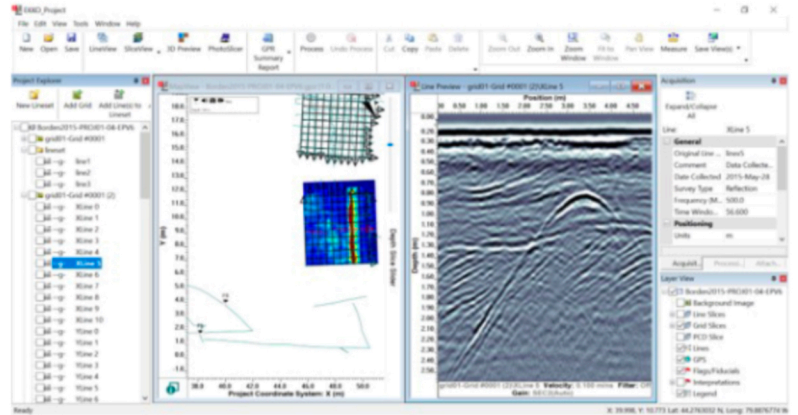## EKKO_Project makes powerful GPR data analysis simple

With EKKO_Project you spend less time organizing, editing and processing your GPR data, giving you more time to interpret and extract valuable insights.

With intuitive data visualization tools, you can view your data from different perspectives to gain a deeper understanding, and then quickly and easily produce impressive reports to share your findings.

EKKO_Project is a must for anyone using Sensors & Software GPR systems.

Software Bundles

Our software bundles consist of powerful modules that build onto EKKO_Project™ Core and expand your data analysis and visualization capabilities.

EKKO_Project Core

Examine
- LineView
- Interpretation
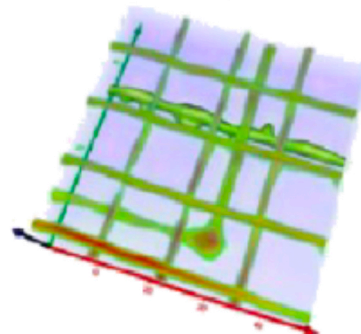
Reveal
- LineView
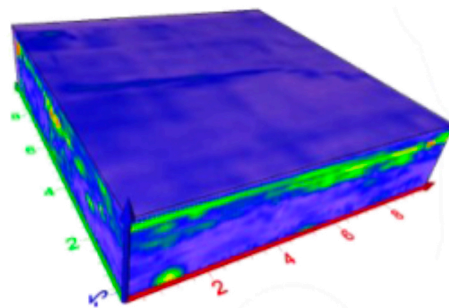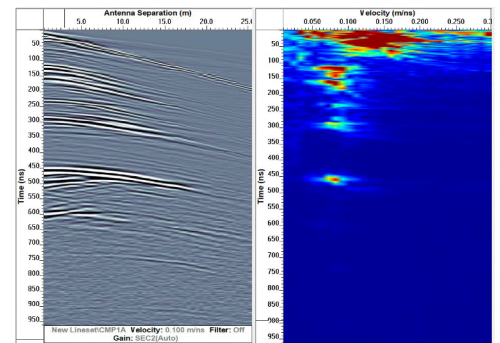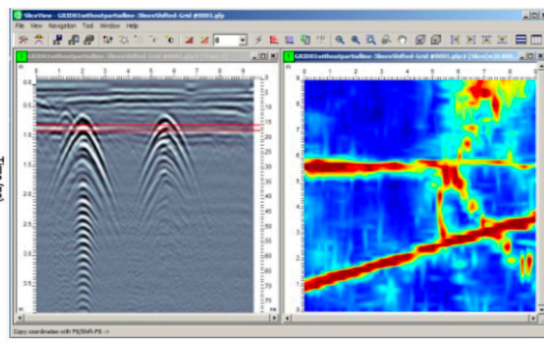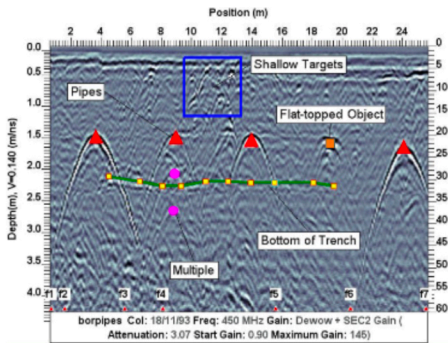- Interpretation
- SliceView

3D Reveal
- LineView
- Interpretation
- SliceView
- Voxler

Suite
- LineView
- Interpretation
- SliceView
- Processing

3D Suite
- LineView
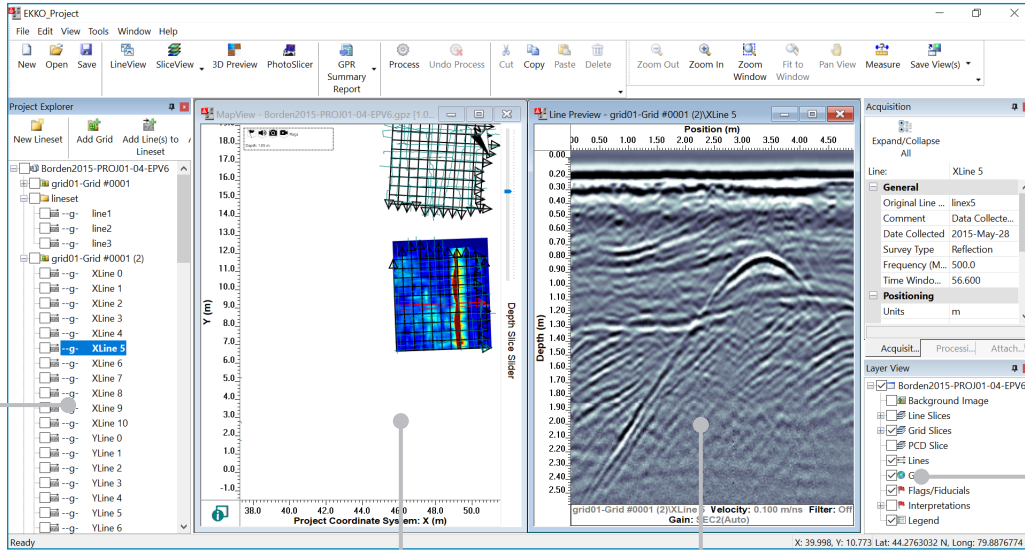- Interpretation
- SliceView
- Processing
- Voxler

Organize GPR Data & Report Insights

Included in all modules

See your entire project in a single view

Project Explorer: Automatically organize your GPR data

Attachments: Attach photos and other files to your project

Layer View: Select which Layers of Data to display

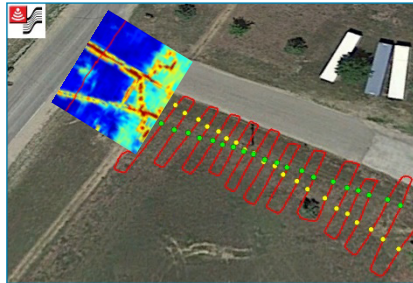**MapView:** Bird's Eye view of all the data in your project

Line Preview: View GPR line data
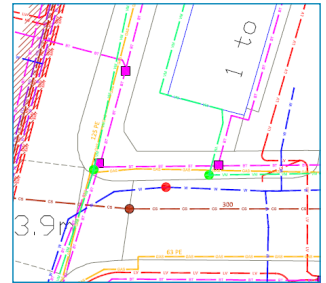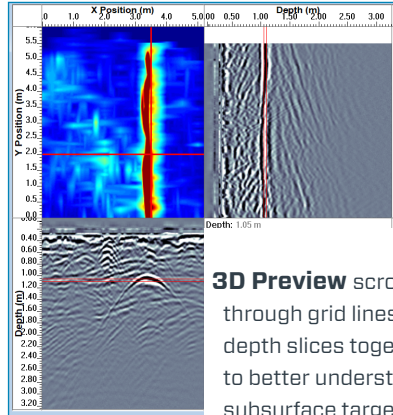

Generate Reports in multiple file formats

PDF

Google Earth KMZ

Spreadsheet CSV
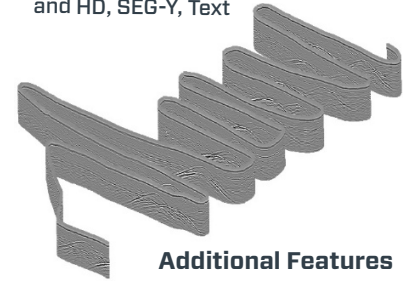

AutoCAD DXF

PhotoSlicer displays depth slices on site photos
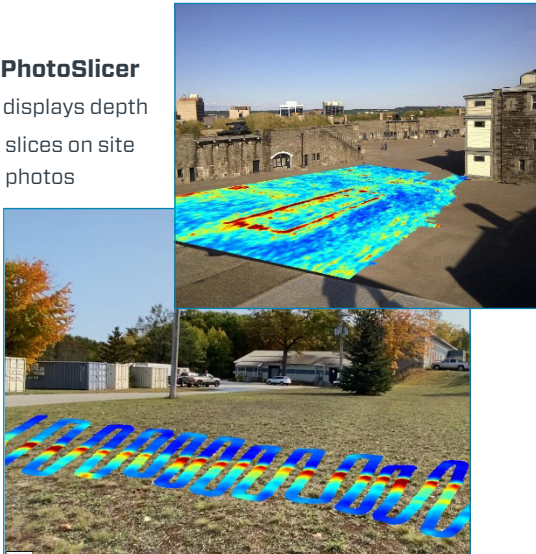
3D Preview scroll through grid lines and depth slices together to better understand subsurface targets

Export lines to Point Cloud, DT1 and HD, SEG-Y, Text

Additional Features
- Create Animations
- Geo-reference Data
- Reposition Lines
- Merge Lines
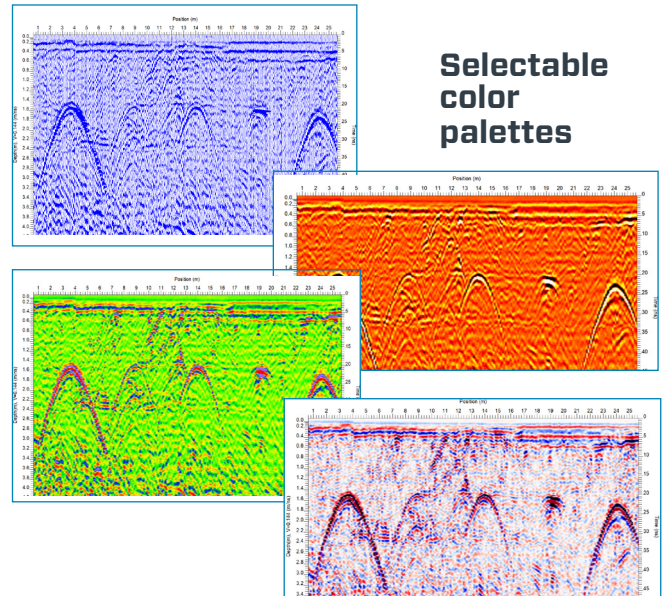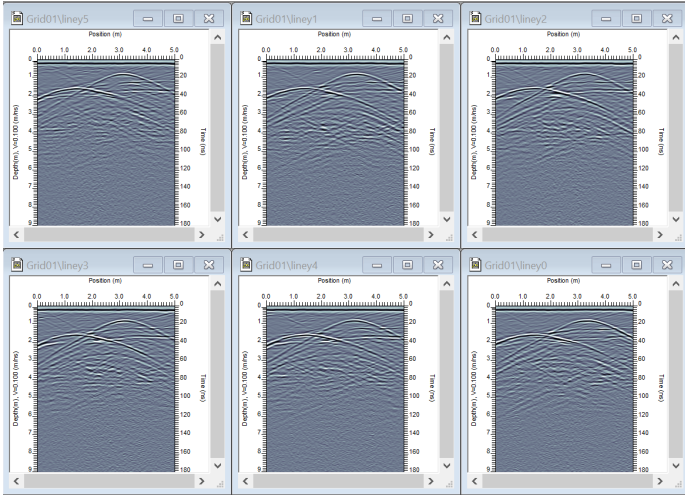- Edit Grids
- Plot Amplitude Spectra
- Plot Frequency Spectra

GPZ Files All GPR data, attachments and analysis files are saved in one file for easy distribution and archiving
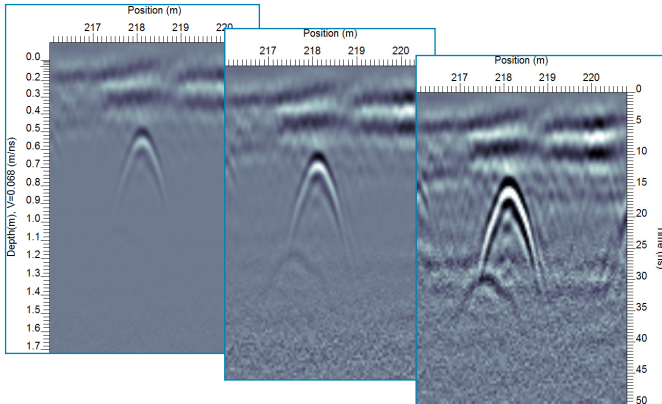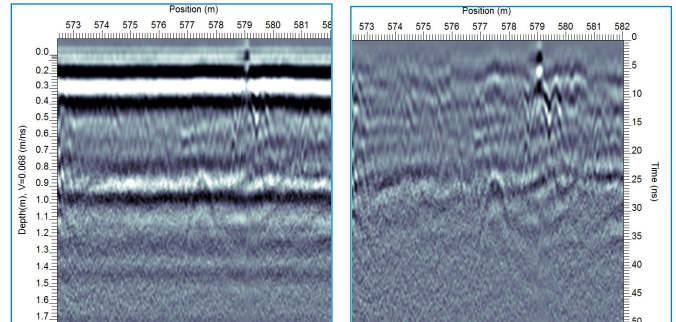
Visualize • Understand • Report

Optimize GPR Line Data

Plot and scroll multiple lines simultaneously to quickly identify targets in your data
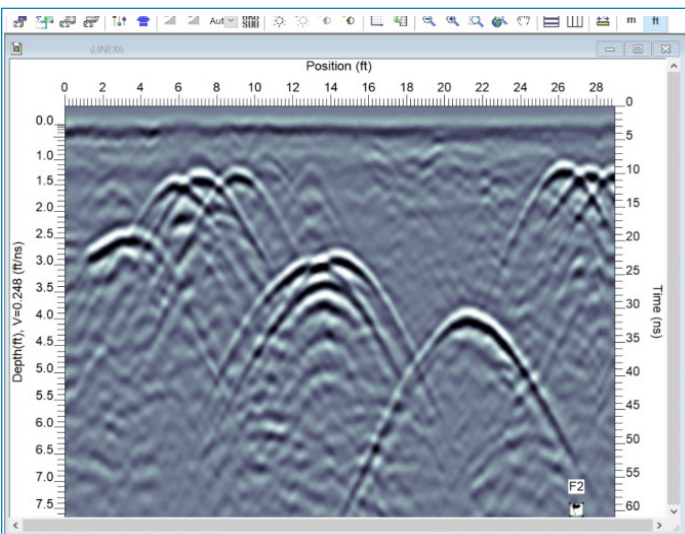

Selectable color palettes

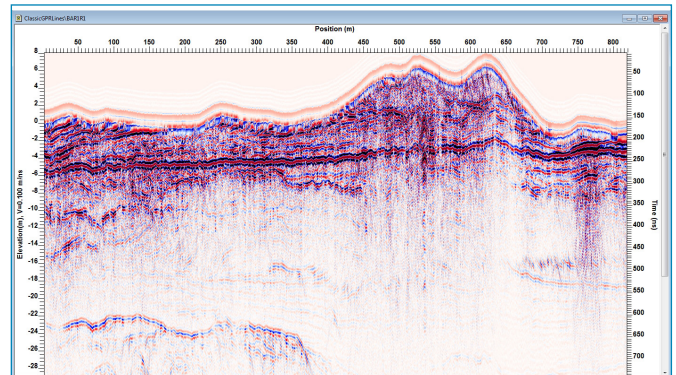## Adjust Gain to ensure deeper, weaker targets are identified

Remove flat lying reflectors that mask target hyperbolas with the background subtraction filter

Adjust Font and Axes

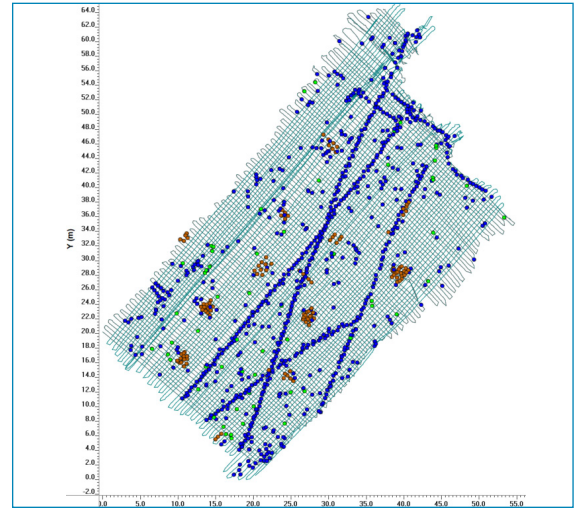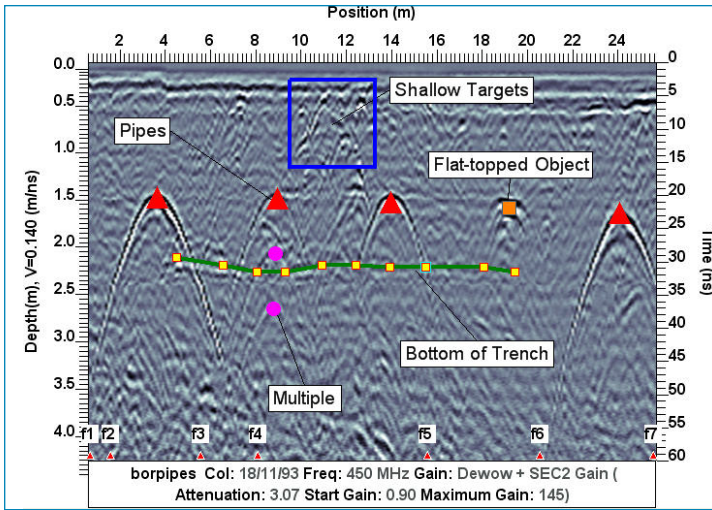## Plot lines corrected for elevation

Additional Features:

- Show target position on Google Earth
- Perform a Velocity Calibration
- Display time scale
- Save images for reports in one click

Included in Bundles
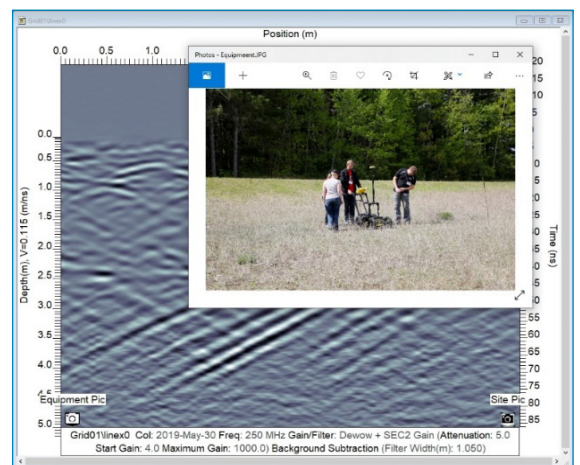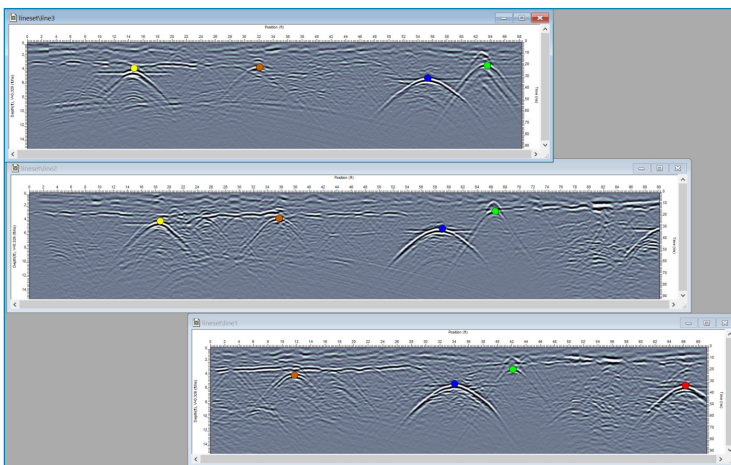- Examine
- Reveal
- 3D Reveal
- Suite
- 3D Suite

Visualize • Understand • Report

Add insights to Your GPR Data

Augment your report by adding interpretations to the GPR lines: Points, Polylines, Boxes, Annotations

Plotting Interpretations in MapView confirms the locations of utilities and reveals weaker targets that could be missed

Add interpretations to multiple lines simultaneously

Add photos, videos and audio files to multi-media flags to assist with interpretations
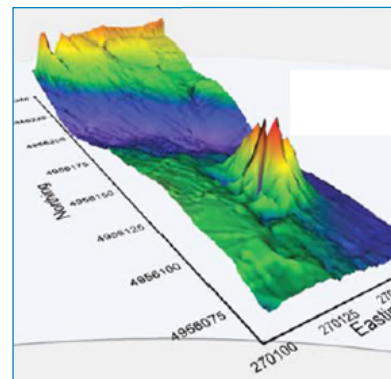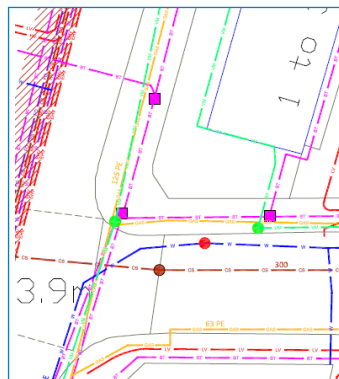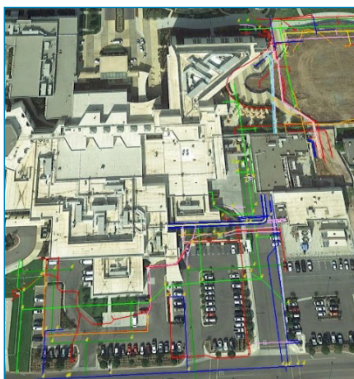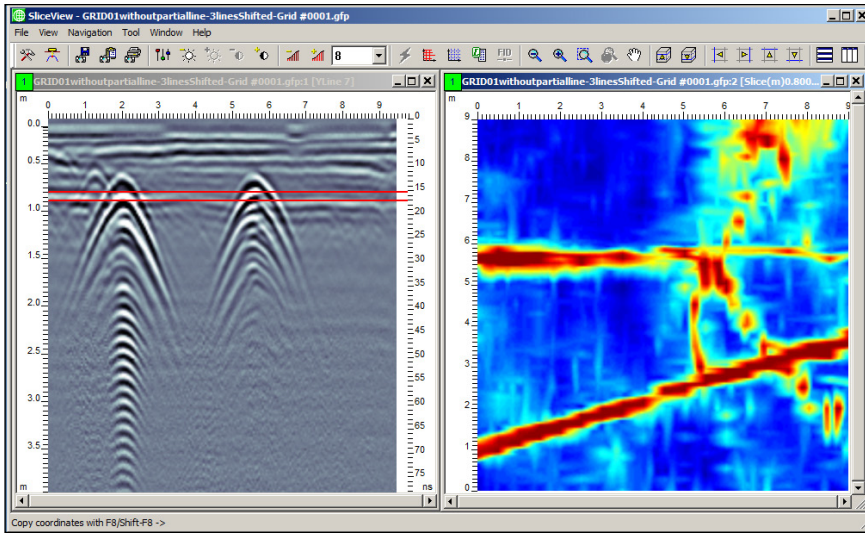

Export interpretations to other file formats: Google Earth KMZ, Spreadsheet CSV, CAD, GIS

Included in Bundles
- Examine
- Reveal
- 3D Reveal
- Suite
- 3D Suite
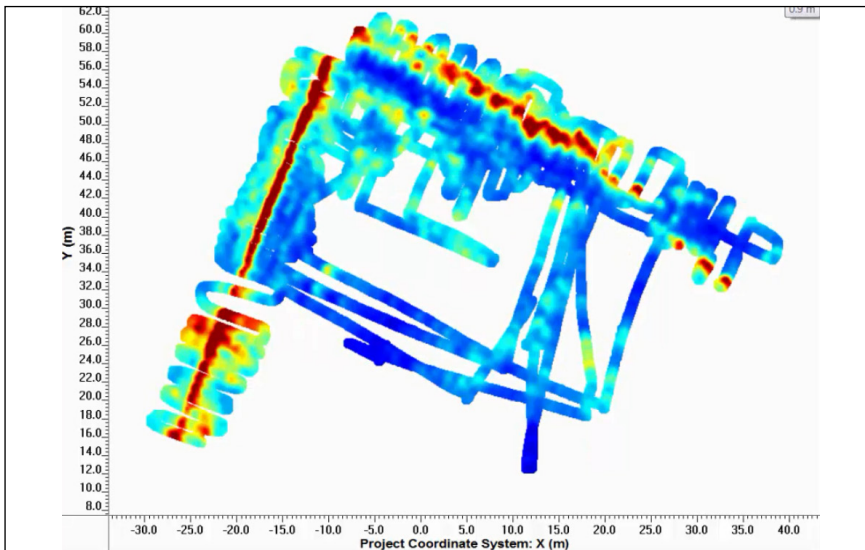
Visualize • Understand • Report

# Display GPR Data as Depth Slices and Slice Down to Reveal Targets

SliceView-Grid

Visualize large volumes of grid data in a map view as a series of depth slices. Scroll down through the slices to assist with interpretating the data
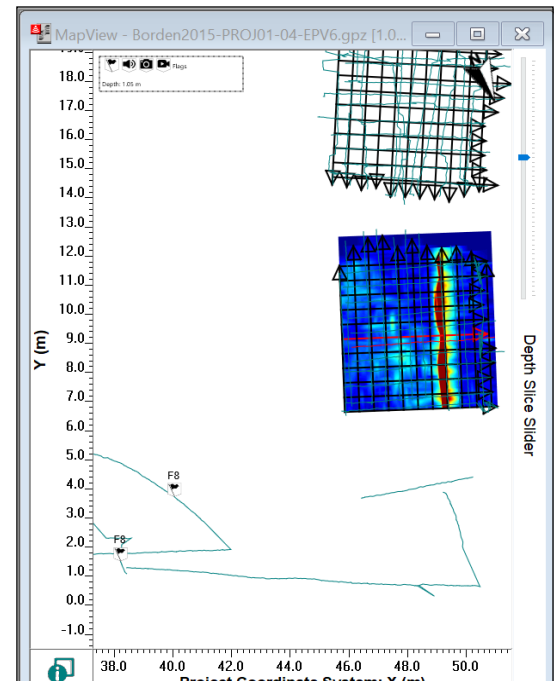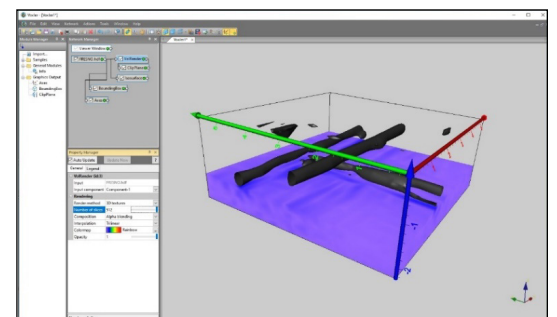

Once processed, depth slices are displayed as a layer in the MapView window in EKKO_Project

SliceView-Lines

Process and display line data collected with an external GPS as depth slices
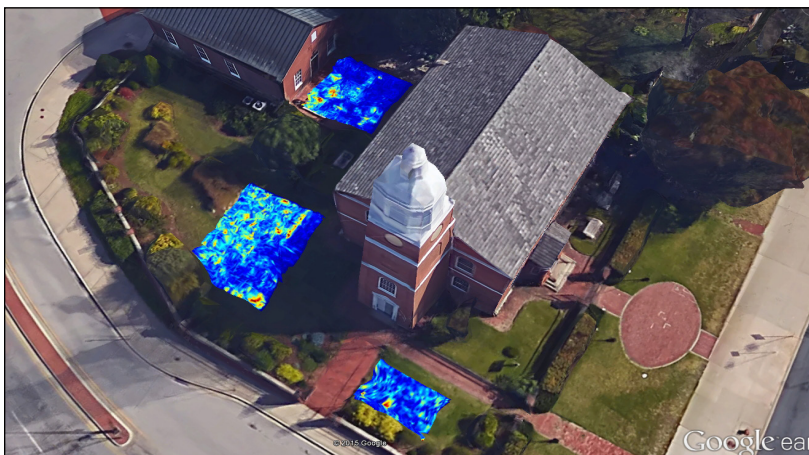
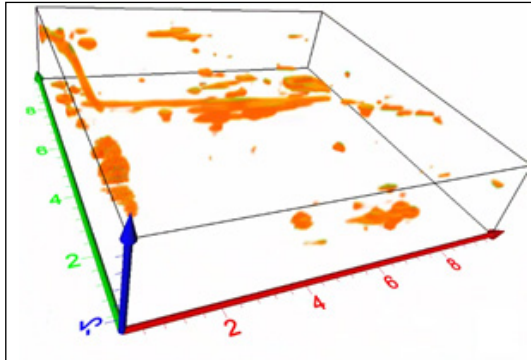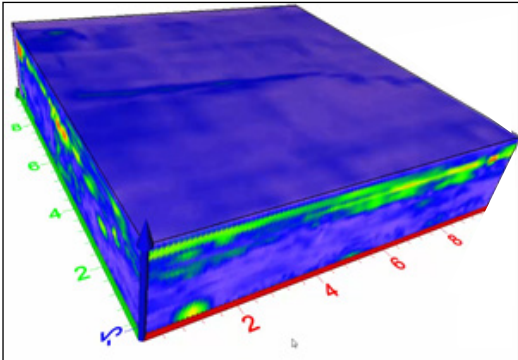Export Depth slices to Google Earth

One-click data export to 3D Voxler, an optional 3D visualization program

Included in Bundles

• Reveal
• 3D Reveal
• Suite
• 3D Suite

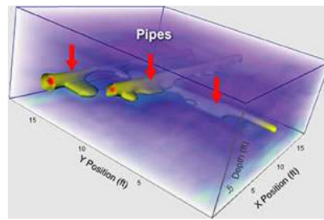**Visualize • Understand • Report**

Display Grid data as a 3D volume to Reveal Targets
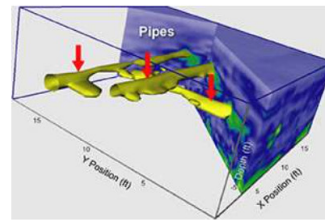

**Use variable opacity plots** to display the strongest reflectors in a grid, often utilities and targets of interest
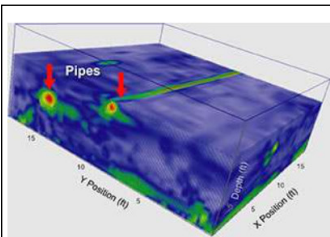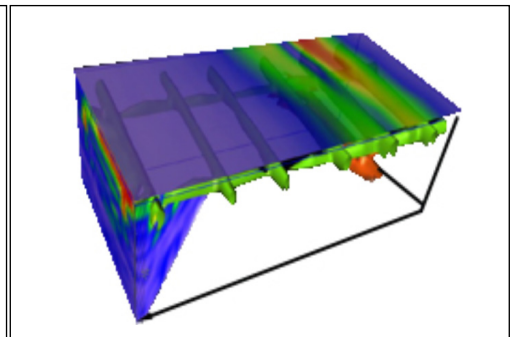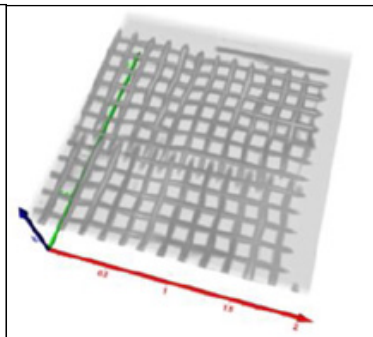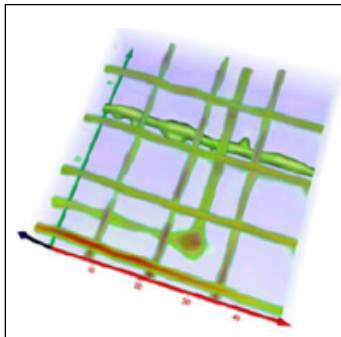

Volume view

Variable-opacity

Clip planes with isosurfaces

Combining volume plots, with variable opacity, Isosurfaces and clip planes produces powerful 3D images for understanding the data

3D plots of concrete data reveal the embedded structural elements at all depths including PCD targets

Clip plane 1

Clip plane 2
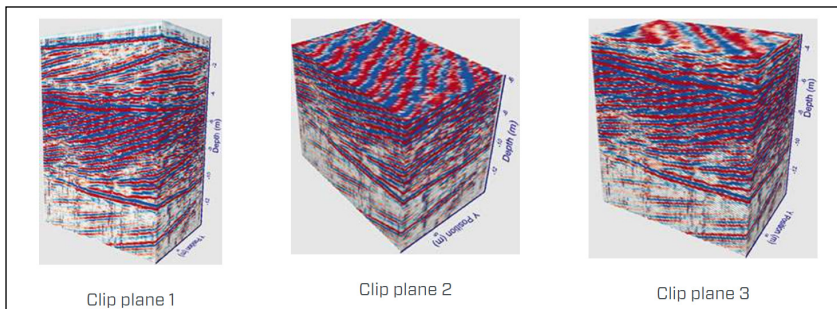
Clip plane 3

Plotting a volume of geological data and using clip planes, shows sedimentary depositional structures, such as foreset bedding, in 3D
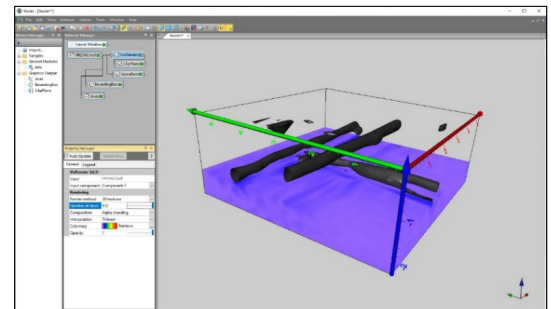
**3D GPR data** automatically opens in the Voxler program when launched from SliceView

Included in Bundles
- 3D Reveal
- 3D Suite

Visualize • Understand • Report

Edit and apply processing tools to GPR lines to further analyze the data

Processing Tool

|	
Editing	Cropping Position, Cropping Time, Padding Position, Padding Time, Reverse Line, Reposition Traces, Reposition using GPS, Delete Traces, Insert Traces
Instantaneous Attributes	Envelope, Frequency, Phase
2D Filters	FK, Kirchhoff Migration
Spatial Filters	Background Subtraction, Horizontal, Median
Time Filters	Dewow, DC Removal, Bandpass, Highpass, Lowpass, Median, Vertical, Deconvolution, DynaT
First Break	Edit First Break, Repick First Break
Gains	SEC, AGC, Constant
Operations	Frequency Spectra, CMP/WARR Analysis, Mute Data, NMO Correction, Rectify Traces, Declip
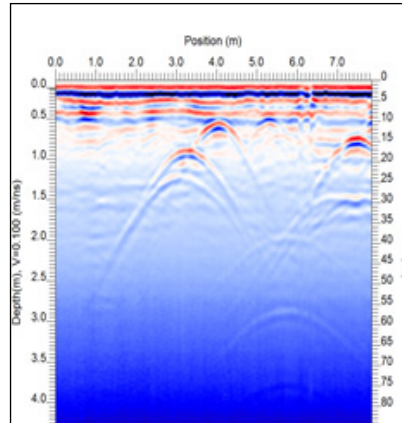
No Dewow
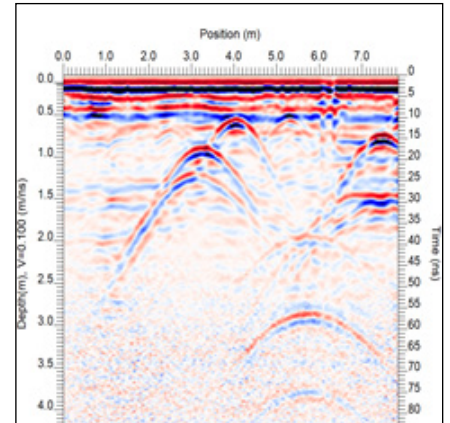
Dewow Time Filter Applied
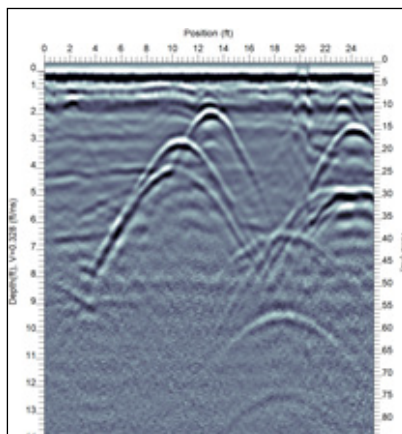
Original GPR Line
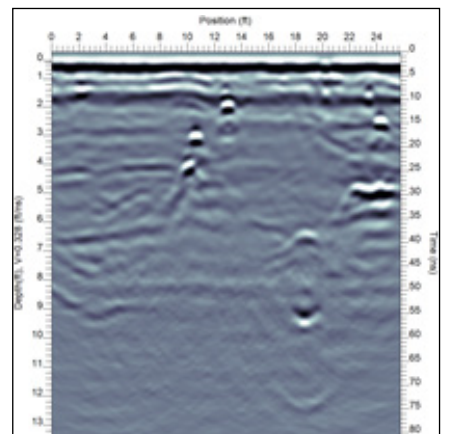
After FK Migration
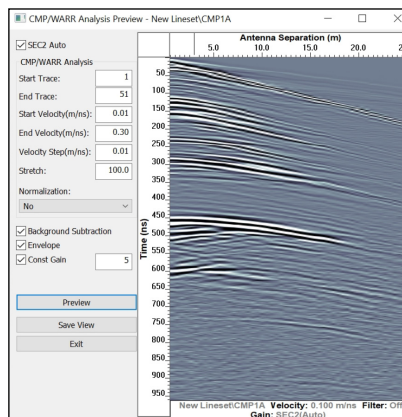
CMP/WARR Data
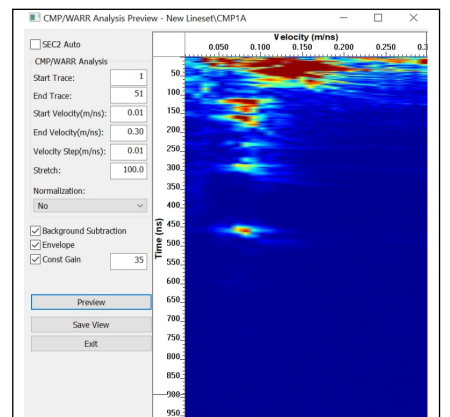
Velocity Plot after CMP/WARR

Included in Bundles

• Suite
• 3D Suite

Visualize • Understand • Report

Automatically generate reports with amplitude and attenuation plots from rebar interpretations

Picked Rebar (blue dots) on GPR line (top) and in map view (bottom)
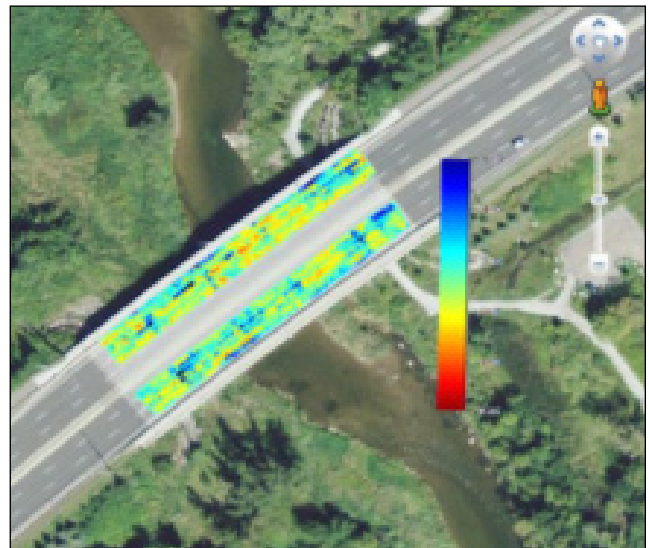
Amplitude plot of picked rebar on the bridge deck displayed on Google Earth
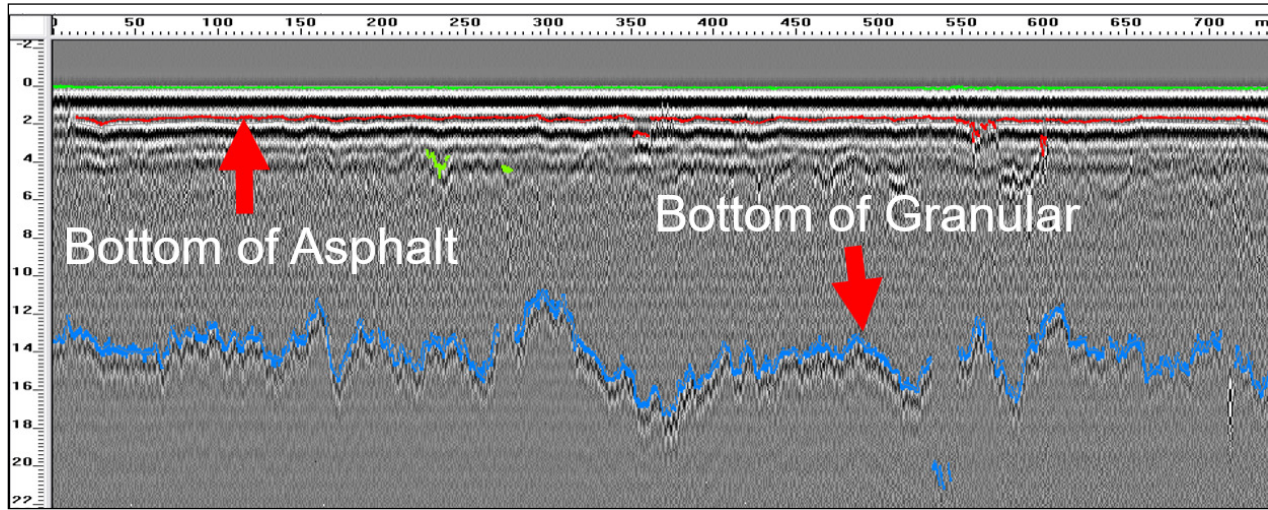
The pre-defined Bridge Deck Condition Report

includes an amplitude or attenuation plot, based on ASTM 6087, of the bridge deck as well as picked rebar statistics

Requires one of these Bundles

• Examine
• Reveal
• 3D Reveal
• Suite
• 3D Suite

Visualize • Understand • Report

Extract road layer thicknesses and generate a report

Road layers are picked, usually based on core information

The pre-defined GPR Pavement Structure Report provides statistics and detailed thickness information of picked layers

Detailed layer thickness information is available interactively, using the mouse cursor, or output to a CSV spreadsheet file.

Requires one of these Bundles
- Examine
- Reveal
- 3D Reveal
- Suite
- 3D Suite

Visualize • Understand • Report