Petrosys **dbMap™ Data Management** is a natural way to bring together facts and ideas from a range of disciplines and data sources.
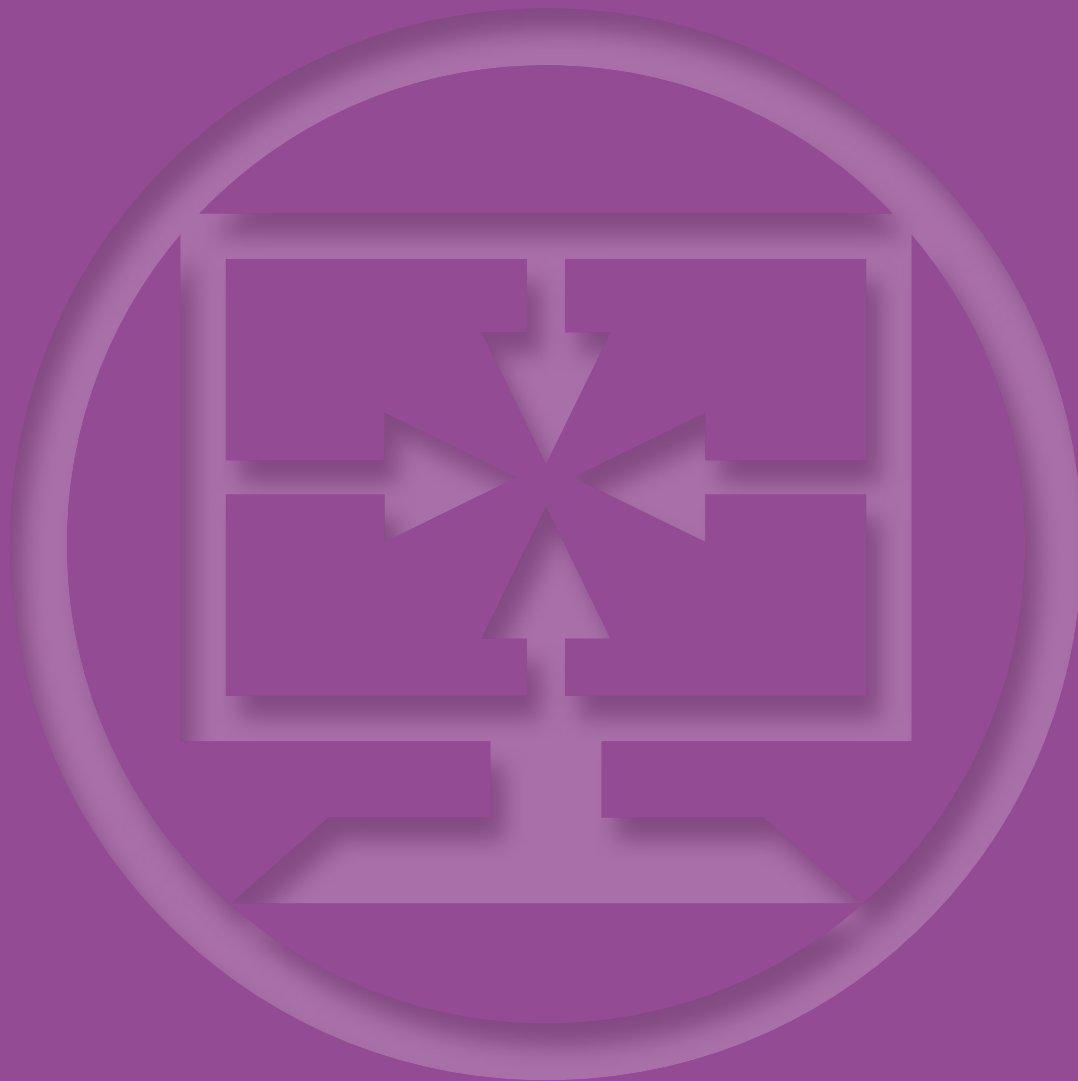
Unearth A Masterpiece with Petrosys.™

dbMap™ KEEPS DATA SECURE & VALID

dbMap adds the full power of an E&P industry-standard master relational database to the spatial querying, analytic and presentation facilities of the Petrosys suite. dbMap allows you to gather, assimilate, validate and organize data from a wide range of sources and create a secure and valid corporate knowledge bank everyone can use, regardless of their application. And since dbMap is open, accessible and based on the PPDM industry standard, you're never locked into any one software vendor.
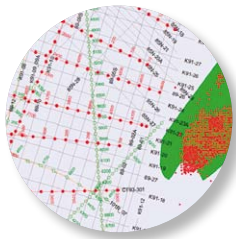
dbMap Seismic & Wells   5-6

The beauty of Petrosys is that it makes it easy to capture and share the depth of your mission critical well and seismic knowledge - within and across teams – from cradle to grave. Map and browse geoscience information for wells, such as well header, surveys, tops and production. From there, build lists of objects, use queries and reports to substantiate the selected data. Capitalize on Petrosys seismic data management leadership and the full depth of management of the geophysical lifecycle including management of acquisition, processing, navigation and surveys.

dbMap Leases & Titles   7

Manage the spatial definitions of 'leases', capture and retain the depth of land rights, participating interests and track the timeline and data submission requirements associated with work program commitments. With dbMap you will more effectively manage your obligations and maintain compliance, while effectively capturing and sharing the time variant lease and joint venture information which is central to exploration and production success.

dbMap Unstructured & Spatial Data Management   8-9

The combination of dbMap spatial and unstructured data management capability gives users the power to pull their online, offline digital and physical assets together, while relating this knowledge to key spatial locations. The unique mix of Petrosys spatial integration and subsurface technology allows organizations to leverage their existing GIS investments and to spatially publish and interrogate their master PPDM repository.

## Create a Living, Industry Standard Data Store   10-11

If you haven't already started a PPDM data store, Petrosys can provide all the systems, data management expertise and knowledge required - as we've done for clients around the globe who are now using our software and services to great advantage. Add to that the ability to access existing databases through the configurable Petrosys architecture – now you can extend a wealth of knowledge broadly, reaching new levels of efficiency and reducing risk.

With well over 20 years of experience and nonstop innovation,
no wonder Petrosys is the choice of 250+ leading E&P firms around the world.

dbMap™ Data Management

Mapping and modelling with Petrosys is a natural way to bring together facts and ideas from a range of disciplines and data sources.
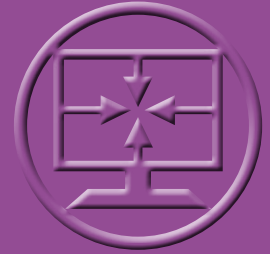
INTEGRATION IMPROVES EFFICIENCY & RELIABILITY.

Petrosys is a tool that lets users create surface models, volumes and maps from diverse sources; and which helps them organise this information in a PPDM master data store.

The Petrosys dbMap database is an Exploration/Production database that contains much of the well, seismic, production, and culture/spatial components of the PPDM data model, with extensions for leases, titles, assets, and unstructured data. Petrosys dbMap has been under continuous development since the mid 1990's, and wells, seismic, and culture/spatial components are now available for the PPDM 3.8 database structure.

As a PPDM implementation dbMap is unique in that it provides Oracle/ Spatial views of data. This allows spatially aware applications such as GIS systems - including ESRI and MapInfo - to work with the PPDM data without the creation of simplified data models or sacrificing the ability to undertake complex relational queries.

Petrosys' internationally recognized expertise with Coordinate Reference Systems allows dbMap spatial data to be maintained without compromise in it's native CRS, with automatic conversion to selected output CRS at the time of map or report generation.

The dbMap 'asset link' extensions allow linking unstructured data such as well completion reports, sections, and bulk seismic data to the PPDM model.

dbMap has a choice of two options for mapping, querying and reporting of leases.

The Petrosys mapping interface provides a spatial and structured query and reporting tool not only into the dbMap database, but also into a wide range of other technical applications. Well and seismic information from third party applications including OpenWorks, GeoFrame and Kingdom can be queried and displayed on the same map as the PPDM data, using similar forms. Petrosys' experience with these systems has allowed the creation of a user interface in which the user benefits from their similarity whilst being able to exploit their relative strengths.

As a comprehensive hub for EP data, the Petrosys map also provides direct access to GIS data source such as from ArcSDE, Microstation, and raster images.

Mapping   Modelling   Browsing   Reporting   Visualizing
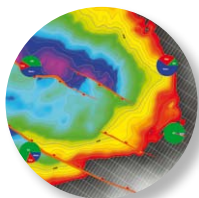
FILES	SPATIAL FILES	SPATIAL DB	DATABASE & EP	ODBC COMPLIANT
DXF, DGN, ECW, Raster Images, GoCad, JPEG, ZGF, MrSID	ArcShape MapInfo Petrosys CUL	ArcSDE, Oracle Spatial, Personal GeoDB	PPDM+, GF, IESX, Petra, Petrel, Finder, OW, SW, SMT	SMT, ODM, Excel, Access
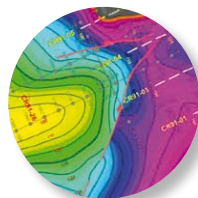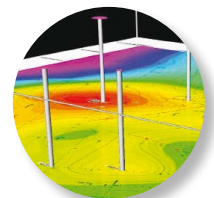
dbMap™ SEISMIC

Seismic information provides the primary shapes for most petroleum subsurface modelling.

The petroleum E&P industry must continue to draw on a growing inventory of seismic and geophysical knowledge, both through new acquisition and through the effective on-going management, reprocessing and trading of seismic survey data.

Long experience in working with seismic data makes dbMap one of the leading tools for management of seismic survey data - easily and effectively.

dbMap provides comprehensive management of the seismic data lifecycle, including planning, acquisition, processing and interpretation phases - published in a spatially enabled context.

The dbMap seismic model supports 2D and 3D seismic data, providing tools for loading, querying, reporting, mapping, browsing and maintaining this vital data in a comprehensive and industry standard repository.

Petrosys have pioneered the practical application of the EPSG coordinate reference system database to ensure spatial integrity and to help clients unravel spatial locating problems in historical navigation and survey data.
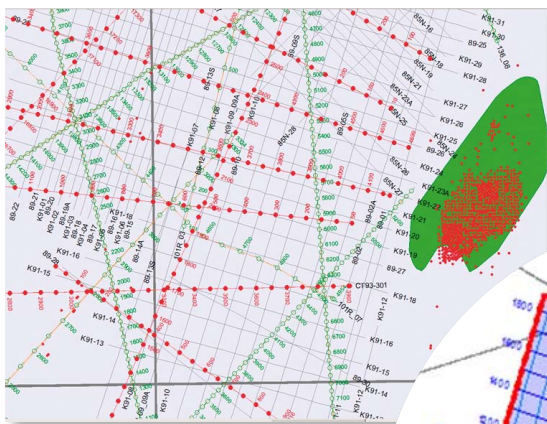
Geoscience oriented and tailored. Integration is the key. Petrosys brings acquisition, processing and interpretation information together simply, quickly and thoroughly.
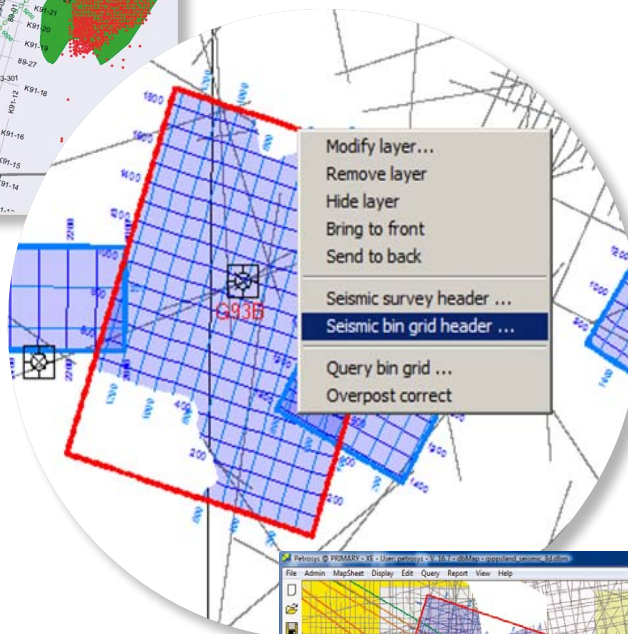
All data objects on a Petrosys map view are interactive in a context sensitive manner. Querying seismic surveys, for example, is offered to the user automatically when they click the right mouse button on the edge of a survey of interest. This provides rapid access to Petrosys' PPDM tailored survey header query and edit screens.

The PPDM model for acquisition and processing histories allows management of metadata through specifically designed query and editing screens.
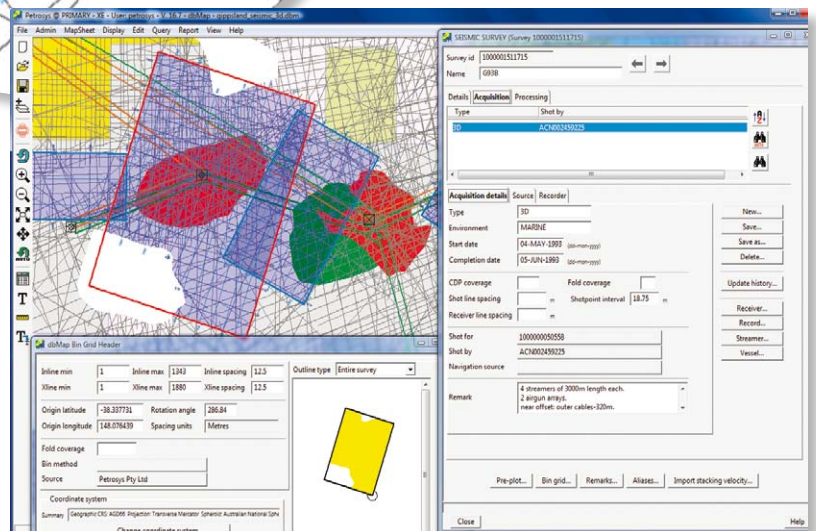
dbMap™ WELLS

The PPDM well model supported by Petrosys includes comprehensive management of well headers, directional surveys, tops, cores, logs run and monthly production summary information.

The map interface allows posting of information along well tracks, and is directly linked to the Petrosys surface modelling engine to allow creation of grids, contours and volumes from downhole data.

When a user clicks on a well spot or well track, the context sensitive menu offers access to a well header screen or to a range of well queries and reports.

The dbMap well header screen can be made read only, or it can provide edit access tailored to the user's security requirements. The screen itself can be tailored to meet the requirements of a specific site, as can the use of reference tables for well status and other data items. Similar flexibility applies to the screens for other objects such as tops, surveys, cores, tests, production and logs.

dbMap is an internationally established system. It has switches for alternating between metric and US units, and understands a comprehensive range of coordinate reference systems.

Petrosys can tailor similar query and editing screens for any of the other tables, both in the PPDM data model itself and for client specific extensions to this.

The well header screen remains in place until dismissed by the interactive user. As the user clicks across different wells on a map, the contents of the well header are automatically updated to show the details of the latest highlighted well.
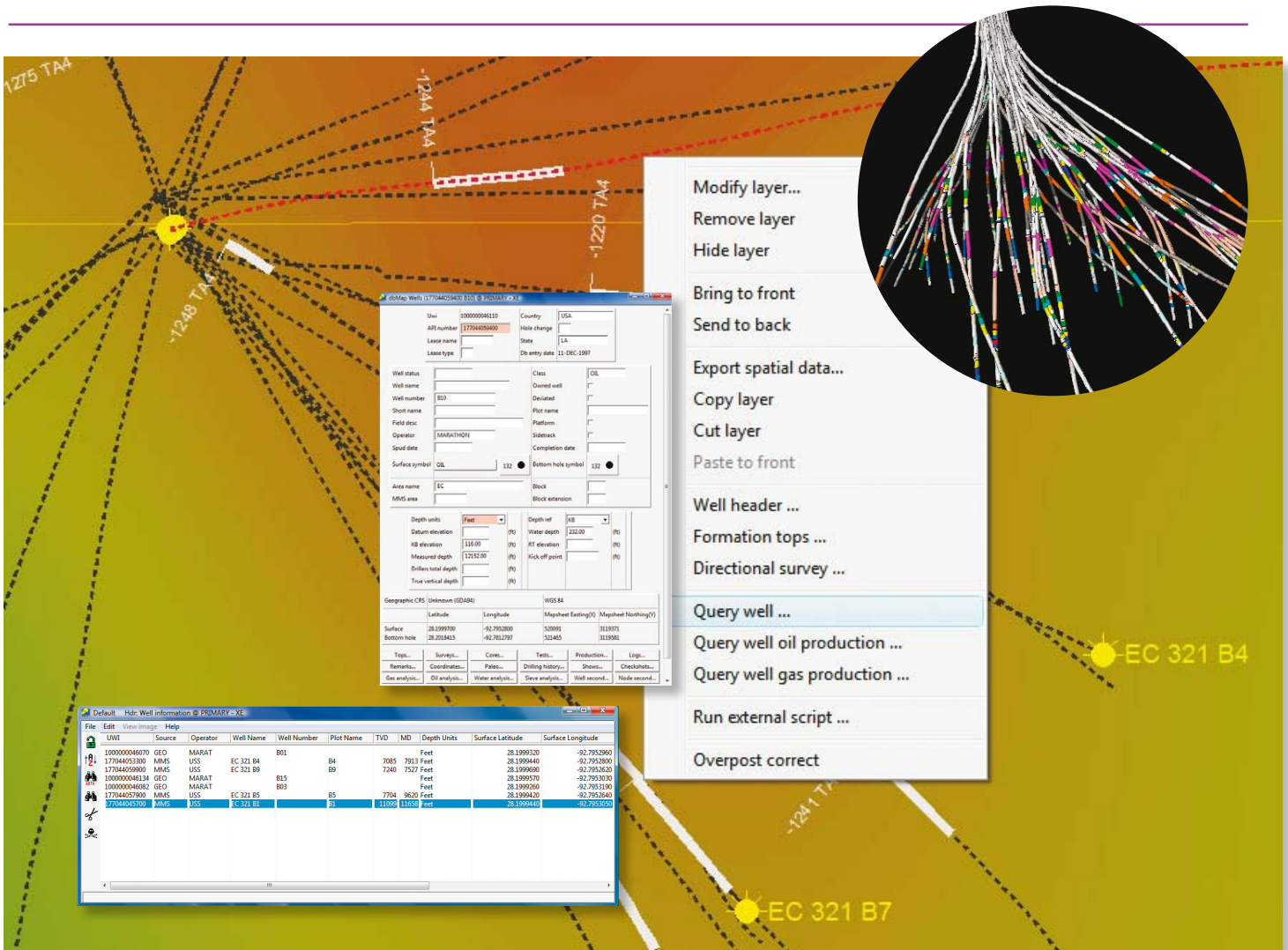
Petrosys supports the functionality that E&P professionals prefer when working with and managing a complete range of well data.

dbMap™ LEASES & TITLES

Effective land and mineral rights management is critical to the exploration and development success of your organization along with ensuring compliance.

Petrosys dbMap links spatial lease and permit outlines to a choice of two rich data models, which help you to manage the spatial outlines, joint venture participants and other associated data.

LEASES - Option 1

The 'leases' function is suited to providing access to externally supplied lease and joint venture information where this is a 'snapshot' of the present day situation.

This is ideally suited to companies working in areas such as the Gulf of Mexico where they can access regular updates from organizations such as the MMS.

TITLES - Option 2

The 'titles' module is a more comprehensive option designed for the detailed management of a lease (or petroleum title) through it's life cycle, both from a regulatory, operator and joint venture viewpoint.

dbMap helps you effectively relate spatial outlines to the complete data richness of the wells, seismic and other knowledge in your corporate repository.


THE TITLES MODULE CAN BE USED TO

- manage the spatial definition of titles in a time variant manner, taking into account geodetic datum changes.

- use the outlines of titles over time to select well, seismic, and other data for reporting and export, and to restrict data shown on maps.

- display title outlines and related title data on maps. Draw thematic maps showing titles selected on various criteria such as participation or forthcoming expiry dates.

- manage work programmes and the associated data commitments. Track proposed, actual and outstanding work commitments and data submission obligations. Allow recording of regional surveys that may satisfy commitments on multiple titles.

- record the past and present participation in joint ventures.

- record all legal agreements related to a title, and allow querying of these in association with title shapes, participation and commitments.

- provide a calendar view of all titles information.

dbMap™ UNSTRUCTURED DATA MANAGEMENT

Catalogue physical reports and access online documents through direct links from wells, seismic surveys, leases and other objects on your map.

PHYSICAL OR DIGITAL ASSETS
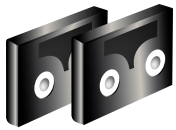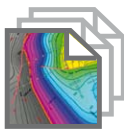
Tapes, Bulk and Near Line Systems

CDs, DVDs

Digital Photos

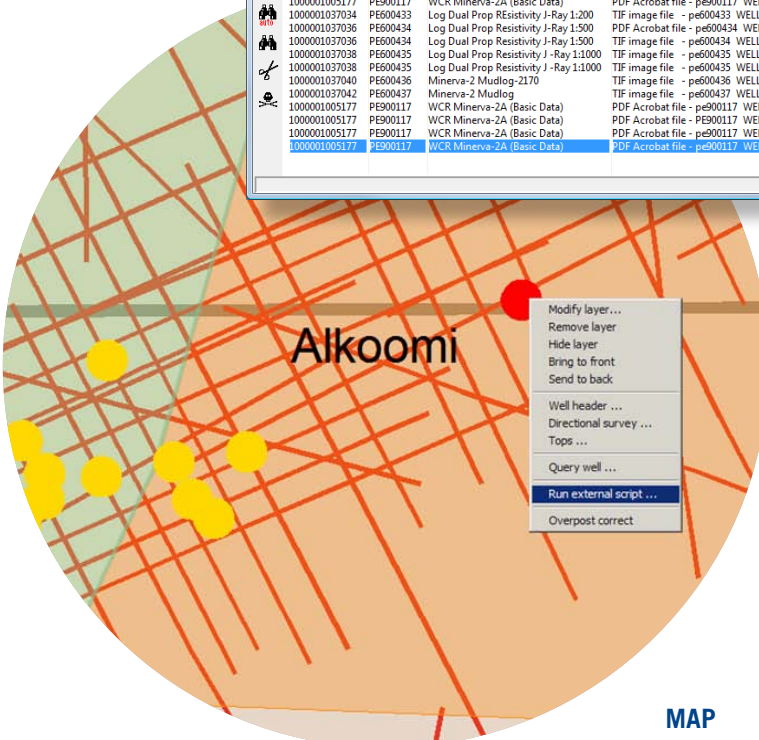*Digital Images*

Hardcopy Images, Photos, Sections, Maps

Datafiles, PDF, Word, Excel etc.

QUERIES AND REPORTS

PETROSYS   Asset item images - all for well on C drive @ PRIMARY - XE

File   Edit   View image   Help

PSA_UID	BARCODE	ITEM_NAME	IMAGE_DESC
1000001037040	PE600436	Minerva-2 Mudlog-2170	PDF Acrobat file - pe600436 WELL__WELL_LOG (wells, raw)
1000001037042	PE600437	Minerva-2 Mudlog	TIF image file - PE600437 WELL__WELL_LOG (scan, raw CD copy)
1000001005177	PE900117	WCR Minerva-2A (Basic Data)	PDF Acrobat file - pe900117 WELL__WCR_RPT (WCR data pkg)
1000001037034	PE600433	Log Dual Prop REsistivity J-Ray 1:200	TIF image file - pe600433 WELL__WELL_LOG (WCR data pkg)
1000001037036	PE600434	Log Dual Prop Resistivity J-Ray 1:500	PDF Acrobat file - pe600434 WELL__WELL_LOG
1000001037036	PE600434	Log Dual Prop Resistivity J-Ray 1:500	TIF image file - pe600434 WELL__WELL_LOG (wells, raw)
1000001037038	PE600435	Log Dual Prop Resistivity J -Ray 1:1000	TIF image file - pe600435 WELL__WELL_LOG (wells, raw)
1000001037038	PE600435	Log Dual Prop Resistivity J -Ray 1:1000	TIF image file - pe600435 WELL__WELL_LOG (scan, raw CD copy)
1000001037040	PE600436	Minerva-2 Mudlog-2170	TIF image file - pe600436 WELL__WELL_LOG (WCR data pkg)
1000001037042	PE600437	Minerva-2 Mudlog	TIF image file - pe600437 WELL__WELL_LOG (wells, raw)
1000001005177	PE900117	WCR Minerva-2A (Basic Data)	PDF Acrobat file - pe900117 WELL__WCR_RPT (WCR data pkg)
1000001005177	PE900117	WCR Minerva-2A (Basic Data)	PDF Acrobat file - PE900117 WELL__WCR_RPT (delete)
1000001005177	PE900117	WCR Minerva-2A (Basic Data)	PDF Acrobat file - pe900117 WELL__WCR_RPT
1000001005177	PE900117	WCR Minerva-2A (Basic Data)	PDF Acrobat file - pe900117 WELL__WCR_RPT (wells, raw)

Alkoomi

Modify layer...
Remove layer
Hide layer
Bring to front
Send to back

Well header ...
Directional survey ...
Tops ...

Query well ...

Run external script ...

Overpost correct

MAP

Find all of your assets, documents and master data, by drilling into a range of repositories directly from the map view with a configurable collection of reports, queries and links.

What data do I have in this area? Get the answer with dbMap.

The dbMap asset module allows cataloguing both of physical items such as tapes, reports, maps, cores and samples; and of electronic versions of these such as scanned PDF documents.

Asset items are catalogued in a nested manner, such that the location within which something is stored may itself be an asset item. This allows effective management of collections of items such as well completion reports which have inserted maps, logs, charts, and sections.

Asset item information includes EP specific metadata related to the parent well, seismic or lease activity, and physical asset characteristics such as tape quality that are relevant to EP assets. Asset classes and related parameters can all be redefined in a site specific manner.

Explicit links may be established from asset items to wells, seismic lines and surveys, and leases. These links are usually created semi-automatically as part of the data loading process. The links enable rapid production of picking slips for asset items related to wells, seismic and other EP objects on the map view.

The asset module can be used to track loans and copies of information. Through the nesting of items it is easy to check in or out complete collections of information such as a well box. The use of barcodes simplifies this process.

Links from asset items to their electronic counterparts allow direct access to PDF and other electronic documents, even Sharepoint portals from the dbMap user interface.

dbMap™ SPATIAL - GIS

Leverage the world of GIS information and raster imagery. Combine it with your geoscience knowledge – easily and effectively.

As a comprehensive mapping tool for petroleum exploration and production, Petrosys provides for the management of generic spatial information whilst also being able to link in with existing GIS implementations and data sources.

Petrosys' Oracle/Spatial indexing of PPDM wells and seismic and of dbMap leases creates a GIS compatible view of structured information without the need for a separate data management silo.
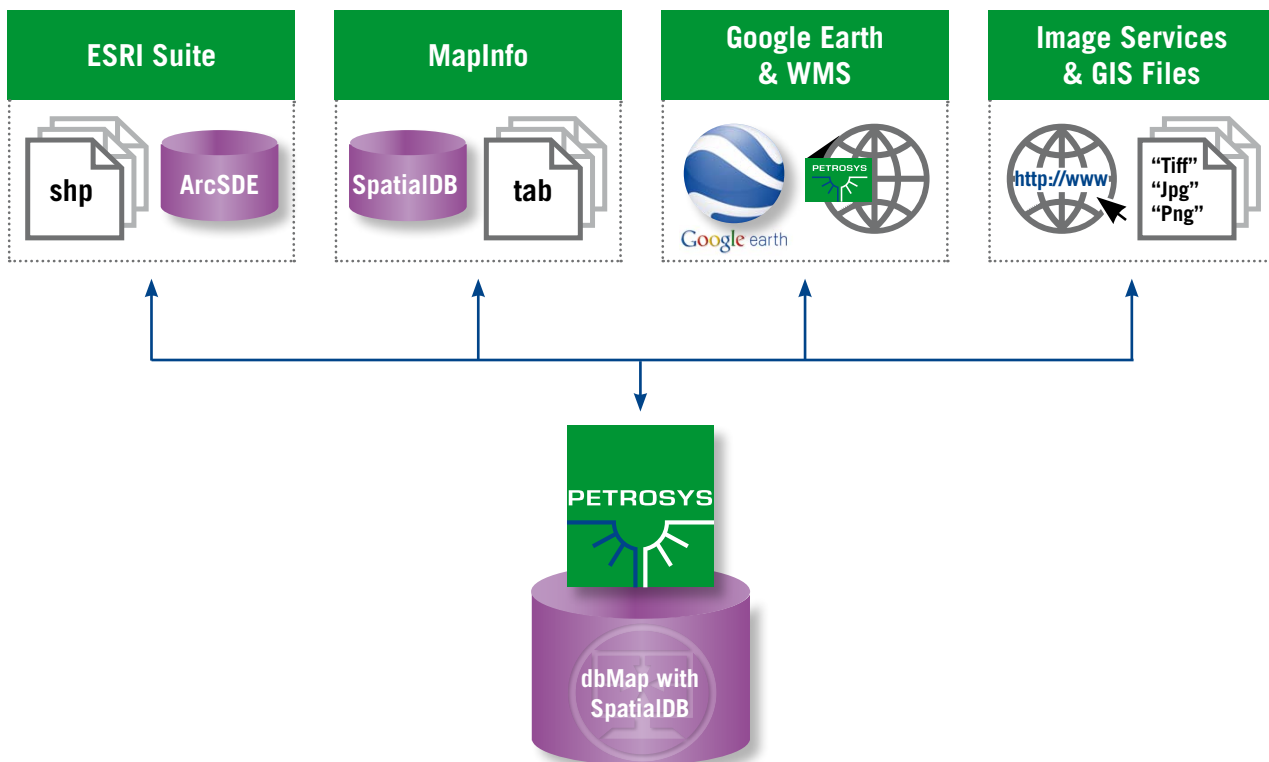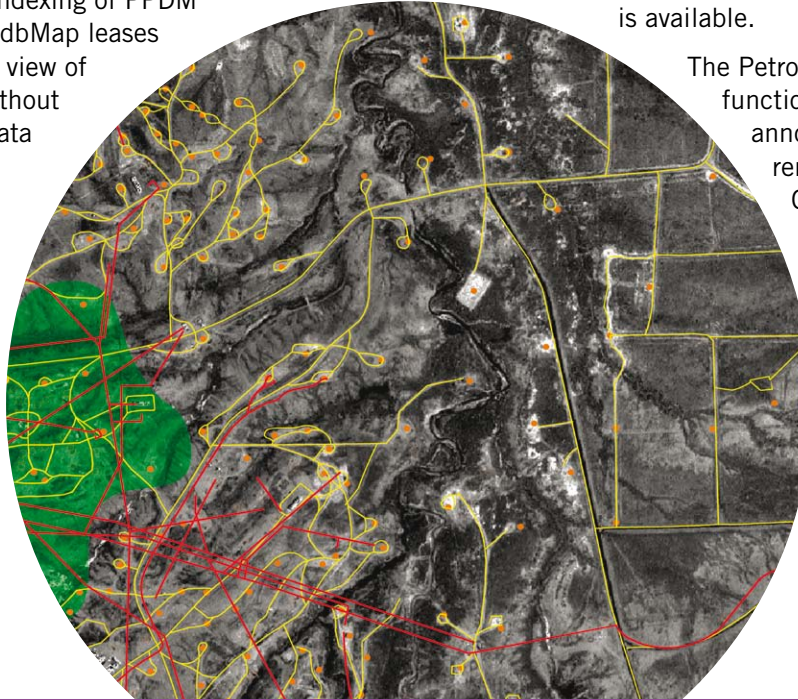
Database procedures can be supplied for the automatic mirroring of this information in ArcSDE layers, allowing the inclusion of dynamic views of wells, seismic and lease data in any ArcSDE based applications.

By using a standard Oracle implementation, dbMap enables access to it's spatially indexed PPDM information from other applications such as MapInfo. Spatial queries e.g. for inclusion, intersection and proximity can be run in any sequence from any location where SQL access is available.

The Petrosys Display/Spatial mapping function provides posting, annotation and thematic rendering of these and other GIS data sources.

Petrosys surface modelling can access many GIS data stores as the input data for the computation of grids, contours and volumes.

In addition to vector data, Petrosys has excellent support for the display of raster images, including an interactive georeferencing facility.

ESRI Suite	MapInfo	Google Earth & WMS	Image Services & GIS Files
shp · ArcSDE	SpatialDB · tab	Google earth · PETROSYS	http://www · "Tiff" "Jpg" "Png"

PETROSYS

dbMap with SpatialDB

Easily combine and review surface and sub-surface knowledge. Petrosys integration improves your efficiency and reduces risk.
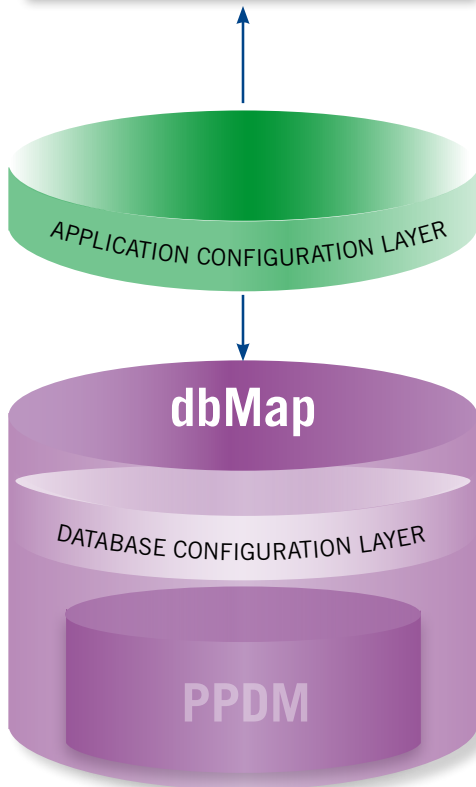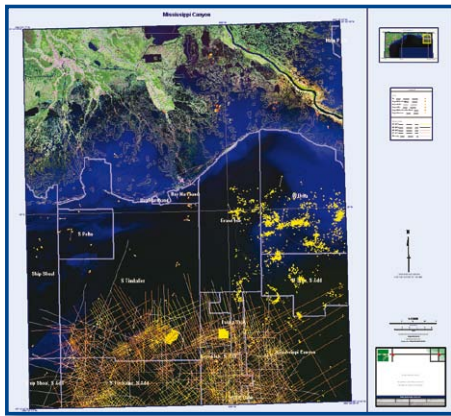
PETROSYS AND PPDM

Leverage our experience and commitment to industry standard data management solutions.

Petrosys supports PPDM databases by either directly connecting to databases built using standard PPDM database creation scripts, or by using a Petrosys 'dbMap' database.

The dbMap database is provided as an Oracle export file that builds a partial PPDM database template in an Oracle DBMS system. The database created includes a tailored set of referential integrity constraints, views, triggered procedures, data dictionary structures and security management tables that provide a performant and practical PPDM implementation with GIS functionality. Reference tables in the dbMap model are tailored between individual formal PPDM / Oracle tables and ad hoc 'code lists' to allow varying degrees of flexibility in actual corporate workflows to be reflected in the ability for the database to be changed.

The differences between the default PPDM standard and the dbMap model are primarily geared towards improving performance and simplifying querying.

As part of the ongoing support for the dbMap database and it's links with the evolving PPDM data model and third party applications, Petrosys provides site tailored database migration scripts that ensure that the client's data model can cope with the ongoing refinement of exploration and production technology and the associated data.

All aspects of the dbMap PPDM model are accessible to the client's database specialists through standard Oracle tools: the client remains the owner of their knowledge. There are no constraints on how the client can access their own information.

dbMap includes Petrosys specific extensions for the management of unstructured knowledge items such as tapes, near-line data, flat files, maps, charts, images, reports and physical core and fluid samples.

Extensions to existing tables in dbmap can be handled through on-site customization, including simple changes to data editing and query screens and the addition of individual tables to the well model.

>> **more about PPDM at www.ppdm.org**

Our open application and database configurable architecture helps you meet dynamic business requirements and to work with in-house systems.

DATA LOADING

Data loaders are a key part of maintaining data quality

Data loading is usually through custom built scripts tailored to the needs of the individual client.

Scripts may be provided for command line use or as Visual Basic scripts that are run from Microsoft Excel.

Petrosys database consultants have substantial experience in the development of data loaders to meet the business rules of a range of situations for both insertion and updating of data, including consideration of complex logic around the merging of client and third-party data.

Our implementation service includes an analysis of existing and future data stores and formats that are to be integrated with the client's database; an assessment of the best way of resourcing the data loading operat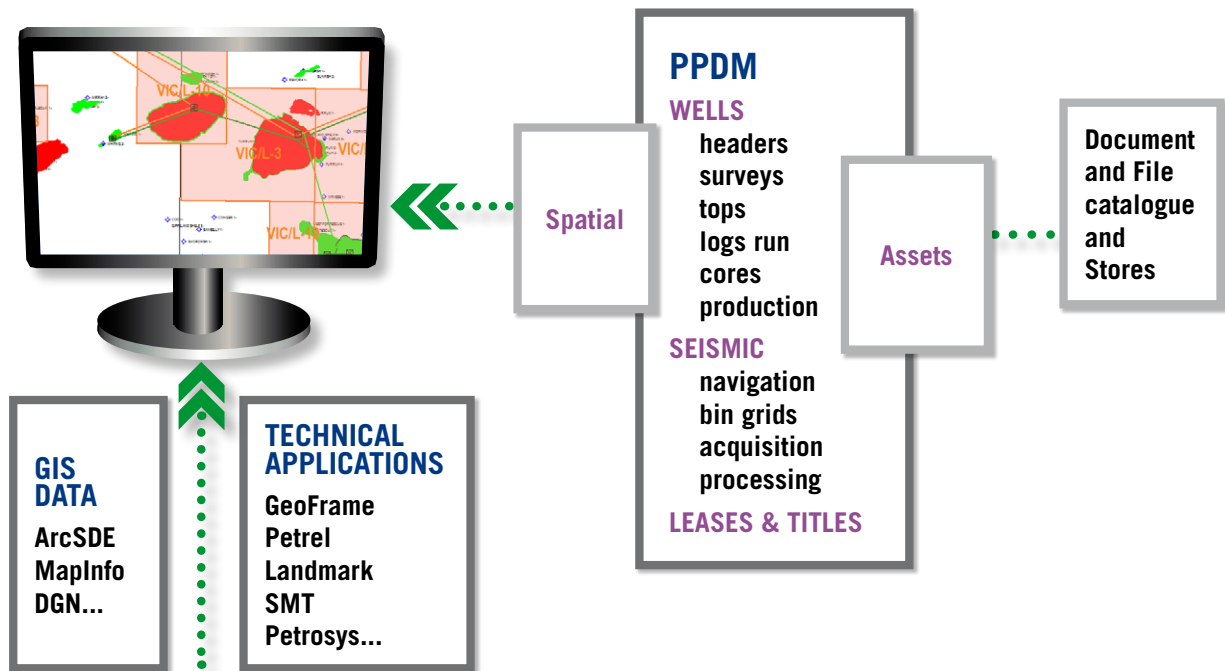ion in terms of people and locations; development or tailoring of the loaders; and training of data management staff in their use.

Standard scripts are available for common data sources such as IHS well data in the USA.

Loaders may be provided in command line format or as an Excel spreadsheet application.

A POWERFUL STEP IN DEVELOPING A PPDM MASTER DATA STORE.

Petrosys dbMap is a powerful tool for integrating data from a range of applications around a PPDM master data store. Its interactive map front end provides a natural interface for the geoscientist or engineer to work with a diverse range of data and to benefit from better data management, whilst the queries and reports underlying it can provide the basis of additional systems tailored to the needs of the individual organisation.

PPDM

WELLS
headers
surveys
tops
logs run
cores
production

SEISMIC
navigation
bin grids
acquisition
processing

LEASES & TITLES

Spatial

Assets

Document and File catalogue and Stores

GIS DATA
ArcSDE
MapInfo
DGN...

TECHNICAL APPLICATIONS
GeoFrame
Petrel
Landmark
SMT
Petrosys...

Petrosys works wonders for clients around the globe. Why aren't you one of them?

THE WORLDS BEST CLIENTS

Today, an installed base of over 250 sites is supported from Petrosys offices in Houston, Calgary, Glasgow, Kuala Lumpur, Perth and Adelaide.

Where there's petroleum being produced, chances are good that Petrosys is on the job. As a leading independent data management software and solutions provider, we proudly serve a client base that includes some of the world's most prominent national oil companies and petroleum majors, as well as independent startups, consultancies and regulatory agencies.

E&P DATA MANAGEMENT SPECIALISTS

We understand the challenges you face.

For nearly a quarter of a century, Petrosys has developed unique data management solutions.

We provide an open and configurable application environment that works in perfect concert with established industry standards and resources, helping clients maximize their existing investments, improve productivity and achieve greater success. And as the industry continues to evolve, so do the Petrosys solutions.

WORLD CLASS SUPPORT AND CONSULTING EXPERTISE

The global Petrosys team is highly respected in the exploration and production data management community for expert technical assistance and creative solution deployment.

Take advantage of the team's expertise to support your needs in data loading, database administration, report and query creation, business process and rule establishment, master data management, data integration and web solution deployment. Our skills can help to securely and confidently tackle your data management needs helping you make the most of your assets and investments.

TAKE THE NEXT STEP.

Australasia: +61 8 8227 2799 | Americas: 1888 PETROSYS | Europe: +44 141 420 6555 | www.petrosys.com.au

ENJOY THE POWER OF BETTER DATA MANAGEMENT.

PETROSYS

Unearth A Masterpiece.™