Geoloil
Petrophysics
Software

# Geoloil PETROPHYSICS

## Release January 2026

*"A great petrophysics software must excel in four aspects:*
*1.- Designed after decades of petrophysics consulting.*
*2.- Modern programming practices in compiler design and threads.*
*3.- Advanced & innovative applied mathematical algorithms.*
*4.- An outstanding and fast customer service.*
*Well, we have all these traits."* *Oscar Gonzalez. GeolOil LLC, Director*

Copilot **GeolOil stands out as the petrophysics software with the strongest, most consistently praised customer service, based on publicly available user testimonials.** Its reviews repeatedly highlight fast responses, personalized support, and hands-on guidance—far more explicitly than what is available for most competing platforms. GeolOil

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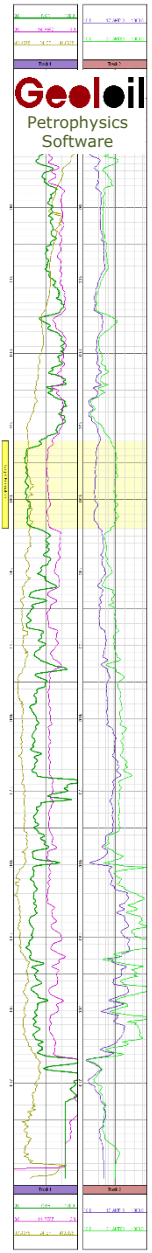


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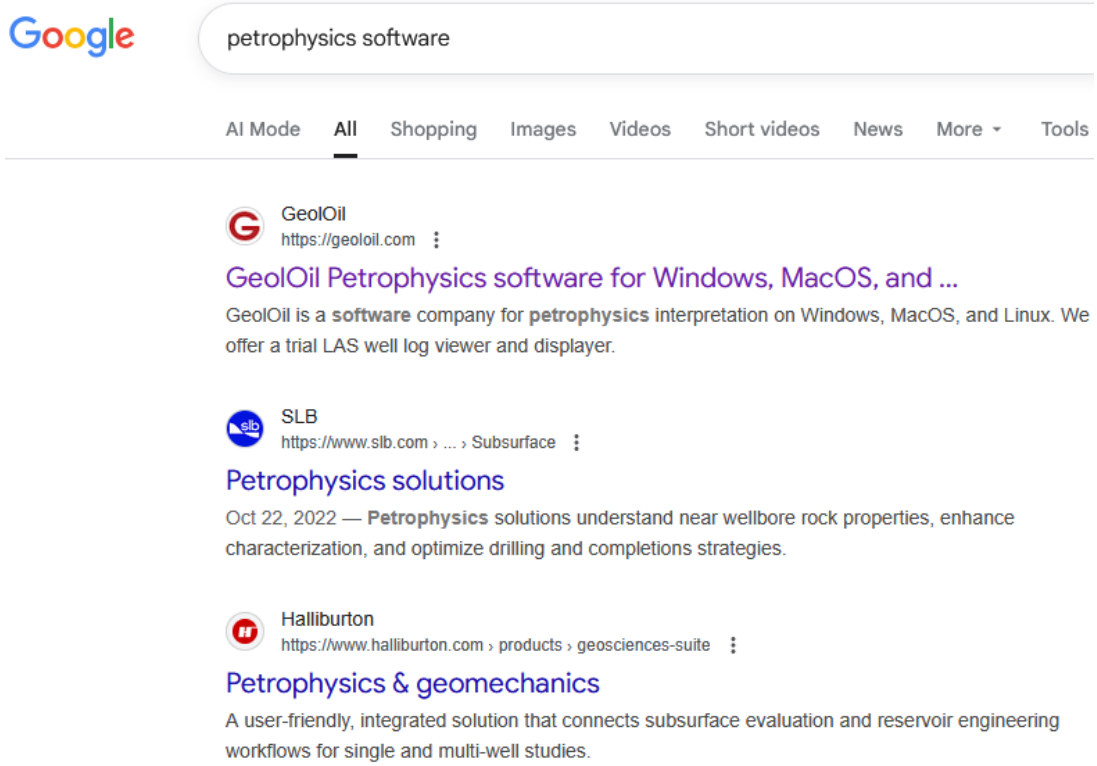
# What is GeolOil Petrophysics Software?

GeolOil is a multiplatform **software and a consulting** company specialized in petrophysics, for conventional and un-conventional reservoirs, commercially available **since 2012**.

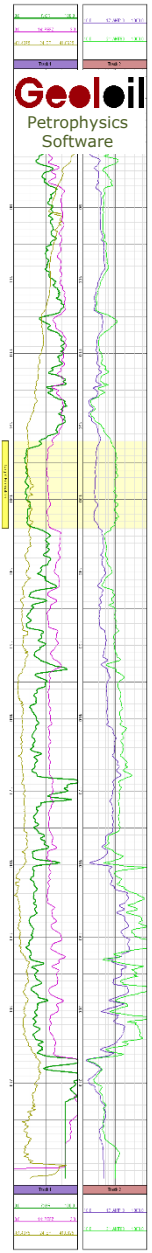
It has an intuitive graphical user interface, easy to use, with readable bold buttons and plenty of options. GeolOil intuitive, yet powerful modules, run on Windows, MacOS, and Linux.

GeolOil ranks in ***Google search*** among the top petrophysics software. And also, when searching the terms: *Vshale*, *Vclay*, *Mineral Solvers*, etc.




## *Some GeolOil features:*

- Edit LAS files, add & remove curves
- Re-sample LAS files resolution
- Merge LAS files and curves
- Table view, editing & shifting
- Define Tracks with curves
- Define well stratigraphy
- Display log curves and fillings
- Filter & export log curves to Excel
- View Raster Well Logs TIFF & images
- Petrophysical functions & equations
- Water Analysis & Ionic mEq balance
- GLS Scripting & Type equations
- Mineral Solvers
- Porosity and Water Sat. Upscaling
- NetPay, NetSand, Hydroc. column

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# GeolOil Modules

- LAS file Editor
- Curves Plot Displayer
- Workflow of Petrophysical Functions and classical equations & correlations.
- Mineral solvers included in the core. Fuzzy Logic Artificial Intelligence.
- GLS Specific **Petrophysics Scripting** and library
- Alias & Named constants Editor
- Multi-well workflows and functions
- Petrophysical summaries and curve filtering
- Ionic Water Analysis
- Raster well log viewer of TIFF and other image formats
- 3D reservoir simulation gridding (not for licensing, just consulting)

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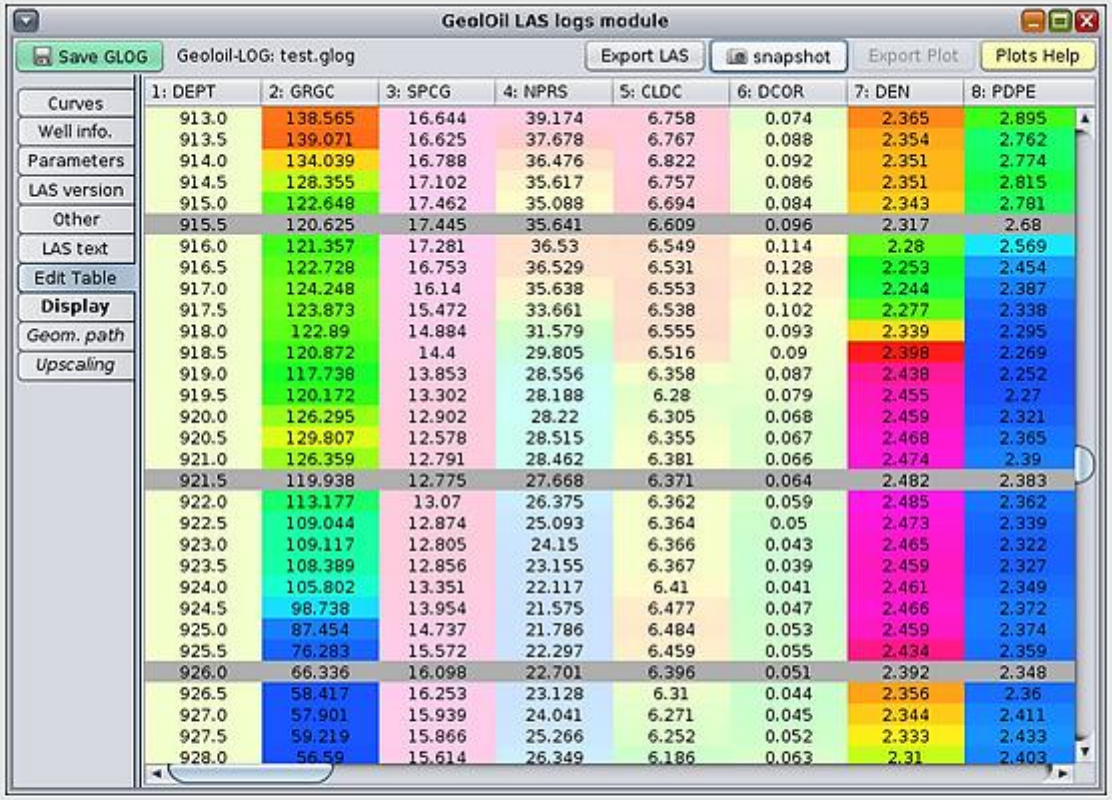
# LAS File Editor




| 1: DEPT | 2: GRGC | 3: SPCG | 4: NPRS | 5: CLDC | 6: DCOR | 7: DEN | 8: PDPE |
|---|---|---|---|---|---|---|---|
| 913.0 | 138.565 | 16.644 | 39.174 | 6.758 | 0.074 | 2.365 | 2.895 |
| 913.5 | 139.071 | 16.625 | 37.678 | 6.767 | 0.088 | 2.354 | 2.762 |
| 914.0 | 134.039 | 16.788 | 36.476 | 6.822 | 0.092 | 2.351 | 2.774 |
| 914.5 | 128.355 | 17.102 | 35.617 | 6.757 | 0.086 | 2.351 | 2.815 |
| 915.0 | 122.648 | 17.462 | 35.088 | 6.694 | 0.084 | 2.343 | 2.781 |
| 915.5 | 120.625 | 17.445 | 35.641 | 6.609 | 0.096 | 2.317 | 2.68 |
| 916.0 | 121.357 | 17.281 | 36.53 | 6.549 | 0.114 | 2.28 | 2.569 |
| 916.5 | 122.728 | 16.753 | 36.529 | 6.531 | 0.128 | 2.253 | 2.454 |
| 917.0 | 124.248 | 16.14 | 35.638 | 6.553 | 0.122 | 2.244 | 2.387 |
| 917.5 | 123.873 | 15.472 | 33.661 | 6.538 | 0.102 | 2.277 | 2.338 |
| 918.0 | 122.89 | 14.884 | 31.579 | 6.555 | 0.093 | 2.339 | 2.295 |
| 918.5 | 120.872 | 14.4 | 29.805 | 6.516 | 0.09 | 2.398 | 2.269 |
| 919.0 | 117.738 | 13.853 | 28.556 | 6.358 | 0.087 | 2.438 | 2.252 |
| 919.5 | 120.172 | 13.302 | 28.188 | 6.28 | 0.079 | 2.455 | 2.27 |
| 920.0 | 126.295 | 12.902 | 28.22 | 6.305 | 0.068 | 2.459 | 2.321 |
| 920.5 | 129.807 | 12.578 | 28.515 | 6.355 | 0.067 | 2.468 | 2.365 |
| 921.0 | 126.359 | 12.791 | 28.462 | 6.381 | 0.066 | 2.474 | 2.39 |
| 921.5 | 119.938 | 12.775 | 27.668 | 6.371 | 0.064 | 2.482 | 2.383 |
| 922.0 | 113.177 | 13.07 | 26.375 | 6.362 | 0.059 | 2.485 | 2.362 |
| 922.5 | 109.044 | 12.874 | 25.093 | 6.364 | 0.05 | 2.473 | 2.339 |
| 923.0 | 109.117 | 12.805 | 24.15 | 6.366 | 0.043 | 2.465 | 2.322 |
| 923.5 | 108.389 | 12.856 | 23.155 | 6.367 | 0.039 | 2.459 | 2.327 |
| 924.0 | 105.802 | 13.351 | 22.117 | 6.41 | 0.041 | 2.461 | 2.349 |
| 924.5 | 98.738 | 13.954 | 21.575 | 6.477 | 0.047 | 2.466 | 2.372 |
| 925.0 | 87.454 | 14.737 | 21.786 | 6.484 | 0.053 | 2.459 | 2.374 |
| 925.5 | 76.283 | 15.572 | 22.297 | 6.459 | 0.055 | 2.434 | 2.359 |
| 926.0 | 66.336 | 16.098 | 22.701 | 6.396 | 0.051 | 2.392 | 2.348 |
| 926.5 | 58.417 | 16.253 | 23.128 | 6.31 | 0.044 | 2.356 | 2.36 |
| 927.0 | 57.901 | 15.939 | 24.041 | 6.271 | 0.045 | 2.344 | 2.411 |
| 927.5 | 59.219 | 15.866 | 25.266 | 6.252 | 0.052 | 2.333 | 2.433 |
| 928.0 | 56.59 | 15.614 | 26.349 | 6.186 | 0.063 | 2.31 | 2.403 |

This module allows to fully edit LAS files: curve values, mnemonic names, well and parameter sections, export curves, import curves, import core data, remove curves, add curves, reorder curve positions, merge curves, generate TVD depth curves, generate TVD-SS depth curves, and more.

It also allows to re-sample LAS files to change to a higher or lower depth step resolution, and merge several LAS files into a single new consolidated LAS file.

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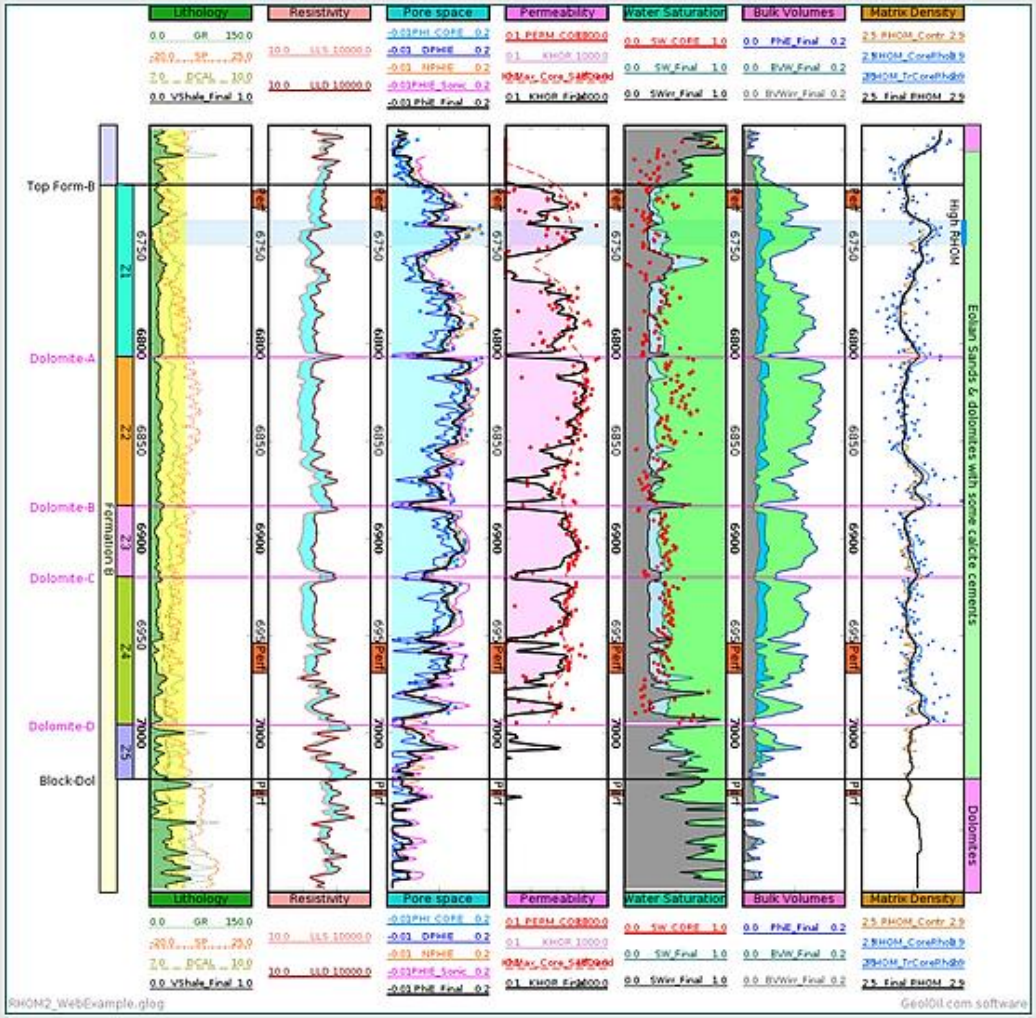
# Curves Displayer




This module allows to plot LAS curves, define the well stratigraphy, the well path through its directional survey file, the well surface location in Google Maps, and display the log curves and zones.

It has capabilities to shade zones, handle transparency, and even to measure TVD distances between zones for non vertical wells. Its use is very intuitive and simple.

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**Well Geometry Header**

| | | |
|---|---|---|
| Common short well name: | Brinker-1A | |
| Depths & Survey Distance Units: | FOOT | |
| Log datum height to sea level: | 5650.0 | |
| X-Y coordinates at surface: | -999.25 | -999.25 |
| N-S Latitude, E-W Longitude: | 43.2558657 | -108.8917492 |
| Well Path Geometry: | NON_VERTICAL | |

Google Map | Load Survey File | Export Survey File

**Directional Survey:**

| MD | TVD | DX | DY | INC | AZI |
|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 583.0 | 583.0 | 0.07 | -1.01 | 0.2 | 175.9 |
| 707.0 | 706.99 | 1.12 | -0.64 | 1.1 | 60.5 |
| 798.0 | 797.94 | 3.48 | 1.21 | 2.7 | 48.3 |
| 897.0 | 896.76 | 7.9 | 5.21 | 4.2 | 47.5 |
| 987.0 | 986.51 | 12.83 | 9.7 | 4.3 | 47.8 |
| 1078.0 | 1077.26 | 17.82 | 14.24 | 4.2 | 47.7 |
| 1170.0 | 1169.01 | 22.86 | 18.83 | 4.3 | 47.7 |
| 1262.0 | 1260.75 | 27.85 | 23.48 | 4.2 | 45.2 |
| 1357.0 | 1355.5 | 32.95 | 28.2 | 4.2 | 43.3 |
| 1454.0 | 1452.26 | 38.07 | 32.76 | 3.9 | 48.3 |
| 1551.0 | 1549.03 | 43.03 | 37.11 | 3.9 | 49. |
| 1649.0 | 1646.8 | 48.21 | 41.43 | 4.0 | 51.3 |
| 1681.0 | 1678.72 | 49.9 | 42.81 | 3.8 | 50.1 |
| 1779.0 | 1776.51 | 54.62 | 47.25 | 3.8 | 43.5 |
| 1876.0 | 1873.31 | 59.0 | 51.73 | 3.6 | 45.2 |
| 1973.0 | 1970.11 | 63.2 | 56.14 | 3.6 | 42.0 |
| 2070.0 | 2066.92 | 67.33 | 60.73 | 3.7 | 42.0 |
| 2148.0 | 2144.71 | 71.34 | 64.79 | 4.7 | 46.7 |
| 2243.0 | 2239.37 | 77.24 | 70.24 | 5.0 | 47.8 |
| 2341.0 | 2336.99 | 83.53 | 76.14 | 5.1 | 45.9 |
| 2437.0 | 2432.61 | 89.56 | 82.17 | 5.1 | 44.1 |
| 2535.0 | 2530.23 | 95.34 | 88.46 | 4.9 | 41.0 |
| 2631.0 | 2625.88 | 100.8 | 94.69 | 5.0 | 41.5 |
| 2728.0 | 2722.48 | 106.55 | 101.23 | 5.3 | 41.1 |

GeolOil allows to load the 3D well path and connects with Google Maps Satellite View:

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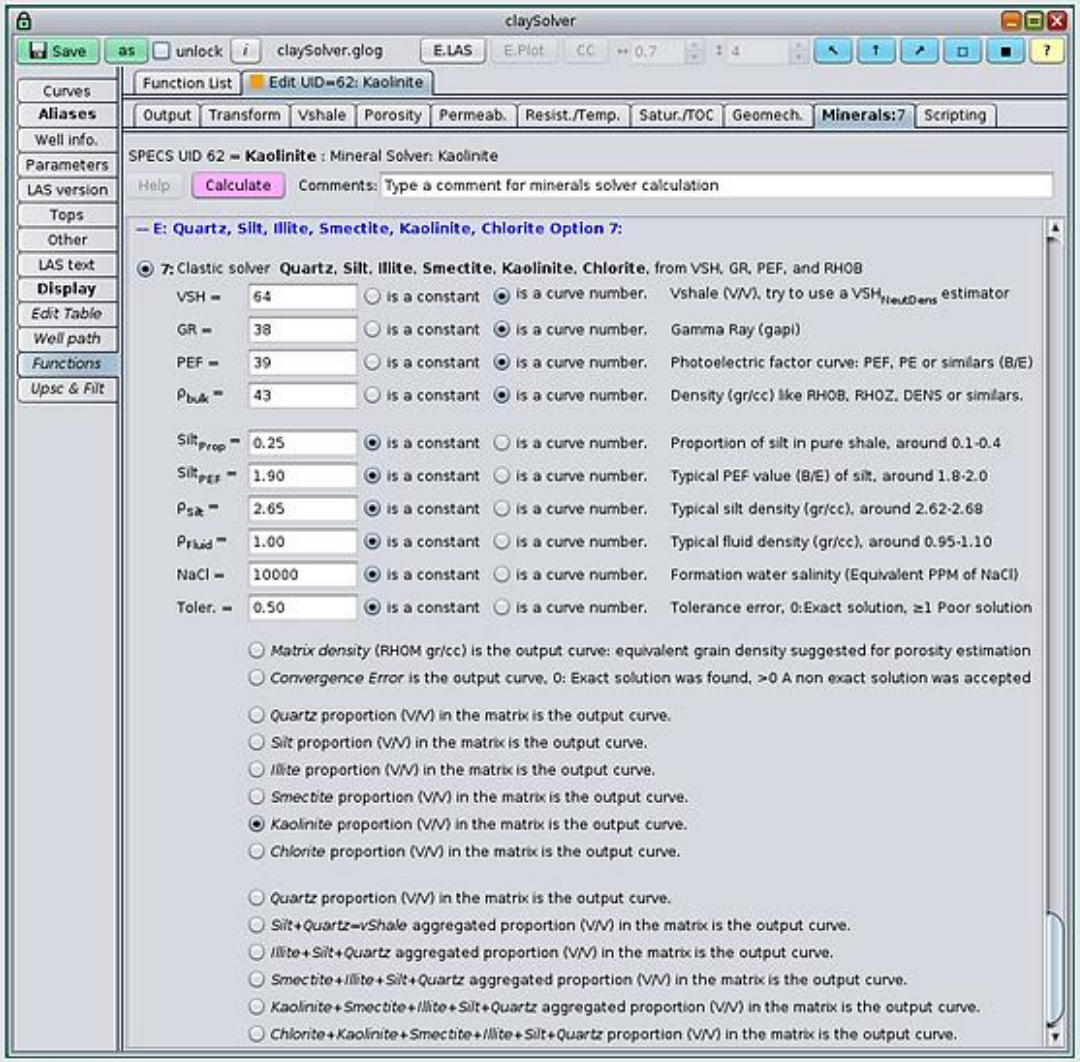
# Workflow of Petrophysical Functions and Classical Equations & Correlations




The Sequential Petrophysical Functions module allows to compute log functions specifying a dependency order to update the interpretation analysis.

Besides standard formulas for Vshale, Porosity, Water Saturation and more, the module adds curve transforms for kernel smoothing, interpolation, algebraic functions, curve merging and more.

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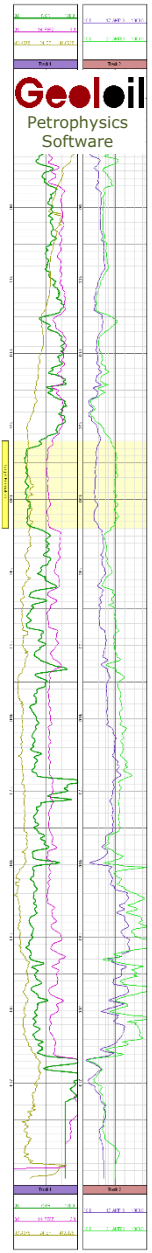


# GeolOil - The GLS Well Logging Scripting Programming Language

*"GeolOil has strong programming capabilities in GLS and Groovy."*
*Enis Aliko. Senior Drilling Engineer. Wellynx. Italy.*

How many times have you needed to create or modify a log curve, using your equations and algorithms, only to discover that other petrophysical software offer limited choices? How many times have you ended using *Excel* spreadsheets, or *Python* script routines?

*GLS GeolOil Logging Scripting* is perhaps the easiest tool to write your own simple and short source code. Type your own equations, calibrations, variable petrophysical parameters per zone in a curve, or design your own functions and algorithms quickly. For example, the classical Archie SW water saturation to enforce its result to 0-1 can be scripted as:

```
phi = @13;  rt = @7;  rw = @10
a   = 0.81;  m = 1.9;  n = 1.8
F   = a/(phi^m);  SW = (F*rw/rt)^(1/n)
SW  = trim (0, SW, 1)
```

where porosity is the LAS curve number 13, deep or true resistivity the curve 7, and formation water resistivity the curve 10. No worries about missed -999.25 values in any curves. GeolOil will analize, compile and run your code behind the scenes (check the GLS Reference Manual for details). You can also of course compute SW easily with our collection of 24 built-in, out of the box GUI water saturation models.

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## Alias Editor


GeolOil allows to choose either the original LAS file' *mnemonics*, or define an *alias* collection that can be paired to mnemonics for processings. Once an alias system is defined, it can be saved and use for several logs. For instance *deep resistivity* mnemonics like *AO90, ILD, LLD*, and many others, are simply assigned as *Rt*.

Successive equations in workflows and displays can use the defined alias system. Then display templates can be created to apply to tracks, color patterns, curves and filling for other wells.

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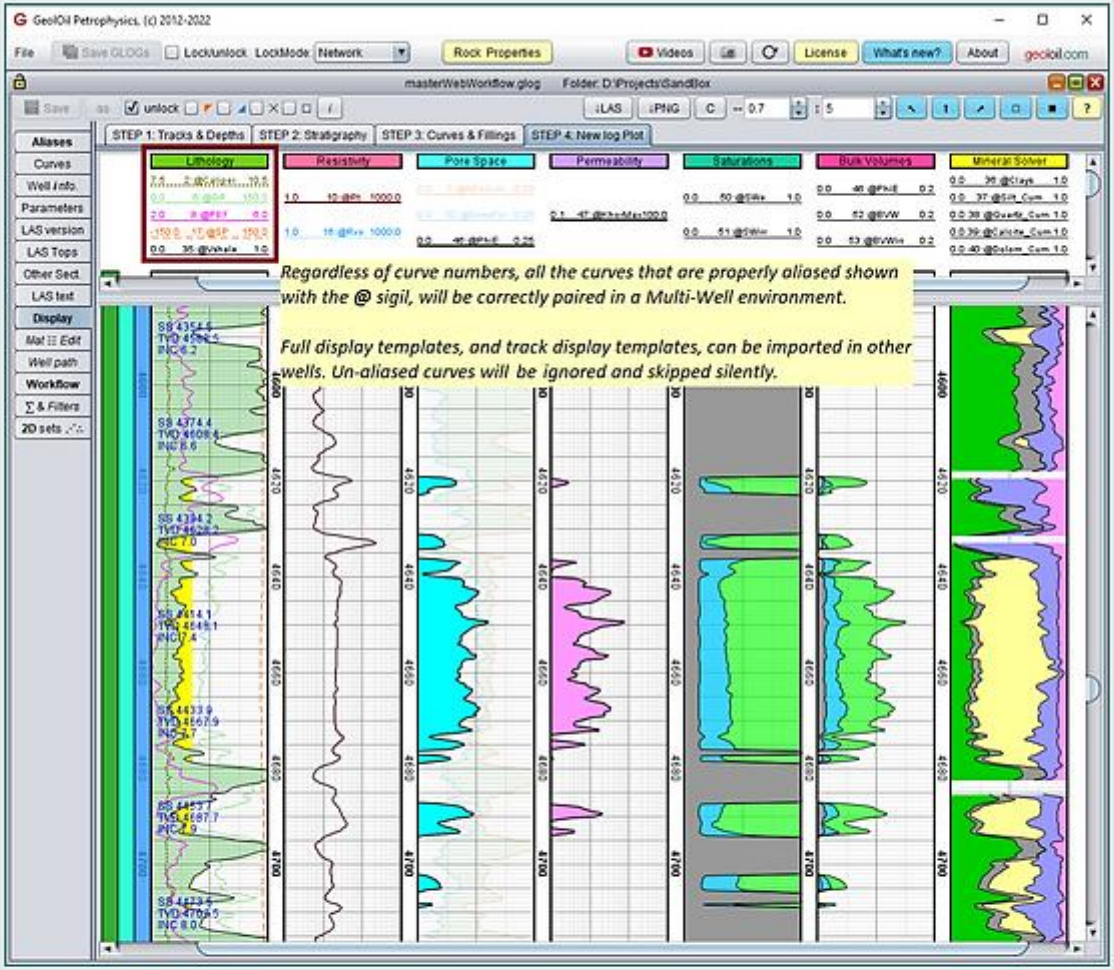
# Multi-Well work-flows and functions




Once a petrophysical functions work-flow is created and exported, it can be imported by similar wells with the same primordial set of raw curves to automatically compute interpreted curves.

The new curves will be appended and aliased to the well log curves as long as all the wells in the project share the same set of aliases.

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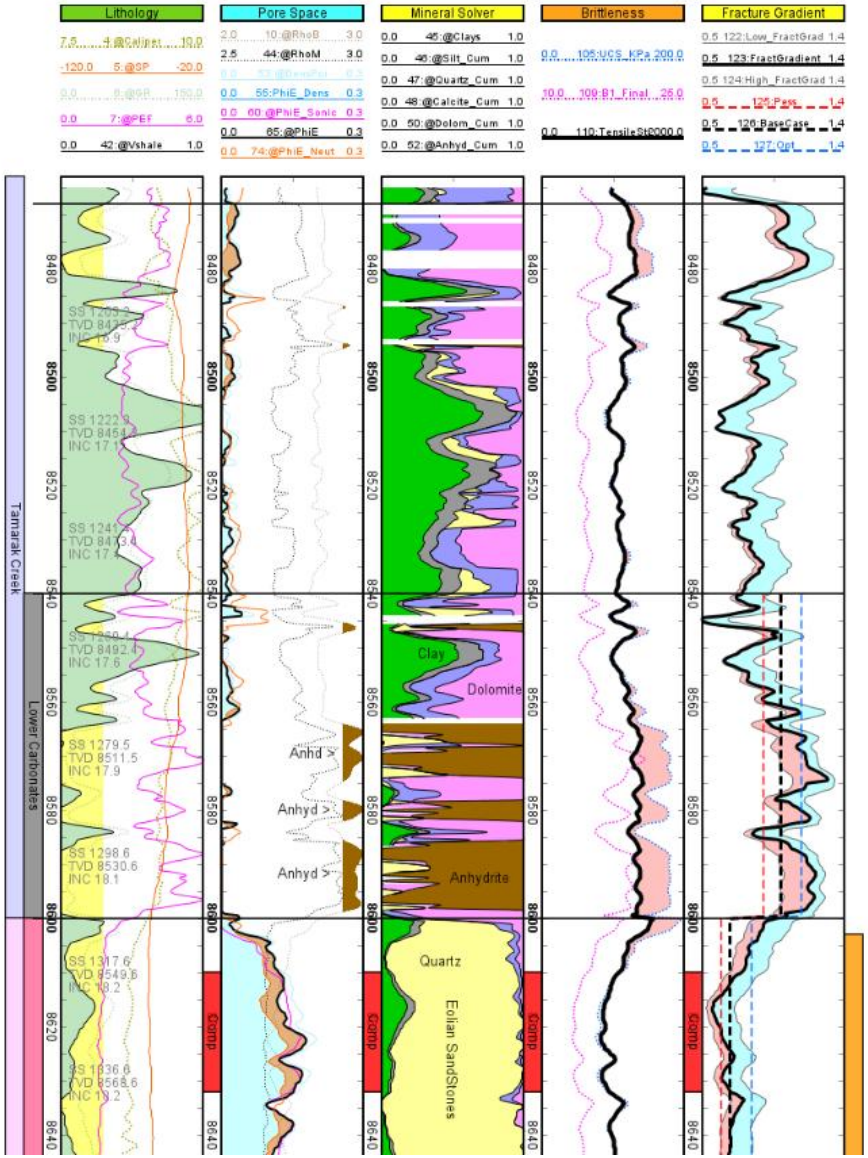
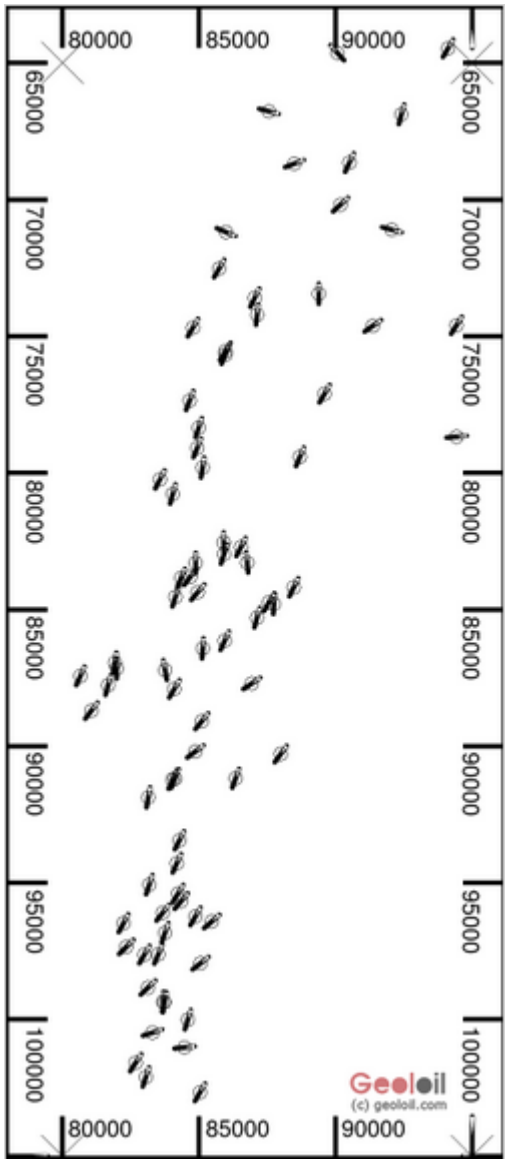
# Geomechanics

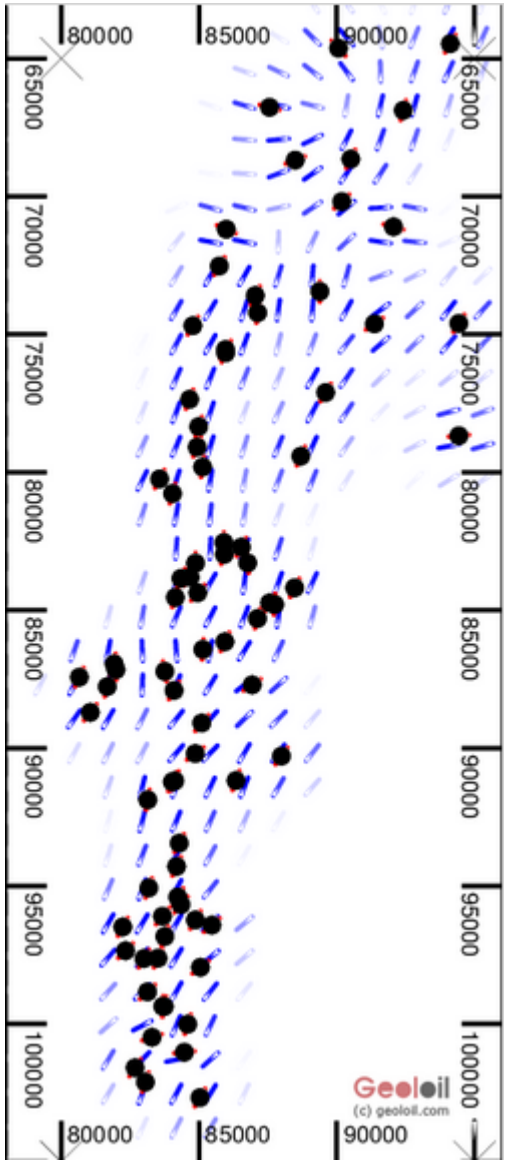
The next log shows a geomechanical study that computes if a reservoir cap rock is strong enough to withstand the stresses of an injection process into a pay zone. The creation of fractures in the cap rock would produce leaks and environmental problems. More details on this study, and the full work-flow of the equations and functions used are shown in the *learn-set*.



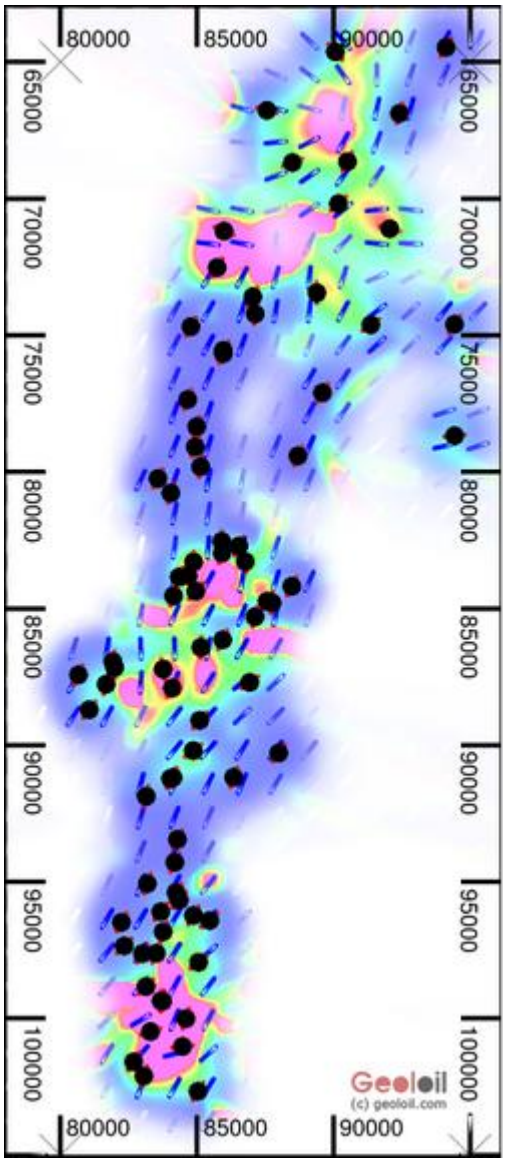
# Geomechanics: Stress Tensor Estimation (not for licensing)




Original borehole oval angles




Directions of min horizontal stress




Stress tensor pseudo-turbulence

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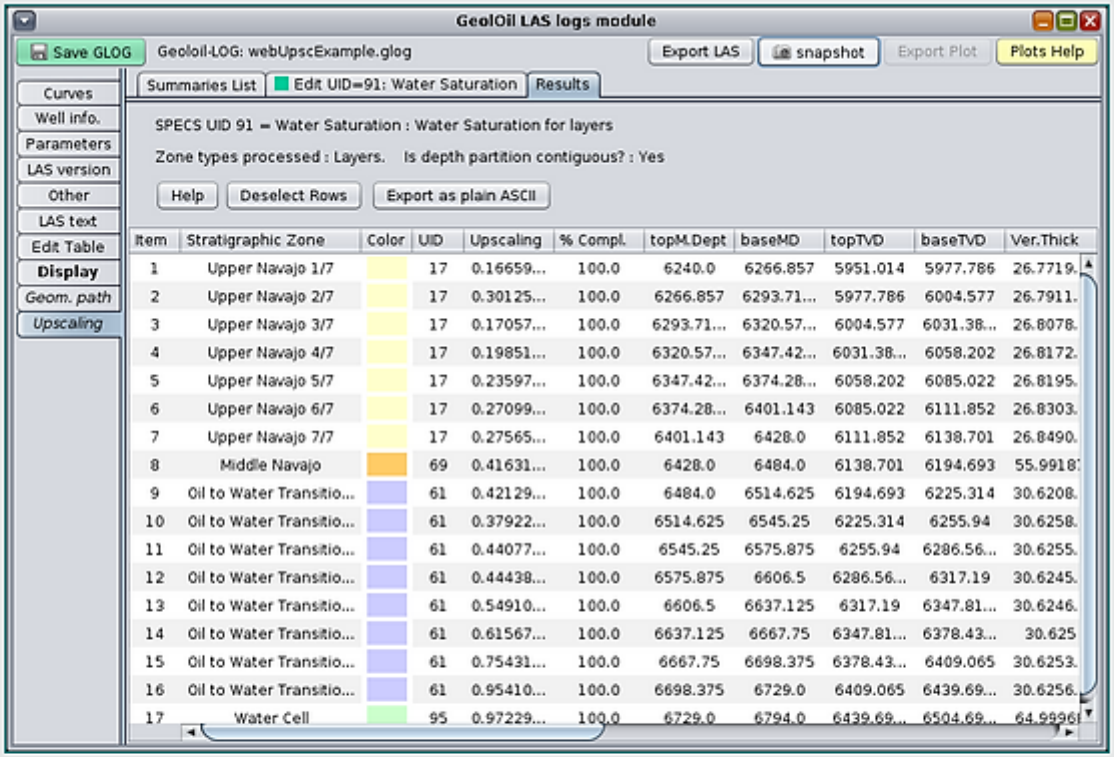
# Petrophysical summaries and curve filtering




| Item | Stratigraphic Zone | Color | UID | Upscaling | % Compl. | topM.Dept | baseMD | topTVD | baseTVD | Ver.Thick |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Upper Navajo 1/7 | | 17 | 0.16659... | 100.0 | 6240.0 | 6266.857 | 5951.014 | 5977.786 | 26.7719. |
| 2 | Upper Navajo 2/7 | | 17 | 0.30125... | 100.0 | 6266.857 | 6293.71... | 5977.786 | 6004.577 | 26.7911. |
| 3 | Upper Navajo 3/7 | | 17 | 0.17057... | 100.0 | 6293.71... | 6320.57... | 6004.577 | 6031.38... | 26.8078. |
| 4 | Upper Navajo 4/7 | | 17 | 0.19851... | 100.0 | 6320.57... | 6347.42... | 6031.38... | 6058.202 | 26.8172. |
| 5 | Upper Navajo 5/7 | | 17 | 0.23597... | 100.0 | 6347.42... | 6374.28... | 6058.202 | 6085.022 | 26.8195. |
| 6 | Upper Navajo 6/7 | | 17 | 0.27099... | 100.0 | 6374.28... | 6401.143 | 6085.022 | 6111.852 | 26.8303. |
| 7 | Upper Navajo 7/7 | | 17 | 0.27565... | 100.0 | 6401.143 | 6428.0 | 6111.852 | 6138.701 | 26.8490. |
| 8 | Middle Navajo | | 69 | 0.41631... | 100.0 | 6428.0 | 6484.0 | 6138.701 | 6194.693 | 55.9918 |
| 9 | Oil to Water Transitio... | | 61 | 0.42129... | 100.0 | 6484.0 | 6514.625 | 6194.693 | 6225.314 | 30.6208. |
| 10 | Oil to Water Transitio... | | 61 | 0.37922... | 100.0 | 6514.625 | 6545.25 | 6225.314 | 6255.94 | 30.6258. |
| 11 | Oil to Water Transitio... | | 61 | 0.44077... | 100.0 | 6545.25 | 6575.875 | 6255.94 | 6286.56... | 30.6255. |
| 12 | Oil to Water Transitio... | | 61 | 0.44438... | 100.0 | 6575.875 | 6606.5 | 6286.56... | 6317.19 | 30.6245. |
| 13 | Oil to Water Transitio... | | 61 | 0.54910... | 100.0 | 6606.5 | 6637.125 | 6317.19 | 6347.81... | 30.6246. |
| 14 | Oil to Water Transitio... | | 61 | 0.61567... | 100.0 | 6637.125 | 6667.75 | 6347.81... | 6378.43... | 30.625 |
| 15 | Oil to Water Transitio... | | 61 | 0.75431... | 100.0 | 6667.75 | 6698.375 | 6378.43... | 6409.065 | 30.6253. |
| 16 | Oil to Water Transitio... | | 61 | 0.95410... | 100.0 | 6698.375 | 6729.0 | 6409.065 | 6439.69... | 30.6256. |
| 17 | Water Cell | | 95 | 0.97229... | 100.0 | 6729.0 | 6794.0 | 6439.69... | 6504.69... | 64.9996 |

This module allows to produce petrophysical summaries. You can compute and adjust petrophysical cutoffs, upscale porosity, water saturation.

Calculate Net-Pay, Net-Sand, formation water resistivity $R_W$, cementation exponent "m", Dykstra-Parsons permeability heterogeneity, and more.

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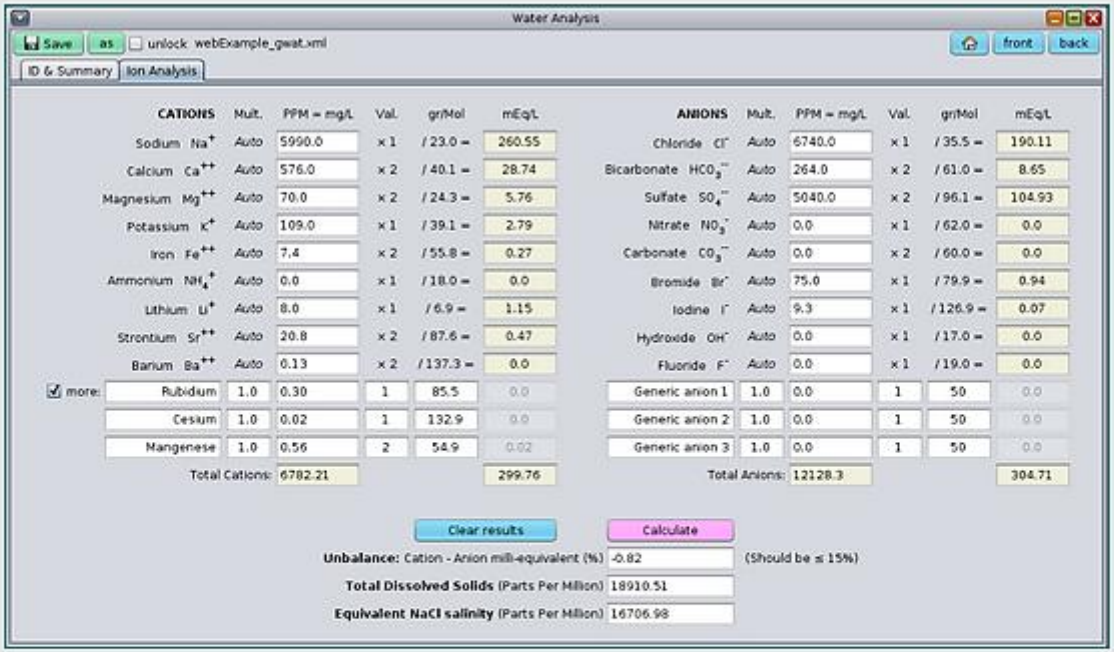
# Ionic Water Analysis




This module processess ionic water analyses. By inputing the *cations* and *anions* concentrations, classical parameters like *TDS* (Total Dissolved Solids), *NaCl equivalent salinity*, ionic *mili-equivalent* concentrations, and electrical charge unbalance are computed.

The user can even input custom cations and anions with their valences and molecular weights.

*NOTE: As of today January 2026, GeolOil is the **only software** that provides ionic water analyses.*

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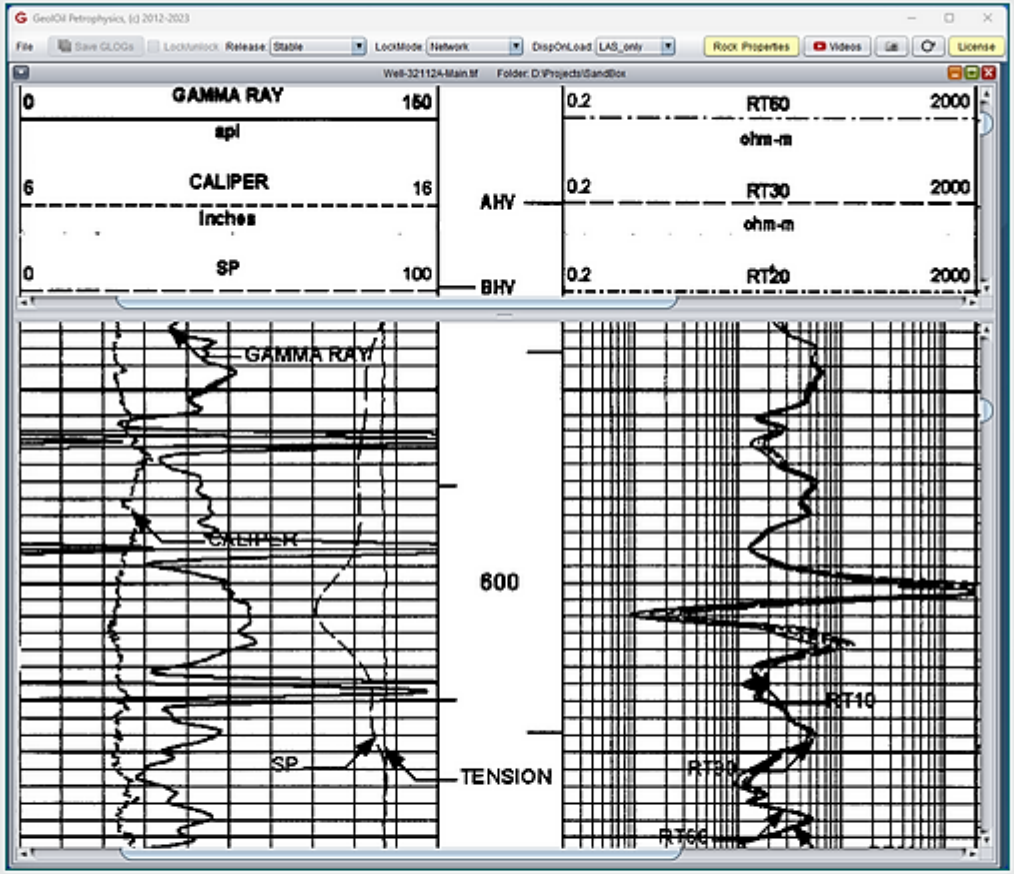
## Raster well log viewer of TIFF and other image formats




All GeolOil models come with a double split window viewer of raster well logs, so you can visualize curve leyends, strokes, and scales together with curve plots, or compare two zones. No matter how large would be the raster *TIFF* files (or other image formats, like *JPG*, *PNG*, *GIF*, or *BMP*), you will be able to load and view several well raster files in the application besides other windows of workflows.

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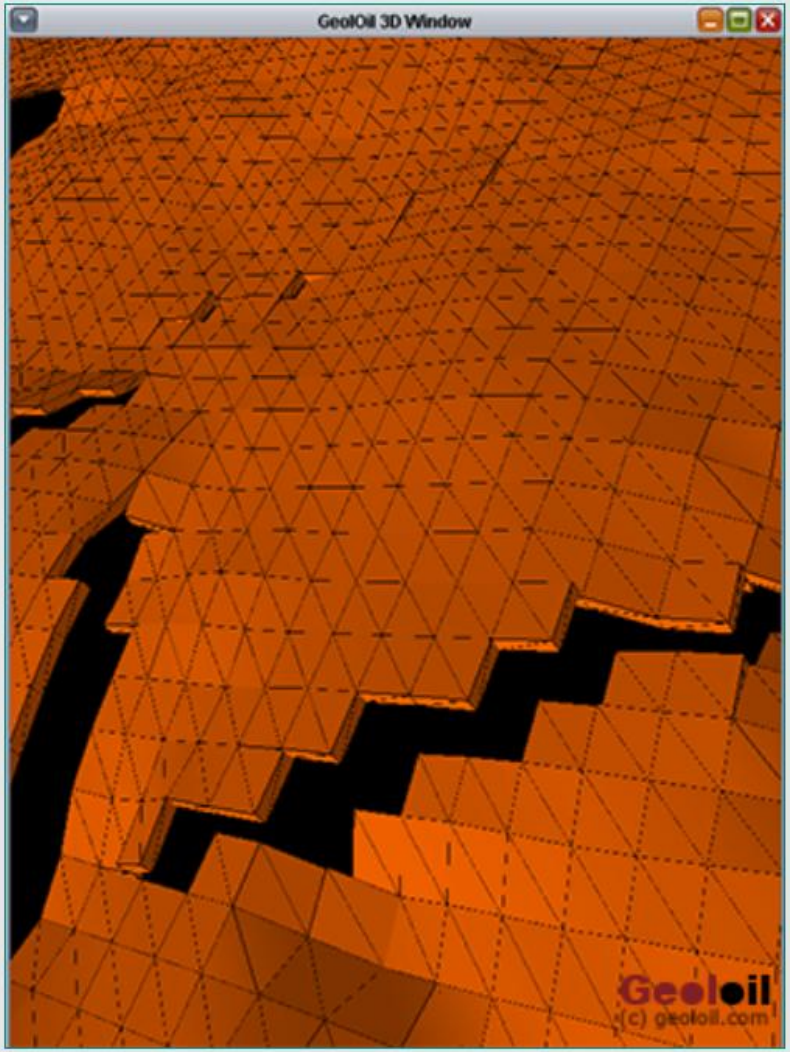
## 3D Simulation Gridder




The *Corner Point Geometry* simulation builder generates complaint 3D grids for the simulators *Eclipse*, *More-Tempest*, an *CMG-Stars*. The module not only provides the grid builder, but also computes the navigation of well paths through grid cells and its completion history. An option that is usually available in other software as a separate module.

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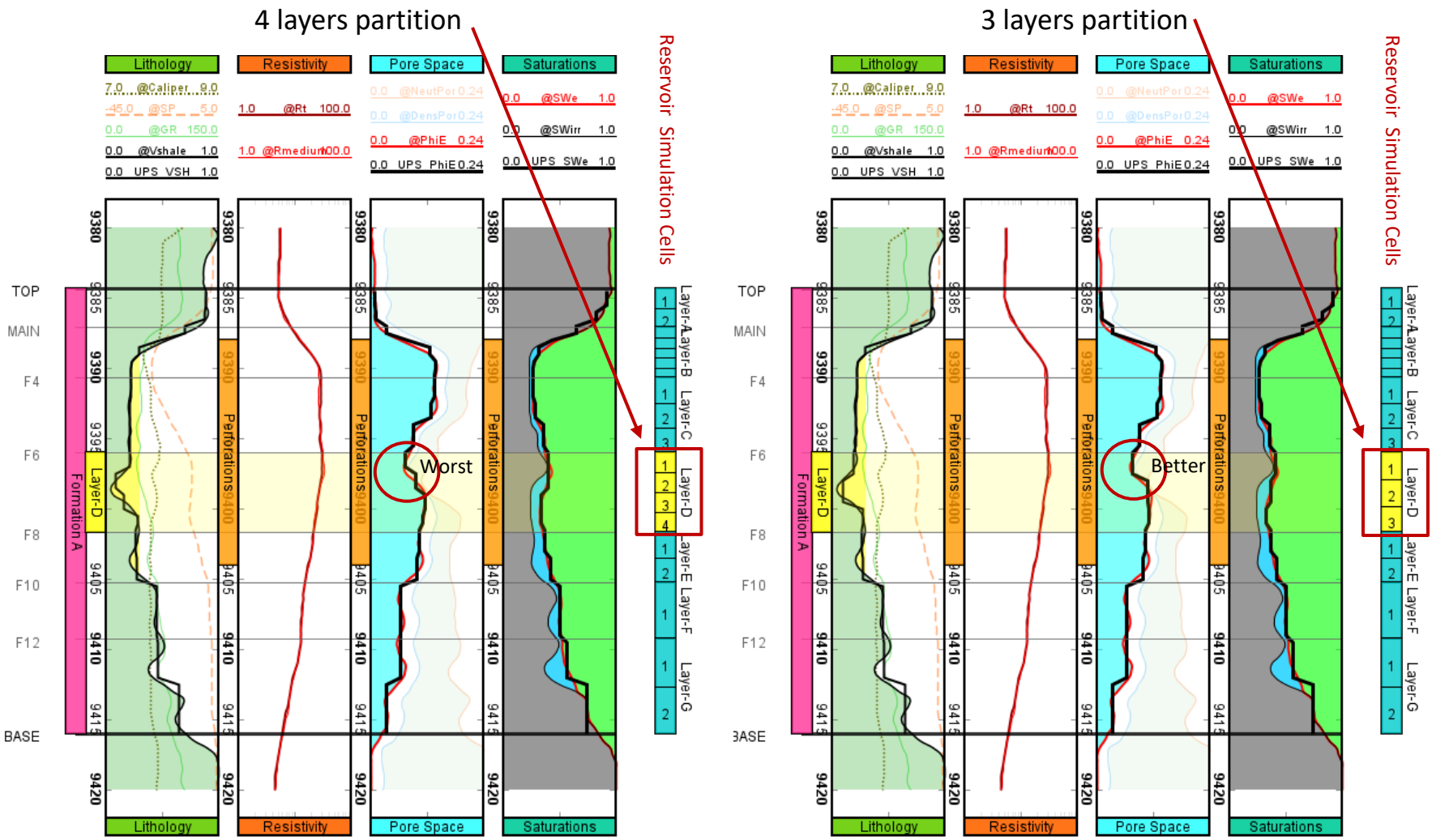
# A layering framework for the zone “Layer-D”




Not always a finer vertical resolution yields a better model to capture reservoir heterogeneity and baffles. The split of “Layer-D” to the right into only 3 layers follows better the porosity than the partition into 4 layers to the left. This visual representation of the upscalings, is essential to define to good 3D geo-cellular models for simulation purposes.

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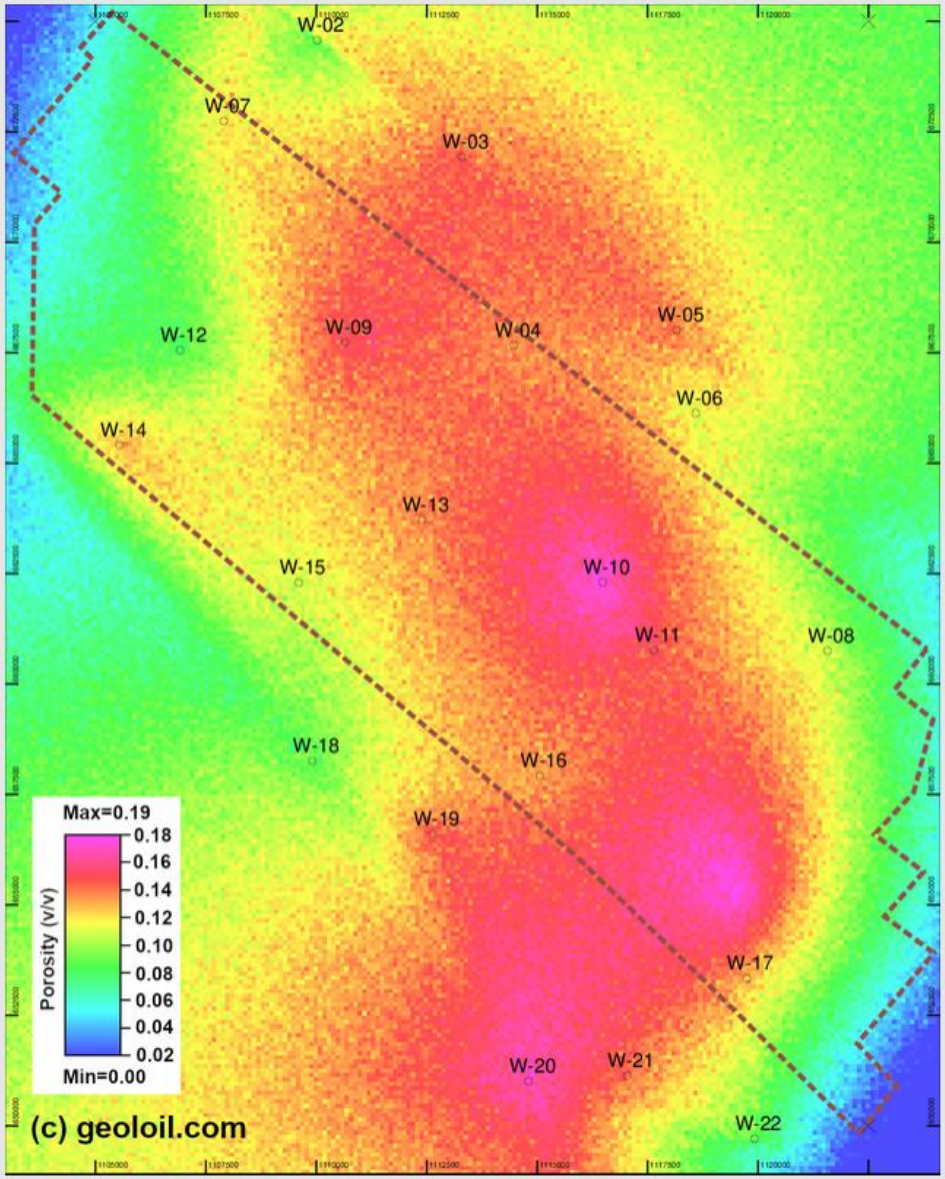


GeolOil's engine to build 3D geo-cellular static models uses an exclusive *variogram-free*, *multi-point* geostatistical realization algorithm that produces believable geological scenarios and shapes.

# GeolOil Commercial Licensing

- One-year licenses
- Life-time, perpetual licenses (not always offered)
- All licenses can be migrated to other computers.
- Free maintenance. Like modern browsers. Licenses are always up to date.

*One license per physical computer*. GeolOil works on Network environments through a file locking system, so there is virtual no risk for file collisions.

GeolOil is the **only** GeoScience software that ships with a ***bug-free guarantee*** monetary reward. It is so stable that last bug was found around two years ago.

## Hardware Requirements

- GeolOil runs seamlessly in Windows 10-11, MacOS, and Linux
- However, we only offer installation and support for **Windows, recommended**

- GeolOil requires a quite powerful machine to run:
  - Al least **32 GB** of RAM memory, large projects need 128-512 GB
  - Screen Resolution **1290x1080** pixels or higher
  - Fast modern processors
  - **No Graphics Cards** or accelerators are required

## Training

- Remote online training via live video-conference anywhere
- In-site company training

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# Consulting

- Clastic reservoirs petrophysics interpretation.
- Carbonate reservoir petrophysics interpretation
- Shale Oil, Shale Gas, tight reservoirs and unconventional petrophysics interpretation
- NMR Nuclear Magnetic Resonance interpretation

We have managed large projects with more than +600 wells in Colombia. There is no big or small project for us.

- Geomechanics properties and Stress tensor estimations
- Reservoir 3D Geo-Cellular CPG modelling for Simulation Grids

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Geoloil
Petrophysics
Software

# Thank you!

*"A great petrophysics software must excel in four aspects:*
*1.- Designed after decades of petrophysics consulting.*
*2.- Modern programming practices in compiler design and threads.*
*3.- Advanced & innovative applied mathematical algorithms.*
*4.- An outstanding and fast customer service.*
*Well, we have all these traits."* *Oscar Gonzalez. GeolOil LLC, Director* ■

***TESTIMONIALS↓*** *48 testimonials→* *26 Google reviews→*

***2025 November:*** *"I continue to transition from PowerLog to GeolOil, and I am now recommending GeolOil to companies for which I consult. Congratulations on a fine and ingenious product. Cheers."*

**Douglass Sharp.** *Independent Senior PetroPhysicist Consultant. Texas, USA.*■

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***2024 August:*** *" I think GeolOil is amazing. I've been using the software on almost a daily basis and the petrophysical capabilities are making my life so much easier. "*

**Emre Cankut Kondakci.** *Senior Geologist. IPT Well Solutions. Houston, Texas, USA.*■

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***2024 July:*** *" The GeolOil software is working nicely on a Macintosh computer. I have to admit that initially I was too dummy to get GeolOil started on Mac-OS, but a colleague helped me to got on a right track."*

**Heikki Bauert.** *Geological Survey of Estonia (EGT), an Estonian Republic Government Agency. Geological Survey of Estonia. Rakvere, Estonia.*■

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***2024 January:*** *"... In a world where exceptional service is increasingly rare, you have truly set a standard to aspire to, and I wanted to take a moment to acknowledge and appreciate your outstanding contribution. Your dedication makes a real difference, and we are grateful to have such a reliable partner." Read more.*

**Enis Aliko.** *Senior Drilling Engineer. Wellynx Engineering. Pescara, Italy.*■

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***2023 August:*** *"I've been impressed by the programme, and it works for my purposes on my small laptop."*

**Michael McCaughey.** *Senior GeoScientist, ELGOL Geoscience. Director. Twyford, England, UK.*■

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***2023 February:*** *"I was a Geolog user for many years so I know it pretty well. Geoloil is really good, it just takes a while to get used to like any software."*

**Sheldon Murphy.** *Senior Petrophysics Consultant. Epoch Geologic, LLC. Pittsburgh, Pennsylvania, USA.*■

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