# sofoil

## Services & Technologies

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| PRODUCTION ANALYSIS | PRESSURE ANALYSIS | CROSS-WELL SURVEILLANCE | FLOW PROFILE SURVEILLANCE | PRESSURE MODELLING |
|---|---|---|---|---|
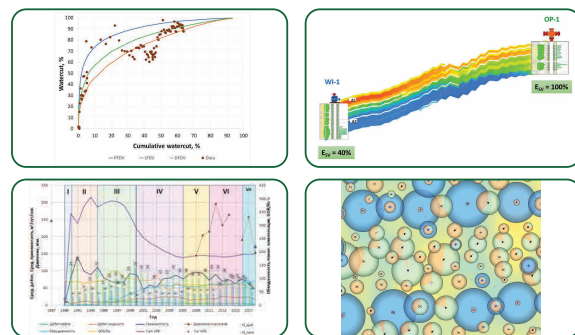
### PRIME

**PRIME** is a set of Production Performance Indicators in **PolyPrime** software based on primary production history data (such as flow rates, formation and bottom-hole pressure, pressure tests, production logs) with zoom on wells and field areas which are dragging behind the expected recovery or pressure support targets due to integrity issues, poor connectivity or inaccurate understanding of the reservoir around these wells. This is a primary tool to select the candidates for additional data acquisition.
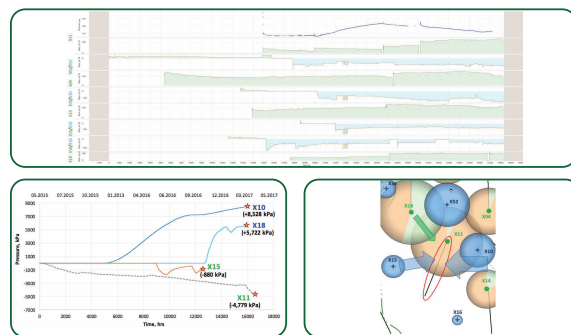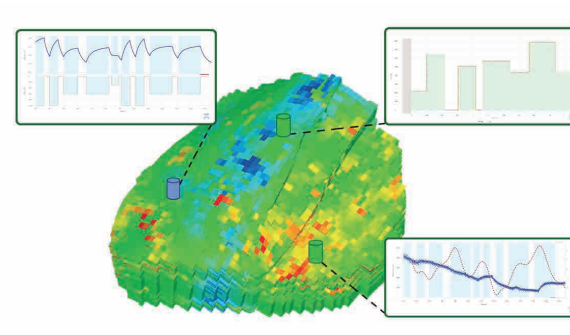
### MRT

**Multiwell Retrospective Testing** is a **PolyGon** software aided workflow based on the correlation between bottomhole pressure and flowrates history. It uses a multi-well pressure deconvolution technique to estimate the potential drainage volumes, boundary types and their proximity, reservoir transmissibility and cross-well connectivity. It reconstructs the history of formation pressure and productivity index. It provides a lot of constraints for future reservoir modelling. It also helps to identify wells with suboptimal performance and propose a relevant surveillance.

### PCT

**Pulse Code Testing** is a specific implementation of pressure interference testing based on the **PolyGon** software and bottomhole pressure/rate readings which can be executed in working wells without punishing production delays caused by responding wells shut-down. It provides estimation of reservoir permeability and thickness separately. In case of contrast fluids mobilities, it shows a fair sensitivity to displacement efficiency. Although PCT can be performed over the existing PDG and surface flowrate data, the scanning accuracy can be substantially improved when using the zFlux downhole pressure/rate measuring facility.
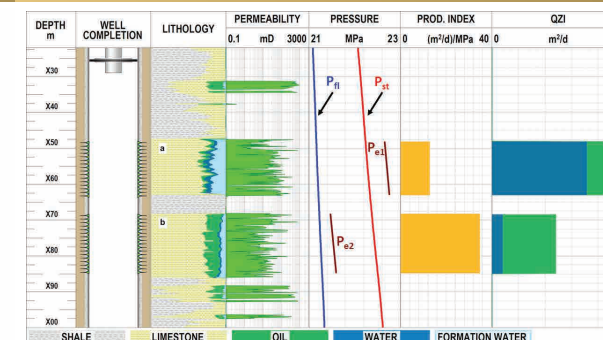
### PROLOG

**Productivity Logging** is a combination of multi-rate production logging and bottom-hole pressure deconvolution both processed in **PolyGon** software which translates the bottomhole flowrate and pressure readings into formation pressure and productivity index values across each flow zone of multizone well completion. The values of formation pressure and Productivity Index provide a deeper insight into well performance comparing to conventional PLT profile and can be efficiently used both in well performance predictions and in full-field simulations.
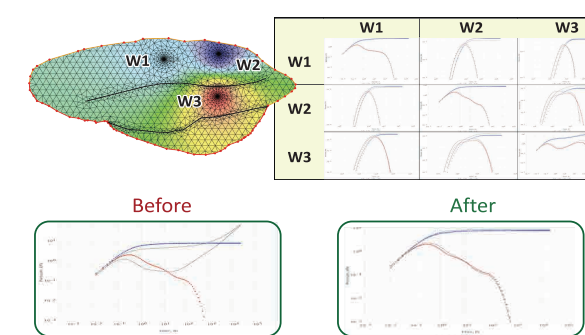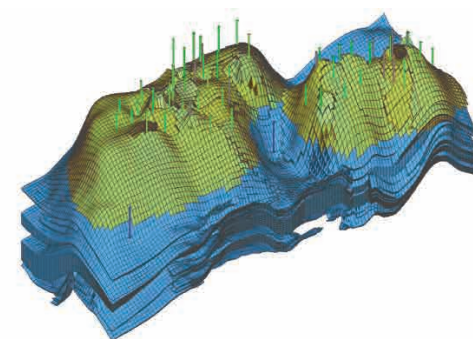
### XPM

**Cross-field pressure modelling** is a **PolyGon** software aided numerical simulation workflow and a primary step of full-field reservoir simulations with a focus on few large-scale model properties (such as drainage volumes, boundaries, barriers, baffles, faults, lateral permeabilities and effective thickness). These properties play a dominant role in reservoir pressure dynamics.

| RESERVOIR MODELING | FIELD DEVELOPMENT PLANNING | INTEGRATED PROJECTS | DOWNHOLE GAUGE | DOWNHOLE FLOWMETER | MODELLING SOFTWARE |
|---|---|---|---|---|---|

### GFM

**Geology and Flow Modelling** is a conventional 2D/3D full-field modelling workflow. In case the results of XPM exercises are available the **XPM** takes the latter as input and the rest of the process simplifies to adjusting the facies distribution and their permeability/displacement properties to achieve a well-by-well match to the oil/gas/water cut history and available OH/CH saturation profiles.
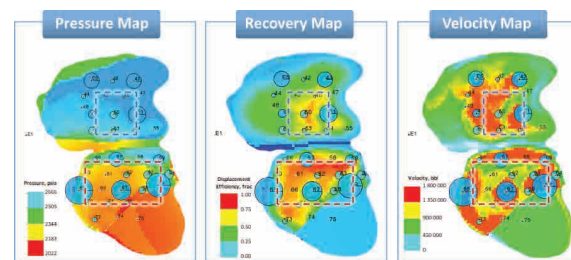
### MSDP

**Multi-Scenario Field Development Planning** is a specific workflow based on multiple iterations performed by professional asset teams or corporate individuals via the **PolyPlan** web-facility which automatically translates the field activities (like drilling, workover, conversions, surveillance) into the model runs and reverts back with production/surveillance results in conventional report formats and financial statements including NPV. This exposes a newly built models to a wider range of corporate specialists and improves the chances of finding the best field development solution.

### DOM

**Development Opportunities Management** is a type of Integrated Project Management of a complex workflow consisting of field data analyses, acquiring the new data, field modelling, building production forecasts, designing and evaluating the results of execution of new field development activities. It involves both Sofoil and non-Sofoil services based on their feasibility within a given project and sets the major focus to achieve the ultimate goal – improve production performance. This service is usually required for the fields with particular corporate importance or those which are dragging far behind the production targets.
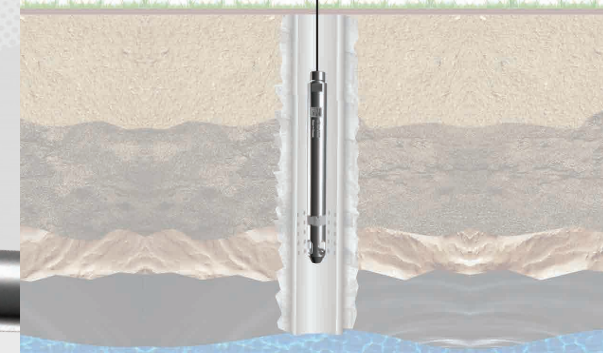
### zPas

The Downhole Memory Pressure-Temperature Gauge **zPas-20M** is based on a quartz resonator and high accuracy electronics achieving a stable and highly resolving pressure (20 Pa) and temperature (0.001 C) measurements which are normally required for long-term cross-well pressure interference tests or low drawdown pressure tests in gas wells.

ZetScan

### zFlux

The Downhole Memory Flowmeter **zFlux-1M** features advanced noise suppression and calibration methodology and provides long-term (up to 3 months) flow recording which is normally required for cross-well pressure interference tests.

ZetScan

### PolyGon

**PolyGon** is a pressure-rate modelling software facility for:
✔ Pressure Transient Analysis
✔ Rate Transient Analysis
✔ Numerical Pressure Modelling
   Pressure Deconvolution
✔ Pressure Interference
✔ Decomposition
It provides the facility for uploading, processing and fitting of pressure and rate data with various geological and production scenarios.

PolyKod