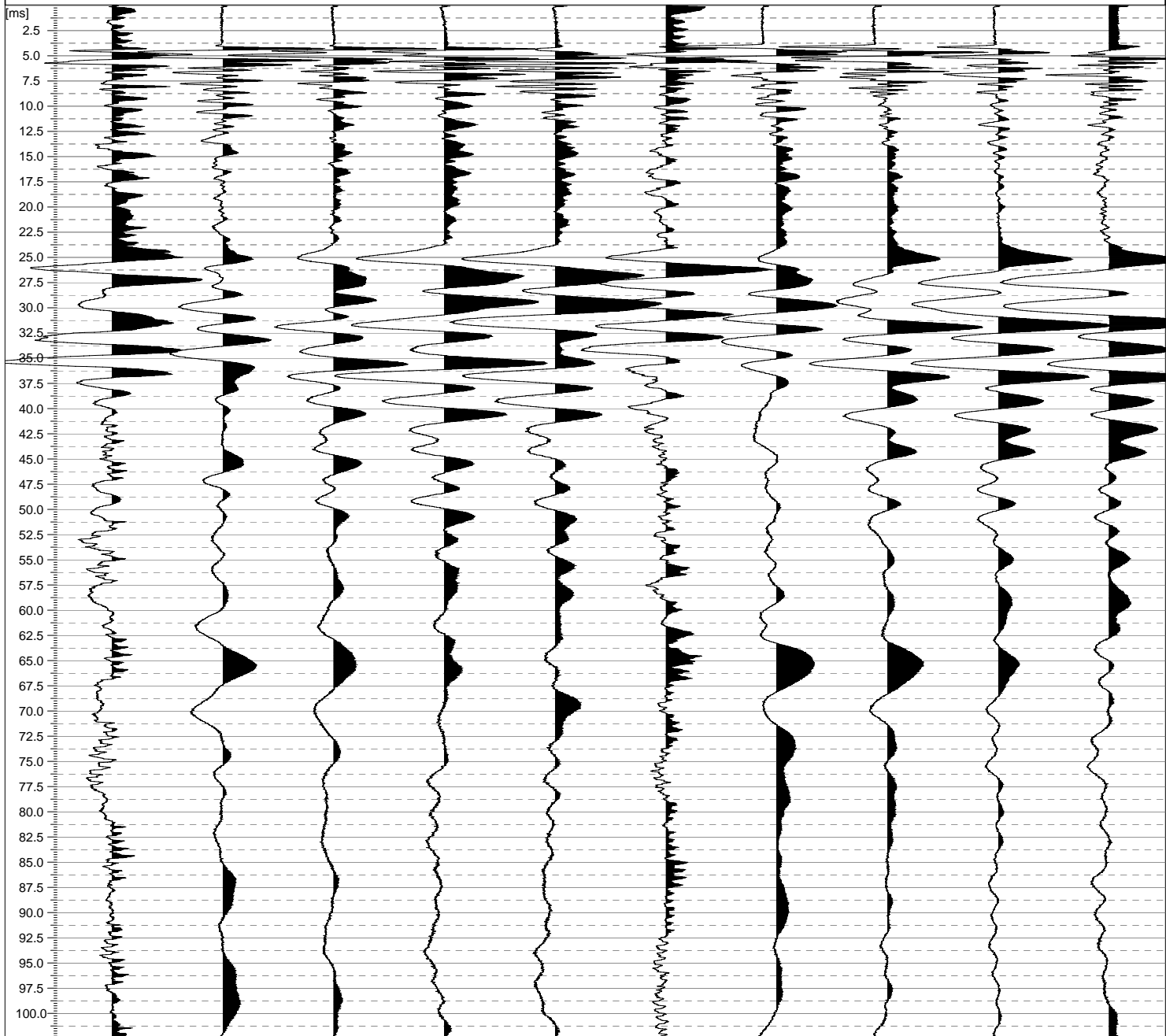


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_19m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 4096
Lowcut filter: 0.000
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

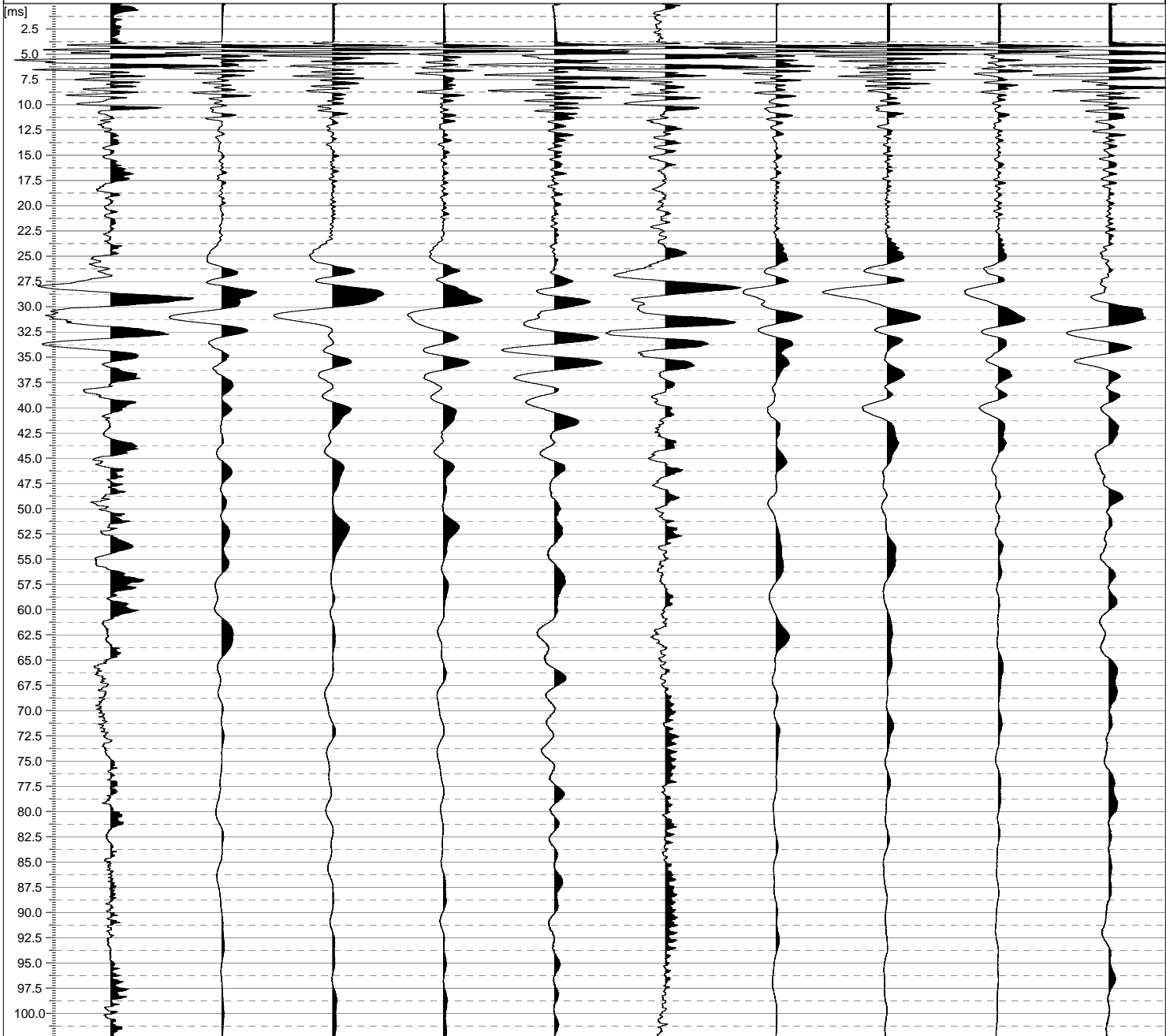


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_20m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

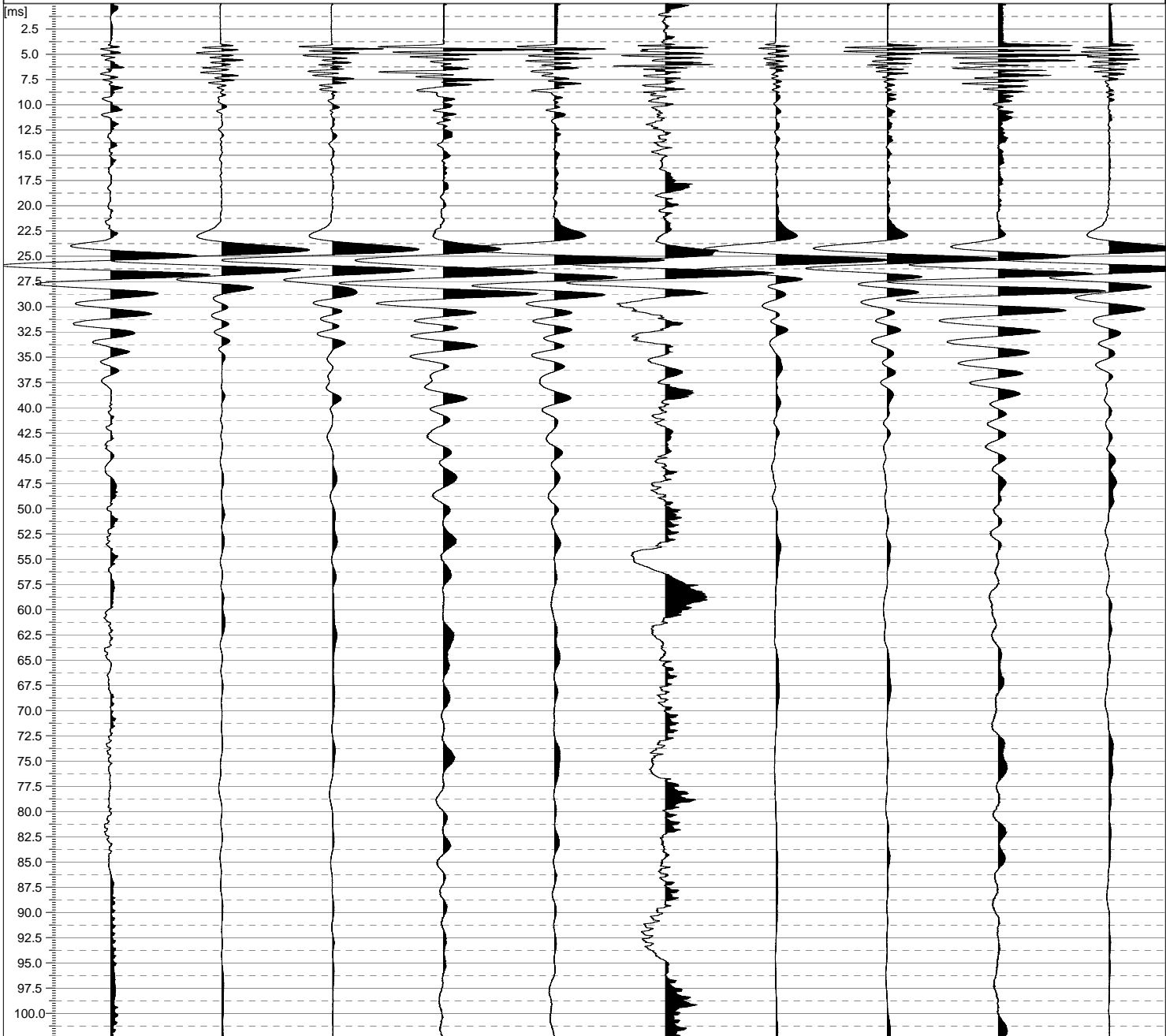


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_21m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

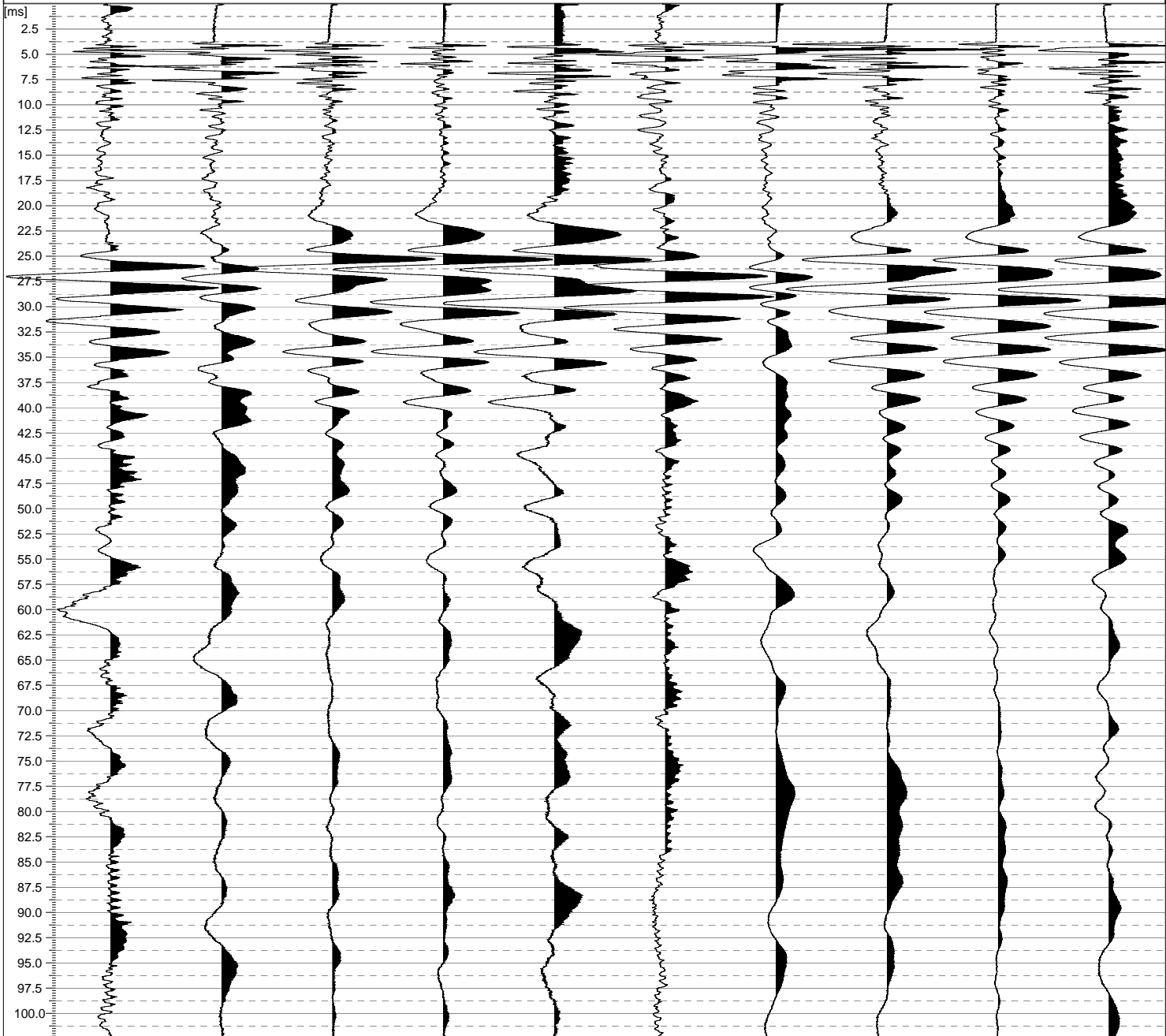


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_22m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

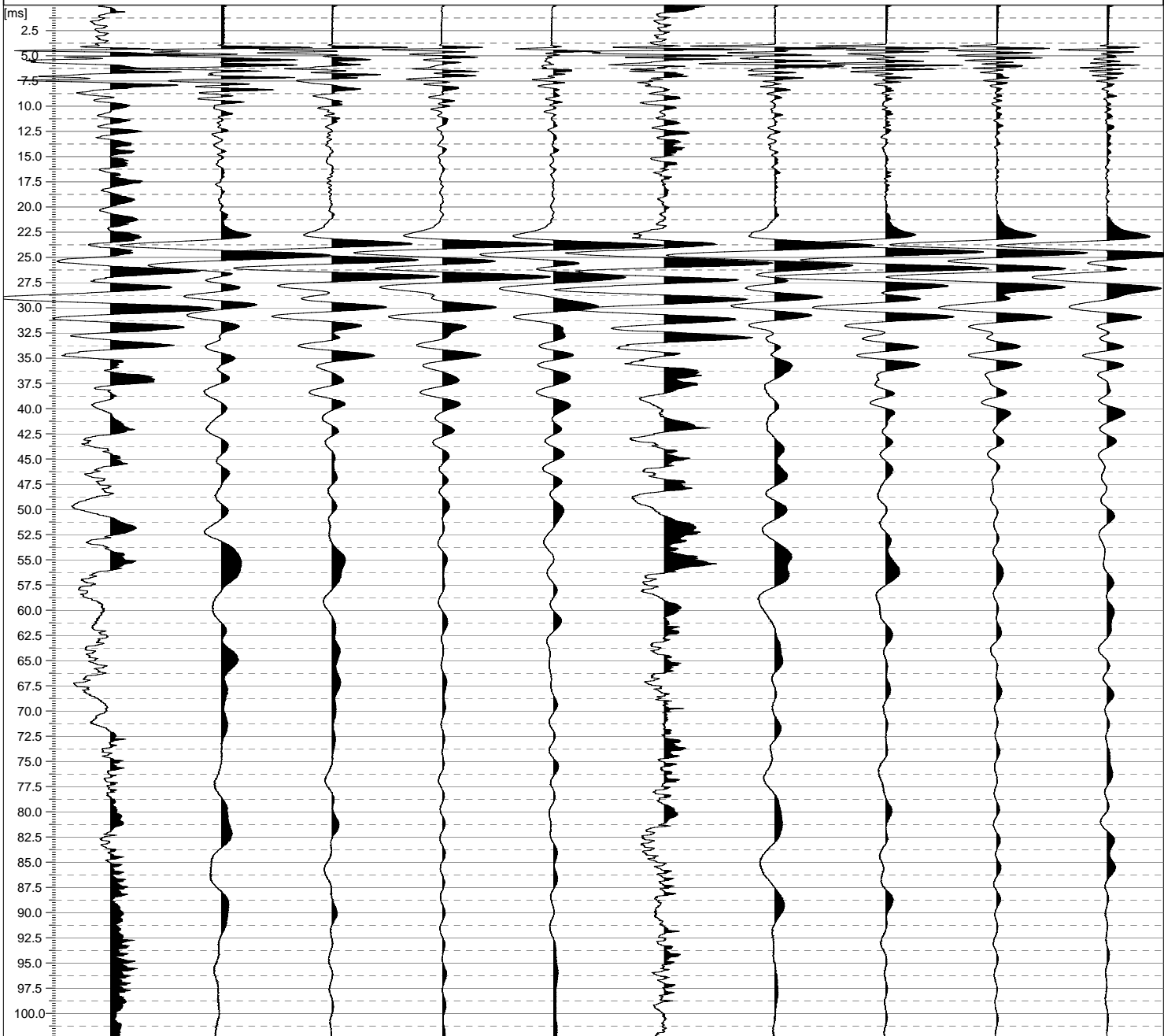


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_23m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

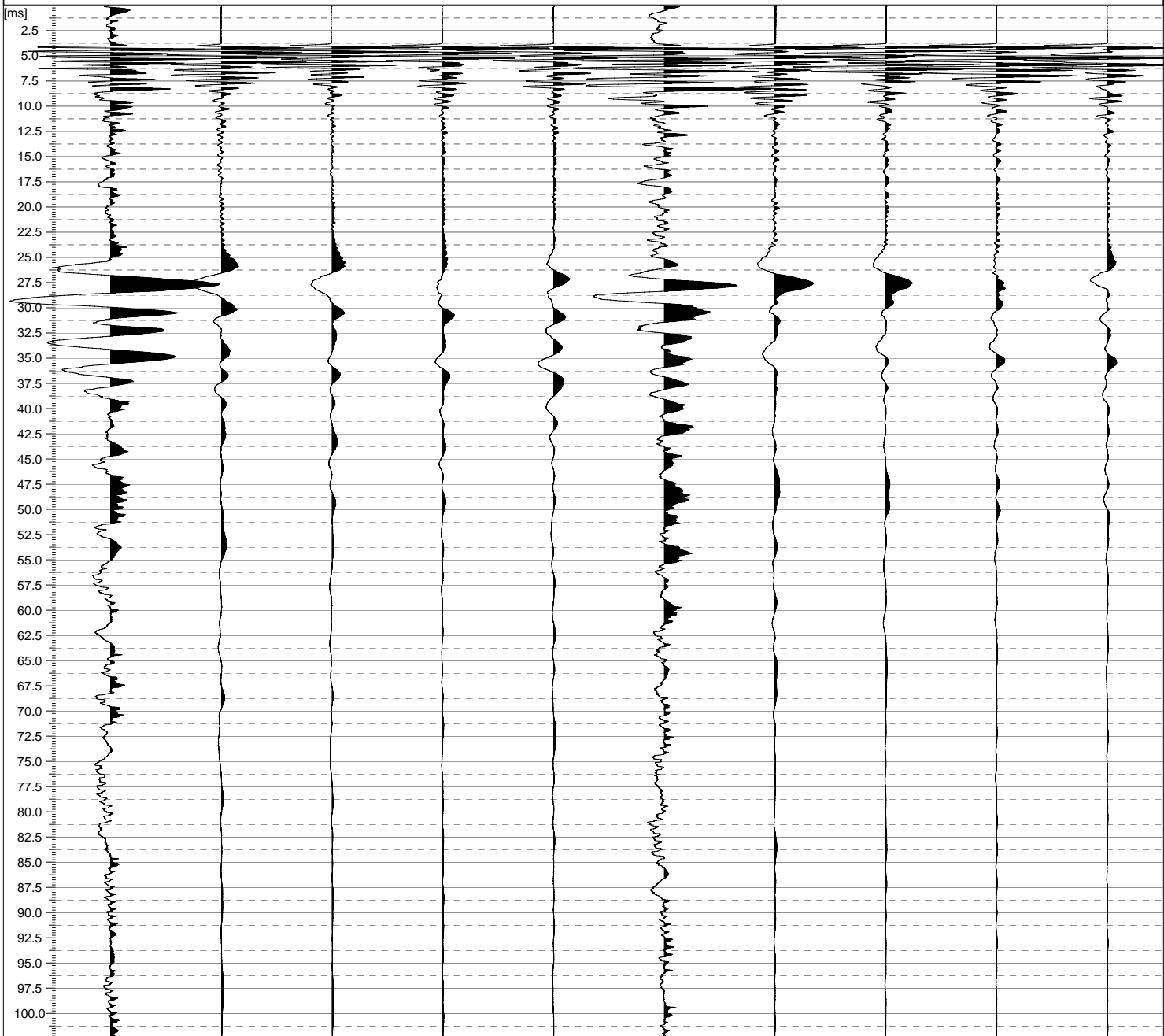


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_24m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

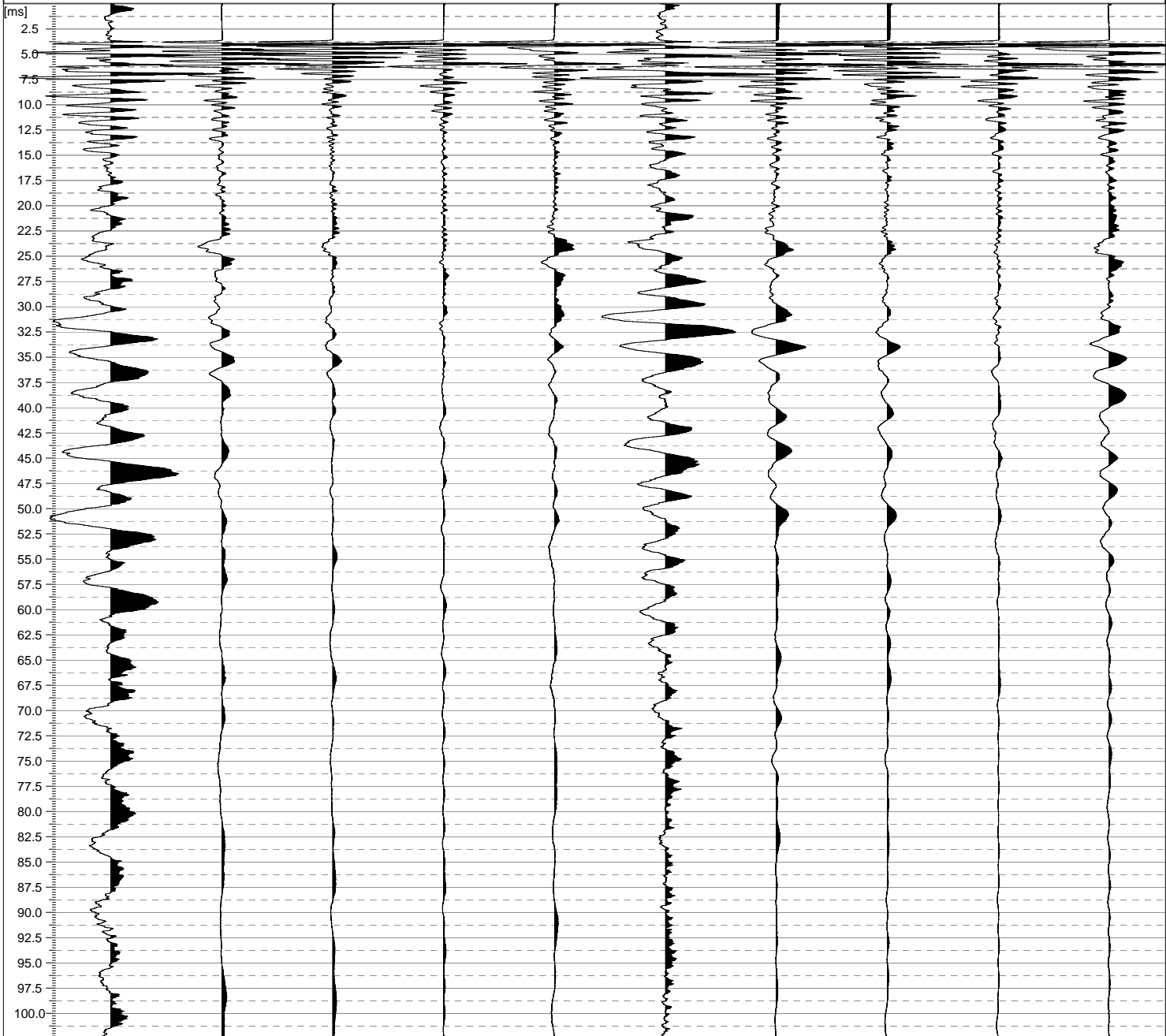


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_25m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

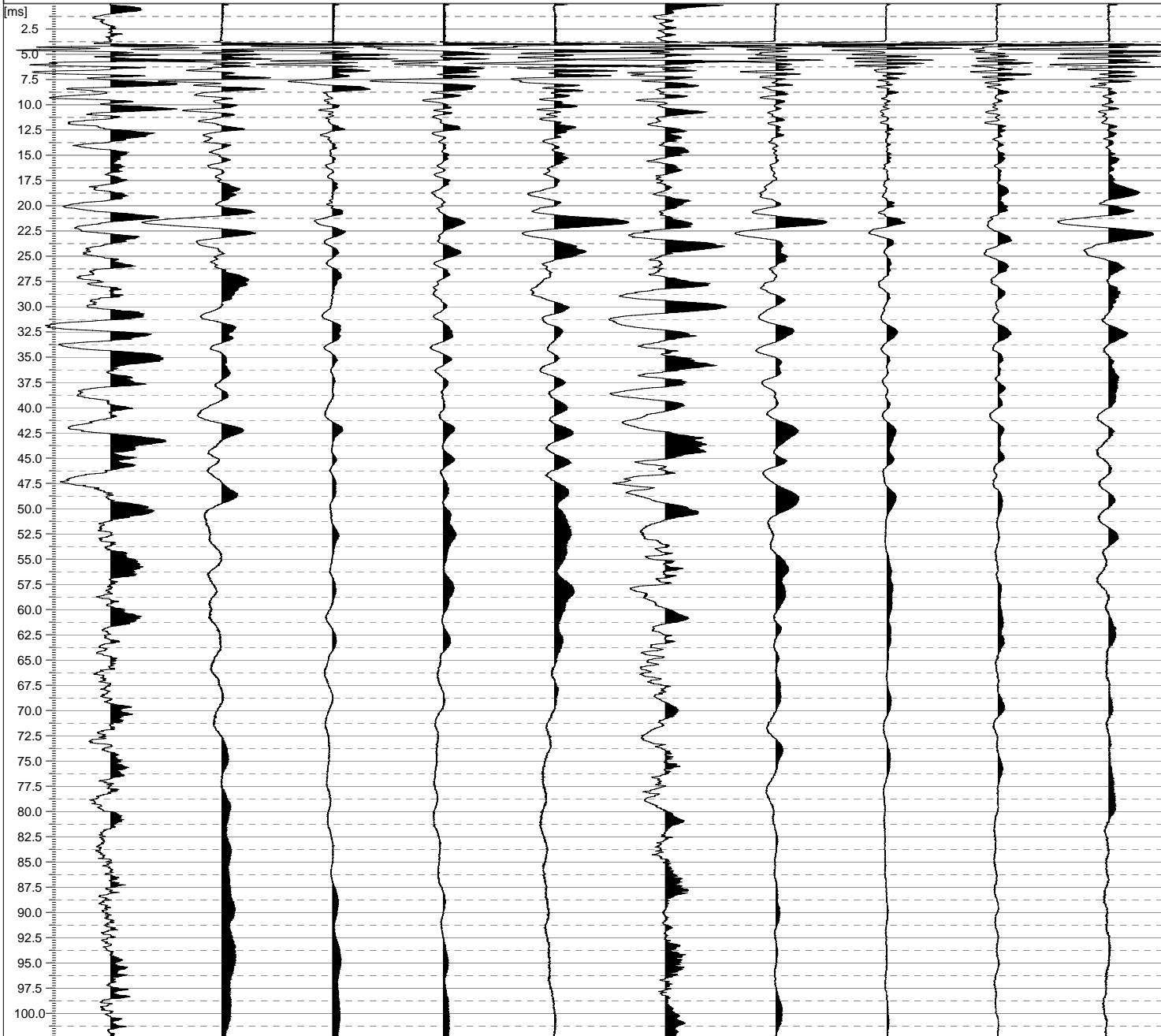


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_26m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

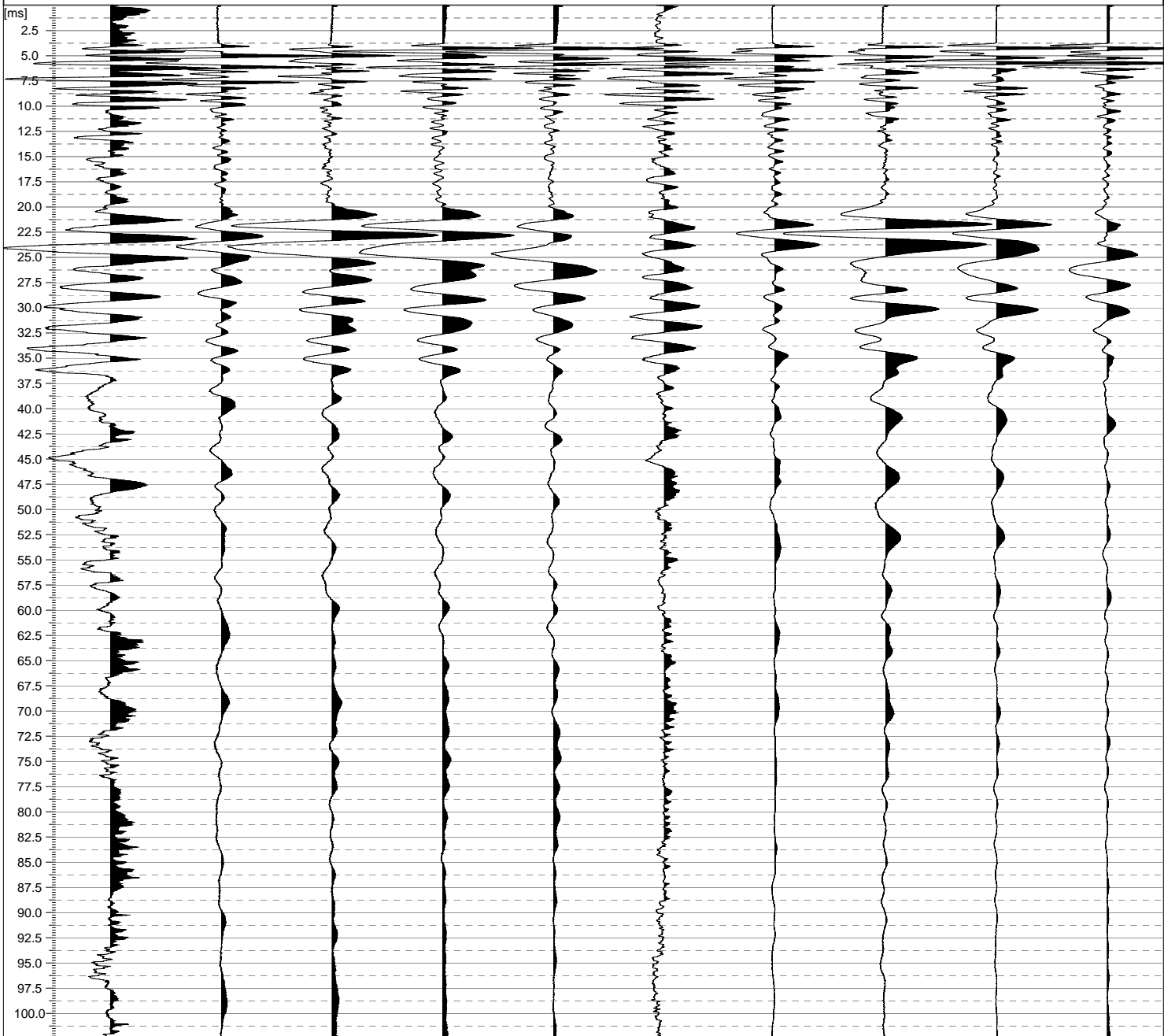


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_27m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

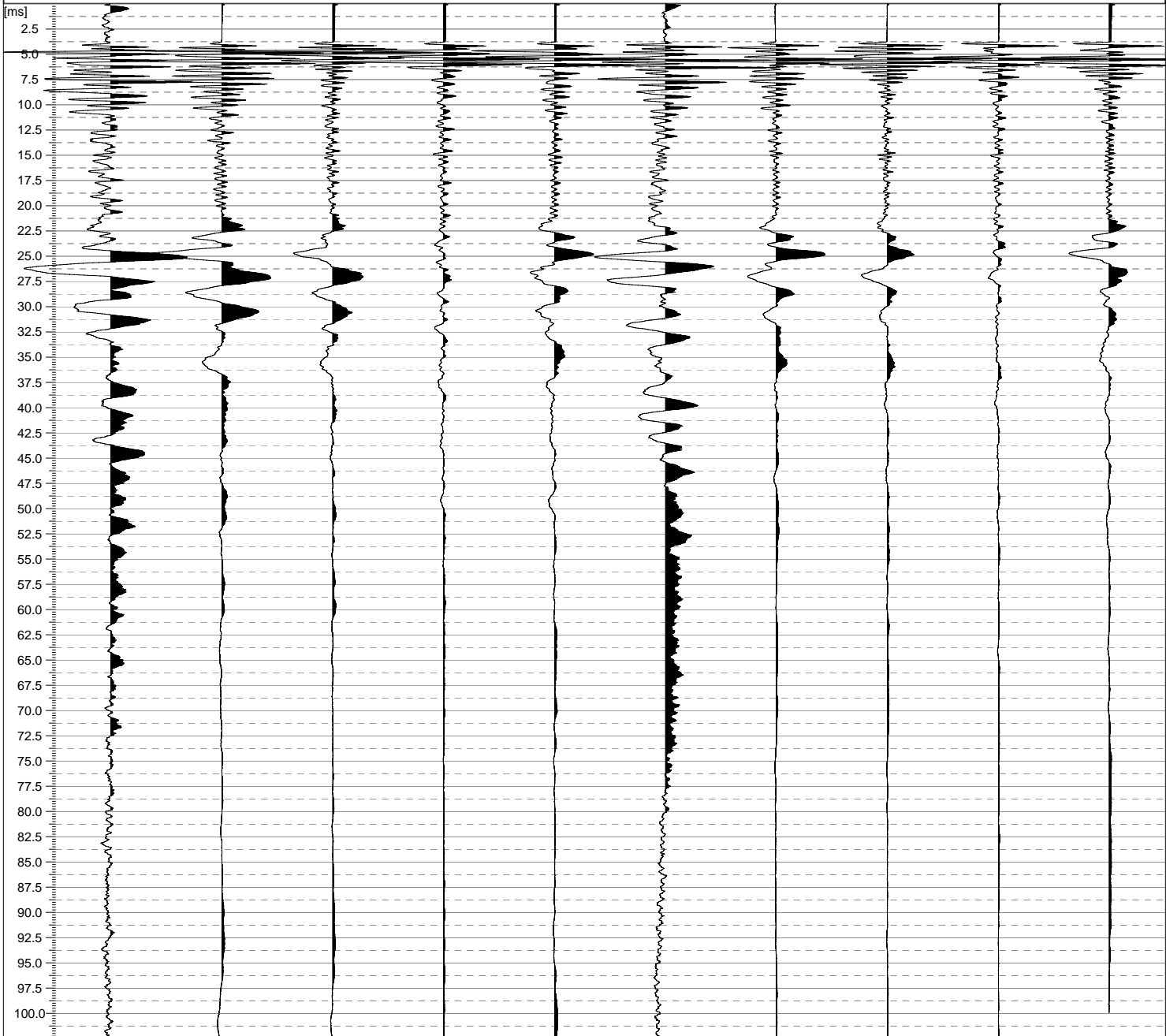


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_28m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

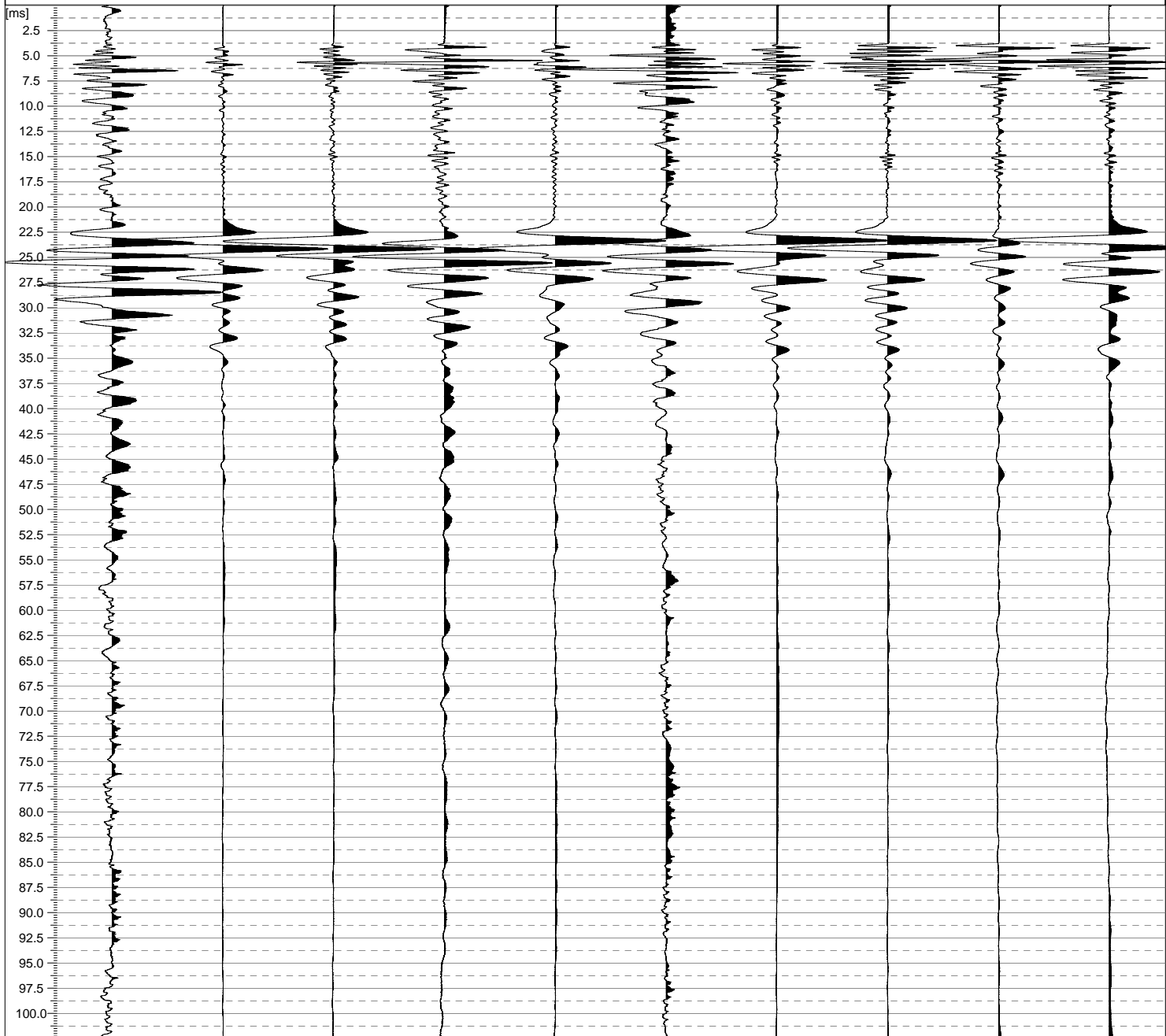


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_29m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

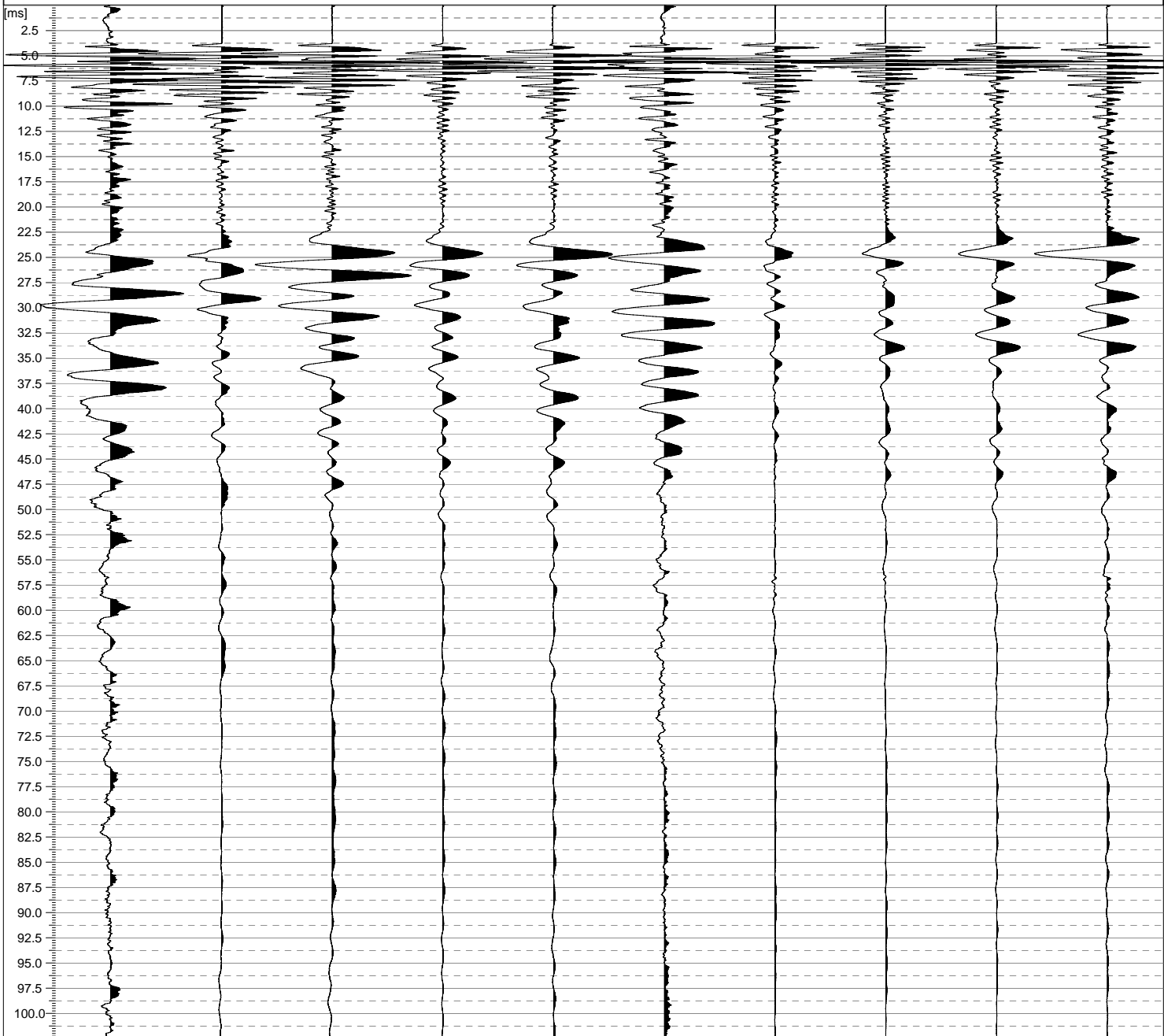


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_30m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

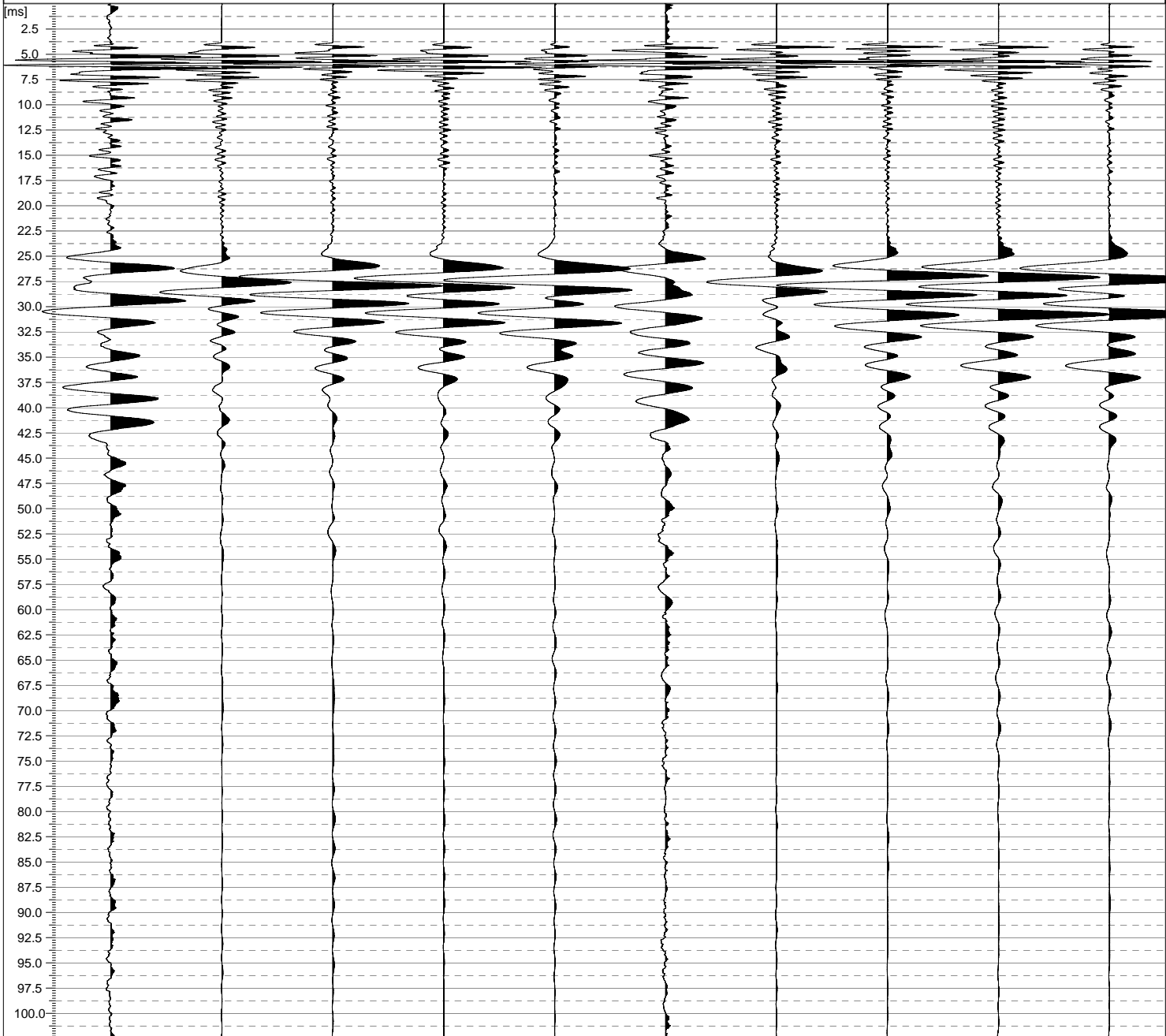


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_31m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

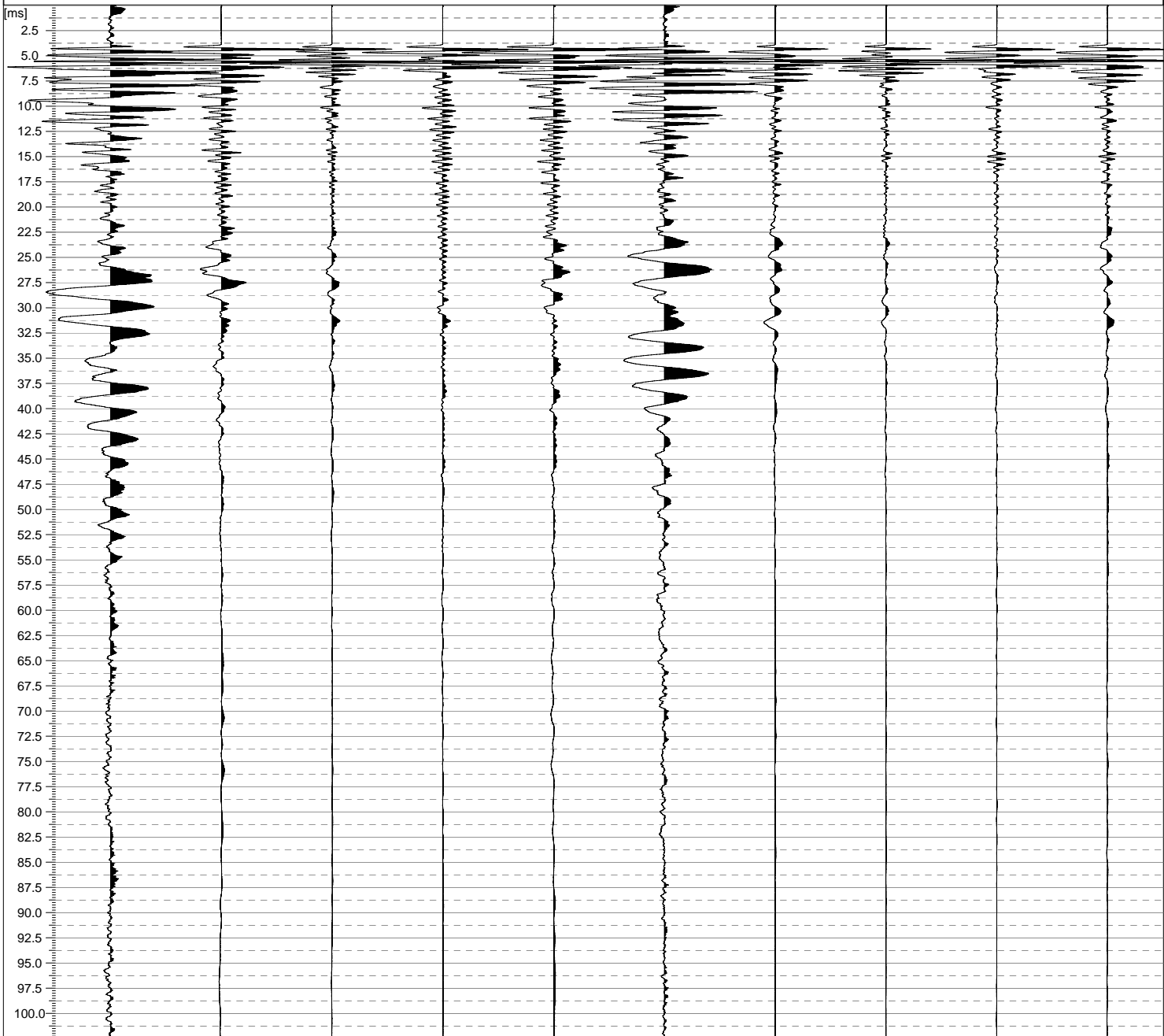


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_32m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

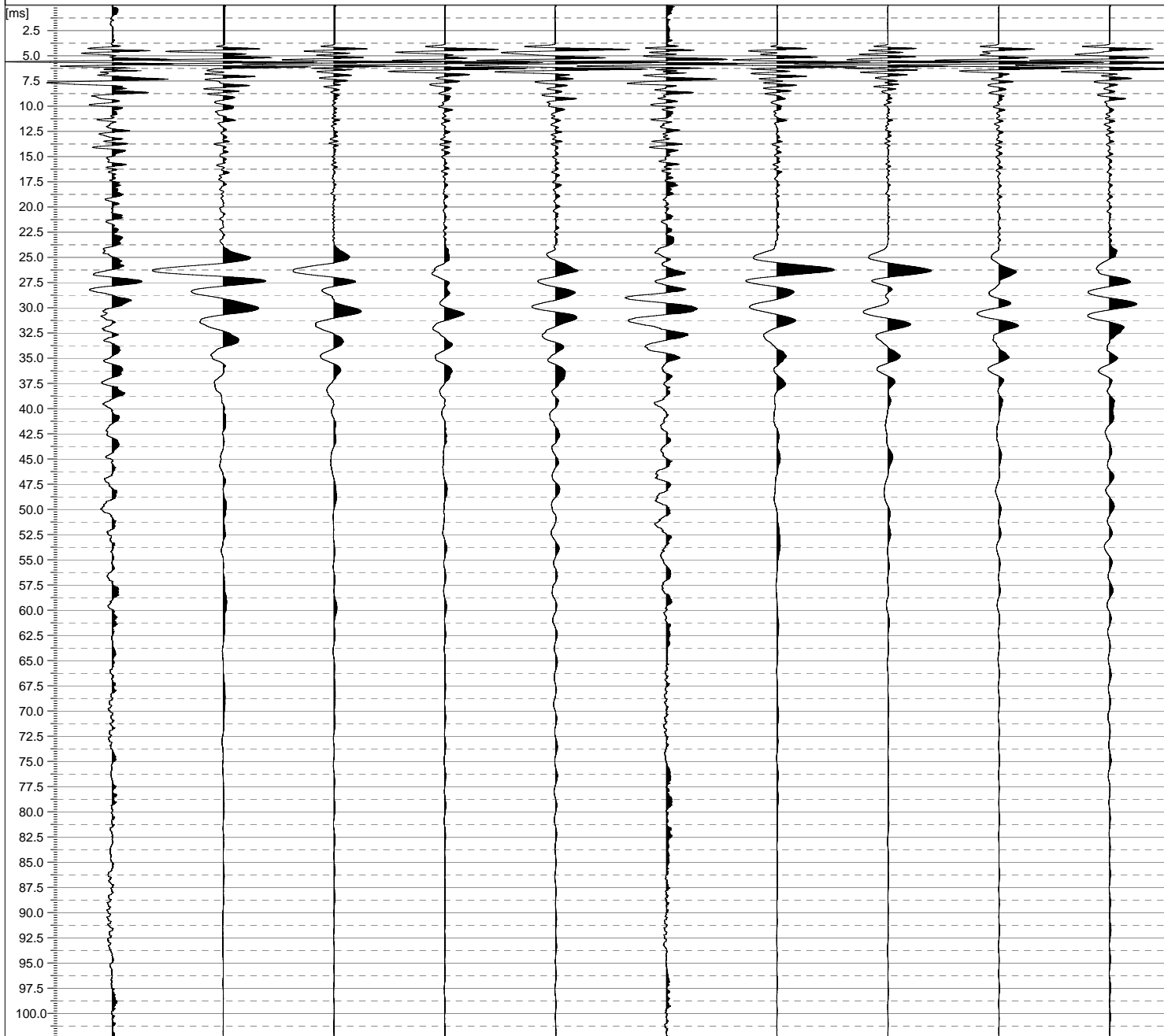


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_33m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

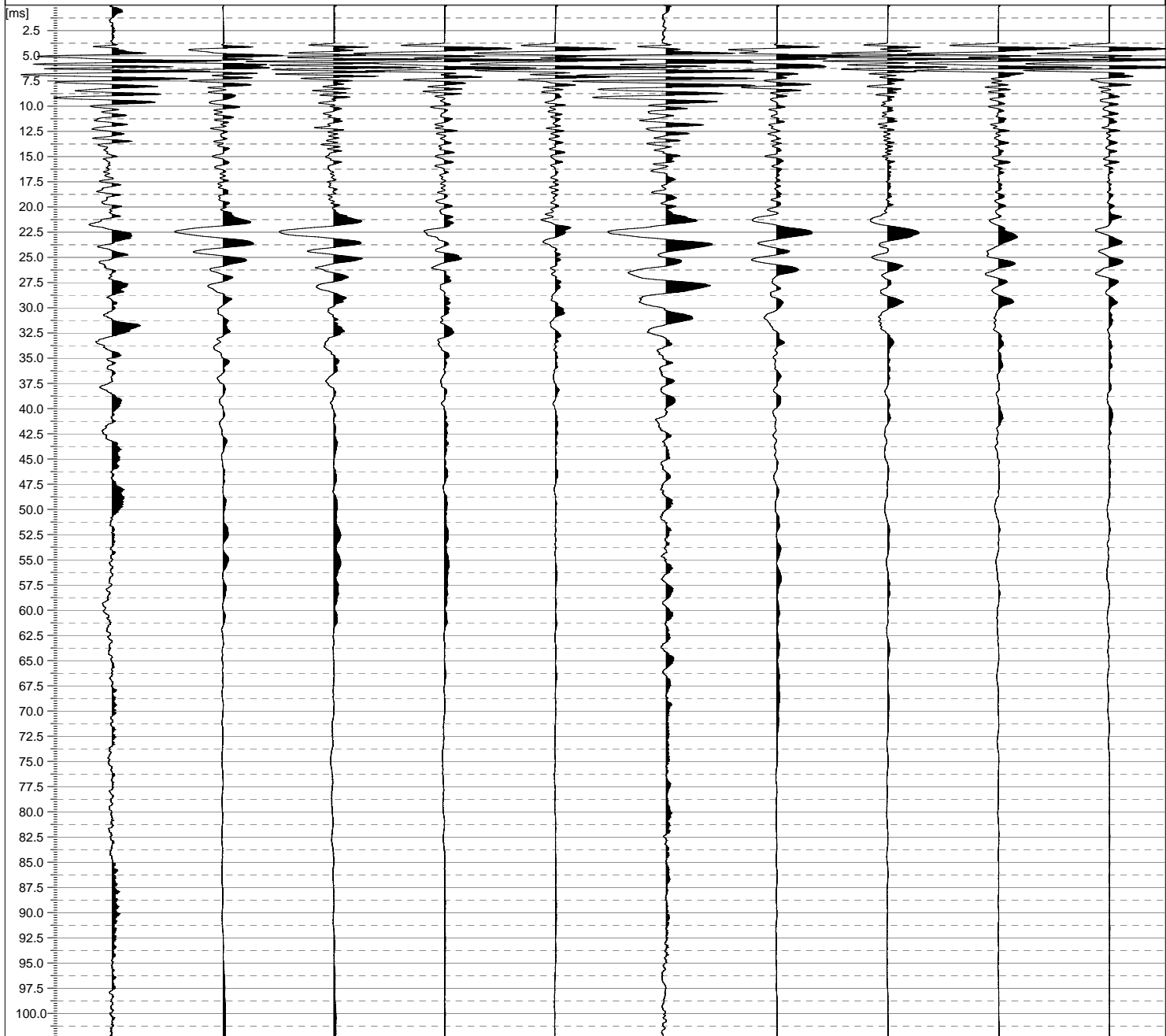


Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_34m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 09:12:47

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:



Instrument ID: ABEM Instrument AB Terraloc <Not defined>

Record: A14-OC3S2_35m
Sample interval [ms]: 0.025
No of samples: 4096
Delay [ms]: 0.000
Lowcut filter:
Notch filter:

Date: 2010-12-07
Time: 12:19:13

Job ID: A14 - Raccordo Bologna Ravenna
Client: SPEA Ingegneria Europea S.p.A.
Company:
Observer:

