



Escola Politècnica Superior
d'Enginyeria de Manresa

UNIVERSITAT POLITÈCNICA DE CATALUNYA



IGC
Institut Geològic
de Catalunya

CARACTERITZACIÓ DEL SUBSÒL MITJANÇANT LES ONES SUPERFICIALS I LA TÈCNICA H/V

ANNEX

Projecte Final de Carrera d'Enginyeria de Mines

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ANNEX 1. FONTMARTINA



1.1. DADES DE CAMP

125-37 → 4.5 Hz

Esquema d'implantació

UNITAT TÈCNIQUES GEOFÍSQUES

EQUIP SÍSMIC SUMMIT I MARK

Font d'energia: *Hall*

4.5 Hz

Client: IGC	Orientació: 1-2-3	Δtir: (m)	FILTRES DELS REGISTRES			REGISTRE	OBSERVACIONS
			Baixa	Alta	Notch		
Data: 5/05/2012	Operator:	nº traces: 2x+2y	Hz	Hz	IN	OUT	
Zona: Font Martore	ΔG: 4 (m)	geòfons/traca:	Temps de registre: (ms)				
Línia: 1	ΔSTA: 4 (m)	Δt: (ms)					
TIR	NUM COPS	ESTACIONS ENREGISTRADES	POSICIO ROL-ALONG				
1	5/6						
2	2						
3	1						
4	1						
5	2						
6	1						
7	2						
8	6						
9	5						
10	5						
11	5						

Dona l'any a 660

UNITAT TÈCNiques GEOFÍSiques

EQUIP SÍSMIC SUMMIT I MARK

Vija
Font d'energia: **MAN**



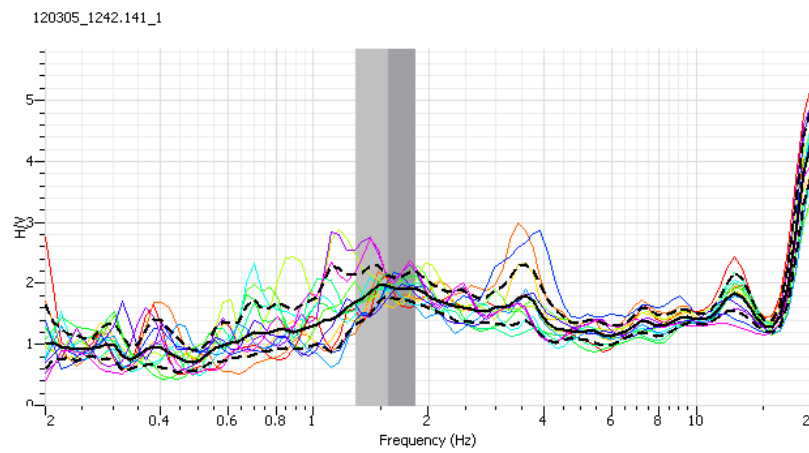
TIR	NUM COPS	ESTACIONS ENREGISTRADES		POSICIO ROL-ALONG	REGISTRE	OBSERVACIONS
		Δtir: (m)	FILTRES DELS REGISTRES			
		nº traces: 24	Baixa	Alta	Notch	
		geòfons/traja:	Hz	Hz	IN OUT	
		ΔSTA: (m) Δt: (ms)	Temps de registre:		(ms)	
13						+ -
14						+ + } Amb separant
15						- + + 3x2x 14
16						+ - 3x2x 5x1x + RESEAS
18						+ +
19						+ -
20						+ +
21						+ -
22						+ -
23						+ -
24						+ +
25						+ -
26						+ +
27						+ -
28						+ +
29						+ -
30						+ - Man. Pixer - repetitius

Esquema d'implantació

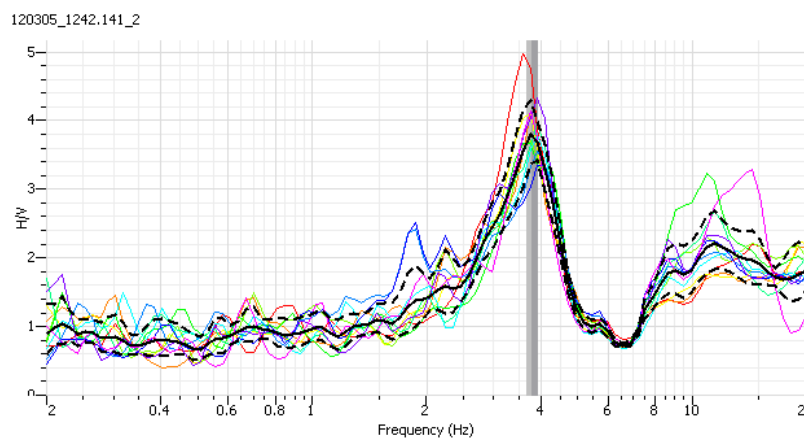


1.2. PROCESSAT TÈCNICA QUOCIENT ESPECTRAL H/V

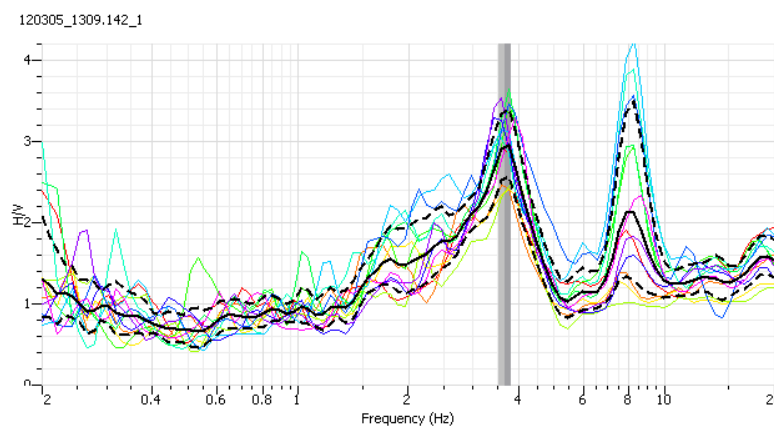
141 C1

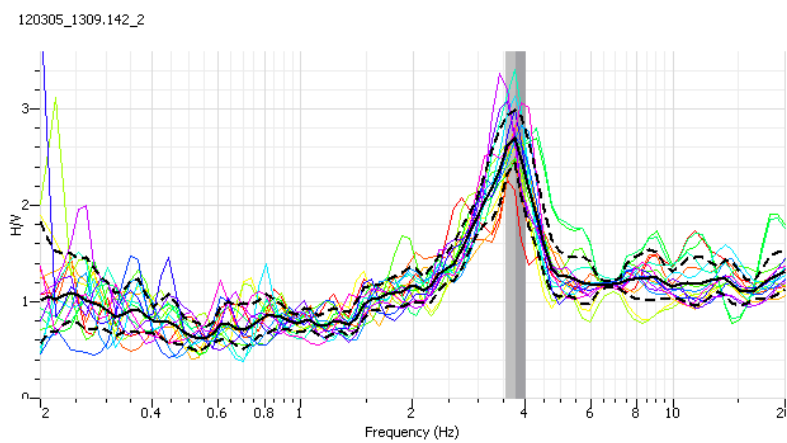
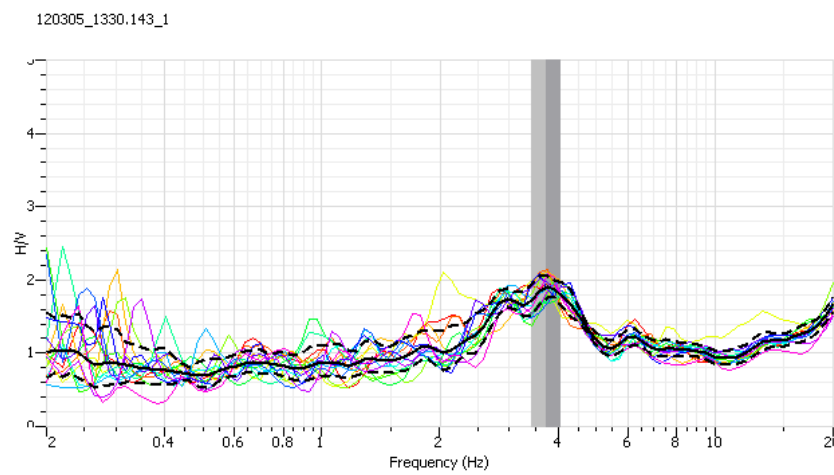
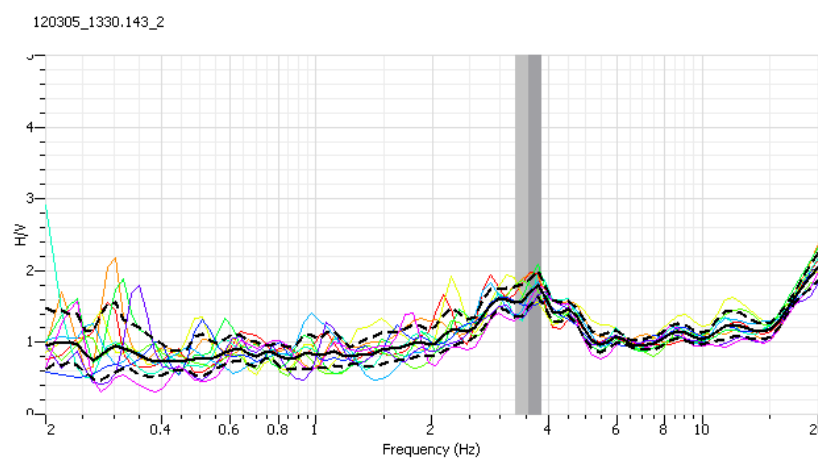


141 C2



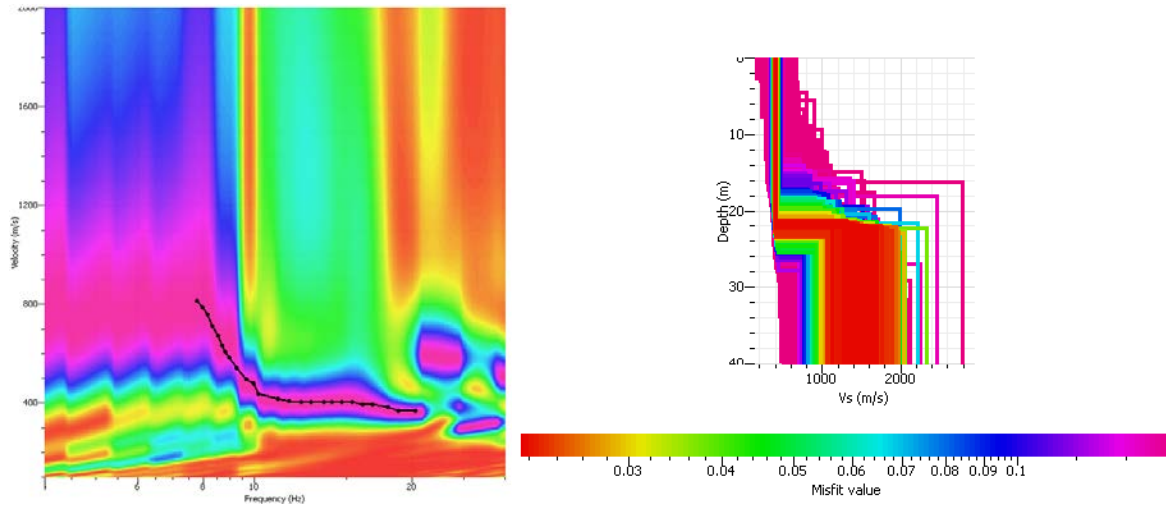
142 C1



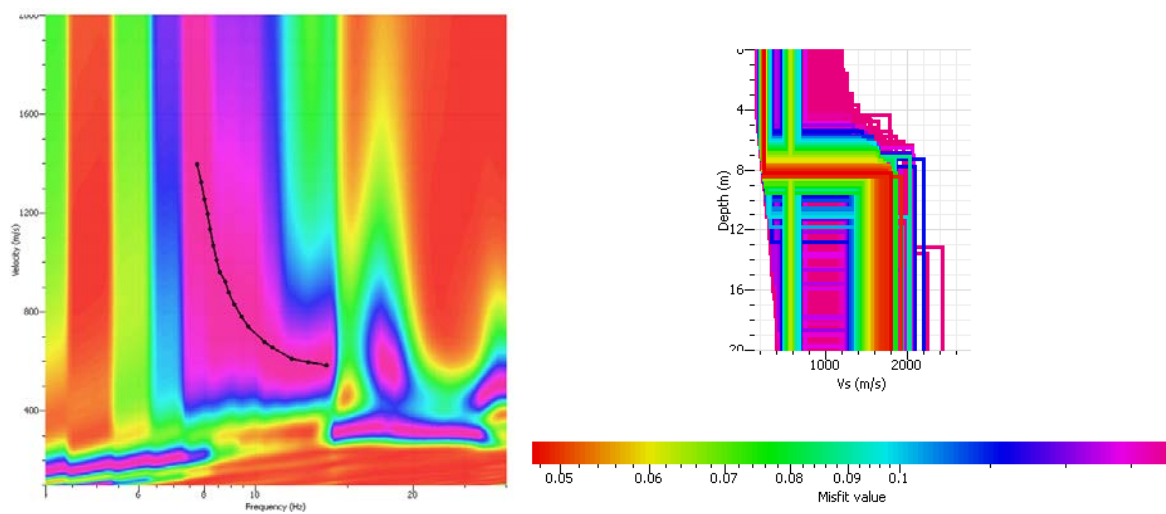
142 C2**143 C1****143 C2**

1.3. PROCESSAT SÍSMICA ACTIVA ONES SUPERFICIALS 4,5 Hz

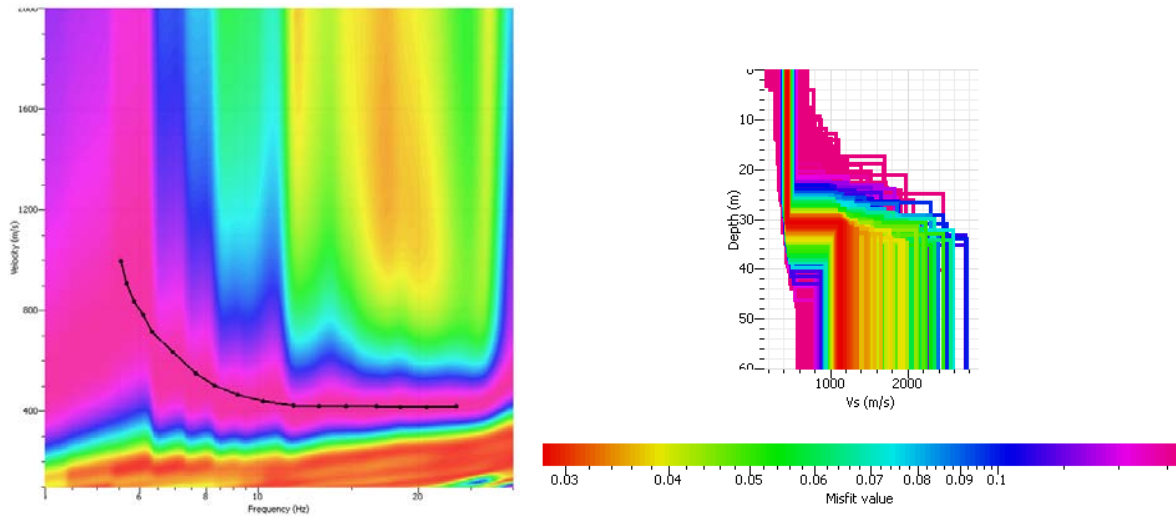
TIR 1 (G1-G2)



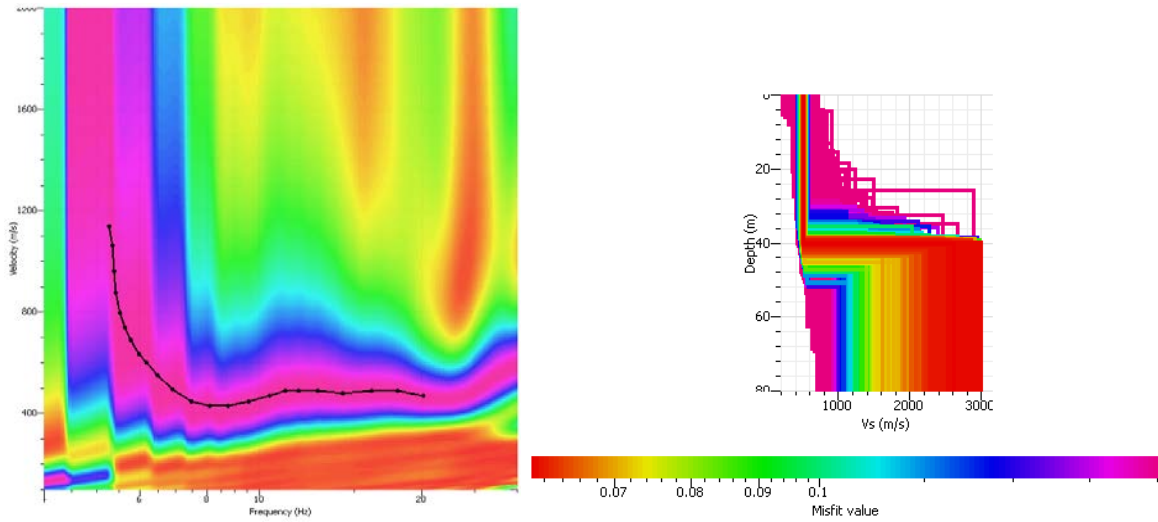
TIR 3 (G7-G8)



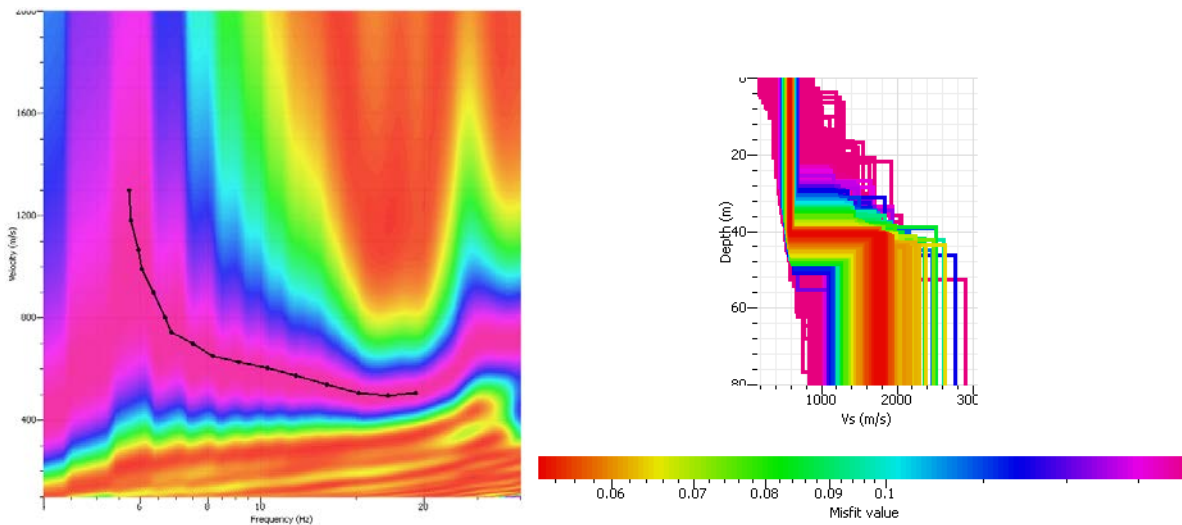
TIR 4 (G10-G11)



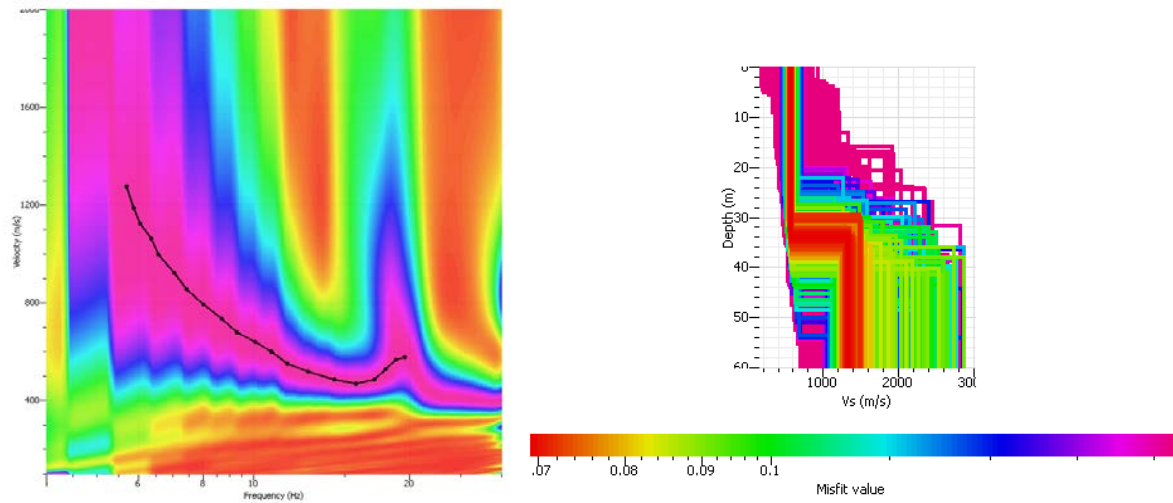
TIR 5 (G13-G14)



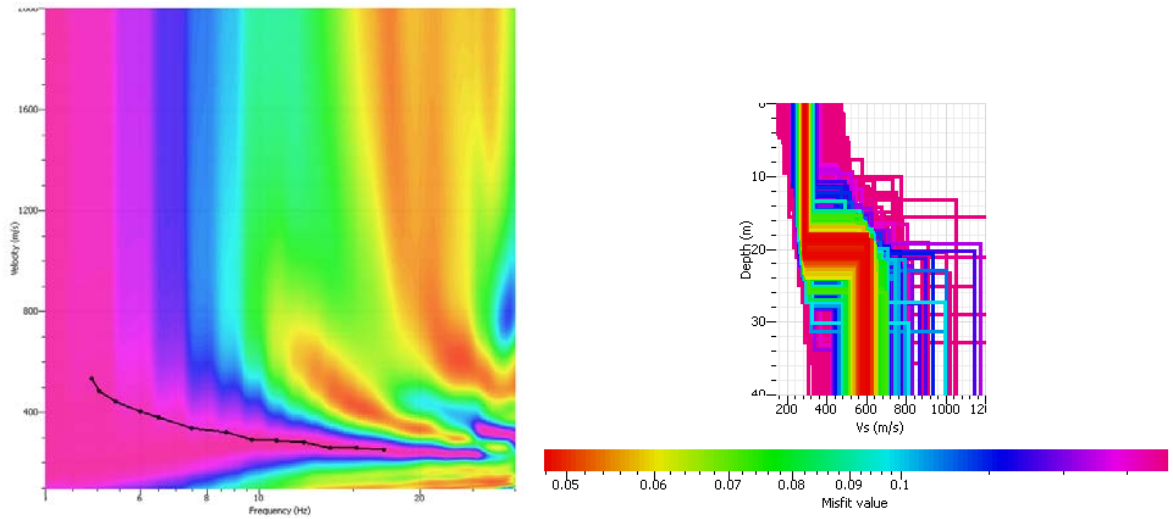
TIR 6 (G16-G17)



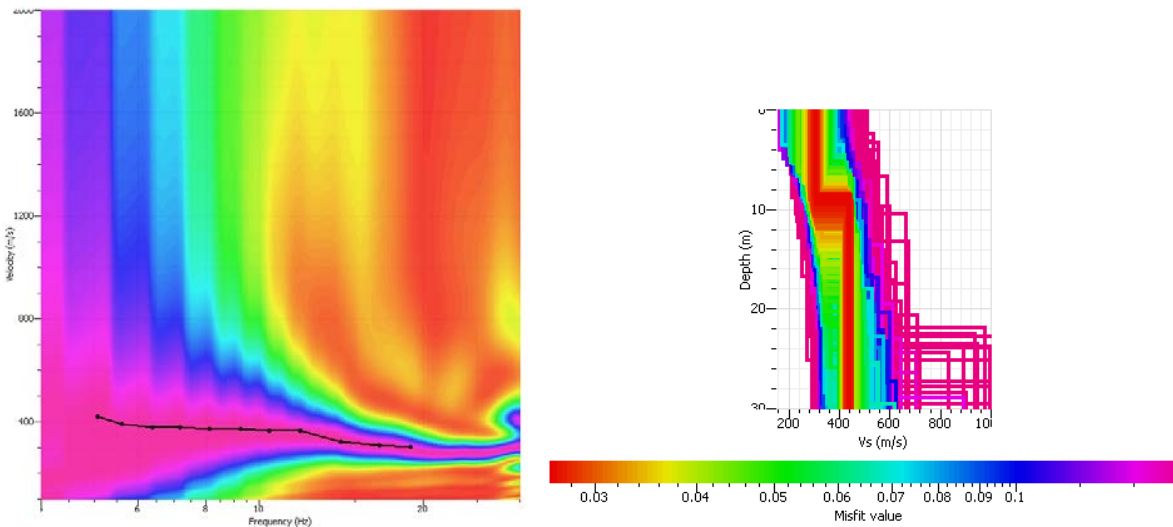
TIR 7 (G19-G20)



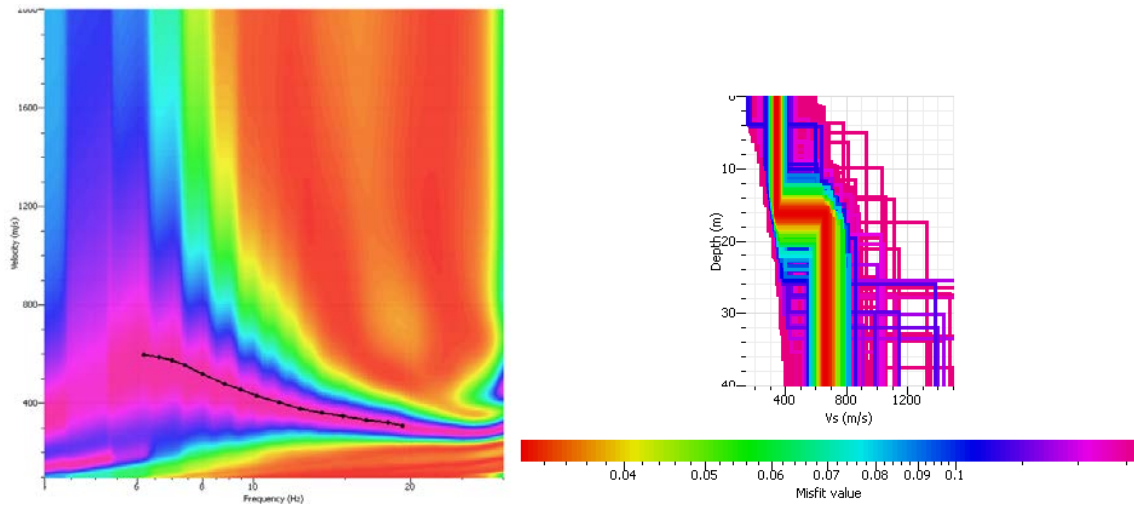
TIR 8 (G23-G24)



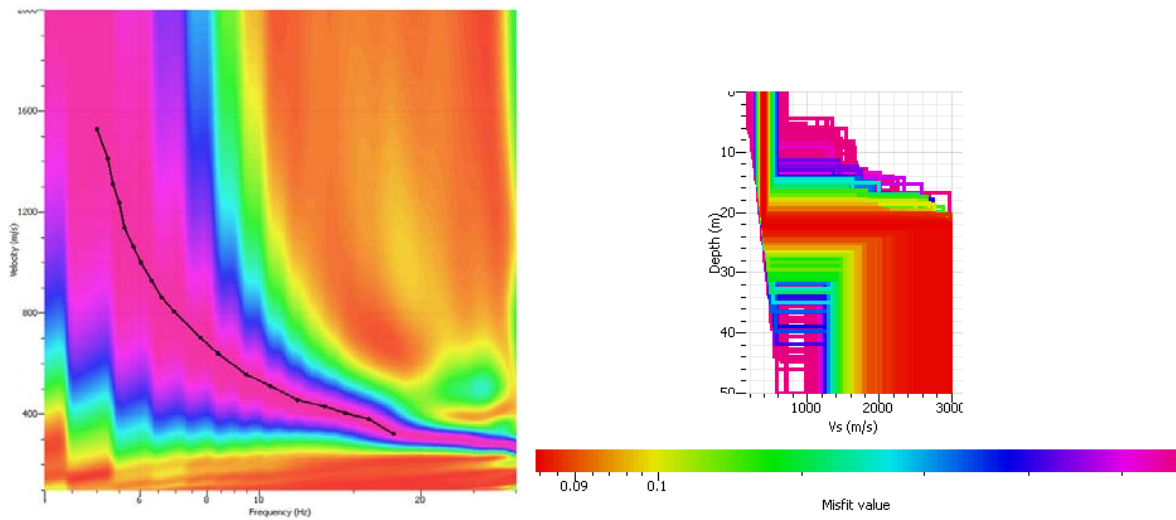
TIR 9 (5 metres G24)



TIR 10 (10 metres G24)



TIR 11 (20 metres G24)





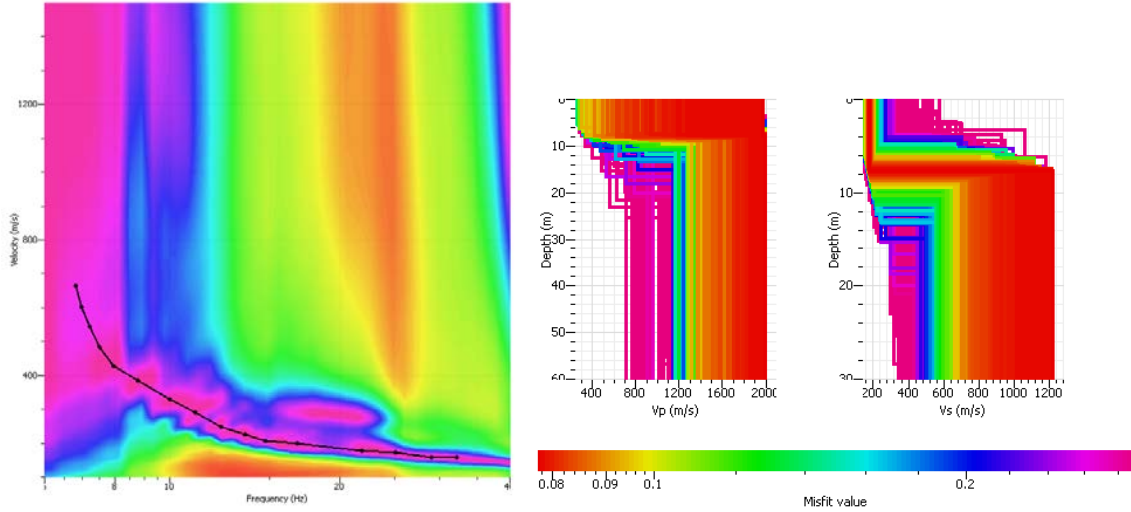
ANNEX 2. CAMARASA



2.2. PROCESSAT SÍSMICA ACTIVA D'ONES SUPERFICIALS (CA L'ALEU)

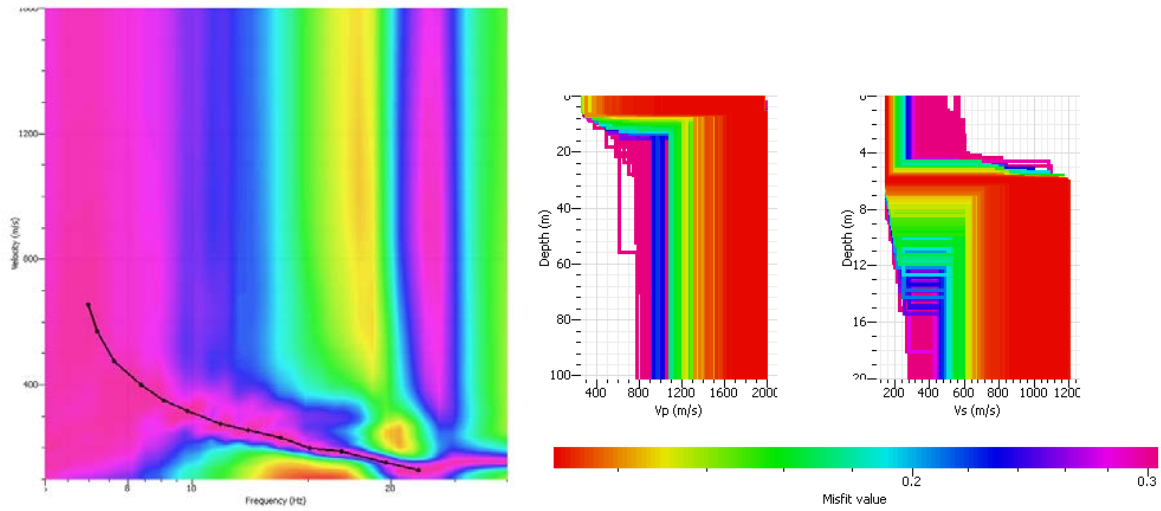
TIR 2 (6 metres G1)

Shot at (-6, 0, 0), time=2003-04-17 00:00:00



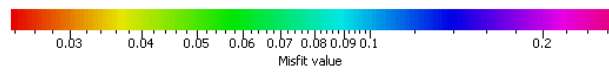
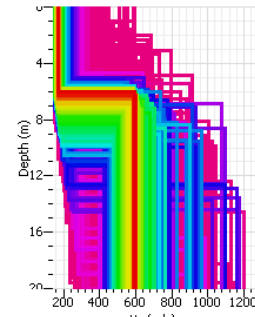
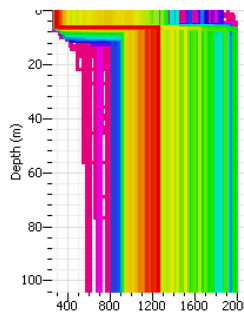
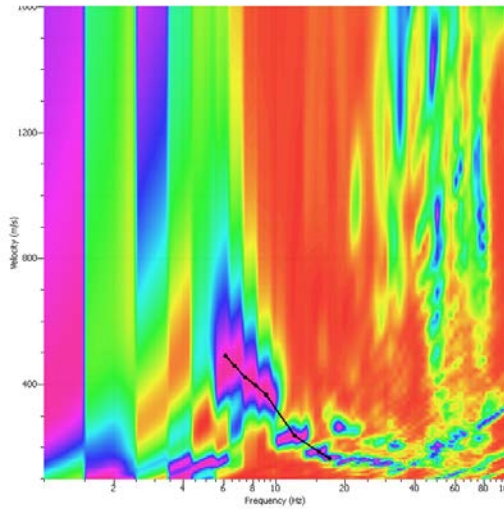
TIR 3 (4 metres G1)

Shot at (-4, 0, 0), time=2003-04-17 00:00:00



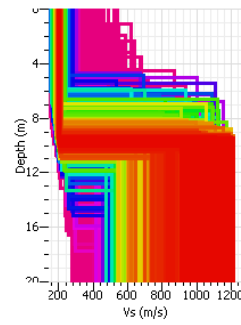
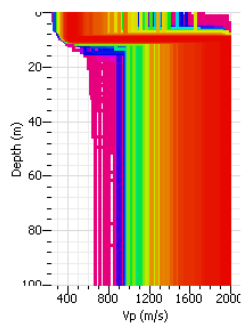
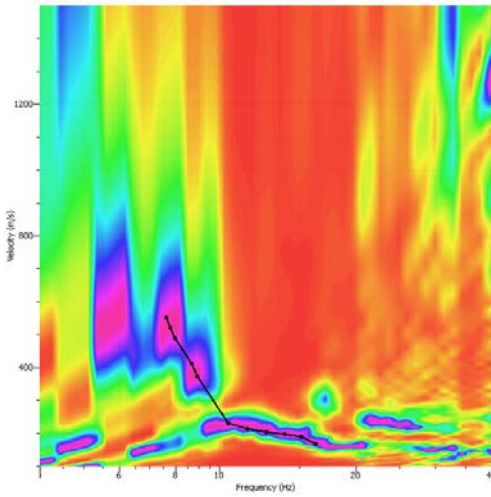
TIR 4 (G1-G2)

Shot at (2, 0, 0), time=2003-04-17 00:00:00



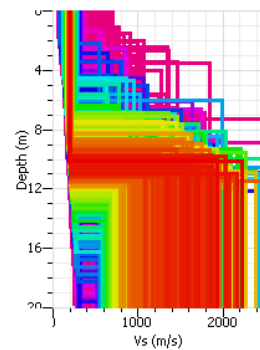
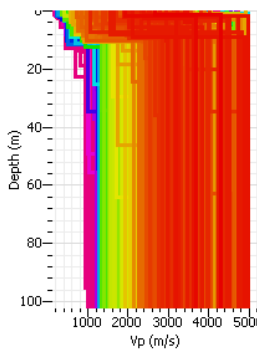
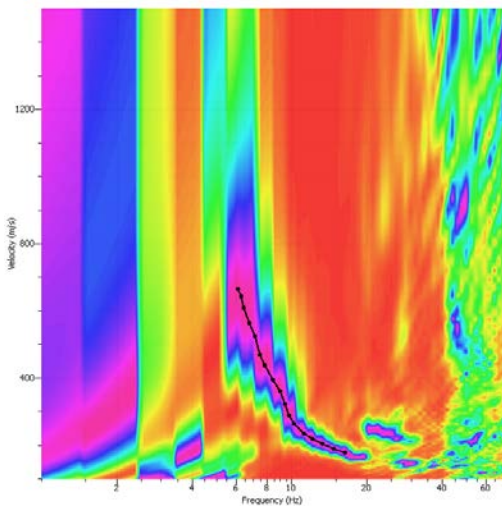
TIR 5 (G5-G6)

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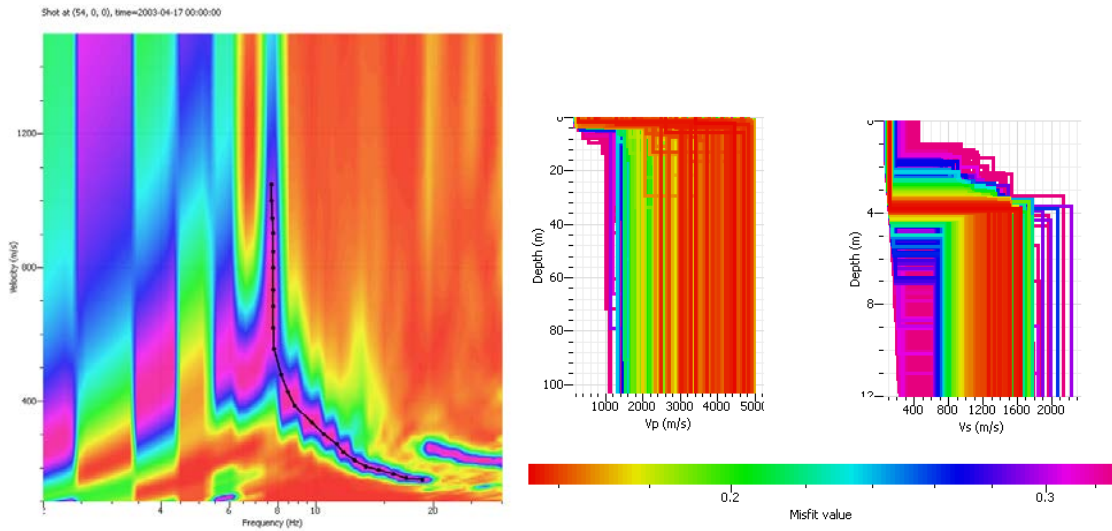


TIR 6 (G9-G10)

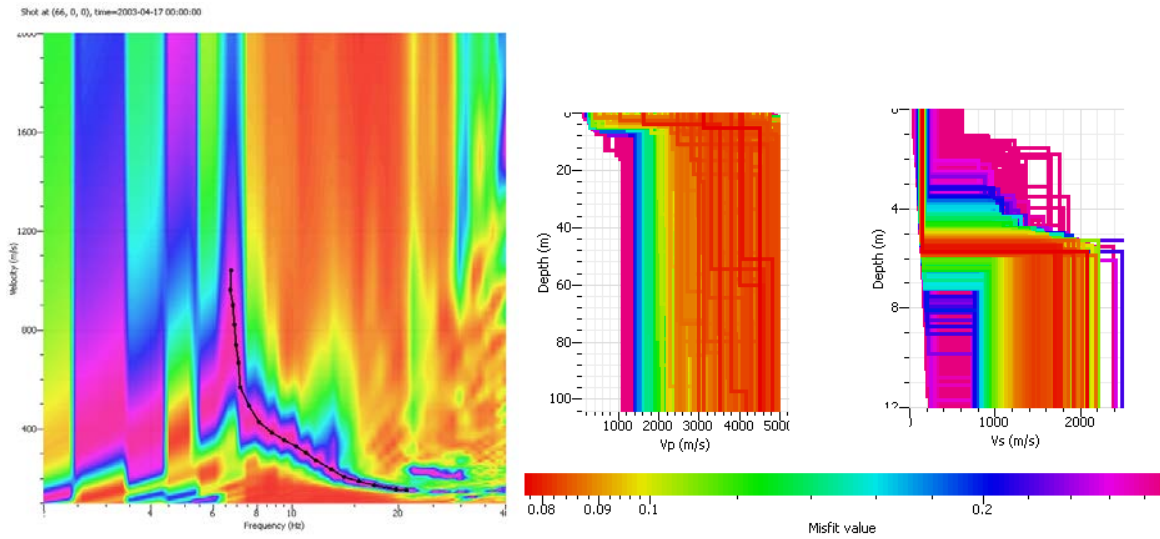
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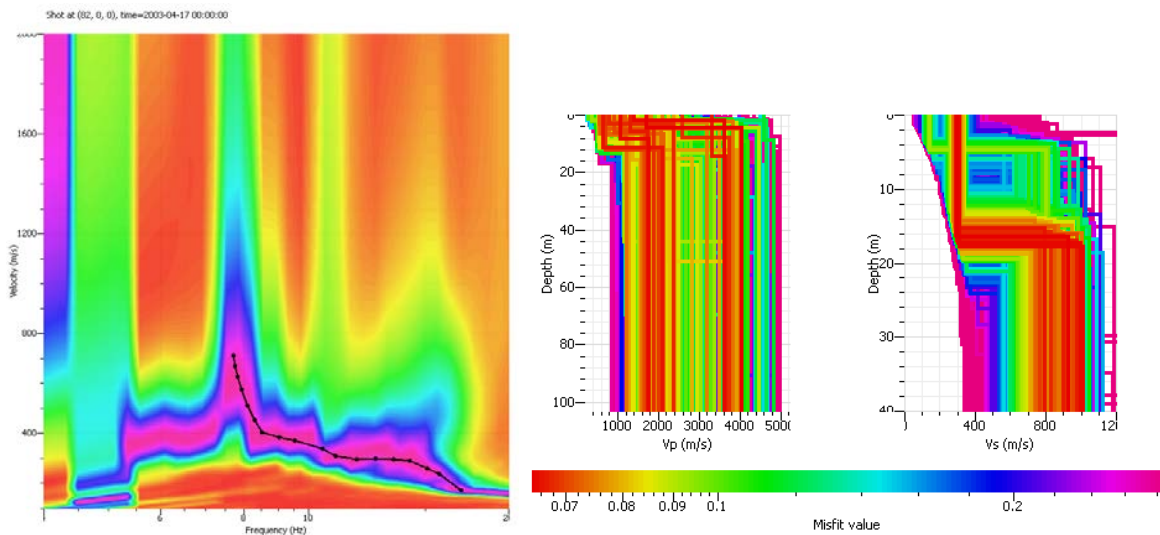
TIR 7 (G14-G15)



TIR 8 (G17-G18)

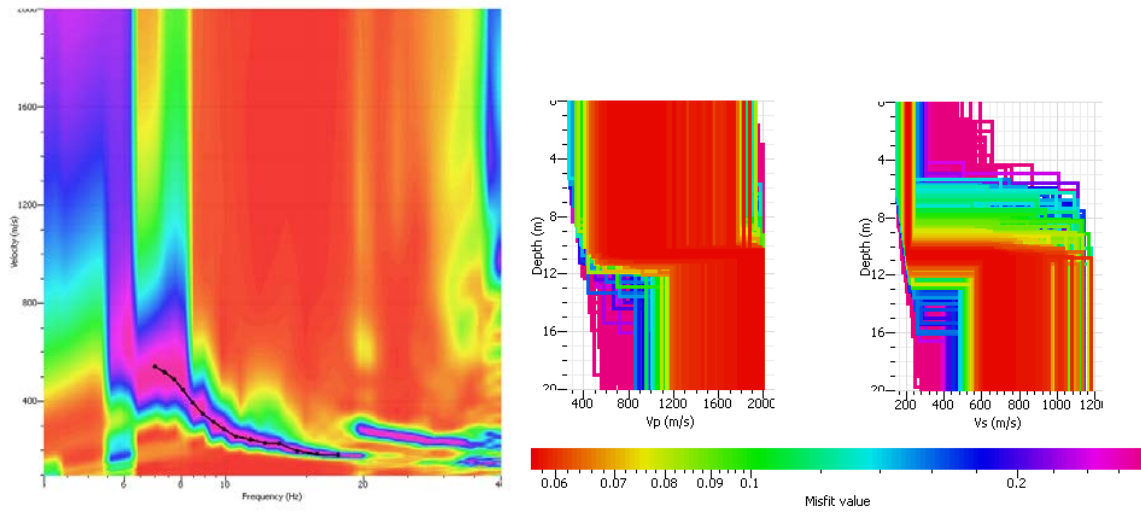


TIR 9 (G21-G22)



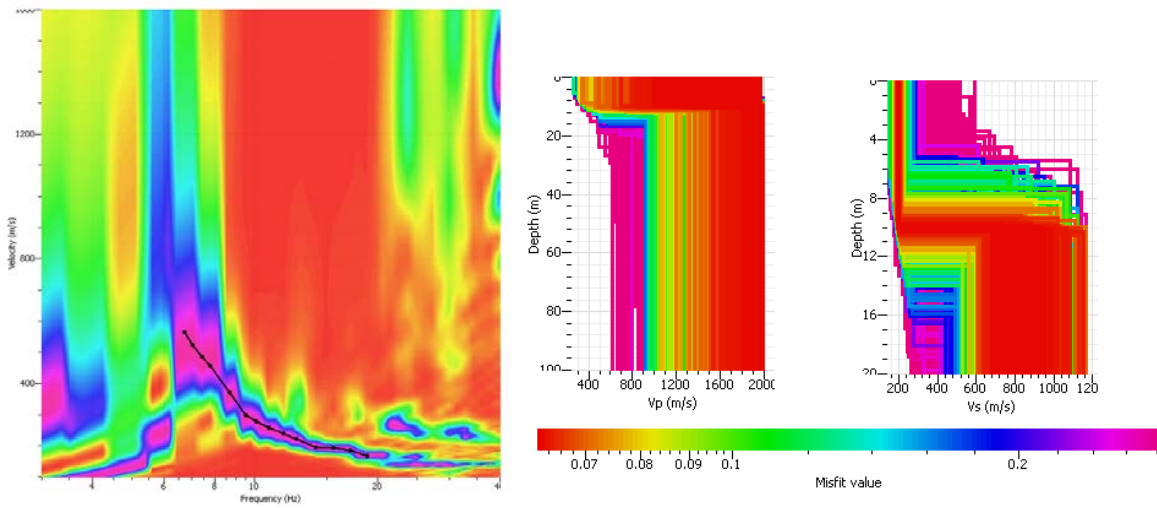
TIR 10 (G25-G26)

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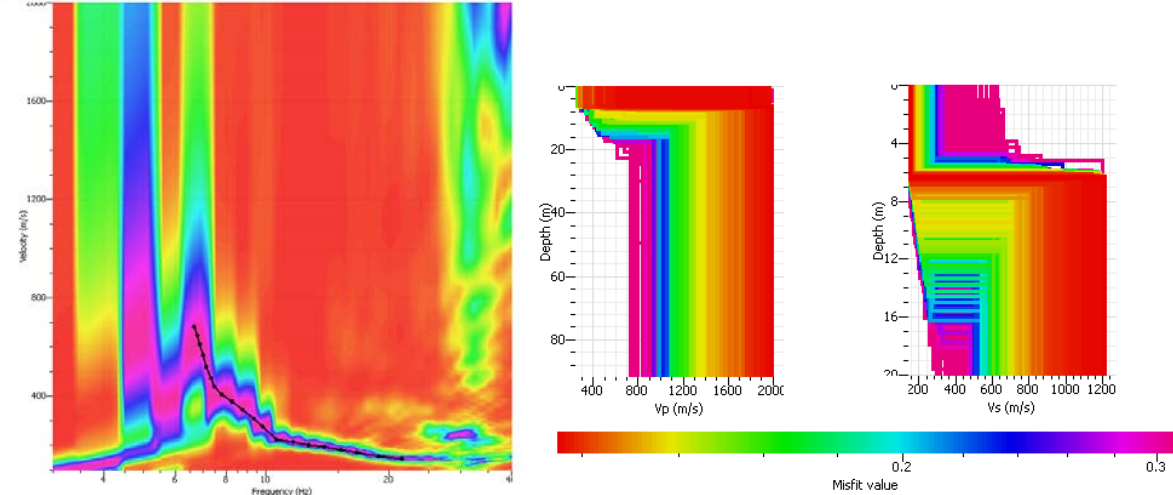
TIR 11 (G29-G30)

Shot at (110, 0, 0), time=2003-04-17 00:00:00



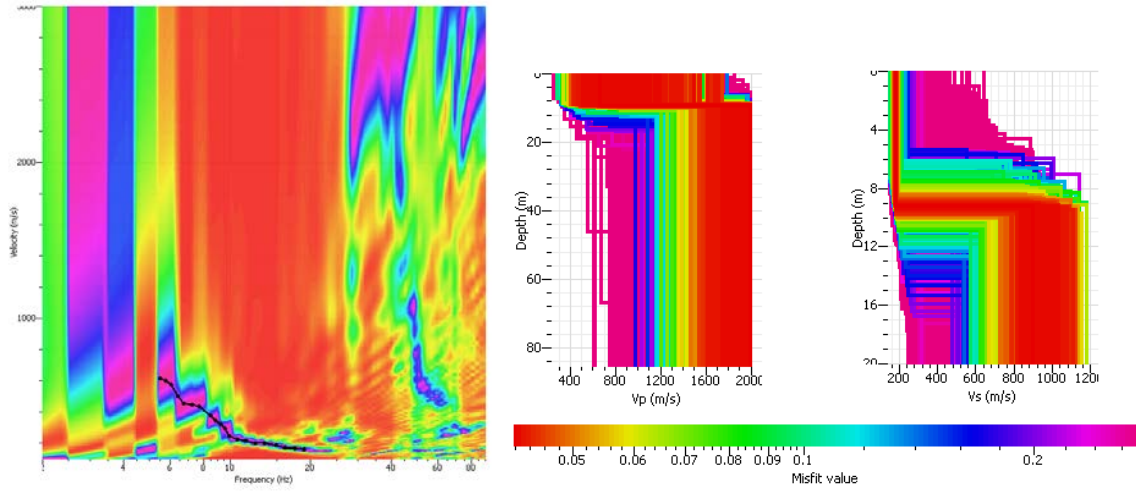
TIR 12 (G33-G34)

Shot at (134, 0, 0), time=2003-04-17 00:00:00



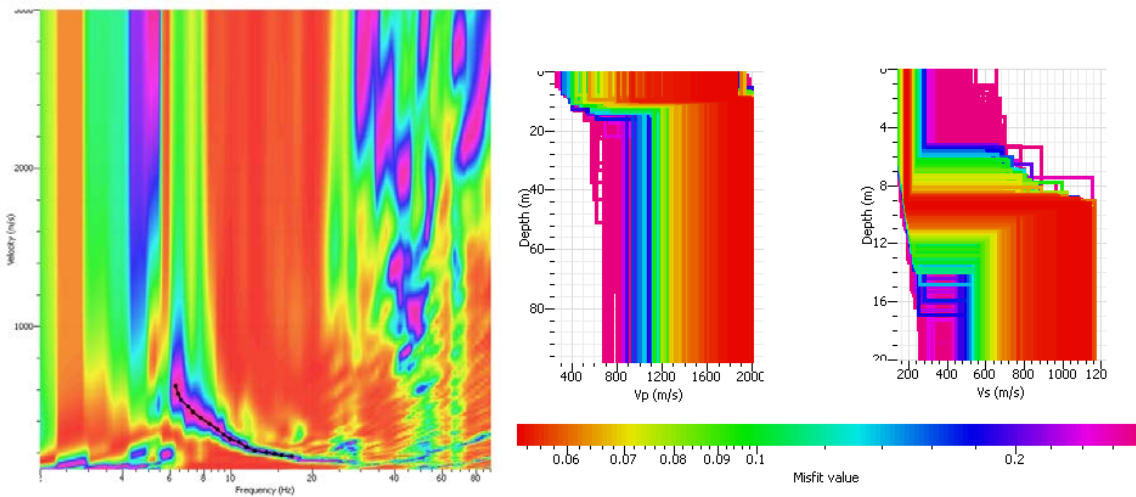
TIR 13 (G37-G38)

Shot at (146, 0, 0), time=2003-04-17 00:00:00



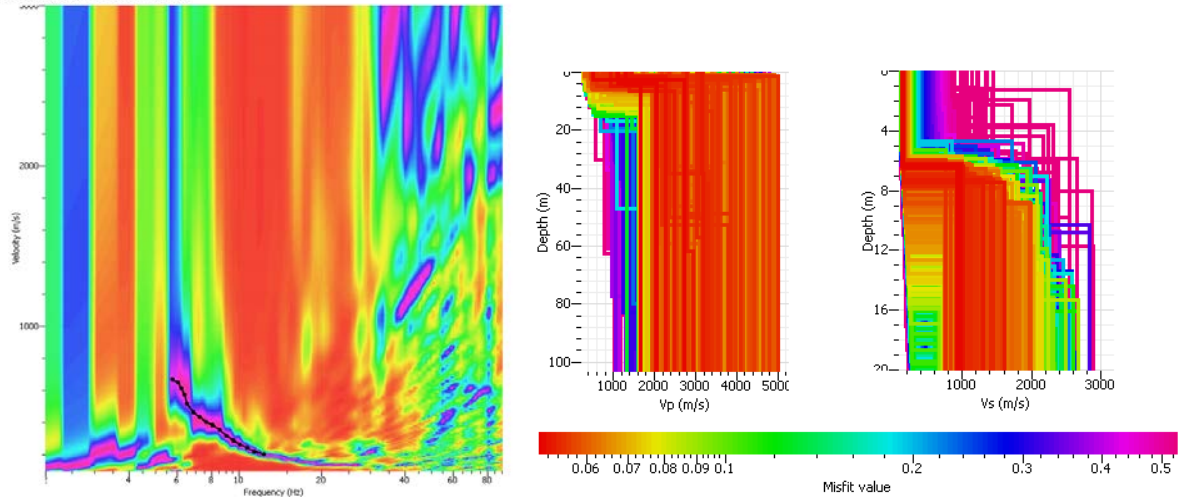
TIR 14 (G41-G42)

Shot at (162, 0, 0), time=2003-04-17 00:00:00



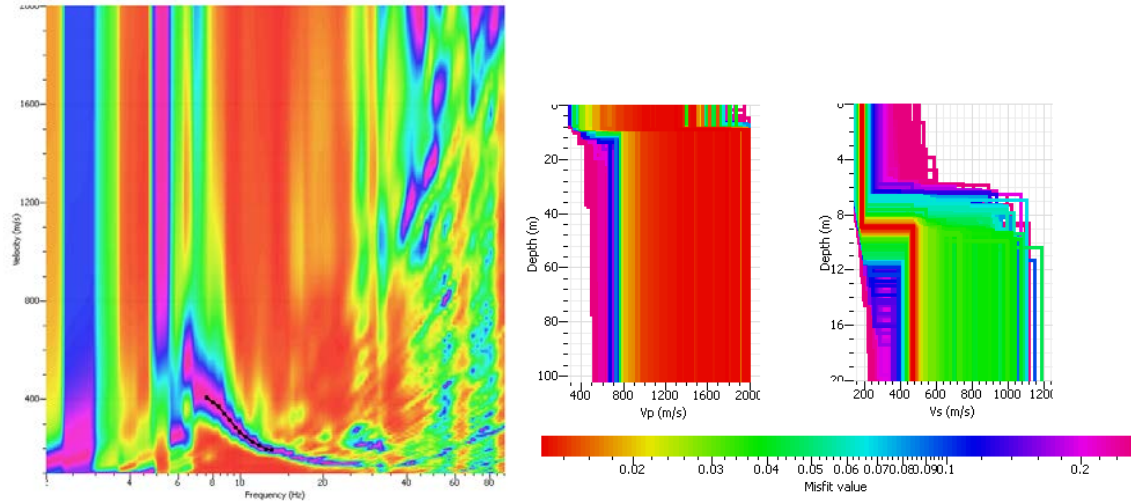
TIR 17 (G42)

Shot at (164, 0, 0), time=2003-04-17 00:00:00



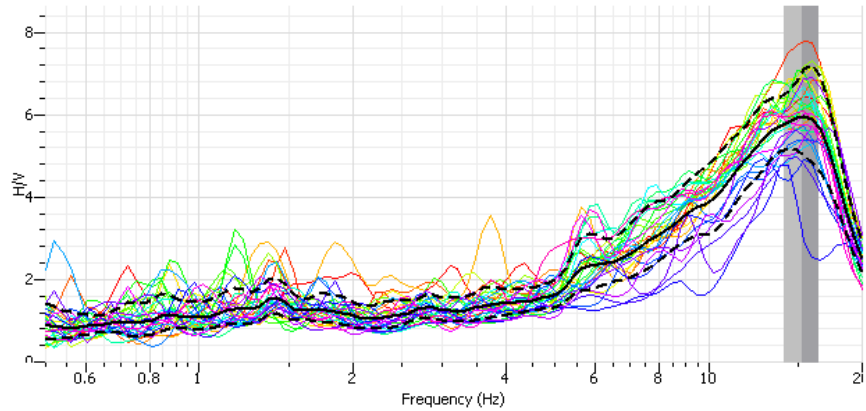
TIR 18 (G42)

Shot at (164, 0, 0), time=2003-04-17 00:00:00

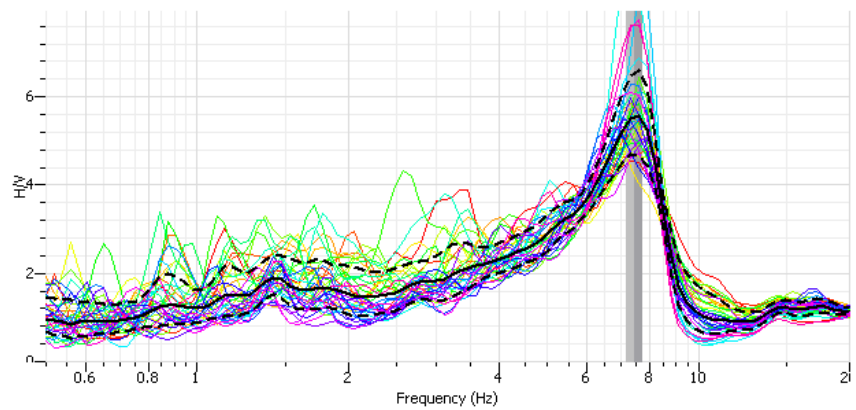


2.3. PROCESSAT QUOCIENT ESPECTRAL H/V (CA L'ALEU)

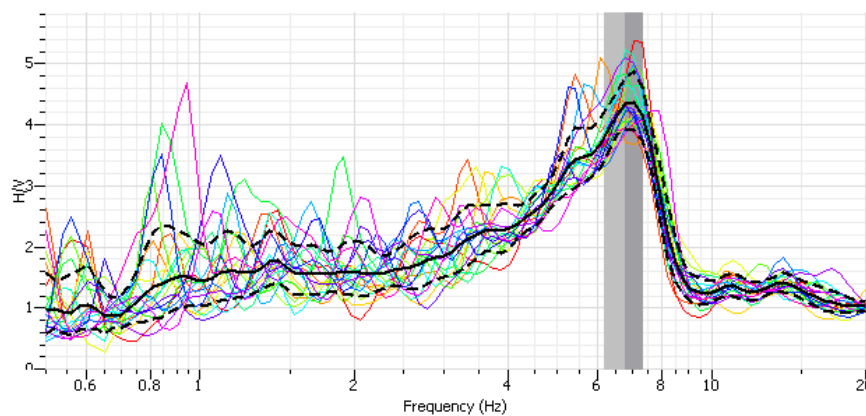
ALEU 1

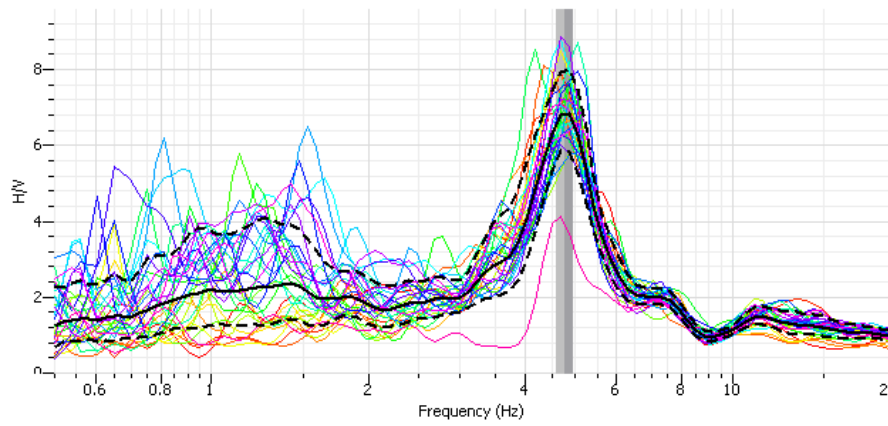
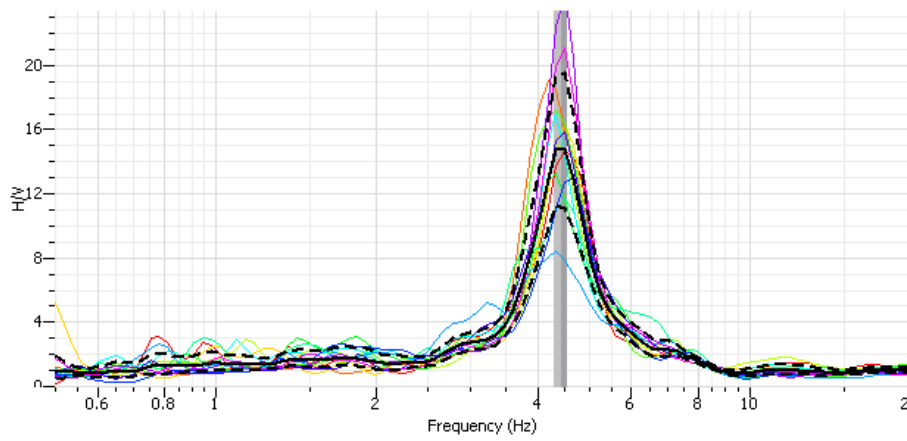
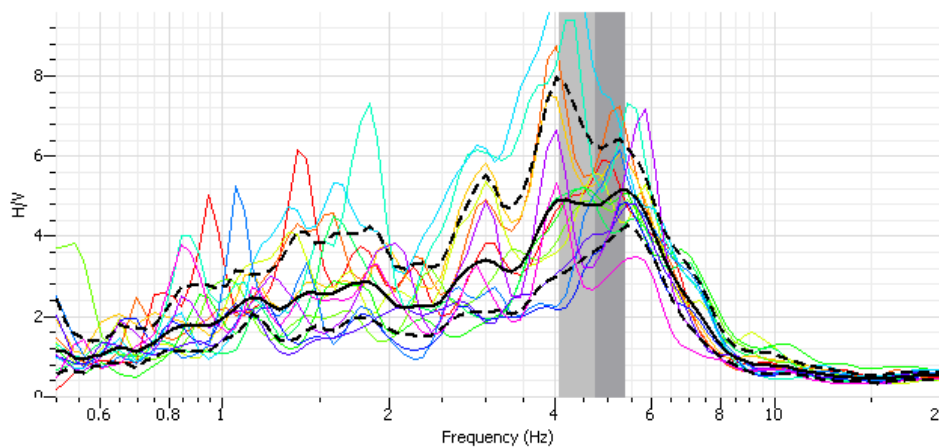


ALEU 2

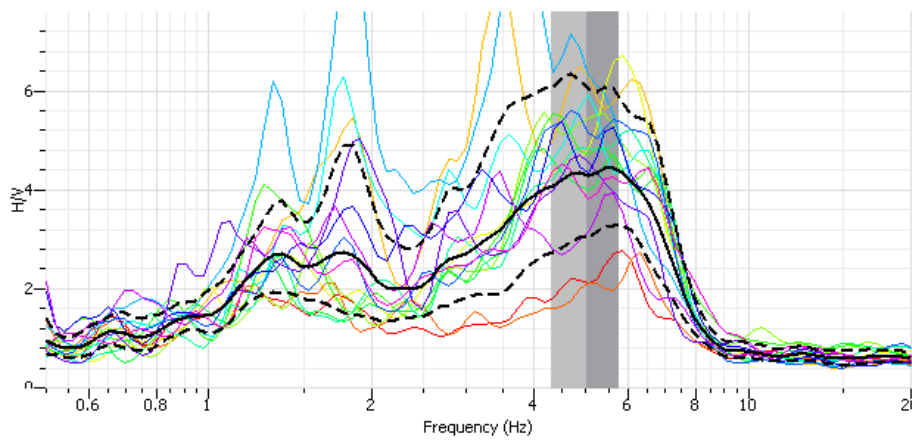


ALEU 3

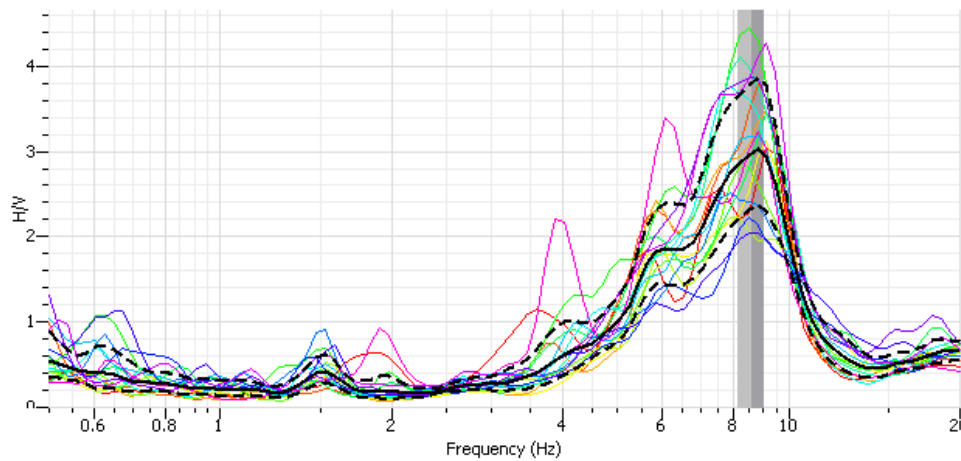


ALEU 4**ALEU 5****ALEU 6**

ALEU 7



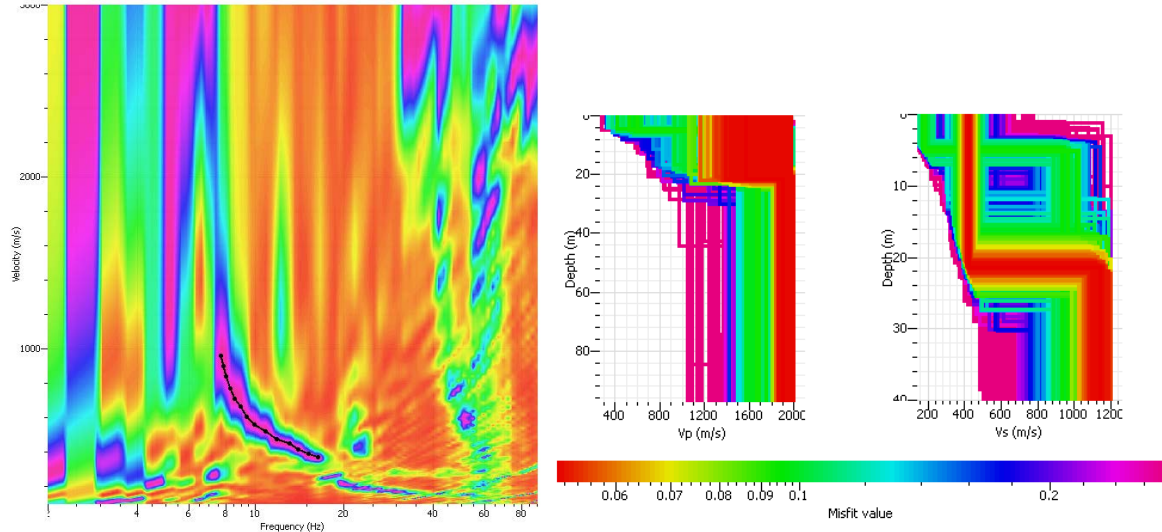
ALEU 8



2.4. PROCESSAT SÍSMICA ACTIVA D'ONES SUPERFICIALS (CASANOVES)

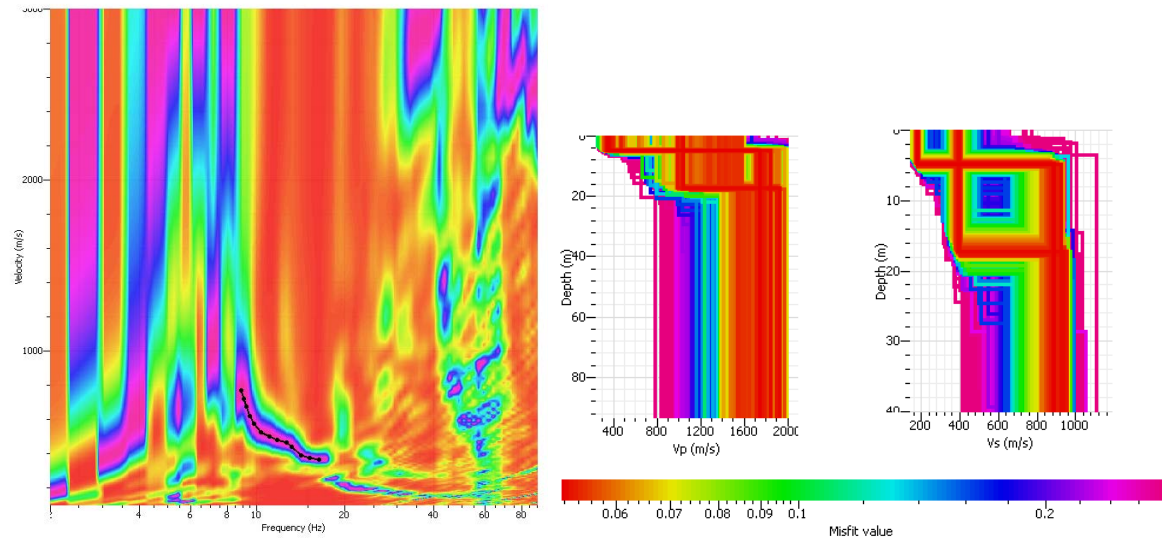
TIR 19 (6 metres G1)

Shot at (-6, 0, 0), time=2003-04-17 00:00:00



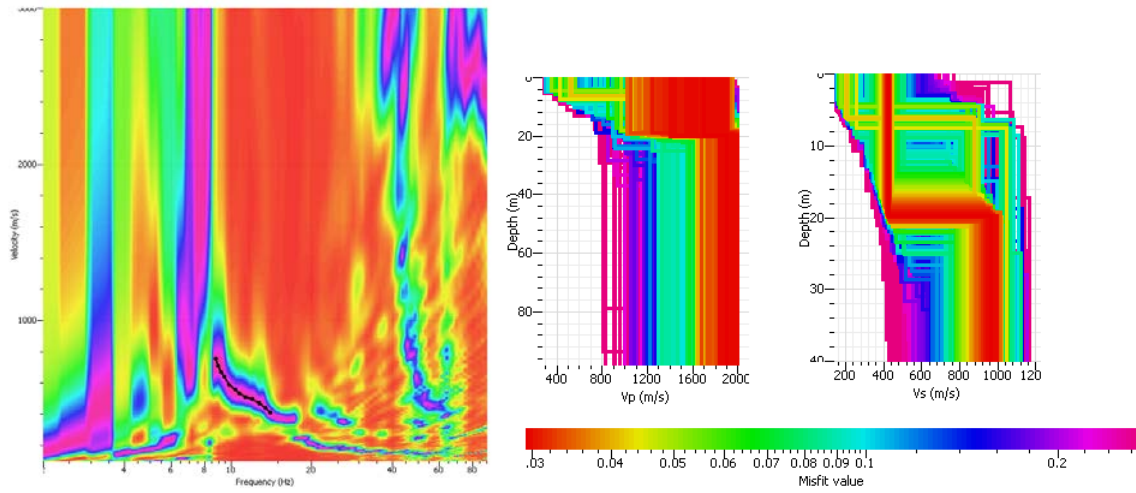
TIR 20 (4 metres G1)

Shot at (-4, 0, 0), time=2003-04-17 00:00:00



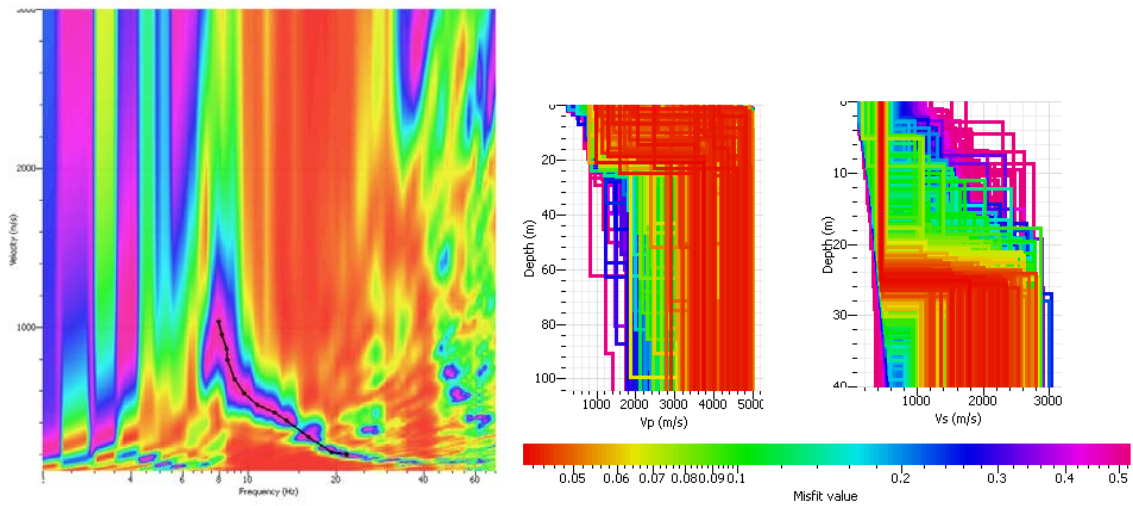
TIR 21 (G1-G2)

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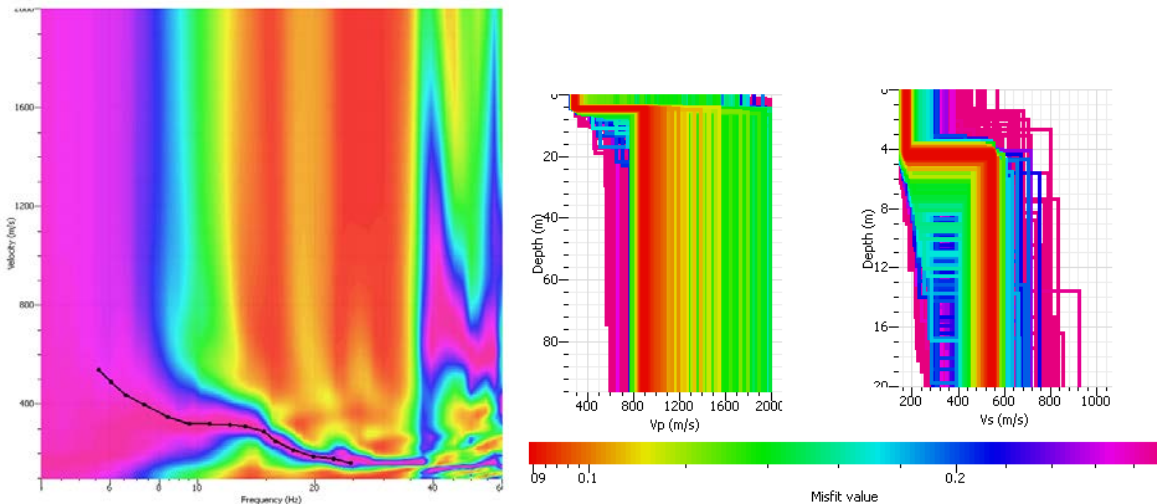
TIR 22 (G5-G6)

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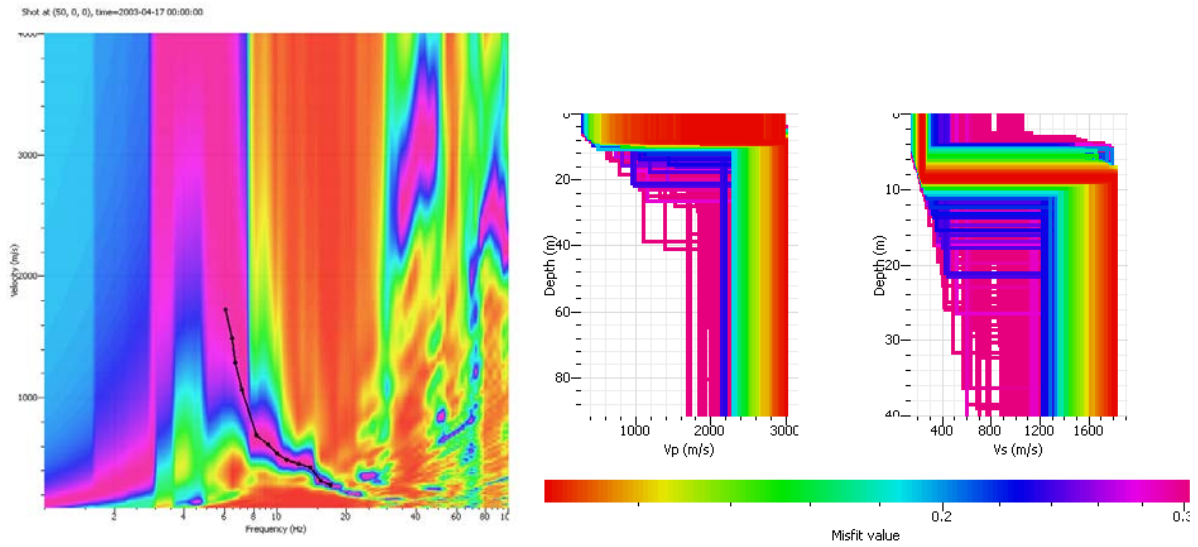


TIR 23 (G9-G10)

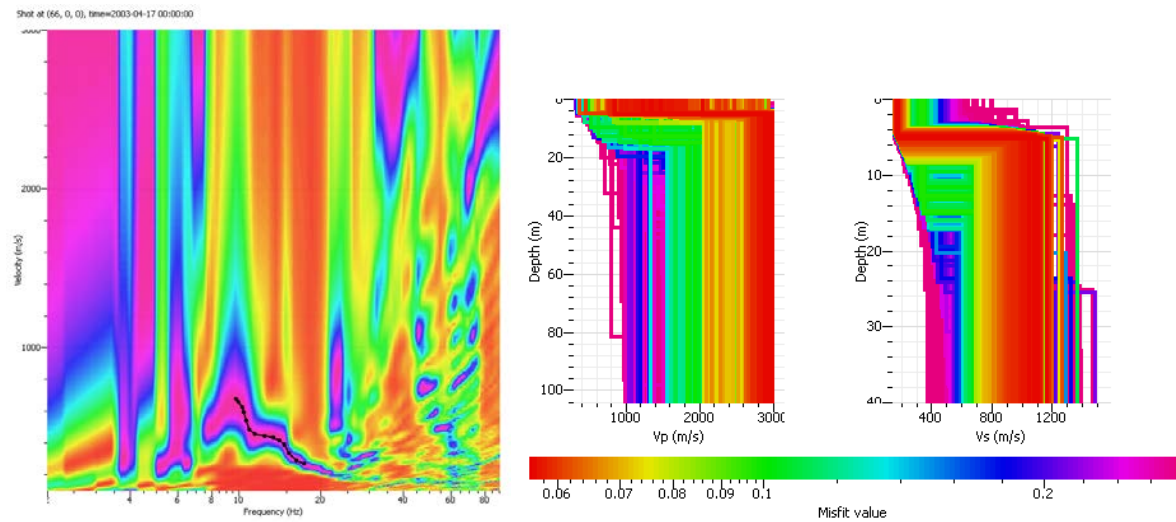
Shot at (34, 0, 0), time=2003-04-17 00:00:00



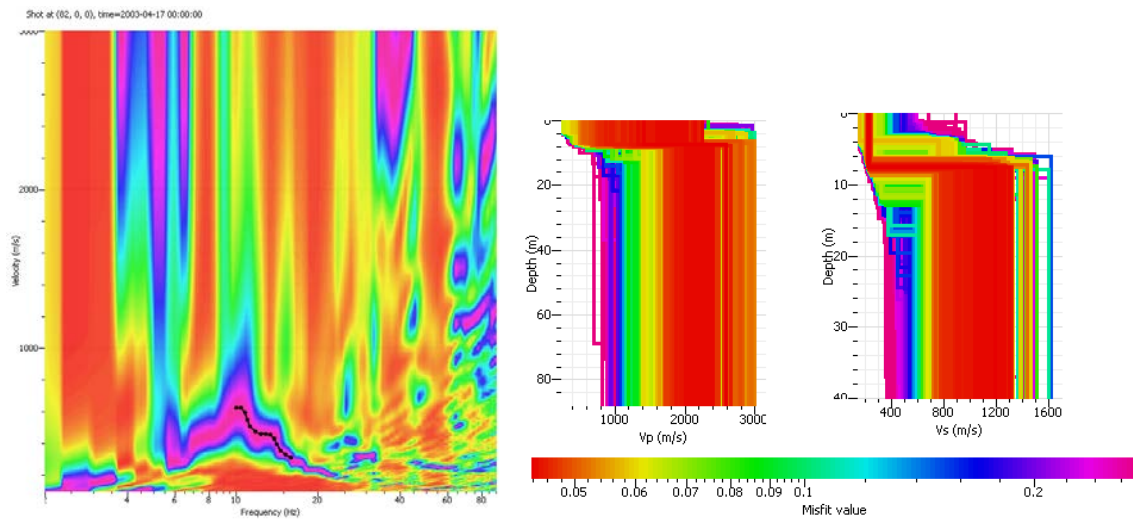
TIR 24 (G13-G14)



TIR 25 (G17-G18)

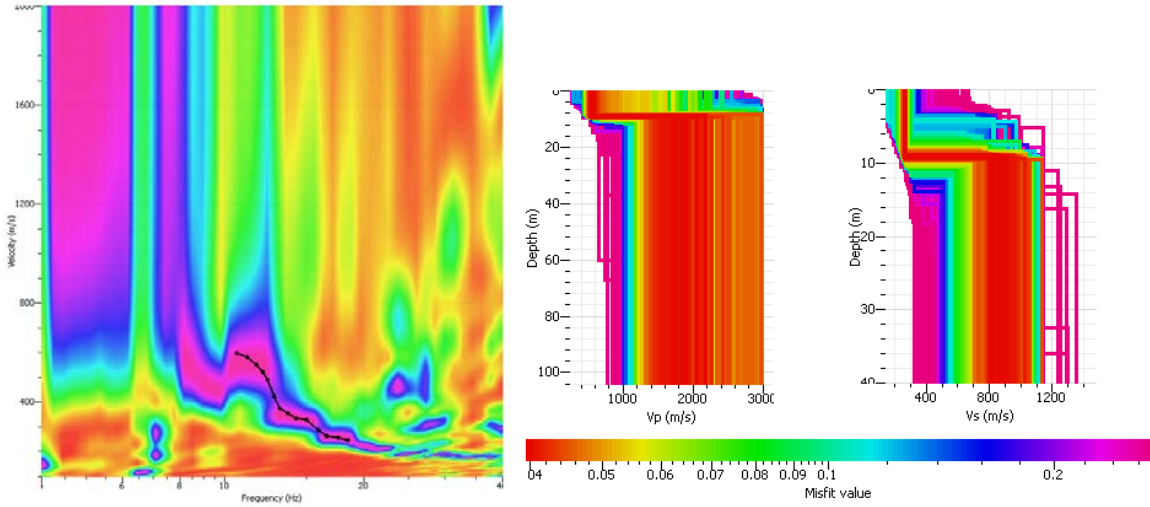


TIR 26 (G21-G22)



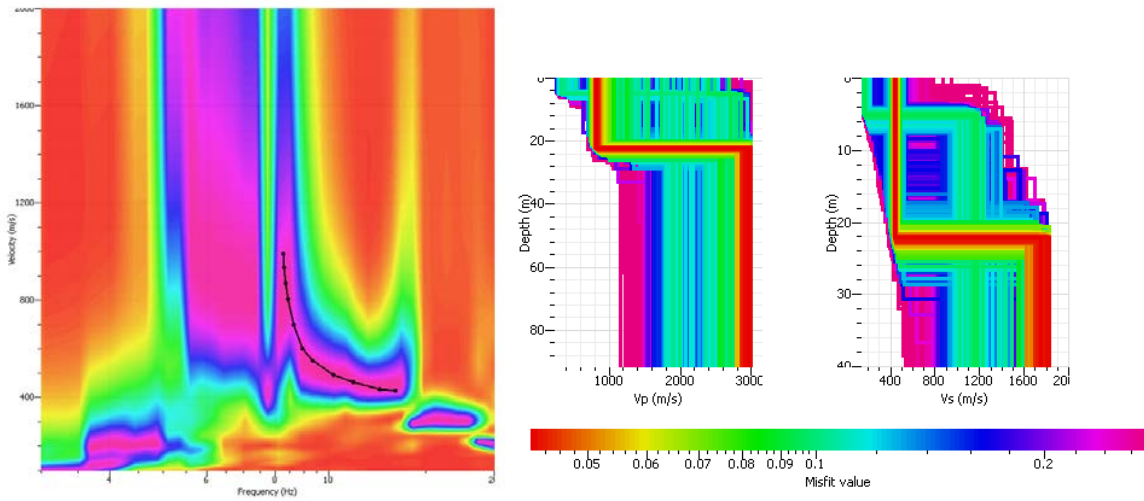
TIR 27 (G24-G25)

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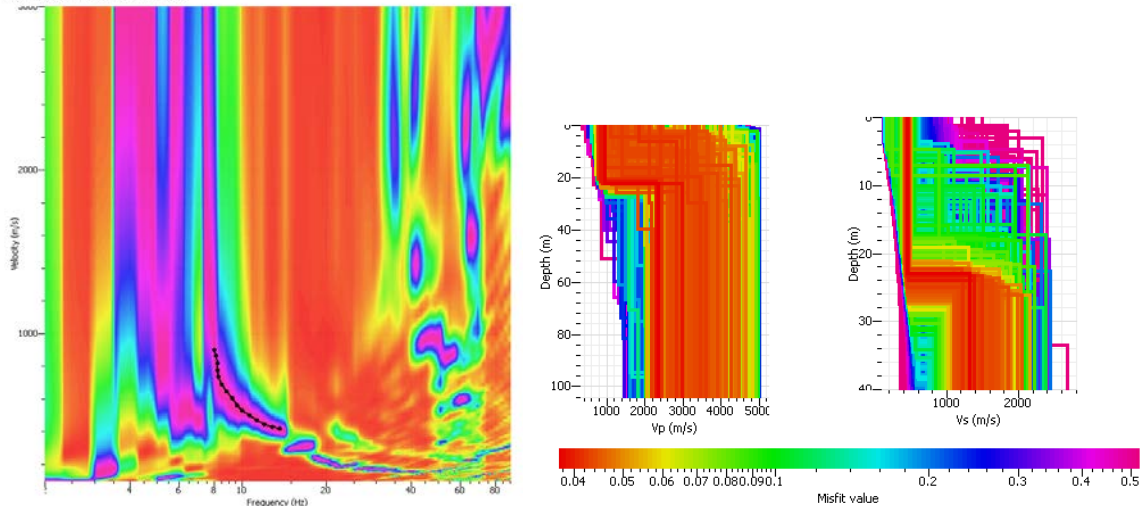
TIR 28 (G28-G29)

Shot at (110, 0, 0), time=2003-04-17 00:00:00



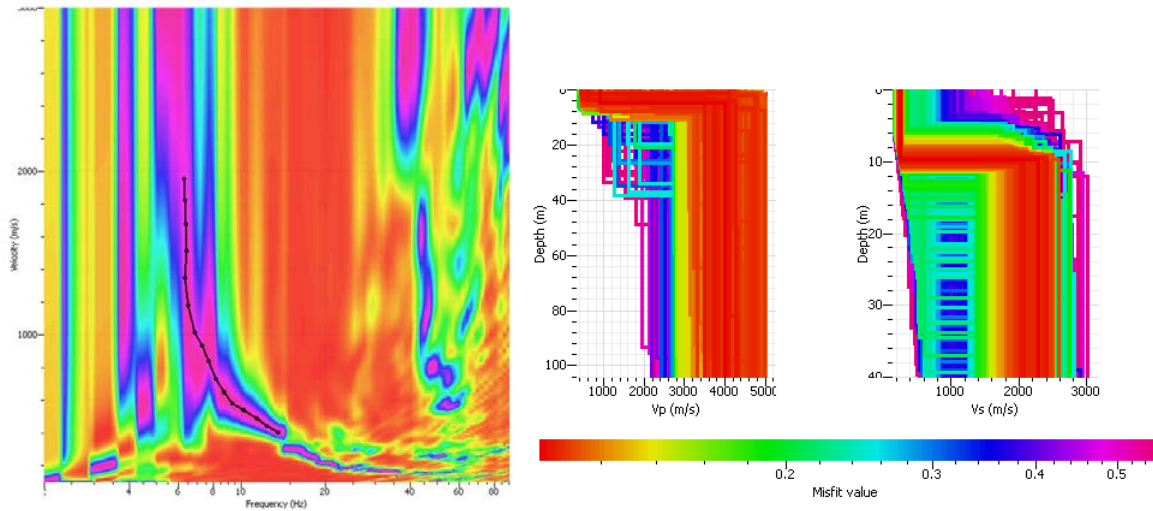
TIR 29 (G32-G33)

Shot at (126, 0, 0), time=2003-04-17 00:00:00



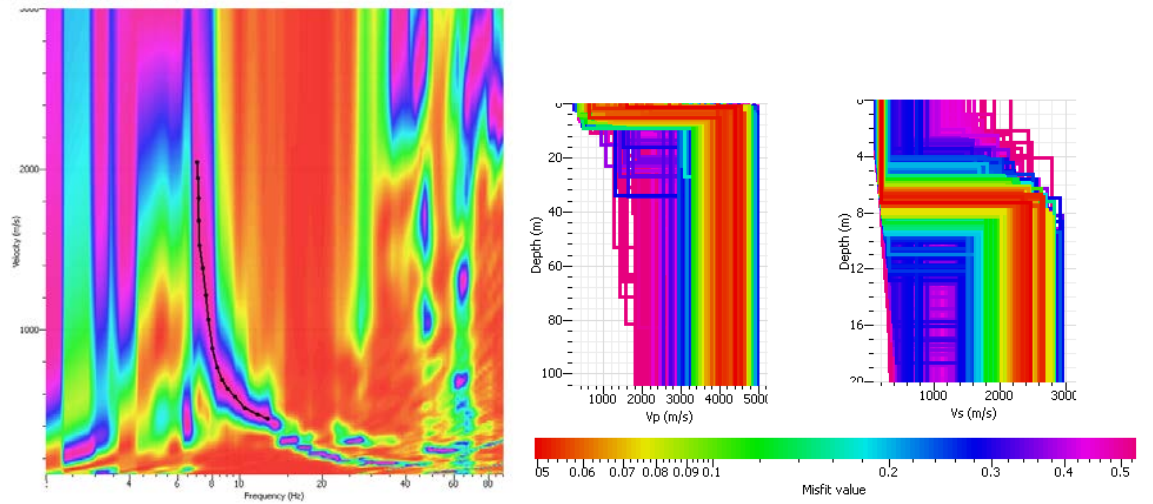
TIR 30 (G36-G37)

Shot at (142, 0, 0), time=2003-04-17 00:00:00



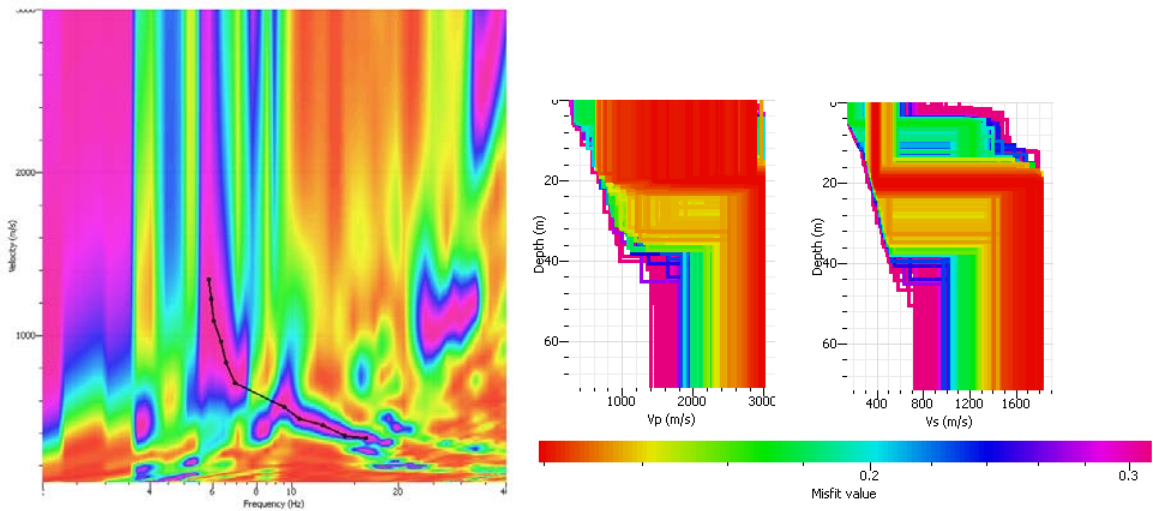
TIR 31 (G40-G41)

Shot at (156, 0, 0), time=2003-04-17 00:00:00



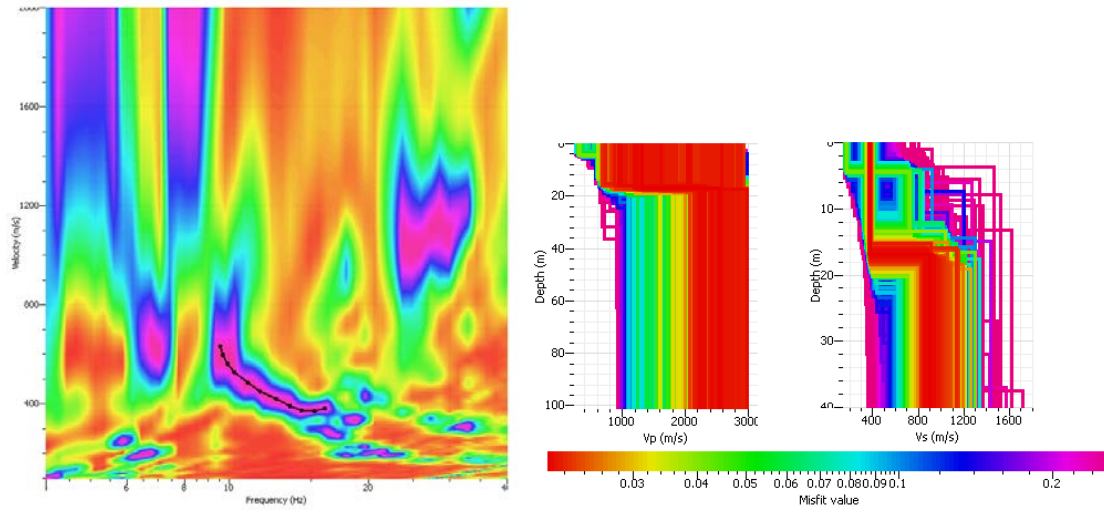
TIR 32 (G44-G45)

Shot at (174, 0, 0), time=2003-04-17 00:00:00



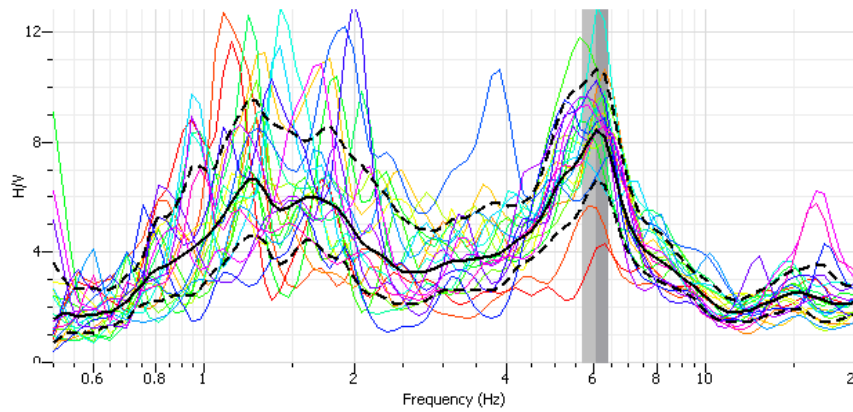
TIR 33 (G44-G45)

Shot at (174, 0, 0), time=2003-04-17 00:00:00

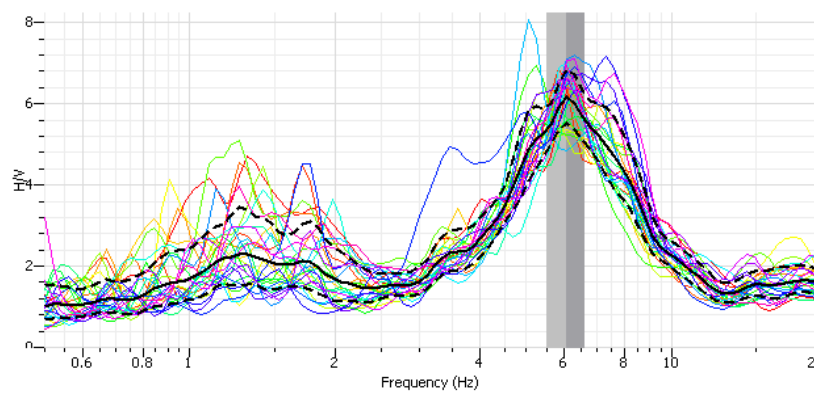


2.5. PROCESSAT QUOCIENT ESPECTRAL H/V (CASANOVES)

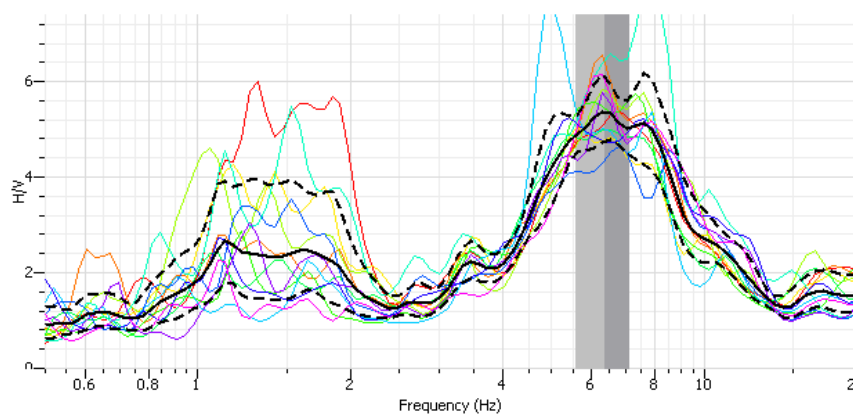
CASANOVES 1



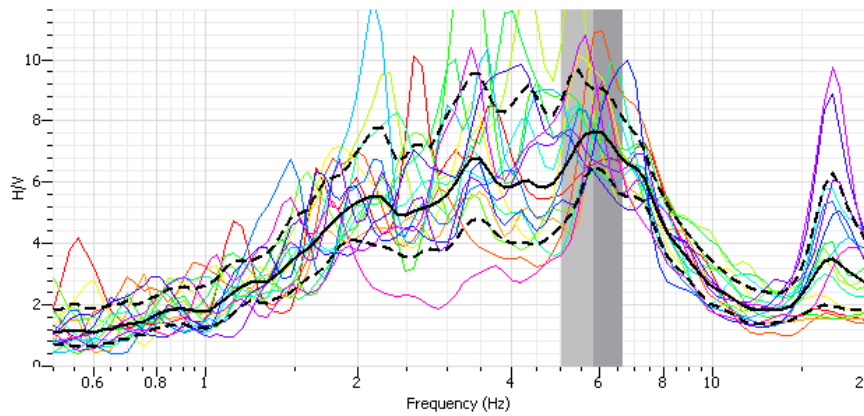
CASANOVES 2



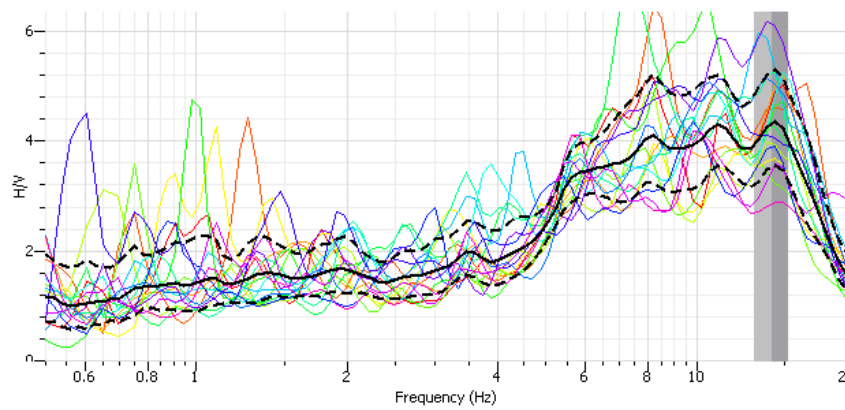
CASANOVES 3



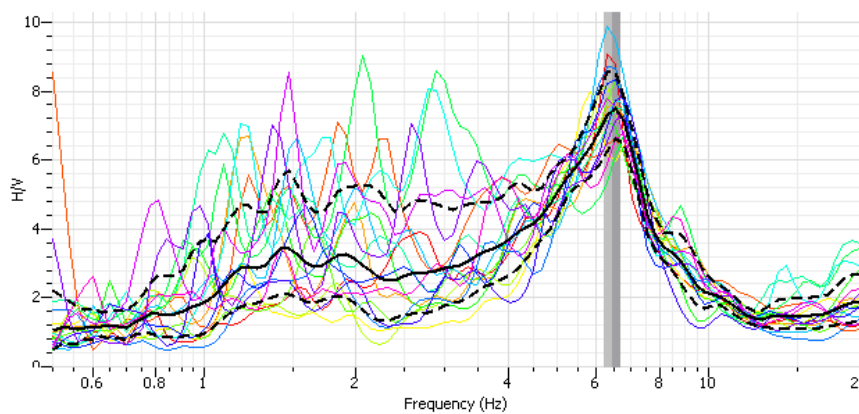
CASANOVES 4



CASANOVES 5



CASANOVES 6



ANNEX 3. GIRONA



3.1. DADES DE CAMP

UNITAT TÈCNiques GEOFÍSiques

EQUIP SÍSMIC SUMMIT I MARK 4.5 Hz

Font d'energia: Ball



TIR	NUM COPS	ESTACIONES ENREGISTRADES	POSICIO ROL-ALONG	REGISTRE	OBSERVACIONS
Client: IGC	Orientació: N-S	Δtir: (m)	FILTRES DELS REGISTRES		
Data: 7/05/2012	Operador: JG	nº traces: 48	Baixa	Alta	Notch
Zona: Girona	ΔG: 2 (m)	geofons/trança:	Hz	Hz	IN OUT
Línia: SW-11	ΔSTA: (m)	Δt: (ms)	Temps de registre: (ms)		
1					4m NGT
2					5m NGT
3					8m NGT
4					7m NGT
5					6m NGT → un cop més, vol dir després, en una
6					3m NGT
7					15m NGT
8					14m NGT
9					624-25
10					66-7
11					612-613
12					618-619
13					630-631
14					636-637 85-36
15					642-643 647-648
16					644-648 642-643
17					4m S 648
18					5m S 648
19					8m S 648
20					9m S 648
21					11m S 648
22					15m S 648
23					29m S 648
24					30m S 648



1. 100000

4.5 Hz

G1

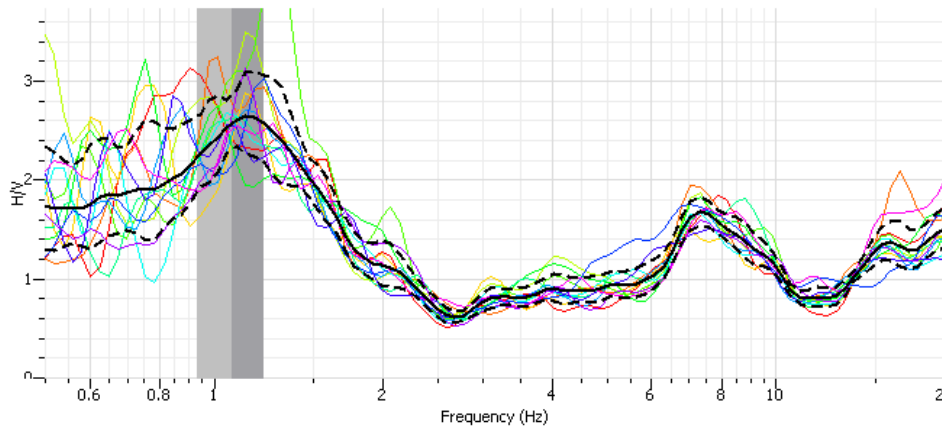
23 24

048

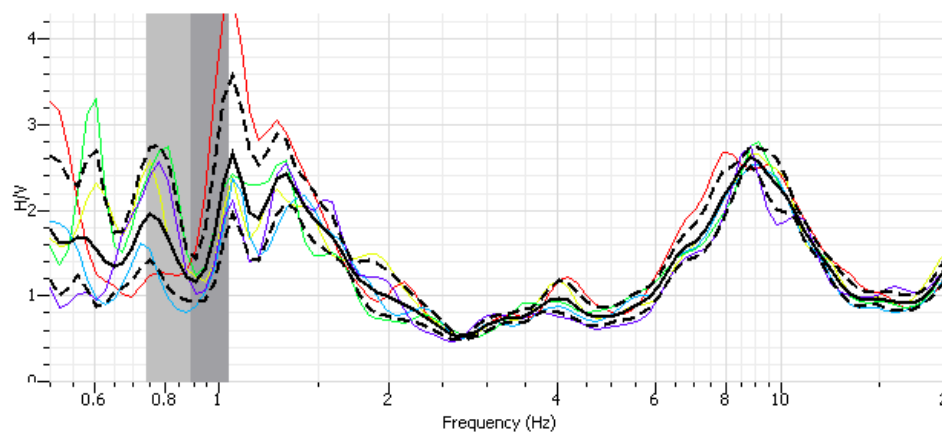
S

3.2. PROCESSAT QUOCIENT ESPECTRAL H/V

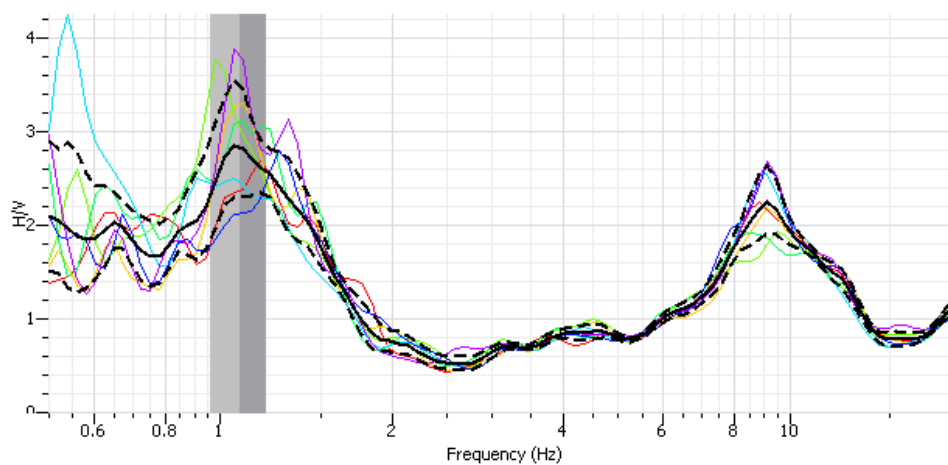
PUNT 1 (0 metres E1)

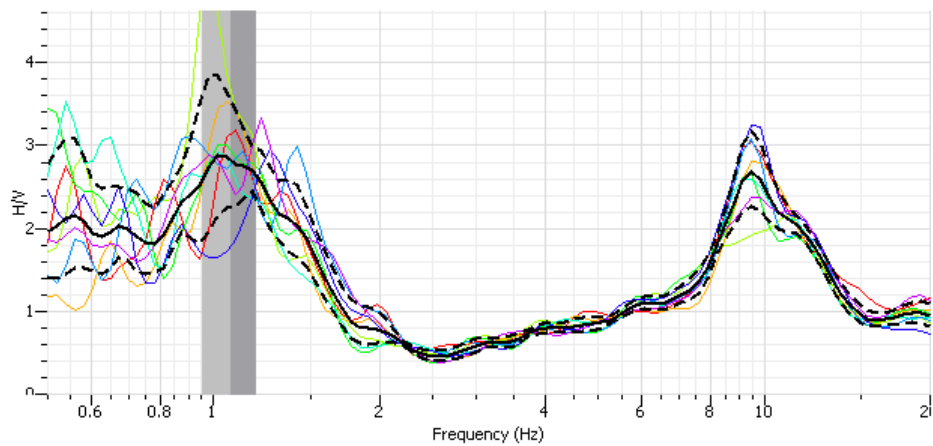
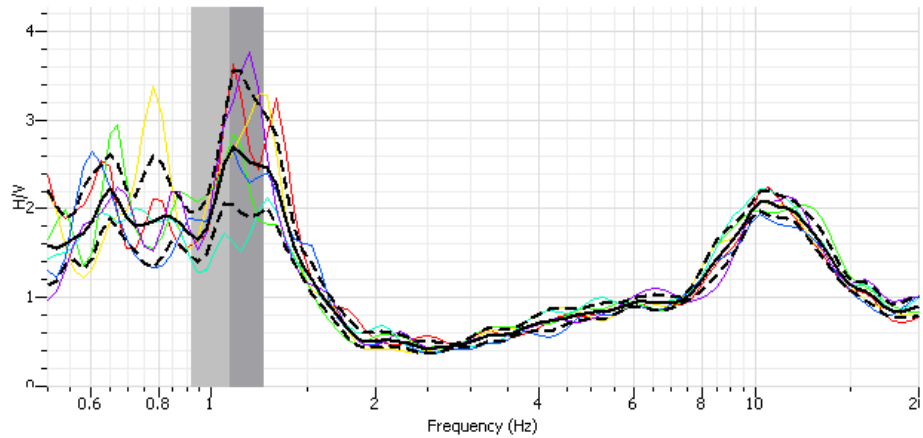
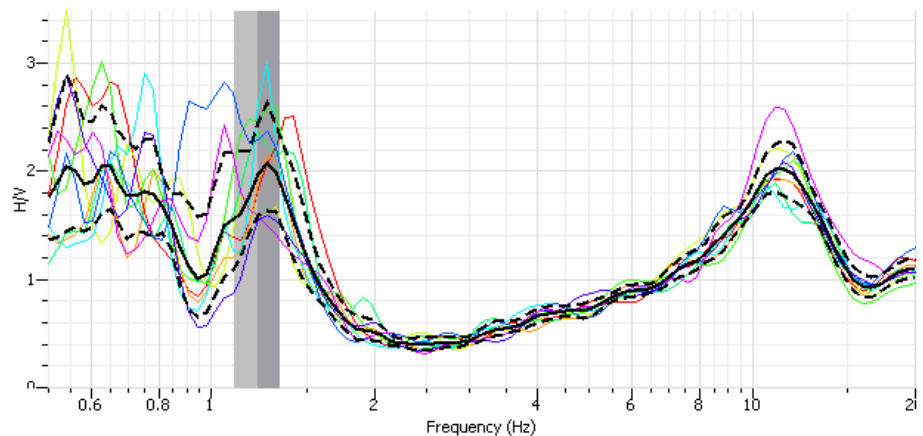


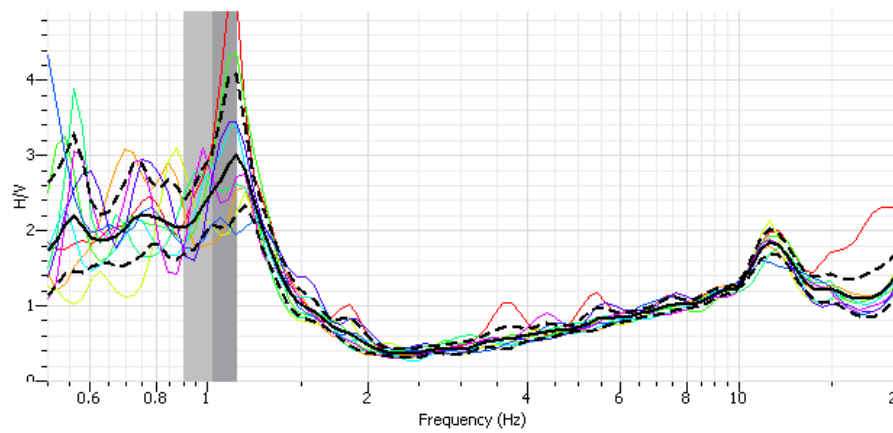
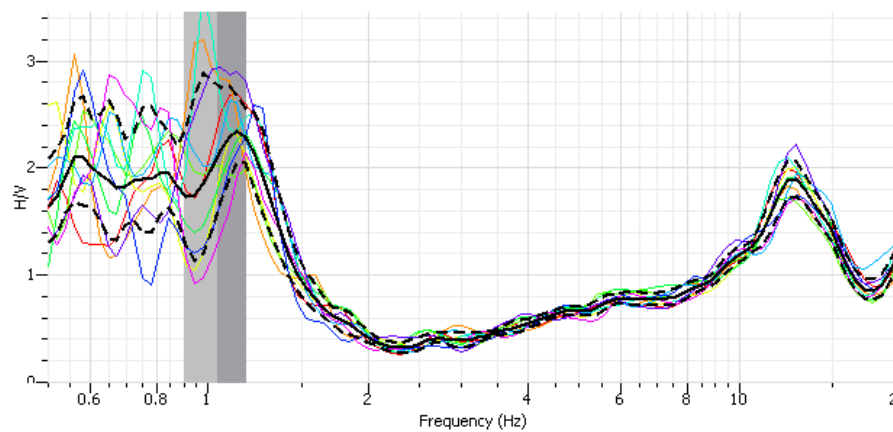
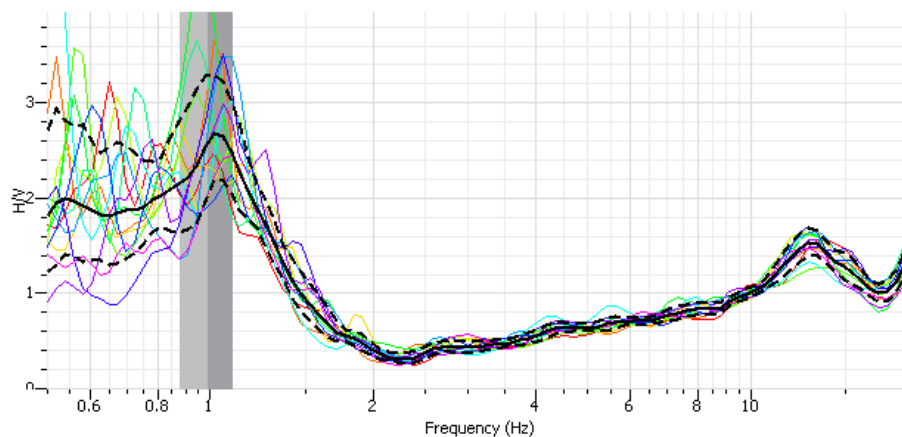
PUNT 2 (25 metres E1)

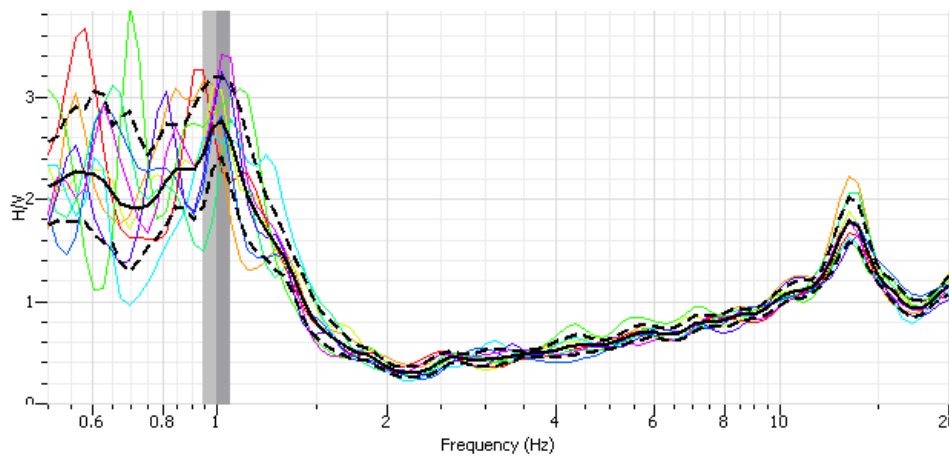


PUNT 3 (51 metres E1)



PUNT 4 (75 metres E1)**PUNT 5 (100 metres E1)****PUNT 6 (125 metres E1)**

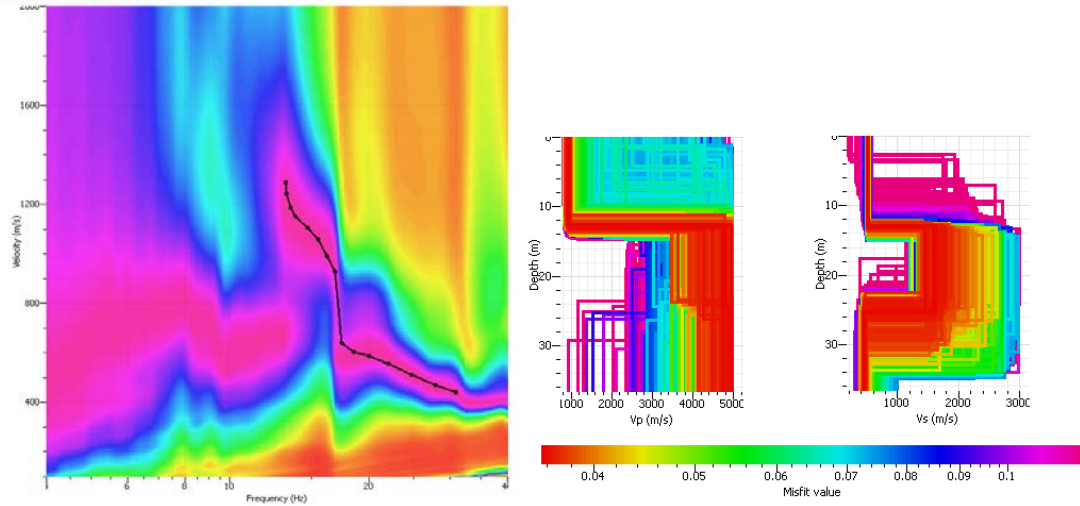
PUNT 7 (149 metres E1)**PUNT 8 (175 metres E1)****PUNT 8 (200 metres E1)**

PUNT 9 (213 metres E1)

3.3. PROCESSAT SISMICA ACTIVA ONES SUPERFICIALS

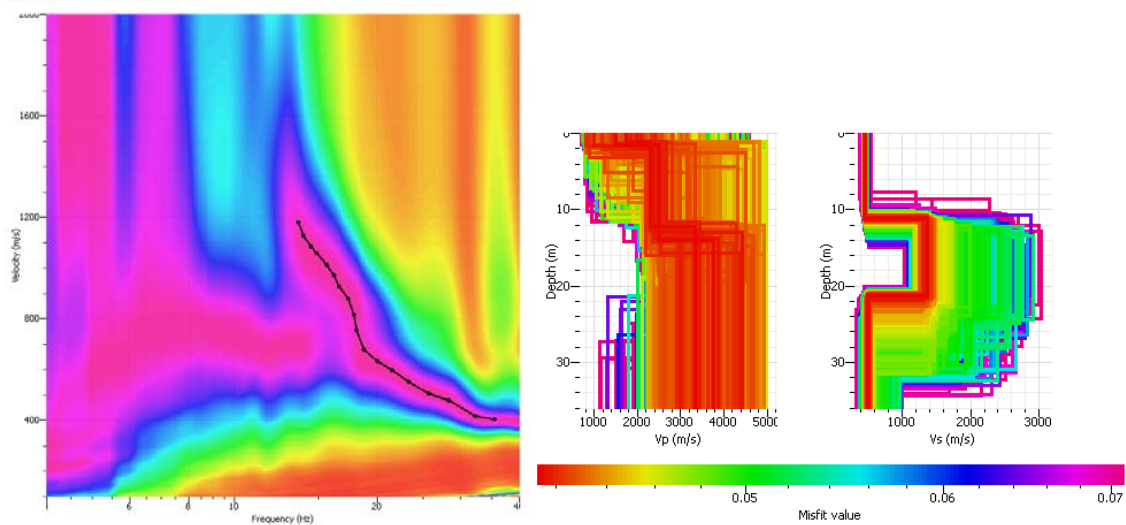
TIR 1 (4 metres G1)

Shot at (-4, 0, 0), time=2003-05-09 00:00:00



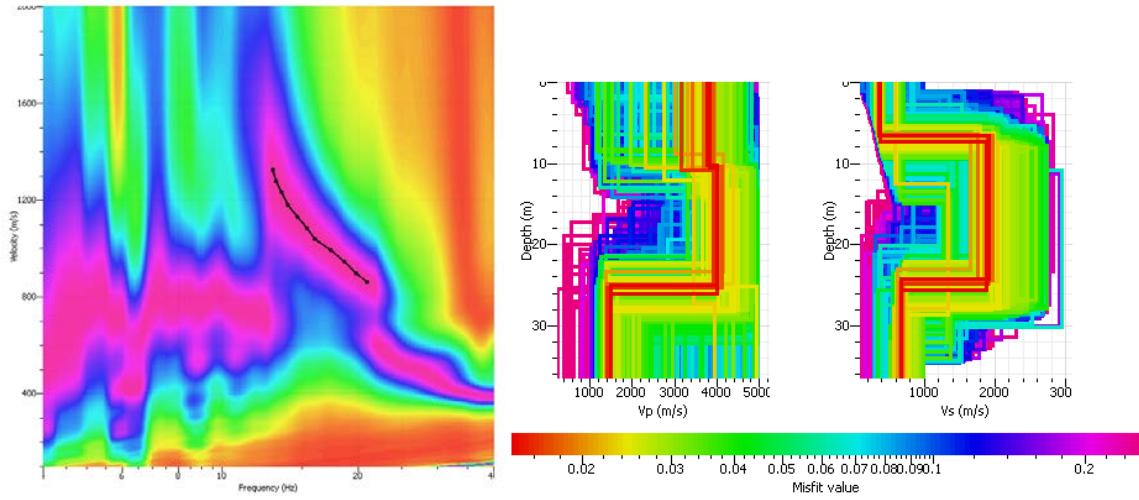
TIR 2 (5 metres G1)

Shot at (-5, 0, 0), time=2003-05-09 00:00:00



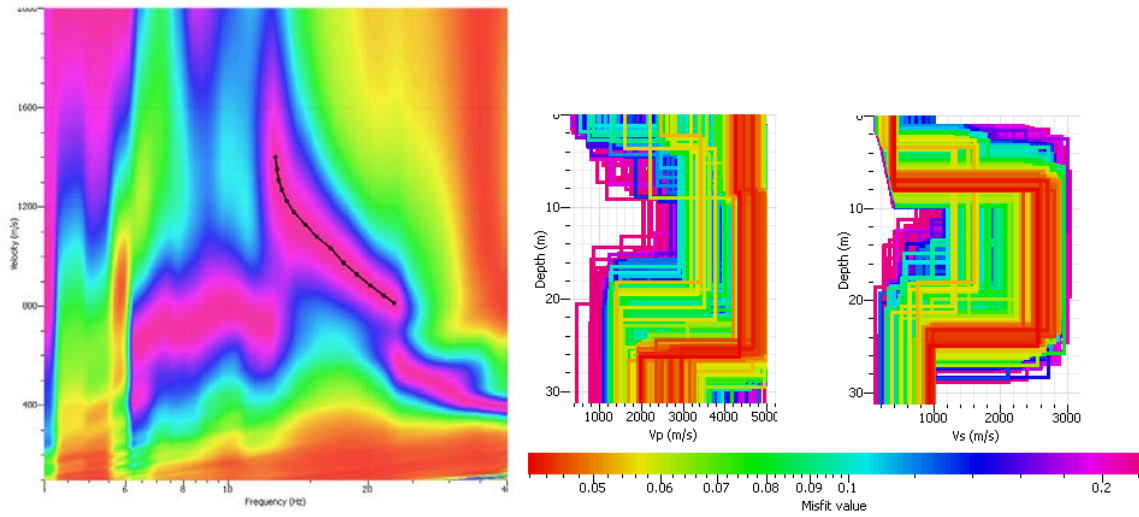
TIR 3 (8metres G1)

Shot at (-8, 0, 0), time=2003-05-08 00:00:00



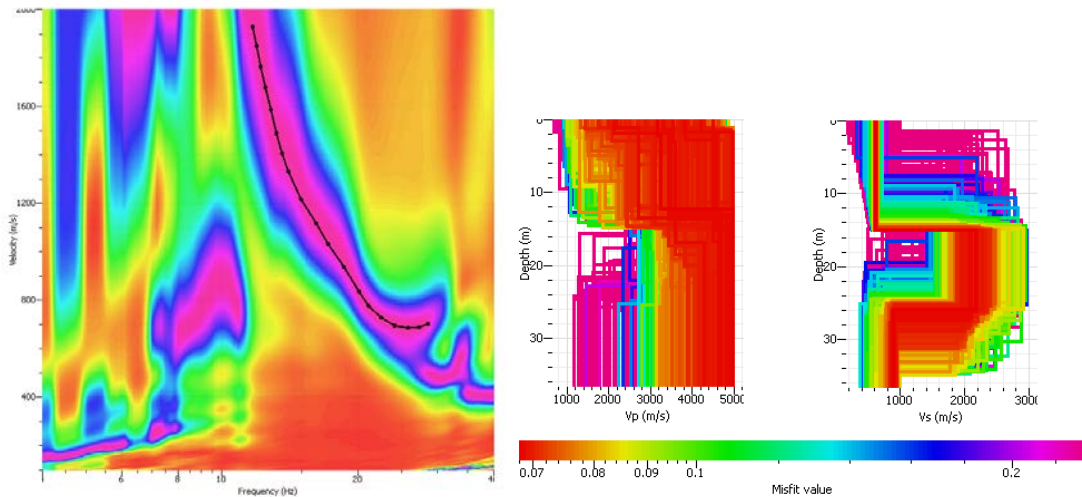
TIR 4 (9 metres G1)

Shot at (-9, 0, 0), time=2003-05-08 00:00:00



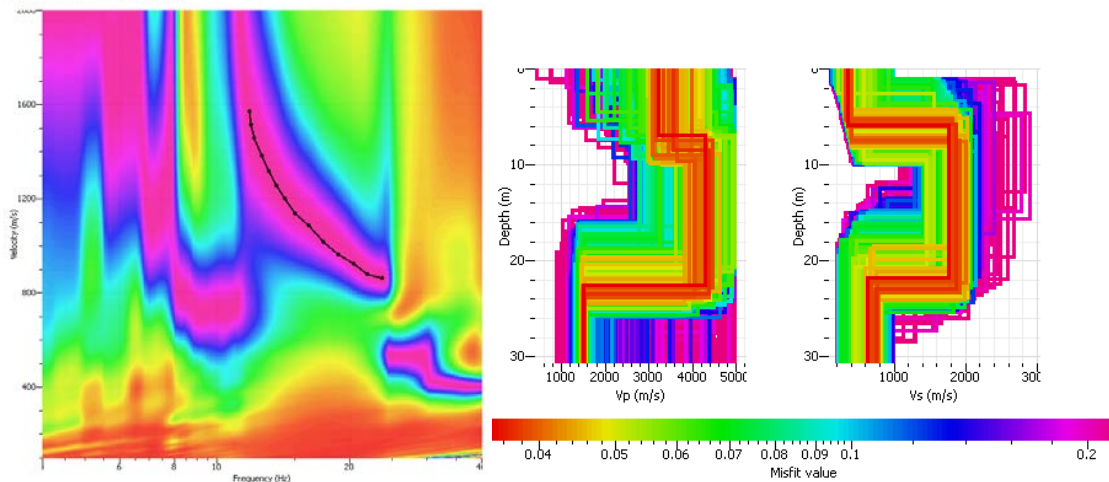
TIR 6 (30 metres G1)

Shot at (-30, 0, 0), time=2003-05-08 00:00:00



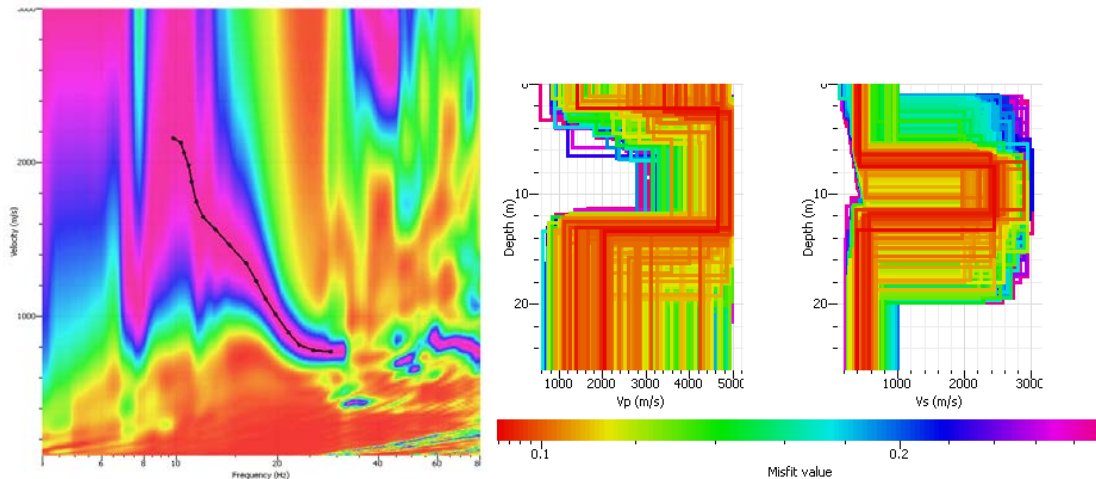
TIR 7 (15 metres G1)

Shot at (-15, 0, 0), time=2003-05-08 00:00:00



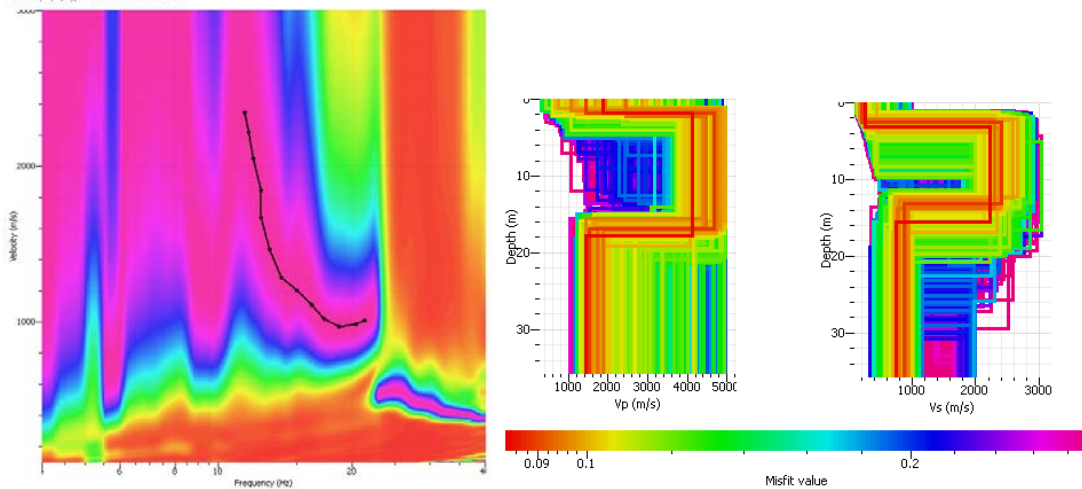
TIR 8 (14 metres G1)

Shot at (-14, 0, 0), time=2003-05-08 00:00:00



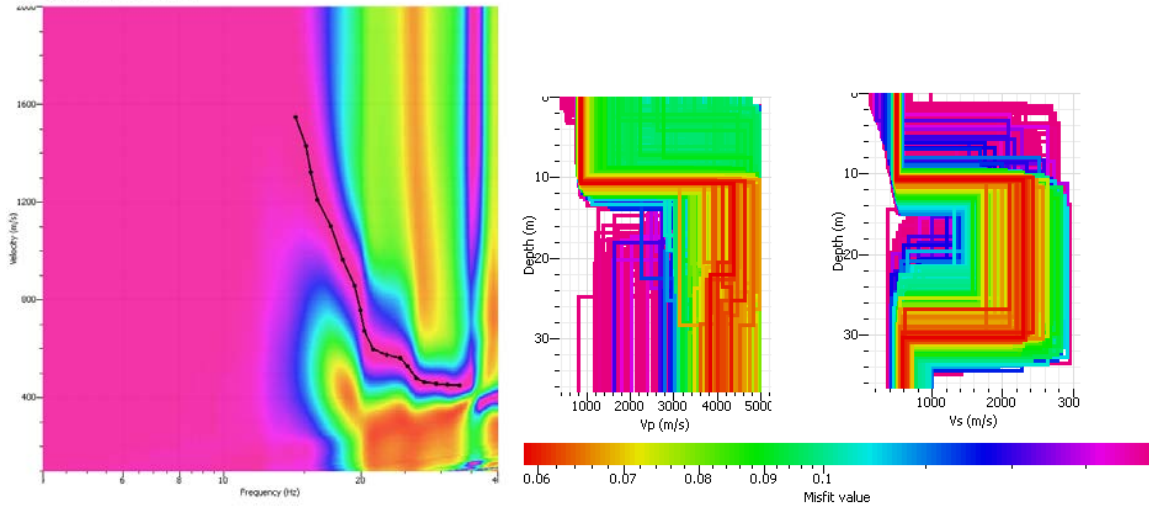
TIR 9 (G24-G25)

Shot at (94, 0, 0), time=2003-05-08 00:00:00



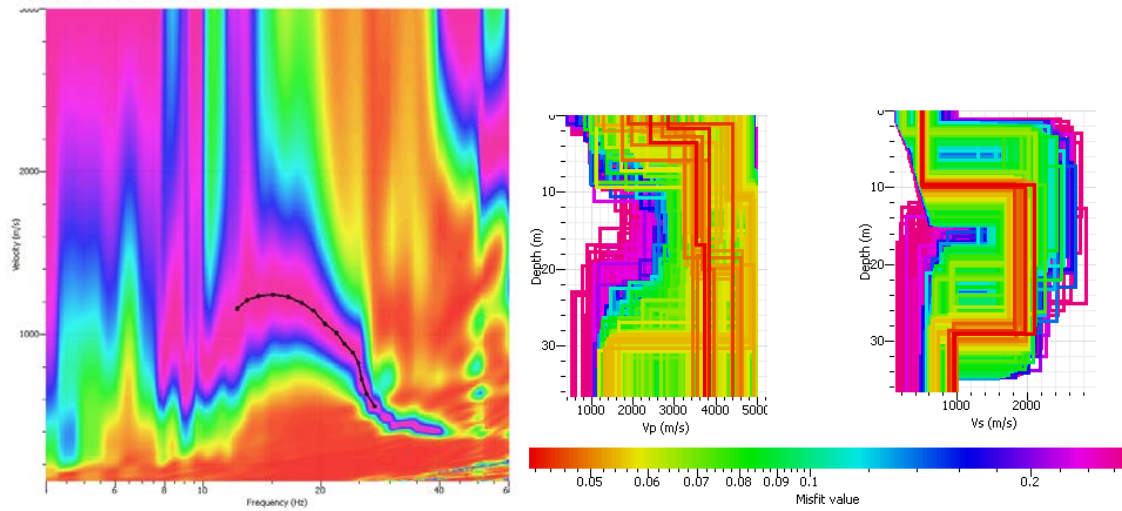
TIR 10 (G6-G7)

Shot at (22, 0, 0), time=2003-05-08 00:00:00



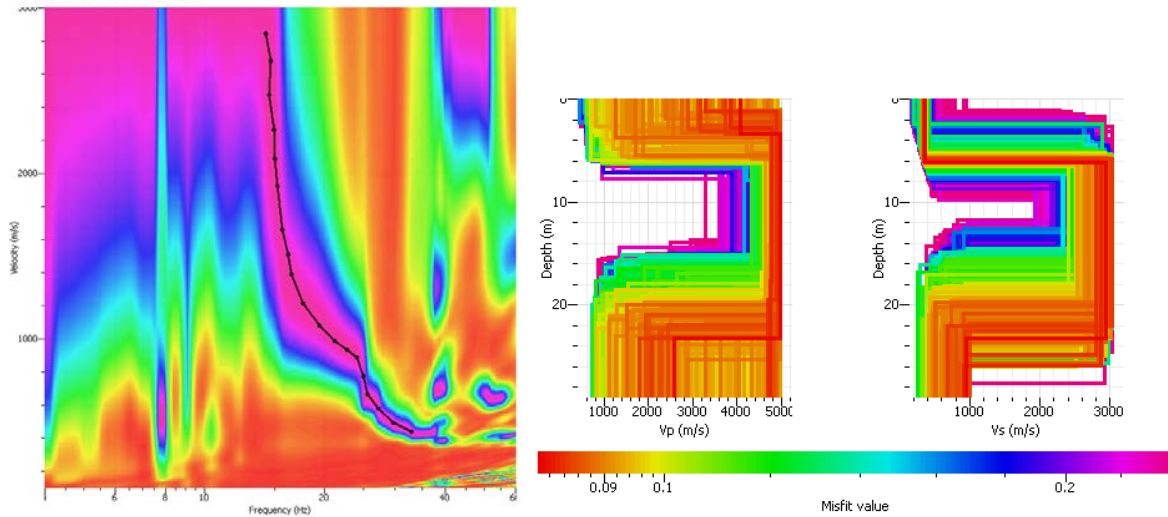
TIR 11 (G12-G13)

Shot at (46, 0, 0), time=2003-05-08 00:00:00



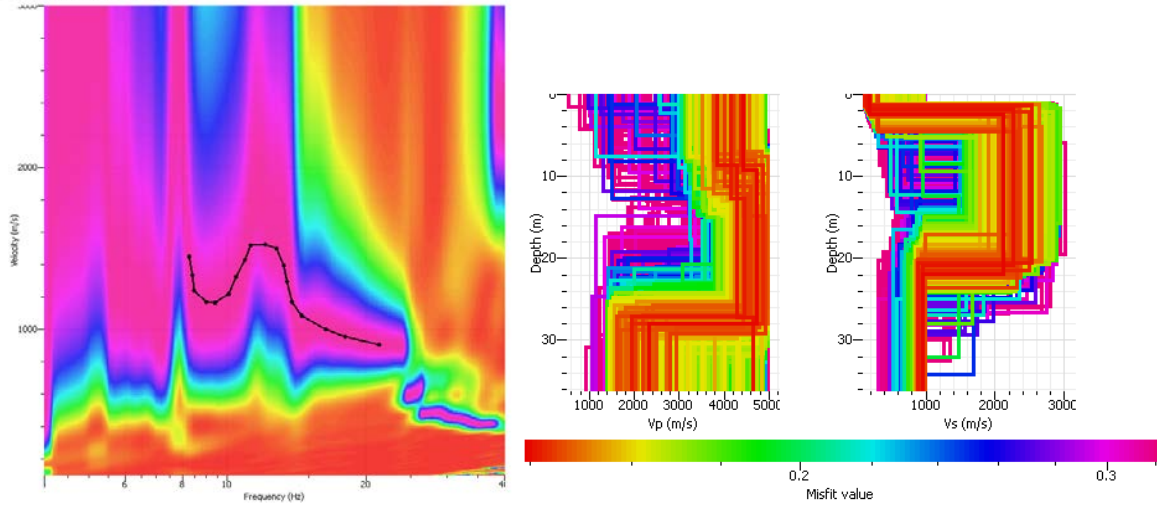
TIR 12 (G18-G19)

Shot at (70, 0, 0), time=2003-05-08 00:00:00



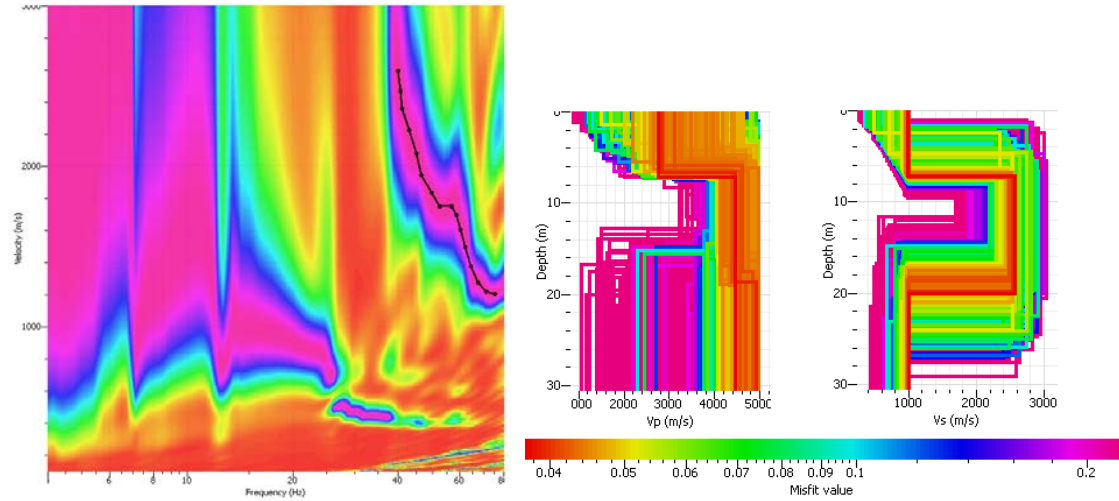
TIR 13 (G30-G31)

Shot at (118, 0, 0), time=2003-05-08 00:00:00



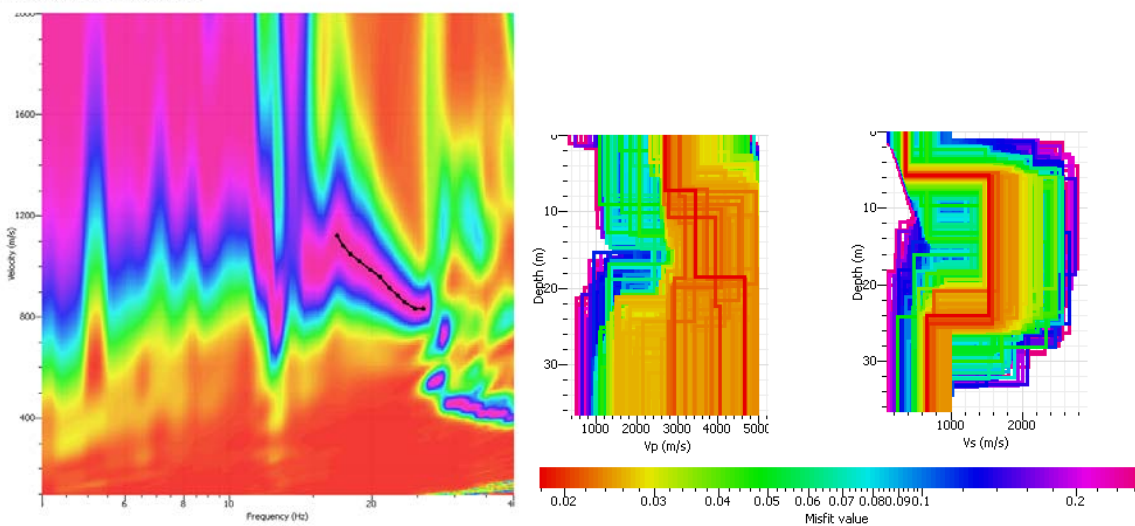
TIR 14 (G35-G36)

Shot at (130, 0, 0), time=2003-05-08 00:00:00



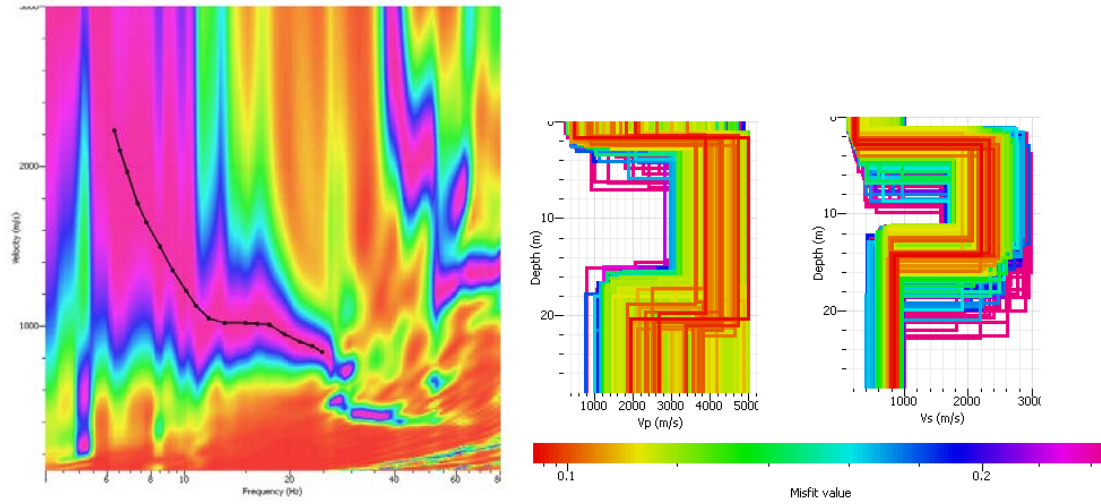
TIR 15 (G47-G48)

Shot at (186, 0, 0), time=2003-05-08 00:00:00



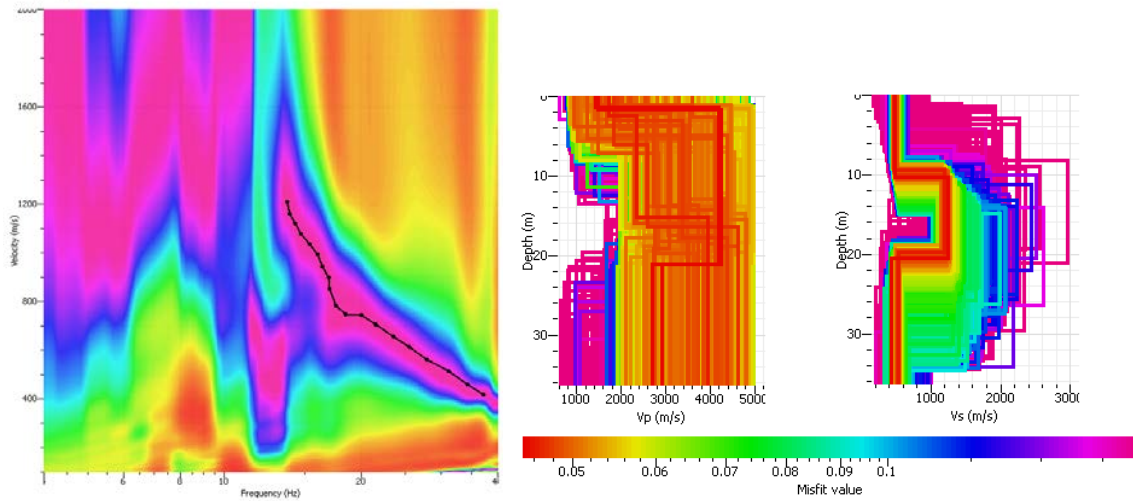
TIR 16 (G42-G43)

Shot at (166, 0, 0), time=2003-05-08 00:00:00



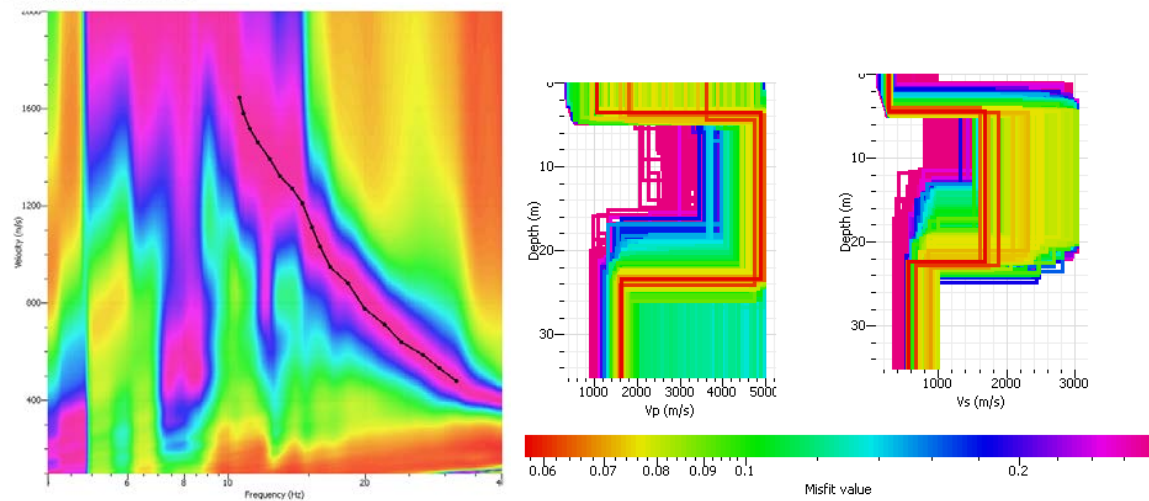
TIR 17 (4 metres G48)

Shot at (192, 0, 0), time=2003-05-08 00:00:00



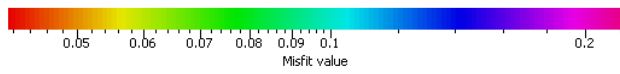
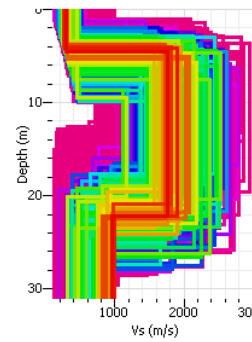
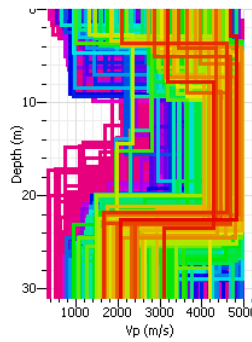
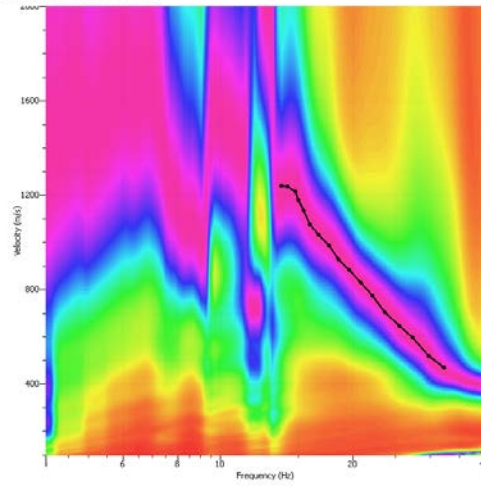
TIR 18 (5 metres G48)

Shot at (193, 0, 0), time=2003-05-08 00:00:00



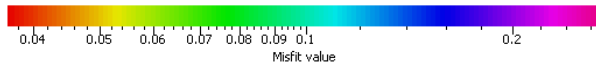
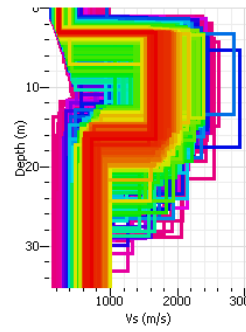
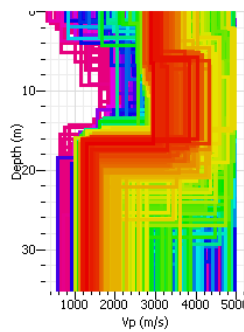
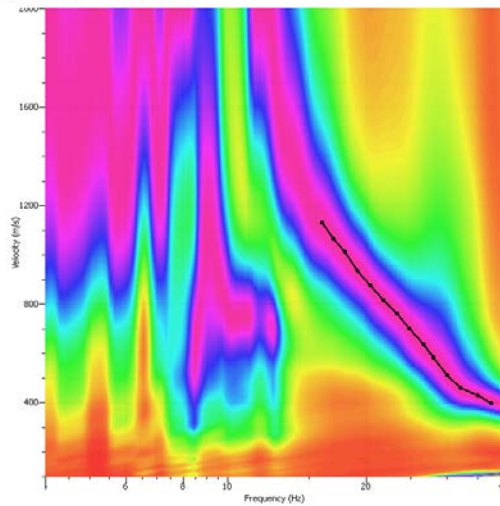
TIR 19 (8 metres G48)

Shot at (196, 0, 0), time=2003-05-08 00:00:00



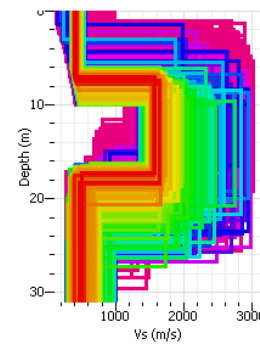
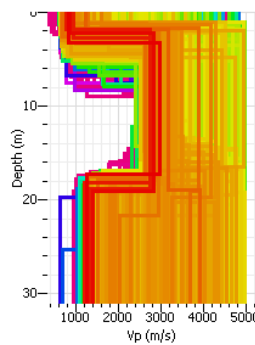
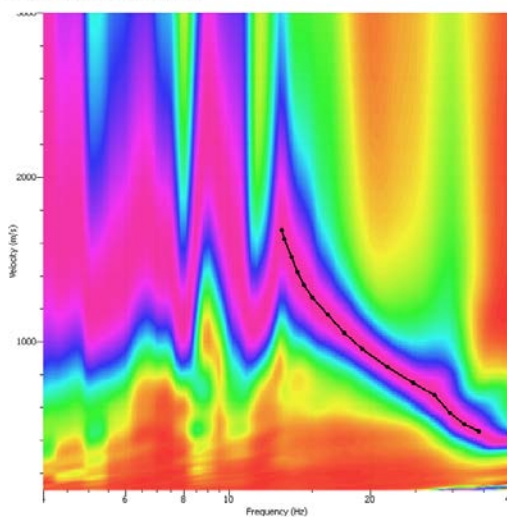
TIR 20 (9 metres G48)

Shot at (197, 0, 0), time=2003-05-08 00:00:00

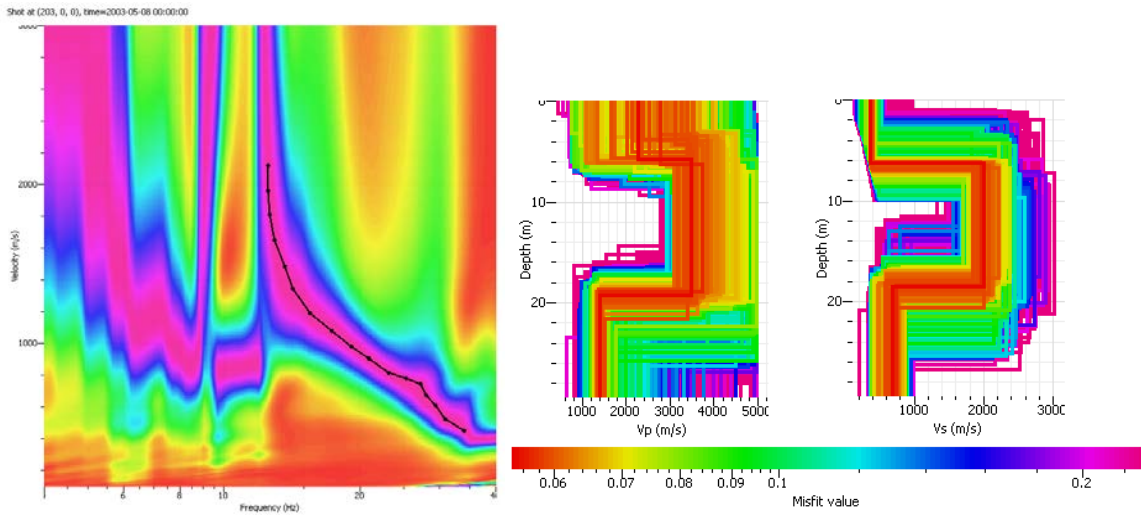


TIR 21 (14 metres G48)

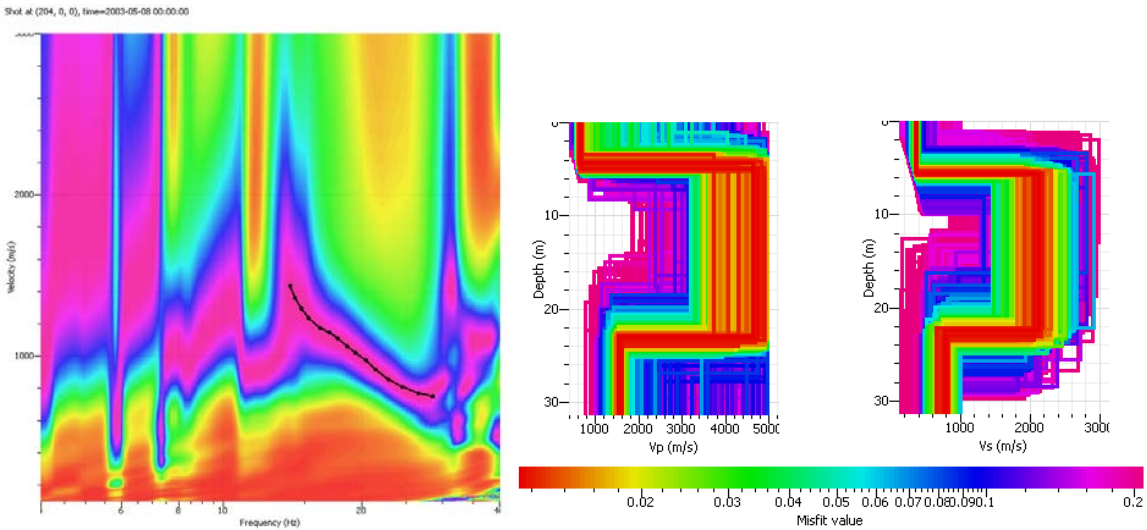
Shot at (202, 0, 0), time=2003-05-08 00:00:00



TIR 22 (15 metres G48)



TIR 23 (29 metres G48)



TIR 24 (30 metres G48)

