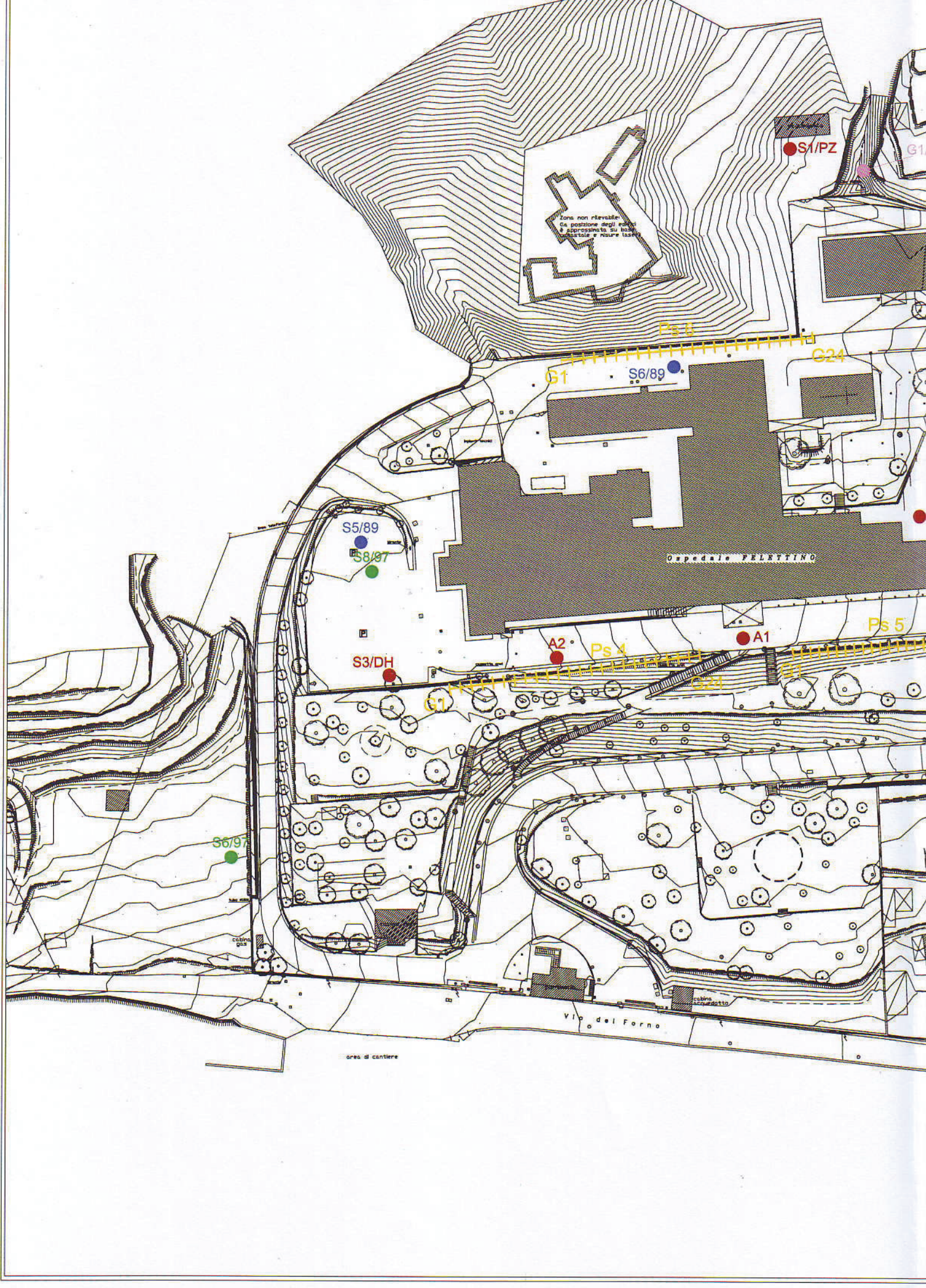


# NUOVO OSPEDALE DELLA SPEZIA LOTTO C – RADIOTERAPIA PROGETTO DEFINITIVO

## RELAZIONE GEOLOGICA Versione 1.1




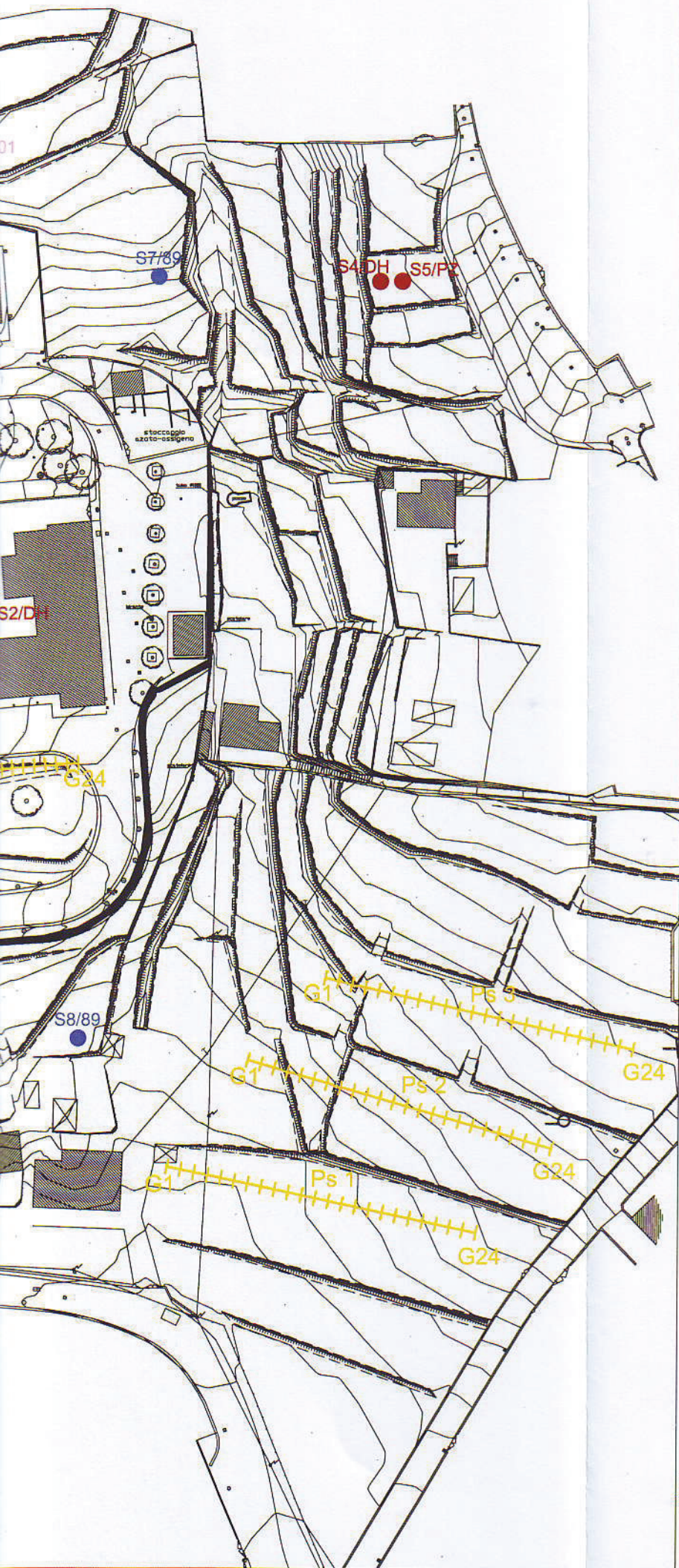
Rev	Data	Sez	Pag	Redatto	Controllato	Approvato	Descrizione
A	28/03/2011		94	P. Accolti Gil	MI	-	Per Commenti
1	16/09/2011		94	P. Accolti Gil	MI	SB	Per Emissione



# 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 Ps2 - onde P

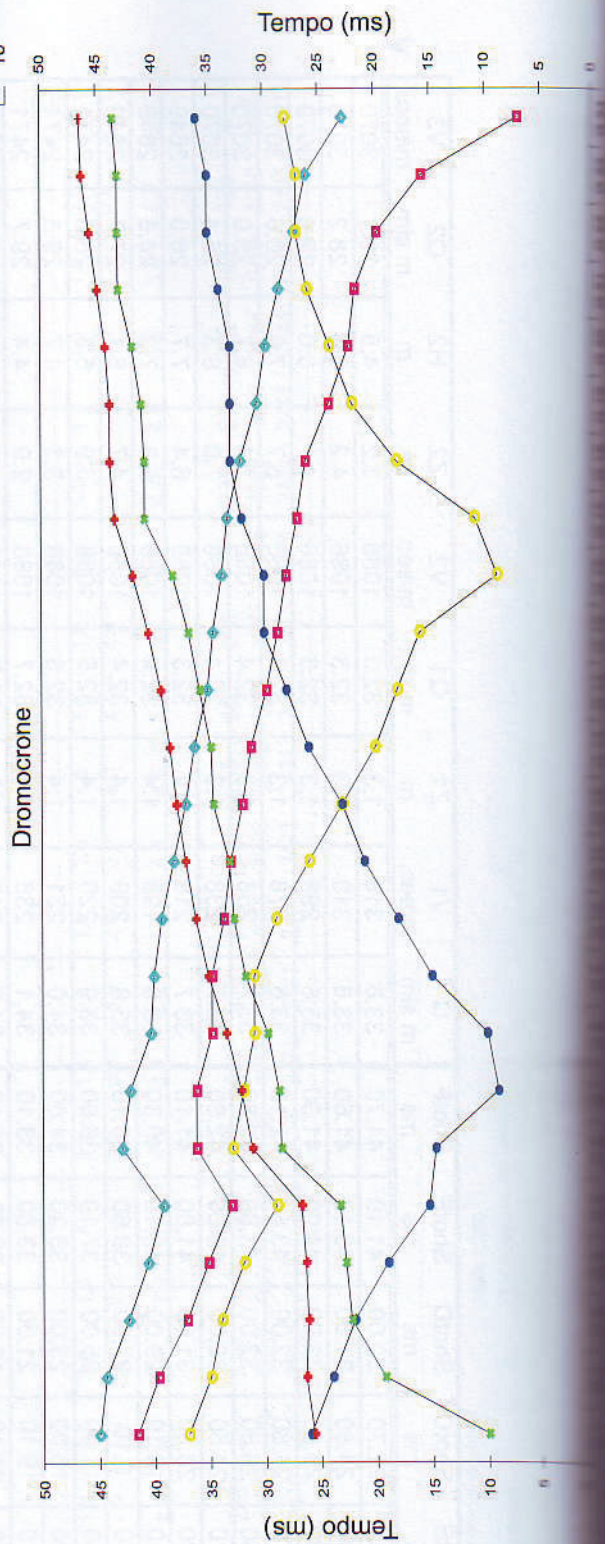
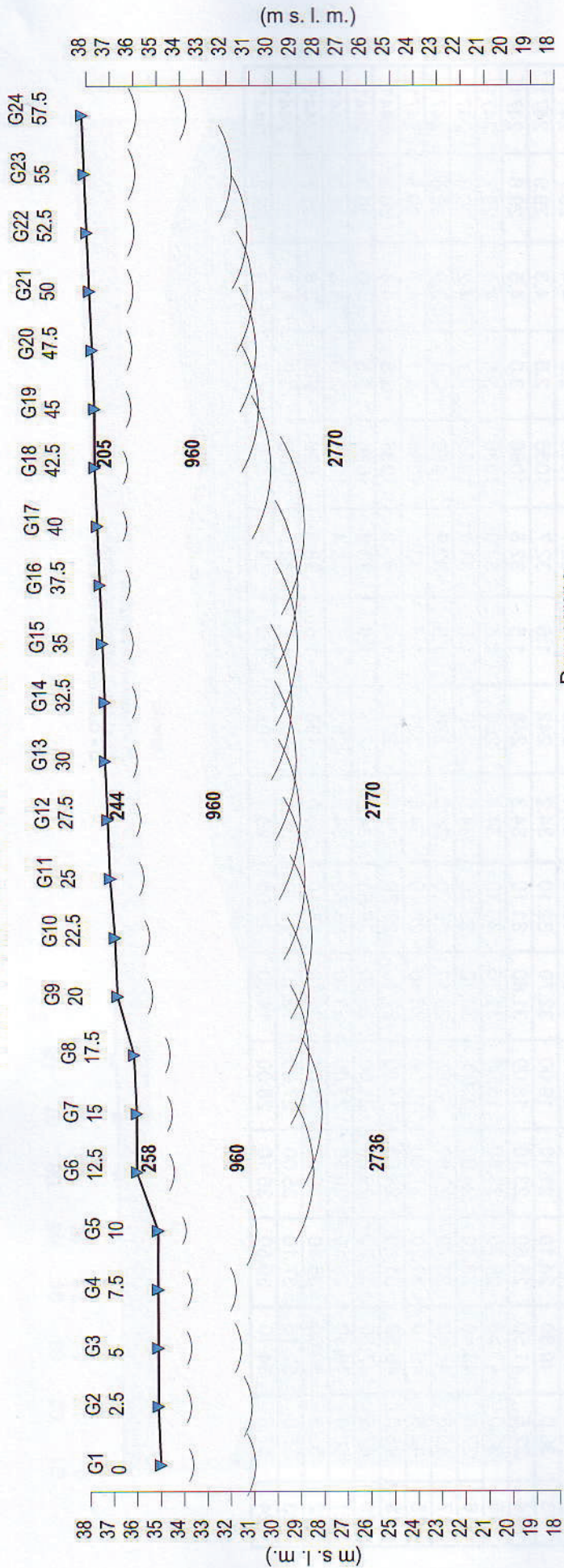
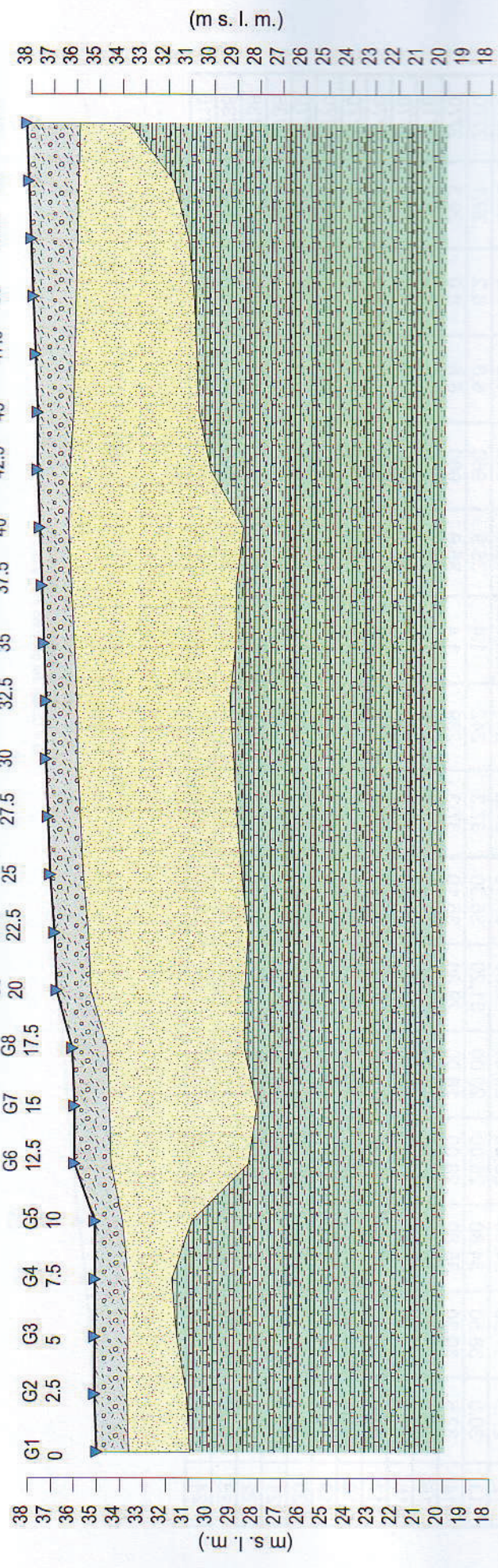


Fig. 1 - Profilo di interpretazione sismostratigrafica



	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	G13	G14	G15	G16	G17	G18	G19	G20	G21	G22	G23	G24
Z1 (m)	1.4	1.4	1.4	1.5	1.2	1.6	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.4	1.6	1.7	1.9	2.0	2.2	2.3
Z2 (m)	2.7	2.6	2.1	1.9	3.0	6.0	6.4	6.0	6.7	7.0	6.9	6.8	6.8	6.6	7.0	7.2	7.6	6.1	5.5	5.3	5.1	4.9	4.1	2.2
H2 (m)	4.1	4.0	3.6	3.4	4.2	7.6	7.9	7.5	8.2	8.4	8.4	8.2	8.2	8.0	8.4	8.5	8.9	7.6	7.0	7.0	7.0	6.9	6.3	4.5
V1 (m/s)	181	181	200	220	239	258	256	253	251	249	246	244	242	239	237	226	216	205	230	254	279	304	304	304
V2 (m/s)	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960
V3 (m/s)	2841	2841	2841	2841	2841	2736	2736	2770	2770	2770	2770	2770	2770	2770	2770	2770	2770	2770	2770	2770	2736	2736	2736	2715

**Legenda:**

- Terreno naturale - materiali di riporto
- Sabbie con elementi litoidi
- Siltiti-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

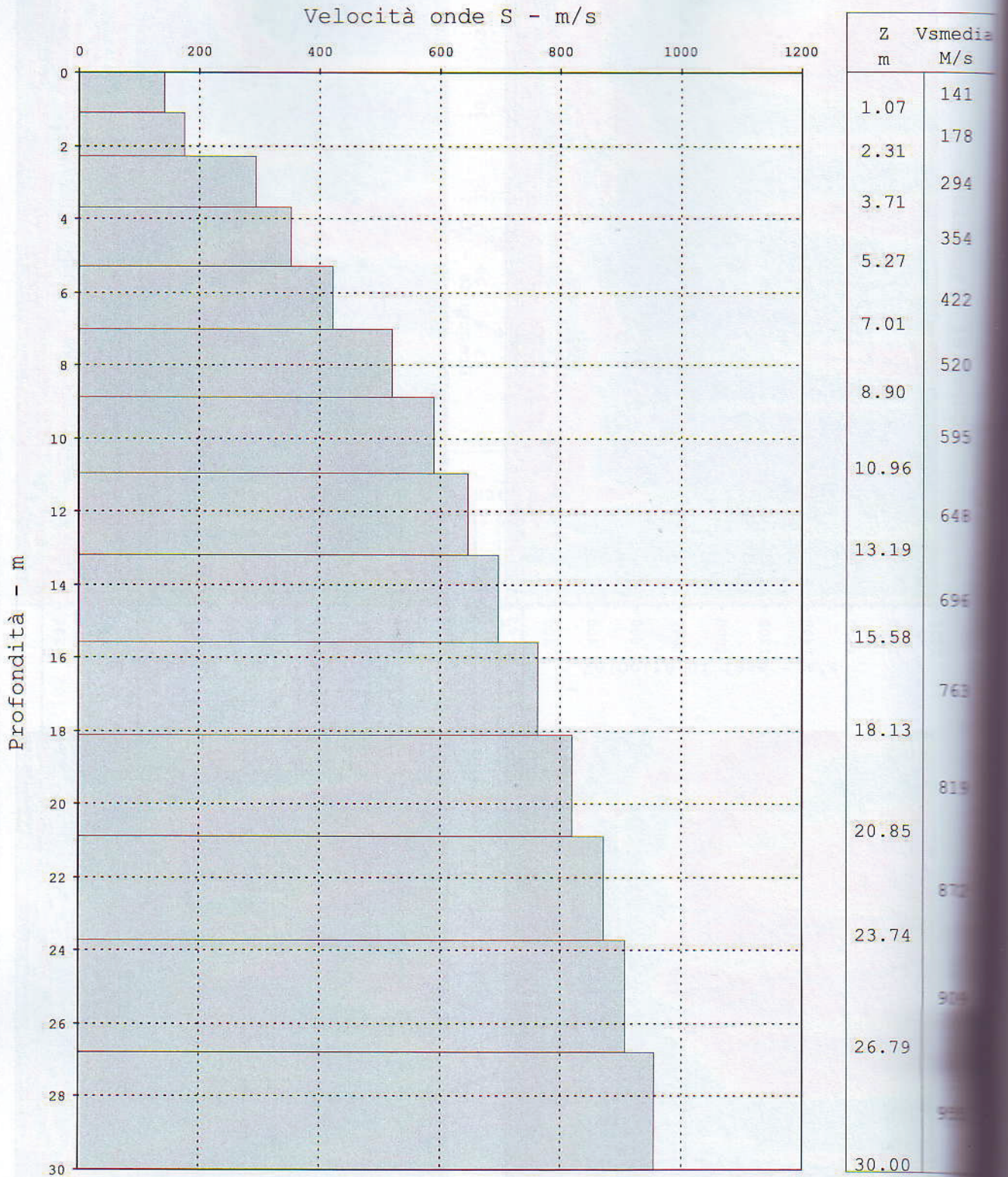
## Dati Ps2 - onde P

## Tempi di arrivo

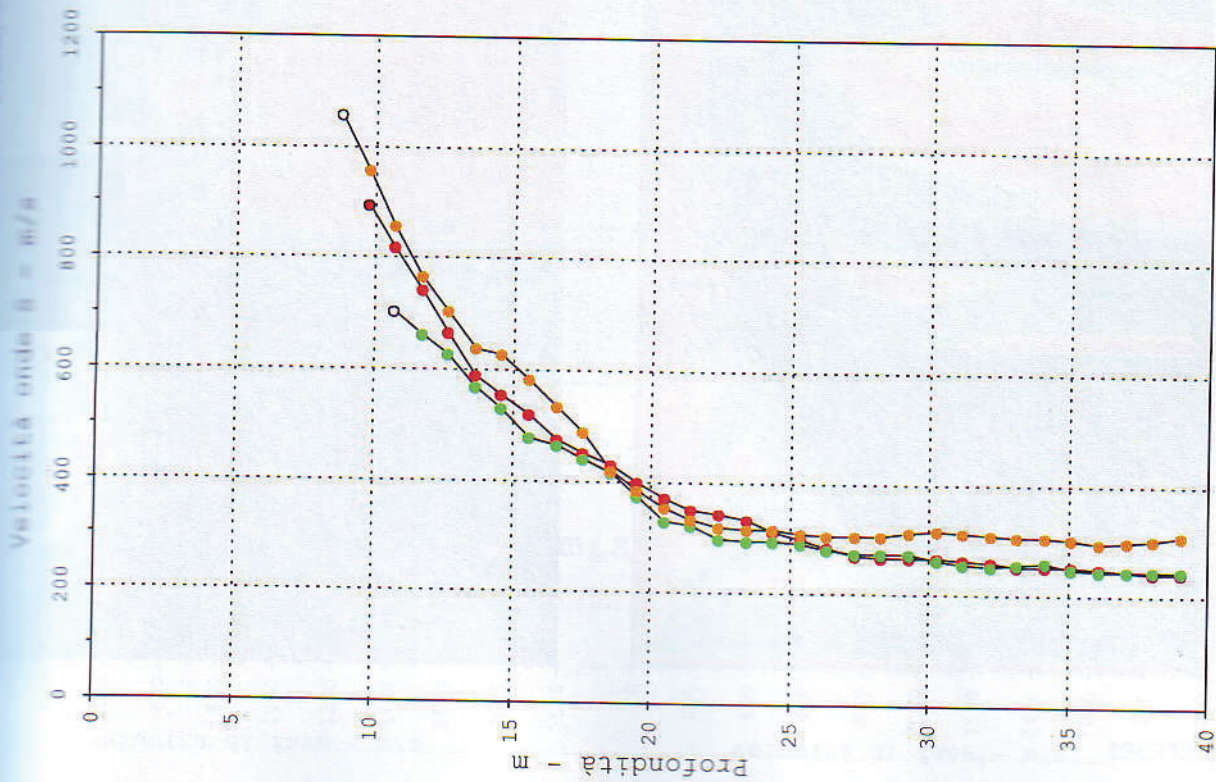
Geo. N°	Dist. m	ShotA ms	ShotB ms	ShotC ms	ShotD ms	ShotE ms	ShotF ms	Q m slm	V1 m/sec.	Z1 m	Q1 m slm	V2 m/sec.	Z2 m	H2 m	Q2 m slm	V3 m/sec.
1	0.0	25.70	10.00	26.00	37.00	41.60	45.00	35.0	181	1.4	33.6	960	2.7	4.1	30.9	2841
2	2.5	26.40	19.30	24.00	35.00	39.70	44.40	35.1	181	1.4	33.7	960	2.6	4.0	31.1	2841
3	5.0	26.20	22.30	22.00	34.00	37.10	42.40	35.1	200	1.4	33.7	960	2.1	3.6	31.5	2841
4	7.5	26.40	22.80	19.00	32.00	35.20	40.60	35.1	220	1.5	33.6	960	1.9	3.4	31.7	2841
5	10.0	26.80	23.30	15.30	29.00	33.10	39.20	35.1	239	1.2	33.9	960	3.0	4.2	30.9	2841
6	12.5	31.20	28.60	14.70	33.00	36.20	42.90	36.0	258	1.6	34.4	960	6.0	7.6	28.4	2736
7	15.0	32.20	28.80	9.00	32.00	36.20	42.20	36.0	256	1.5	34.5	960	6.4	7.9	28.1	2736
8	17.5	33.50	29.80	10.00	31.00	34.80	40.30	36.1	253	1.5	34.6	960	6.0	7.5	28.6	2770
9	20.0	35.10	31.80	15.00	31.00	34.80	40.00	36.8	251	1.5	35.3	960	6.7	8.2	28.6	2770
10	22.5	36.20	32.80	18.00	29.00	33.70	39.30	36.9	249	1.5	35.4	960	7.0	8.4	28.5	2770
11	25.0	37.10	33.20	21.00	26.00	33.10	38.20	37.1	246	1.4	35.7	960	6.9	8.4	28.7	2770
12	27.5	37.90	34.60	23.00	23.00	32.00	37.10	37.2	244	1.4	35.8	960	6.8	8.2	29.0	2770
13	30.0	38.50	34.80	26.00	20.00	31.20	36.30	37.3	242	1.4	35.9	960	6.8	8.2	29.1	2770
14	32.5	39.30	35.80	28.00	18.00	29.80	35.10	37.3	239	1.4	35.9	960	6.6	8.0	29.3	2770
15	35.0	40.40	36.80	30.00	16.00	28.80	34.60	37.4	237	1.3	36.1	960	7.0	8.4	29.0	2770
16	37.5	41.80	38.20	30.00	9.00	28.00	33.80	37.5	226	1.3	36.2	960	7.2	8.5	29.0	2770
17	40.0	43.40	40.70	32.00	11.00	27.00	33.30	37.6	216	1.3	36.3	960	7.6	8.9	28.7	2770
18	42.5	43.80	40.70	33.00	18.00	26.20	32.10	37.7	205	1.4	36.3	960	6.1	7.6	30.1	2770
19	45.0	43.80	41.00	33.00	22.00	24.10	30.60	37.7	230	1.6	36.1	960	5.5	7.0	30.7	2770
20	47.5	44.20	41.80	33.00	24.00	22.30	29.80	37.8	254	1.7	36.1	960	5.3	7.0	30.8	2770
21	50.0	44.90	43.00	34.00	26.00	21.70	28.60	37.9	279	1.9	36.0	960	5.1	7.0	30.9	2736
22	52.5	45.60	43.10	35.00	27.00	19.70	27.20	38.0	304	2.0	36.0	960	4.9	6.9	31.1	2736
23	55.0	46.30	43.10	35.00	27.00	15.70	26.10	38.1	304	2.2	35.9	960	4.1	6.3	31.8	2736
24	57.5	46.50	43.50	36.00	28.00	7.00	22.80	38.2	304	2.3	35.9	960	2.2	4.5	33.7	2715

Legenda:

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

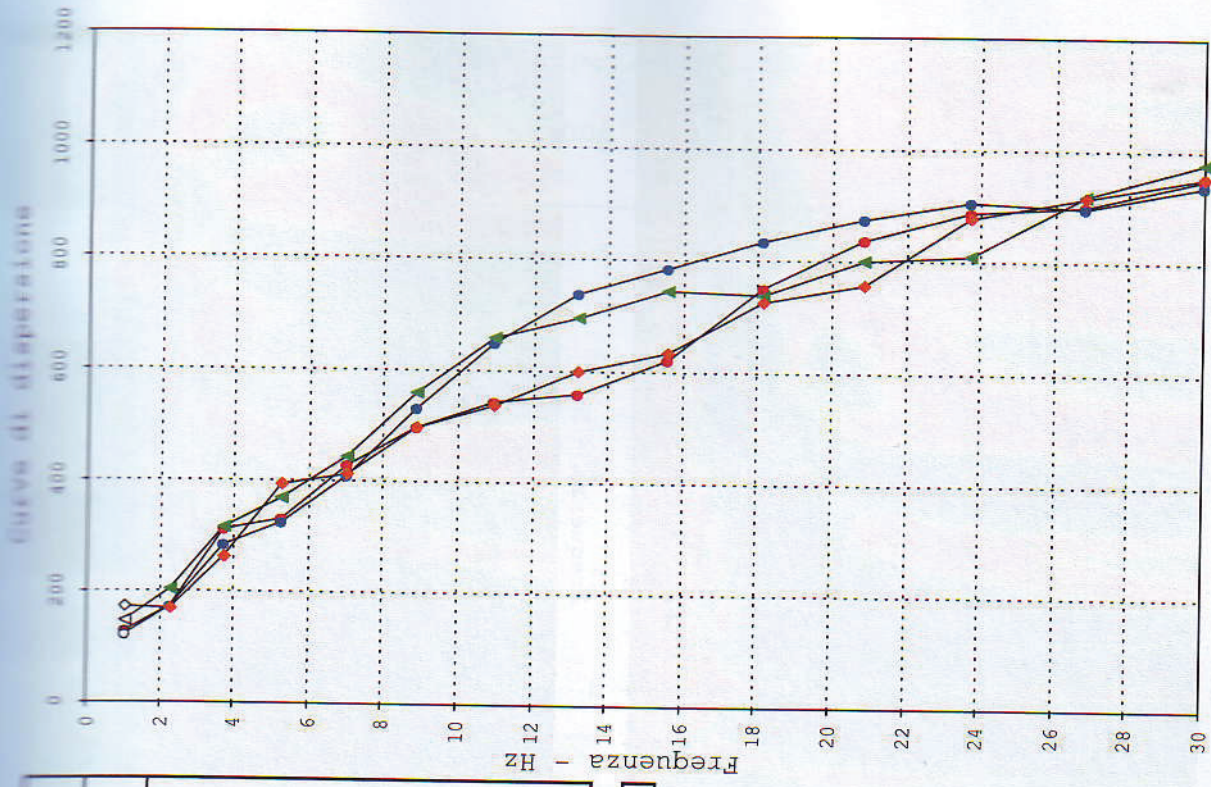


Vs30 = 513 m/s - Categoria B



File	201	202	205	206
Shot m	-25	-1	58.5	72
Z	VS	VS	VS	VS
m	m/s	m/s	m/s	m/s
1.07	121	127	146	171
2.31	171	171	204	167
3.71	284	313	315	263
5.27	325	331	368	392
7.01	408	428	442	413
8.90	531	497	558	494
10.96	647	542	657	535
13.19	739	557	696	599
15.58	786	619	744	634
18.13	837	750	740	726
20.85	875	840	802	759
23.74	908	890	811	880
26.79	899	900	921	916
30.00	937	950	978	955

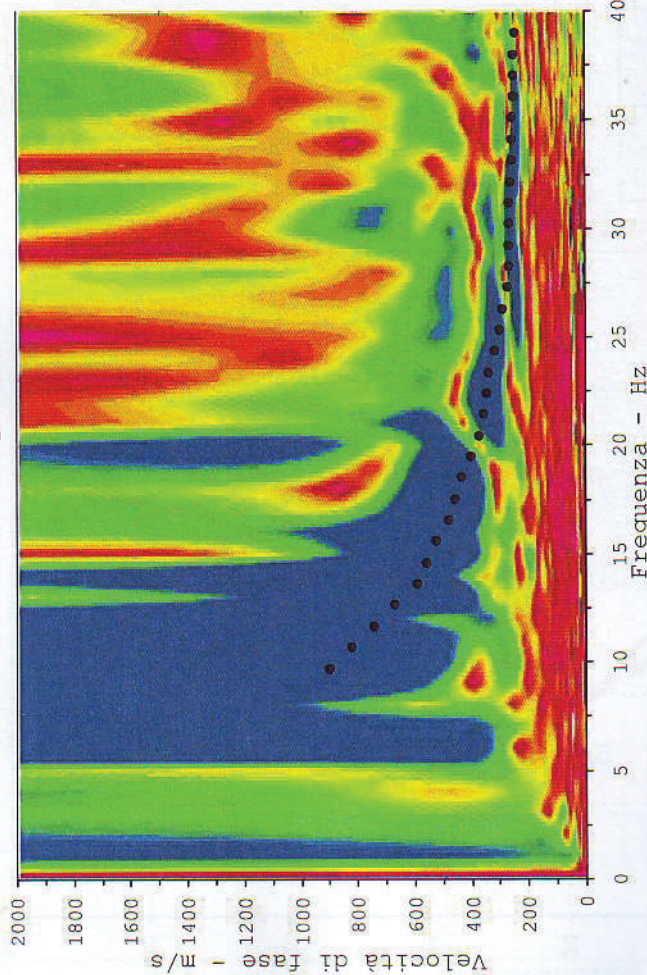
Vs30	508	492	536	505
------	-----	-----	-----	-----





Profilo di sismica a Rifrazione Ps2 - Elaborazione MASW

Curve di dispersione



Curve di dispersione

