Supplement of Solid Earth, 10, 379–390, 2019
https://doi.org/10.5194/se-10-379-2019-supplement

Solid Earth Open Access EGU

Supplement of

Calibrating a new attenuation curve for the Dead Sea region using surface wave dispersion surveys in sites damaged by the 1927 Jericho earthquake

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Supplementary Data

Report of

MASW Test

Project Data	
Date:	30.5.16
Site:	Acre
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

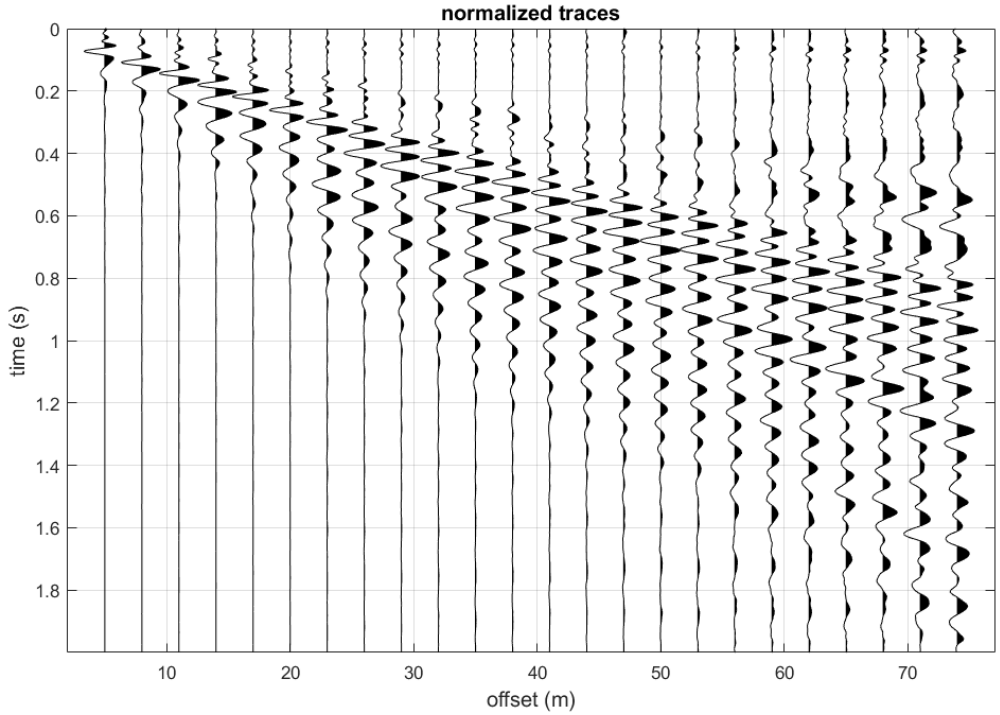
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	32.9360	35.0818	4

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-20, -15, -10, -5, +5, +10, +15,+20
Record length:	2 Sec
Sampling interval:	0.125 millisecond

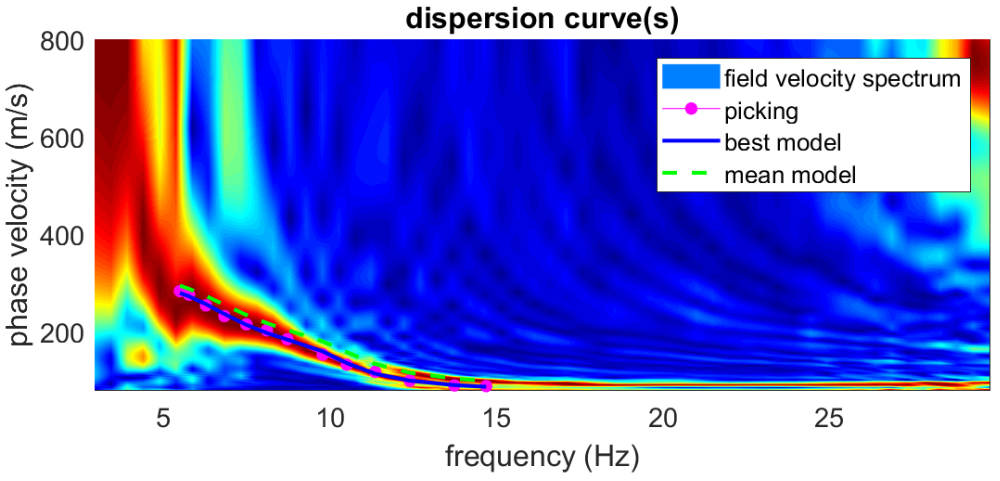
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

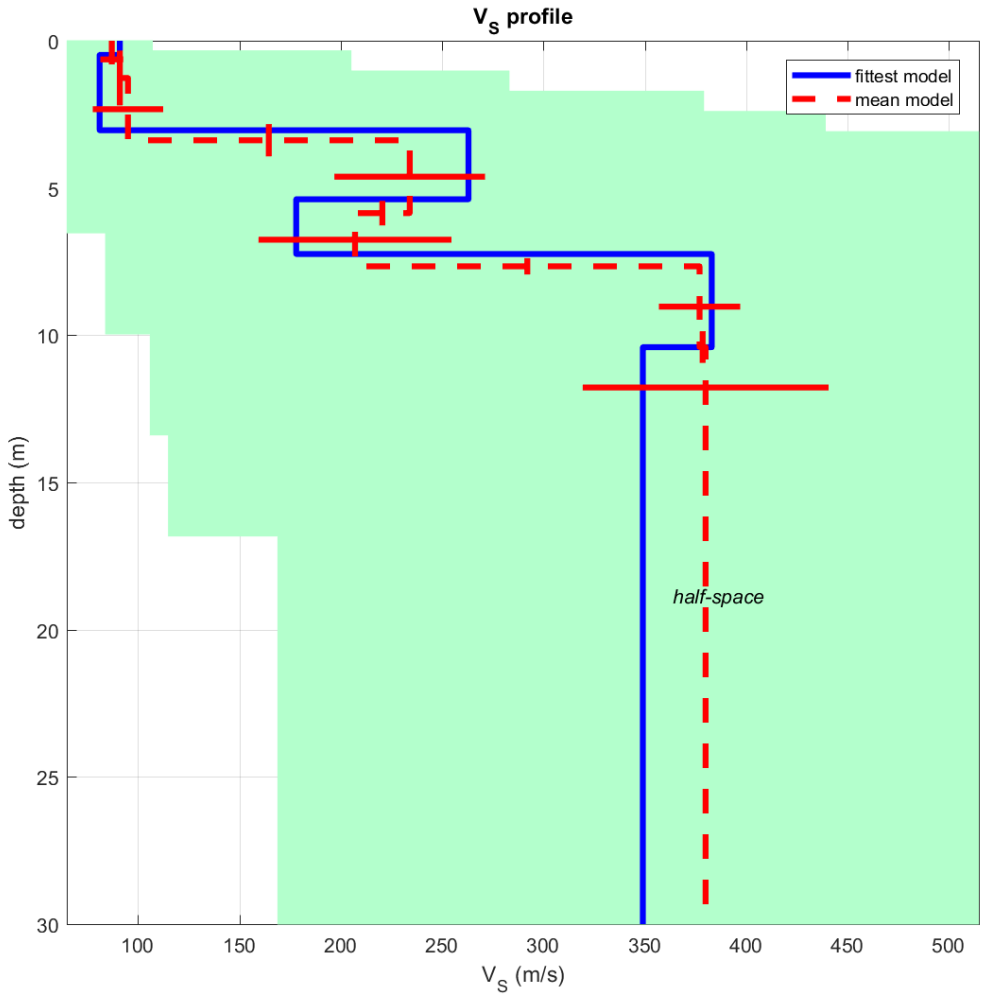
Raw data



Dispersion curve



Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	1.3±0.9	1.6	87±6
2	2.1±0.5	1.6	95±17
3	2.5±0.4	1.9	234±37
4	1.8±0.3	1.9	207±48
5	2.7±0.5	2.0	377±20
Half-space	∞	2.0	380±61
		$V_{S,30}$ (m/s)	261±33

Map

Report of

MASW Test

Project Data	
Date:	7.4.16
Site:	Ashkelon
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

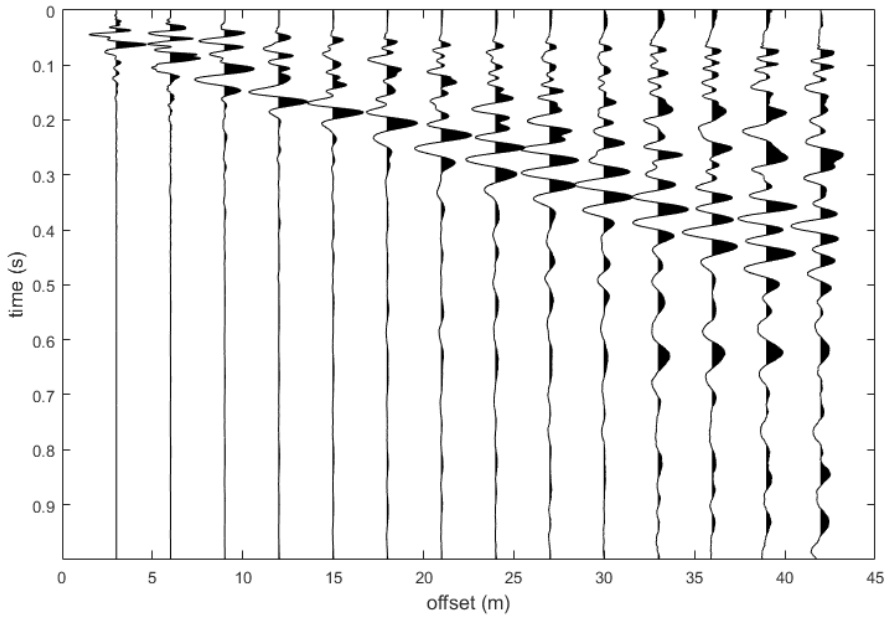
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	31.6571	34.5765	36

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-19, -15, -10, -5, -3, -1, +5, +10, +15,+20
Record length:	1 Sec
Sampling interval:	0.125 millisecond

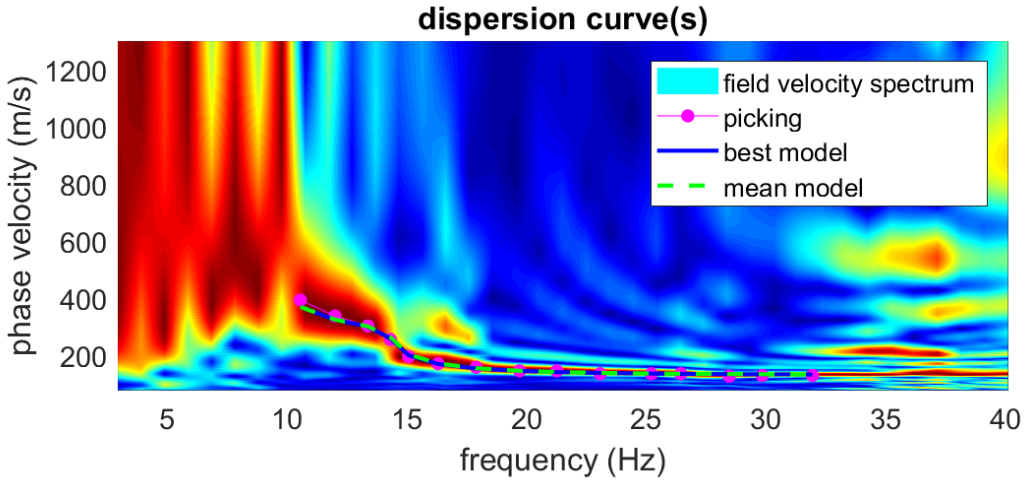
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

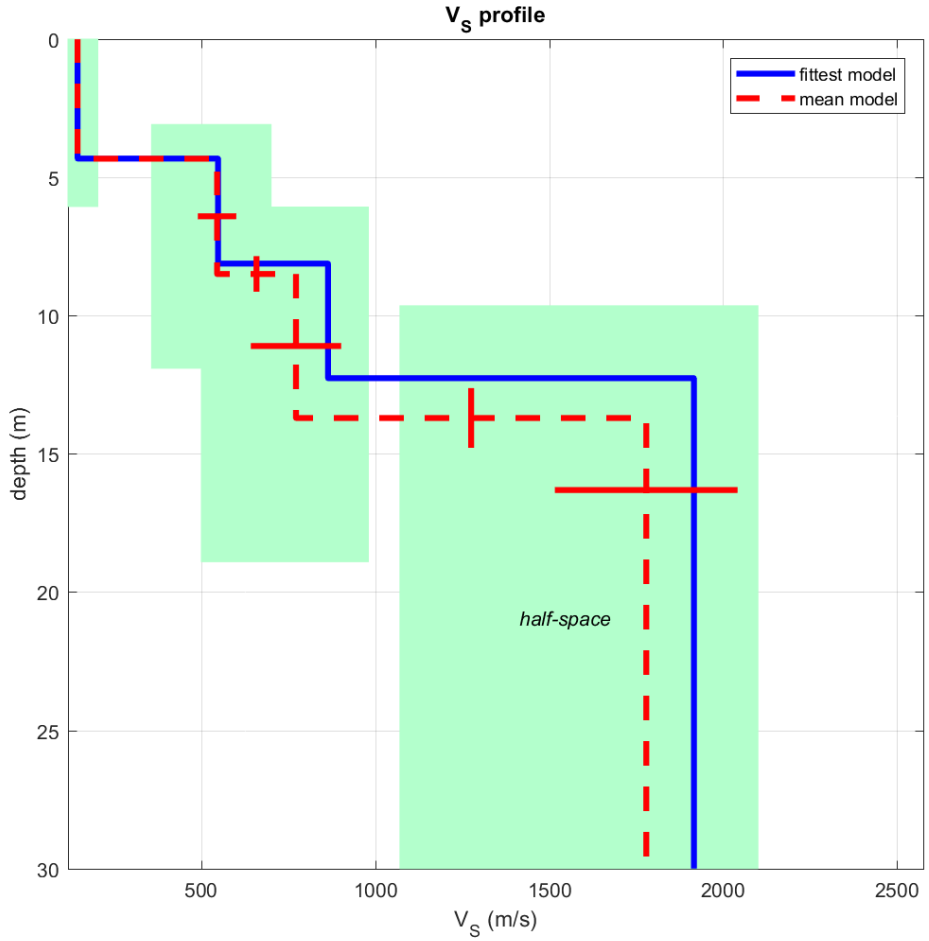
Raw data



Dispersion curve



Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	4.3±0.0	1.7	144±5
2	4.2±0.6	2.1	545±55
3	5.2±1.1	2.2	772±130
Half-space	∞	2.3	1779±263
		$V_{S,30}$ (m/s)	561±29

Map

Report of

MASW Test

Project Data	
Date:	15.3.16
Site:	Be’er Sheva
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

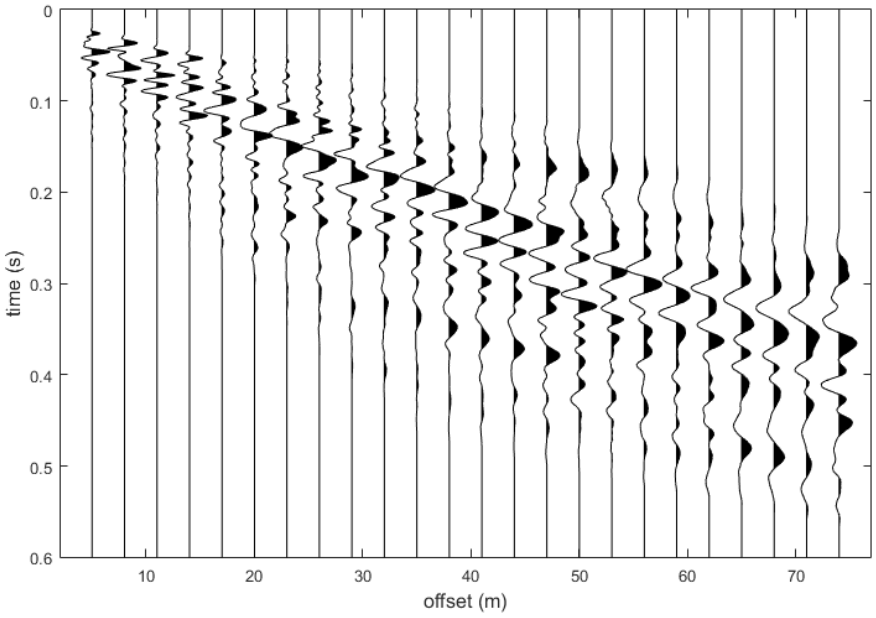
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	31.2320	34.8136	274

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-25, -20, -15, -10, -5
Record length:	1 Sec
Sampling interval:	0.125 millisecond

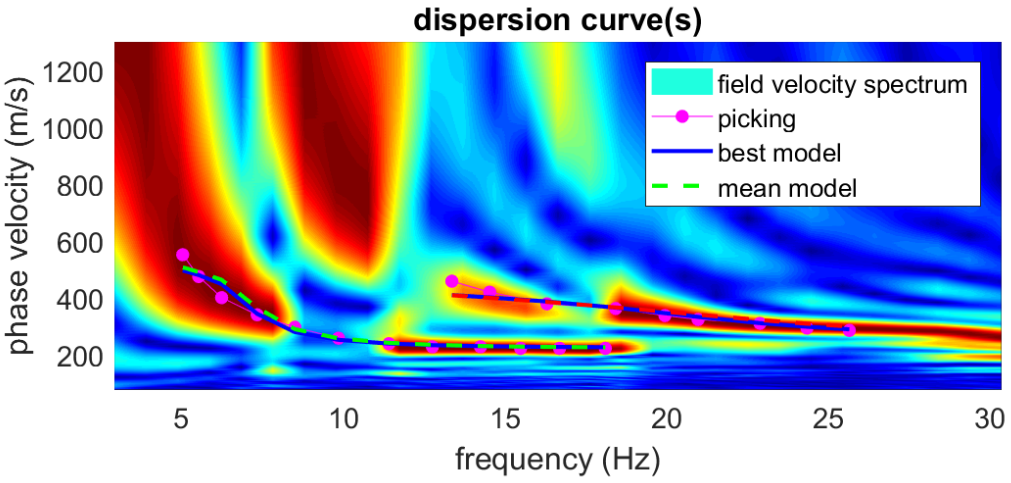
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

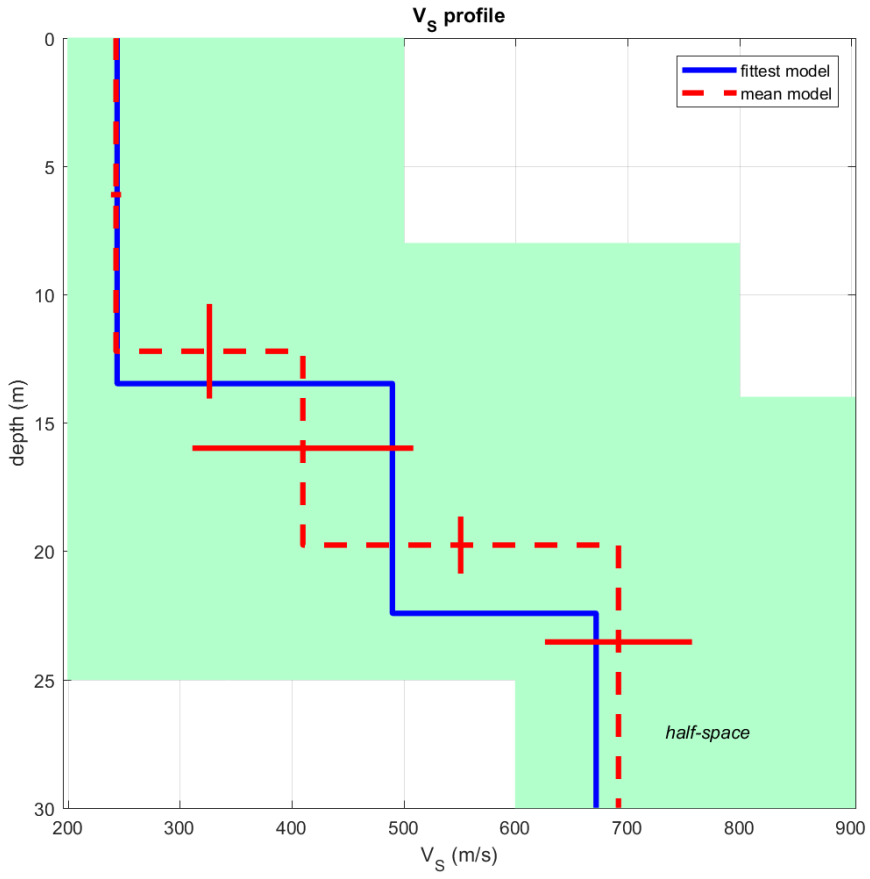
Raw data



Dispersion curve



Shear wave velocity profile



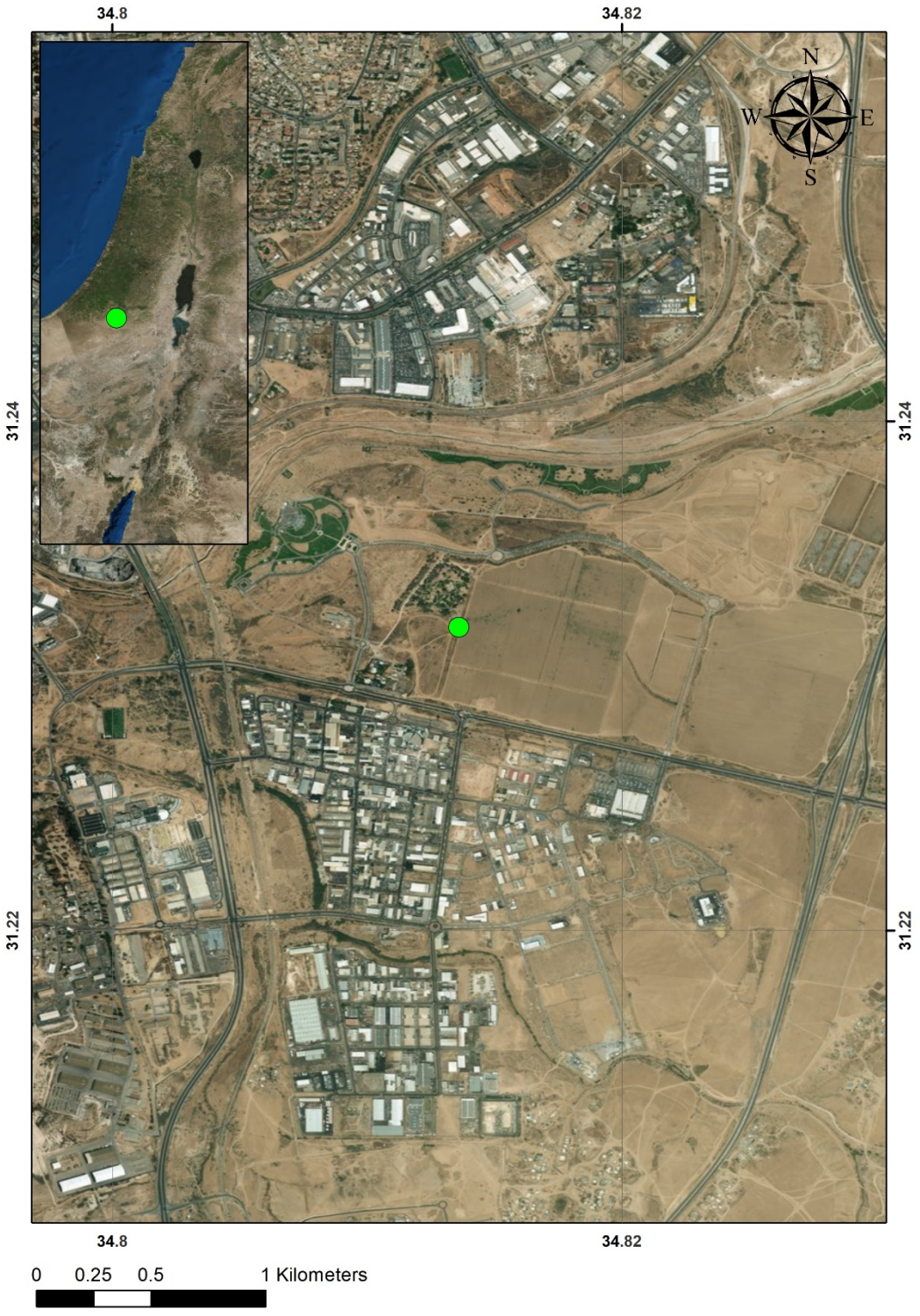
Light green area - the constraints of the model.

Conclusions

Shear wave velocity model – Line 1

Layer	Thickness (m)	Density (kg/m^3)	V_S (m/s)
1	12.2±1.8	1.9	243±5
2	7.6±1.1	2.0	410±99
Half-space	∞	2.1	692±66
		$V_{S,30}$ (m/s)	359±27

Map



Report of

MASW Test

Project Data	
Date:	29.5.16
Site:	Beit Alfa
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

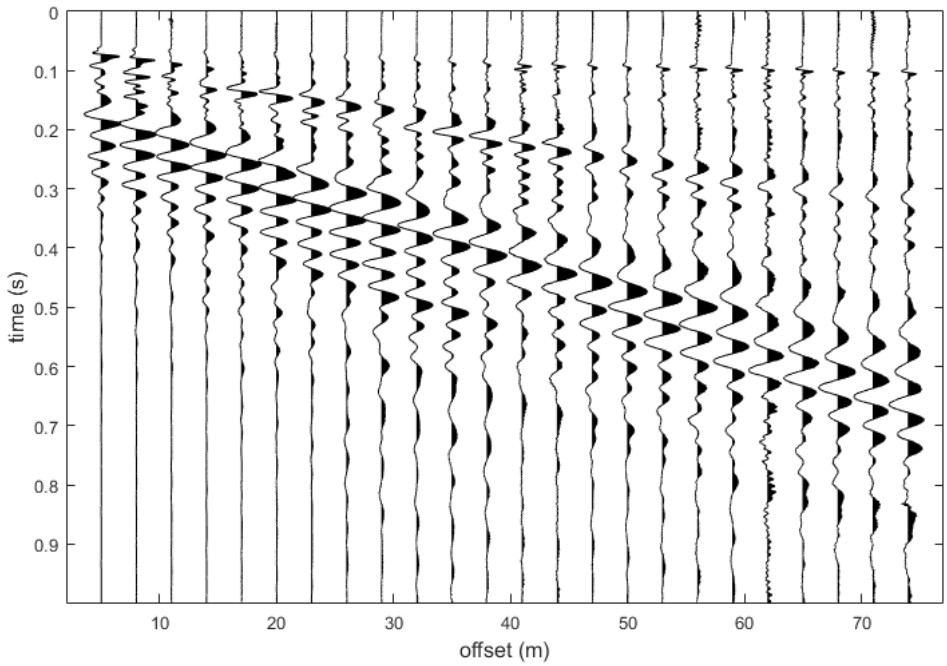
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	32.5217	35.4222	85

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-20, -15, -10, -5, +5, +10, +15, +20
Record length:	1 Sec
Sampling interval:	0.125 millisecond

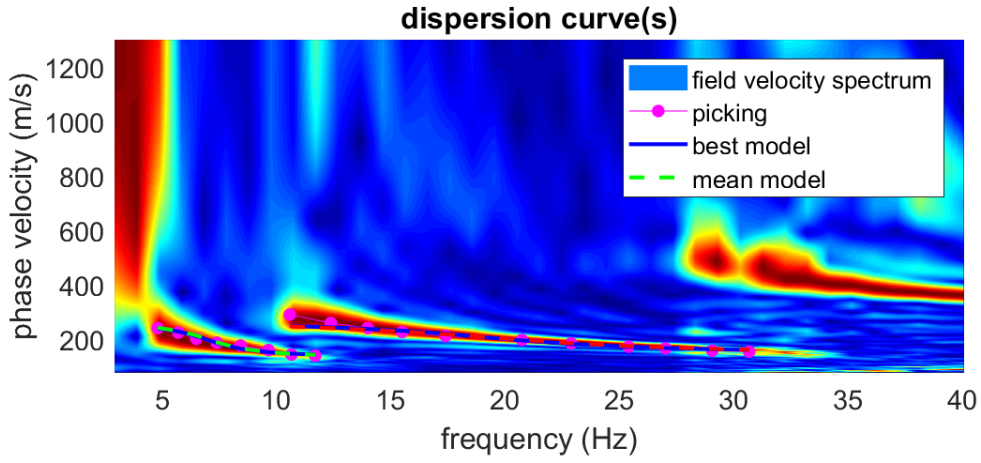
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

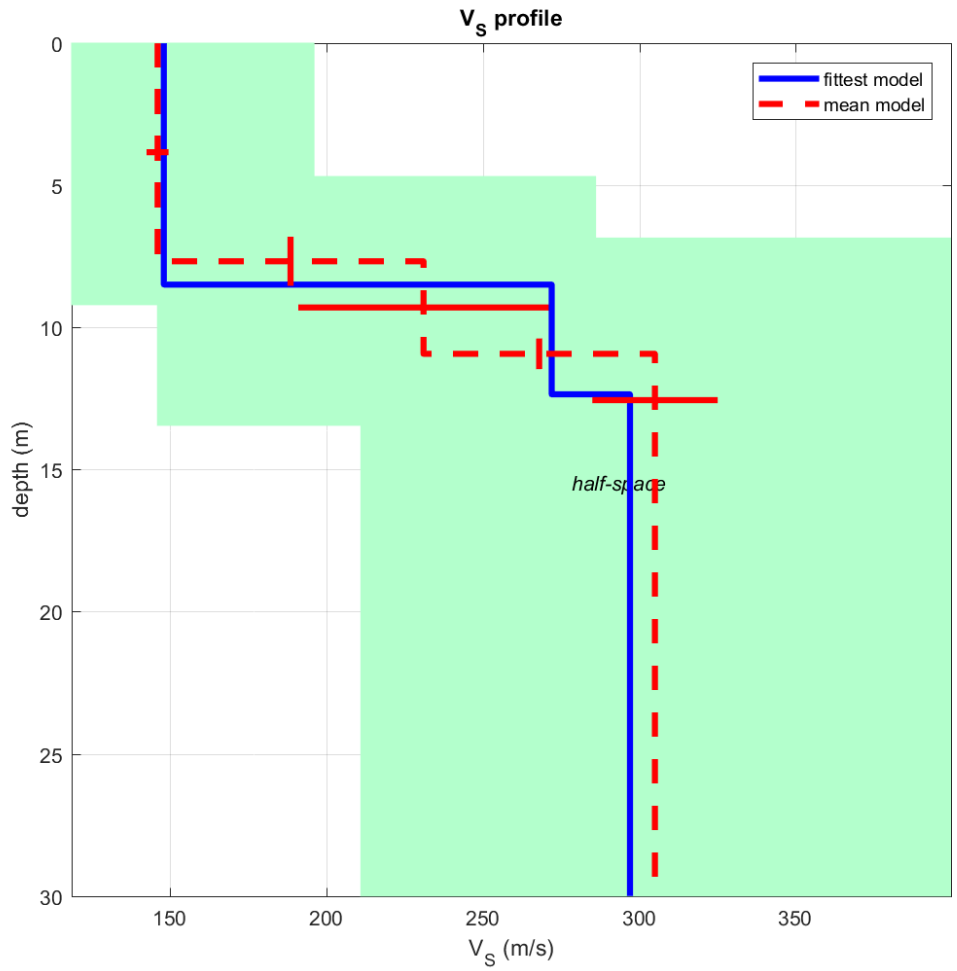
Raw data



Dispersion curve



Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	7.7±0.9	1.8	146±4
2	3.3±0.5	1.9	231±40
Half-space	∞	1.9	305±20
		$V_{S,30}$ (m/s)	232±14

Map

Report of

MASW Test

Project Data	
Date:	27.2.16
Site:	Beit Hackerem
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

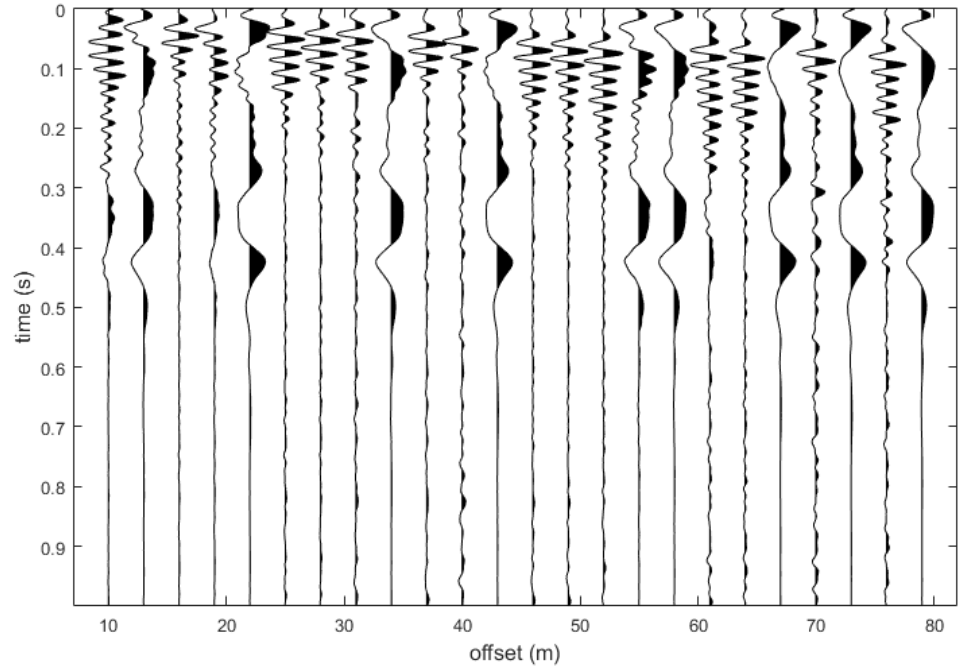
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	31.7756	35.1976	780

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-15, -10, -5, +8, +10, +16, +20
Record length:	1 Sec
Sampling interval:	0.125 millisecond

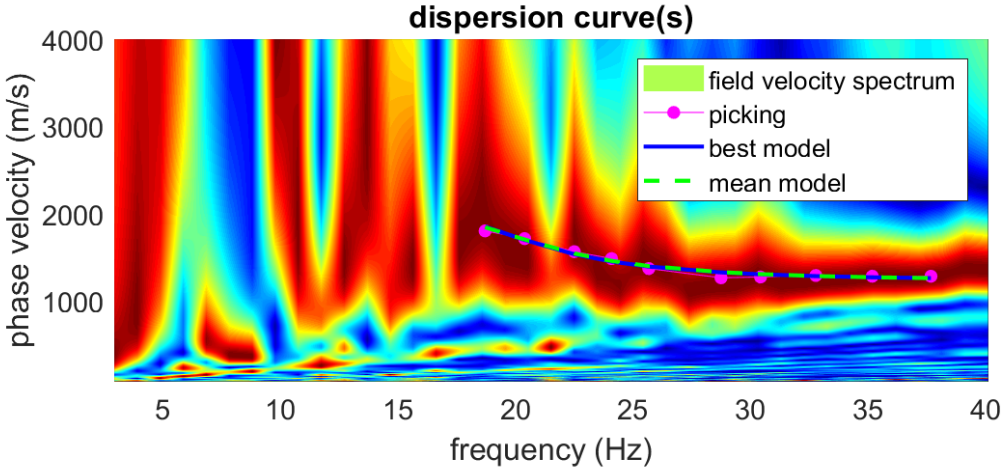
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

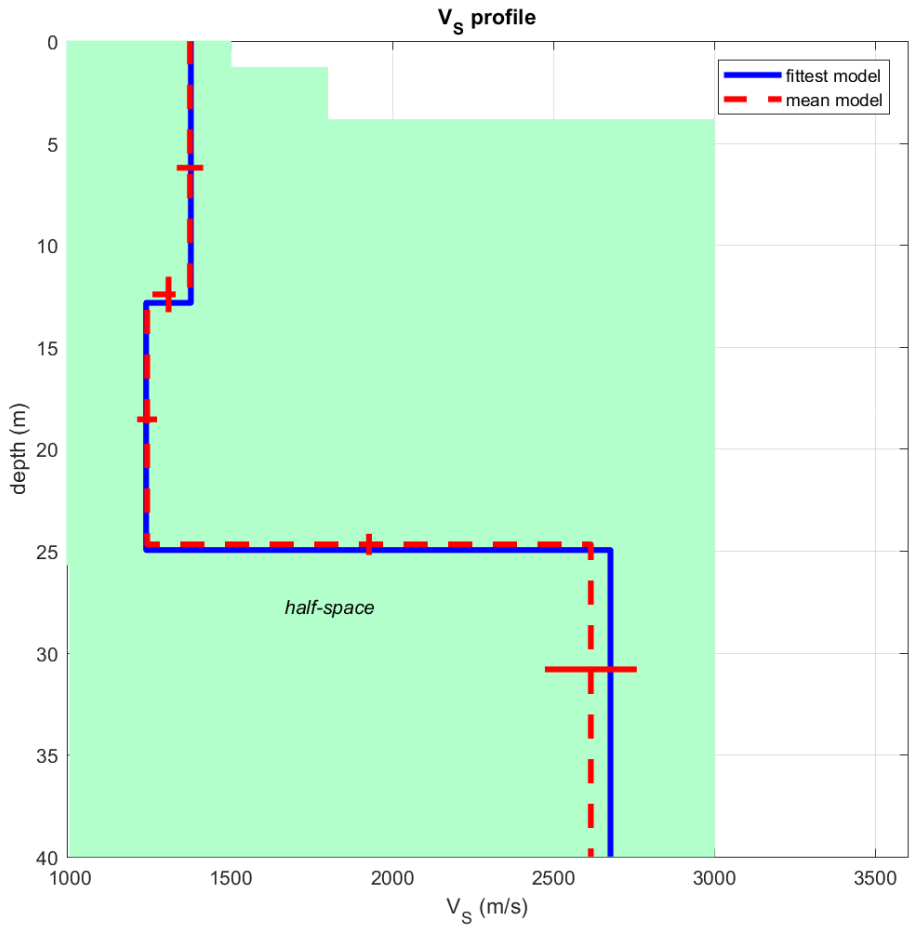
Raw data



Dispersion curve



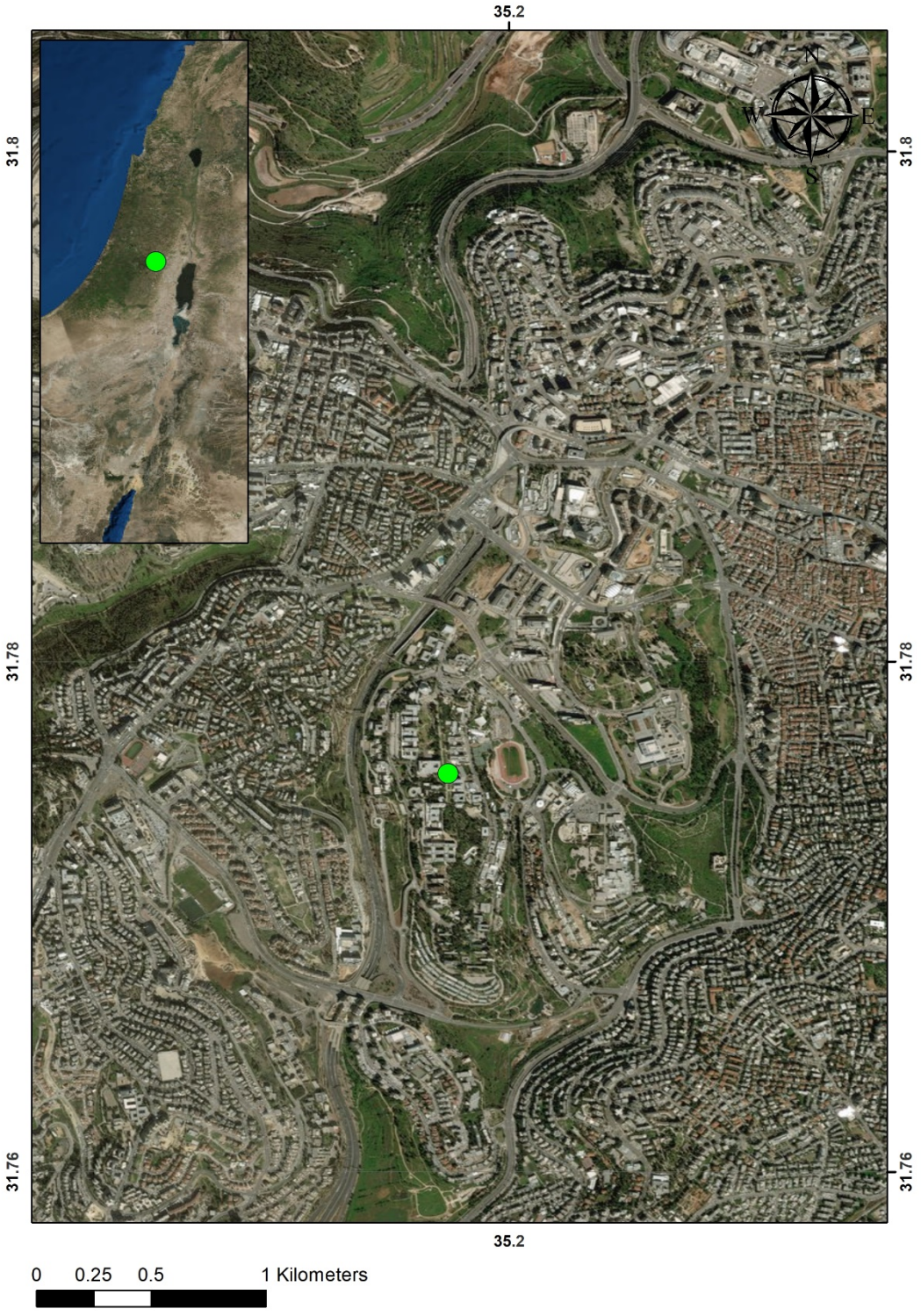
Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	8.5±0.5	2.3	1472±105
2	9.3±0.8	2.3	1169±130
3	9.2±0.9	2.3	1548±286
Half-space	∞	2.5	2469±218
		$V_{S,30}$ (m/s)	1436±170

Map



Report of

MASW Test

Project Data	
Date:	24.7.16
Site:	Binyamina
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

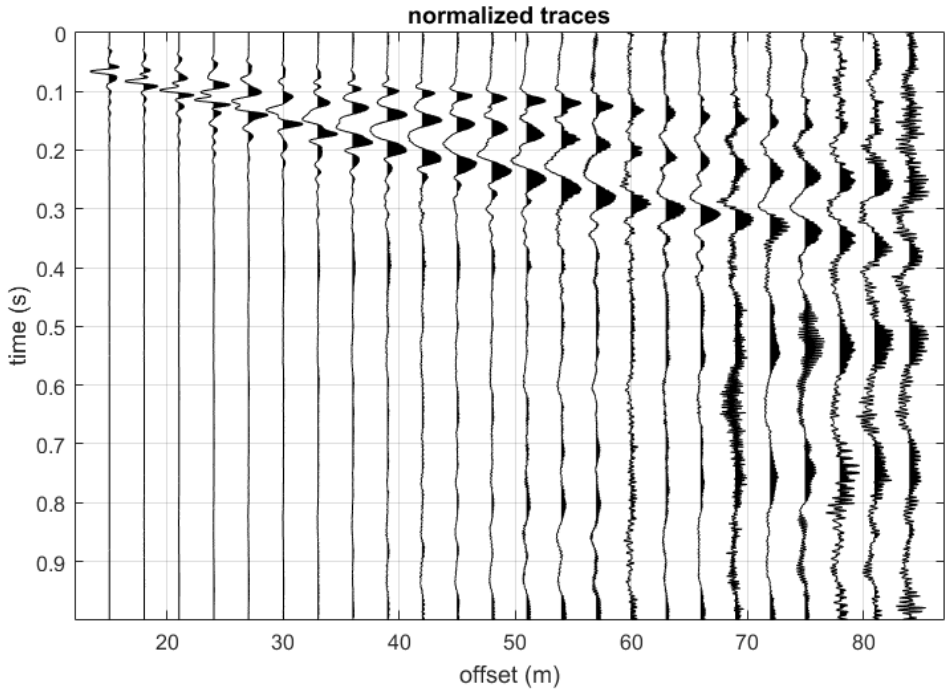
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	32.5133	34.9434	27

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-15, -10, -5, -2, +5, +17, +20, +25, +30
Record length:	1 Sec
Sampling interval:	1 millisecond

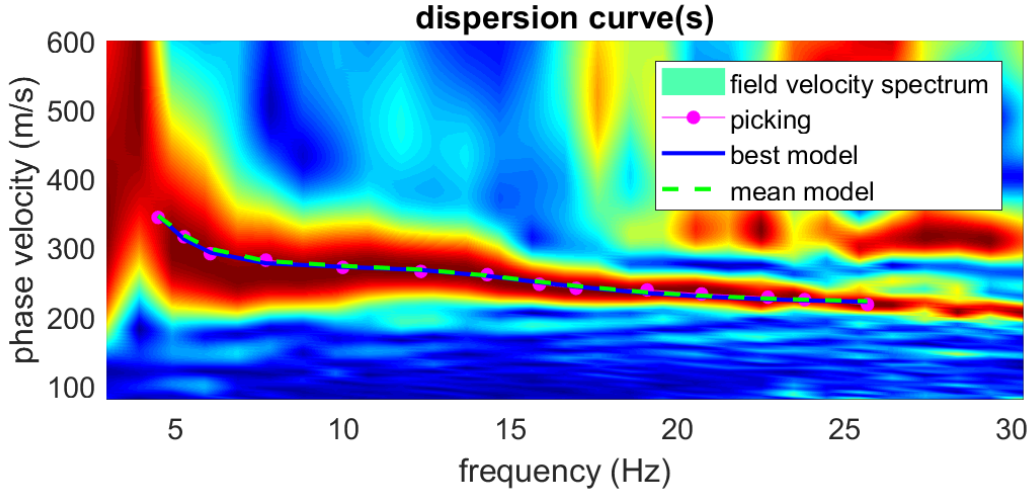
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

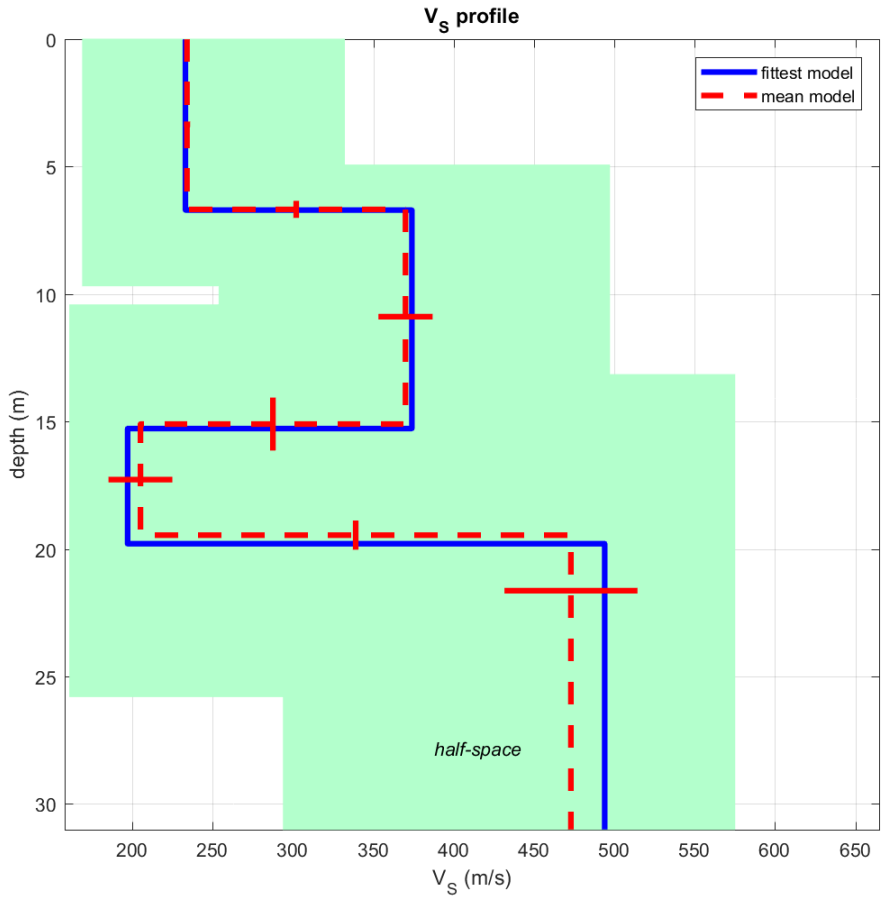
Raw data



Dispersion curve



Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	6.7±0.3	1.9	234±2
2	8.4±1.0	2.0	370±17
3	4.4±0.6	1.8	205±20
Half-space	∞	2.0	473±41
		$V_{S,30}$ (m/s)	316±17

Map

Report of

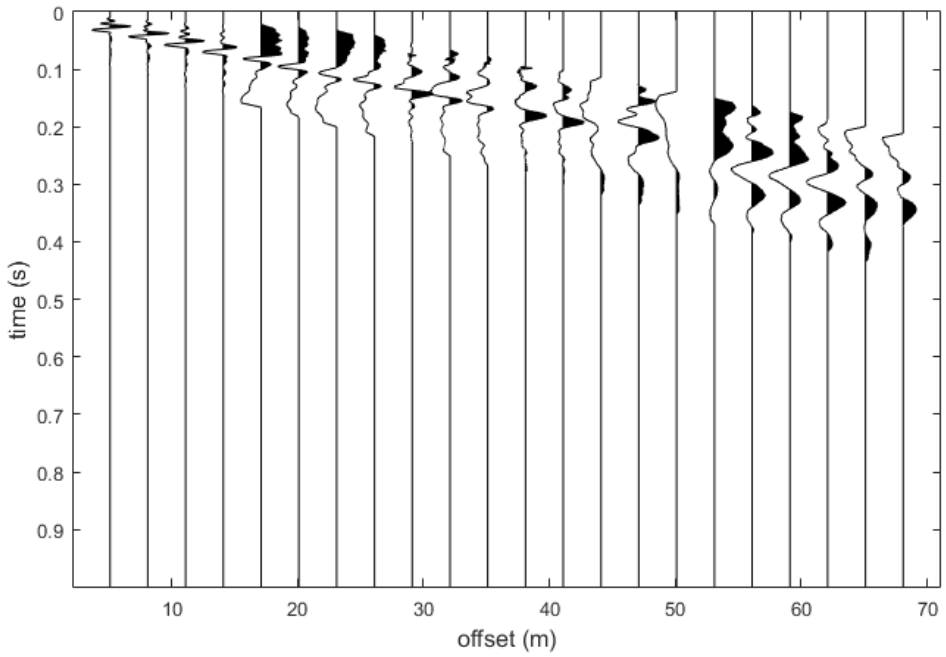
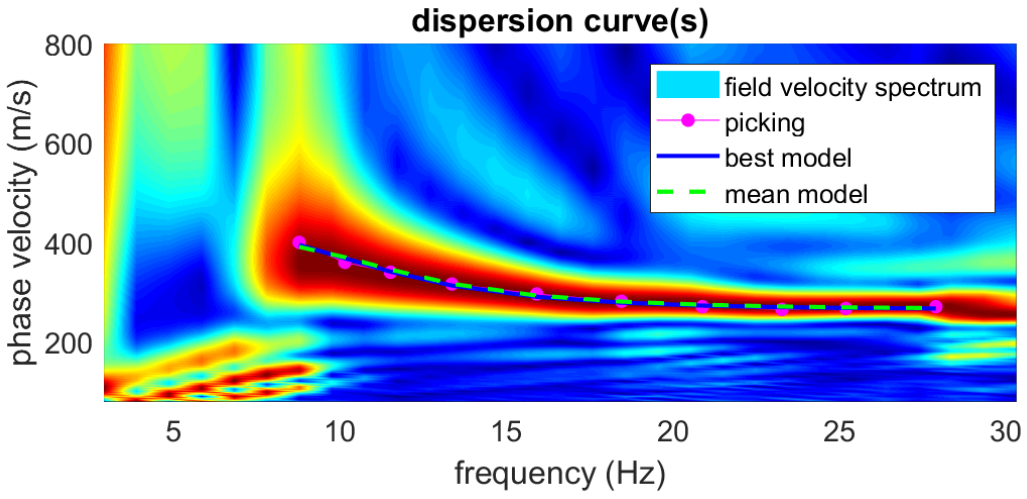
MASW Test

Project Data	
Date:	18.4.16
Site:	Givatayim
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

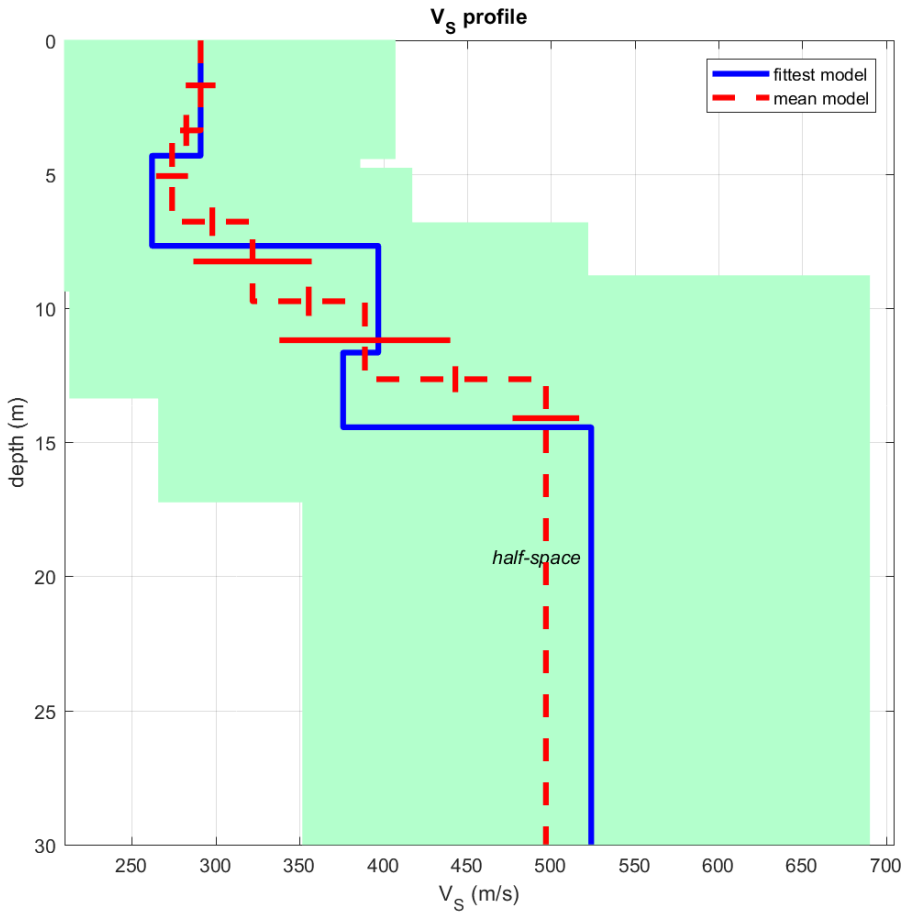
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	32.0582	34.8071	49

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-15, -10, -5, +4.7, +10
Record length:	1 Sec
Sampling interval:	0.125 millisecond

Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results
Raw data

Dispersion curve


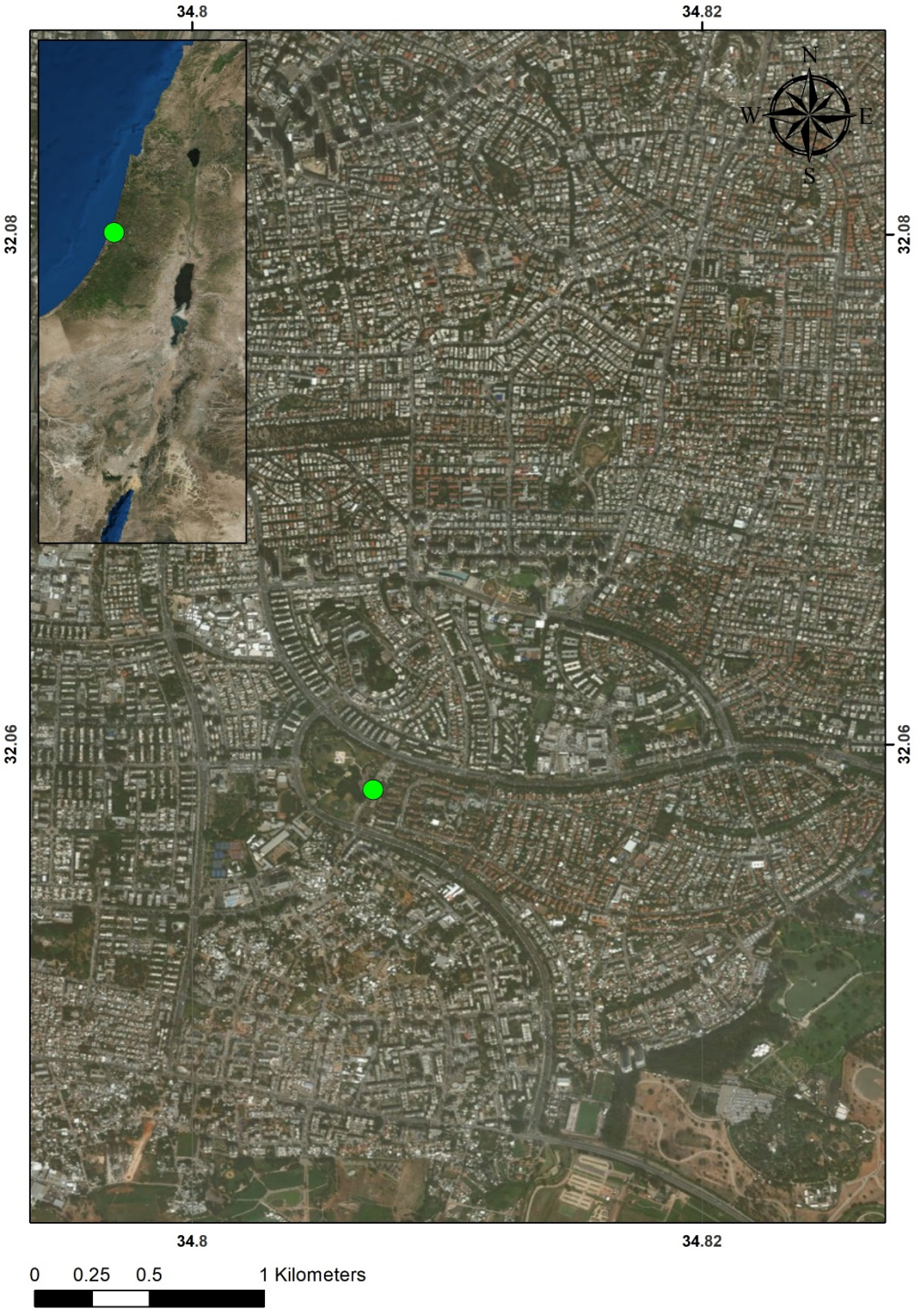
Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	3.4±0.6	1.9	291±9
2	3.4±0.5	1.9	274±10
3	3.0±0.5	1.9	322±35
4	2.9±0.5	2.0	389±51
Half-space	∞	2.0	497±20
		$V_{S,30}$ (m/s)	396±22

Map



Report of

MASW Test

Project Data	
Date:	7.4.16
Site:	Har Toov
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

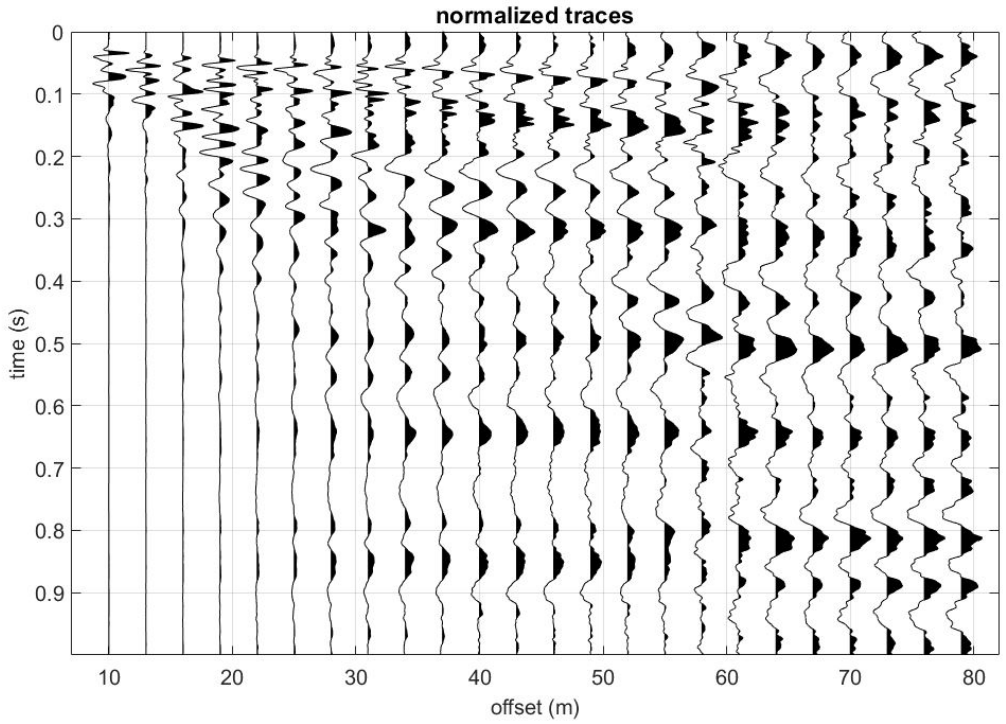
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	31.7611	35.0001	230

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-15, -10, -5, +5, +10, +15, +20
Record length:	1 Sec
Sampling interval:	0.125 millisecond

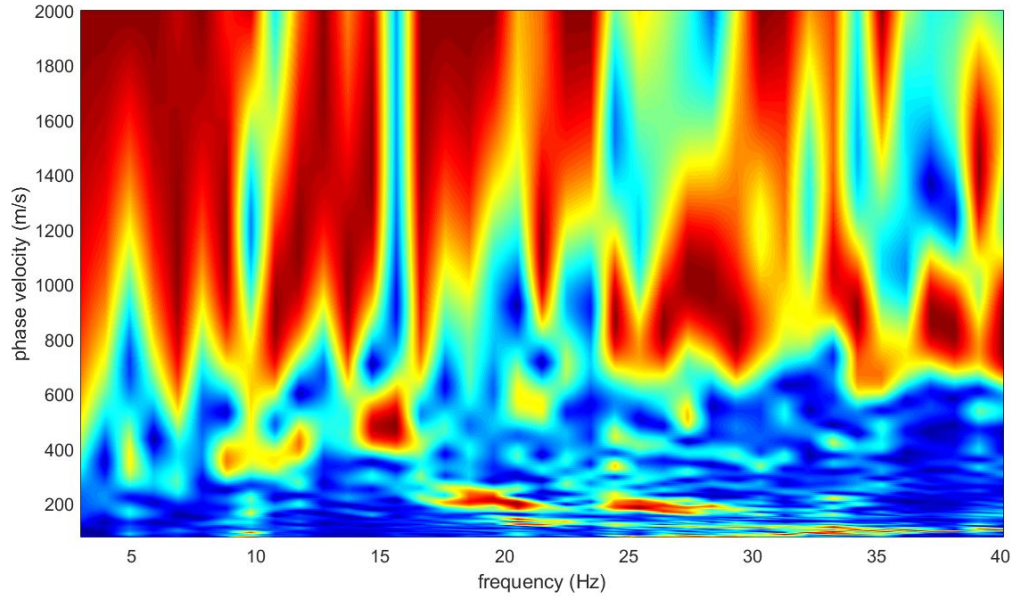
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

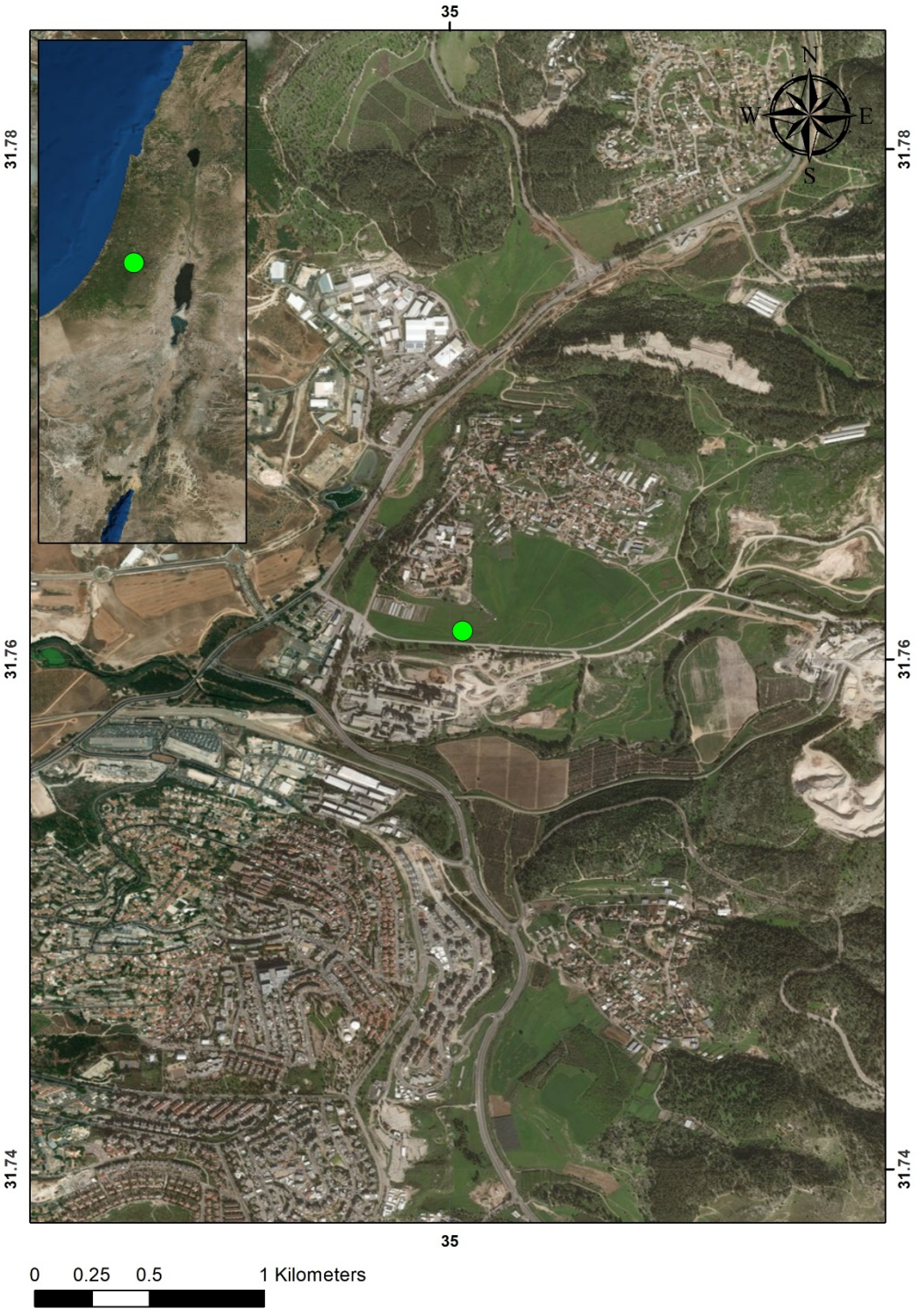
Raw data



Dispersion curve



Map



Report of

MASW Test

Project Data	
Date:	18.4.16
Site:	Herzliya
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

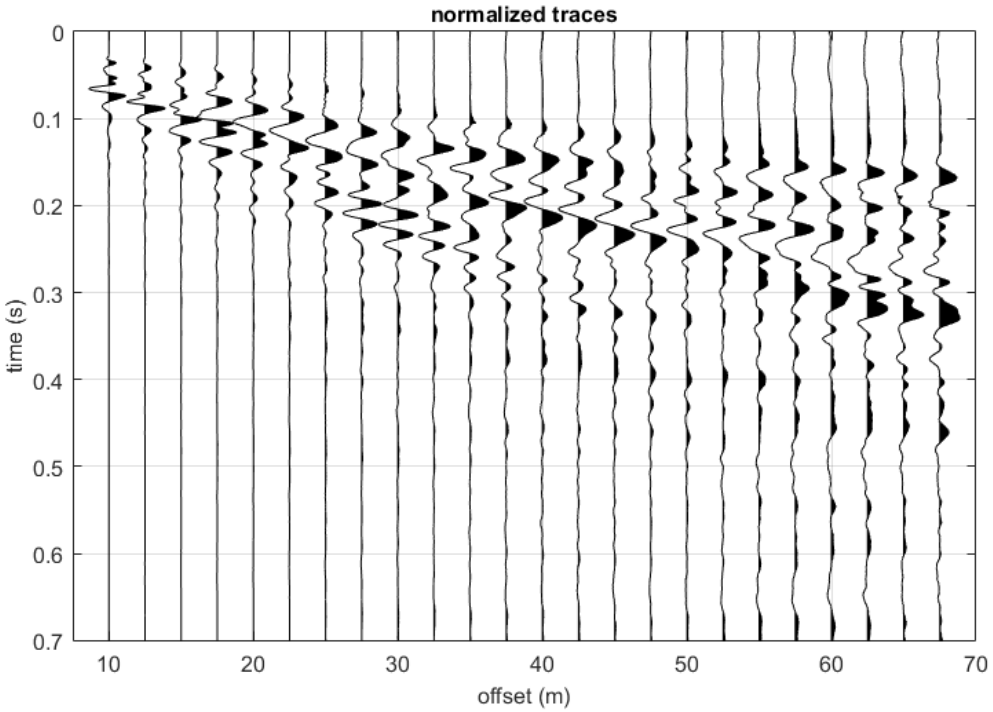
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	32.1544	34.8315	37

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	2.5 [m]
Line length:	57.5 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-15, -10, -5, +5, +10, +15
Record length:	1 Sec
Sampling interval:	0.125 millisecond

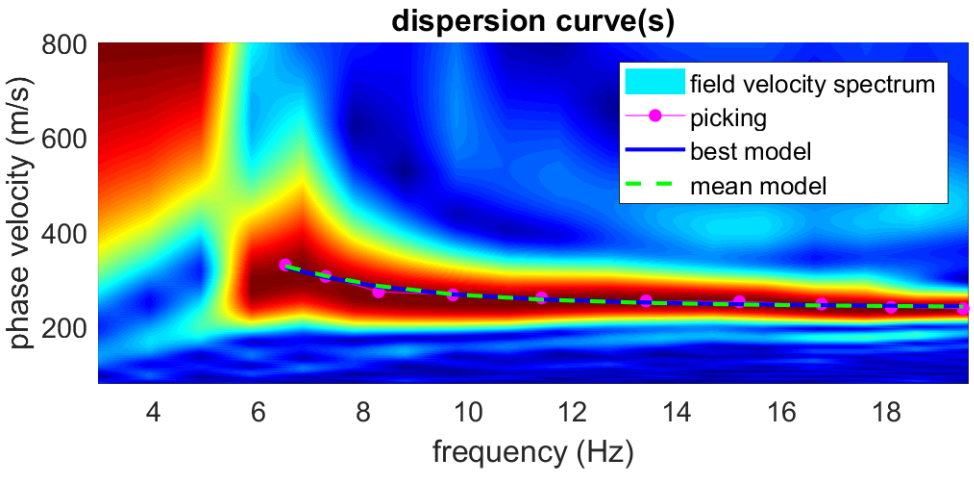
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

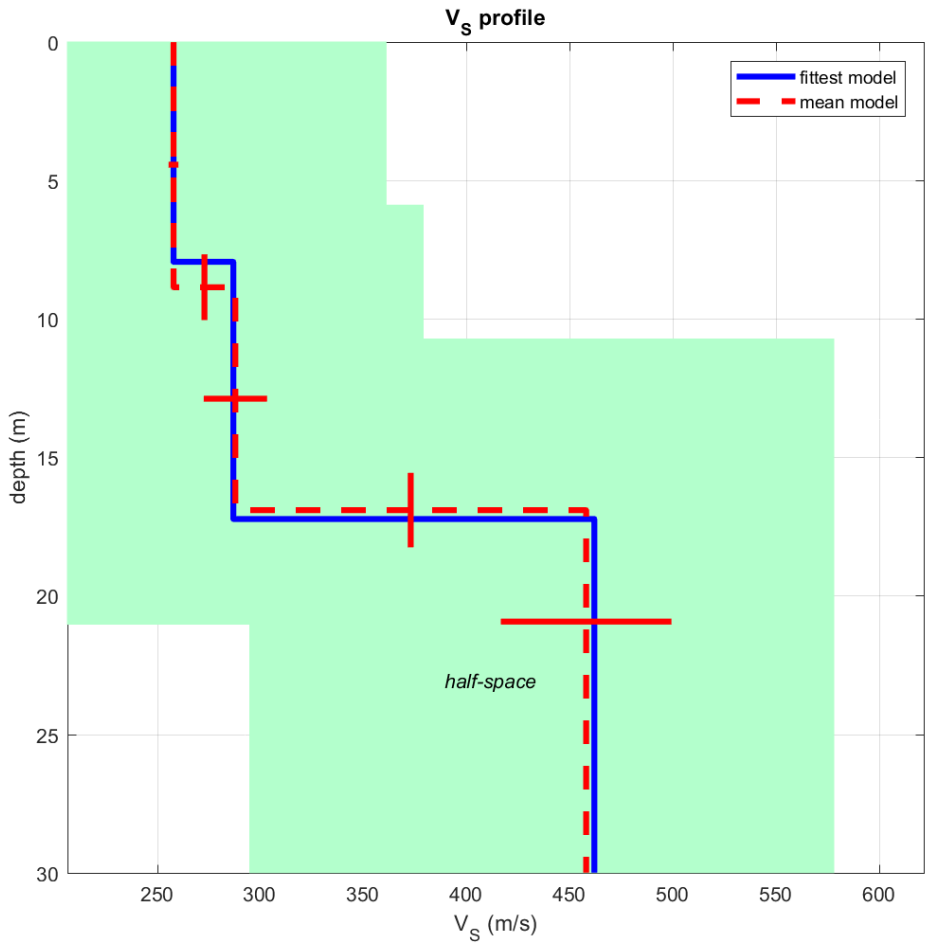
Raw data



Dispersion curve



Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	8.9±1.2	1.9	258±2
2	8.1±1.3	1.9	288±15
Half-space	∞	2.0	458±41
		$V_{S,30}$ (m/s)	330±15

Map

Report of

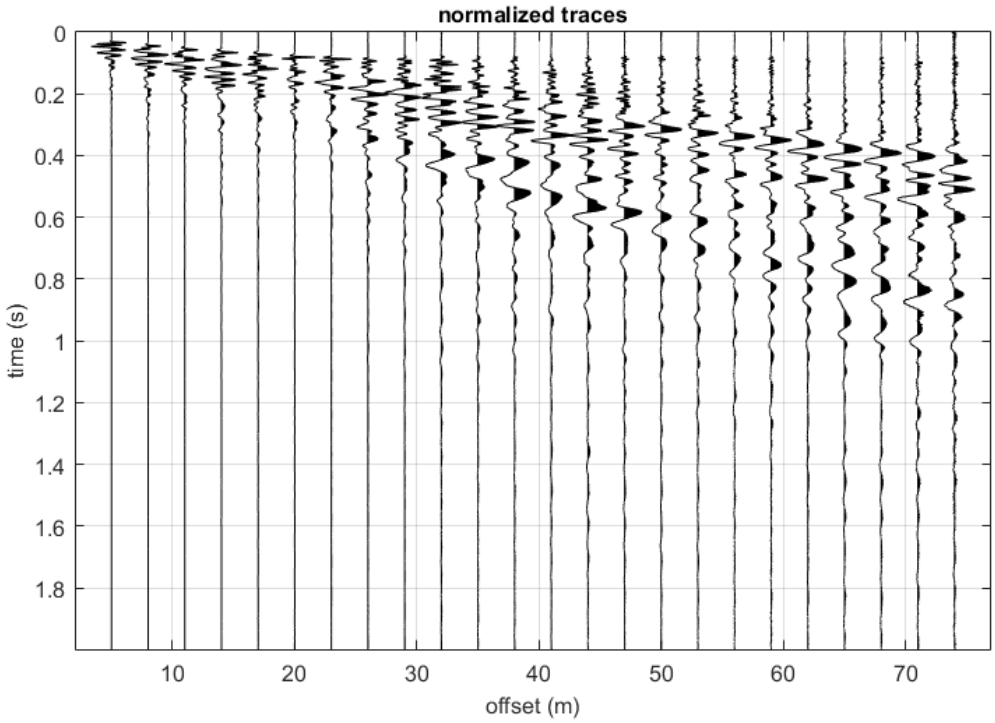
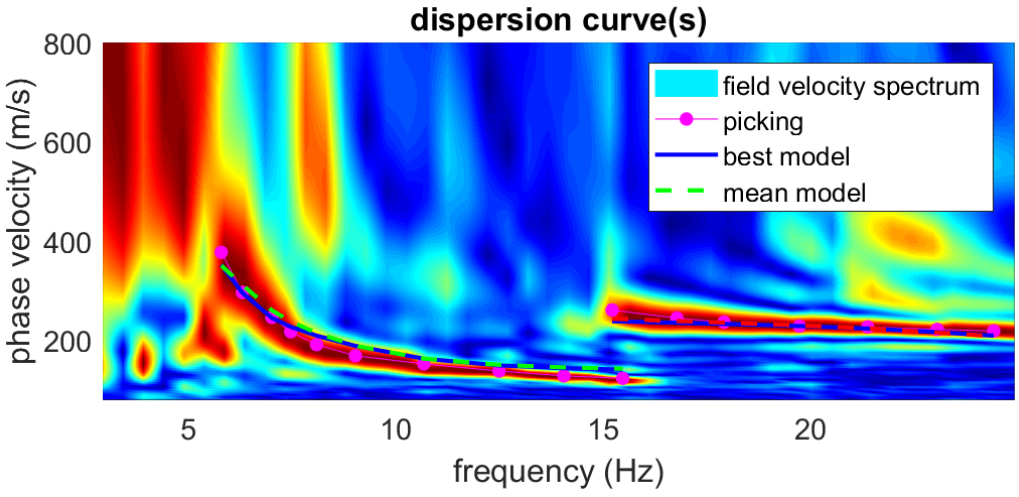
MASW Test

Project Data	
Date:	29.5.16
Site:	Jaser Majmi
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

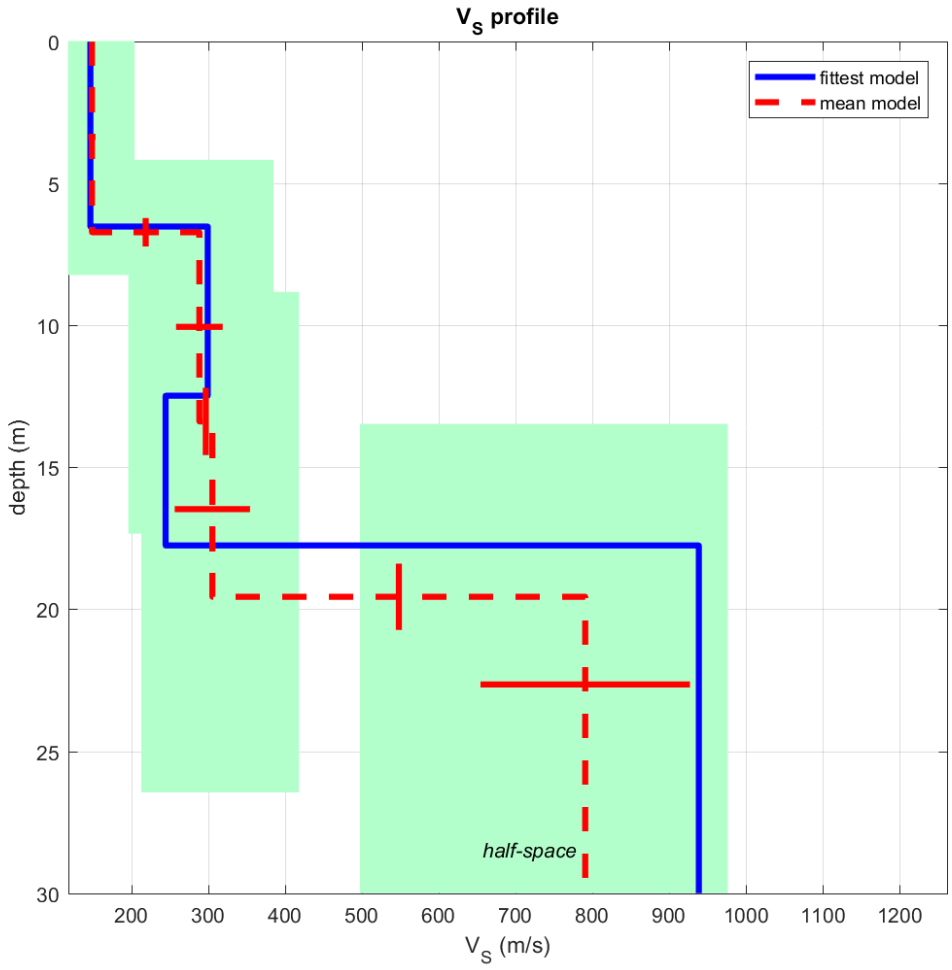
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	32.6219	35.5611	-236

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-20, -15, -10, -5, +5, +10, +15, +20
Record length:	1 Sec
Sampling interval:	0.125 millisecond

Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results
Raw data

Dispersion curve


Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	6.7±0.5	1.7	148±5
2	6.7±1.2	1.9	288±30
3	6.2±1.2	1.9	305±49
Half-space	∞	2.2	791±136
		$V_{S,30}$ (m/s)	294±26

Map

Report of

MASW Test

Project Data	
Date:	31.1.16
Site:	Lod 1
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

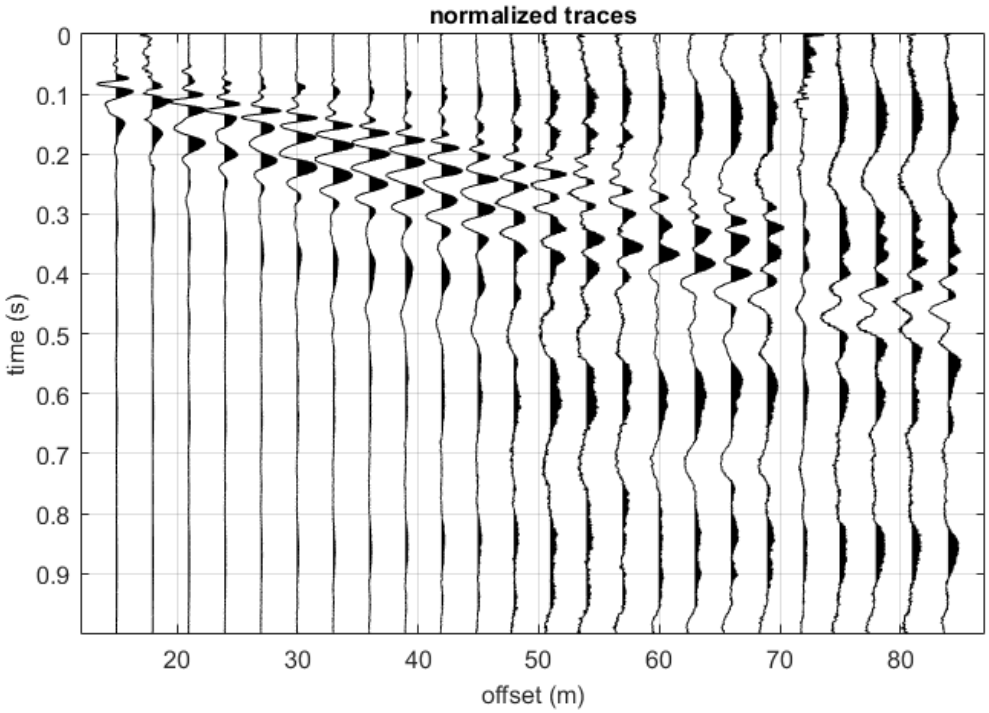
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	31.9398	34.8993	58

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-30, -25, -20, -15, -10, +10, +15, +20, +25, +30
Record length:	1 Sec
Sampling interval:	0.125 millisecond

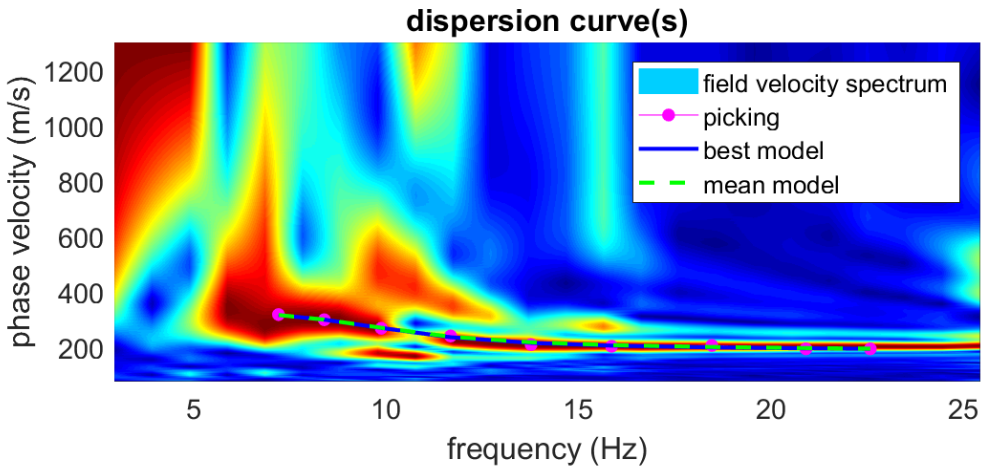
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

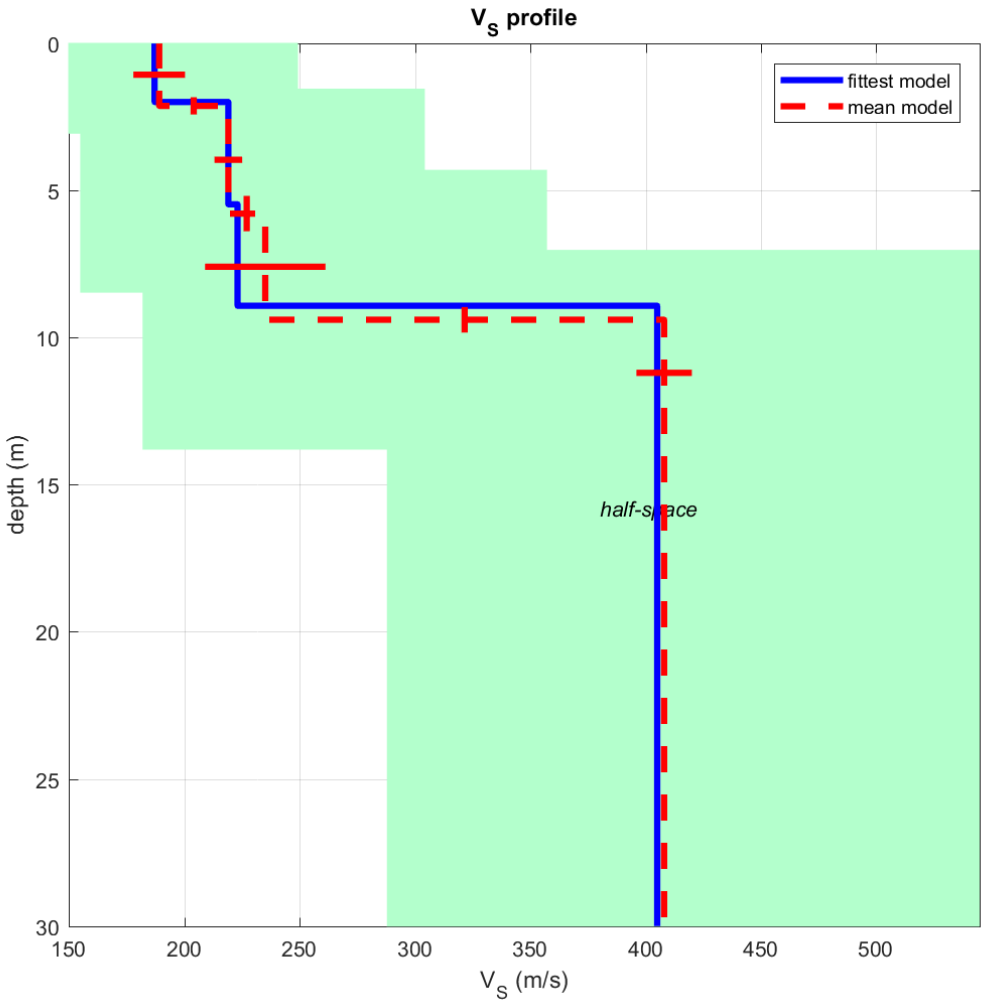
Raw data



Dispersion curve



Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	2.1±0.3	1.8	189±11
2	3.7±0.6	1.8	219±6
3	3.6±0.4	1.9	235±26
Half-space	∞	2.0	408±12
		$V_{S,30}$ (m/s)	320±14

Map

Report of

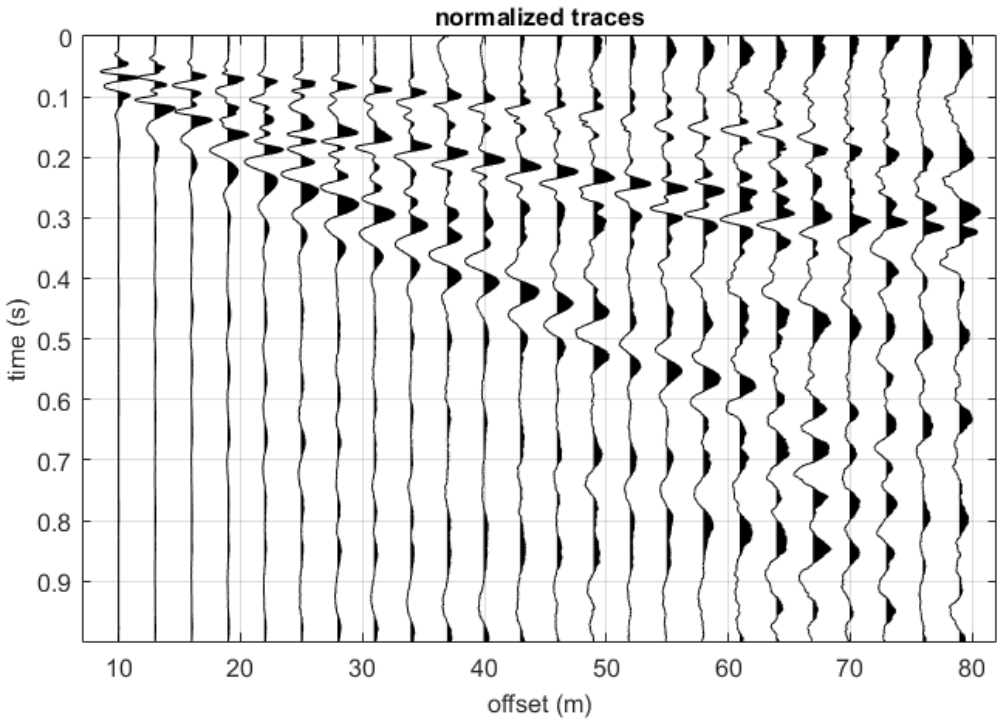
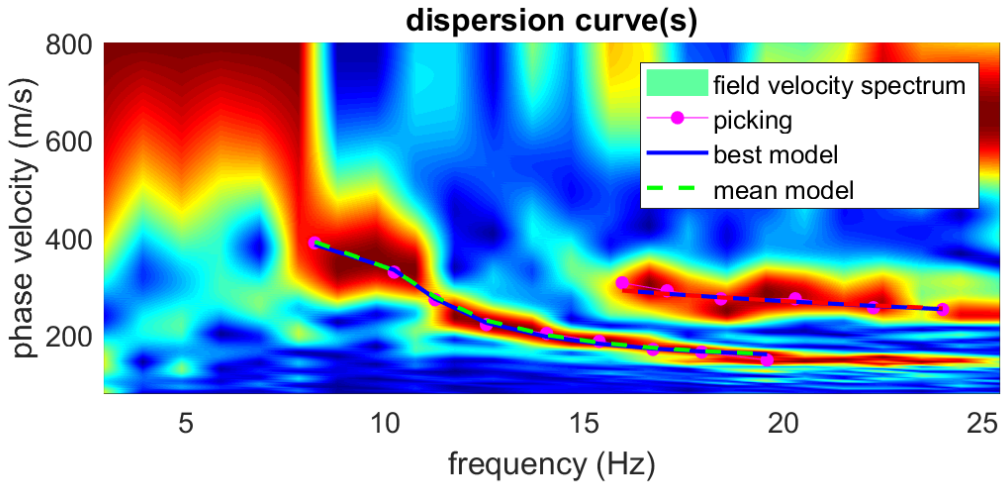
MASW Test

Project Data	
Date:	31.1.16
Site:	Lod 2
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

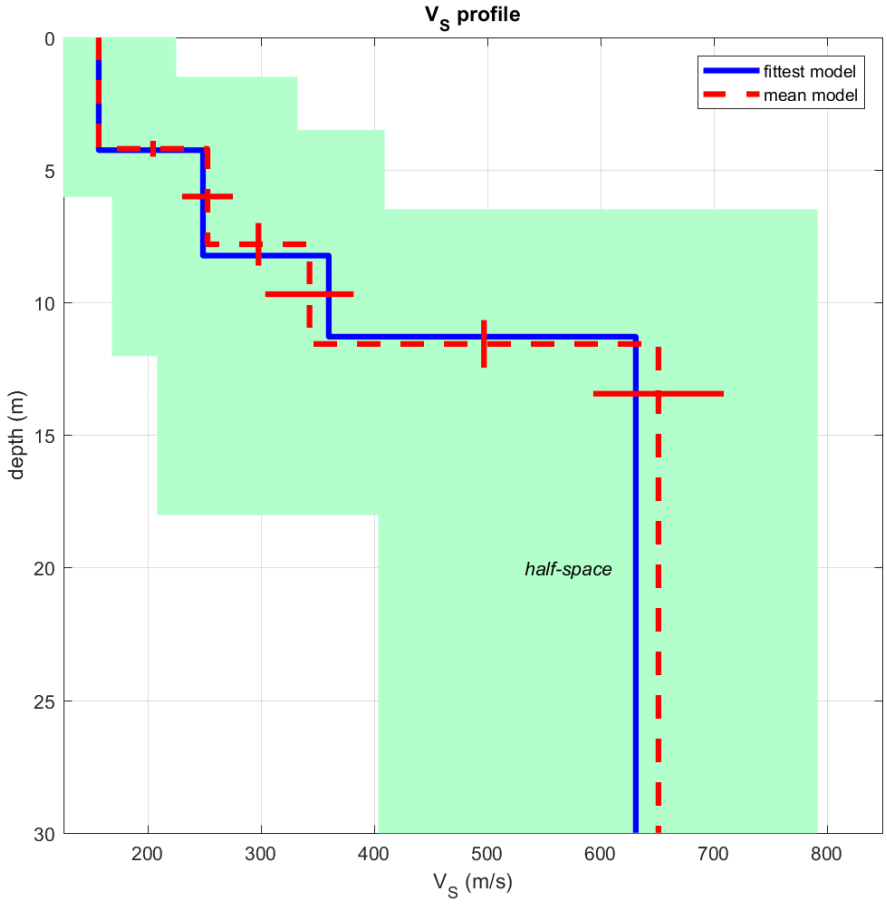
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	31.9476	34.8969	73

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-25, -20, -15, -10, +10, +15, +20, +25
Record length:	1 Sec
Sampling interval:	0.125 millisecond

Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results
Raw data

Dispersion curve


Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	4.2±0.3	1.8	157±2
2	3.6±0.8	1.9	253±22
3	3.8±0.9	2.0	343±39
Half-space	∞	2.1	651±58
		$V_{S,30}$ (m/s)	374±24

Map

Report of

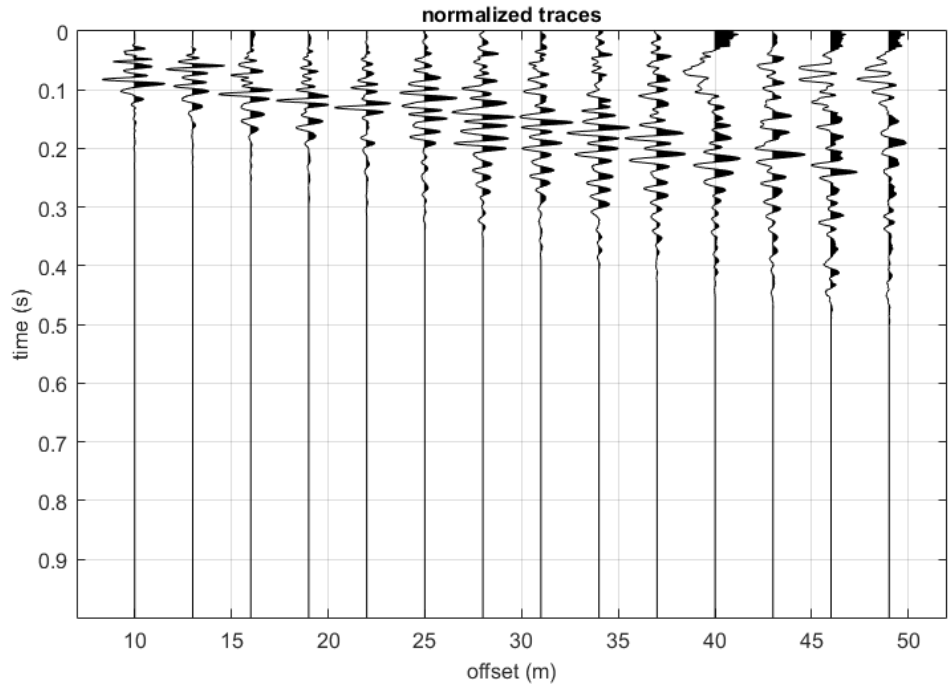
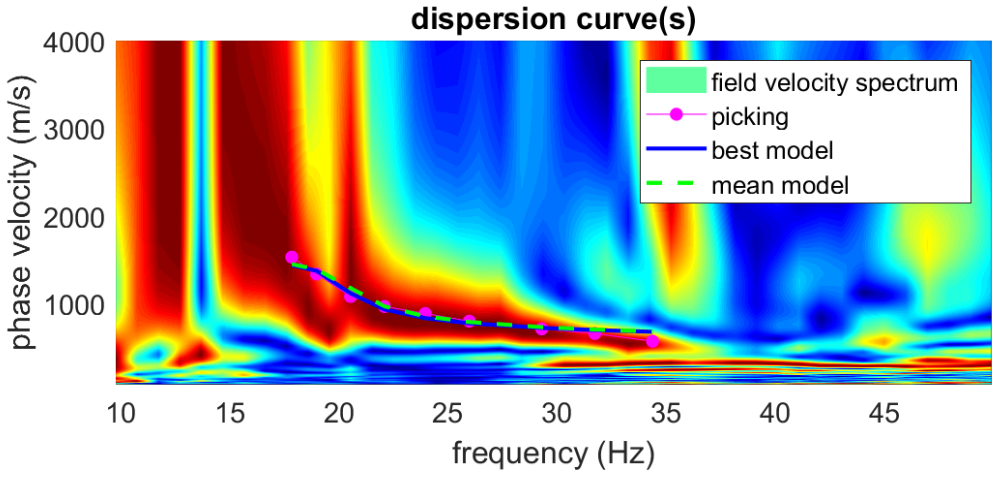
MASW Test

Project Data	
Date:	1.2.16
Site:	Motza 1
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

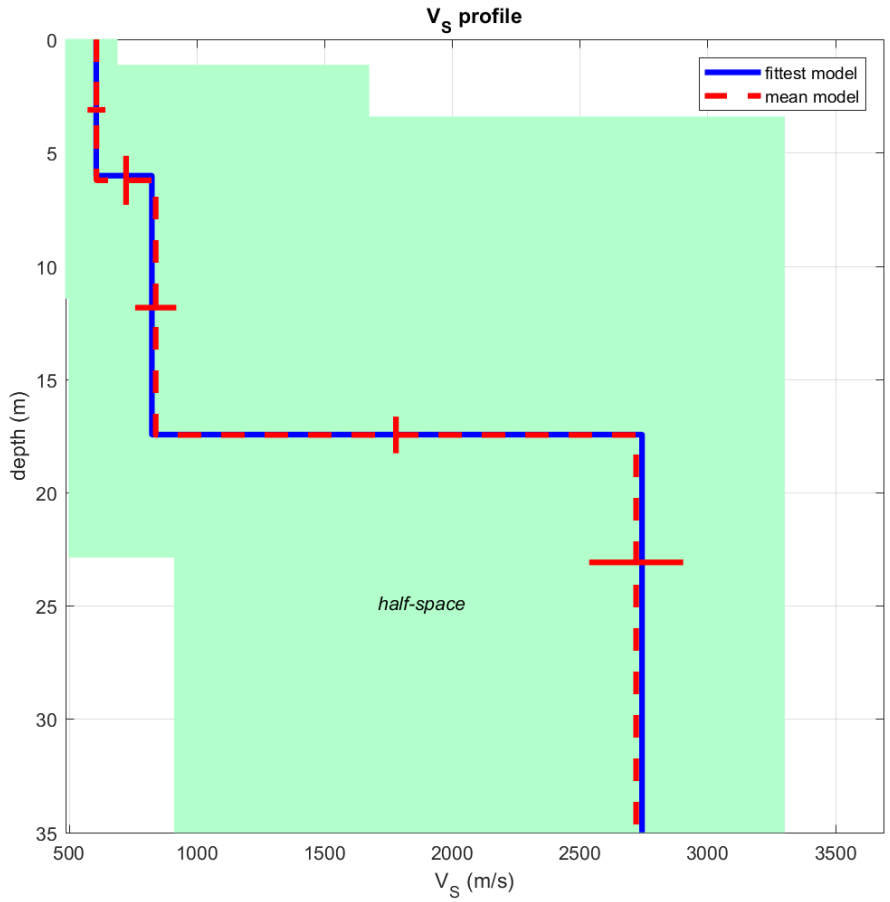
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	31.7911	35.1667	568

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-25, -15, -10, +10, +15, +20, +25
Record length:	1 Sec
Sampling interval:	0.125 millisecond

Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results
Raw data

Dispersion curve


Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	6.2±1.1	2.1	608±35
2	11.2±0.8	2.2	840±81
Half-space	∞	2.4	2721±184
		$V_{S,30}$ (m/s)	1065±82

Map

Report of

MASW Test

Project Data	
Date:	1.2.16
Site:	Motza 2
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

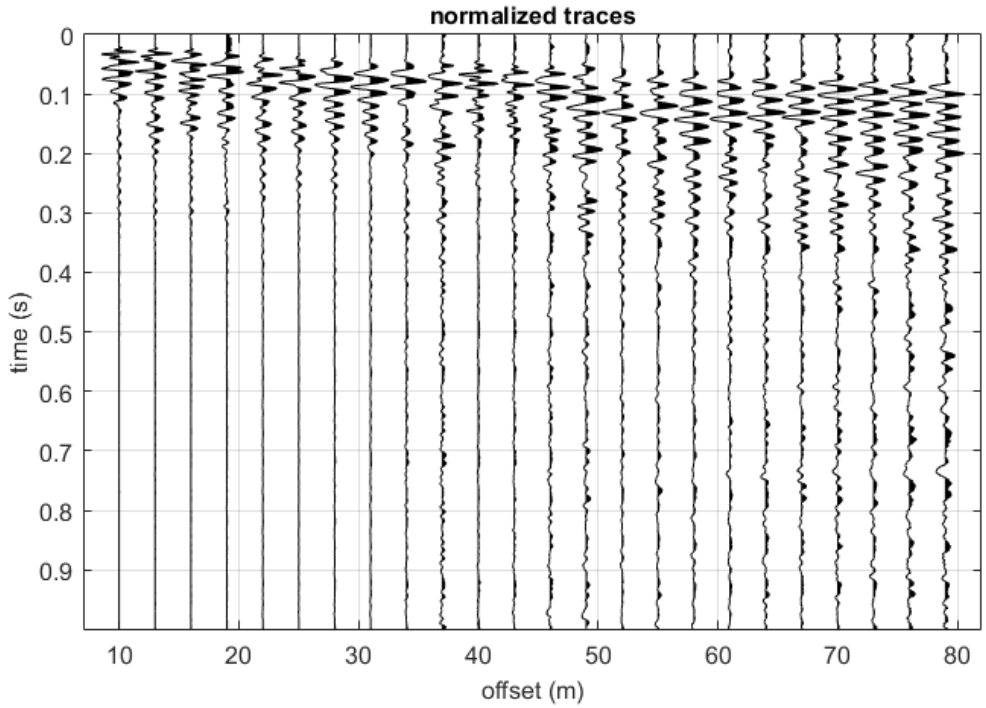
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	31.7993	35.1699	577

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-30, -25, -20, -15, -10, +10, +15, +20, +25
Record length:	1 Sec
Sampling interval:	0.125 millisecond

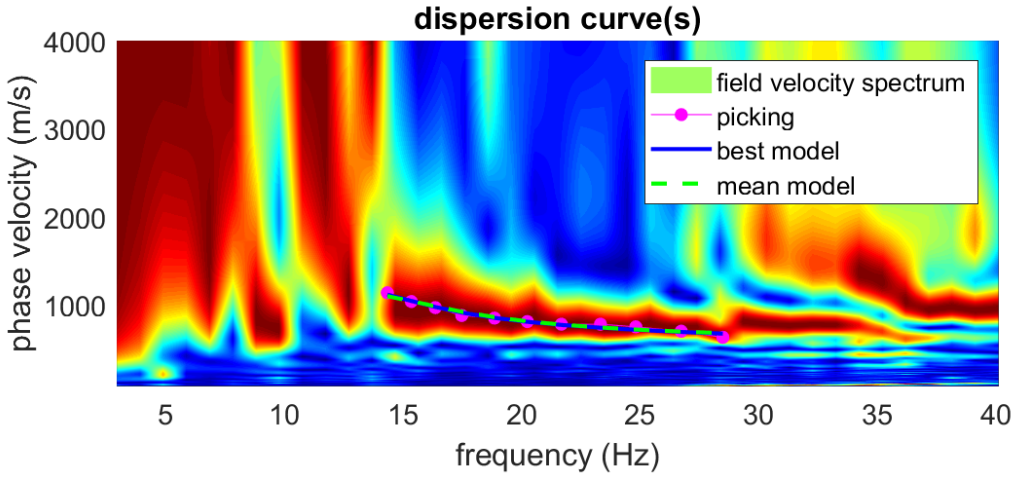
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

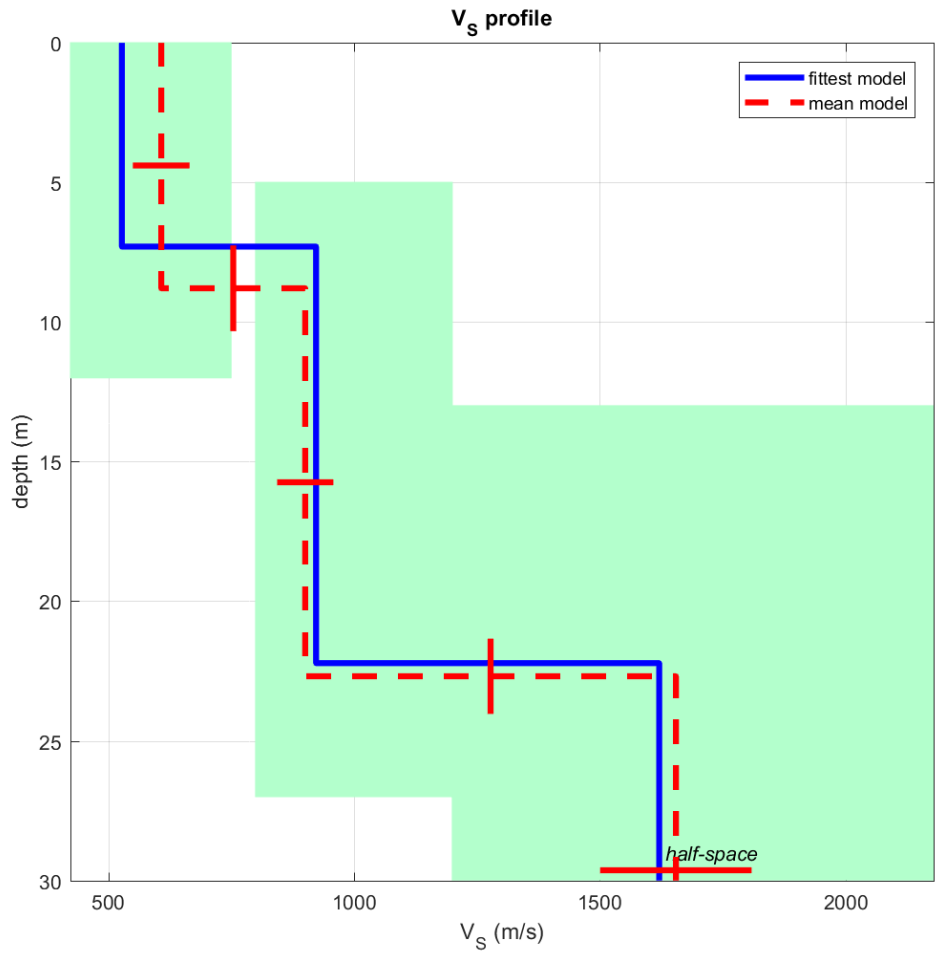
Raw data



Dispersion curve



Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	8.8±1.5	2.1	608±58
2	13.9±1.3	2.2	901±57
Half-space	∞	2.3	1655±154
		$V_{S,30}$ (m/s)	874±70

Map

Report of

MASW Test

Project Data	
Date:	24.12.15
Site:	Mount Scopus 1
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

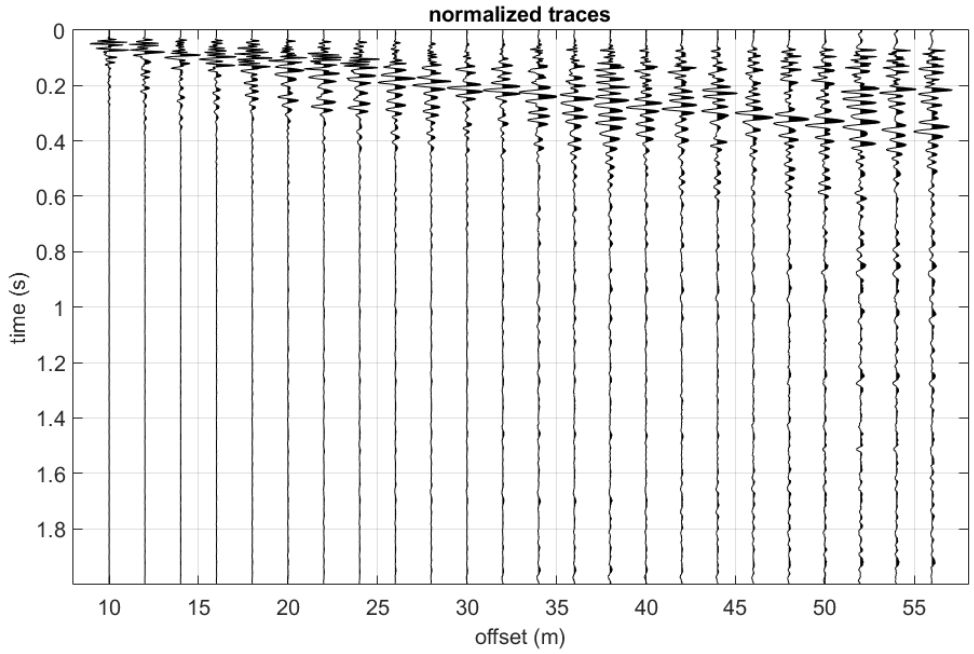
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	31.7924	35.2418	811

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	2 [m]
Line length:	46 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-20, -15, -10, -5, +5, +10, +15, +20, +25, +30
Record length:	2 Sec
Sampling interval:	0.125 millisecond

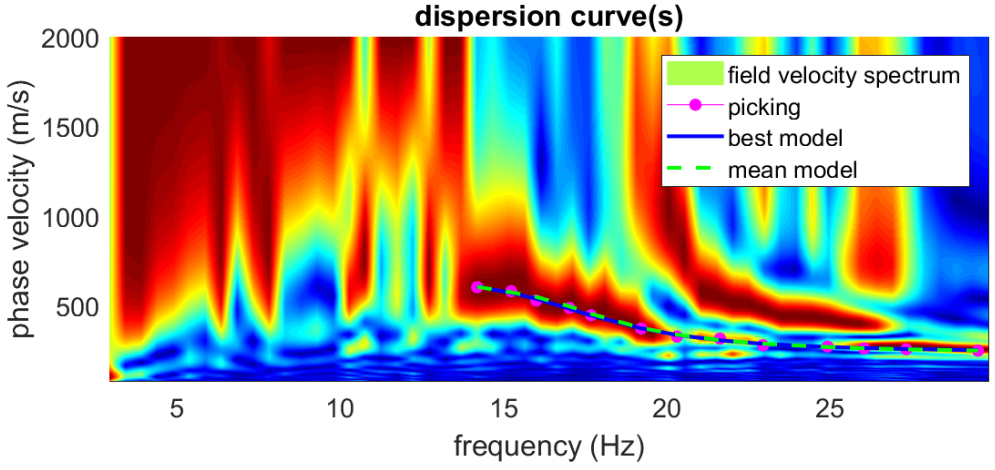
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

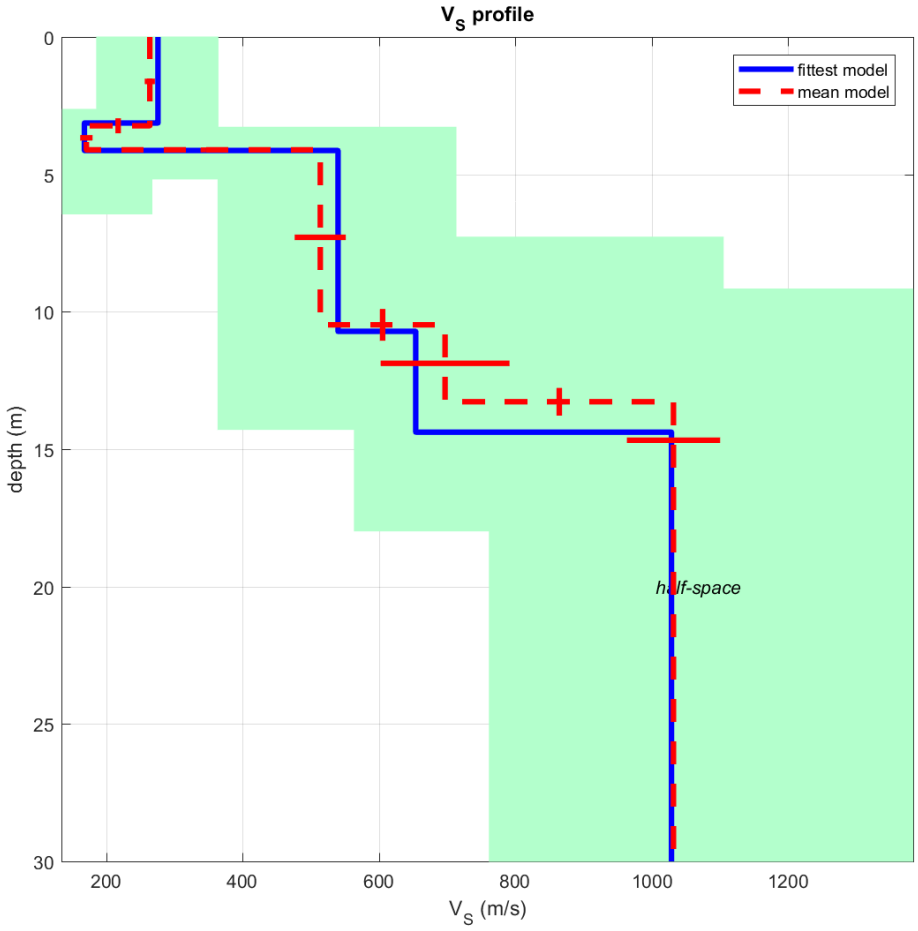
Raw data



Dispersion curve



Shear wave velocity profile



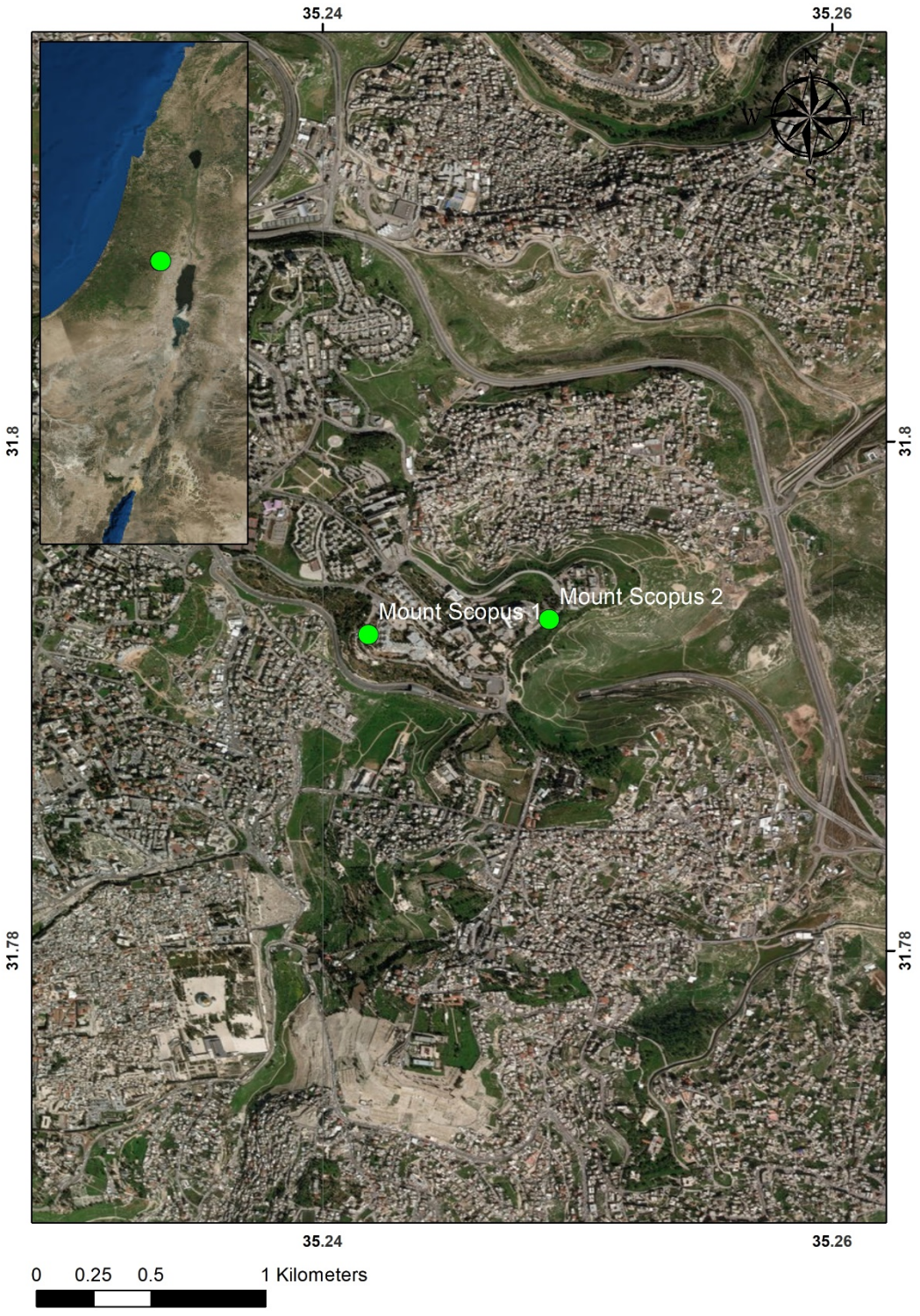
Light green area - the constraints of the model.

Conclusions

Shear wave velocity model – Line 1

Layer	Thickness (m)	Density (kg/m^3)	V_S (m/s)
1	3.2±0.3	1.9	264±7
2	0.9±0.1	1.8	171±9
3	6.4±0.6	2.0	514±37
4	2.8±0.5	2.1	697±95
Half-space	∞	2.2	1032±68
		$V_{S,30}$ (m/s)	600±37

Map


35.24
35.26
31.8
31.78
N
W
E
S
Mount Scopus 1
Mount Scopus 2
0 0.25 0.5 1 Kilometers

Report of

MASW Test

Project Data	
Date:	24.12.15
Site:	Mount Scopus 2
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

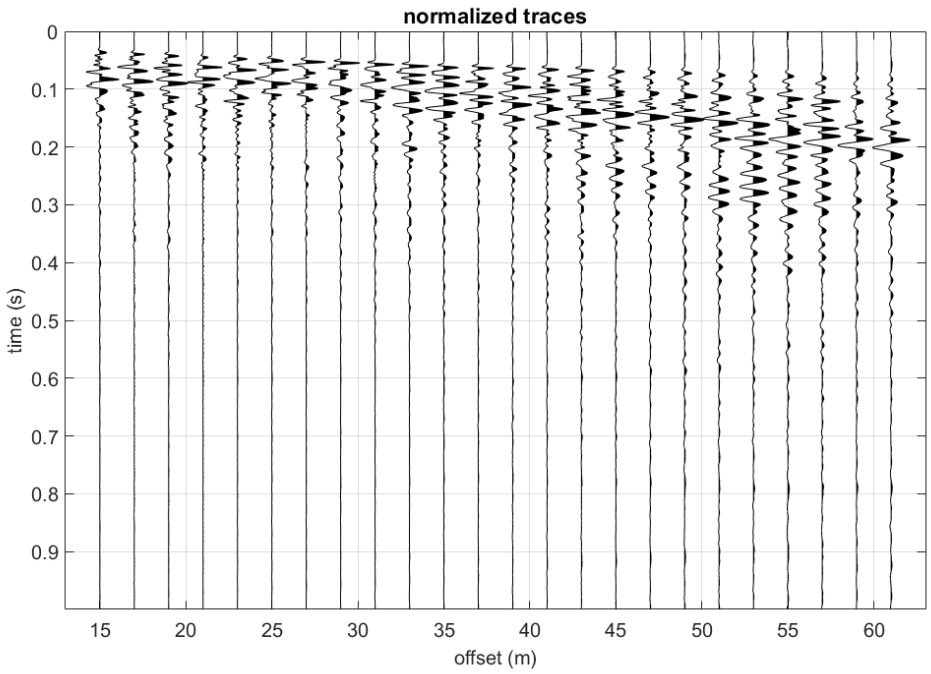
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	31.7930	35.2489	780

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	2 [m]
Line length:	46 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-20, -15, -10, -5, +5, +10, +15, +20, +25
Record length:	1 Sec
Sampling interval:	0.125 millisecond

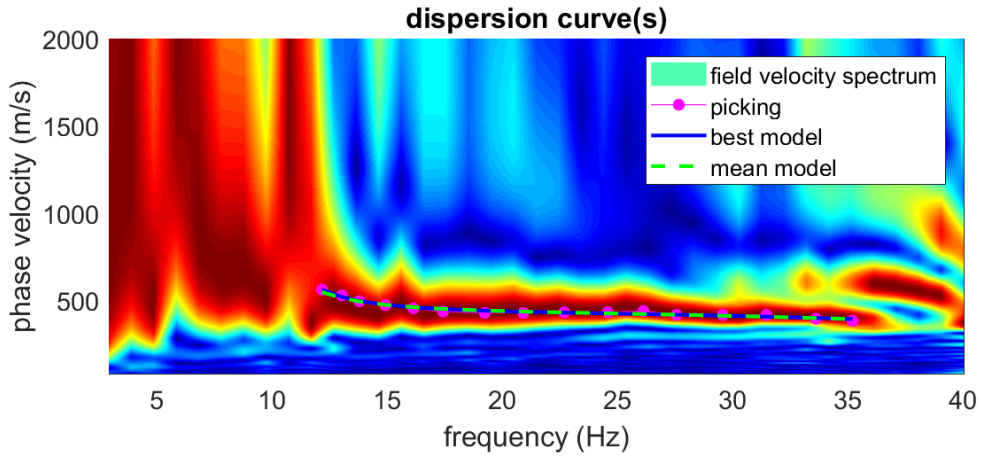
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

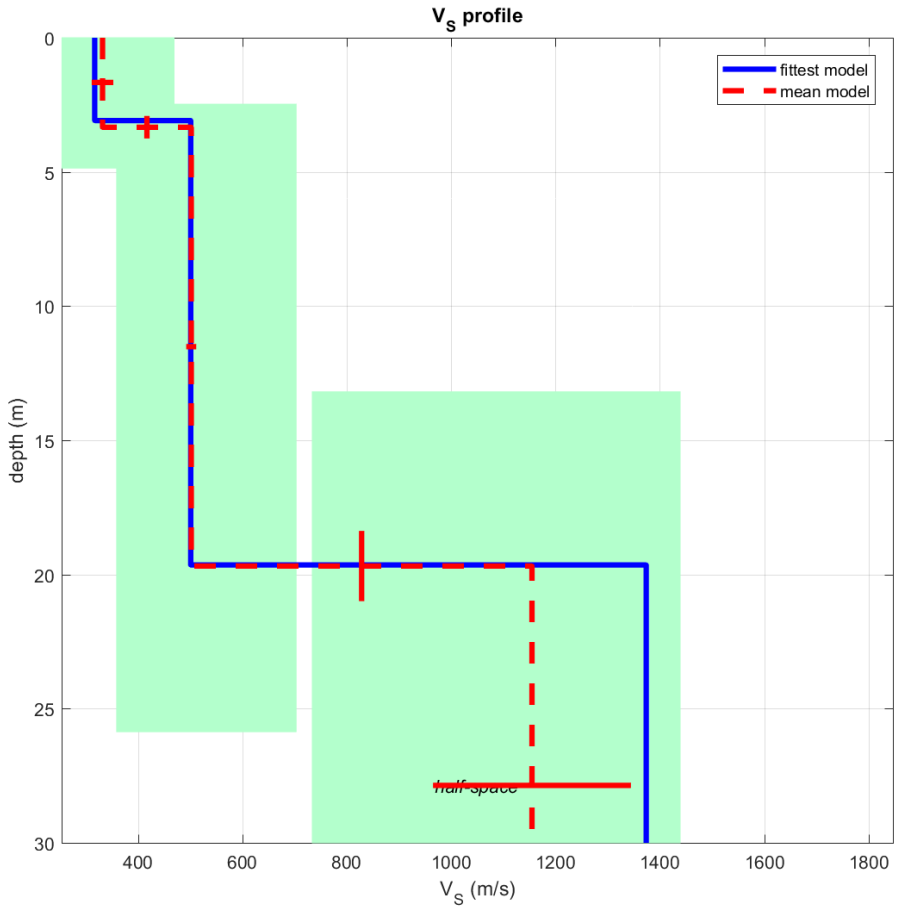
Raw data



Dispersion curve



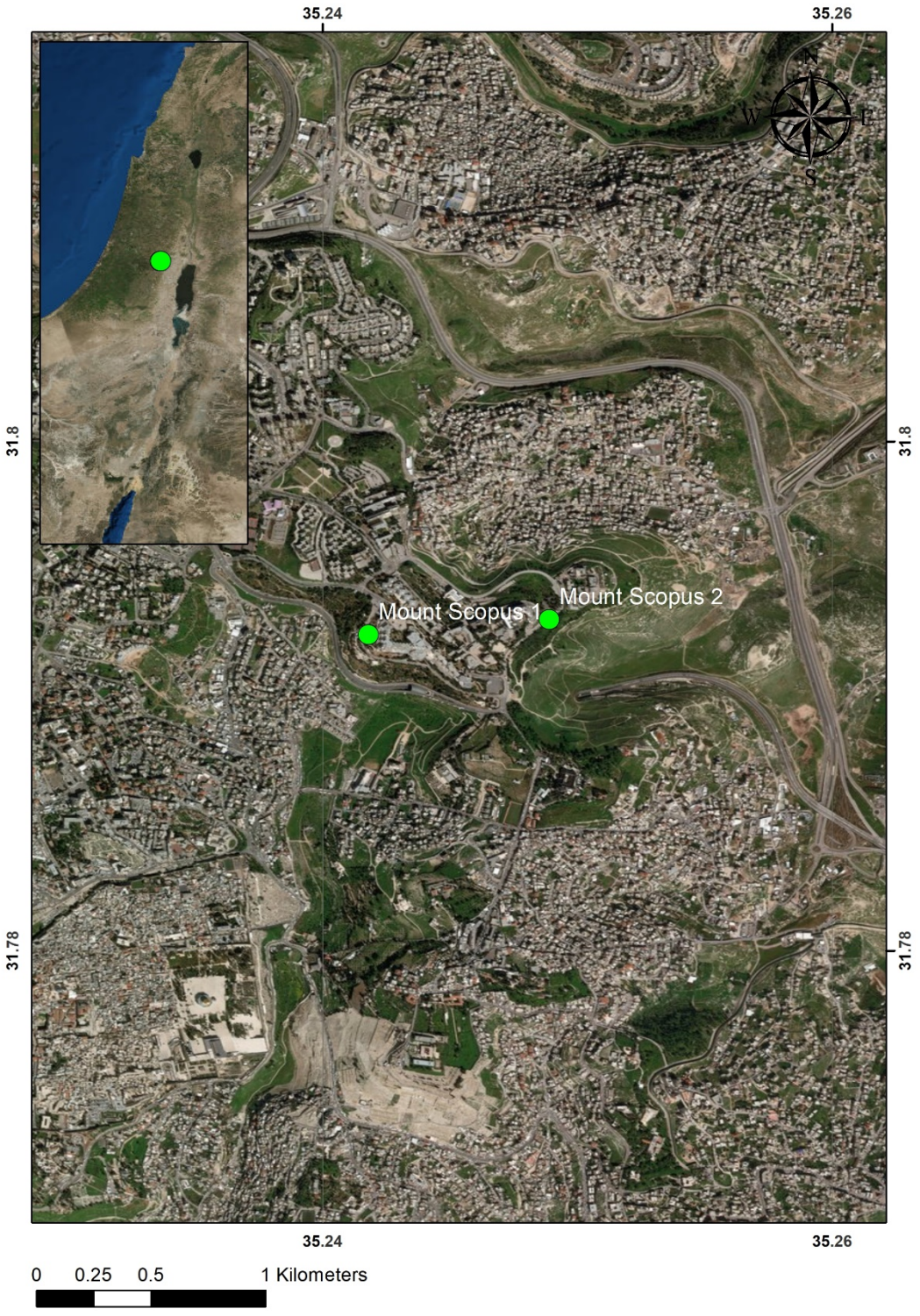
Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	3.3±0.4	2.0	332±21
2	16.4±1.3	2.0	502±10
Half-space	∞	2.2	1155±190
		$V_{S,30}$ (m/s)	582±30

Map


35.24
35.26
31.8
31.78
N
W
E
S
Mount Scopus 1
Mount Scopus 2
0 0.25 0.5 1 Kilometers

Report of

MASW Test

Project Data	
Date:	24.7.16
Site:	Nahalal
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

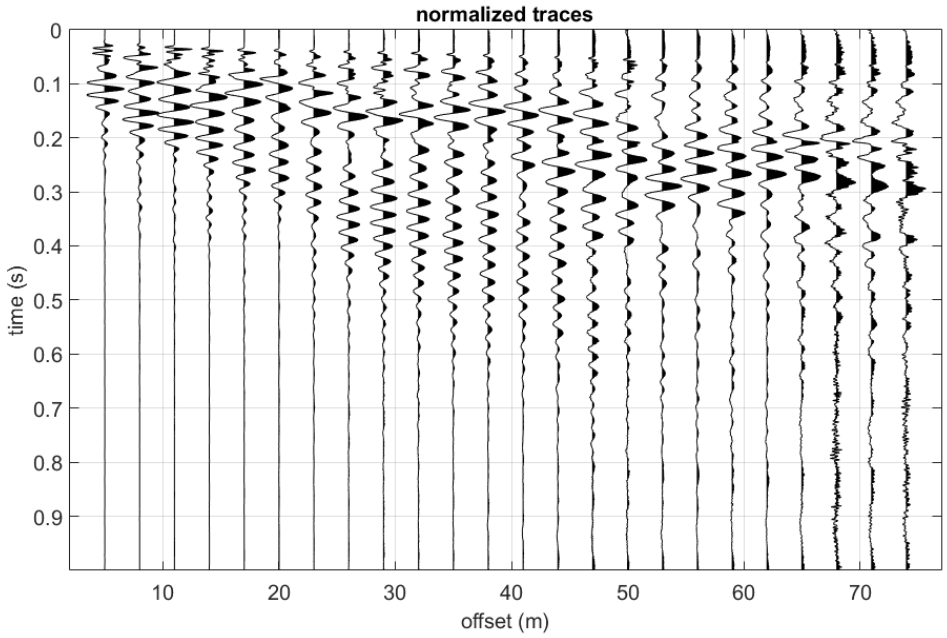
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	32.6855	35.1861	66

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-15, -10, -5, -2, +7, +10, +15, +20
Record length:	1 Sec
Sampling interval:	1 millisecond

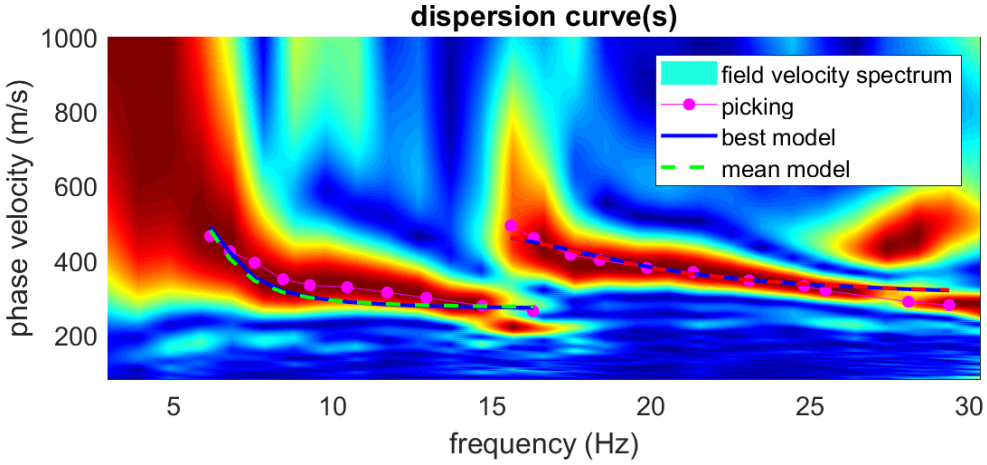
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

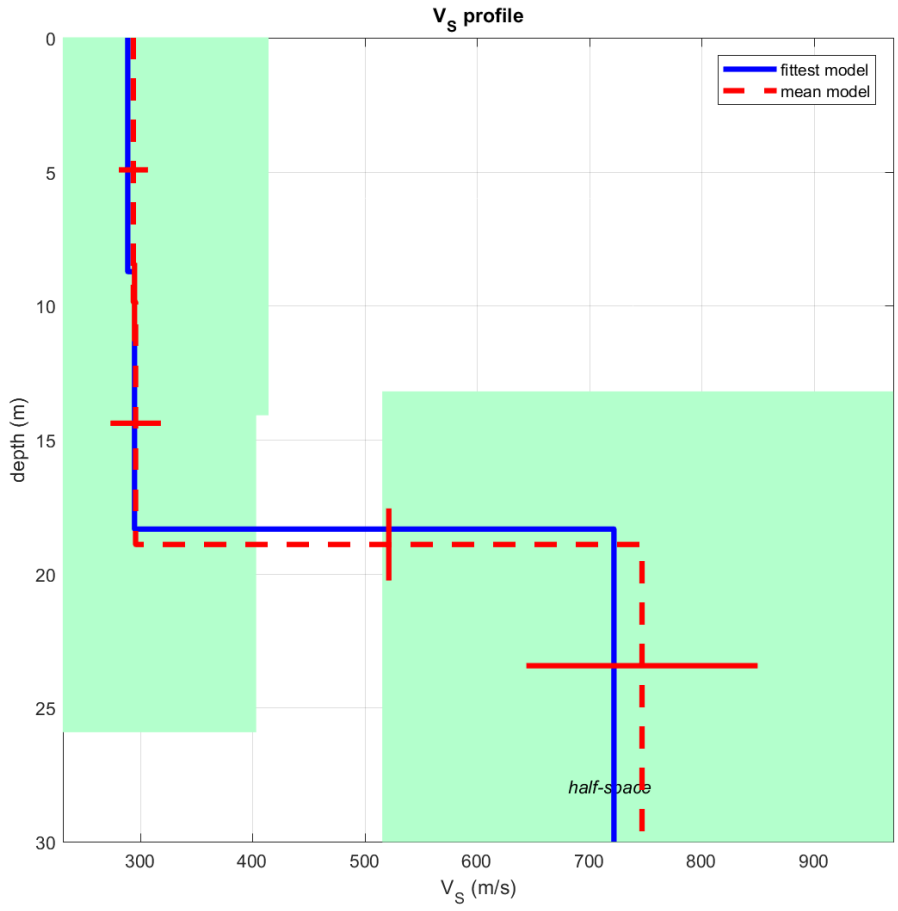
Raw data



Dispersion curve



Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	9.9±1.5	1.9	294±13
2	9.0±1.3	1.9	296±22
Half-space	∞	2.1	747±103
		$V_{S,30}$ (m/s)	380±28

Map

Report of

MASW Test

Project Data	
Date:	30.5.16
Site:	Nahariya
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

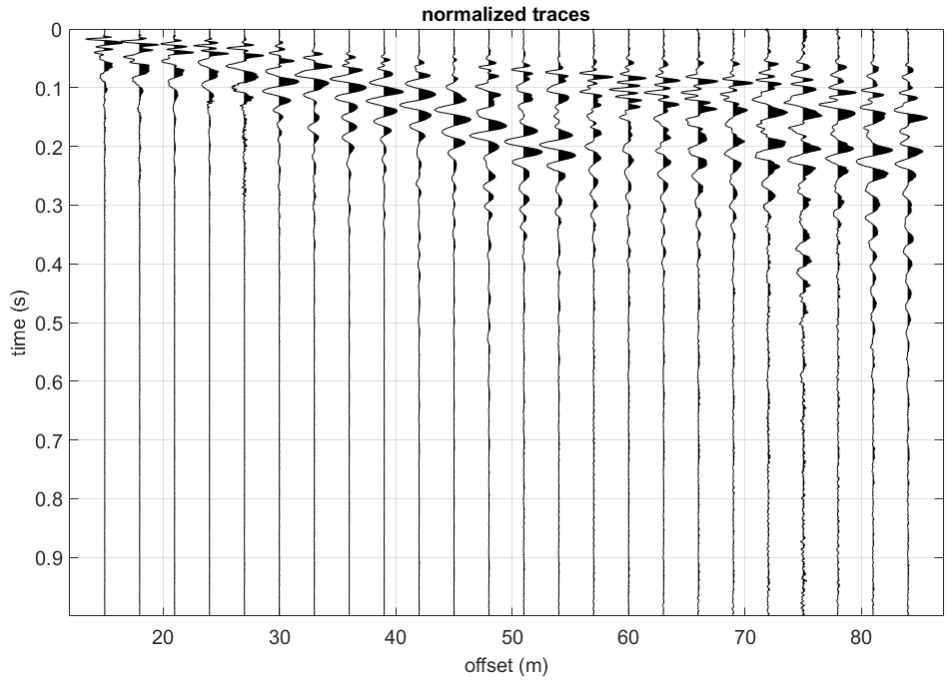
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	32.9867	35.0853	4

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-20, -15, -10, -5, -2, +5, +10, +15, +20
Record length:	2 Sec
Sampling interval:	0.125 millisecond

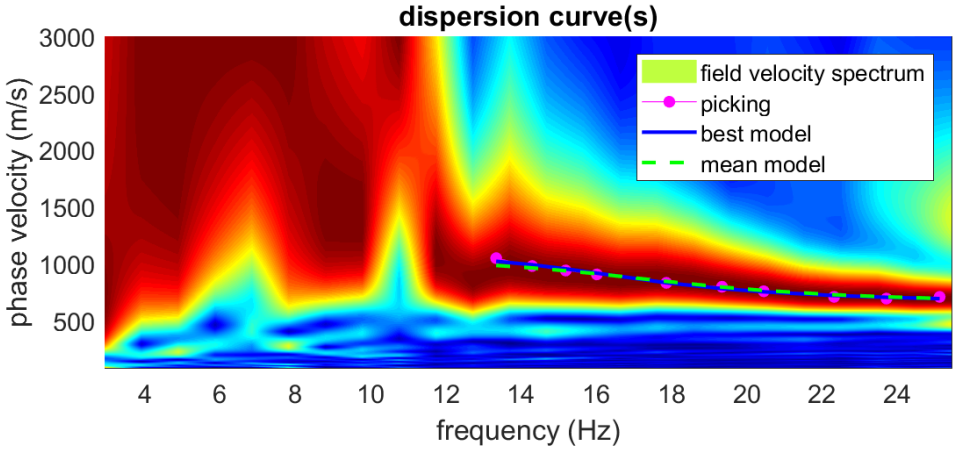
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

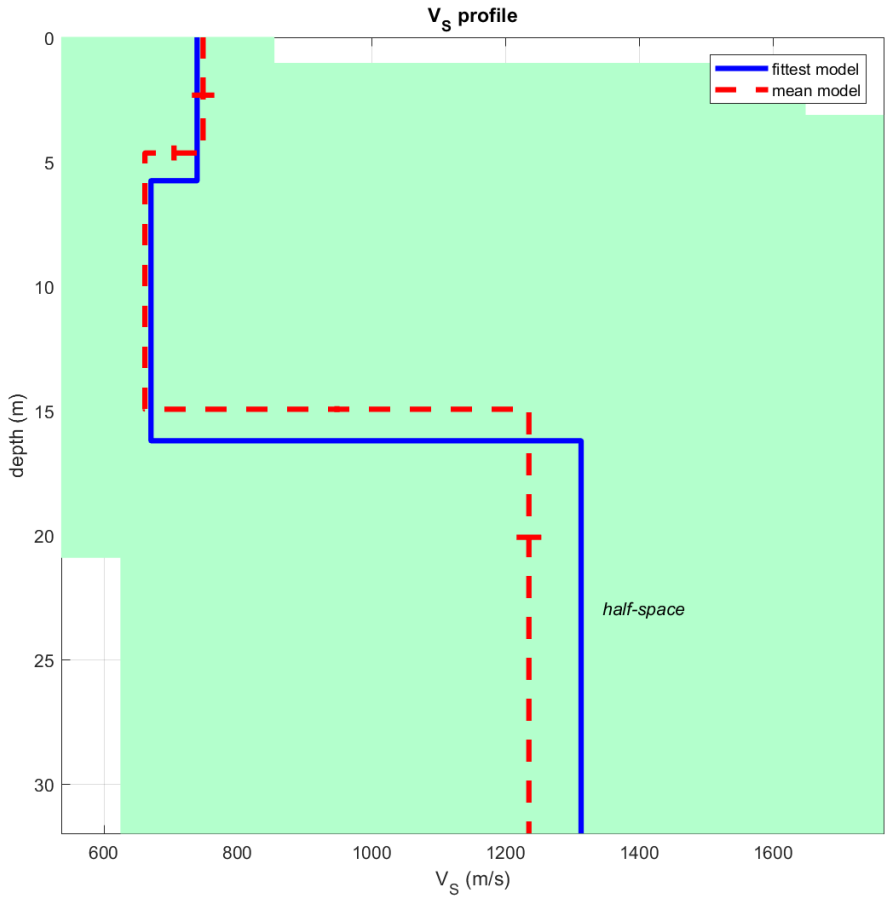
Raw data



Dispersion curve



Shear wave velocity profile



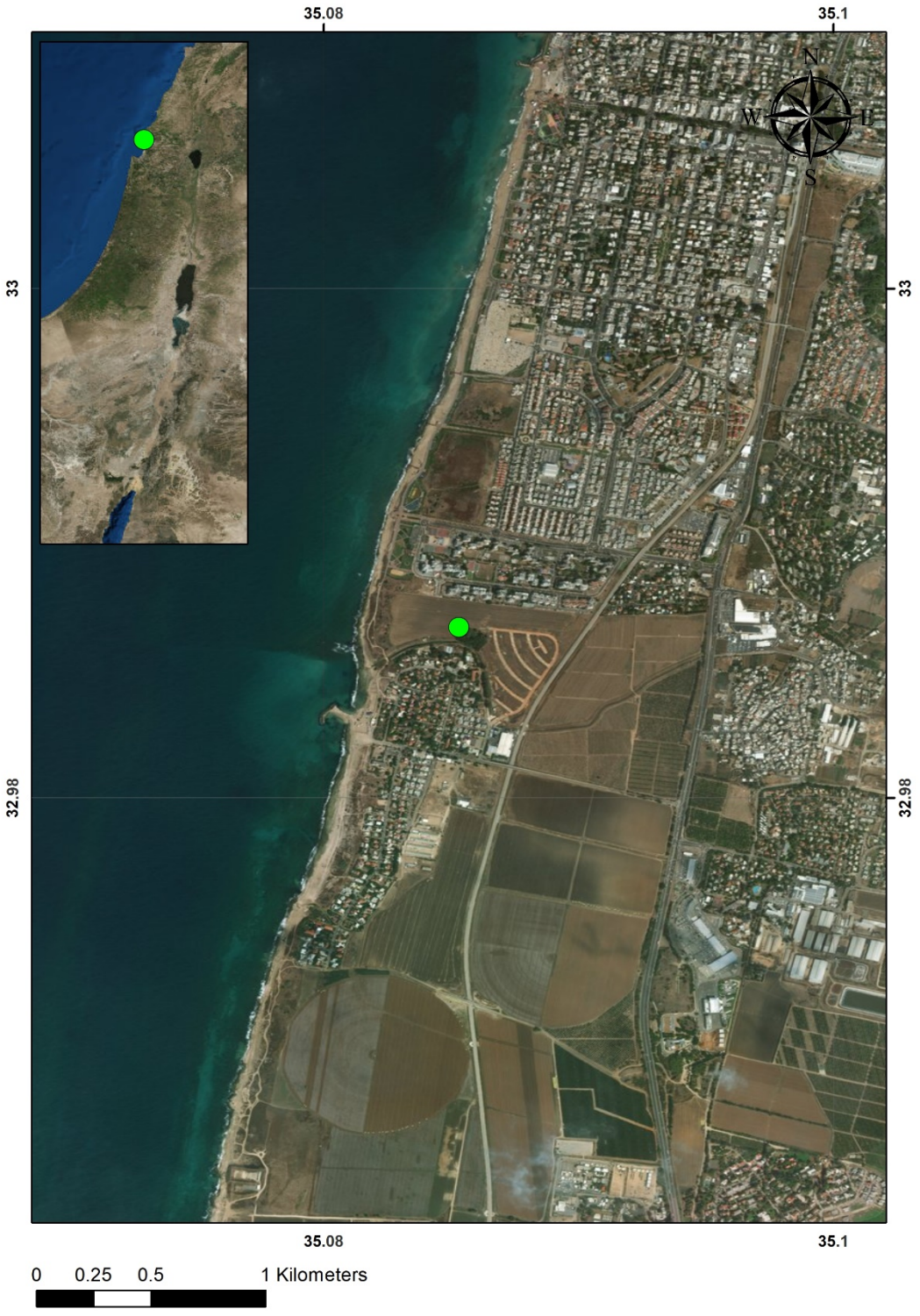
Light green area - the constraints of the model.

Conclusions

Shear wave velocity model – Line 1

Layer	Thickness (m)	Density (kg/m^3)	V_S (m/s)
1	4.6±0.3	2.1	748±17
2	10.3±0.1	2.1	661±2
Half-space	∞	2.3	1235±19
		$V_{S,30}$ (m/s)	883±10

Map



Report of

MASW Test

Project Data	
Date:	29.5.16
Site:	Pki'in
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

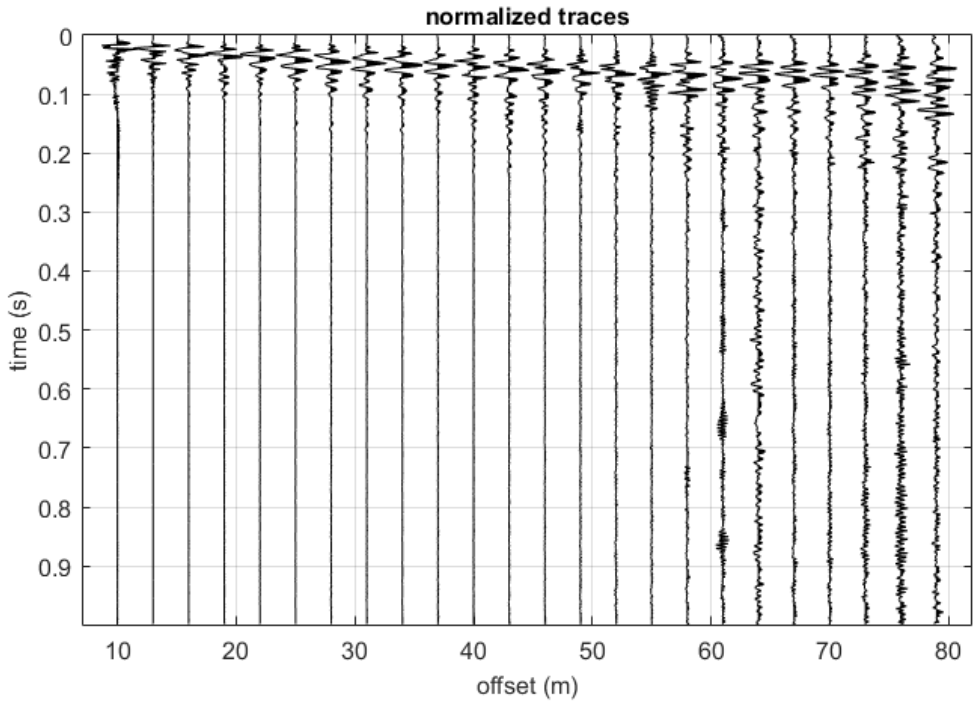
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	32.9703	35.3147	687

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-15, -10, -5, -3, -1
Record length:	1 Sec
Sampling interval:	0.125 millisecond

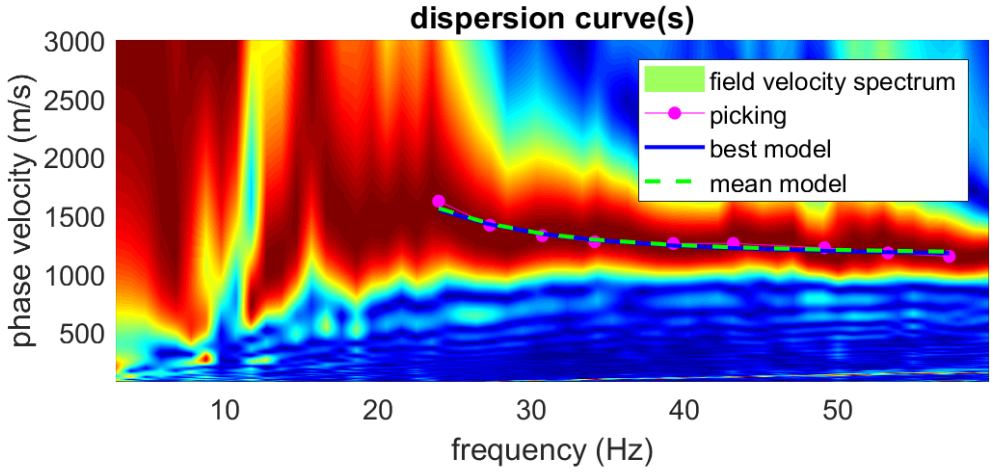
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

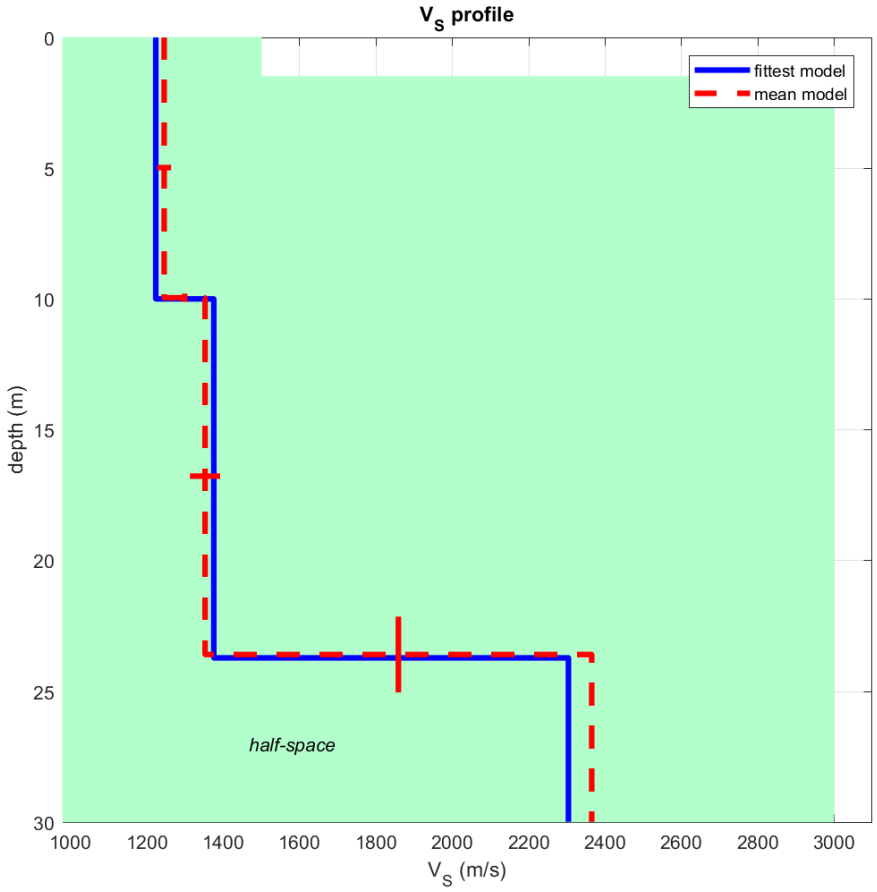
Raw data



Dispersion curve



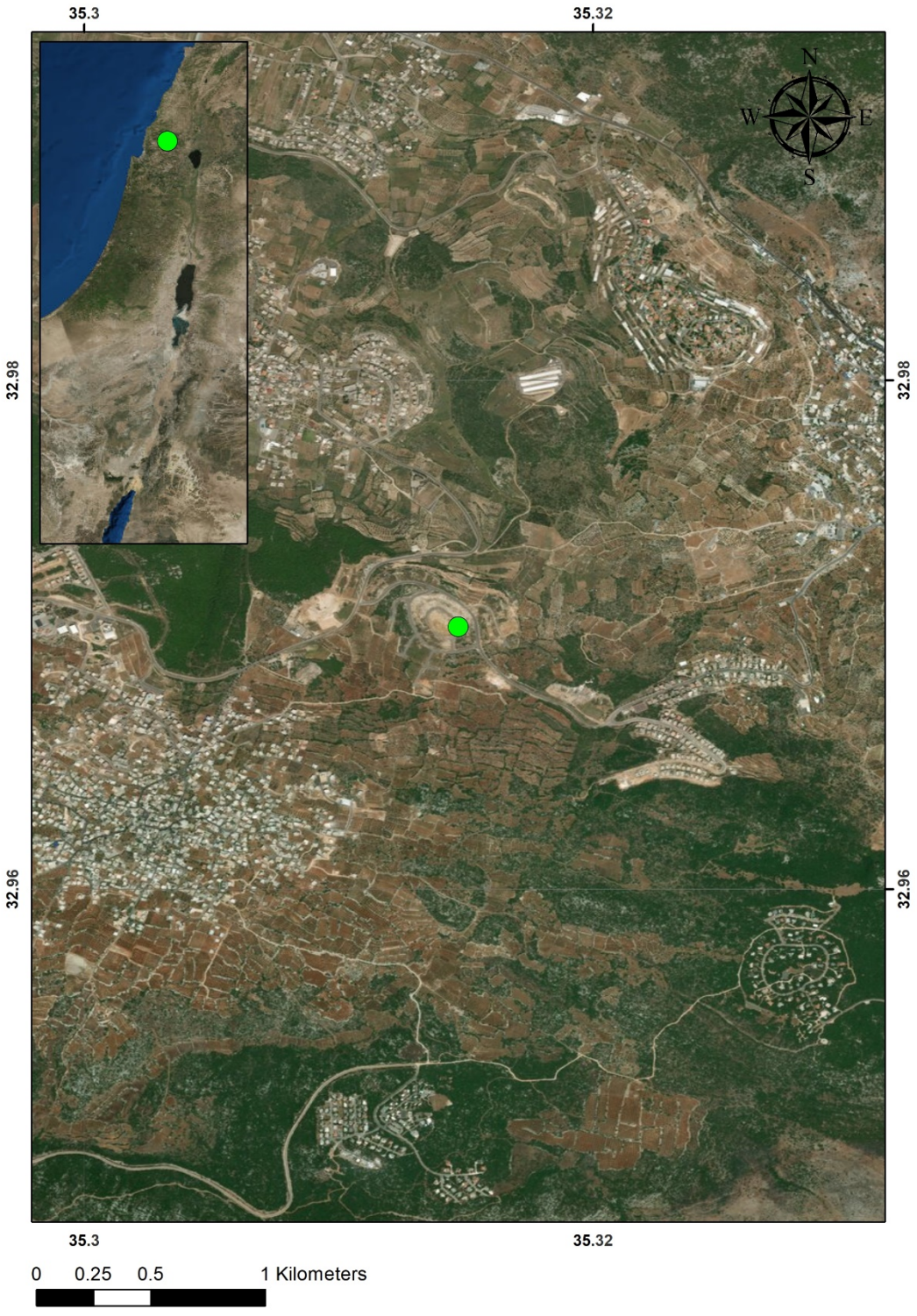
Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	10.0±0.2	2.3	1246±18
2	13.6±1.5	2.3	1353±40
Half-space	∞	2.4	2366±249
		$V_{S,30}$ (m/s)	1444±47

Map



Report of

MASW Test

Project Data	
Date:	25.2.16
Site:	Ramleh 1
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

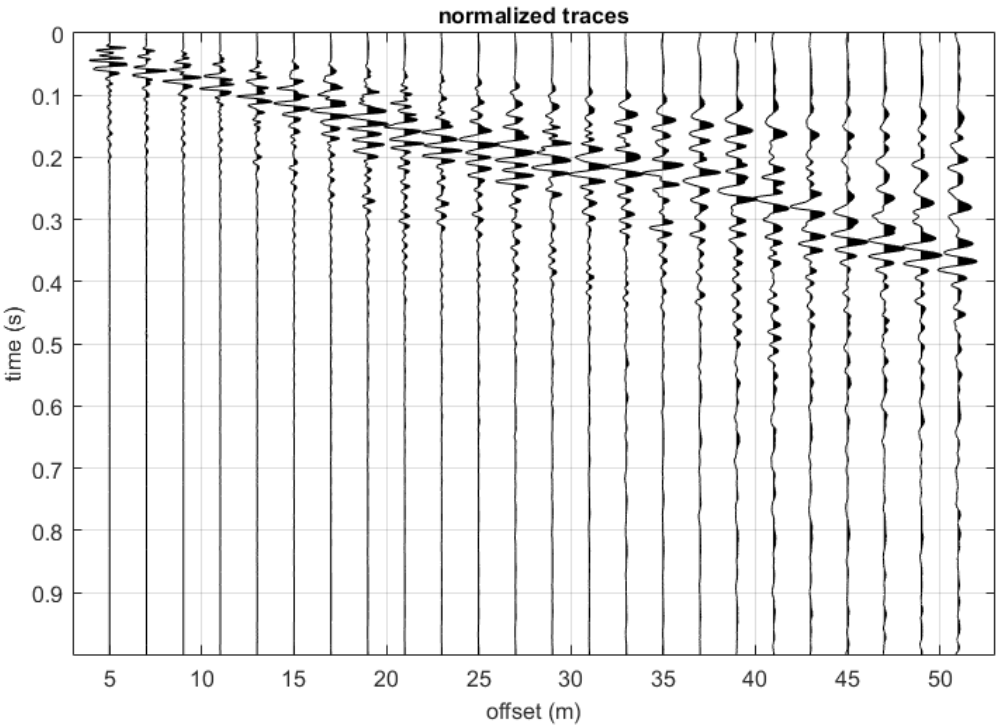
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	31.9232	34.8705	83

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	2 [m]
Line length:	46 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-20, -15, -10, -5, +5, +10, +15, +20
Record length:	1 Sec
Sampling interval:	0.125 millisecond

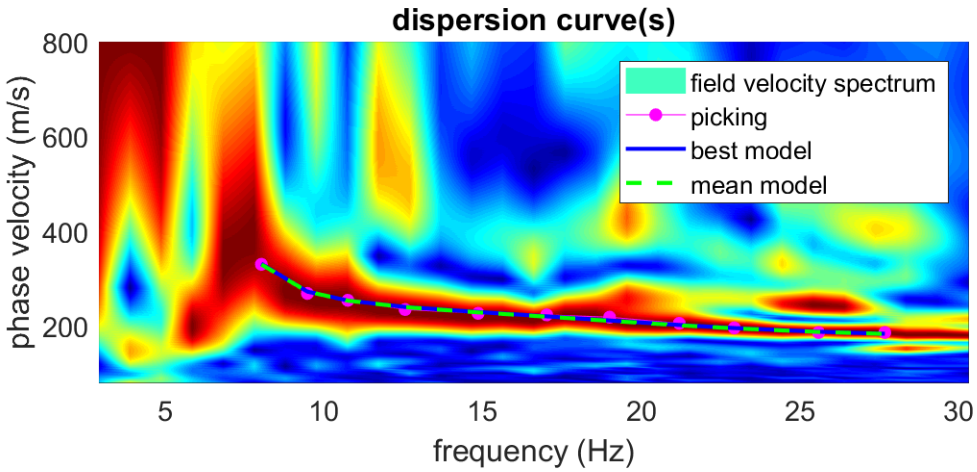
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

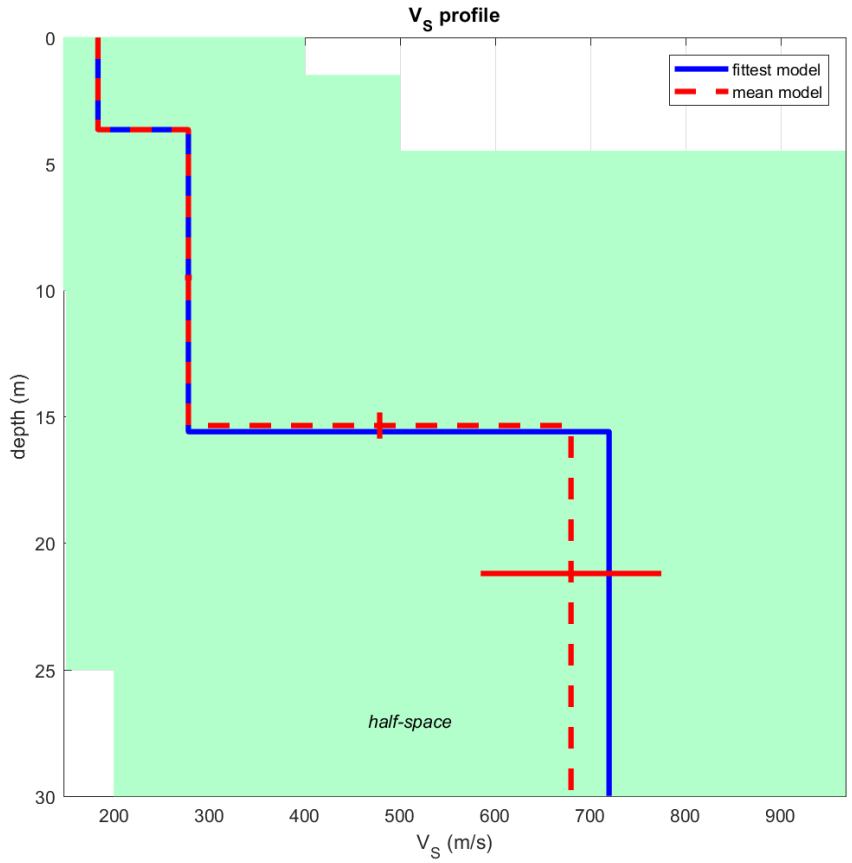
Raw data



Dispersion curve



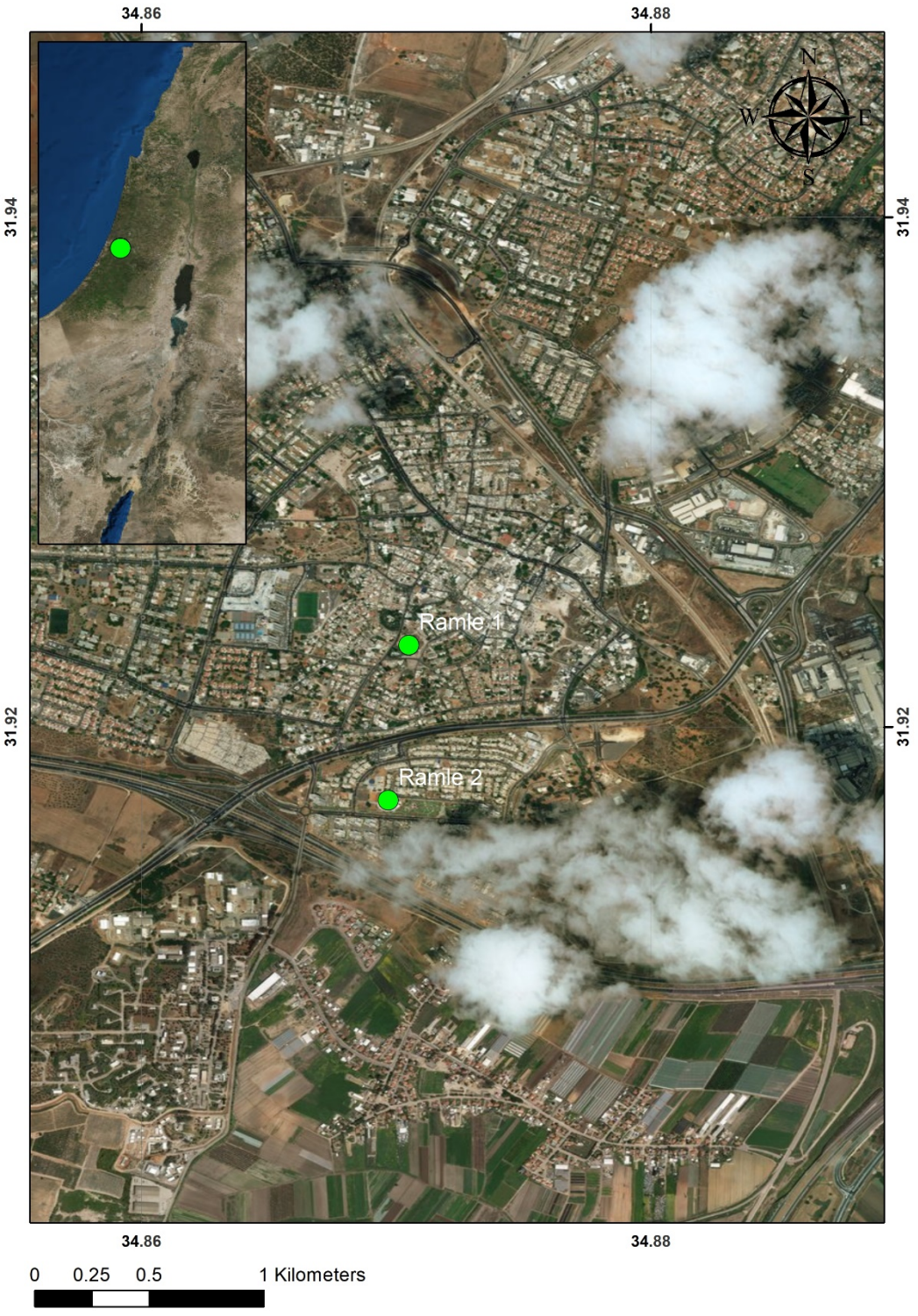
Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	3.6±0.1	1.8	183±1
2	11.7±0.5	1.9	278±4
Half-space	∞	2.1	680±95
		$V_{S,30}$ (m/s)	360±15

Map



Report of

MASW Test

Project Data	
Date:	19.8.15
Site:	Tzemach 1
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

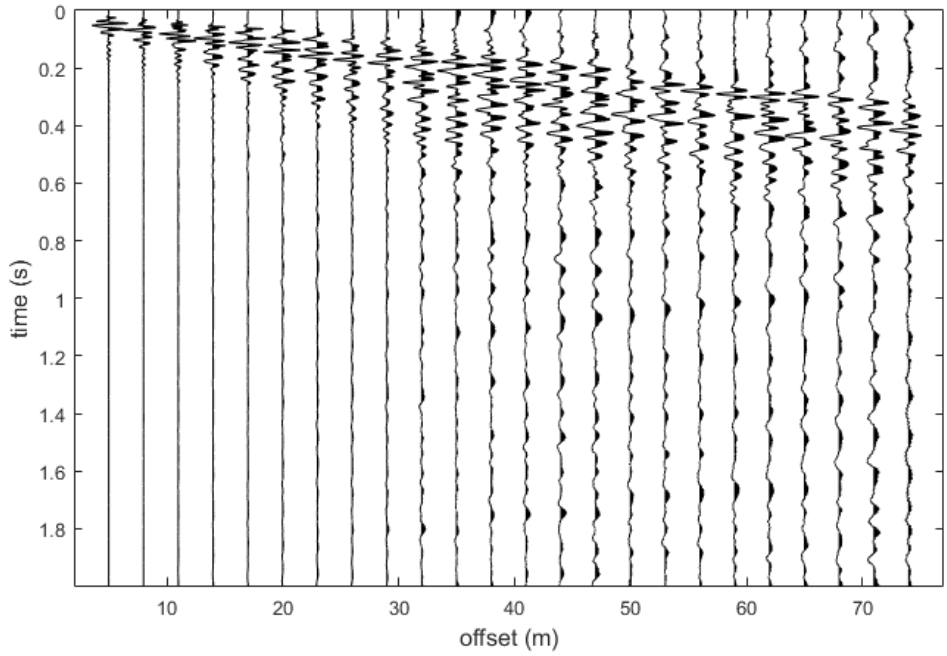
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	32.7045	35.5945	-200

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-21, -15, -10, -5
Record length:	2 Sec
Sampling interval:	0.5 millisecond

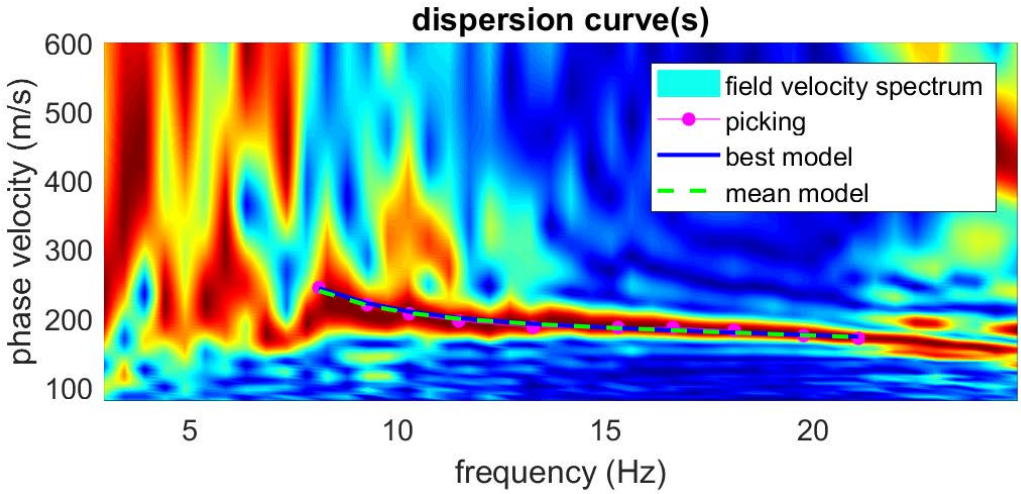
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

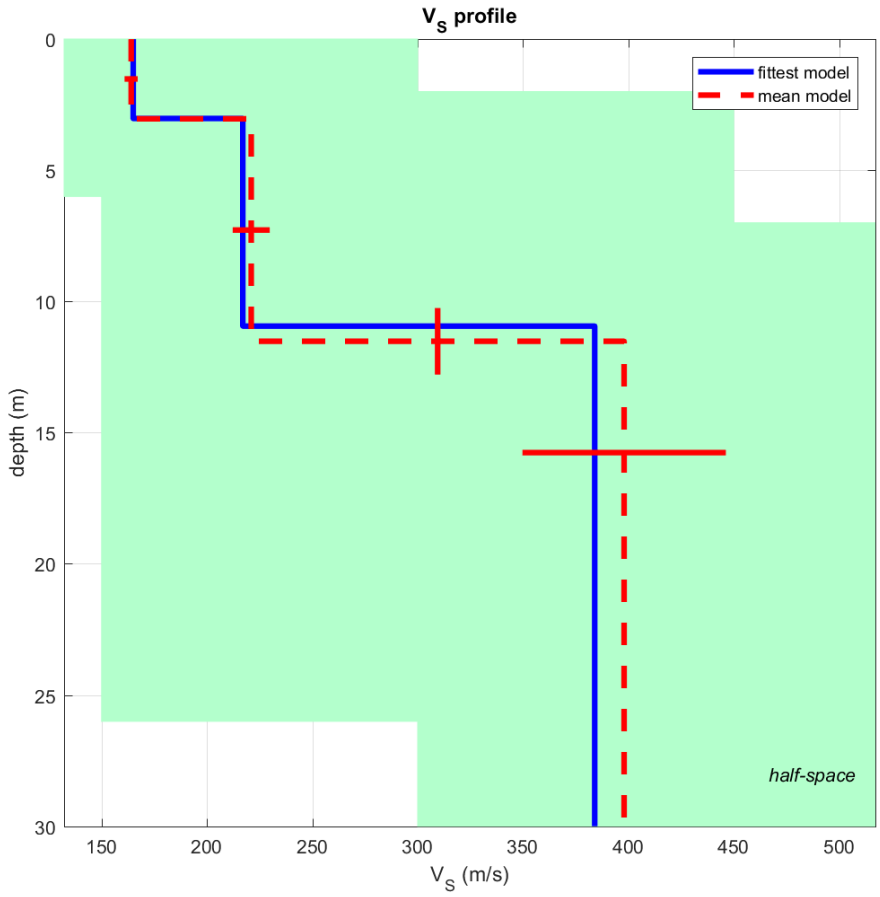
Raw data



Dispersion curve



Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	3.0±0.1	1.8	164±3
2	8.5±1.3	1.8	221±9
Half-space	∞	2.0	398±48
		$V_{S,30}$ (m/s)	291±21

Map


35.58
35.6
32.72
32.7
N
W
E
S
Tzemach 1
Tzemach 2
0 0.25 0.5 1 Kilometers

Report of

MASW Test

Project Data	
Date:	19.8.15
Site:	Tzemach 2
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

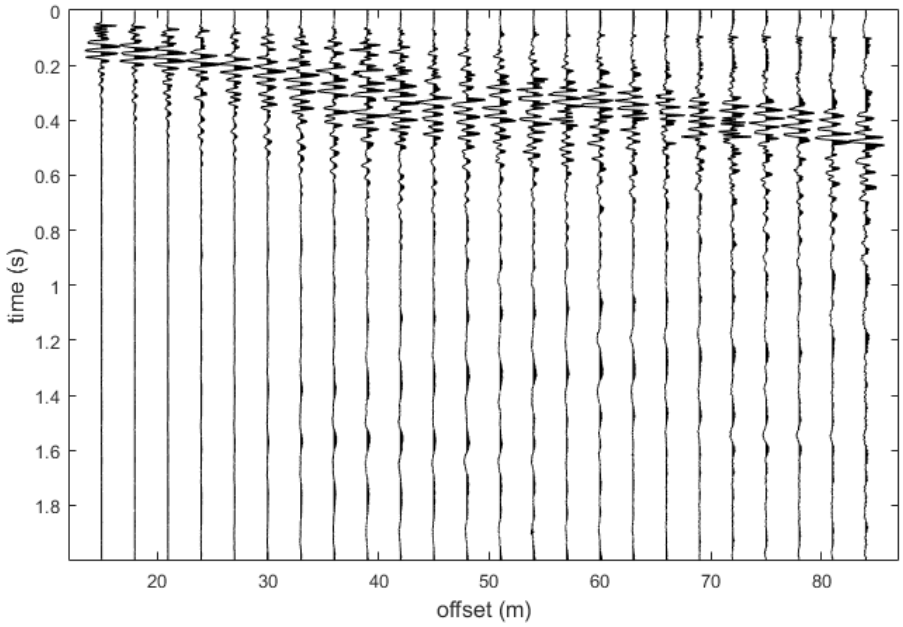
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	32.7023	35.5960	-200

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-15, -10, -5, +5, +10, +15
Record length:	2 Sec
Sampling interval:	0.5 millisecond

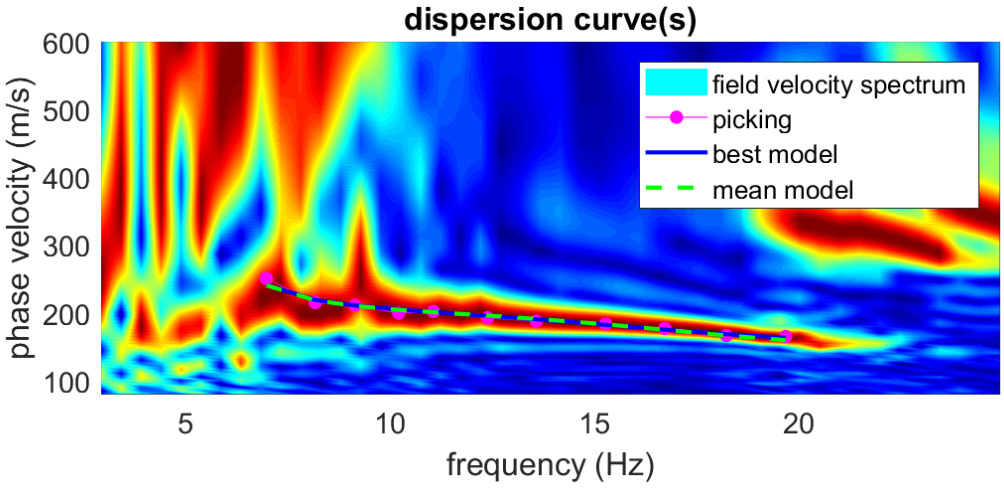
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

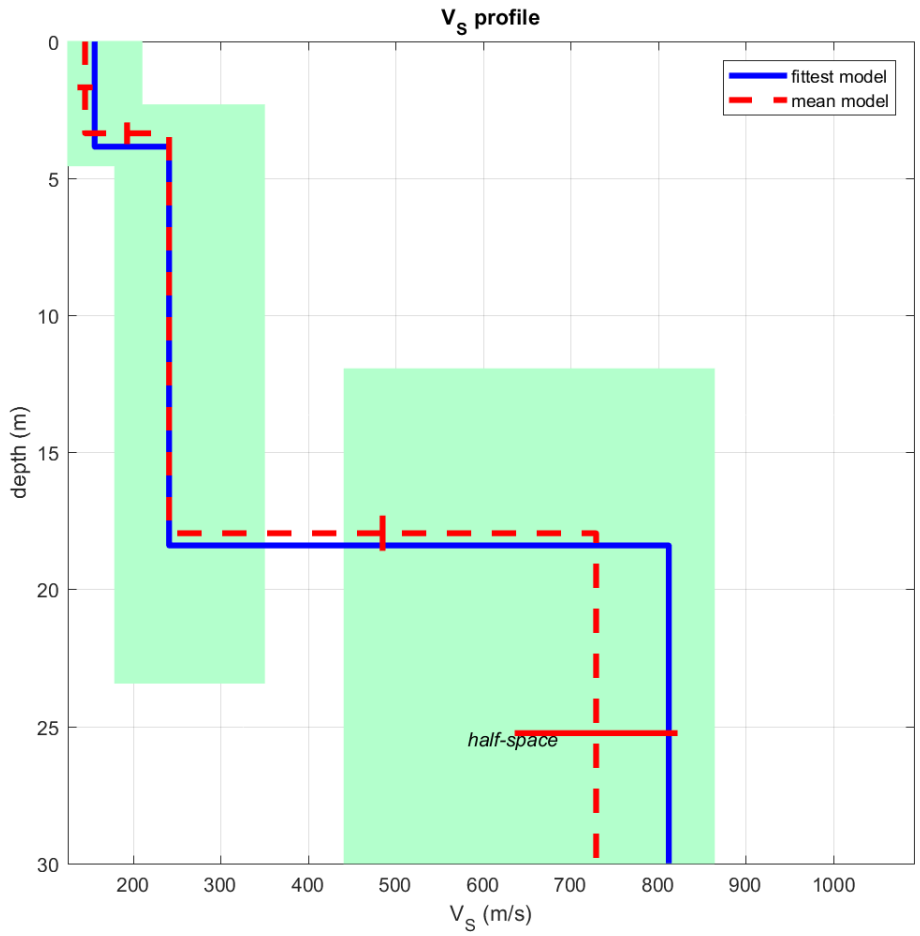
Raw data



Dispersion curve



Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	3.3±0.4	1.7	145±9
2	14.6±0.6	1.9	241±5
Half-space	∞	2.1	729±93
		$V_{S,30}$ (m/s)	300±14

Map


35.58
35.6
32.72
32.7
N
W
E
S
Tzemach 1
Tzemach 2
0 0.25 0.5 1 Kilometers

Report of

MASW Test

Project Data	
Date:	17.12.15
Site:	Tzora
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

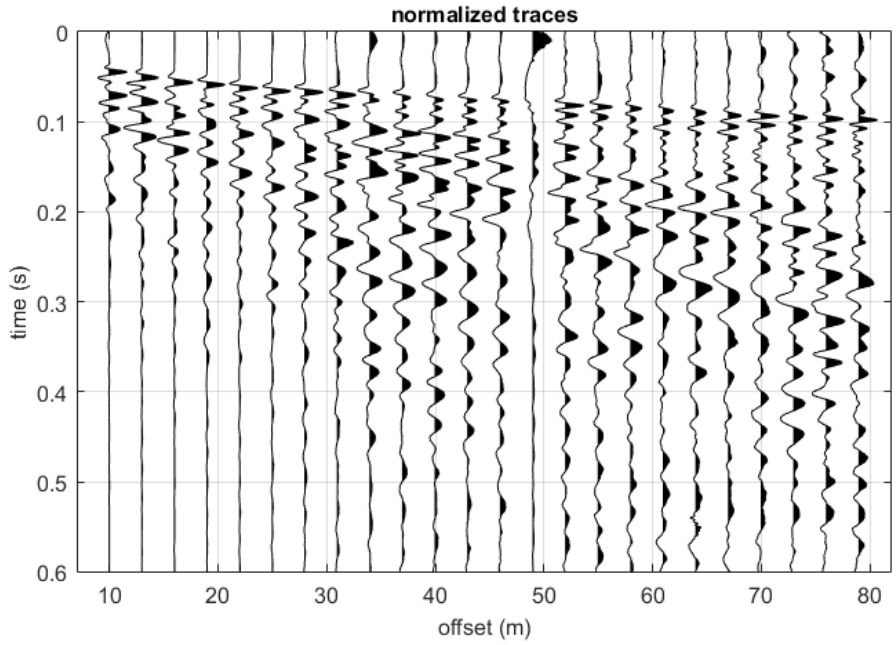
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	31.7653	34.9815	230

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	2 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-20, -15, -10, -5, +5, +10, +15, +20, +25, +30
Record length:	2 Sec
Sampling interval:	0.125 millisecond

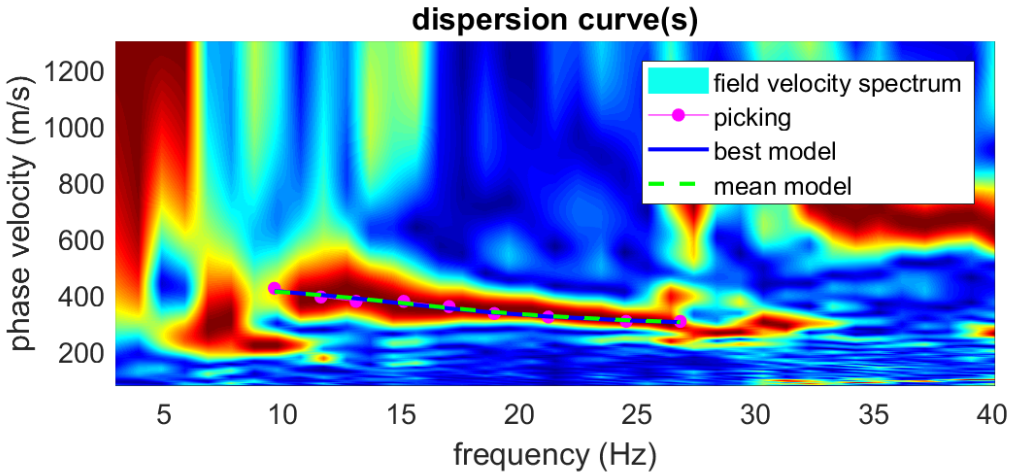
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

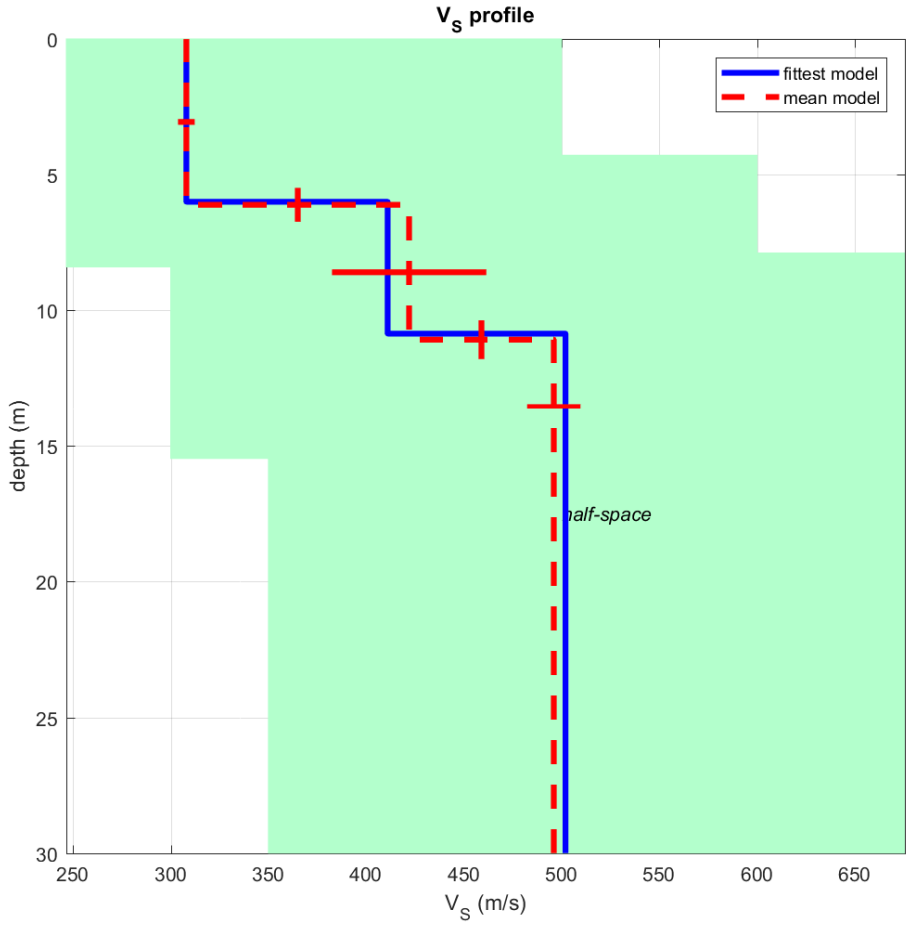
Raw data



Dispersion curve



Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	6.1±0.6	1.9	308±4
2	5.0±0.7	2.0	422±39
Half-space	∞	2.0	496±14
		$V_{S,30}$ (m/s)	430±15

Map

Report of

MASW Test

Project Data	
Date:	17.2.16
Site:	Yavneh 2
Method:	Multichannel Analysis of Surface Waves (MASW)
Field Operator:	Yaniv Darvasi, MSc (Geology)
Interpretation:	Yaniv Darvasi, MSc (Geology) Neev Center for Geoinfomatics, The Hebrew University of Jerusalem  Neev Center for Geoinfomatics

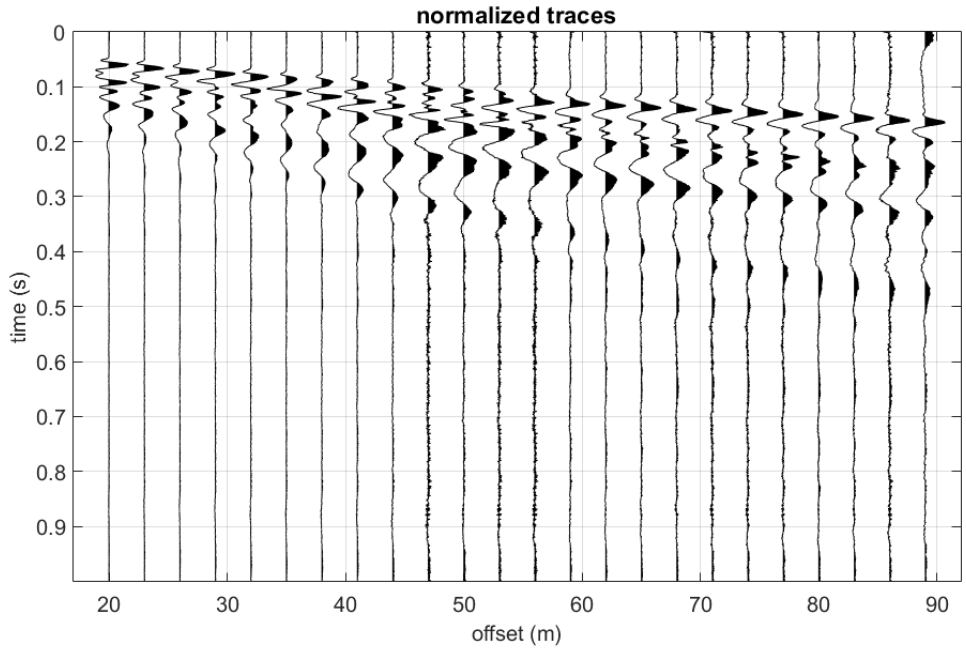
Orientation			
Seismic Line	**Start coordinates**		**Elevation a.s.l (m)**
	Latitude	**Longitude**	
MASW	31.8567	34.7467	32

Acquisition parameters	
Seismograph	Geometrics seismic recording system (Geode)
Number of geophones:	24
Geophones interval:	3 [m]
Line length:	69 [m]
Type of geophone:	Vertical 4.5 Hz
Source:	5 kg vertical sledgehammer
Stacking	5
Sample points offset:	-25, -20, -15, -10, +5, +10, +15, +20, +25
Record length:	1 Sec
Sampling interval:	0.125 millisecond

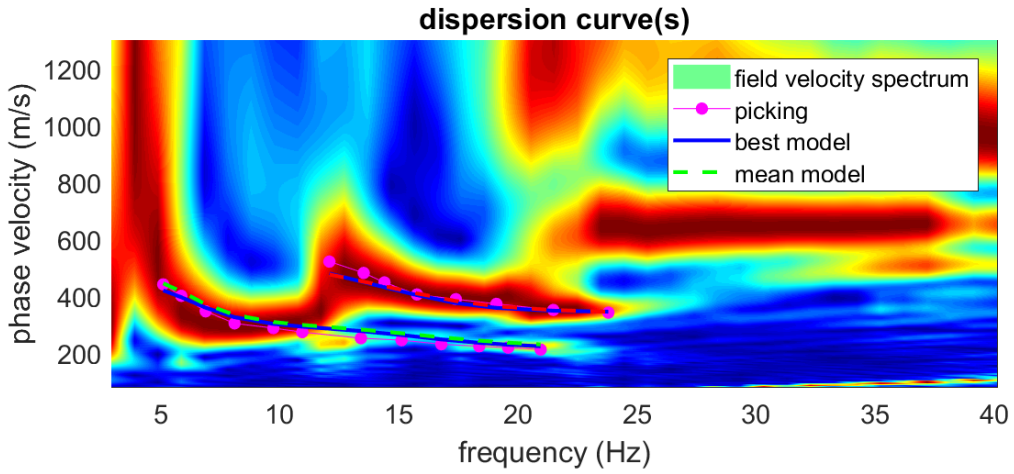
Data Processing
The collected seismic data was processed using the WinMASW software. The processing sequence of the MASW data consists of: 1. Assigning the array geometry (source and receiver locations). 2. Filter out noise 3. Transformation from Space-Time domain to Frequency-Velocity domain 4. Finding the best dispersion image 5. Picking of the fundamental curve and if existing higher modes 6. Generate proper initial model 7. Calculate the shear wave velocities profile by the inversion process

Results

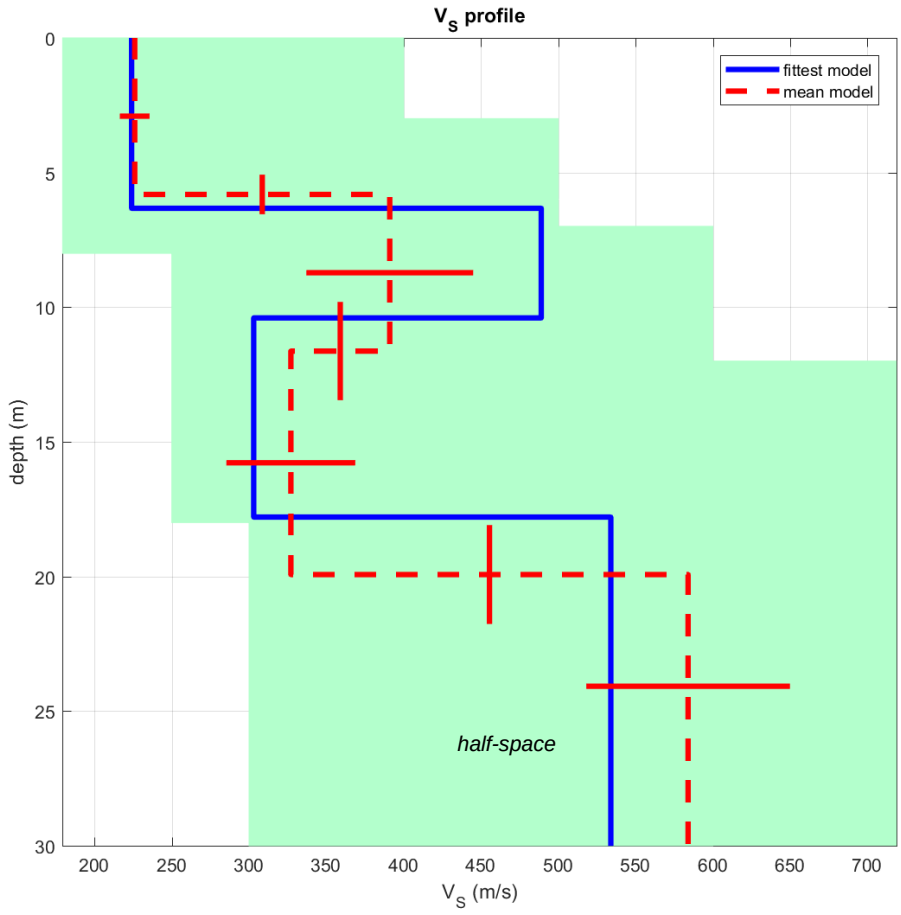
Raw data



Dispersion curve



Shear wave velocity profile



Light green area - the constraints of the model.

Conclusions			
Shear wave velocity model – Line 1			
Layer	**Thickness (m)**	**Density (kg/m^3)**	**V_S (m/s)**
1	5.8±0.7	1.8	226±10
2	5.8±1.8	2.0	391±54
3	8.3±1.8	1.9	327±42
Half-space		2.1	584±66
		$V_{S,30}$ (m/s)	361±36

Map

Seismic intensities (Hough and Avni, 2011)

Name	Distance from epicenter [km]				Location		MMI
	Kaliya east	Kaliya west	Mitzpe Shalem	Almog	Longitude	Latitude	
Abu-Gosh	47	35	36	38	35.104	31.798	6.5
Abu-Dis	32	20	22	23	35.263	31.762	8
Abu-Tlul	85	80	67	90	34.874	31.194	5
Um-el-Fahm	102	93	104	86	35.146	32.511	5.5
Um Juni	115	110	123	100	35.562	32.7	6.5
El Hama	113	109	122	99	35.658	32.681	6.5
El Arish	182	174	164	181	33.755	31.152	4.5
Alexandria	542	532	525	536	29.897	31.203	3
A-Salt	44	44	57	34	35.718	32.041	8.5
Irbid	103	101	115	91	35.849	32.563	7.5
A-Ram	39	27	32	26	35.231	31.852	8
Be’er Sheva	88	82	70	91	34.8	31.238	5
Bira	43	32	38	29	35.22	31.907	6
Bet Alfa	95	89	101	79	35.423	32.511	5
Bet Jala	38	27	25	32	35.178	31.717	7.5
Bet Govrin	65	55	48	62	34.894	31.6	6
Bet Gimal	58	47	43	51	34.967	31.717	6
Bet HaKerem	38	26	28	29	35.199	31.78	5.5
Bet Lehem	36	25	22	31	35.199	31.699	8
Bet Likia	54	41	43	42	35.062	31.861	7
Bet Shean	92	87	99	77	35.497	32.492	6.5
Bet Sorik	44	32	34	34	35.146	31.816	6
Binyamina	112	102	111	95	34.944	32.519	5
Batir	43	31	29	35	35.136	31.726	7
Gedera	79	67	64	70	34.766	31.807	5.5
Gimzoo	67	54	56	54	34.945	31.924	7
Jiftlik	54	48	60	38	35.475	32.141	7
Jaljulia	81	69	75	65	34.945	32.15	4.5
Genin	92	84	96	75	35.295	32.457	6
Jasar-Majami	107	102	115	92	35.561	32.627	8.5
Jeresh	75	76	89	66	35.9	32.283	7
Gesher	106	101	114	91	35.551	32.618	6.5
Alenbi Bridge	23	19	33	9	35.537	31.87	8.5
Bnot – Yaa'kov	149	144	157	134	35.627	33.006	6.5
Daharia	64	57	45	66	34.978	31.41	5.5
Dir-a-Shech	49	37	35	41	35.073	31.744	6.5
Demaskus	216	215	229	205	36.297	33.516	4.5
Daraa'	117	117	131	107	36.073	32.634	6
Zeitim Mountain	34	21	24	24	35.252	31.78	8.5
Toov Mountain	55	43	41	47	35.009	31.762	5
Carmel Mountain	131	122	132	114	35.039	32.754	6.5
Mt. Scopus	34	22	26	23	35.252	31.798	8.5
Herzliya	92	80	84	77	34.796	32.158	5
Vadi Shueib	27	26	39	16	35.611	31.906	8
Zarka	66	71	83	63	36.089	32.066	7
Zichron Yaa'kov	117	107	115	100	34.944	32.565	6
Zarka Maein	14	25	32	25	35.727	31.68	7

Name	Distance from epicenter [km]				Location		MMI
	Kaliya east	Kaliya west	Mitzpe Shalem	Almog	Longitude	Latitude	
Hebron	48	40	29	48	35.104	31.528	7
Haifa	138	129	139	121	34.996	32.808	6
Tabha	134	129	142	119	35.53	32.871	6
Tiberias	124	119	132	109	35.541	32.781	7
Tool-Karem	88	78	86	72	35.019	32.303	6
Tapila	91	98	86	107	35.607	30.842	5
Yalo	56	44	44	46	35.02	31.834	7
Yavneh	82	70	69	72	34.745	31.87	5
Jafa	90	77	80	76	34.754	32.059	6
Jerusalem	36	24	26	27	35.22	31.78	7
Armon-HaNatziv	32	20	21	24	35.252	31.744	8.5
Holly Mountain	35	22	25	25	35.241	31.78	7.5
Jericho	25	16	29	8	35.453	31.861	7
Jru. – Jericho Road 1	23	11	22	9	35.4	31.798	8
Jre. – Jericho Road 2	23	12	23	9	35.41	31.807	8
Amman – Jordan Road	18	21	33	14	35.643	31.816	8
Michmach Village	36	24	31	23	35.273	31.861	8
Shiloach Village	34	22	23	25	35.241	31.762	7
Kafaringi	71	68	82	58	35.698	32.293	8
Karach	54	63	54	71	35.692	31.184	6.5
Lod	72	60	62	60	34.892	31.951	8
Ashkelon	95	84	78	89	34.576	31.659	5
Migdal Yava	76	64	68	61	34.945	32.078	6.5
Midba	21	31	40	29	35.79	31.725	7.5
Motza	42	30	31	33	35.157	31.789	6
Maa'n	164	171	160	180	35.717	30.188	5
Maa'yan Elisha	27	18	30	10	35.432	31.87	7
Mrar	136	130	142	120	35.402	32.88	7
Masada	44	46	32	56	35.357	31.311	8
Merhavia	106	99	110	90	35.306	32.592	6
Mar-sava	24	12	13	19	35.336	31.708	6.5
Meslovia	12	17	28	13	35.632	31.761	6
Nabi – Musa	19	8	20	7	35.431	31.78	7.5
Nahalal	119	111	122	102	35.188	32.682	4.5
Nahariya	156	148	159	139	35.092	33.007	4.5
Sorek River	69	57	55	59	34.872	31.798	7
Nes-Ziona	79	67	67	68	34.797	31.924	6.5
Nazeret	118	111	122	102	35.295	32.7	7
Salfit	60	49	57	43	35.178	32.078	7.5
Sweida	149	152	165	142	36.575	32.702	7
Abadia	113	108	121	98	35.551	32.682	7
Ajloon	75	73	87	63	35.741	32.329	8
Gaza	108	98	90	104	34.462	31.499	6.5
Azraa'	145	146	159	135	36.235	32.849	6
Atara	52	40	48	36	35.199	31.997	7
Ein-el-Kelt	27	16	26	13	35.368	31.834	8
Ein Dok	28	19	31	11	35.432	31.879	8
Ein Harod	101	94	106	84	35.391	32.556	6.5
Ein Karem	41	29	29	32	35.168	31.771	7.5
Ein Musa	18	26	36	22	35.727	31.761	7
Ein Kinia	50	38	43	36	35.146	31.925	7

Name	Distance from epicenter [km]				Location		MMI
	Kaliya east	Kaliya west	Mitzpe Shalem	Almog	Longitude	Latitude	
Ein Fara'	72	64	76	56	35.348	32.285	7
Acre	148	139	150	131	35.071	32.925	7.5
Anab	69	62	51	71	34.926	31.392	6.5
Afula	108	100	112	91	35.284	32.601	7
Akaba	243	246	232	256	35.003	29.534	4
Ekron	74	62	61	64	34.829	31.852	6.5
Peqi'in	147	140	152	131	35.327	32.971	4.5
Petah Tikva	80	68	72	65	34.903	32.096	5.5
Tzemach	116	111	124	101	35.583	32.709	7
Safed	144	139	151	129	35.488	32.961	6.5
Tzora	58	46	44	50	34.978	31.771	8
Kabab	83	71	70	72	34.745	31.888	7
Cairo	456	448	437	455	31.201	30.04	3.5
Kunetra	163	160	173	150	35.821	33.122	4
Kalkilia	83	71	77	67	34.955	32.186	6.5
Kiriat Anavim	47	35	35	36	35.115	31.807	7
Rammala	44	32	38	30	35.199	31.897	7.5
Rosh Ha'ayin	78	66	71	64	34.924	32.096	6
Amman	46	51	63	44	35.929	31.95	8.5
Rehovot	77	65	65	66	34.808	31.897	6.5
Reina	120	113	124	104	35.295	32.718	8
Ramleh	73	61	62	61	34.871	31.924	8
Ramat Yishai	121	113	124	105	35.167	32.7	6
Ramat Rachel	36	24	23	28	35.21	31.735	6.5
Refidie	70	61	71	53	35.231	32.222	8
Shunam	107	99	111	90	35.327	32.601	7
Givatayim	86	74	76	72	34.807	32.068	5
Nablus	68	59	69	51	35.252	32.213	8
Tel Aviv	89	77	79	76	34.765	32.068	6
Tel Yosef	98	91	103	82	35.391	32.529	6.5
Dead sea North 1	12	8	22	5	35.526	31.762	9
Dead sea North 2	13	1	15	9	35.463	31.726	9
Dead sea North 3	12	5	18	6	35.495	31.744	9
Jordan Bank	18	14	28	4	35.537	31.825	9
Yarmuch fall	113	109	123	99	35.668	32.681	8.5