



QINTEGRAL

APPLICATIONS

Quiacito:

- AvO modelling and analysis
- Velocity modelling and analysis
- Depth conversion
- Potential fields modelling
- Geomechanics

Eligo:

- Prepare wireline logs for use in TrendLab and Quiacito
- Prepare logs for:
 - Seismic-well ties
 - Seismic inversion
 - Pay evaluation

TrendLab:

- Rock physics trend formulation
- AvO attribute templates
- Attribute resolution testing
- Stochastic rock physics
- Bayesian AvO classification

EzTZ:

- Prepare VSP data and seismic velocities for use in Quiacito and other vendor packages
- Depth conversion

Get in touch for a demo or a temporary free licence to see how QIntegral can help you make faster and more accurate subsurface decisions through the power of geophysical integration.

Software updates FY23/24

New modules, features and enhancements

For existing users, each year we provide some highlights of what's new and improved in the QIntegral software suite*

* a complete list of software additions/enhancements can be found in the "Change Log" within each package

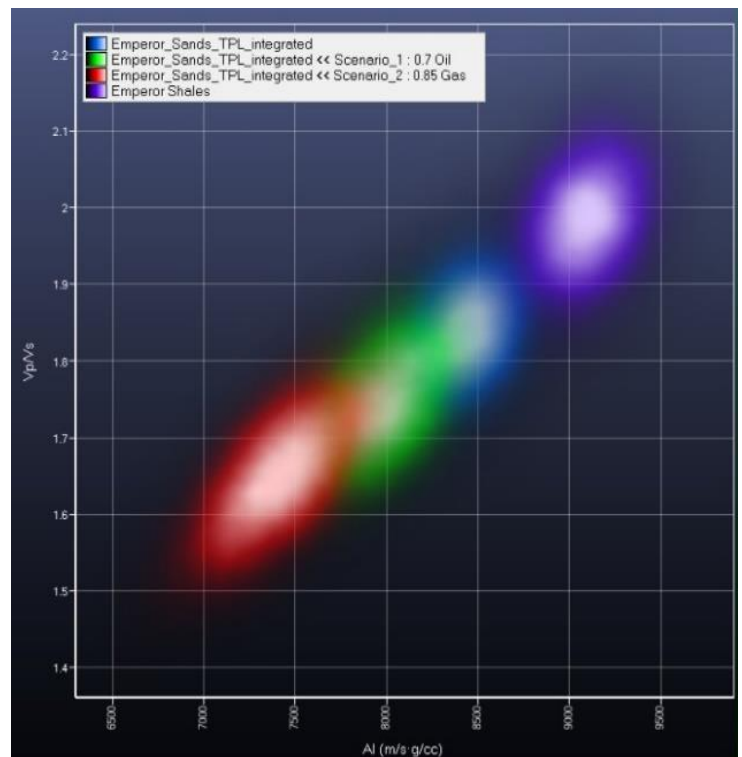
Quiacito – Integrated Geophysical Modelling

We took a major leap forward in achieving our long-term goal of supporting multiphysics interpretation strategies by adding EM data to our list of possible integration datasets. We also created an efficient pathway for converting stacking velocities into conditioned interval velocities that can be directly modelled and treated as another independent geophysical dataset.

Petroleum	Minerals	Integration
Depth domain synthetics	Import EM-based conductivity inversions using the industry standard <i>ASEG-GDF2</i> format	Convert stacking velocities to conditioned interval velocities ("Seismuto" side app)
Stacked synthetics (over angle range)		
Seismic volume depth conversion using model or seismic velocities	Import gravity and magnetics grids directly from a range of sources	Improved trend imports and layer-layer copying of trends
Overlay of gas hydrate stability zone for deep marine exploration	Bouguer corrections	Effective pressure rock physics model
Patchy saturation models added	Improved gravity and magnetics algorithms	Facies-based rock physics model
Improved event auto-tracking		Athy and Sun model variations

TrendLab – Statistical Rock Physics

We've added a module for assessing the impact of stochastic uncertainty, including seismic noise, upon trends and AvO attributes. Burial-dependent 2D and 3D probability density functions (PDFs) can be generated for direct input into the Bayesian AvO classification within OpendTect™. When combined with simultaneous AvO inversion, this opens the door for a rapid and low-cost approach towards facies prediction from seismic, applicable to both petroleum and hard rock seismic applications. Trends can be blended to handle reservoir heterogeneity or hydrocarbon effects when creating trends for use in Ikon Science's JiFi inversion software.



Software updates FY23/24

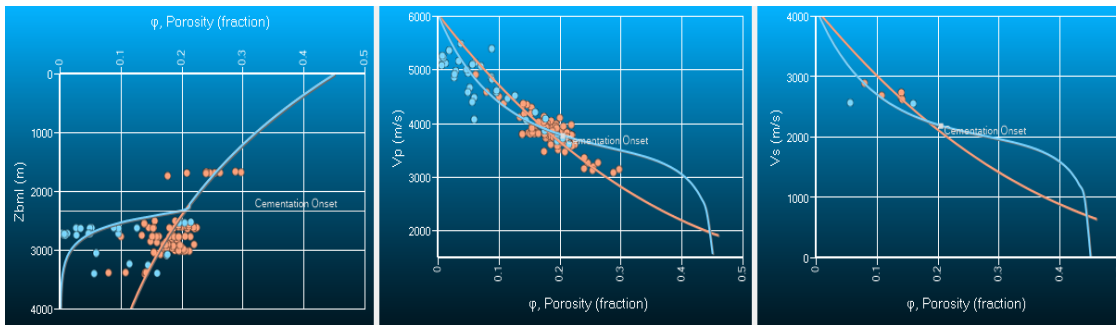
New modules, features and enhancements



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TrendLab – Other Enhancements:

Rock physics	User friendliness	Integration
Bound checking to identify input data concerns quickly	Trends can be added and retrieved from a categorized database	Improved Eligo-TrendLab link
Sun model variations: Critical Porosity and Stiffness Transition modes now emulate a much broader range of published rock physics models	Multiple trends can be simultaneously modelled	Formulated trends can be sent to Quiacito™ for integrated geophysical modelling
Athy porosity variations: Thermal Overpressure and Cementation	Trend fitting regression improvements	
	Onset of cementation or expulsion implied at certain depth/temperatures are shown on the trend plots	



Eligo – Seismic Petrophysics:

Workflow-based guidance for calcs

Python calculator, main use is for log synthesis and replacement (for extending seismic-well ties), but its uses are only limited by your imagination

Auto cherry picking method for selecting end-member rocks for trend analysis

Improved auto setting of input logs in the log calculator → fewer clicks for a faster turnaround

Improved display of markers and cuttings information

EzTZ – Depth Conversion:

Now handles deviated well paths

Several map enhancements including optional use of latitude/longitude

Calculation

Workflow: Prepare log data for seismic well ties [fast-track method]

Calculation: Basic Petrophysics
Prepare log data for rock physics trend analysis
Prepare log data for seismic well ties [fast-track method]
Prepare log data for ΔvΔ seismic well ties [full quantitative method]

Calculation

Workflow: Prepare log data for seismic well ties [fast-track method]

Calculator: Synthesize Density from VP and Vshale

Parameters

```
Code:
1 # Synthesize RHOB From VP and Vshale
2
3 # Forward Gardner
4 # fine grain
5 alpha_fgr = 0.33
6 beta_fgr = 0.25
7 # coarse grain
8 alpha_cgr = 0.26
9 beta_cgr = 0.16
10
11 # set log input(s)
12 !log : Vp, VShale
13
14 # blend according to proportion given by
15 # vshale
16 # uses harmonic_mean_method
17 create_calc_array : res
18
19 loop : i
20 RHOBSWfgr = alpha_fgr * Vp[i]**
```

GR NORM GAP1 - VP (Gassmann w/shair)

SEAFLOOR

MIOCENE LIMESTONE

MIOCENE SAND - SHALE SEQ

Eocene (UNC) INTERBED CALCRETINES

Eocene (UNC) INTERBED SAND SILTS

PALEOCENE INTERBED LIMESTONE MARL MINOR SANDS

UPPER CRETACEOUS BATHURST IS. INTERBED SHALE MARL LIMESTONE

LOWER CRETACEOUS PETREL A (UNC)

JURASSIC PETREL B INTERBED SHALE THIN SANDS

JURASSIC PETREL C

Coming soon in 2024/25:

- Seismic-well ties and wavelet estimation – the missing link in our QI software suite
- Seismic data conditioning – clean-up 2D seismic for use in minerals exploration undercover

SPEED

All of our software is designed with efficiency in mind to enable studies to be completed faster than our competitors. We leverage 25+ years experience at the forefront of resource exploration to focus our software on delivering proven workflows.

COST EFFECTIVE

We've adopted a new pricing model to optionally allow you to only pay for the time you need, keeping your software costs down. Discounted pricing applies for those able to commit to longer lease periods.

ABOUT QINTEGRAL

Founded in 2018 by

Dr Jarrod Dunne, we have global experience in geophysical interpretation methods spanning a range of challenges in petroleum and minerals and underground storage. We offer consultancy services and software solutions with a focus on achieving true integration.

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