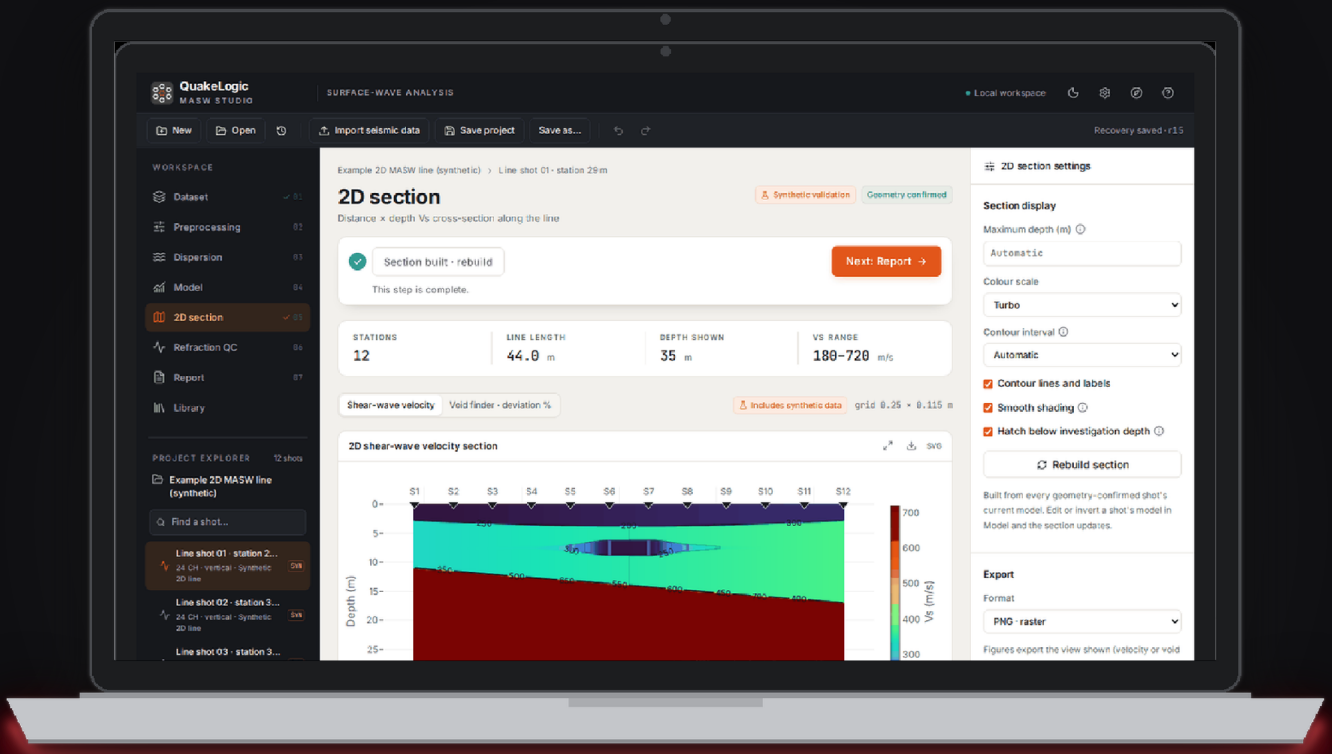
QUAKELOGIC

DATASHEET

QUAKEX · SURFACE-WAVE ANALYSIS SOFTWARE

MASW Studio

Windows desktop software that takes multichannel surface-wave shot records from the seismograph to a layered shear-wave velocity profile, Vs30, a 2D Vs section and a technical PDF report, entirely offline.



IMPORT

SEG-2 · SEG-Y · DRM

up to 512 channels per shot

DISPERSION

F–V · F–K imaging

named multi-mode picking

INVERSION

Bounded inversion

Rayleigh and Love modes

OUTPUT

Vs30 · 2D Vs · PDF

void finder deviation view

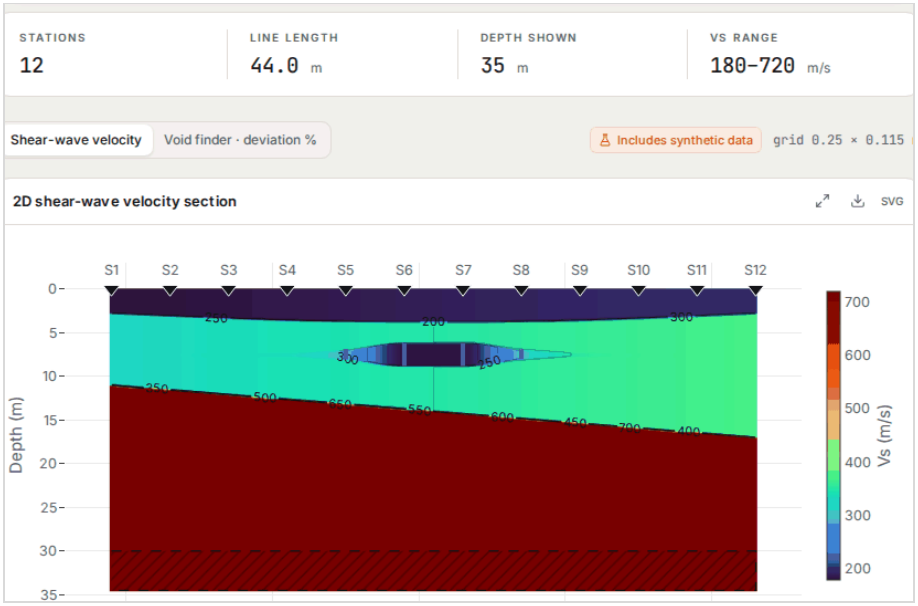
CUSTOMER SATISFACTION 100% GUARANTEED

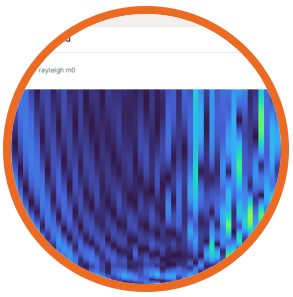
Software developed in the USA by QuakeLogic Inc.

Roseville, California · sales@quakelogic.net · products.quakelogic.net

MASW Studio

MULTICHANNEL ANALYSIS OF SURFACE WAVES · WINDOWS DESKTOP







FROM FIELD RECORDS TO VS30 AND 2D SECTIONS

MASW Studio is a standalone Windows application for active-source MASW surveys, developed in the USA by QuakeLogic Inc. It takes multichannel shot records through preprocessing, dispersion imaging and picking, forward modelling and bounded inversion to a layered shear-wave velocity profile, Vs30, a 2D Vs section of the whole line and a technical PDF report. It runs entirely offline, records every processing step and never modifies the raw field data.

- Reads field data directly: SEG-2, SEG-Y, DRM (.drm) and text exports, recognised from the file contents, a whole survey line at once.
- Defensible results: every step and parameter is recorded in the project, and Vs30 is reported only within the declared interpretation depth.
- The 2D void finder shows each point against its layer average along the line, flagging slower ground, loose fill and possible voids in red.
- Fully offline with no account, activation or telemetry: projects and recovery copies stay on your own computer, ready for remote field sites.

STANDARD FEATURES »

- SEG-2, SEG-Y, DAT, DRM import
- Geometry, units and elevations
- Butterworth filters
- Time and linear mutes
- Phase-shift F–V imaging
- F–K spectrum
- Aliasing and aperture QC
- Click-to-pick named modes
- Rayleigh and Love modelling
- Bounded least-squares inversion
- Vs30 average line (0–30 m)
- 2D Vs section of the line
- 2D section from one long record
- Void finder deviation view
- Refraction first-arrival QC
- PDF report with live preview
- PNG, SVG, PDF and CSV export
- Library of past analyses
- Guided tour and example data

QUAKELOGIC

KEY FEATURES

- **Direct field-data import.** SEG-2 (including 20-bit), SEG-Y, DRM (.drm) and time-column text, with geometry and units read from the headers and confirmed before analysis.
- **Transparent preprocessing.** Detrend, zero-phase Butterworth filters and mutes are previewed beside the original record, then applied as a recorded, removable sequence.
- **Dispersion imaging.** Phase-shift F–V and F–K transforms with phase-coherence normalisation, plus aperture and spatial-aliasing guides showing what the array can resolve.
- **Mode picking.** Click to trace the fundamental and higher modes as named curves, each with explicit uncertainty carried into the inversion.
- **Modelling and inversion.** Rayleigh and Love modes of a layered elastic earth and a bounded, uncertainty-weighted inversion with full convergence history.
- **2D section and void finder.** Station models along a roll-along line become a smooth distance–depth Vs section, with investigation depth hatched and velocity inversions flagged.
- **Reporting.** A branded technical PDF with survey details, site photos, figures and tables, previewed page by page before saving.
- **Library.** Every analysis on the computer is searchable by client, site or notes, and can be reopened or merged into a new project.

PRODUCT FEATURES

Data import
SEG-2 rev 1 · SEG-Y rev 0–2 · DRM (.drm) · CSV/TXT/DAT text · up to 512 channels

Processing
Detrend · Butterworth low/high/band-pass · time and linear mutes · trace edit, stack, split

Dispersion
Phase-shift F–V · F–K · coherence or energy normalisation · acquisition QC guides

Modelling
Rayleigh (P–SV) and Love (SH) modes · multi-mode forward curves · model comparison

Inversion
Bounded trust-region least squares · fixed Vp and density · convergence history

Interpretation
Vs30 travel-time average · declared interpretation depth · 2D Vs and deviation sections · sloping ground

Output
Technical PDF report · PNG/SVG/PDF figures · CSV tables · self-contained .qlmasw projects

For more information about the features, specifications and licensing of MASW STUDIO, please contact QuakeLogic.

SOFTWARE CONFIGURATION

COMPONENT	CONFIGURATION
Application	Native Windows desktop application, 64-bit, bundled runtime
Installer	One installer; no separate runtime to install
Projects	Self-contained .qlmasw files with raw data and history
Recovery	Automatic local recovery copies, undo and redo
Display	Resizable window; light and dark themes
Internet connection	Not required; runs fully offline
Telemetry	None; no account and no activation
Licence	Perpetual; no activation or licence file
Full version	Every installation; nothing to unlock
Updates	New versions on the QuakeLogic download page
Guidance	Guided tour, example SEG-2 records, built-in user guide
Support	support@quakelogic.net · reply within 3 business days

SYSTEM REQUIREMENTS & SUPPORTED FIELD DATA

SPECIFICATION	VALUE
Operating system	Windows 10 (1809 or later) or Windows 11, 64-bit
Memory	8 GB RAM recommended
Disk space	About 1 GB
SEG-2	.sg2 · .seg2 · .seg · .dat; 16/32-bit integer, 20-bit, IEEE float
SEG-Y	.sgy · .segy · .dat; IBM/IEEE float, 8/16/32-bit integer
DRM recordings	.drm field recordings with header geometry
Text columns	.csv · .txt · .dat · .asc; time in s or ms
Channels per shot	1 to 512; up to 256 MiB and 32 million samples per record
Survey lines	Multi-shot import for roll-along 2D lines; metres or feet

INCLUDED WITH EVERY LICENCE

DELIVERY & INSTALLATION

Digital delivery of the Windows installer with SHA-256 checksums, a START HERE guide and example field records. Full version on every installation.

TRAINING

Narrated training video with captions, and a field guide covering equipment setup, array geometry and acquisition checklists.

LICENCE & SUPPORT

Written licence agreement (EULA) issued by QuakeLogic Inc. Email support at support@quakelogic.net, answered within three business days.

DOCUMENTATION

Built-in user guide, brochure and user guide PDF, third-party notices and an example dataset with a guided tour.

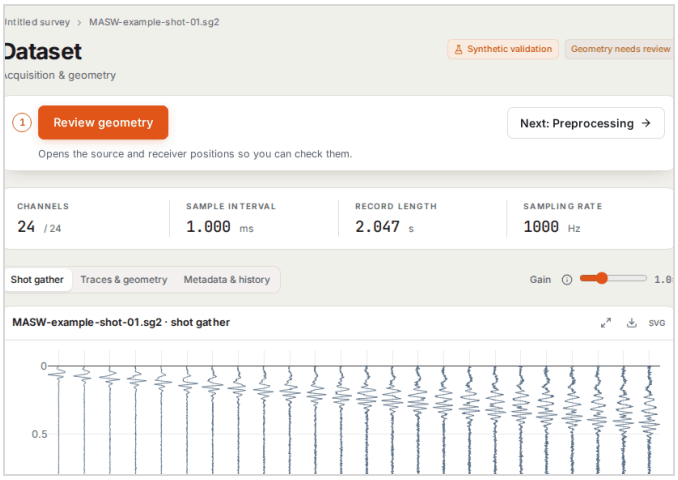
TECHNICAL SPECIFICATIONS

SPECIFICATION	DESCRIPTION
Application	Native Windows desktop window
Architecture	64-bit, bundled runtime
Network use	None; no ports, no cloud
Telemetry	None
Max channels	512 per shot
Max record	256 MiB, 32 million samples
Import formats	SEG-2, SEG-Y, DRM, CSV/TXT/DAT
SEG-2 encodings	Codes 1–5 incl. 20-bit
Filters	Butterworth order 1–10, zero-phase or causal
Mutes	Time window and linear
F–V transform	Phase shift (Park et al. 1999)
Normalisation	Phase coherence or energy
F–K transform	2D spatial Fourier
QC guides	Aperture and spatial aliasing
Picking	Named modes with uncertainty
Wave types	Rayleigh (P–SV), Love (SH)

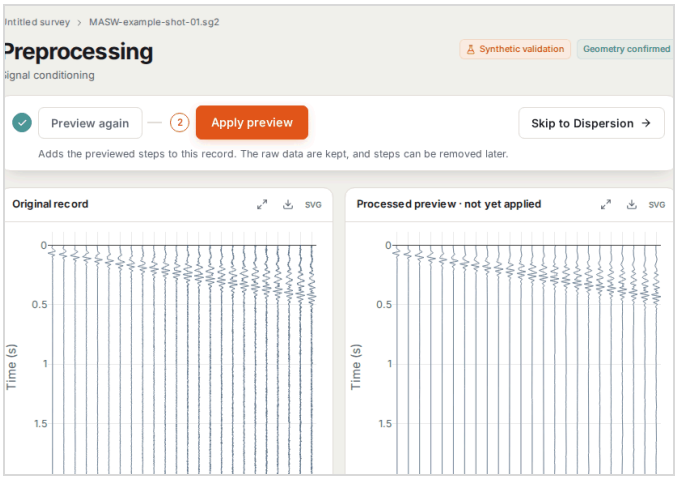
SPECIFICATION	DESCRIPTION
Forward solver	Dunkin / Thomson–Haskell
Inversion	Bounded trust-region least squares
Model	Layered Vs; Vp and density fixed
Vs30	Travel-time average, 0–30 m
2D section	Shape-preserving; elevation view
Void finder	Deviation from layer mean, %
Section QC	Investigation depth hatching
Refraction QC	First-arrival picks and velocities
Report	Branded PDF with page preview
Figure export	PNG, SVG and PDF
Table export	CSV
Project file	.qlmasw, checksummed
History	Undo, redo, recovery copies
Guidance	Guided tour, example SEG-2, user guide
Licensing	Perpetual, no activation
Full version	Every installation

Images are representative. Specifications describe the standard MASW Studio configuration, version 1.3.3.

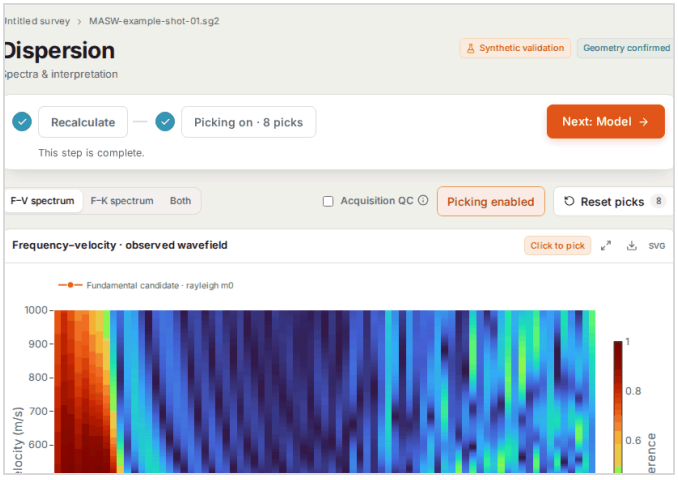
APPLICATION WORKSPACES



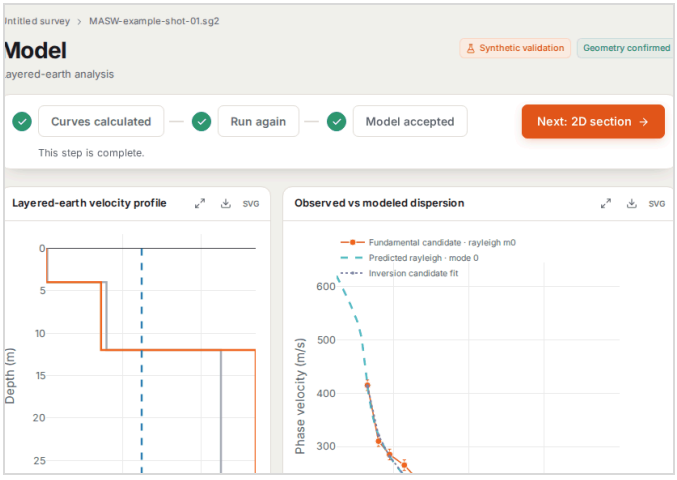
SHOT GATHER



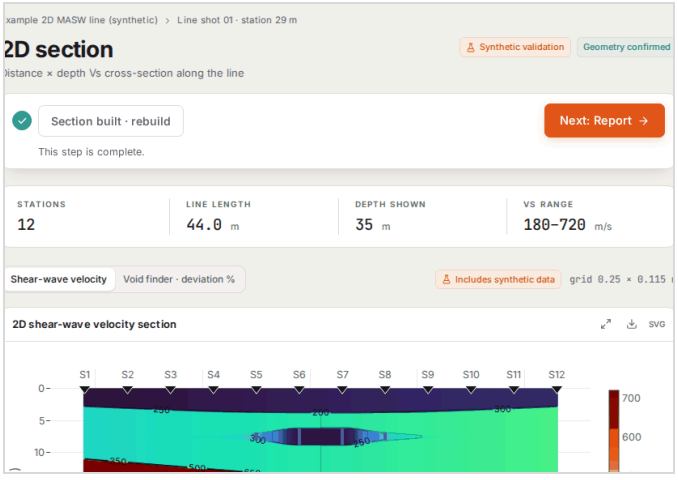
FILTER PREVIEW



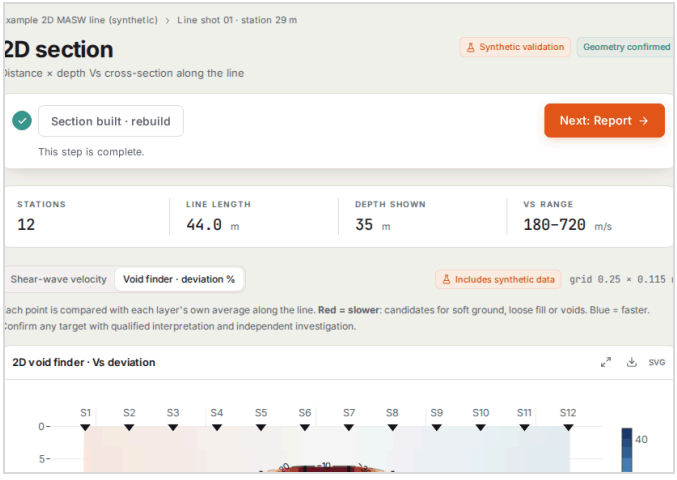
MODE PICKING



VS PROFILE & VS30



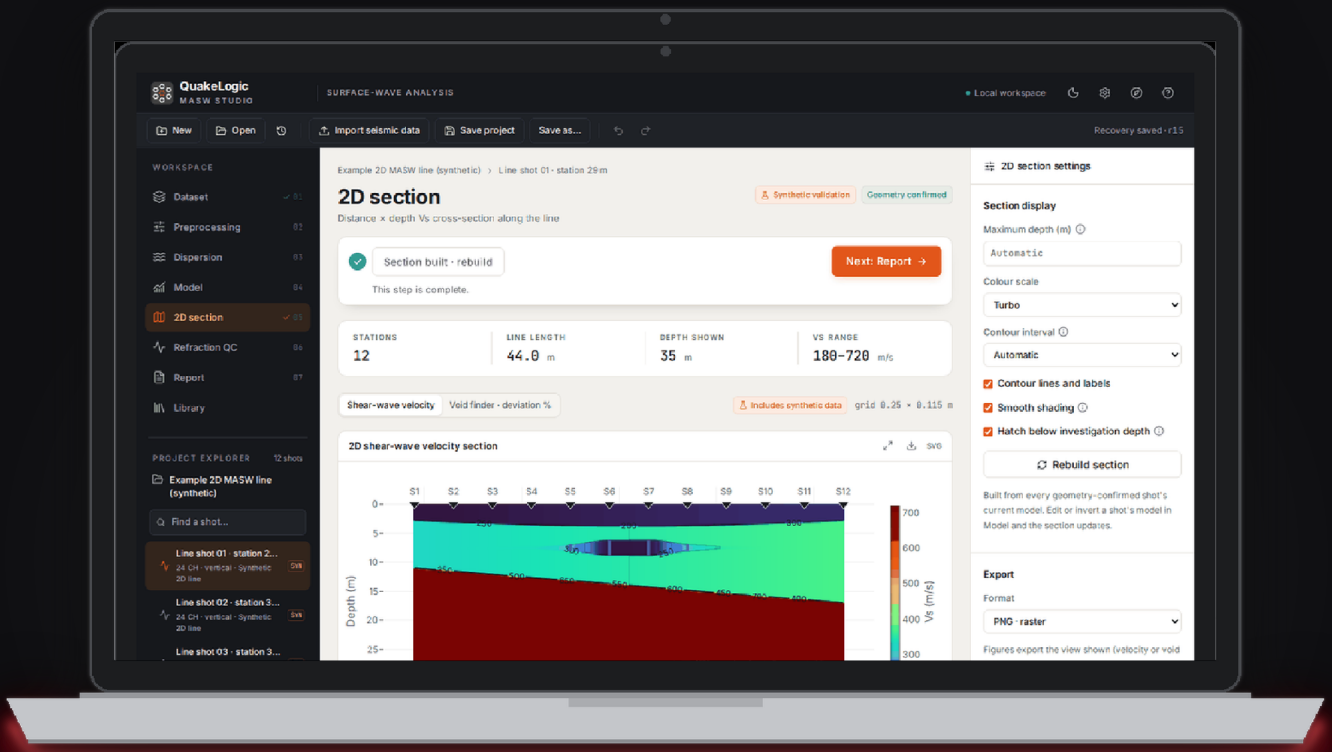
2D VS SECTION



VOID FINDER

Screens are representative and show the example dataset supplied with MASW Studio.

QUAKELOGIC



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VIEW PRODUCT

Scan for the MASW Studio product page.

QuakeLogic Inc. is a California-based engineering and technology company. MASW Studio is developed, published and supported in the USA by QuakeLogic Inc., committed to quality and customer satisfaction through reliable solutions and dependable support.

CUSTOMER SATISFACTION 100% GUARANTEED

Software developed in the USA by QuakeLogic Inc.
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