

vehmaantie 130

File Name: 5710202208170702001.dtb
Number: 001
Date: 17.8.2022
Time: 07:21
Serial Number: 5710
Seismic Trigger: 1,016 mm/sec
Acoustic Trigger: 142 dB
Sample Rate: 1024
Duration: 4,0 Seconds
Pre-Trigger: 0,50 Seconds
Gain: 2x
Voltage: 6,5

Amplitudes and Frequencies

Acoustic: <100 dB, <0.02 Mb @ 0,0 Hz

Radial: 2,159 mm/sec @ 170,6Hz

Vertical: 4,318 mm/sec @ 170,6Hz

Transverse: 0,635 mm/sec @ 170,6Hz

Vector Sum: 4,699 mm/sec

Displacement: 0,0146 mm

Acceleration: 0,42 g's

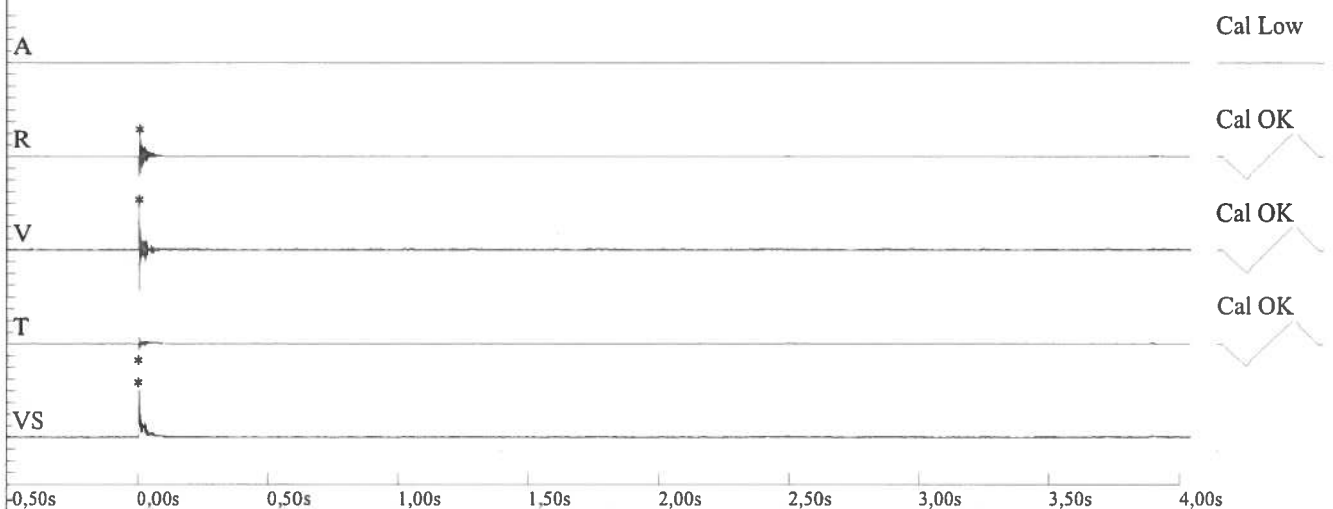
Graph Information

Duration: -0,500 s To: 4,000 s

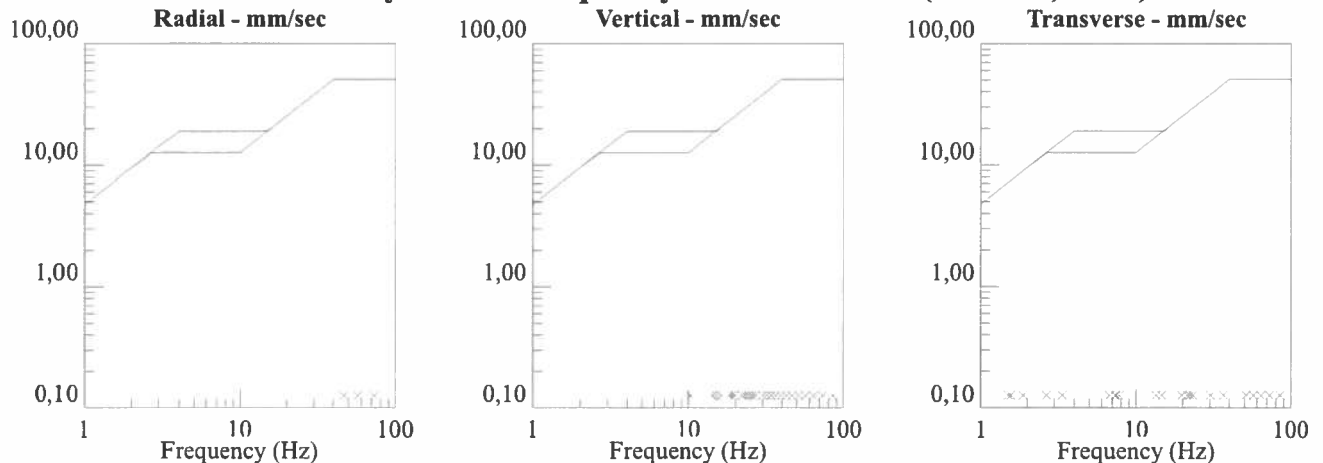
Acoustic Scale: 126 dB

Seismic Scale: 4,40 mm/sec (1,100 mm/sec/div)

Time Intervals at: 0,50 s



Particle Velocity Versus Frequency - USBM Limits (RI 8507, 1980)



Tilaaja:	Telamurska Oy		Kohde peitettävä:	kyllä ☐ ei ☒ x	
Urakkakohde:	Hujala		Louhetäkkäys:	kyllä ☐ ei ☒ x	
pvm:	8.10.2019		Asuttu alue;	kyllä ☐ ei ☒ x	
Kentän nro:	9	ed. 10	Hälytys ennen räjäytystä:	2 min	
			Varmistushenkilöt:	3 kpl	
Keskipengerkorkeus:	18,00 m		VAARALLINEN ALUE:	100 m	
Maks. pengerkorkeus:	19,00 m	Kentän sijainnin kuvaus:	Kenttä louhittu:		
Kentän leveys:	50,00 m		pvm.	8.10.19	
Vapaita reunoja:	1,0 kpl		klo	14:59	
Poraus					
Reikä Ø mm	83 mm	Kentän koko:	13500,0 m³		
Heitto:	10°	Pinta-ala:	750,0 m²		
Etu:	2,30 m	Kentän reikäluke:	106,0 kpl		
1. rivin etu:	3,50 m	Kentän reikämetrit:	2045,1 m		
Reikäväli:	3,00 m	Keskim. reikäpituus:	19,29 m		
Linjaa / kenttä:	6,0 kpl	Keskim. ruutukoko:	6,9 m²		
Ohiporaus:	1,00 m	Ominaisporaus:	0,151 m/m³		
Panostus		Keskim. Reikäpanos:	110,36 kg		
Etutäyte määrä m :	2,00 m	Maksimi reikäpanos:	114,88 kg		
Pohjapanos		Moment. räjä.ainem.:	225,24 kg		
aine 1. laji:	d65	kg/reikä/tot	2,25 kg		
aine 1. määrä m :	0,50 m	Keskim. pan./nallinro:	220,73 kg		
aine 2. laji:		Panos / kenttä:	11698,55 kg		
aine 2. määrä m :		Ominaispanostus:	0,87 kg/m³		
Varsipanos (patr.)					
aine 3. laji:					
aine 3. määrä m :					
aine 4. laji:					
aine 4. määrä m :					
Varsipanos (irr.)					
aine 5. laji	kmt	#####			
aine 5. määrä m :	16,79 m				
Sytytys					
syt 1. tyyppi:	None				
syt. 1. määrä/reikä:	1,0 kpl				
syt. 1. hidastenro määrä:					
syt. 2. tyyppi:					
syt. 2. määrä/reikä:					
syt. 2. hidastenro määrä:					
reikää maks./nallinro:	2,0 kpl				
Tärinäennuste (skaal. etäisyyden men.)					
Oletettu k-kerroin:	500				
Arvioitu á - kerroin:	-1,60				
Mitoitettava tärinäherkkä kohde:					
Etäis.louhintakoht.:	150 m				
Sall. Tärinäaall, nop.:	30,0 mm/s				
Sall. Tär.aallon kiiht.:					
Laskenn. tärinäaall. nop.	12,6 mm/s				
		Panostaja	Valtteri Varjonen		
		Louh.t.johtaja	Valtteri Varjonen		

Tilaaja:	Telamurska Oy		Kohde peitettävä:	kyllä ☐ ei ☒ x	
Urakkakohde:	Hujala		Louhetäkkäys:	kyllä ☐ ei ☒ x	
pvm:	22.11.2019		Asuttu alue;	kyllä ☐ ei ☒ x	
Kentän nro:	11	ed. 11	Hälytys ennen räjäytystä:	2 min	
			Varmistushenkilöt:	5 kpl	
Keskipengerkorkeus:	15,00 m		VAARALLINEN ALUE:	100 m	
Maks. pengerkorkeus:	18,00 m	Kentän sijainnin kuvaus:	Kenttä louhittu:		
Kentän leveys:	60,00 m		pvm.	22.11.19	
Vapaita reunoja:	2,0 kpl		klo	11:36	
Poraus					
Reikä Ø mm	83 mm	Kentän koko:	15570,0 m³		
Heitto:	10°	Pinta-ala:	1038,0 m²		
Etu:	2,30 m	Kentän reikäluke:	140,0 kpl		
1. rivin etu:	3,50 m	Kentän reikämetrit:	2274,6 m		
Reikäväli:	3,00 m	Keskim. reikäpituus:	16,25 m		
Linjaa / kenttä:	7,0 kpl	Keskim. ruutukoko:	6,9 m²		
Ohiporaus:	1,00 m	Ominaisporaus:	0,146 m/m³		
Panostus		Keskim. Reikäpanos:	86,03 kg		
Etutäyte määrä m :	2,50 m	Maksimi reikäpanos:	103,25 kg		
Pohjapanos		Moment. räjä.ainem.:	189,28 kg		
aine 1. laji:	d50	kg/reikä/tot	Keskim. pan./nallinro:		
aine 1. määrä m :	0,70 m		172,05 kg		
aine 2. laji:		0,00 kg	Panos / kenttä:		
aine 2. määrä m :			12043,53 kg		
Varsipanos (patr.)			Ominaispanostus:		
aine 3. laji:		0,00 kg	0,77 kg/m³		
aine 3. määrä m :					
aine 4. laji:		0,00 kg			
aine 4. määrä m :					
Varsipanos (irr.)					
aine 5. laji	kmt	84,00 kg			
aine 5. määrä m :	13,05 m				
Sytytys					
syt 1. tyyppi:	None				
syt. 1. määrä/reikä:	2,0 kpl				
syt. 1. hidastenro määrä:					
syt. 2. tyyppi:					
syt. 2. määrä/reikä:					
syt. 2. hidastenro määrä:					
reikää maks./nallinro:	2,0 kpl				
Tärinäennuste (skaal. etäisyyden men.)					
Oletettu k-kerroin:	500				
Arvioitu á - kerroin:	-1,60				
Mitoittava tärinäherkkä kohde:					
Etäis.louhintakoht.:					
Sall. Tärinäaall, nop.:					
Sall. Tär.aallon kiiht.:					
Laskenn. tärinäaall. nop.	0,0 mm/s				
Panostaja	Valtteri Varjonen				
Louh.t.johtaja	Valtteri Varjonen				

Date/Time Vert At 14:58:53 October 8, 2019
Trigger Source Geo: 1.000 mm/s
Range Geo: 254.0 mm/s
Sample Rate 2.0 sec. At 1024 Sps
Job Number 3819

Notes

Location: Hakamakilantie 28, sokkeli
Client: A-Louhinta Oy
User Name: V-S Kalliotekniikka Oy
General: MP2

Serial Number BE9382 V 7.1-4.35 MiniMate Plus
Battery Level 6.9 Volts
Unit Calibration April 5, 2016 by Kalliotekniikka Oy / JP
File Name K382157Y.Y50W

Post Event Notes

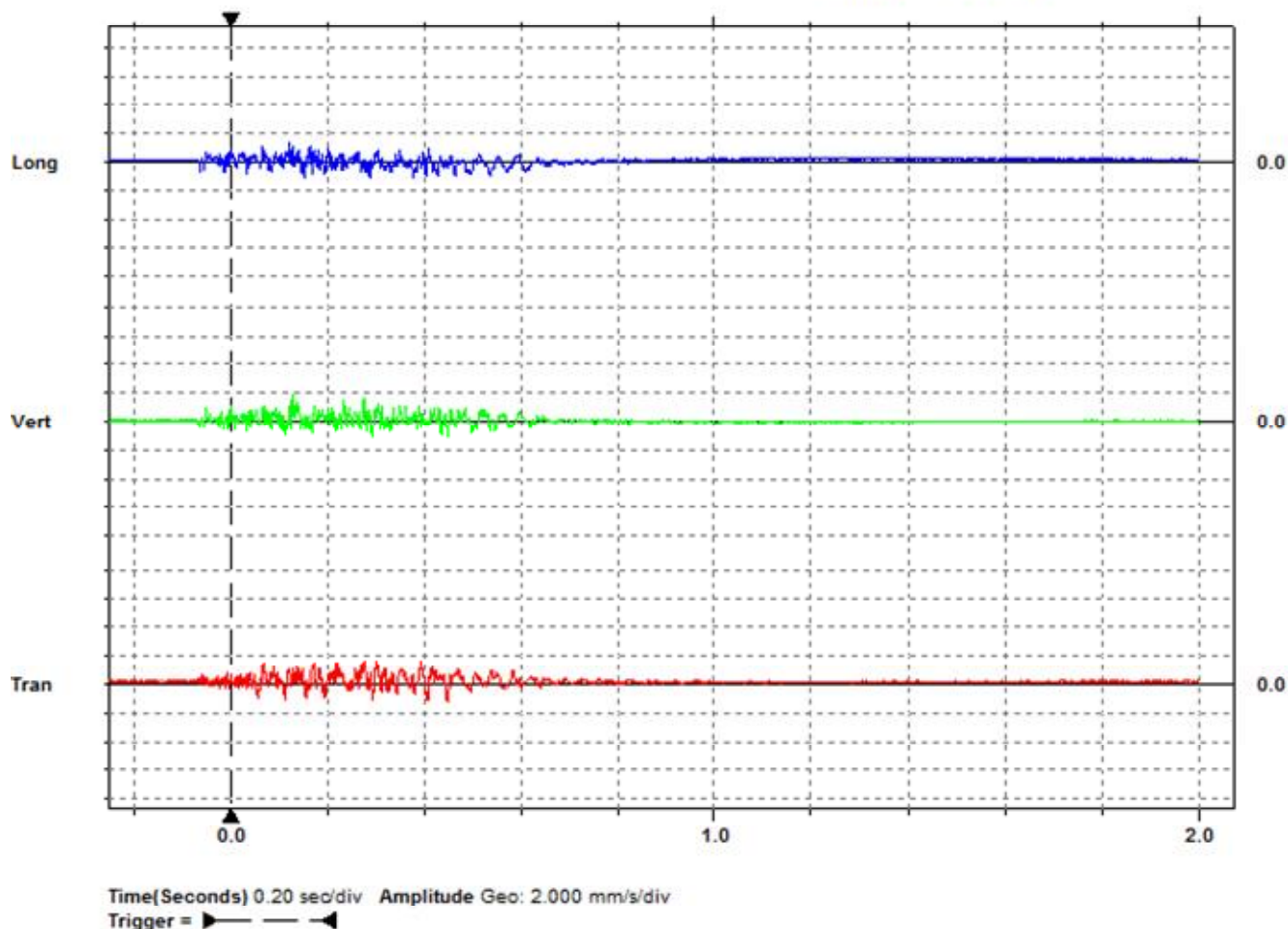
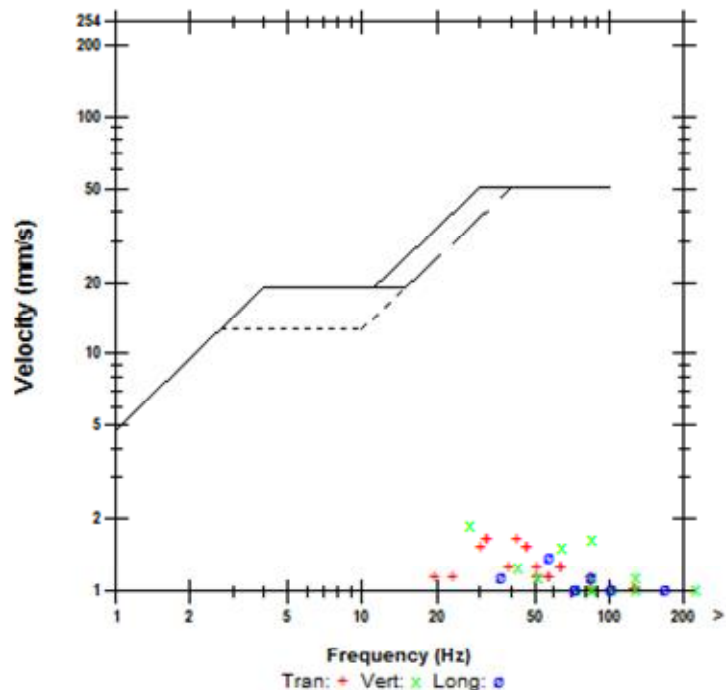
Extended Notes

Asennettu 7.10.2019 SS

USBM RI8507 And OSMRE 1-200 Hz

	Tran	Vert	Long	
PPV	1.651	1.905	1.397	mm/s
ZC Freq	32	27	57	Hz
Time (Rel. to Trig)	0.275	0.128	0.121	sec
Peak Acceleration	0.106	0.133	0.093	g
Peak Displacement	0.007	0.008	0.005	mm
Sensor Check	Passed	Passed	Passed	

Peak Vector Sum 2.338 mm/s At 0.275 sec.



Date/Time Vert At 14:58:54 October 8, 2019
 Trigger Source Geo: 2.000 mm/s
 Range Geo: 254.0 mm/s
 Sample Rate 2.0 sec. At 1024 Sps
 Job Number 3819

Serial Number BE9152 V 10.20-8.17 MiniMate Plus
 Battery Level 6.9 Volts
 Unit Calibration November 20, 2015 by Kalliotekniikka Oy / JP
 File Name K152157Y.Y60W

Notes

Location: Hakamakilantie 58, halli 1, ovi J1
 Client: A-Louhinta Oy
 User Name: V-S Kalliotekniikka Oy
 General: MP1

Post Event Notes

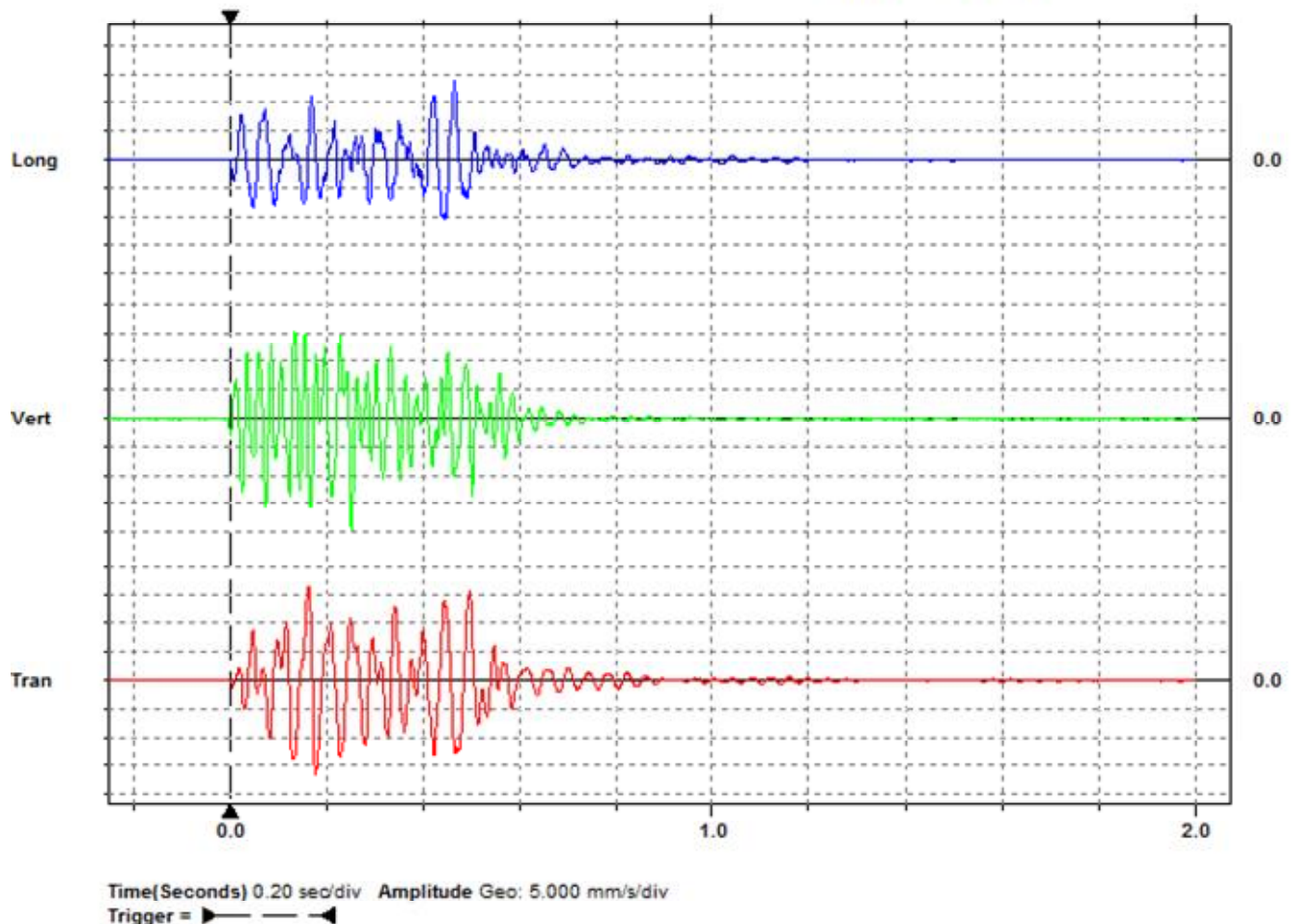
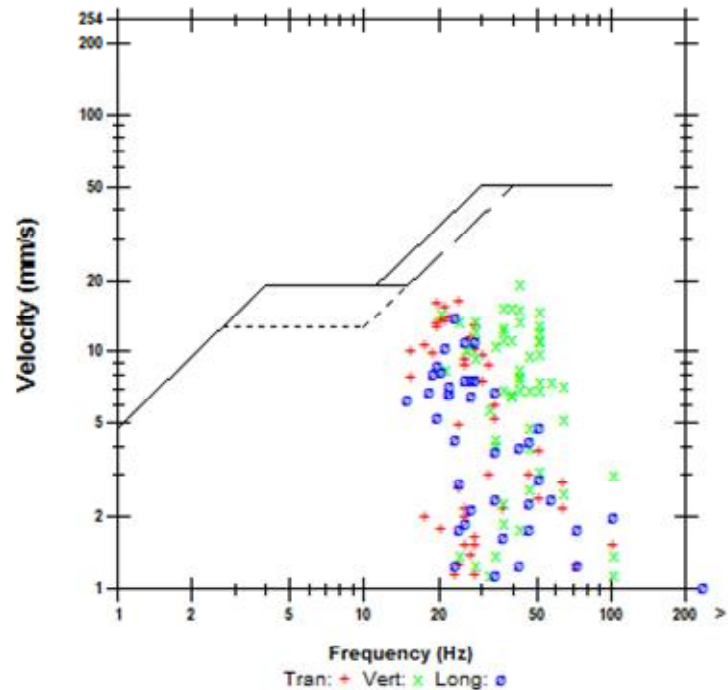
Extended Notes

Asennettu 7.10.2019 SS

	Tran	Vert	Long	
PPV	16.51	19.68	13.97	mm/s
ZC Freq	24	43	23	Hz
Time (Rel. to Trig)	0.178	0.252	0.465	sec
Peak Acceleration	0.384	0.557	0.292	g
Peak Displacement	0.118	0.091	0.082	mm
Sensor Check	Passed	Passed	Passed	

Peak Vector Sum 21.79 mm/s At 0.251 sec.

USBM RI8507 And OSMRE 1-200 Hz



Date/Time Vert At 11:38:14 November 22, 2019
 Trigger Source Geo: 2.000 mm/s
 Range Geo: 254.0 mm/s
 Sample Rate 1.0 sec. At 1024 Sps
 Job Number 3819
 Operator/Setup: Operator/T3819 MP1.mmb
 Notes
 Location: Hakamakilantie 58, sokkeli
 Client: Valtteri Varjonen Oy
 User Name: V-S Kalliotekniikka Oy
 General: MP1

Serial Number UM10160 V 10-89 Micromate DIN
 Battery Level 3.8 Volts
 Unit Calibration March 24, 2016 by Instante!l
 File Name UM10160_20191122113814.IDFW

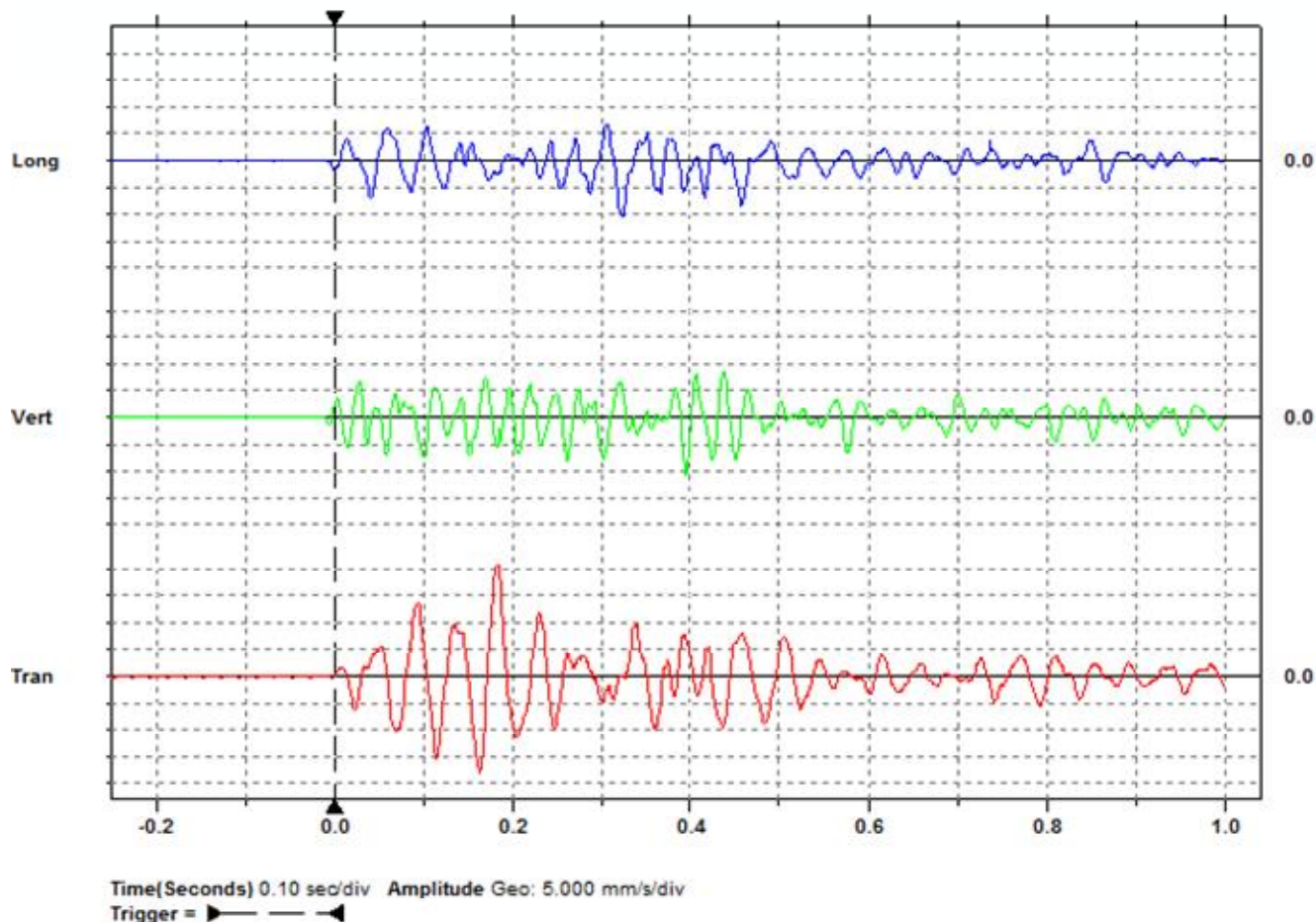
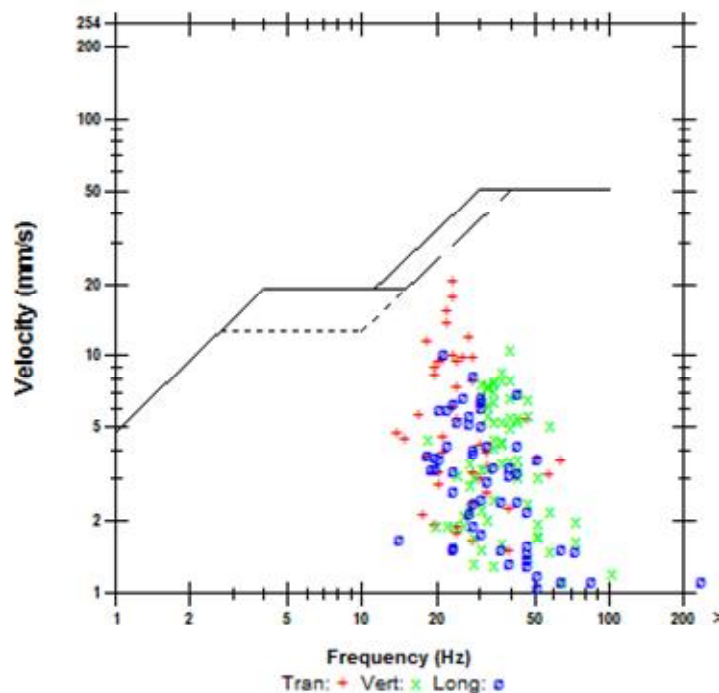
PostEvent Notes

Extended Notes
 Asennettu 21.11.2019 SS

	Tran	Vert	Long	
PPV	20.70	10.65	10.24	mm/s
ZC Freq	23	39	21	Hz
Time (Rel. to Trig)	0.183	0.396	0.322	sec
Peak Acceleration	0.330	0.340	0.214	g
Peak Displacement	0.136	0.036	0.060	mm
Sensor Check	Passed	Passed	Passed	

Peak Vector Sum 21.48 mm/s At 0.183 sec.

USBM RI8507 And OSMRE 1-200 Hz



Date/Time Tran At 11:38:11 November 22, 2019
 Trigger Source Geo: 1.000 mm/s
 Range Geo: 254.0 mm/s
 Sample Rate 1.0 sec. At 1024 Sps
 Job Number 3819

Notes

Location: Hakamakilantie 28, sokkeli
 Client: Valtteri Varjonen Oy
 User Name: V-S Kalliotekniikka Oy
 General: MP2

Serial Number BE7793 V 10.20-8.17 MiniMate Plus
 Battery Level 7.0 Volts
 Unit Calibration November 3, 2016 by Kalliotekniikka CE Oy / JP
 File Name I793I7J1.NN0W

Post Event Notes

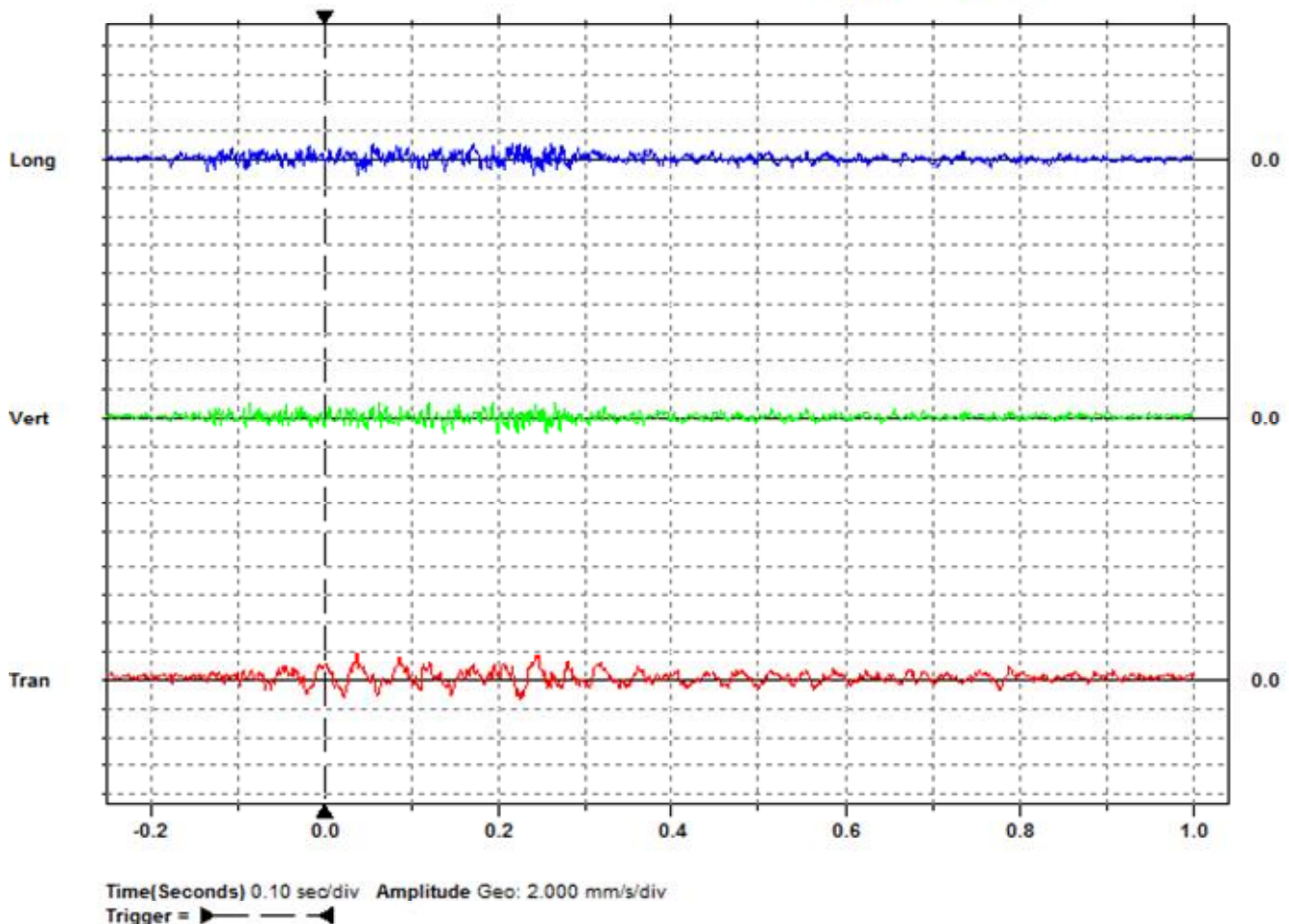
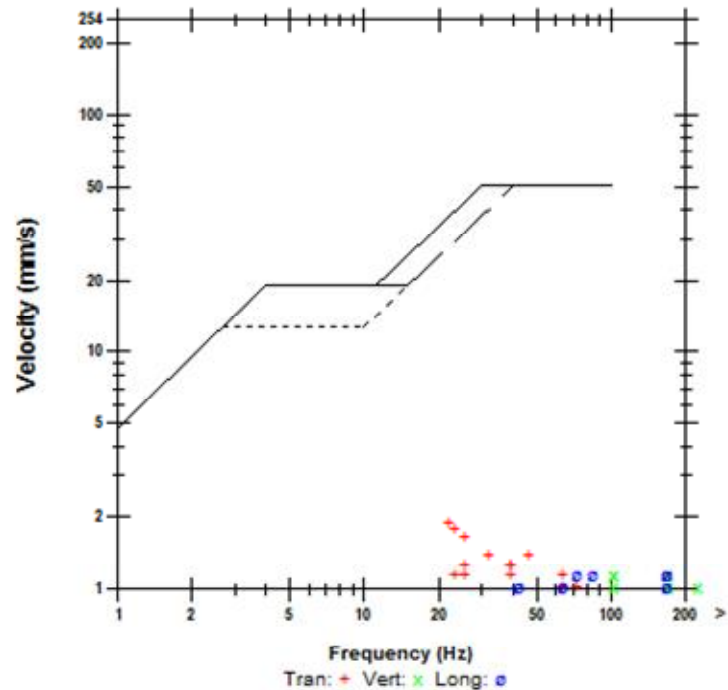
Extended Notes

Asennettu 21.11.2019 SS

USBM RI8507 And OSMRE 1-200 Hz

	Tran	Vert	Long	
PPV	1.905	1.143	1.143	mm/s
ZC Freq	22	>100	>100	Hz
Time (Rel. to Trig)	0.036	-0.086	0.038	sec
Peak Acceleration	0.080	0.106	0.119	g
Peak Displacement	0.011	0.002	0.003	mm
Sensor Check	Passed	Passed	Passed	

Peak Vector Sum 1.992 mm/s At 0.242 sec.



Multi-Waveform Report

Page: 1

JJ Kaivin ja Kallio Oy Rusko, sikala

4757201207031302001.dtb

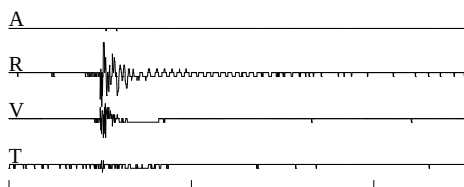
6,096 mm/sec

Date: 3.7.2012

100 dB 0,02 Mb

Time: 13:28

Record Data and Peaks Disagree



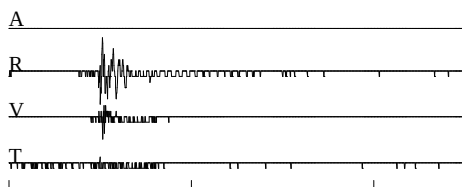
4757201207031505002.dtb

4,064 mm/sec

Date: 3.7.2012

100 dB 0,02 Mb

Time: 15:54



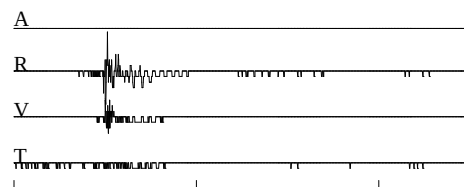
4757201207031701003.dtb

4,064 mm/sec

Date: 3.7.2012

100 dB 0,02 Mb

Time: 17:15



4757201207040902004.dtb

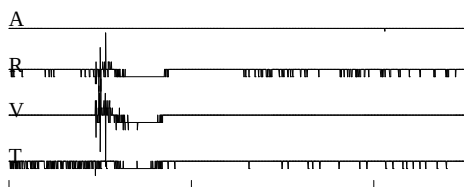
3,048 mm/sec

Date: 4.7.2012

100 dB 0,02 Mb

Time: 09:22

Record Data and Peaks Disagree



4757201207041402005.dtb

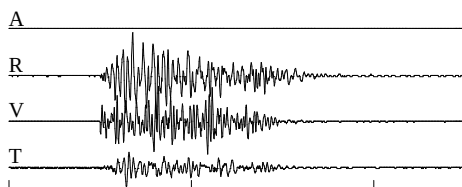
19,812 mm/sec

Date: 4.7.2012

100 dB 0,02 Mb

Time: 14:29

Record Data and Peaks Disagree



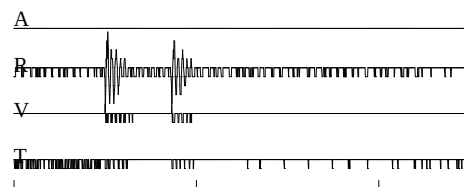
4757201207041403006.dtb

2,540 mm/sec

Date: 4.7.2012

100 dB 0,02 Mb

Time: 14:35



4757201207041503007.dtb

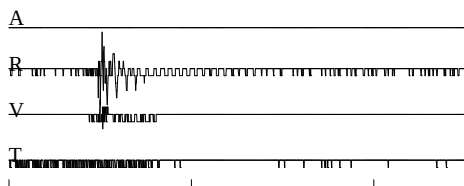
3,048 mm/sec

Date: 4.7.2012

100 dB 0,02 Mb

Time: 15:30

Record Data and Peaks Disagree



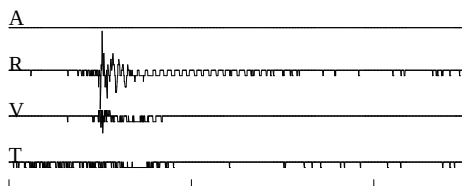
4757201207051701008.dtb

4,064 mm/sec

Date: 5.7.2012

100 dB 0,02 Mb

Time: 17:19



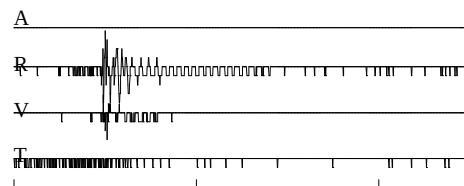
4757201207051702009.dtb

2,540 mm/sec

Date: 5.7.2012

100 dB 0,02 Mb

Time: 17:20



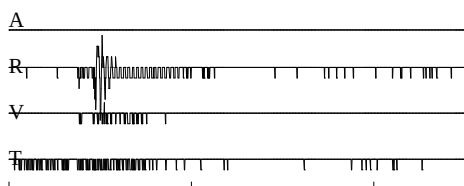
4757201207051704010.dtb

2,032 mm/sec

Date: 5.7.2012

100 dB 0,02 Mb

Time: 17:44



4757201207060902011.dtb

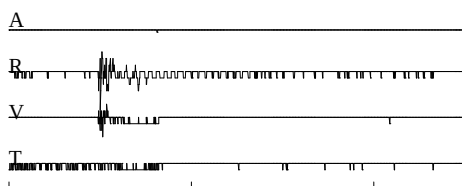
3,556 mm/sec

Date: 6.7.2012

100 dB 0,02 Mb

Time: 09:23

Record Data and Peaks Disagree



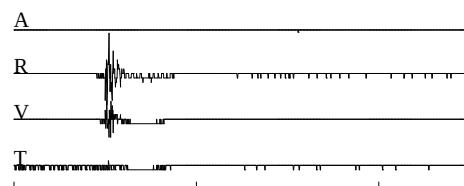
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5,080 mm/sec

Date: 6.7.2012

100 dB 0,02 Mb

Time: 14:31



4757201207061702013.dtb

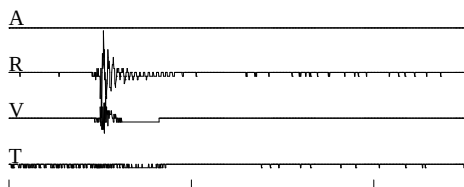
6,096 mm/sec

Date: 6.7.2012

100 dB 0,02 Mb

Time: 17:29

Record Data and Peaks Disagree



4757201207090905014.dtb

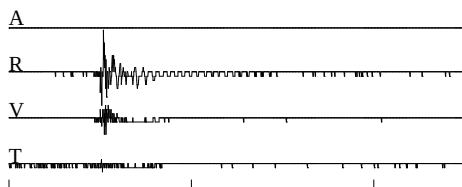
5,588 mm/sec

Date: 9.7.2012

100 dB 0,02 Mb

Time: 09:50

Record Data and Peaks Disagree



4757201207091002015.dtb

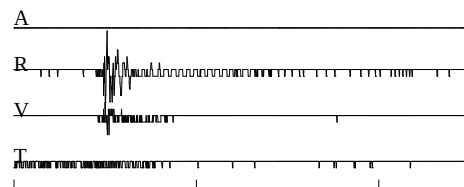
3,556 mm/sec

Date: 9.7.2012

100 dB 0,02 Mb

Time: 10:29

Record Data and Peaks Disagree

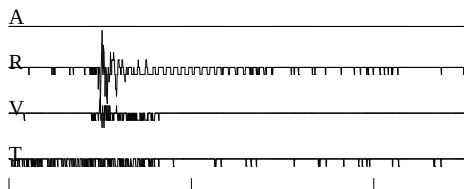


Multi-Waveform Report

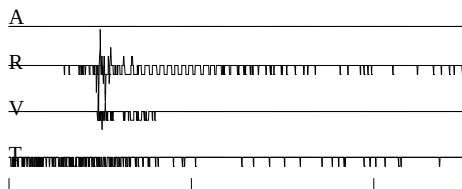
Page: 2

JJ Kaivin ja Kallio Oy Rusko, sikala

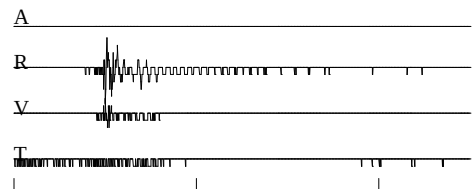
4757201207091003016.dtb
 3,048 mm/sec
 100 dB 0,02 Mb
 Date: 9.7.2012
 Time: 10:31
 Record Data and Peaks Disagree



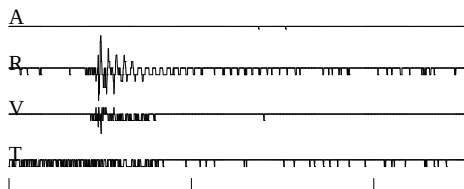
4757201207091004017.dtb
 2,540 mm/sec
 100 dB 0,02 Mb
 Date: 9.7.2012
 Time: 10:49



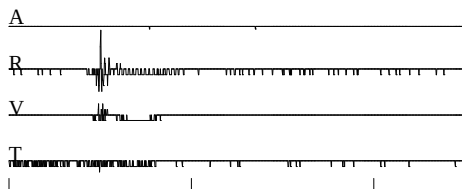
4757201207100701018.dtb
 3,048 mm/sec
 100 dB 0,02 Mb
 Date: 10.7.2012
 Time: 07:19
 Record Data and Peaks Disagree



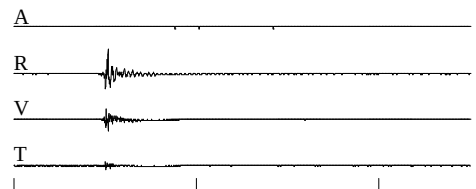
4757201207101505019.dtb
 3,556 mm/sec
 100 dB 0,02 Mb
 Date: 10.7.2012
 Time: 15:50
 Record Data and Peaks Disagree



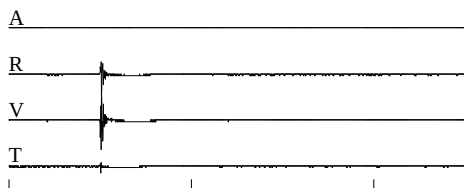
4757201207111001020.dtb
 4,064 mm/sec
 100 dB 0,02 Mb
 Date: 11.7.2012
 Time: 10:17



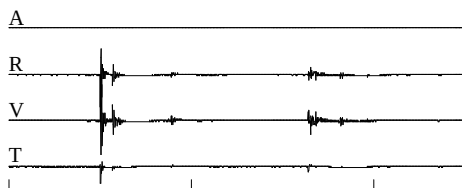
4757201207111205021.dtb
 19,812 mm/sec
 100 dB 0,02 Mb
 Date: 11.7.2012
 Time: 12:57
 Record Data and Peaks Disagree



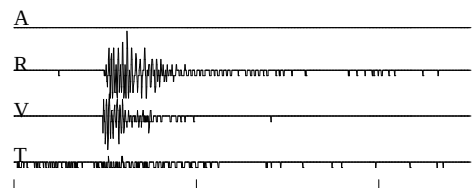
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 13,208 mm/sec
 100 dB 0,02 Mb
 Date: 12.7.2012
 Time: 07:25
 Record Data and Peaks Disagree



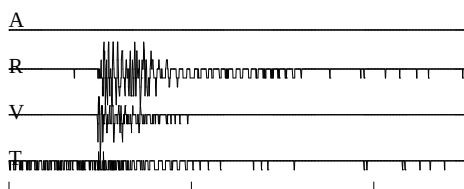
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 16,256 mm/sec
 100 dB 0,02 Mb
 Date: 12.7.2012
 Time: 07:26



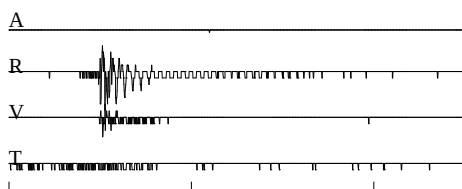
4757201207121400024.dtb
 4,064 mm/sec
 100 dB 0,02 Mb
 Date: 12.7.2012
 Time: 14:02



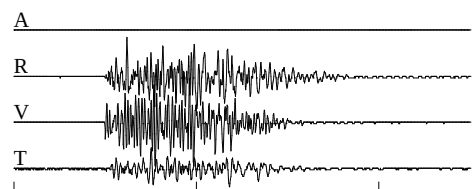
4757201207121403025.dtb
 2,540 mm/sec
 100 dB 0,02 Mb
 Date: 12.7.2012
 Time: 14:32



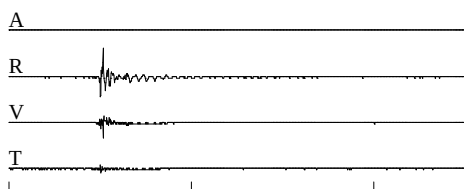
4757201207121704026.dtb
 3,556 mm/sec
 100 dB 0,02 Mb
 Date: 12.7.2012
 Time: 17:40
 Record Data and Peaks Disagree



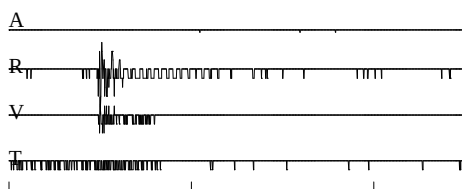
4757201207131100027.dtb
 13,716 mm/sec
 100 dB 0,02 Mb
 Date: 13.7.2012
 Time: 11:03



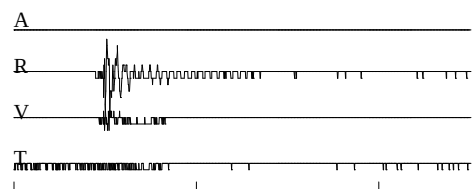
4757201207131702028.dtb
 14,732 mm/sec
 100 dB 0,02 Mb
 Date: 13.7.2012
 Time: 17:24
 Record Data and Peaks Disagree



4757201207160902029.dtb
 2,540 mm/sec
 100 dB 0,02 Mb
 Date: 16.7.2012
 Time: 09:26



4757201207161100030.dtb
 3,556 mm/sec
 100 dB 0,02 Mb
 Date: 16.7.2012
 Time: 11:01
 Record Data and Peaks Disagree

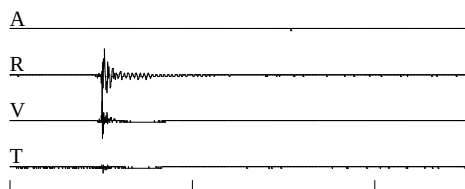


Multi-Waveform Report

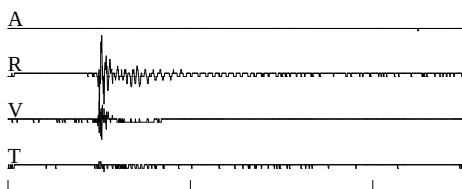
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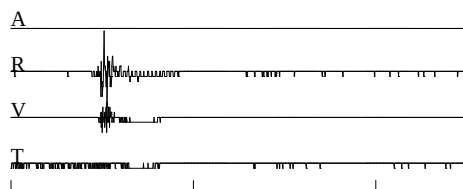
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14,224 mm/sec
100 dB 0,02 Mb
Date: 16.7.2012
Time: 12:27
Record Data and Peaks Disagree



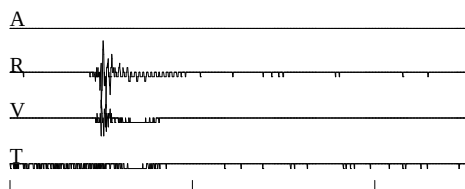
4757201207161202032.dtb
6,604 mm/sec
100 dB 0,02 Mb
Date: 16.7.2012
Time: 12:27
Record Data and Peaks Disagree



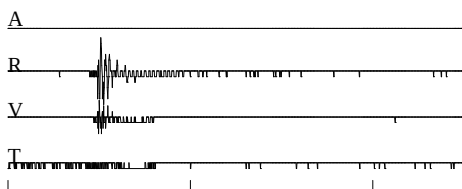
4757201207161301033.dtb
4,572 mm/sec
100 dB 0,02 Mb
Date: 16.7.2012
Time: 13:14



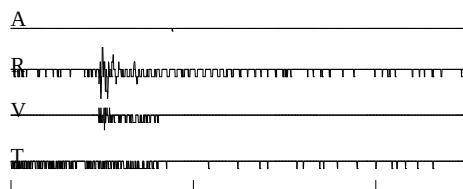
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5,080 mm/sec
100 dB 0,02 Mb
Date: 16.7.2012
Time: 13:26



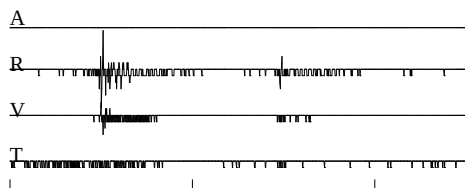
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4,064 mm/sec
100 dB 0,02 Mb
Date: 16.7.2012
Time: 15:18



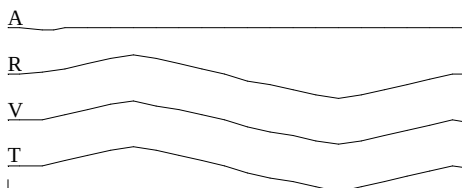
4757201207171004036.dtb
3,048 mm/sec
100 dB 0,02 Mb
Date: 17.7.2012
Time: 10:41
Record Data and Peaks Disagree



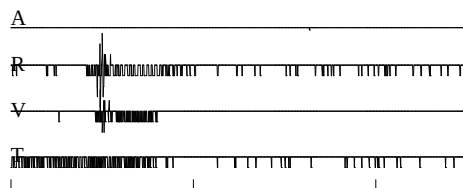
4757201207181800037.dtb
3,556 mm/sec
100 dB 0,02 Mb
Date: 18.7.2012
Time: 18:08
Record Data and Peaks Disagree



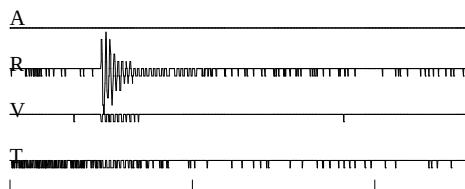
4757201207240300039.dtb
13,208 mm/sec
100 dB 0,02 Mb
Date: 24.7.2012
Time: 03:07
Calibration



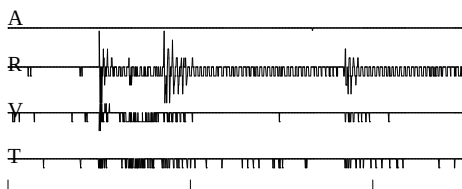
4757201207241503040.dtb
2,032 mm/sec
100 dB 0,02 Mb
Date: 24.7.2012
Time: 15:31



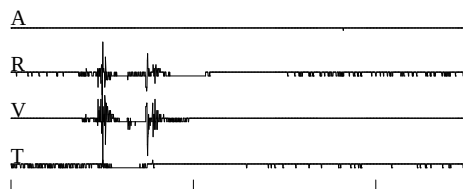
4757201207270803041.dtb
3,048 mm/sec
100 dB 0,02 Mb
Date: 27.7.2012
Time: 08:38
Record Data and Peaks Disagree



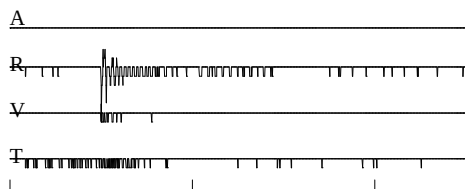
4757201207270803042.dtb
2,540 mm/sec
100 dB 0,02 Mb
Date: 27.7.2012
Time: 08:38



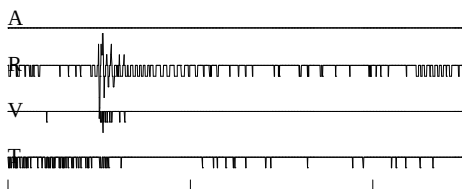
4757201207271602043.dtb
6,096 mm/sec
100 dB 0,02 Mb
Date: 27.7.2012
Time: 16:20
Record Data and Peaks Disagree



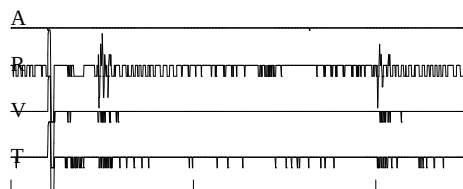
4757201207300700044.dtb
2,540 mm/sec
100 dB 0,02 Mb
Date: 30.7.2012
Time: 07:09



4757201207300700045.dtb
2,032 mm/sec
100 dB 0,02 Mb
Date: 30.7.2012
Time: 07:09



4757201207300700046.dtb
2,032 mm/sec
100 dB 0,02 Mb
Date: 30.7.2012
Time: 07:09
Record Data and Peaks Disagree



Multi-Waveform Report

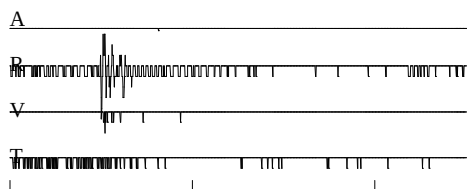
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4757201207300701047.dtb

2,032 mm/sec
100 dB 0,02 Mb

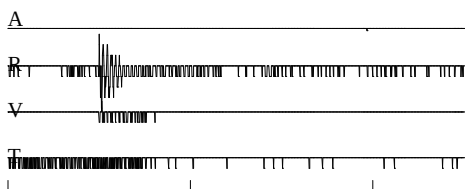
Date: 30.7.2012
Time: 07:10



4757201207310702048.dtb

2,032 mm/sec
100 dB 0,02 Mb

Date: 31.7.2012
Time: 07:23

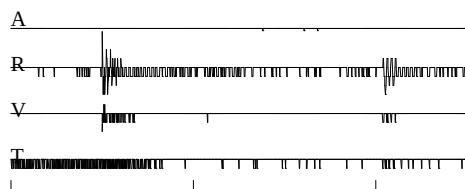


Record Data and Peaks Disagree

4757201207310702049.dtb

2,540 mm/sec
100 dB 0,02 Mb

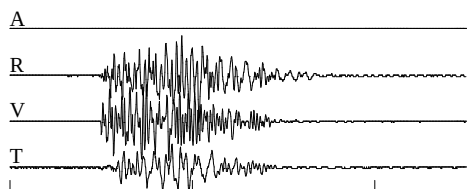
Date: 31.7.2012
Time: 07:29



4757201207311405050.dtb

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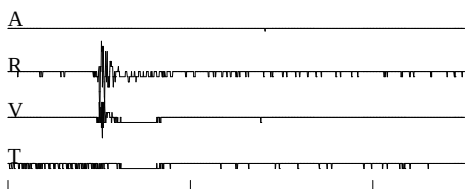
Date: 31.7.2012
Time: 14:58



4757201208011504051.dtb

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100 dB 0,02 Mb

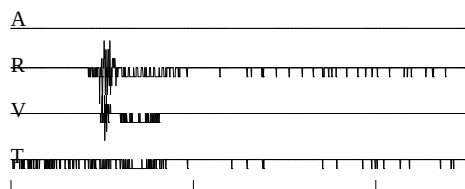
Date: 1.8.2012
Time: 15:42



4757201208021505052.dtb

2,540 mm/sec
100 dB 0,02 Mb

Date: 2.8.2012
Time: 15:51



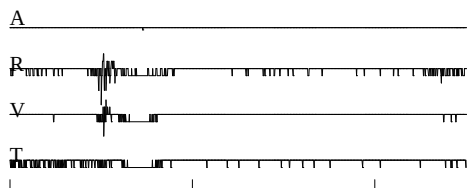
Record Data and Peaks Disagree

4757201208031204053.dtb

3,048 mm/sec
100 dB 0,02 Mb

Date: 3.8.2012
Time: 12:47

Record Data and Peaks Disagree

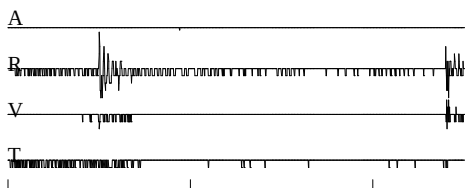


4757201208031205054.dtb

3,048 mm/sec
100 dB 0,02 Mb

Date: 3.8.2012
Time: 12:56

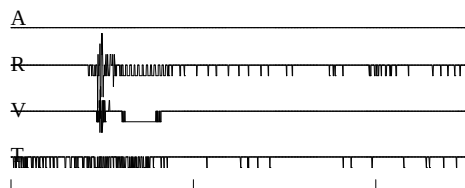
Record Data and Peaks Disagree



4757201208061004055.dtb

2,032 mm/sec
100 dB 0,02 Mb

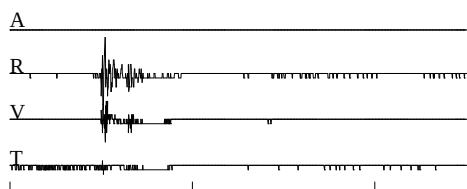
Date: 6.8.2012
Time: 10:49



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100 dB 0,02 Mb

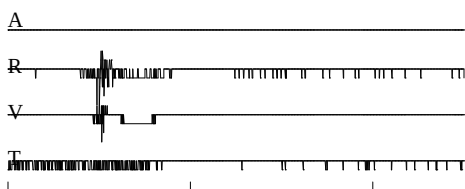
Date: 7.8.2012
Time: 15:51



4757201208081601057.dtb

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100 dB 0,02 Mb

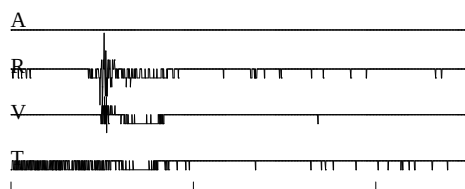
Date: 8.8.2012
Time: 16:14



4757201208081605058.dtb

2,540 mm/sec
100 dB 0,02 Mb

Date: 8.8.2012
Time: 16:59

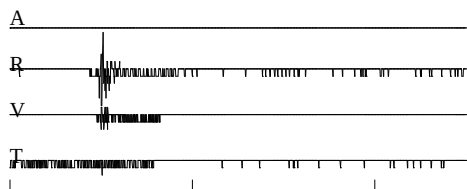


4757201208091003059.dtb

3,048 mm/sec
100 dB 0,02 Mb

Date: 9.8.2012
Time: 10:32

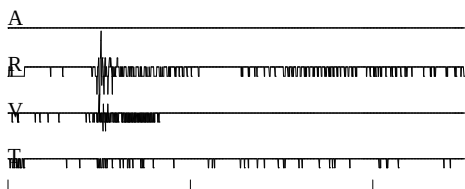
Record Data and Peaks Disagree



4757201208091003060.dtb

2,540 mm/sec
100 dB 0,02 Mb

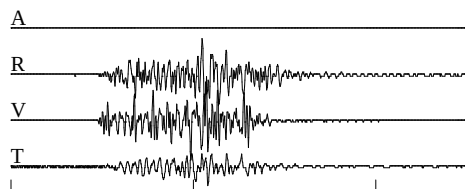
Date: 9.8.2012
Time: 10:32



4757201208100800061.dtb

11,684 mm/sec
100 dB 0,02 Mb

Date: 10.8.2012
Time: 08:05





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4757201208101503062.dtb

2,540 mm/sec

100 dB 0,02 Mb

Date: 10.8.2012

Time: 15:36

4757201208130903063.dtb

3,556 mm/sec

117 dB 0,14 Mb

Date: 13.8.2012

Time: 09:37

Record Data and Peaks Disagree

