

# PressurePlot™, PressureQC and PressureDB™

CSIRO has developed a quality-controlled database, PressureDB™, of formation pressure, temperature, salinity, porosity, permeability and related geological data for Australian wells. PressureDB™ and the associated viewing software, PressurePlot™, is available for free download.

PressurePlot™, PressureQC and PressureDB™ are a linked visualisation software and database system used to rapidly and qualitatively compare contemporary and historical data sets. The database system currently contains data from 17 Australian basins and over 2,006 wells. The system is available for free download from: [www.pressureplot.com](http://www.pressureplot.com)

## Benefits

Historical well data represents a considerable asset for any hydrocarbon company, but is often poorly archived and in non-digital format. Converting this data to a usable format is time consuming and expensive. Even then, questions remain about the quality of the data. The PressurePlot™ package from CSIRO provides all of the data required for almost any pressure analysis, instantly. It is also quality-controlled, so each point has an associated confidence code.

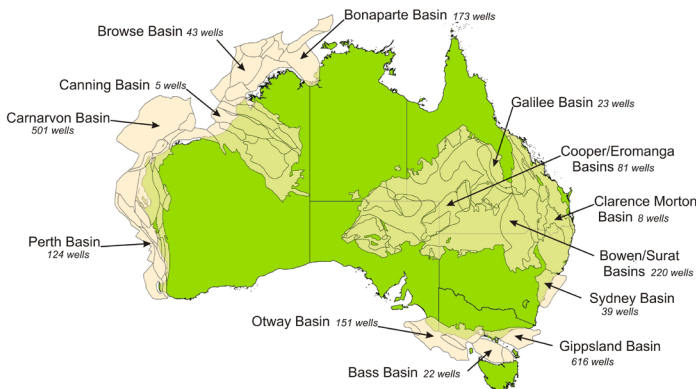
The addition of PressureQC provides a meaningful context for comparing old and new data that directly translates to a less uncertain interpretation of the subsurface environment.

- ♦ stratigraphy and lithology
- ♦ porosity and permeability
- ♦ fluid contacts
- ♦ thermal conductivity
- ♦ geothermal flux
- ♦ minimum stress tests
- ♦ mudweight.

## Interpretation features

PressurePlot™ includes a number of user-defined plot options, including:

- ♦ single and multi-well display
- ♦ single and multiple data type analysis
- ♦ analysis by specific stratigraphic unit
- ♦ hydrostatic and lithostatic gradients
- ♦ pressure and temperature gradients
- ♦ porosity and permeability gradients
- ♦ zoom, unit conversion and datum selection
- ♦ data and image export.

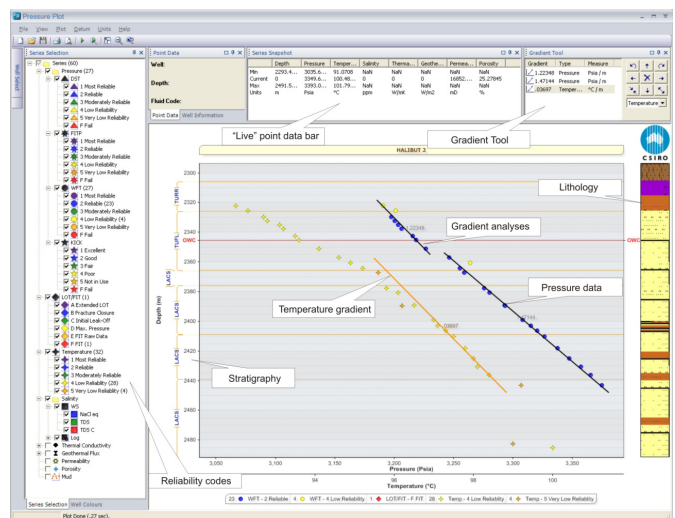


In July 2012, PressureDB™ included data for 2,006 wells totalling over 75,335 pressure, 1,215 stress, 19,285 temperature, 5,007 salinity, 40,654 porosity and 50,666 permeability values.

## Data types

PressureDB™ contains the following data for display by PressurePlot™:

- ♦ formation pressure tests
- ♦ formation temperature
- ♦ formation water chemistry and resistivity

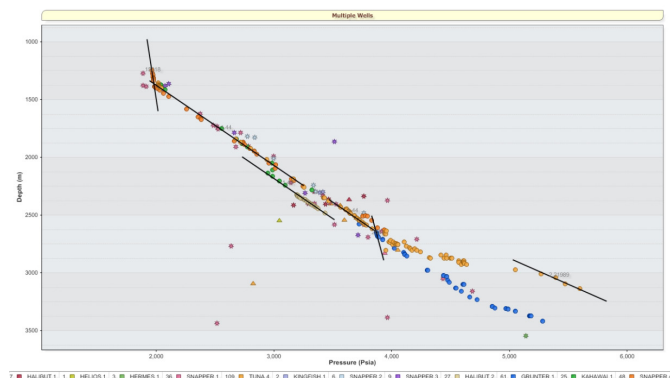


Single well plot showing gradient analysis tool.

## Applications

PressurePlot™, PressureQC and PressureDB™ can be applied to almost any 2D interpretation which requires an understanding of subsurface conditions involving pressure, temperature and/or salinity on both field and basin scales:

- ♦ pressure, geothermal and permeability gradients
- ♦ fluid contacts, including tilted contacts
- ♦ geothermal properties
- ♦ compartmentalisation
- ♦ overpressure
- ♦ production decline
- ♦ vertical and lateral connectivity
- ♦ reserves estimates
- ♦ capillarity
- ♦ fluid type and density
- ♦ fluid migration systems
- ♦ seal integrity
- ♦ reservoir geometry.



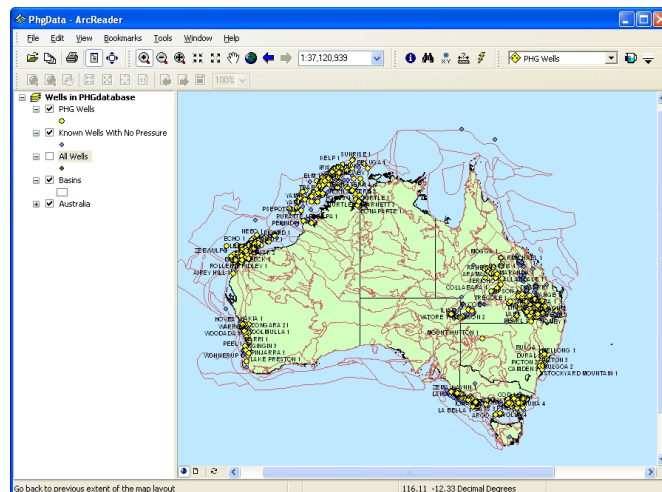
**Multi well plot of pressure data showing hydrocarbon and water gradients, fluid contacts, depletion effects and overpressure.**

## Associated research activities

This system forms part of CSIRO's hydrodynamic team activities. New data is continually added as new projects are undertaken.

The team's capabilities in petroleum hydrogeology are applied to industry challenges including fault and top seal capacity for oil, gas and CO<sub>2</sub>, hydrocarbon migration, depletion studies, geological storage of CO<sub>2</sub> and submarine groundwater discharge. We are also applying the database to geothermal energy studies.

For more information on PressurePlot™, PressureQC and PressureDB™ please go to: [www.csiro.au/products/pressureplot](http://www.csiro.au/products/pressureplot)



**This map is viewable in ArcReader. Both the map and application are available for free download from [www.pressureplot.com](http://www.pressureplot.com)**

## Associated products

CSIRO has also provided a GIS map of the PressureDB™ well distribution across Australia. The map includes hyperlinks to text files that list the types of data available in PressureDB™ for each well.

## Key contacts

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