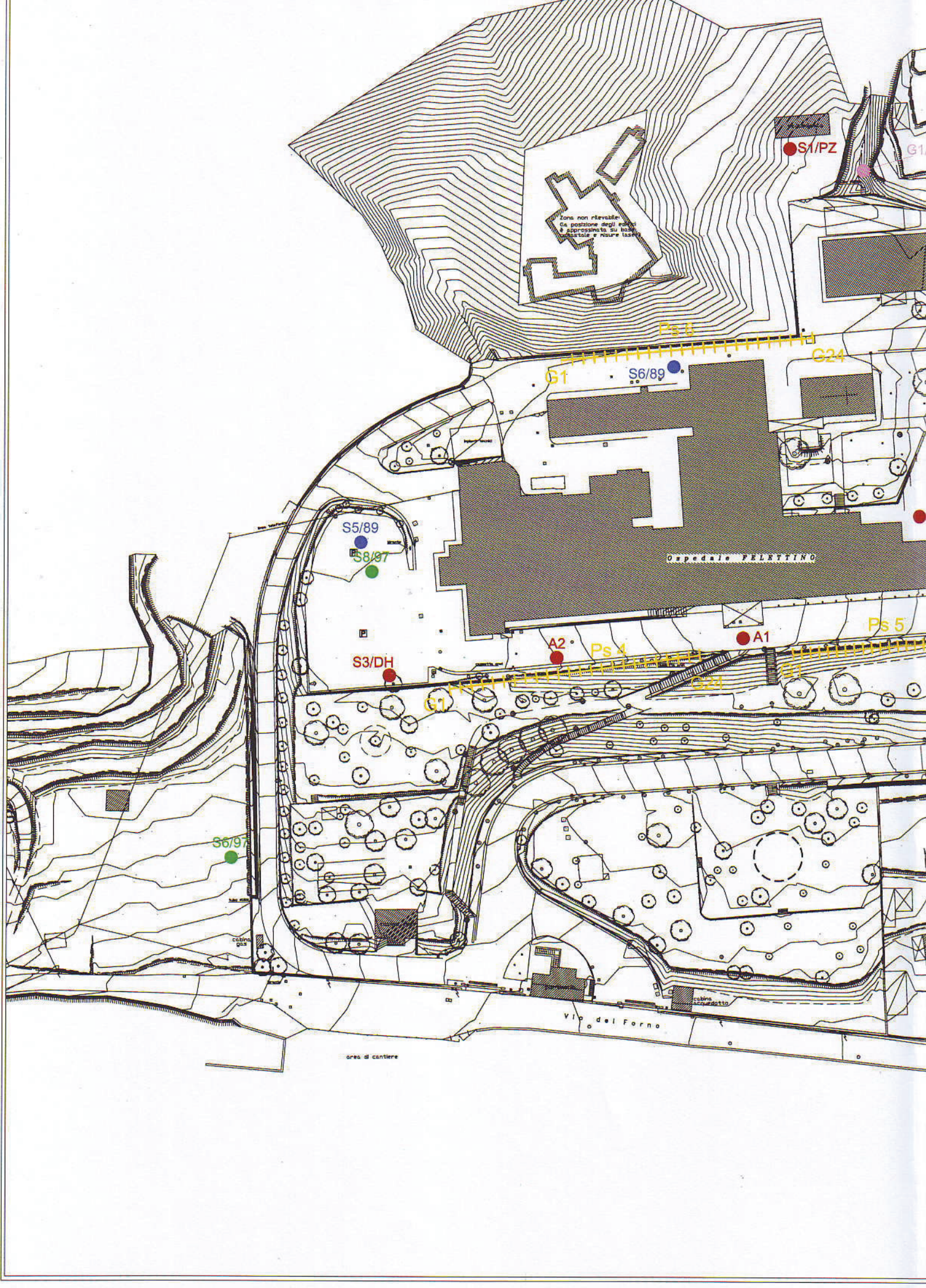


NUOVO OSPEDALE DELLA SPEZIA LOTTO C – RADIOTERAPIA PROGETTO DEFINITIVO

RELAZIONE GEOLOGICA Versione 1.1




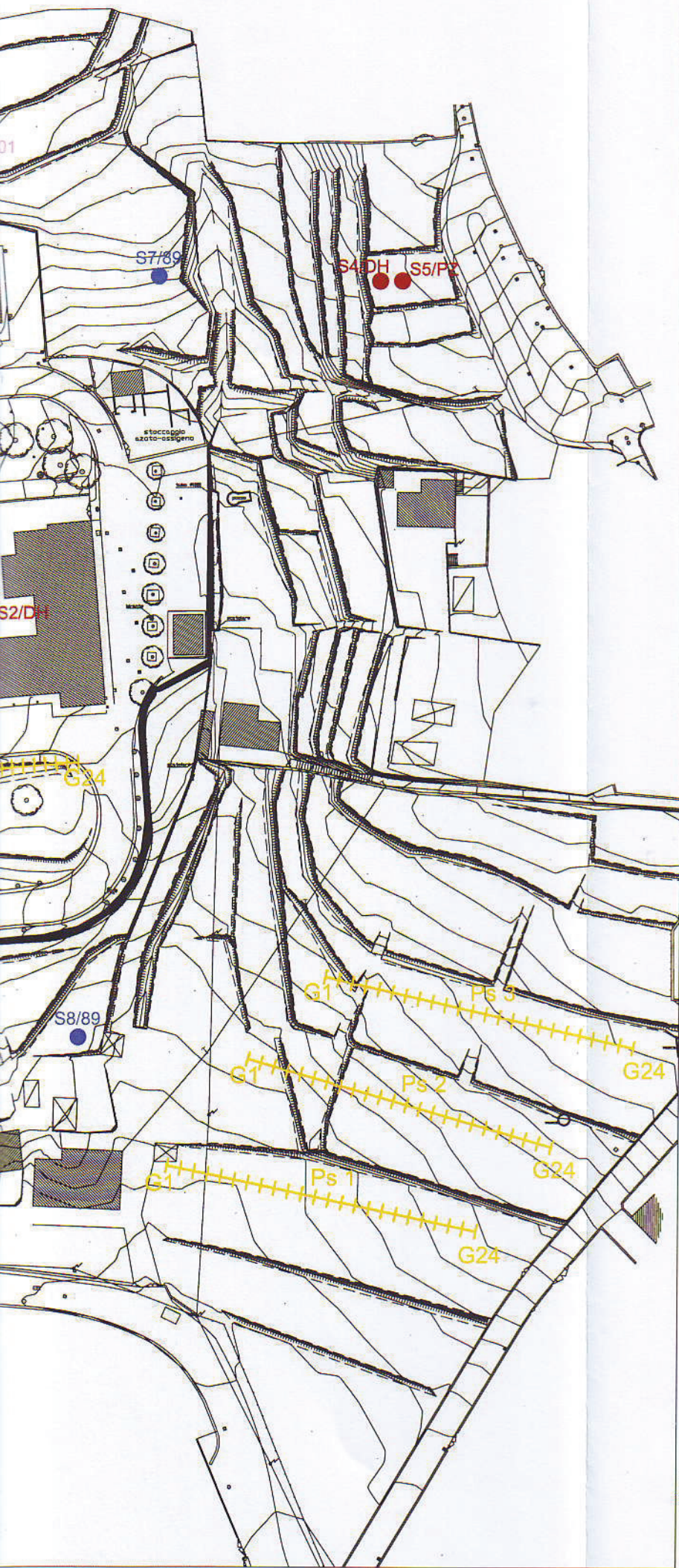
Rev	Data	Sez	Pag	Redatto	Controllato	Approvato	Descrizione
A	28/03/2011		94	P. Accolti Gil	MI	-	Per Commenti
1	16/09/2011		94	P. Accolti Gil	MI	SB	Per Emissione



UBICAZIONE INDAGINI GEOGNOSTICHE

LEGENDA

- S1/PZ** ● Sondaggio attrezzato con piezometro
 - S3/DH** ● Sondaggio attrezzato per Downhole
 - A1** ● Sondaggio ambientale
 - Ps1**  Stendimento sismico a rifrazione
 - G1/01** ● Sondaggio campagna geognostica 2001
 - S6/97** ● Sondaggio campagna geognostica 1997
 - S2/89** ● Sondaggio campagna geognostica 1989
- campagna geognostica 2011

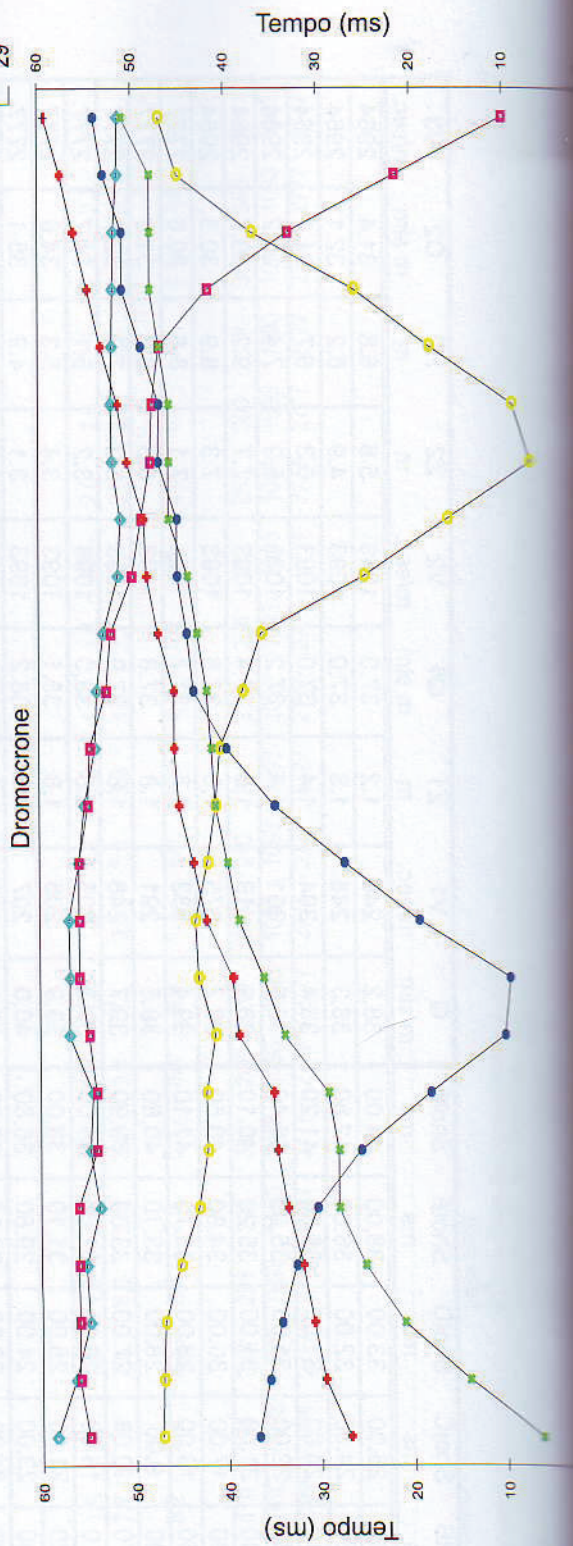
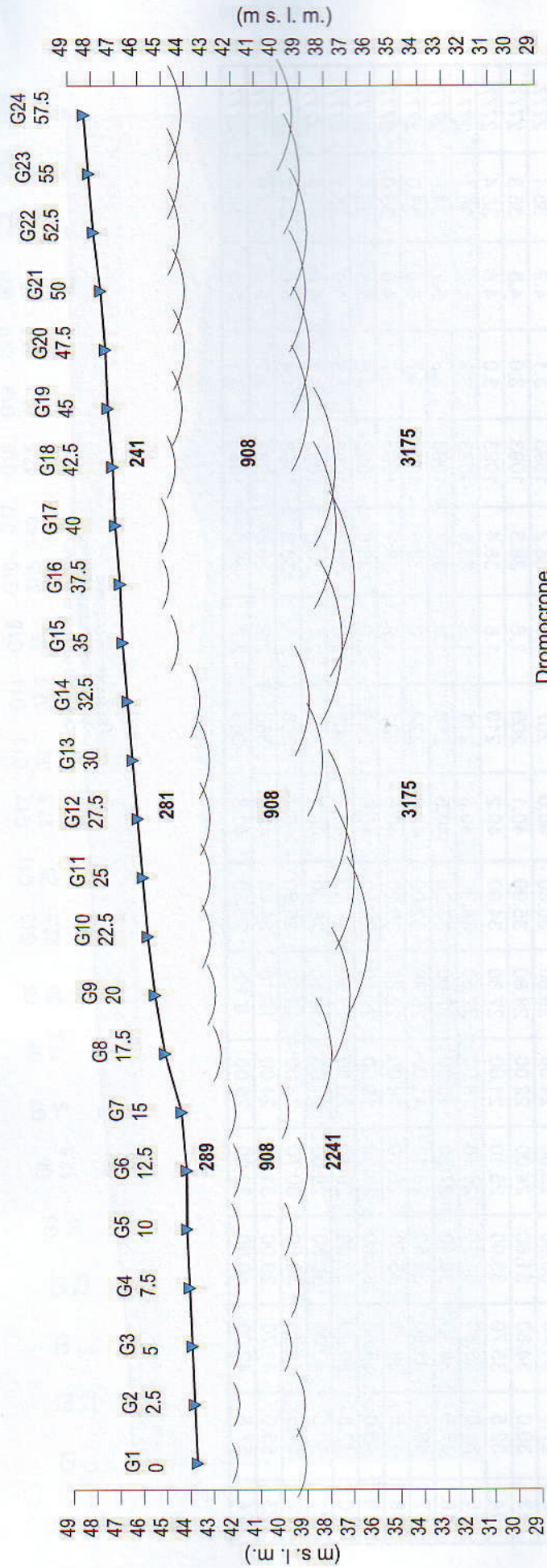


10 m

Scala grafica

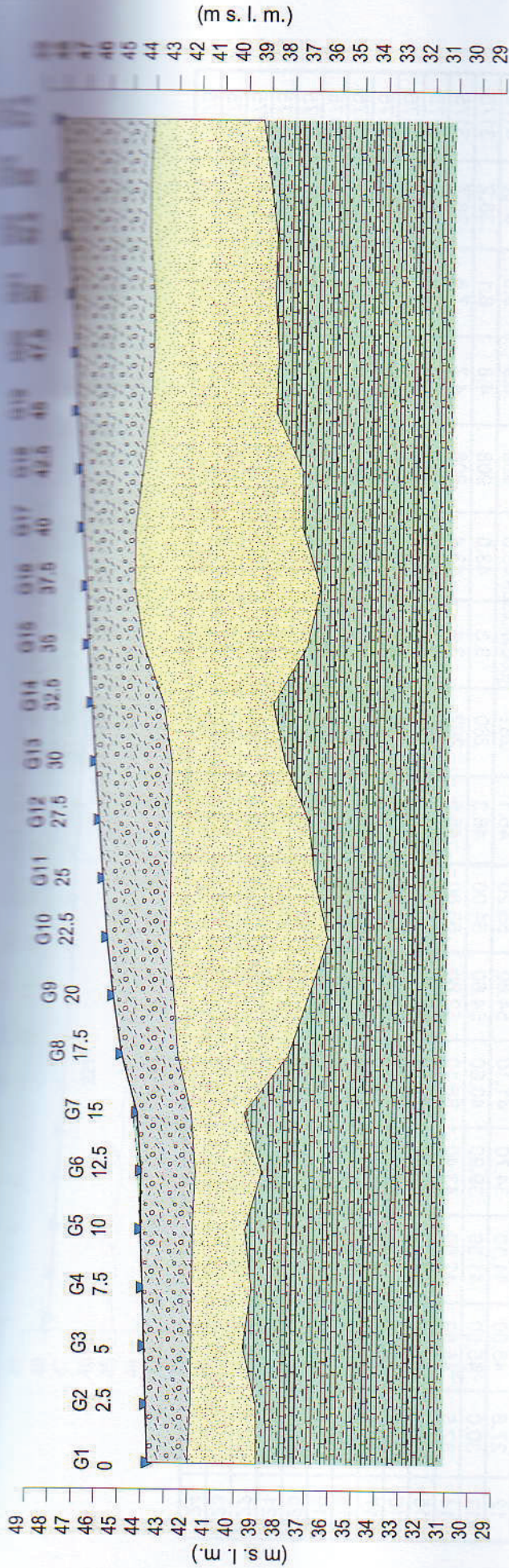
10 m

Profilo di sismica a Rifrazione Ps4 - onde P



Legenda

- Geofono
- Distanza dalla superficie topografica del limite di strato
- Velocità in m/sec. 1326
- Contatti tettonici
- Faglie presunte
- Scala 1:250
- A Estremo sinistro
- B Centrale
- C Centrale
- D Estremo destro
- F Estremo destro



Z1 (m)	1.7	1.9	2.0	2.1	2.2	2.3	2.3	2.3	2.4	2.6	2.7	2.9	3.1	3.3	3.1	3.1	2.4	2.1	2.3	2.7	3.2	3.4	3.6	3.7	3.9	4.2	
Z2 (m)	2.9	2.8	2.2	2.6	2.3	2.8	2.3	2.3	4.7	5.7	6.8	6.2	5.9	4.8	4.7	7.0	8.0	7.2	6.9	5.4	5.4	5.2	5.5	5.2	4.7	4.7	
H2 (m)	4.6	4.7	4.2	4.7	4.5	5.1	4.6	4.6	7.1	8.3	9.5	9.1	9.0	8.1	7.8	9.4	10.1	9.5	9.6	8.6	8.8	8.8	9.2	9.1	8.9	8.9	
V1 (m/s)	284	284	284	287	290	289	288	286	285	284	284	282	281	280	262	243	242	242	241	241	241	240	240	240	240	240	240
V2 (m/s)	908	908	908	908	908	908	908	908	908	908	908	908	908	908	908	908	908	908	908	908	908	908	908	908	908	908	908
V3 (m/s)	2241	2241	2241	2241	2241	2241	2241	2241	2241	3211	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175	3175

Legenda:

- Terreno naturale - materiali di riporto
- Sabbie con elementi litoidi
- Siltri-argilliti-arenarie

Scala 1:250

Z1 = Spessore del primo orizzonte
 Z2 = Spessore del secondo orizzonte
 H2 = Profondità del secondo orizzonte
 V1 = Velocità del primo orizzonte sismico
 V2 = Velocità del secondo orizzonte sismico
 V3 = Velocità del terzo orizzonte sismico

Dati Ps4 - onde P

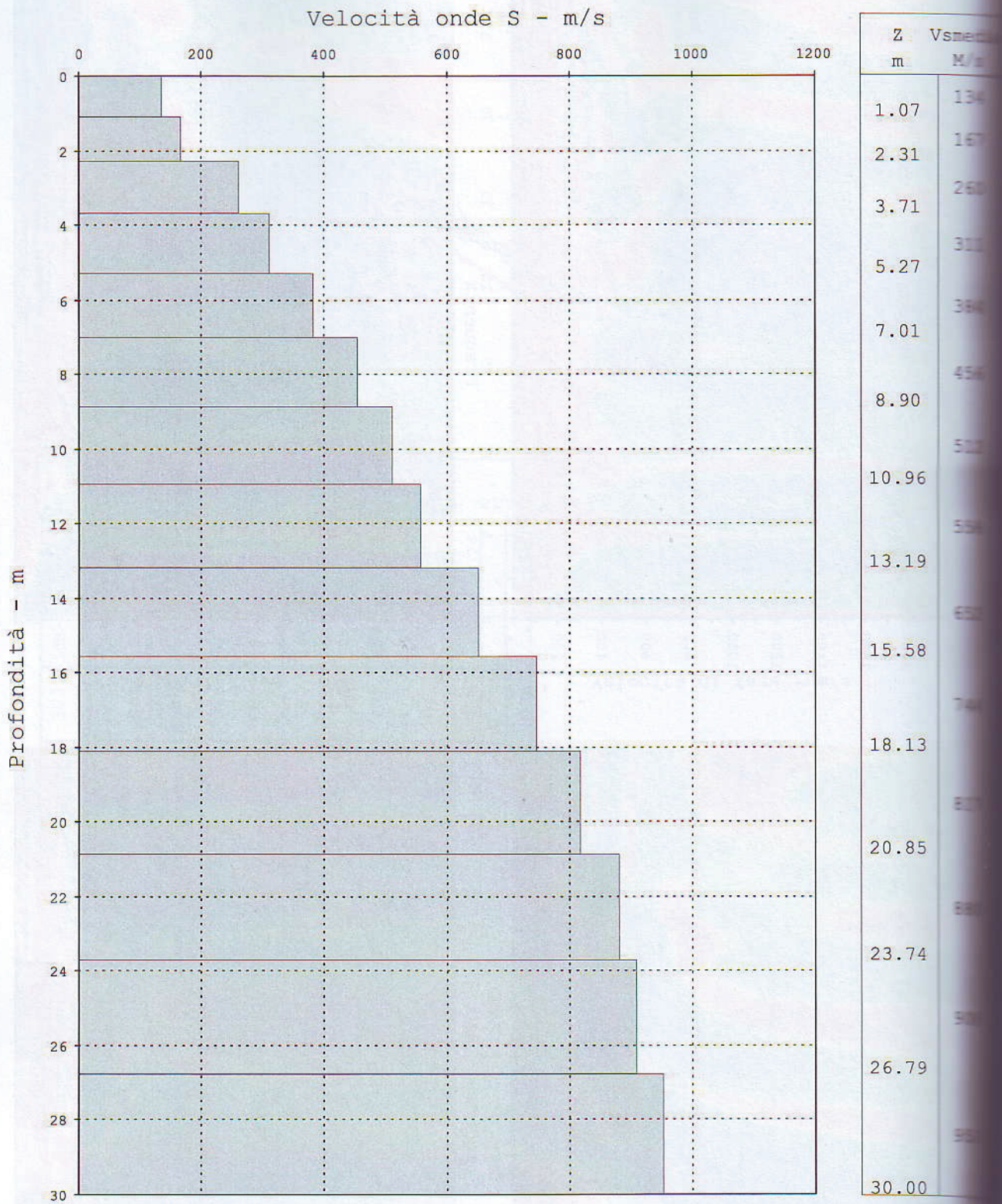
Tempi di arrivo

Geo. N°	Dist. m	ShotA ms	ShotB ms	ShotC ms	ShotD ms	ShotE ms	ShotF ms	Q m slm	V1 m/sec.	Z1 m	Q1 m slm	V2 m/sec.	Z2 m	H2 m	Q2 m slm	V3 m/sec.
1	0.0	26.90	6.00	36.80	47.10	55.00	58.50	43.7	284	1.7	42.0	908	2.9	4.6	39.1	2241
2	2.5	29.60	14.10	35.60	47.00	56.00	56.40	43.8	284	1.9	41.9	908	2.8	4.7	39.1	2241
3	5.0	30.80	21.10	34.30	46.80	56.00	54.90	43.9	284	2.0	41.9	908	2.2	4.2	39.7	2241
4	7.5	31.90	25.20	32.60	45.10	56.00	55.20	44.0	287	2.1	41.9	908	2.6	4.7	39.3	2241
5	10.0	33.50	28.00	30.30	43.10	56.00	53.70	44.1	290	2.2	41.9	908	2.3	4.5	39.6	2241
6	12.5	34.60	28.00	25.60	42.10	54.00	54.70	44.1	289	2.3	41.8	908	2.8	5.1	39.0	2241
7	15.0	35.00	29.10	18.10	42.20	54.00	54.40	44.3	288	2.3	42.0	908	2.3	4.6	39.7	3211
8	17.5	38.70	33.80	10.00	41.20	54.80	56.90	45.0	286	2.4	42.6	908	4.7	7.1	37.9	3211
9	20.0	39.30	36.00	9.40	43.00	55.80	56.80	45.4	285	2.6	42.8	908	5.7	8.3	37.1	3175
10	22.5	42.10	38.60	19.20	43.30	55.80	56.90	45.7	284	2.7	43.0	908	6.8	9.5	36.2	3175
11	25.0	43.50	39.80	27.20	42.00	55.80	55.80	45.9	282	2.9	43.0	908	6.2	9.1	36.8	3175
12	27.5	45.00	41.10	34.70	41.10	54.80	55.20	46.1	281	3.1	43.0	908	5.9	9.0	37.1	3175
13	30.0	45.50	41.50	39.90	40.60	54.60	54.00	46.3	280	3.3	43.0	908	4.8	8.1	38.2	3175
14	32.5	45.50	42.00	43.40	38.10	52.80	53.80	46.5	262	3.1	43.4	908	4.7	7.8	38.7	3175
15	35.0	47.20	43.00	44.10	36.10	52.30	53.10	46.7	243	2.4	44.3	908	7.0	9.4	37.3	3175
16	37.5	48.40	44.00	45.10	25.00	50.00	51.50	46.8	242	2.1	44.7	908	8.0	10.1	36.7	3175
17	40.0	48.70	46.00	45.10	16.00	49.00	51.20	47.0	242	2.3	44.7	908	7.2	9.5	37.5	3175
18	42.5	50.50	46.00	47.10	7.00	48.00	52.10	47.1	241	2.7	44.4	908	6.9	9.6	37.5	3175
19	45.0	51.50	46.00	47.00	9.00	47.80	52.20	47.3	241	3.2	44.1	908	5.4	8.6	38.7	3175
20	47.5	53.30	47.00	49.00	18.00	47.00	52.10	47.4	240	3.4	44.0	908	5.4	8.8	38.6	3175
21	50.0	54.70	48.00	51.00	26.00	41.80	52.00	47.6	240	3.6	44.0	908	5.2	8.8	38.8	3175
22	52.5	56.20	48.00	51.00	37.00	33.10	51.90	47.9	240	3.7	44.2	908	5.5	9.2	38.7	3175
23	55.0	57.60	48.00	53.00	45.00	21.60	51.50	48.1	240	3.9	44.2	908	5.2	9.1	39.0	3175
24	57.5	59.30	51.00	54.00	47.00	10.00	51.40	48.3	240	4.2	44.1	908	4.7	8.9	39.4	3175

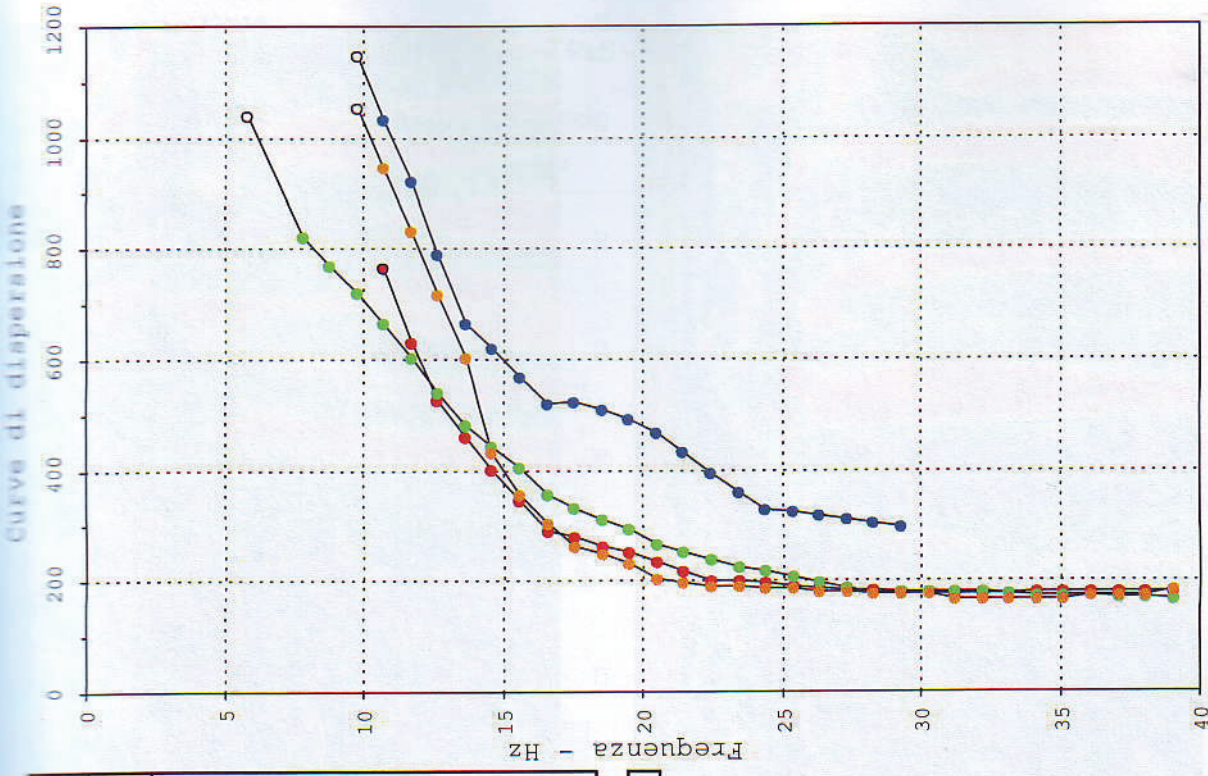
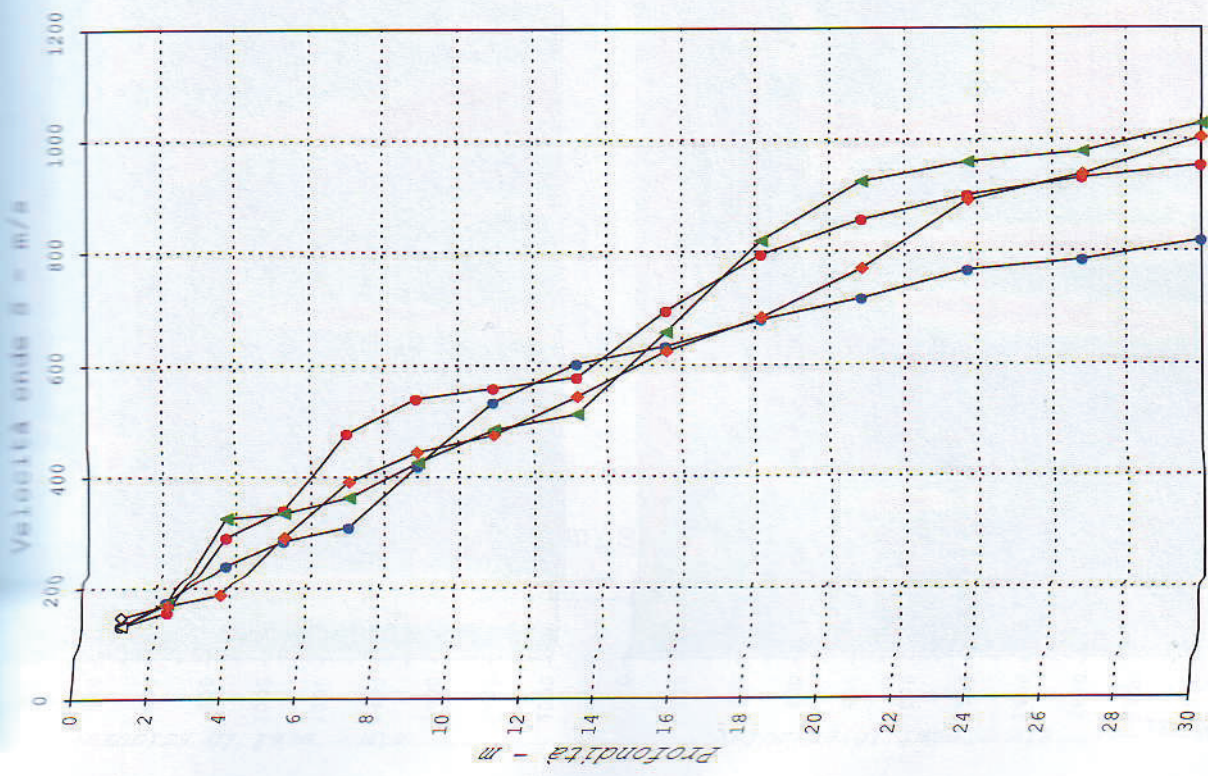
Legenda:

Z1 = Spessore dell'orizzonte
V1 = Velocità dell'orizzonte sismico
Q = Quota del geofono in m s.l.m.

Profilo di sismica a Rifrazione Ps4 - Elaborazione MASW



Vs30 = 477 m/s - Categoria B

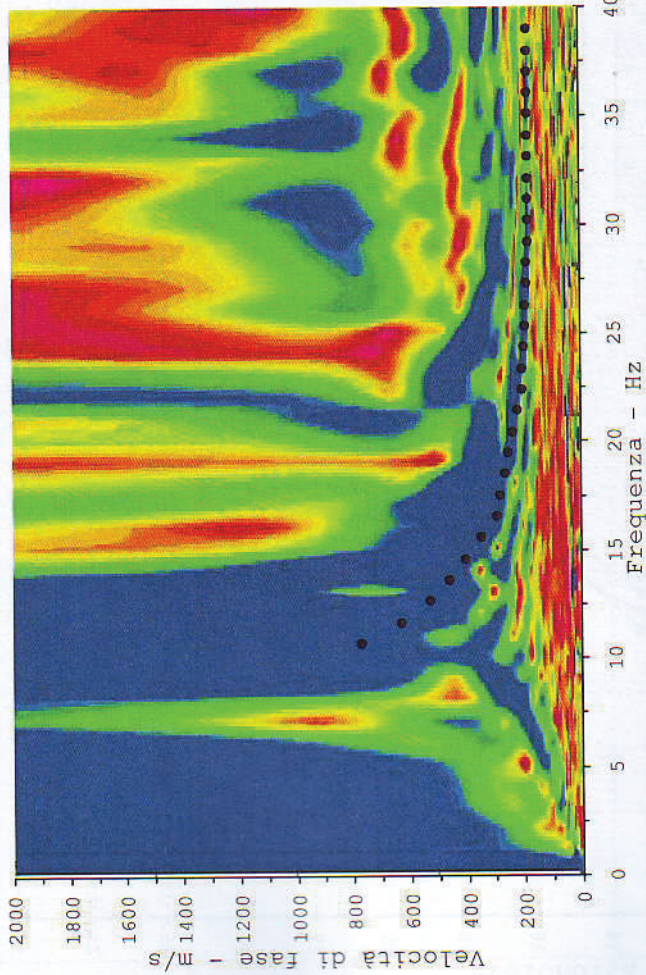


File	401	404	407	408
Shot m	-1	-15	58.5	76
z	VS	VS	VS	VS
m	m/s	m/s	m/s	m/s
1.07	130	130	130	146
2.31	173	155	171	167
3.71	240	290	325	187
5.27	284	339	333	289
7.01	307	477	362	389
8.90	419	540	424	441
10.96	534	559	484	472
13.19	600	577	512	543
15.58	633	694	656	624
18.13	679	795	820	682
20.85	716	857	926	770
23.74	767	900	960	893
26.79	786	932	979	937
30.00	820	955	1030	1003

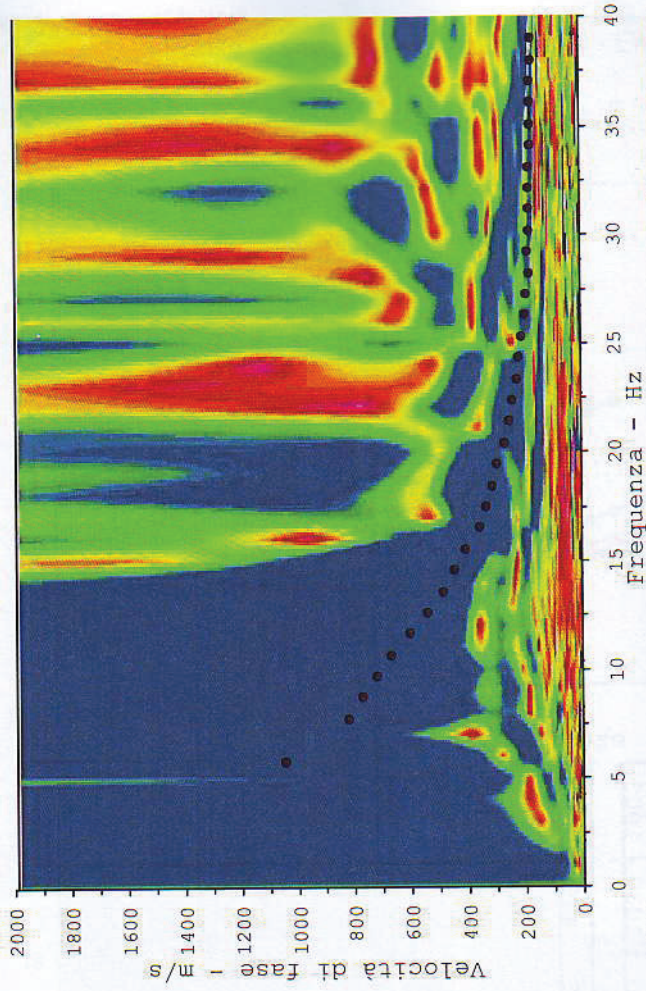
Vs30	446	500	489	457
------	-----	-----	-----	-----

Profilo di sismica a Rifrazione Ps4 - Elaborazione MASW

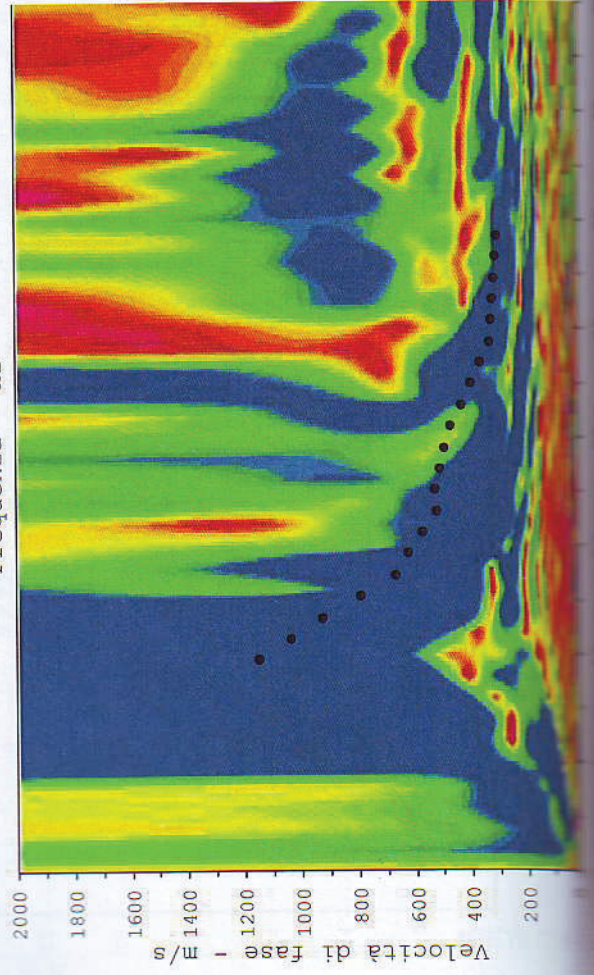
Curve di dispersione



Curve di dispersione



Curve di dispersione



Curve di dispersione

