

Product True Flow

# Total Flow

## Locates and quantifies flow within the entire well system

### What it delivers

Well systems need to connect the right fluids to the right places. But that doesn't always happen. Knowing what's gone wrong means looking both inside and beyond the wellbore to see the actual flow picture.

Total Flow locates and quantifies wellbore flow and critically reservoir flow, revealing the relationship between the two.

(thermal) platform; Total Flow provides the clarity and insight needed to manage well system performance more effectively.

Total Flow is commonly used to diagnose unexpected or undesirable well system behavior, but it can also be used proactively to ensure the well system is working properly.

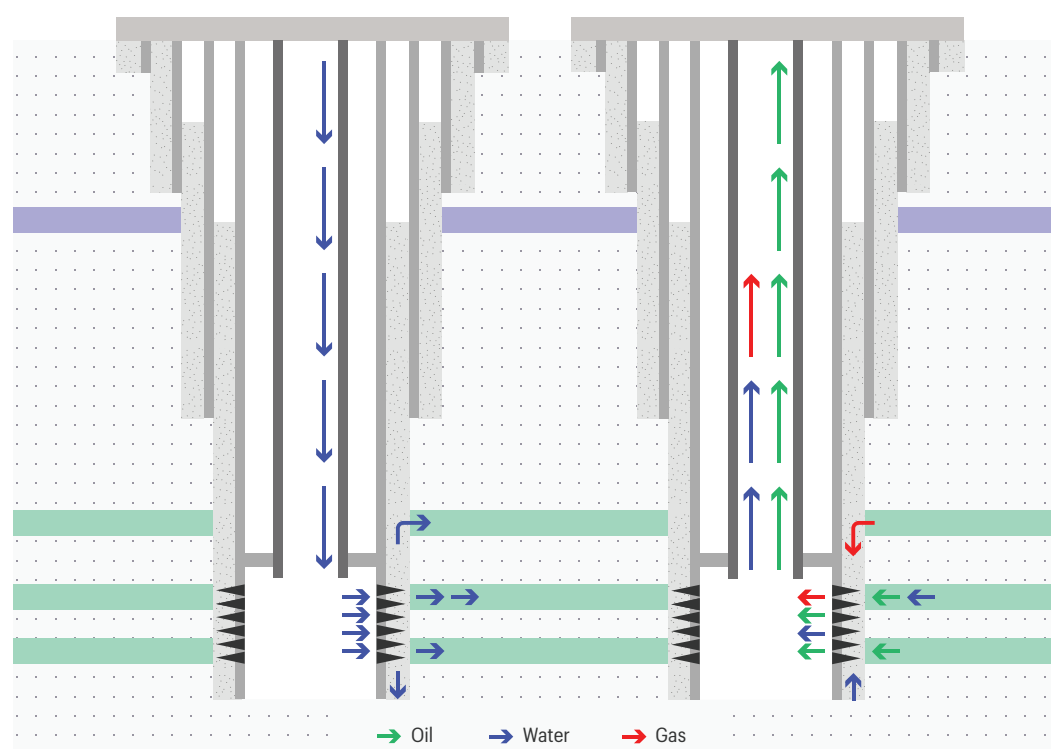
Delivered by our True Flow system using the Chorus (acoustic) platform and the Cascade



Well sketch shows a range of typical flow scenarios that Total Flow can locate and quantify.

Sketch shows an injector well and a producer well, not performing as planned.

Total Flow provides the clarity and insight needed to manage well system performance more effectively.



## Challenges

- Quantify flow profiles in the well system
- Unexpected change in well system performance (injection and production)
- Unexpected gas breakthrough
- Suspected cross-flow in wellbore or behind-casing
- Low rate producer or unconventional wells
- Recalibrating reservoir model
- Reservoir flow assessment and characterisation

## Benefits

- Understand the true sources of production and quantify flow profiles accurately
- Know where injection fluids are going and quantify flow profiles accurately
- Know source of gas breakthrough or unwanted production due to cross flow and thief zones
- Better well and reservoir management decisions
- Identify field development opportunities and extend productive life of assets

### Indicative logplot for Total Flow

Deviated oil producer suffering from high water cut (96%) from day one. Wellbore flow profile shows the main liquid inflow (94%) coming from the lower perforated interval. According to reservoir flow profile 84% of total liquid inflows are coming from the targeted perforated formation and 15% from downward crossflows behind casing.

The main source of water is arriving from the perforated formation.



### Case studies

CS003: Flow diagnostics reveal true source of excess water production behind casing

CS004: Flow diagnostics finds missing water and helps operator improve injection performance

### Technical papers

SPE- 191542-18RPTC-MS: Chorus application for production loggin in hard-to-recover gas reserve wells

SPE- 191338-MS: Out-of-zone injection

