

# **InterPACIFIC Project**

## **Presentation of the active measurements**

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**SITE: Saint-Paul-lès-Durance – CADARACHE**

**Identification code: CAD**

**DATE of measurements campaign : 23/9/2013 – 24/9/2013**

**With the contribution on the field of: G. Bianchi, P. Scarcella**

In this site, different surveys were performed along the same line L1 as shown in the following figure. In particular all the positions are expressed as relative distance with respect to a given point assumed at 0m as showed in the figure.



In this site, different surveys were performed along the same line using different sources and receiver spacing. All the data are grouped in folder whit CAD that stands for “Cadarache”. In particular, since we used different time sampling parameters for MASW and refraction, the two different datasets are grouped separately. The folders are:

CAD\_AP\_50cm\_masw    active P-wave data acquired with 0.5 m receiver spacing for MASW

CAD\_AP\_100cm\_masw    active P-wave data acquired with 1 m receiver spacing for MASW

CAD\_AP\_100cm\_ref    active P-wave data acquired with 1 m receiver spacing for P-wave refraction

CAD\_AS\_100cm    active SH-wave data acquired with 1 m receiver spacing

CAD\_AS\_200cm    active SH-wave data acquired with 2 m receiver spacing

CAD\_NO\_50cm    passive measurements acquired with 0.5 m receiver spacing

In each folder the files are in .sg2 format and they are identified by a number that refers to the shot location.

**Acquisition parameters:**

T = Time window

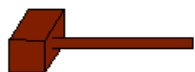
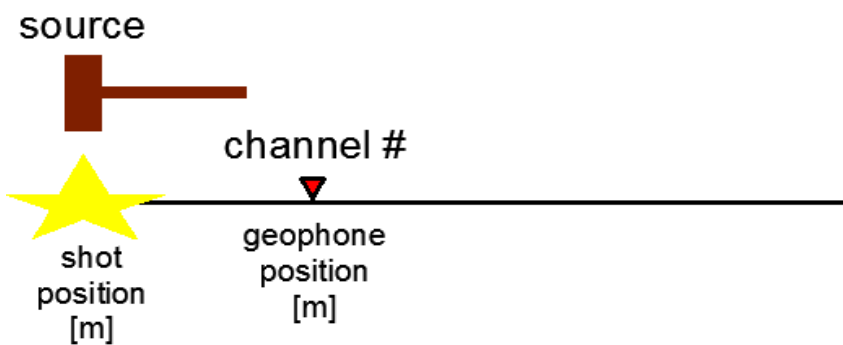
$\Delta t$ = Sampling rate

Pretrig= Pre-trigger

$\Delta x$ = receiver spacing

Folder	File number	Source type	Num channels	Source [m]	1° ch [m]	Last ch [m]	Dx [m]	T [s]	Dt [ms]	pretrig [s]	note
CAD_AS_200cm	100-120	Iron beam	24	6	10	56	2	2	0.25	-0.25	In the first shots, some anomalies occur
CAD_AS_100cm	121-140	Iron beam	24	6	21	44	1	2	0.25	-0.25	
CAD_AP_100cm_masw	200-209	Hammer	48	0	10	57	1	2	1	-0.25	
CAD_AP_100cm_masw	210-219	Hammer	48	7	10	57	1	2	1	-0.25	
CAD_AP_100cm_masw	220-229	Hammer	48	7.5	10	57	1	2	1	-0.25	
CAD_AP_100cm_masw	239-249	Hammer	48	60	10	57	1	2	1	-0.25	
CAD_AP_100cm_masw	250-259	Hammer	48	60.5	10	57	1	2	1	-0.25	
CAD_AP_100cm_masw	260-272	Hammer	48	67	10	57	1	2	1	-0.25	
CAD_AP_100cm_ref	230	Hammer	48	7	10	57	1	0.4992	0.0312	0	10 stack
CAD_AP_100cm_ref	231	Hammer	48	15.5	10	57	1	0.4992	0.0312	0	10 stack
CAD_AP_100cm_ref	232	Hammer	48	21.5	10	57	1	0.4992	0.0312	0	10 stack
CAD_AP_100cm_ref	233	Hammer	48	27.5	10	57	1	0.4992	0.0312	0	10 stack
CAD_AP_100cm_ref	234	Hammer	48	33.5	10	57	1	0.4992	0.0312	0	10 stack
CAD_AP_100cm_ref	235	Hammer	48	39.5	10	57	1	0.4992	0.0312	0	10 stack
CAD_AP_100cm_ref	236	Hammer	48	45.5	10	57	1	0.4992	0.0312	0	10 stack
CAD_AP_100cm_ref	237	Hammer	48	51.5	10	57	1	0.4992	0.0312	0	10 stack
CAD_AP_50cm_masw	300-309	Hammer	48	12	22	45.5	0.5	2	1	-0.25	Wrong shot location in the files
CAD_AP_50cm_masw	310-325	Hammer	48	18	22	45.5	0.5	2	1	-0.25	
CAD_AP_50cm_masw	326-337	Hammer	48	49.5	22	45.5	0.5	2	1	-0.25	
CAD_AP_50cm_masw	338-352	Hammer	48	55.5	22	45.5	0.5	2	1	-0.25	
CAD_NO_50cm	353-355	Noise	48	-	22	45.5	0.5	262	4	0	

## LEGEND



Source (for SH-waves)



Source (for P-waves)



Horizontal geophone



Vertical geophone

**folder: CAD\_AS\_200cm**  
**Survey: active SH waves – Line 1**

Seismograph: Geode (Geometrics)

Geophones: swyphones

Source: iron beam

Acquisition parameters:

T = 2000 ms

$\Delta t = 0.25$  ms

Pretrig= -250 ms

$\Delta x = 2$  m

Number of channels = 24

1° channel = 10 m

Last channel = 56 m

File number	Shot location [m]	note
100 - 120	6	In the first shots, some anomalous records

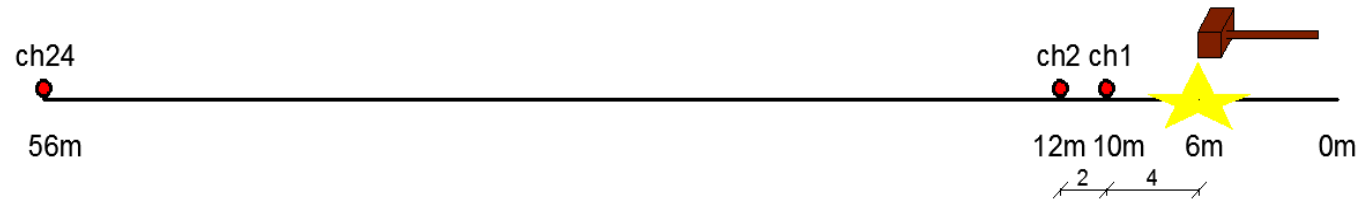
NOTE: -

folder: CAD\_AS\_200cm  
Survey: active SH waves – Line 1

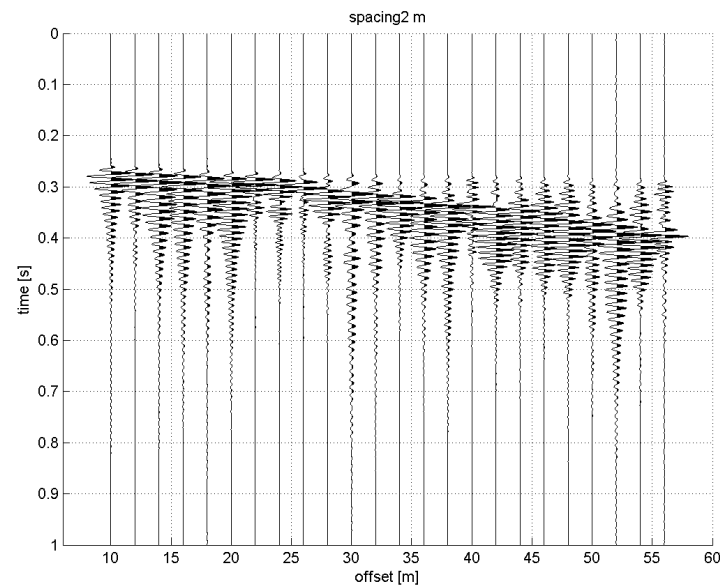
File number:100 – 120

Shot: 6 m

$\Delta x$ : 2m



Display time window: 1 s



**folder: CAD\_AS\_100cm**  
**Survey: active SH waves – Line 1**

Seismograph: Geode (Geometrics)

Geophones: swyphones

Source: iron beam

Acquisition parameters:

T = 2000 ms

$\Delta t = 0.25$  ms

Pretrig= -250 ms

$\Delta x = 1$  m

Number of channels = 24

1° channel = 21 m

Last channel = 44 m

File number	Shot location [m]	note
121 - 140	6	In the first shots, some anomalous records

NOTE: -

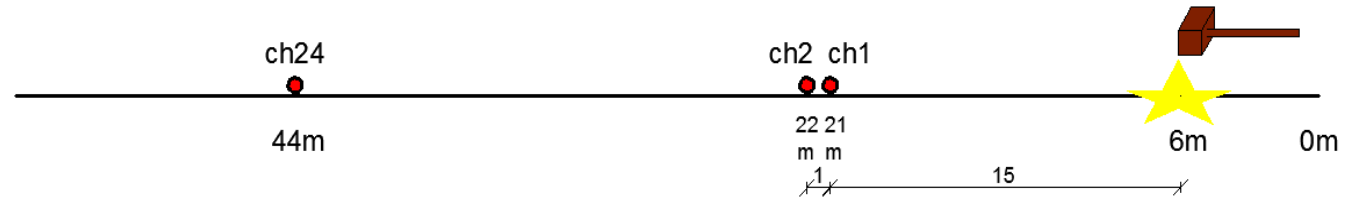


**folder: CAD\_AS\_100cm**  
**Survey: active SH waves – Line 1**

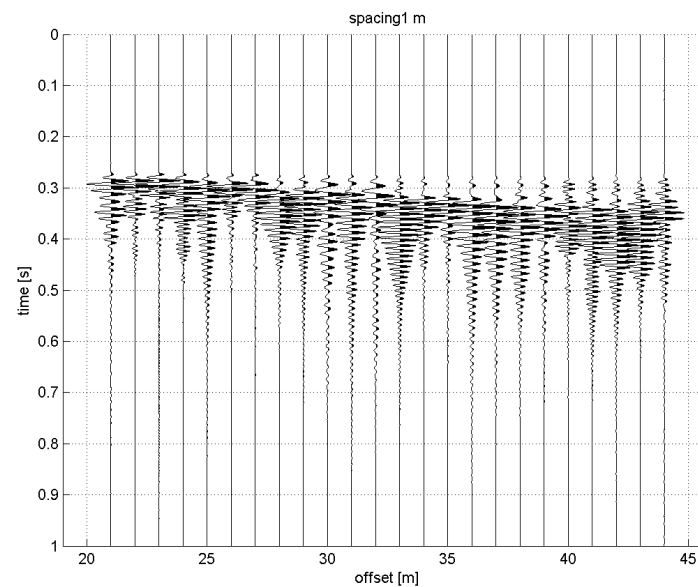
**File number:121 – 140**

Shot: 6 m

$\Delta x$ : 1m



Display time window: 1 s



**folder: CAD\_AP\_100cm\_masw**  
**Survey: active P waves – Line 1**

Seismograph: Geode (Geometrics)  
Geophones: vertical geophones (4.5 Hz)  
Source: 8-Kg sledgehammer

Acquisition parameters:

T = 2000 ms

$\Delta t = 1$  ms

Pretrig= -250 ms

$\Delta x = 1$  m

Number of channels = 48

1° channel = 10 m

Last channel = 57 m

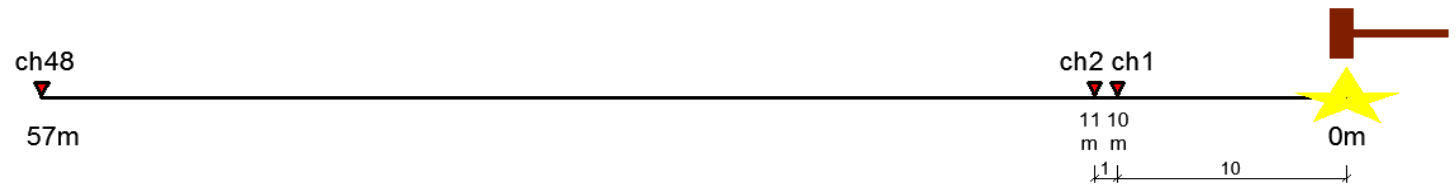
**NOTE: -**

File number	Shot location [m]	note
200 – 209	0	
210 – 219	7	
220 – 229	7.5	
239 – 249	60	
250 – 259	60.5	
260 – 272	67	

**folder: CAD\_AP\_100cm\_masw**  
**Survey: active P waves – Line 1**

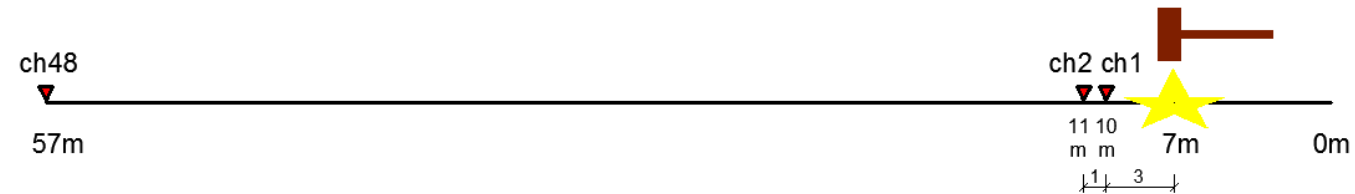
**File number:200 – 209**

Shot: 0 m

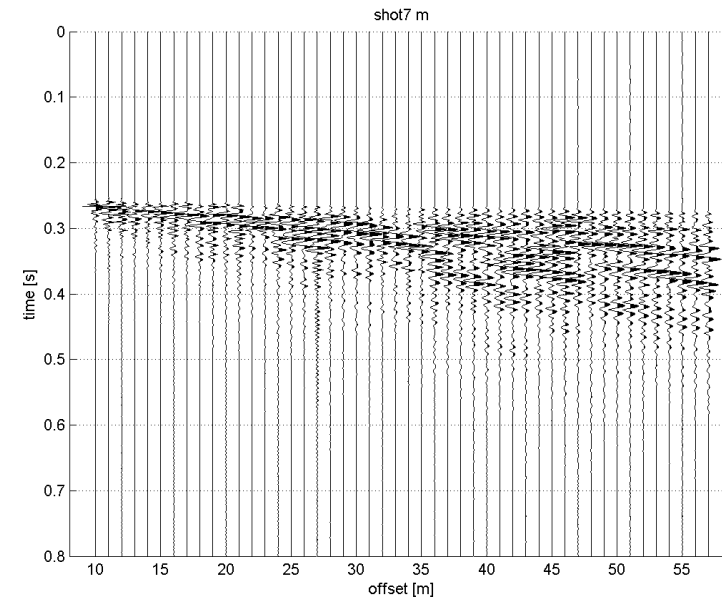
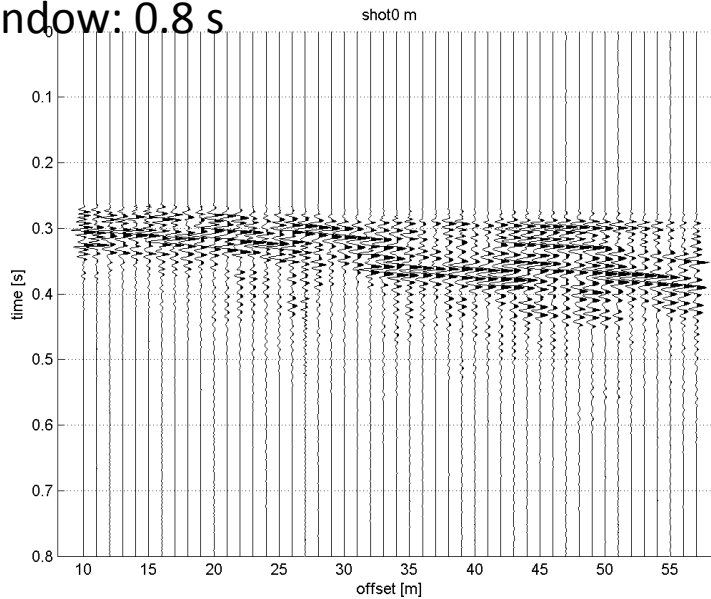


**File number:210 – 219**

Shot: 7 m



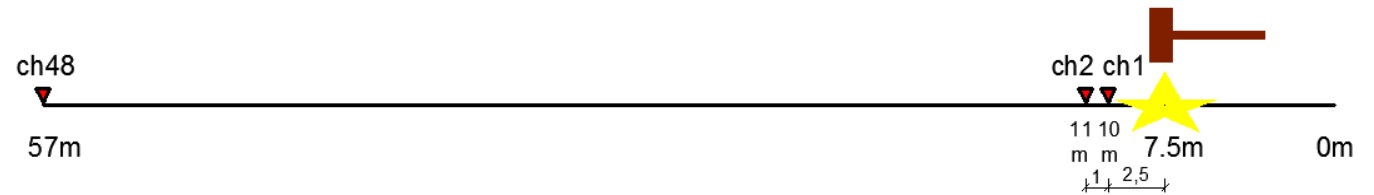
Display time window: 0.8 s



**folder: CAD\_AP\_100cm\_masw**  
**Survey: active P waves – Line 1**

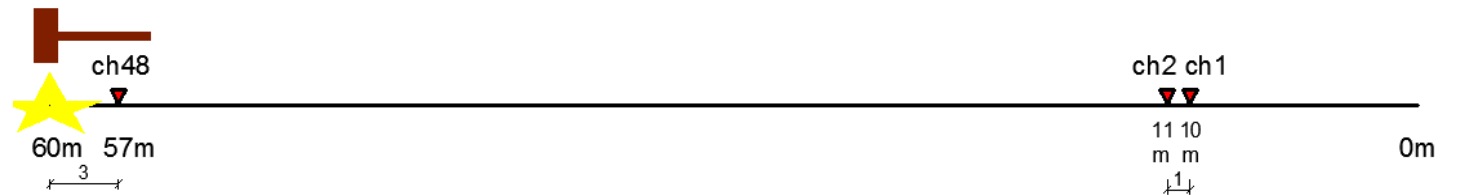
**File number:220 – 229**

Shot: 7.5 m

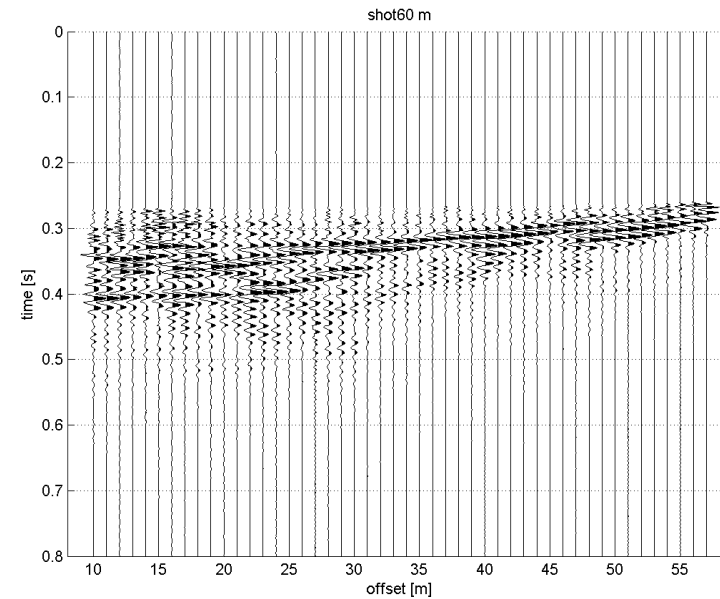
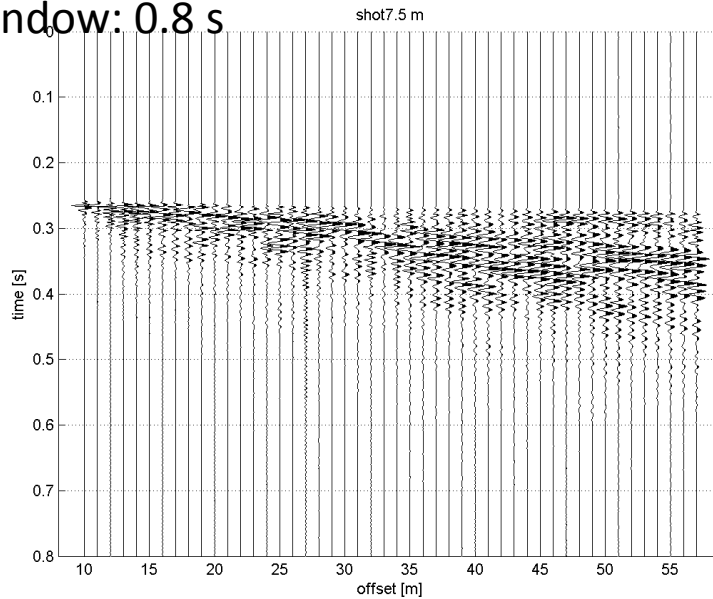


**File number:239 – 249**

Shot: 60 m



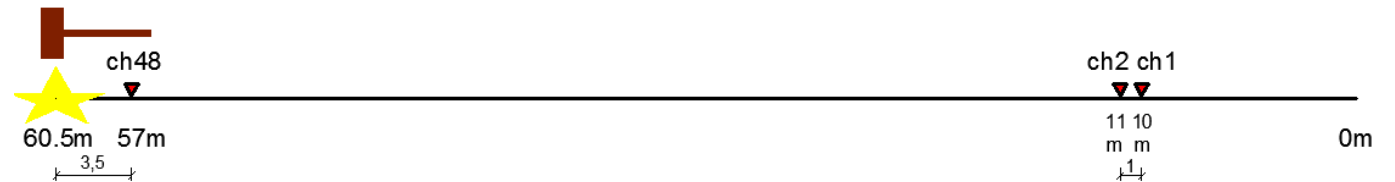
Display time window: 0.8 s



folder: CAD\_AP\_100cm\_masw  
Survey: active P waves – Line 1

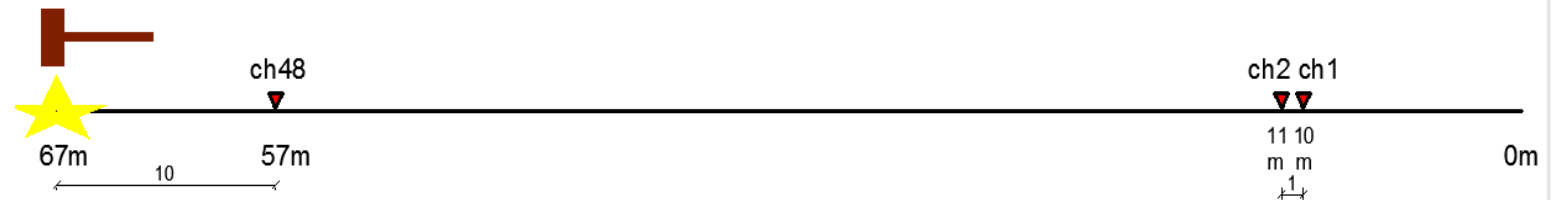
File number:250 – 259

Shot: 60.5 m

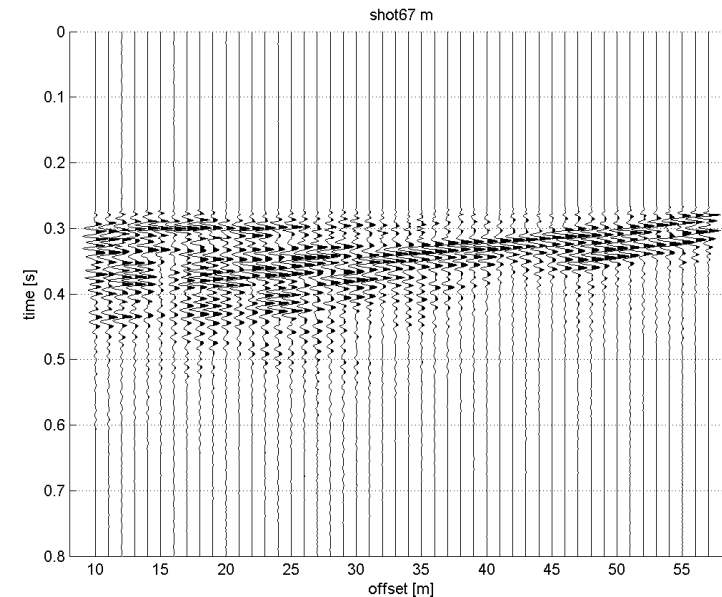
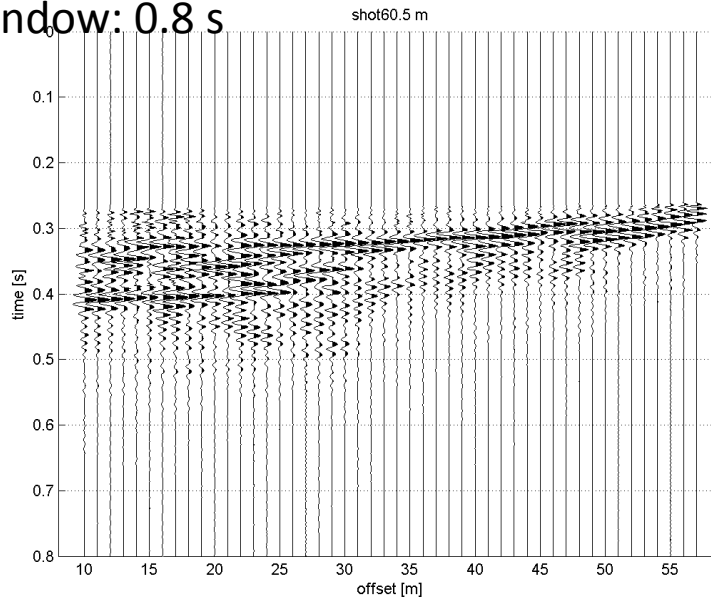


File number:260 – 272

Shot: 67 m



Display time window: 0.8 s



**folder: CAD\_AP\_100cm\_ref**  
**Survey: active P waves – Line 1**

Seismograph: Geode (Geometrics)  
Geophones: vertical geophones (4.5 Hz)  
Source: 8-Kg sledgehammer

Acquisition parameters:

T = 499.5 ms

$\Delta t = 0.0312$  ms

Pretrig = 0 ms

$\Delta x = 1$  m

Number of channels = 48

1° channel = 10 m

Last channel = 57 m

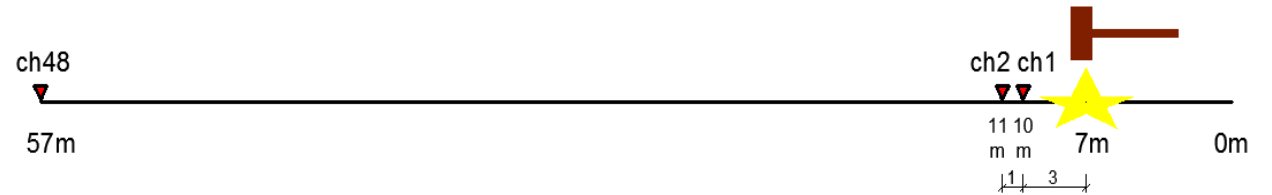
**NOTE: -**

File number	Shot location [m]	note
230	7	10 stack
231	15.5	10 stack
232	21.5	10 stack
233	27.5	10 stack
234	33.5	10 stack
235	39.5	10 stack
236	45.5	10 stack
237	51.5	10 stack

**folder: CAD\_AP\_100cm\_ref**  
**Survey: active P waves – Line 1**

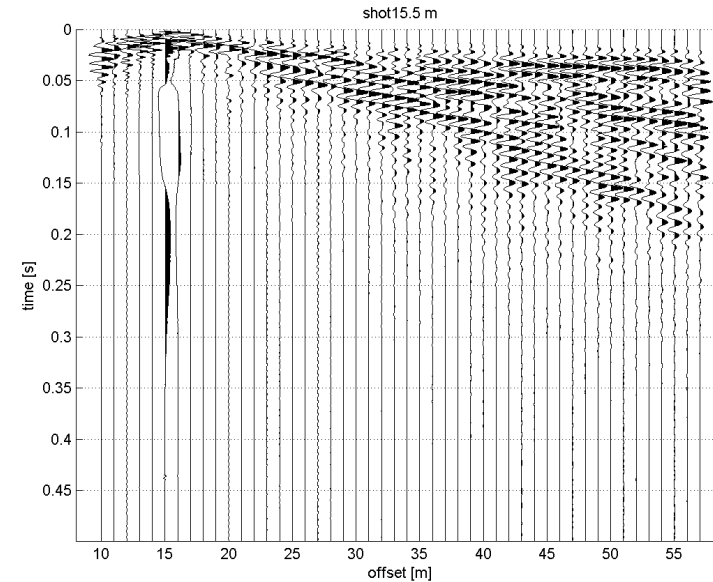
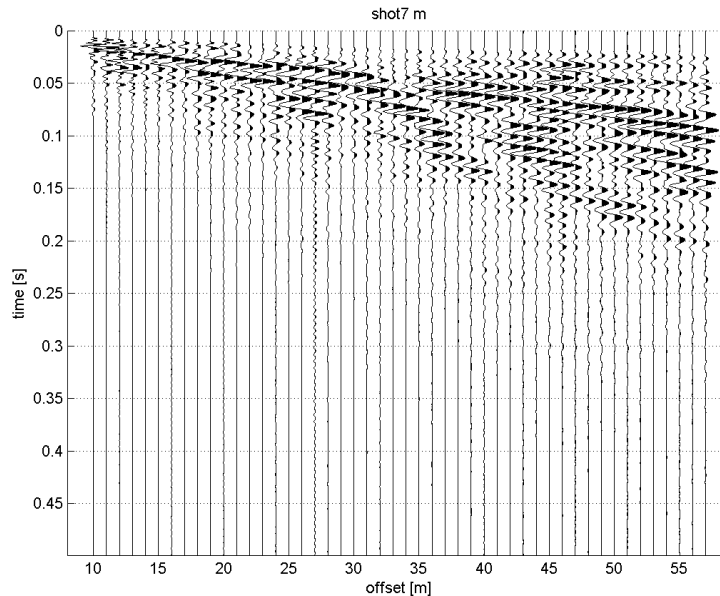
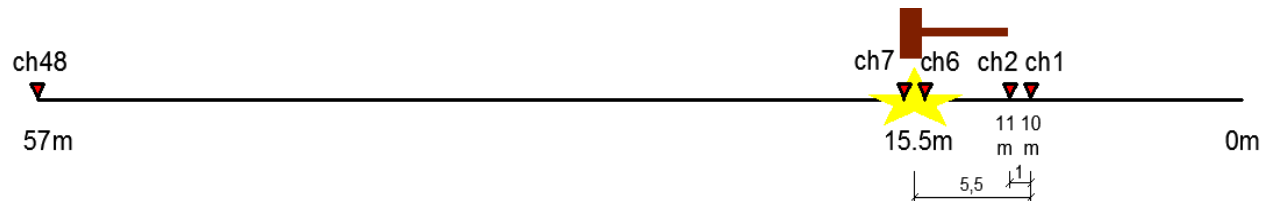
**File number: 230 (10 stack)**

Shot: 7 m



**File number: 231 (10 stack)**

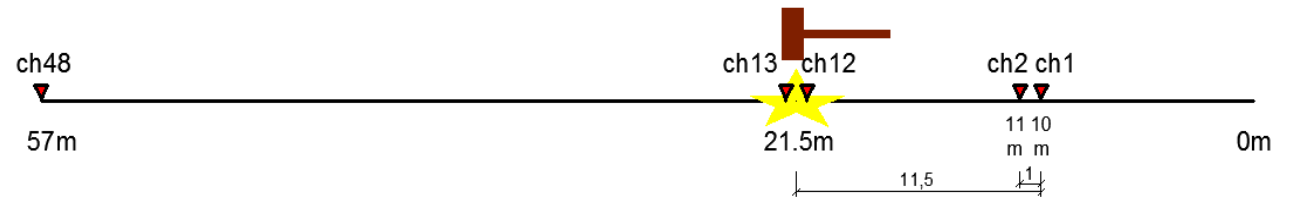
Shot: 15.5 m



**folder: CAD\_AP\_100cm\_ref**  
**Survey: active P waves – Line 1**

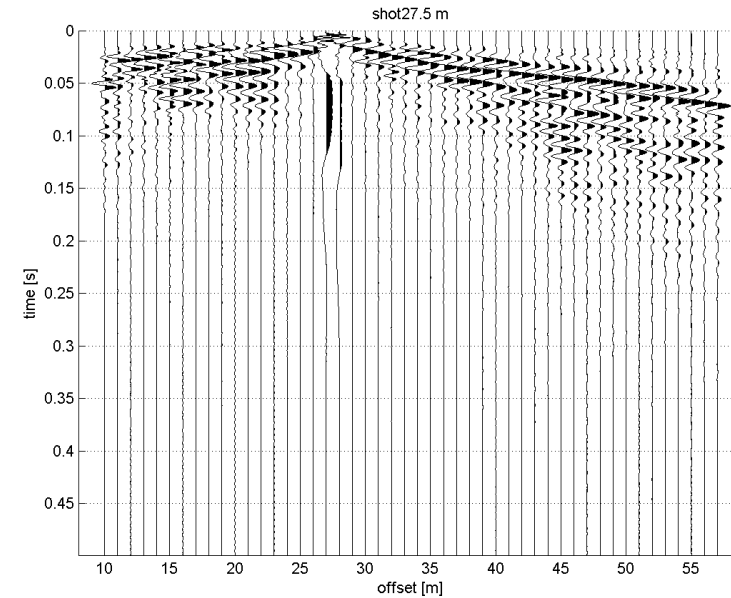
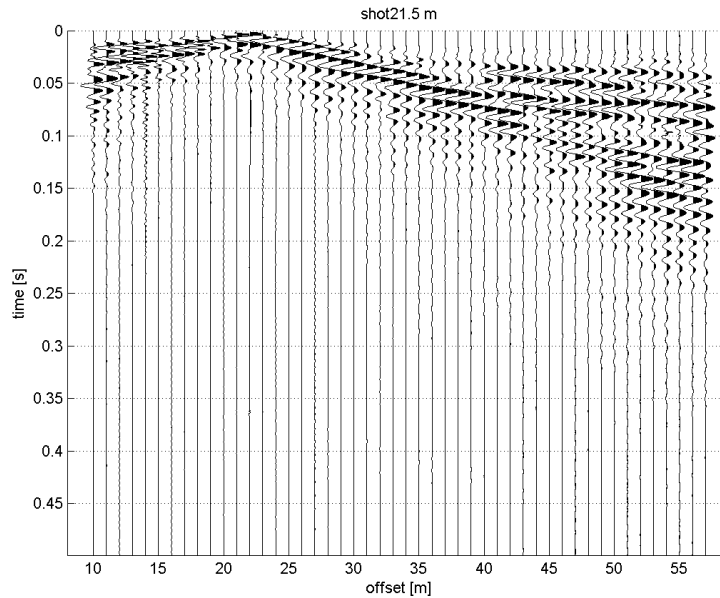
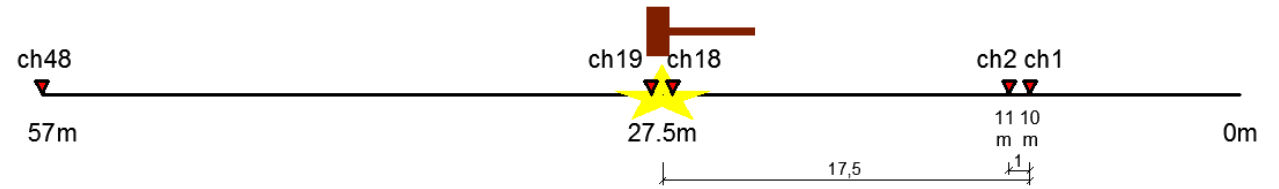
**File number: 232 (10 stack)**

Shot: 21.5 m



**File number: 233 (10 stack)**

Shot: 27.5 m

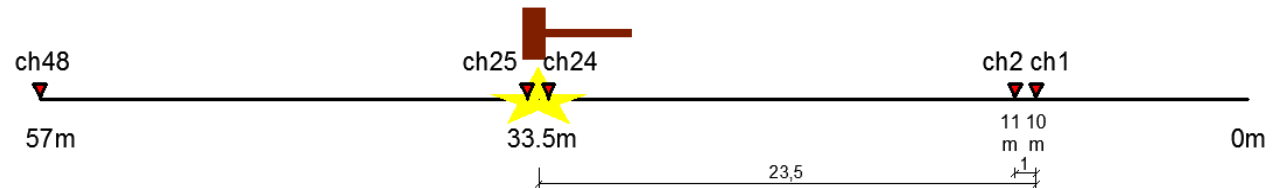




**folder: CAD\_AP\_100cm\_ref**  
**Survey: active P waves – Line 1**

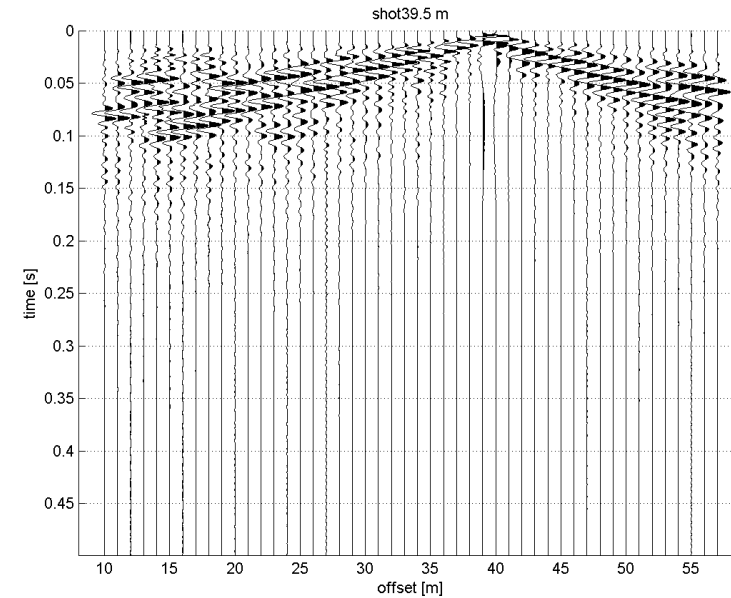
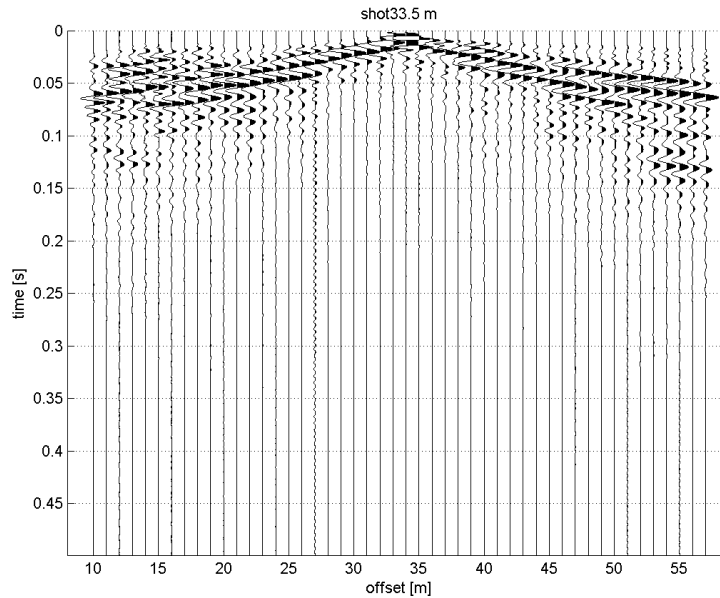
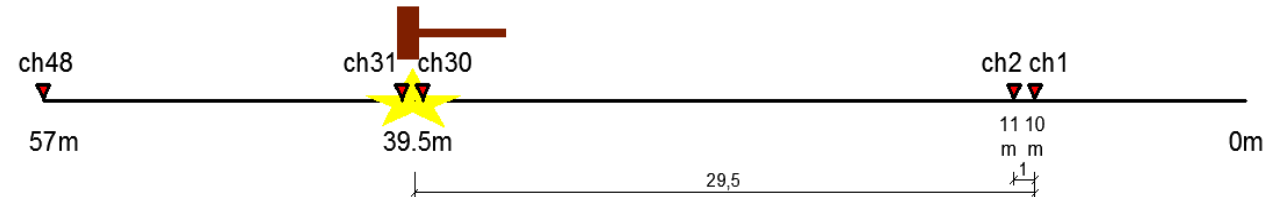
**File number: 234 (10 stack)**

Shot: 33.5 m



**File number: 235 (10 stack)**

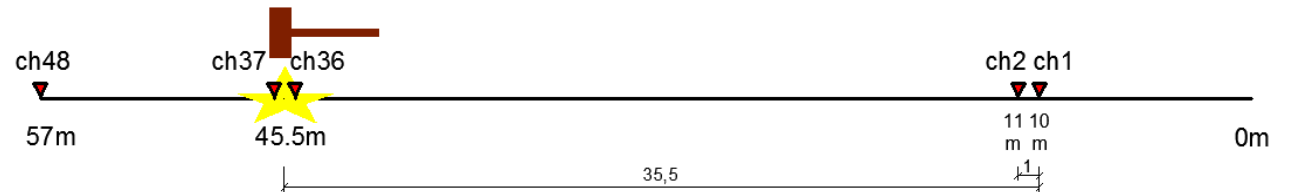
Shot: 39.5 m



**folder: CAD\_AP\_100cm\_ref**  
**Survey: active P waves – Line 1**

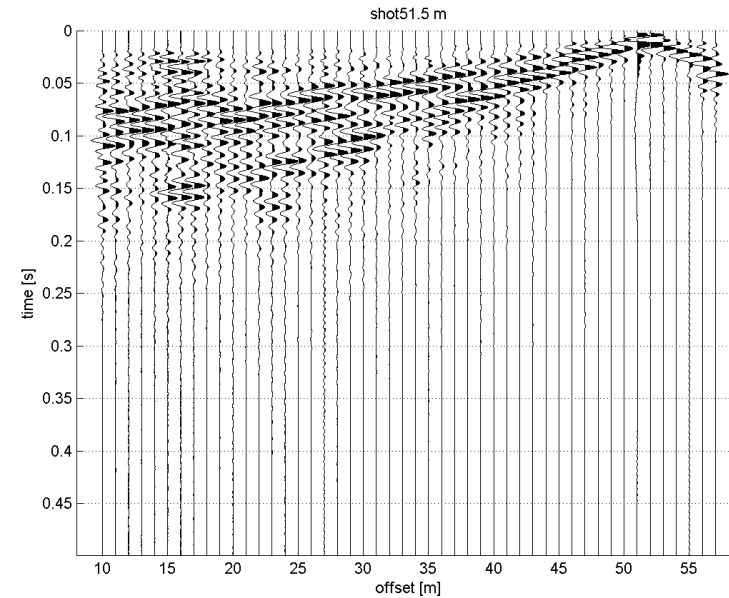
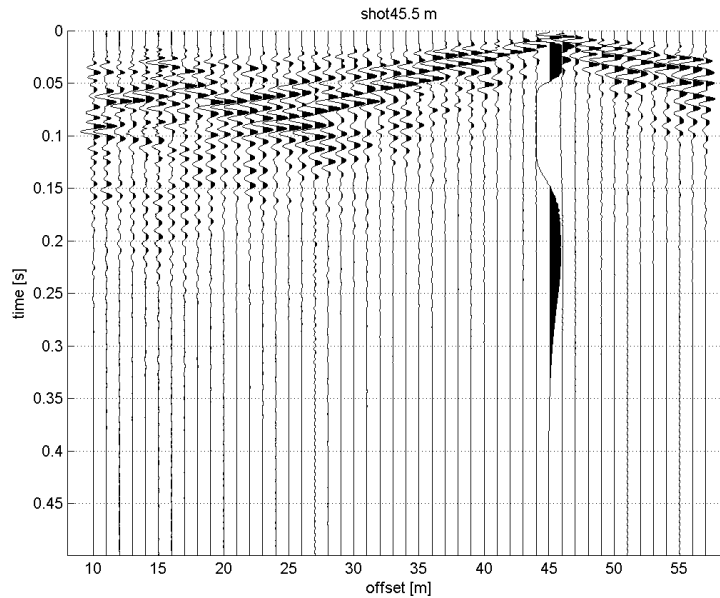
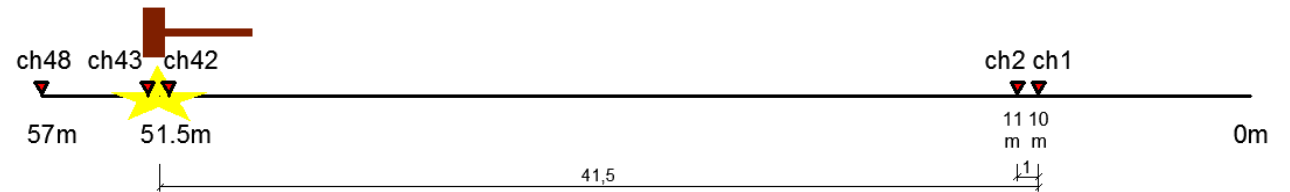
**File number: 236 (10 stack)**

Shot: 45.5 m



**File number: 237 (10 stack)**

Shot: 51.5 m



**folder: CAD\_AP\_50cm\_masw**  
**Survey: active P waves – Line 1**

Seismograph: Geode (Geometrics)  
Geophones: vertical geophones (4.5 Hz)  
Source: 8-Kg sledgehammer

Acquisition parameters:

T = 2000 ms

$\Delta t = 1$  ms

Pretrig= -250 ms

$\Delta x = 0.5$  m

Number of channels = 48

1° channel = 22 m

Last channel = 45.5 m

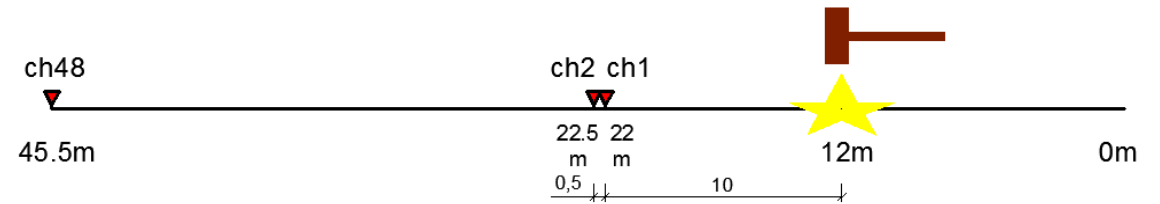
**NOTE: -**

File number	Shot location [m]	note
300 – 309	12	
310 – 325	18	Wrong shot location in the files
326 – 337	49.5	
338 – 352	55.5	

**folder: CAD\_AP\_50cm\_masw**  
**Survey: active P waves – Line 1**

**File number:300 – 309**

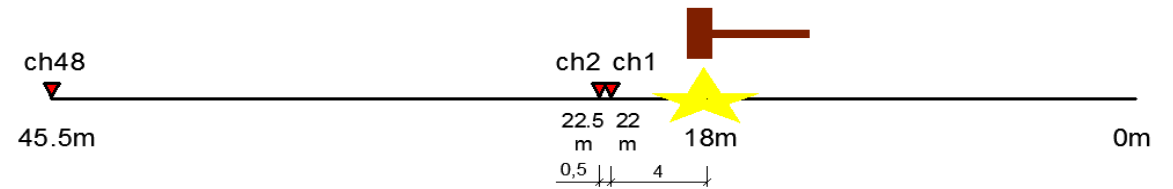
Shot: 12 m



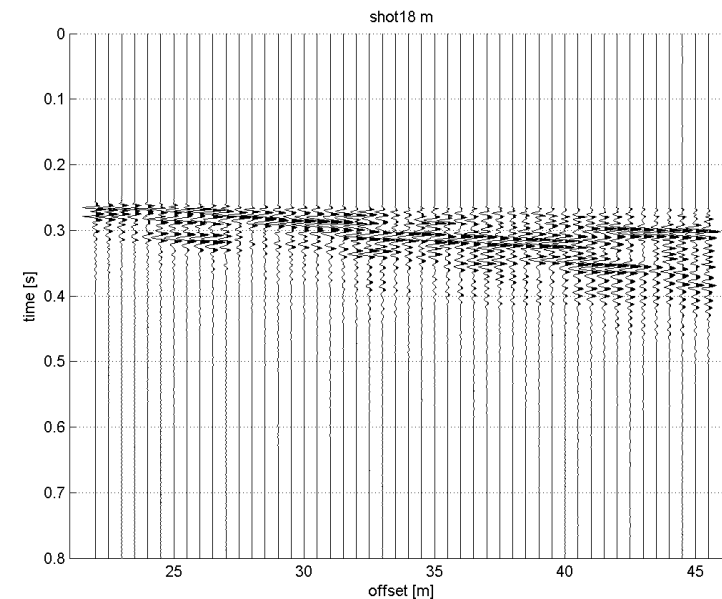
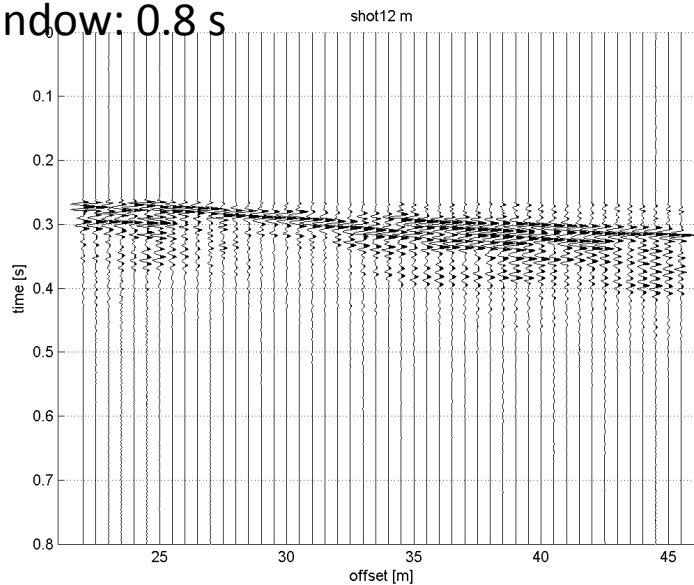
**File number:310 – 325**

Shot: 18 m

**Warning: wrong shot location in the file**



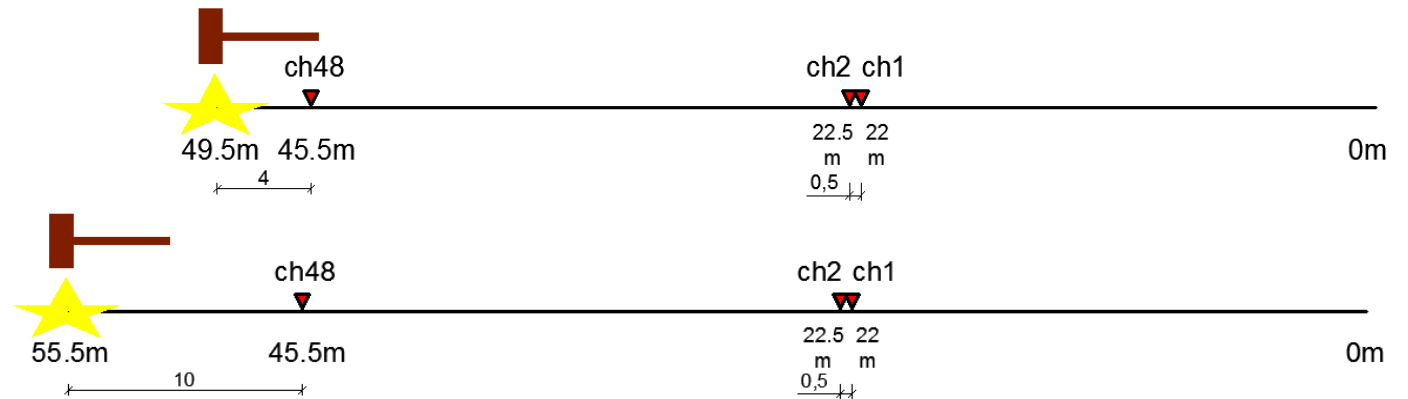
Display time window: 0.8 s



**folder: CAD\_AP\_50cm\_masw**  
**Survey: active P waves – Line 1**

**File number:326 – 337**

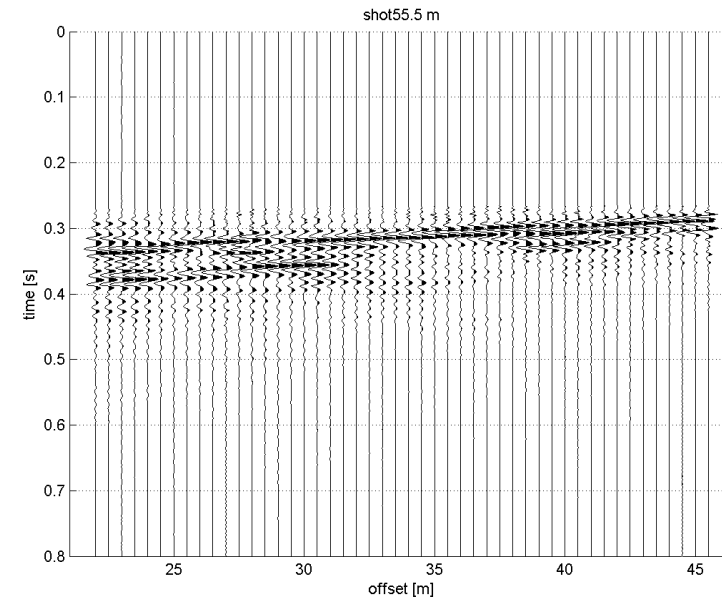
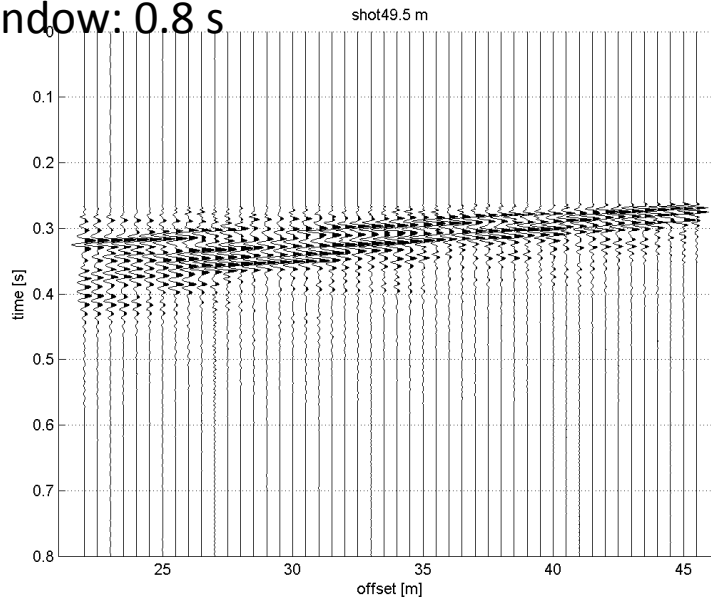
Shot: 49.5 m



**File number:338 – 352**

Shot: 55.5 m

Display time window: 0.8 s



**folder: CAD\_NO\_50cm**

**Survey: active P waves – Line 1**

Seismograph: Geode (Geometrics)

Geophones: vertical geophones (4.5 Hz)

Source: Ambient Noise

Acquisition parameters:

T = 262 s

$\Delta t = 4$  ms

Pretrig= 0 ms

$\Delta x = 0.5$  m

Number of channels = 48

1° channel = 22 m

Last channel = 45.5 m

**NOTE:** -

File number	Shot location [m]	note
353 – 355	-	

folder: CAD\_NO\_50cm  
Survey: active P waves – Line 1

File number: 353 - 355

