USER GUIDE

geoLongLogPlot

Print-accurate geological logs and continuous browser viewing

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Fortaleza Consulting LLC

Overview

geoLongLogPlot reads LAS well-log files, or converts CSV files to LAS, and produces two complementary views from the same plot settings: a multipage PDF for physically scaled printing and a continuous, vertically scrolling HTML/SVG display for screen viewing.

Select one to six curves, a depth interval, the horizontal scale of each track, and the geological vertical scale. The application saves plotting preferences in a companion JSON file beside the LAS file.

Input	Outputs	Environment
LAS (.las) or CSV (.csv)	Multipage PDF (.pdf) + continuous HTML (.html)	Windows standalone executable

Important: The HTML display is intended for viewing, not for dimensionally accurate printing. For physically scaled output, print the PDF at Actual Size / 100%.

1. Installation and package layout

Extract the application ZIP to a writable directory (for example, `C:\geoLongLogPlot`). Start **geoLongLogPlot.exe**. The standalone executable does not require a separate Python installation.

Location	Purpose
geoLongLogPlot.exe	Application executable
fortaleza-logo.png	Fortaleza application branding / PDF watermark
nhp-logo.png	NoHiddenPay logo in the HTML header
docs/User-Guide.pdf	This guide
input_files/	Convenient location for LAS or CSV files
output_files/	Generated PDF and HTML files

The application can also open an LAS or CSV file from another directory. Companion JSON files are stored beside the corresponding LAS file. Keep both logo files adjacent to the executable.

2. Getting started

On startup, **Plot is disabled**. It becomes available after a valid LAS file has been loaded or a selected CSV has been successfully converted and loaded.

Select LAS: browse to a .las file. The application reads its curves and complete depth range, then loads any existing companion JSON settings.

Select CSV: browse to a .csv file. The application converts it to a .las file alongside the original CSV and loads it. If the LAS already exists, the application asks whether it may be replaced; the companion JSON is preserved.

After loading a file, select the desired depth interval, number of tracks, curves, and scales; then click **Plot**.

3. Choosing the depth interval

LAS Depth Range shows the complete extent of the selected LAS file and remains visible even if the editable interval is changed. **Depth Start** and **Depth End** specify the requested interval. **Reset Depths** restores the original file limits without immediately saving JSON.

Both metric and imperial depth units are recognized from the LAS depth-channel unit. The plotted depth labels remain in the original LAS units, without rounding the start and end to grid boundaries.

4. Configuring the tracks

Choose one to six tracks. Each track displays one LAS curve and has its own horizontal scaling and range settings.

Setting	Options	Behavior
Curve	LAS mnemonic	One selected curve per track
X Scale	linear / log	Horizontal plotting scale
Range: auto	Derived from data	Uses the selected interval values
Range: res	0.2 to 2000 ohm-m	Enforces log scale; reference ticks 0.2, 2, 20, 200, 2000
Range: gamma	0 to 200	Enforces linear scale

Selecting **res** changes X Scale to log; selecting **gamma** changes it to linear. Selecting **linear** directly changes the range preset to auto. The last user selection governs the combination.

5. Geological vertical scale

Vertical Scale is independent of the horizontal scaling of individual tracks. The values below control the physically printed PDF scale and the spacing of depth-grid lines.

Feet-based LAS files

Scale (in / 100 ft)	Major grid	Minor grid
1	100 ft	20 ft
2	50 ft	10 ft
5	20 ft	4 ft
10	10 ft	2 ft
20	5 ft	1 ft

Metre-based LAS files

Scale ratio	Major grid	Minor grid
1:1000	20 m	4 m
1:500	10 m	2 m
1:200	5 m	1 m
1:100	2 m	0.4 m
1:50	1 m	0.2 m

Major and minor grid lines are anchored at absolute depth values; their positions do not restart at printed page boundaries or internal HTML segment boundaries.

6. Creating your plots

Click **Plot** after selecting and configuring a valid file. The application generates a print PDF and a continuous HTML display in `output_files/` using the LAS base filename. For example:

Source LAS	Generated outputs
ARC675-test.las	ARC675-test.pdf ARC675-test.html

Status messages report PDF page generation and HTML segment generation. After a successful plot, the application saves the requested interval and track settings in the companion JSON configuration.

7. Continuous HTML/SVG display

The HTML log is presented in the system browser as one vertically scrolling geological log, without PDF page breaks. The curve tracks retain consistent horizontal positioning and limits throughout the selected depth interval. Internal SVG segments keep long plots manageable while appearing as one continuous display.

• The HTML contains the SVG graphics and styles needed for offline viewing and sharing as a single file.

• The header includes the **NoHiddenPay logo** and the attribution **“GeoLongLogPlot is licensed from Fortaleza Consulting LLC.”**

• The **Open continuous log in browser** checkbox is enabled by default. Uncheck it to generate both files without launching the browser.

• The PDF is saved but is not automatically opened. Open it manually when a printed log is needed.

Screen scale: browser zoom, monitor size, and operating-system display scaling affect apparent dimensions. Do not use the HTML display to make physical paper-scale measurements.

8. Printed PDF presentation

The PDF uses US Letter portrait pages (8.5 x 11 inches) with a design margin of approximately 0.25 inches. The first page carries the principal plot headings; later pages continue the depth grid and curves. A faint Fortaleza watermark appears on every page.

9. Printing and assembling a long log

• Print at **Actual Size / 100%**; do not select Fit to Page, Shrink, or automatic scaling.

• Before printing the entire log, check a measured depth interval using a ruler.

• Print pages consecutively, align in depth order, and trim or overlap margins as appropriate for the printer.

• Check grid and curve continuity at each join. Printer unprintable margins may prevent a true edge-to-edge join.

A4 support is not part of this release.

10. NULL data and trimming

Before plotting, the application removes leading and trailing stations where **all** selected curves are NULL. A station is retained if any selected curve has a finite sample; the first and last retained depths are not rounded to a grid. Interior all-NULL intervals remain uncompressed, preserving their true depth positions.

The original user-requested interval is retained in the JSON settings even when the effective plotted interval is shorter. If none of the selected curves has valid data in the requested interval, the application reports an error.

11. Companion JSON configuration

The configuration file has the LAS base name with extension `.json`. It stores requested depths, unit-aware vertical scale settings, curve choices, X scales, and range presets. It does not contain the actual LAS measurements.

The application restores an existing JSON when loading its LAS, and saves settings after a successful plot. A metric file uses `metric_scale`; a feet-based file uses `vertical_scale`. Users normally do not need to edit the file manually.

12. Troubleshooting

Symptom	Check
Plot button is disabled	Load a valid LAS file or successfully convert a CSV first.
Plot stops before the requested end	All selected curves may be NULL at the leading or trailing edges.
Part of a curve is missing	Check for NULL samples or values outside its horizontal display range. Out-of-range annotation is not implemented.
Printed scale seems wrong	Reprint the PDF at Actual Size / 100%; check driver scaling.
Browser did not open	Open the saved .html file manually from output_files; confirm the browser-launch checkbox.
NHP logo missing from HTML	Confirm nhp-logo.png is beside the executable and regenerate the HTML.

13. File locations at a glance

File	Where it is found
Source LAS / converted LAS	Original source directory (or input_files/)
Companion JSON	Beside its LAS file
Generated PDF	output_files/
Generated continuous HTML	output_files/
User guide	docs/User-Guide.pdf

Revision history

Version	Date	Summary
0.4.5	10 Oct 2026	Original user guide; LAS-based paginated PDF workflow.
0.4.6.2	22 Oct 2026	Metric and imperial depth scaling, robust depth handling and related refinements.
0.5.1 - 0.5.2	Nov 2026	Continuous SVG/HTML rendering; combined PDF and HTML generation.
0.5.3	Nov 2026	Optional automatic browser launch; PDF no longer opens automatically.
0.5.4 - 0.5.4.1	3 Nov 2026	NHP HTML logo, Fortaleza licensing attribution, Plot button disabled until a file loads; guide refreshed.

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