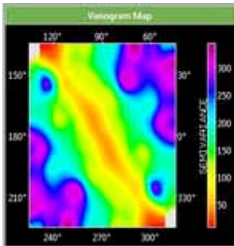




Unearth A Masterpiece.

# Newsletter of "The Mapping Guru"

EDITION Number 9



## NEW TECHNOLOGY SHOWCASE

V16.5 HAS BEEN LAUNCHED. GET A SNEAK PEAK AT WHAT'S NEW AND HOW ALL THE GREAT ENHANCEMENTS CAN HELP YOU.

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## PPDM 3.8 SUPPORT EXPLAINED

PETROSYS RECENTLY RELEASED SUPPORT FOR THE PPDM V3.8 DATABASE MODEL. THIS ARTICLE PROVIDES AN INSIGHT INTO THE PROJECT OUTCOME.

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## PPDM PERTH CONFERENCE

THE PPDM MASTER DATA MANAGEMENT CONFERENCE IN PERTH WAS A GREAT SUCCESS. HERE IS OUR SUMMARY FOR YOUR BENEFIT.

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## ADMINISTRATOR TRAINING

UNIQUELY DESIGNED FOR APPLICATION SUPPORT AND ADMINISTRATORS. THIS COURSE HELPS ORGANISATIONS GET THE MOST OUT OF THEIR SOFTWARE INVESTMENT.

pg6



## VISIT US AT SEG & PETEX

THESE TWO SHOWS IN NOVEMBER PRESENT A GREAT OPPORTUNITY TO SEE WHAT'S NEW AND DISCUSS YOUR WORKFLOWS WITH OUR STAFF.

pg6

# Educational Grant Program

Every masterpiece begins with a drawing.  
*Unbridled exploration. Insatiable truth seeking. This is a master's process of discovery.*  
*Also, a mapping guru's.*

## Petrosys supports partnerships to solve energy industry challenges

The Petrosys Educational Software Grant Program offers educational institutions and researchers the opportunity to become Mapping Gurus, through access to the most powerful geoscience mapping and capabilities at no cost.

## Supports education and research

The program supports the development and education of future geoscience experts through access to the industry's most effective tools. For educational programs to be successful they must expose students and staff to state-of-the-art geoscience applications, where students can develop the vital skills of geoscience mapping, a critical component for energy industry professionals.

The program also provides not-for-profit researchers with effective, proven mapping and modelling software technology. This is a key enabler as research strives to help increase production, improve recovery, lower costs, test new geoscience ideas and reduce environmental impact.

The software provided is strictly for research, teaching and educational purposes and is not permitted to be used for consulting opportunities.

## Download the application package

If you are interested in applying for the Petrosys Educational Grant Program, [please download](#), review and complete the application package available on our website.

# Petrosys v16.5 - An Overview

**Petrosys version 16.5 is a major release that adds significant functionality for connectivity to Petrel and Landmark R5000.**

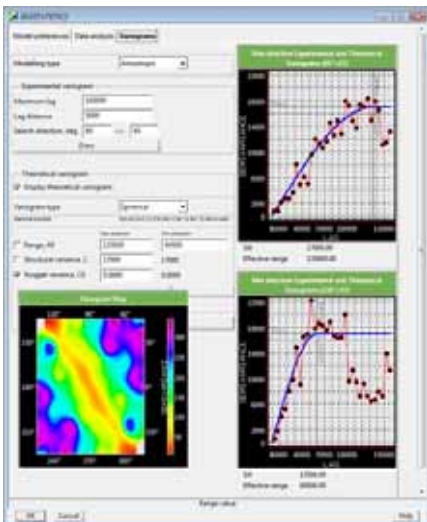
This article provides a brief overview of some of the highlights. Contact your account manager or [review the release notes online](#) for further details.

## Kriging improvements, anisotropic modelling

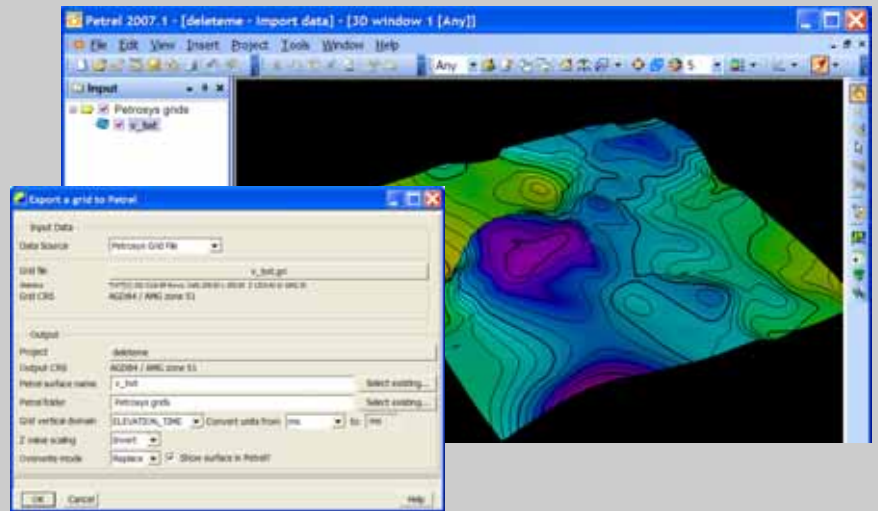
The gridding method of kriging has been significantly upgraded to include the ability to produce variogram maps and model anisotropy. This allows directional trend analysis of the data and therefore can more accurately grid features such as river systems, dunes and mountain ranges which are directional in nature.

Anisotropy can also be used with kriging with external drift, allowing the user enhanced control over the interpolation process. Other improvements include:

- Using 'Refine fit' to fine tune the variogram fit, it is now possible to constrain the sill, range and/or nugget.
- Data may now be displayed as a histogram or a map.
- Point data that exists outside of the external drift grid will be automatically excluded when using kriging with external drift.



## The Petrosys Plug-in for Petrel\*. A major upgrade in v16.5.



The Petrosys Plug-in for Petrel\* allows geoscientists and engineers utilizing Petrel to present their insight, integrated with information from many other data sources, through the Petrosys map interface. Significant features have been added to the plug-in in v16.5, including; Writing of Petrosys grids back into Petrel; Direct gridding of Petrel seismic data; Importing of Petrel seismic to Petrosys SDF; Importing of Petrel faults to Petrosys fault file.

## Oracle Spatial support extended

The link between Petrosys and Oracle Spatial data has been strengthened with the "/Display/Spatial" option now supporting the reuse of existing annotation and filtering queries when displaying linked Oracle Spatial data.

Significant performance improvements can be realised by displaying data stored in Oracle Spatial, without major compromise to display or interactive functionality. This new functionality improves on both the display options (annotation queries) and performance (filter queries).

## Petrosys Culture file CRS enabled

The Petrosys culture file (.cul) can now have a different CRS than the project default. The culture file will prompt for you to select the appropriate CRS the first time the file is edited in the Culture editor.

You are not forced to specify a CRS for the culture file if you only want to use it in read only mode.

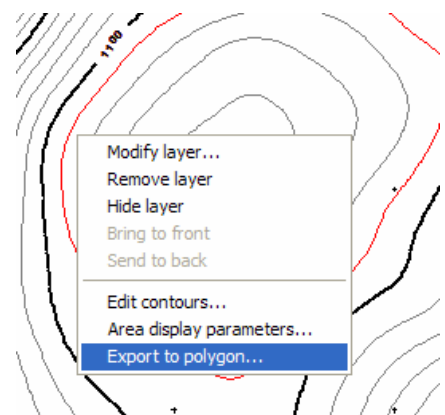
You can bulk assign CRS's to a number of culture files at the same time using the "/File/Maintain/CRS/Assign CRS to files" option.

## Export Petrosys faults to Petrosys polygons becomes easier

It is now very easy to convert your Petrosys faults into Petrosys polygon files so they can be used in other areas of the software. This option can be found in the PGC application using the menu option "/File/Export/Petrosys/Polygon/Fault..."

## Export closed contours to Petrosys polygons simplified

A quick way to export a single closed contour to a polygon has been added. When displaying contours use the right mouse button to click on a closed contour and select "Export to polygon..."



# Petrosys v16.5 - An Overview

## 3d viewpoints & movies increase presentation options

In the Petrosys 3dviewer, users can now save a series of camera viewing positions as a collection of 'viewpoints' (right). These make it easy for the user to create a series of descriptive viewing positions and return to those display perspectives quickly - much like a bookmark.

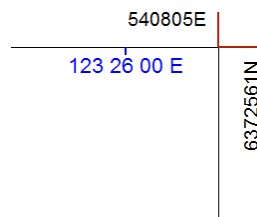
The ability to render a selection of saved viewpoints into a movie (.mpeg) which can be shared provides an effective way to present or provide information to other parties.

It is now also possible to animate attribute grids draped over surfaces; this makes the presentation and review of time-series data more effective, for example when reviewing the change in reservoir pressure in a structure over time.

## Mapsheet annotation improved

Mapsheet corner annotation may be optionally disabled or displayed with a linking corner symbol. When corner annotation is displayed, it is automatically prevented from overposting.

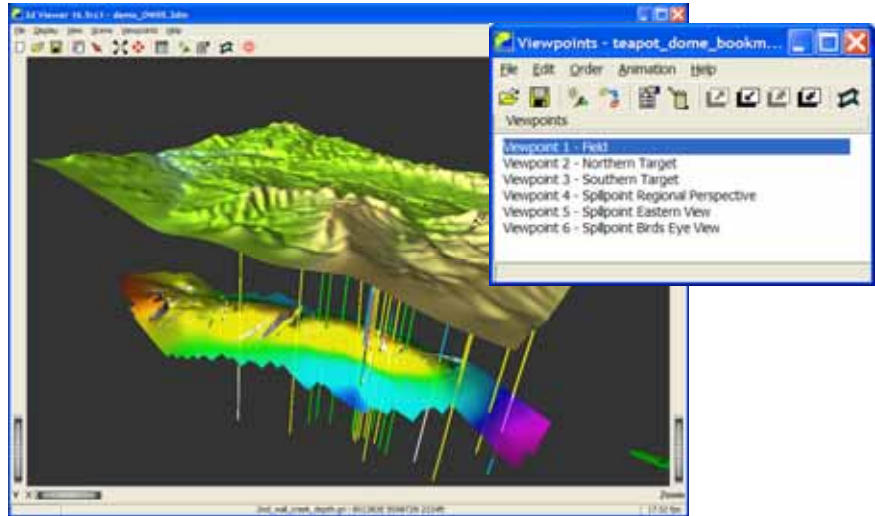
Mapsheet axis annotation may now be placed inside the mapsheet border and its offset distance from the axes customised. The style of the tick mark displayed with axis annotation is now able to be customised or disabled completely.



## Landmark R5000 support

This is the first version of Petrosys to fully support the latest version, R5000, of the Landmark software platform.

All of the data interoperability Petrosys had with R2003 will function against R5000, while a new standard set of SQL queries for R5000 has been provided to support changes in the data model.



## Dispatch Server stability and installation improvements

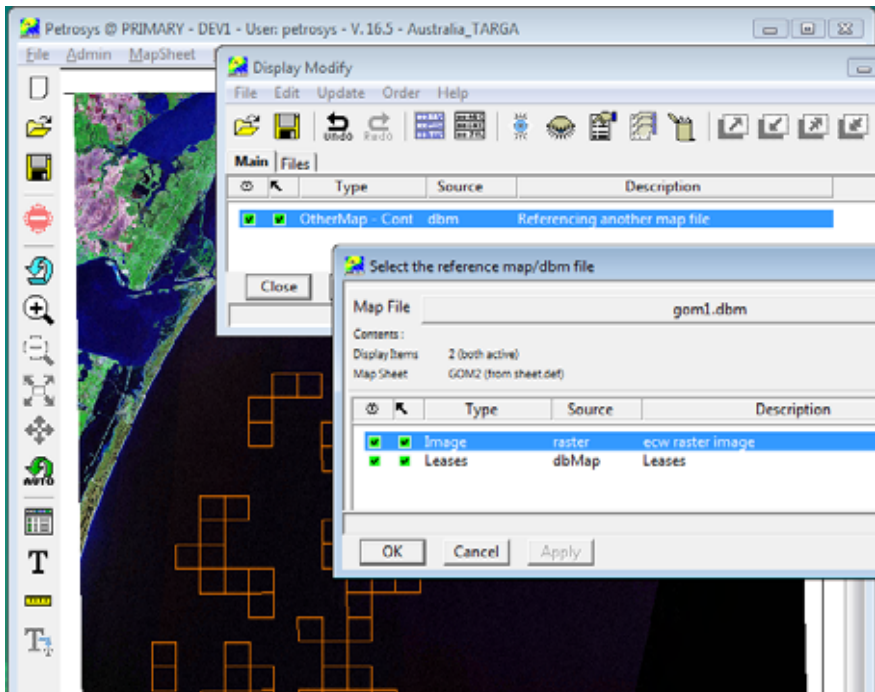
Significant work has been put into hunting down and eliminating stability issues with the Dispatch Server. Investigations revealed that a number of the problems were due to incorrect installation or configuration, to address this there is now an installation script that will install and configure the common settings for the server in a few easy steps.

Additionally the error and logging system has been improved to better relay and capture any problems. This will allow easier diagnosis and rectification of the problems.

## Display of shared map layers simplifies sharing of content

A new "Display/Other Map/Content" option has been added to Mapping to allow the display of other maps (.dbm files) as an independent layer on the map.

This allows the creation of base layers of common mapping elements to be created and saved to the project or central directories and then easily shared to other maps. The "Other Map Content" layer is a live link (see below) to the dbm - if the inserted dbm file changes then the map will change on the next re-draw.



# Petrosys dbMap™ PPDM 3.8 Database Cartridge

**Petrosys have released their dbMap PPDM 3.8 database support solution for the well & seismic modules. This article provides an insight into the project.**

## The Master Data Store

When the Public Petroleum Data Model version 3.8 ("PPDM 3.8") was released in July 2008, it presented Petrosys with a new challenge, to make our dbMap solution fit this new model.

There is a lot of interest evident in the E&P Industry for bringing data together into Master Data Stores and making this data available to many applications and processes company-wide. The PPDM 3.8 data model is well suited to (broadly) fulfil this Master Data Store role, evident by the number of practical implementations taking place.

And so, as one of PPDM's principle supporters since 1994, it only seems appropriate that Petrosys would make its own applications fit this model, too. Which is exactly what Petrosys have now done; with the first – and most important – stage of work completed in early September 2008.

**The end result:** Core Petrosys dbMap Wells & Seismic mapping, modelling, query and reporting functionality now also works effectively with PPDM 3.8.

## Fitting into PPDM 3.8

The dbMap PPDM 3.8 functionality is a large sub-set of exactly the same functionality that is available in stock-standard dbMap – which is essentially a hybrid PPDM 3.2 - 3.8 database model with few Petrosys extras thrown in, for example in velocity data management.

The methodology employed by Petrosys to fit dbMap into the PPDM 3.8 model can best be described as being an extra dbMap-specific database layer that translates the PPDM 3.8 database model into Petrosys Data Type Views.

The diagram (right) illustrates that the Petrosys application screens, maps and reports which match a logical real life view an end user see's, have been translated into the complex, rich and detailed PPDM 3.8 datamodel.

## Under the bonnet

The new database layer - Petrosys call it the "dbMap PPDM 3.8 Database Cartridge" - was created with new database views and "INSTEAD OF" triggers on these views. So what happens when reading and writing data?

Reading: Views extract data from the PPDM 3.8 database model and work this data into a de-normalised ("flat") format.

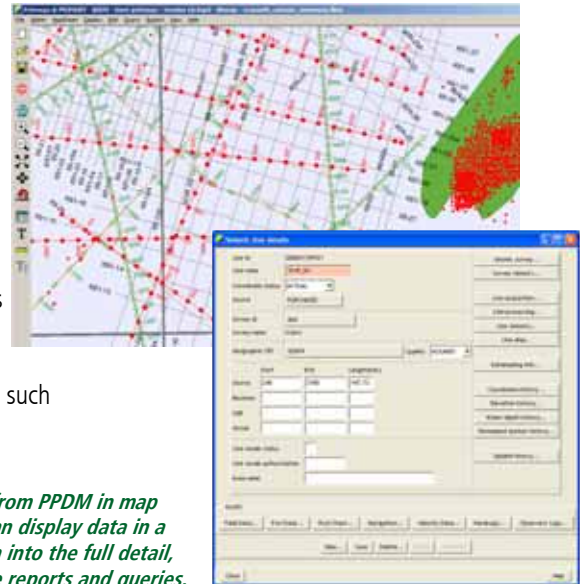
Writing: Triggers manipulate and insert/update the complex normalised database model data from de-normalised ("flat") format.

For example: the Petrosys "Seismic Line" Data Type is a 'flatter' data structure which is represented in the PPDM 3.8 model as a series of three different database tables. This led Petrosys to create their own "Seismic Line" Data Type View (and associated Triggers), which is what is now used by dbMap; no 'direct' reading and writing of PPDM 3.8 Tables is done at all for such Data Types.

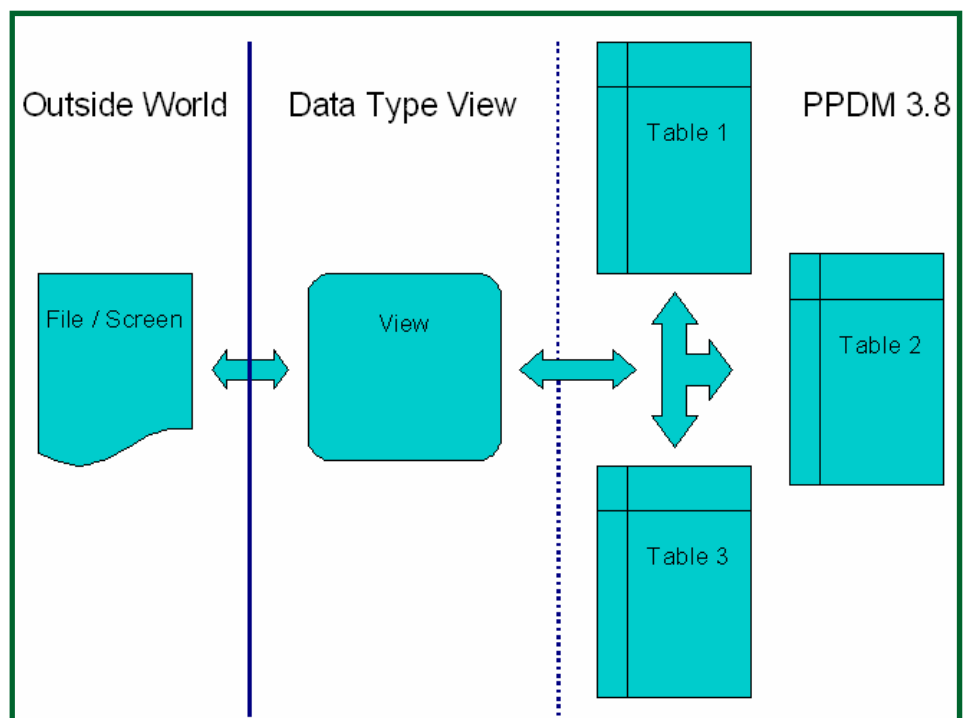
## Universal Solution

The PPDM 3.8 database model no longer represents a "logical" database model. Expressed in a one-liner: Normalised + Extensive = Complex. That's life.

If Master Data Stores are the way to go, then this is what all of us will have to live with. Which brings us back to how Petrosys have solved this challenge for themselves. The methodology used to fit "real life" into a "complex structure" - by way of Views and "INSTEAD OF" Triggers - seems universally applicable.



*Right: 2D seismic data from PPDM in map and text forms. Users can display data in a map view and drilldown into the full detail, combined with effective reports and queries.*



*continued from previous page ...*

## Pro's and Con's

Below, Petrosys has presented a set of objective pro's and con's to the approach adopted, to share our experience with you.

### Pros

1. Can fit real-life data into a complex structure.
2. Can greatly reduce general query complexity.
3. No need to embed same Data Type logic in other Applications / Processes.
4. Can work extra business logic (on database level) into Views and Triggers.
5. Complex View data manipulation performance is (potentially much) better than manipulating the underlying Table data directly, especially where databases are accessed over WANs.

### Cons

1. Performance degradation noticeable in some scenarios - manageable via database administration.
2. Requires a more involved level of database administration and expertise.

## More information?

This article is an extract from a paper presented by Rob Bruinsma at the Perth PPDM data management conference in September 2008. This discussed both the evolution of the PPDM seismic model, how to implement it and Petrosys' support for PPDM 3.8.

**If you would like some advice on implementation of PPDM or master data management, please don't hesitate to call your Petrosys representative or email us [info@petrosys.com.au](mailto:info@petrosys.com.au).**

# PPDM Perth Meeting Builds on Successful Petroleum Data Management

**The successful management of petroleum exploration and production data, building on over a decade of use of the industry standards developed by the PPDM Association and created by experts world-wide, was the focus of a well attended PPDM data management meeting held in Perth on September 2nd and 3rd.**



*The Business Driven Standard*

Australian master data stores built on the PPDM model include the Woodside EpiDB database, which came on line in 1995, and the Petrosys dbMap product which has been evolving with PPDM since 1994, and is now in use at a wide range of sites across Australia, North America and Norway.

Quantifying the benefits of 12 years' use of PPDM standards by Woodside Petroleum, Helene deBeer highlighted how good data management had contributed to keeping down the cost of knowledge transfer as staff moved between projects and business units. 'Crew change is inevitable', Helene said, 'and having well documented data sets can dramatically reduce how long it takes to make the new team productive'.

'Using the PPDM data model allows our clients' data stores to track the evolving technical complexity of petroleum EP workflows', Petrosys CEO Volker Hirsinger commented.

PPDM's Steve Cooper gave a timely example of the need to keep up with business changes in his presentation of the PPDM project 'What is a well?', noting that 'experience with coal seam gas exploitation in Colorado is that it can involve the drilling of large numbers of laterals from pilot wells. There is a disparate range of nomenclature used which our project sponsors have an urgent need to reconcile'.

Chevron information architect Chellie Hailes described Chevron's PPDM based master data management strategy, which leverages on Chevron experience with PPDM going back to 1993. 'Chevron wants to take control of their key EP information', she says. The project addresses challenges associated with the merging of data and improvement of information flow across the range of vendor and in-house applications and data stores at Chevron sites around the world.

The meeting discussed a range of issues around the measurement of data availability and quality, with presentations on data quality metrics by CSIRO's Allison Hortle, tools by DPI Victoria's Bob Harms, and in the value of data catalogues by Fugro-Jason's Tony Perry.

Keeping track with tape technology, which remains fundamental to Australia's strong emphasis on seismic data, was part of the comparison of modern storage media that emerged out of talks by CGG Veritas' Andy Cairns and Spectrum Data's Peter Goynne.

PPDM CEO Trudy Curtis encouraged the 51 attendees, who represented 23 organisations, to play a more active role in developing standards with the not for profit PPDM Association.

"Standards based data management is fundamental to effective business strategies", said Trudy Curtis. "The PPDM Association is committed to providing industry with opportunities to collaborate, share ideas, develop standards and promote best practices. Conferences and user group meetings are important vehicles to achieve success; the strong Australian data management community has shown that they agree."

# Administering Petrosys - New to Training Offering

In recognition of the growing need to offer our community of application support gurus training, Petrosys has introduced a uniquely tailored public training class for administrators.

The September 2008 class included specialist attendees from Calgary, Houston and Russia.

Petrosys has recognized the growing need for education for our application support and administration gurus.

Individuals who need tailored training on software installation, upgrades, application connectivity, best practices for project management and system tuning now have a course specially designed to meet their needs.

These are individuals tasked with the role of effectively and efficiently deploying software so that end users have a solid balance of the latest software functions, deployed in a stable, well tuned and effectively configured environment.

If you would like more information on the course, then please email us for more details at [training@petrosys.com.au](mailto:training@petrosys.com.au).

Our newest technical support employee in Calgary also found the course very valuable.

There are introduction to Petrosys courses planned in the near future, the latest schedule is outlined (right). Petrosys can provide on-site training tailored to your requirements. Please don't hesitate to contact us to discuss.



Above: Picture of training in action. Alec Kelingos, explains the configuration of Petrosys connectivity to 3rd party systems, such as Landmark, SMT and PPDM. Each student had access to their own Linux and Windows system to gain valuable hands-on experience and practice.

## Upcoming Courses: 2-Day Overview of Petrosys Mapping

**Synopsis:** The course covers the basic mapping framework; connection manager; creation of mapsheets and the display of information on a mapsheet, such as seismic, wells, faults, spatial and raster data; an overview of Petrosys gridding and contouring; the display of grids and contours; and the editing grids, contours and polygons.

**Who should attend:** This course is directed at the active geoscientist, engineer or technical assistant who needs to produce maps and integrate well, seismic, spatial, raster and surface information from workstations and other sources, but who has not yet had exposure to Petrosys mapping.

Venue	Days	Date
Houston - Petrosys	2	02 & 03 December 2008
Perth - Cliftons	2	17 & 18 February 2009
Perth - Cliftons	2	19 & 20 February 2009

## Petrosys to Showcase Latest Technologies: SEG/PETEX

Petrosys will showcase its latest technologies at the SEG Annual Conference and Exhibition in Las Vegas, November 9-12 2008. The PETEX conference in London, November 25-27 2008, will also provide an excellent opportunity to learn how 'what's new' can benefit you.

Petrosys will be highlighting new features from our version 16.5 release (outlined on page 2 and 3). The technical program will include workflow presentations connecting exploration, development and data management workflows with the latest mapping and modelling technologies. One-on-one demonstrations are available for pre-scheduling: email us at [info@petrosys.com.au](mailto:info@petrosys.com.au).

We look forward to seeing you at the shows!