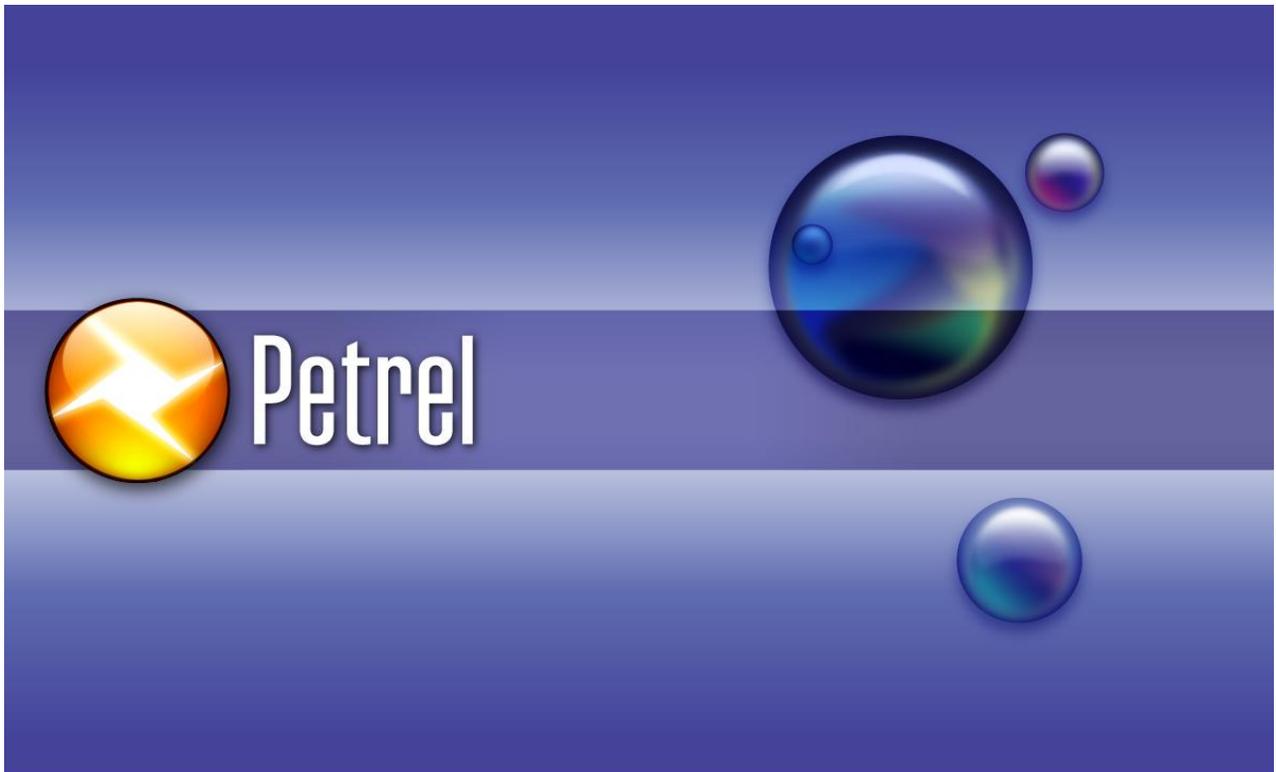


Petrel

Petrel*

Version 2010.2



Schlumberger Public

Schlumberger

Release Notes

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What's New in Petrel 2010.2

The 2010.2 release of Petrel* brings to the petrotechnical desktop a number of improvements that have been built upon the previous 2010.1 release. Note that this is a minor release – which means that 2010.2 will install on top of a previous 2010.1 Petrel installation.

Approximately 130 issues have been fixed in this release.

After receiving many requests from our clients to support Windows7 on a 64-bit architecture, we are pleased to announce that this release is supported on Microsoft's Windows7 operating system. Petrel is still supported on both 32 and 64 bit, however, note that 32-bit compatibility mode on XP 64 is no longer supported.

Release distribution

The Petrel 2010.2 release will be delivered as a download only. Software downloads will be available through the [SIS Support Portal](http://support.slb.com) to maintenance paying customers. A user account is required on this portal - if you do not have one already, you will need to register to access it. <http://support.slb.com>

Please note that Petrel projects saved with Petrel 2010.2 are backward compatible with Petrel 2010.1.

Licensing

A Petrel dongle and a 2010.1 license are required to run this baseline. As Schlumberger controls the licensing and hardware key shipments, all license inquiries should be made to your SIS account manager.

Windows 7 support

To align Petrel with our customers' intentions to deploy Microsoft Windows 7 in early 2011, we have decided to support Windows 7 64-bit beginning with Petrel 2010.2. Some of the reasons why many of our clients will deploy Windows 7 in their environments are:

- Enhanced memory management
- Enhanced user management
- Expanded and enhanced driver support
- Enhanced performance and reliability

In addition to the features mentioned above, it is important to note that Microsoft has effectively decided to discontinue the support of Windows XP core. This means that Microsoft will not support our Petrel code on XP for much longer.

Supported operating systems

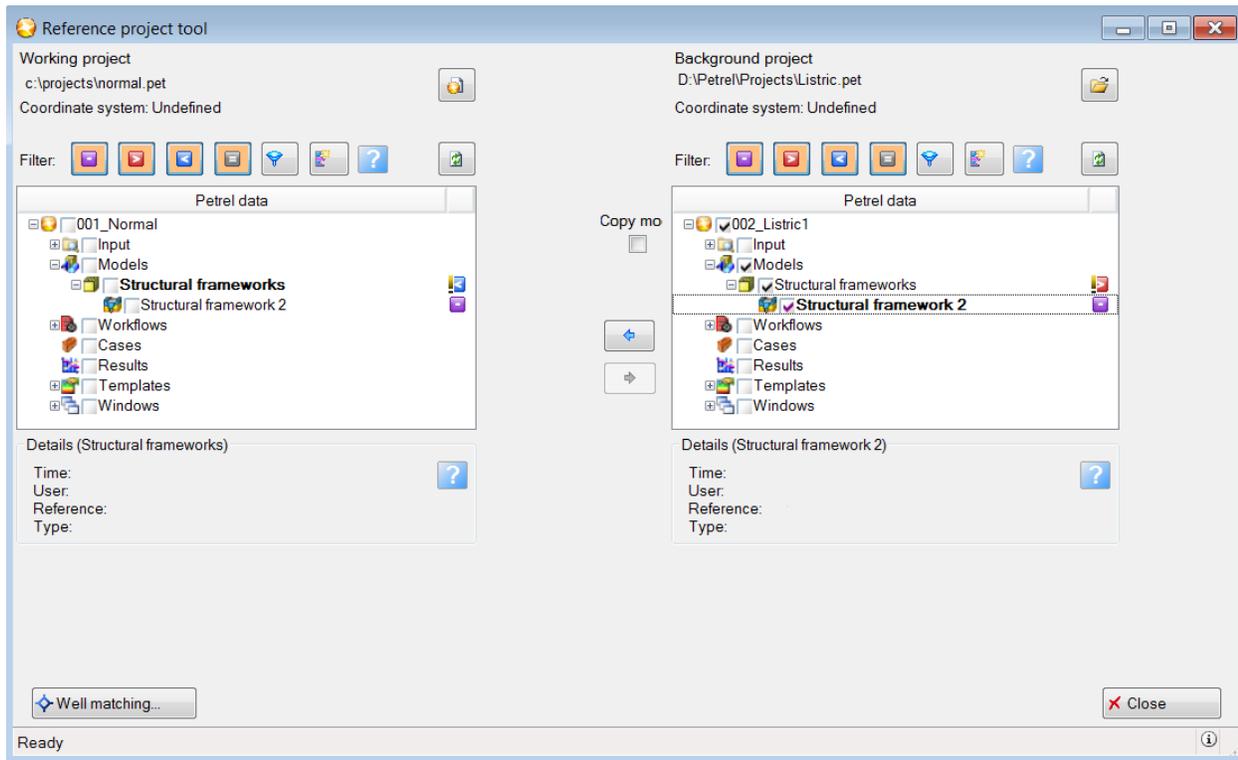
The table below summarizes the different Windows Operating systems supported with Petrel 2010.2

	Petrel 64-bit version	Petrel 32-bit version
Windows7	Yes	No
Windows Vista64	Yes	No
Windows XP64-bit	Yes	No
Windows XP32-bit	No	Yes

Structural Framework

Structural framework integrates with the Reference Project Tool

The reference project tool (RPT) can be used to transfer Petrel structural frameworks between projects. Note that the whole structural framework is transferred, rather than any of its constituent parts (faults / horizons / zones).



Units and coordinate system considerations

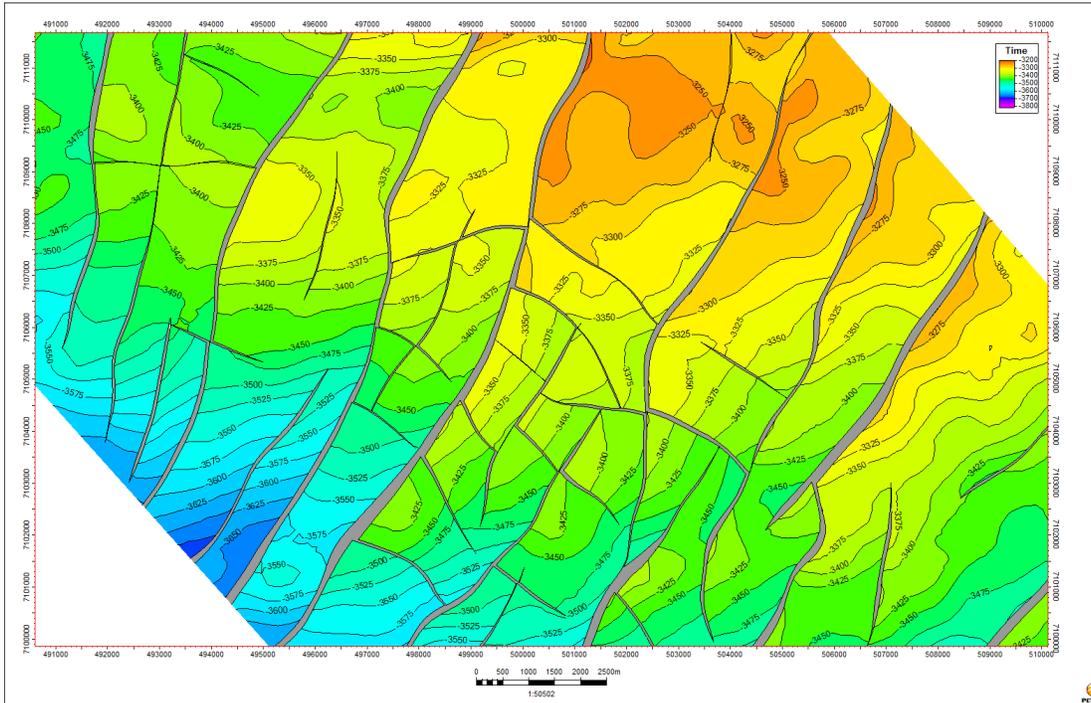
Petrel structural frameworks adopt the coordinate reference system (CRS) of their parent project. This CRS cannot be transformed using the reference project tool (RPT). Conversion of data between coordinate reference systems requires data to be exported from the structural framework and imported as input data into the new CRS project.

Mapping

Display of structural framework horizons in the Petrel map window has been significantly improved.

- Contours now include correct annotation

- Printing is now supported
- Fault polygon output has been improved



Enhancements

The structural framework was introduced with Petrel 2010.1. This initial release has seen significant feedback from client user groups who have made suggestions regarding usability improvements and algorithmic issues. We have strived to incorporate as much of this feedback as possible in this (2010.2) patch release. This release is significantly improved from the 2010.1 release and we strongly recommend users to migrate to this version as soon as possible.

A list of key functional improvements are listed below.

Bug Fixes

Structural framework display in the interpretation window

A number of usability improvements have been made to display of the structural framework in the seismic interpretation window:

- Display and refresh problems have been fixed allowing correct visualization of structural frameworks in the interpretation window
- Display of the structural framework on 2D seismic lines

Fault framework modeling performance over networks

Algorithmic improvements to the fault framework modeling workflow have been implemented to significantly improve performance when Petrel projects are being hosted across networks.

Well tops as input

Well top (picks) may now be used directly as fault or horizon input data. This is particularly important where well top (pick) data dominates interpretation and where seismic data is sparse. Typically, onshore areas with large well density are a primary example of where this approach may be applied.

Fault model from structural framework improvements

The workflow allowing conversion of a structural framework to a pillar fault model (fault model from structural framework) has seen some major algorithmic improvements which have significantly improved the following areas:

- Memory consumption and performance
- User defined pillar extrapolation above / below framework horizons

Geophysics

Restrict Mode

In order to improve interpretation workflows in the 3d window, the ability to restrict seismic horizons to seismic intersections has been introduced.

When activated, data will only be visible on displayed intersections. Interpretation can be performed while in restrict mode and data selection and deletion will be restricted to displayed intersections

The toggle to perform this is found in the seismic horizon settings menu. However, the easiest way to switch seismic horizons in and out of restrict mode is with the icons added to the seismic interpretation toolbar or the accompanying shortcut keys.

R Toggles restrict mode for the active seismic interpretation (shortcut key "R")

R Toggles restrict mode for all visible seismic interpretations (shortcut key "Shift + R")

Typical uses of restrict mode:

- To limit horizons to seismic intersections when scrolling through a 3d volume – for example, when quality controlling interpretation
- To ensure only data on the intersection is deleted when you use the delete option
- To prevent other interpretation obscuring the view while interpreting in the 3D window

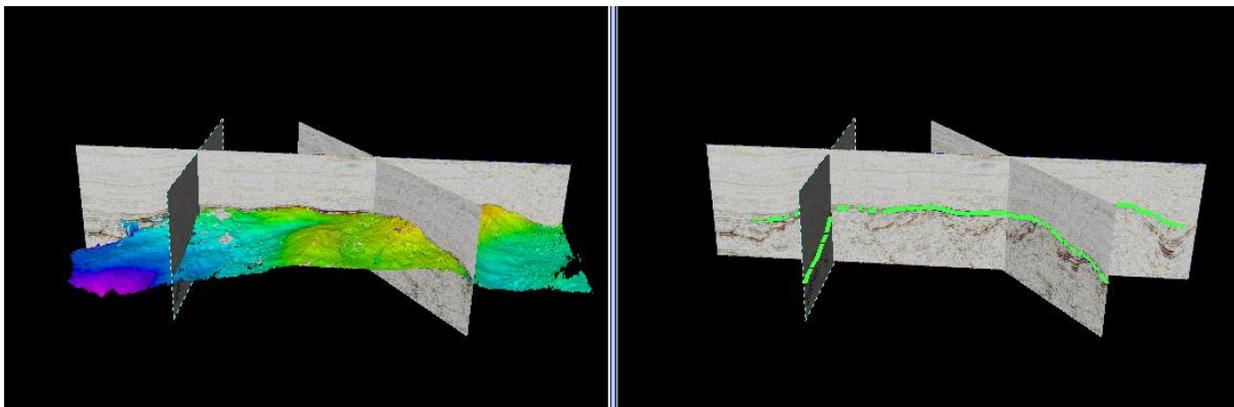


Figure 1 The right image shows the results of restricting interpretation.

Note - Restrict mode for fault interpretation will be introduced in Petrel 2011.1

Geobodies – A probe's color table will reflect changes in a seismic volume's color table settings. A new toggle has been included to allow a probe's color table to either reflect the global seismic template or the seismic volume's private color table

Upgrade to Open Inventor version 8.1

Petrel 2010.2 upgrades Open Inventor (OIV) from version 7.2 to 8.1. This is to accommodate Ocean clients who want to deploy plug-ins that use new OIV 8 features in the 2010 time-frame. (Such plug-ins will only be deployable on Petrel version 2010.2.)

- The OIV upgrade, like all of Ocean for Petrel 2010.2, is binary compatible: plug-ins developed on 2010.1 (with OIV 7.2) will continue to work on 2010.2 without recompilation. We strongly recommend that you re-test 2010.1 plug-ins on 2010.2 to detect any unanticipated behavioral changes.
- OIV version 8.1 changes its namespace prefix from MC.* to OIV.*. To preserve plug-in binary compatibility, the old MC.* namespaces still work in OIV 8.1. The old namespaces have been deprecated, however, and when 2010.1 plug-ins are moved to 2011, they should be converted to the new OIV.* namespaces. Likewise, plug-ins developed directly on 2010.2 (to utilize new OIV 8 features) should use the new namespaces.
- OIV 8 merges the SbLinear.dll assembly into the InventorNet.dll assembly. Again, to preserve binary compatibility, a deprecated SbLinear.dll assembly is deployed with OIV 8 that contains the old types in the deprecated MC.* namespaces. Plug-ins moving to 2011 or that want to use new OIV 8 features in 2010.2 should no longer reference SbLinear.dll. Instead, they should reference the corresponding OIV.* types merged into InventorNet.dll.

Known issues

Petrel 2010.2

Issue ID	Component	Description
2478207	Geophysics-Attributes (Volume)	Relative acoustic impedance calculated incorrectly when ran on Depth domain cubes. The high pass filter used in the acoustic impedance calculation is set to 10Hz. And when ran against a depth domain cube, the filter results in erroneous results.
2506451	Geophysics-Attributes (Volume)	Virtual on virtual volume attribute does not keep Parameters after upgrade.
2507284	Geophysics-Attributes (Volume)	There is no histogram in the Opacity tab for Realized GI cubes.
2504951 2453293	Geophysics-Geobody Interpretation	Convert to seismic probe fails on ATI graphics cards.
2499346	Geophysics-Geobody Interpretation	Creating probes for any cube with a non-symmetrical amplitude interval, results in the wrong amplitude.
2495726	Geophysics-Geobody Interpretation	Horizon probe bounding boxes are too large and are computed incorrectly.
2495726	Geophysics-Geobody Interpretation	The color tab for extracted patches does not work properly.
2502993	Geophysics-Seismic Calculator	.Min and .Max does not work on cropped cubes/2D lines.
2505832	Geophysics-Seismic Well Tie	All logs created by SWT and Wavelets created by Wavelet Builder are missing history.
2499870	Geophysics-Windows (3D)	On XP32 bit machines, OIV: Bump mapping gives black stripes in the 3D window.
2506858	Geology- Volume Calculation	Volume calculation repeating itself. To workaround this issue, only use Apply/Ok (not Run) in the Volumetrics dialog, and do the Run with RMB on the Volumetrics case in the Case tree (or via the Workflow Manager).
2504063	Geology- 3DPM-Facies Modeling	WF: Message log repeats the messages after it finishes potentially causing Petrel to freeze up. Workaround is to disable writing the message log.
2489189	Geology	When displaying horizons in Structural Framework, applying and removing transparency can potentially make horizons invisible.

2507160	Geology- Well Section	Applying a user defined well section template does not work as expected. The workaround is to import the template directly as an XML file.
2506917	Core- Polygons and Points	Digitize polygon on vertical image does not work. To workaround this issue: <ol style="list-style-type: none"> 1. Insert -> New intersection plane 2. From the bottom toolbar select "Snap intersection plane to 2 points" 3. Click 2 points on the vertical image <p>Now the digitized points/polygons will have correct X,Y,Z coordinates</p>
2505882	Core- 2D or 3D Window	For Windows 7 users, zoom on target tool does not work for well trajectories. To work around this issue, display any object close to the well and use this object as a target.
2501214	Core- 2D or 3D Window	Dolly and panning by mouse-wheel fails in select pick mode.