RELEASE HIGHLIGHTS

PVTsim Nova 5.0
You can automatically import your fluids and PVT data into PVTsim Nova 5 using the PRODML 2.0 XML format from Energistics. Clients may create an export function from their in-house database to PRODML 2.0 XML and use that to export data from the in-house database to PVTsim Nova.
A fast slimtube simulation option based on the Method of Characteristics has been implemented. It simulates the 1-D oil saturation profiles along the slimtube within seconds. The progress of the gas zone and how the miscible transition zone develops near the MMP can be viewed using a new movie option.
We have received a lot of positive feedback on the new Separation App, but the users have expressed a desire to have greater flexibility when it comes to number of inlet and outlet streams. Therefore, the Separation App in PVTsim Nova 5 supports two inlet streams and four outlet streams.
Export your EoS models to the High Resolution Reservoir Simulator INTERSECT.

```
BlackOilFluidModel "PVTNUM_1" {
  GasSurfaceDensity=0.0612
  OilSurfaceDensity=54.35
  GasTable "GasTable" [
    SubTableIndex   Pressure    VaporOGR    FormationVolumeFactor    Viscosity
    0               725.2       0.0009850957         4.403315     0.014729
    0               725.2       0.0000000000         4.402985     0.014725
    1               1113.7       0.0011507300         2.812589     0.015516
    1               1113.7       0.0009850957         2.796922     0.015514
  ]

  OilTable "OilTable1" [
    SubTableIndex   SolutionGOR    Pressure    FormationVolumeFactor    Viscosity
    0               0.120823       725.2                  1.10800       1.2729
    0               0.120823      1113.7                  1.10341       1.3526
    0               0.120823      1502.2                  1.09915       1.4332
    0               0.120823      1890.7                  1.09518       1.5147
    0               0.120823      2279.2                  1.09147       1.5969
    0               0.120823      2667.7                  1.08800       1.6797
    0               0.120823      3056.2                  1.08473       1.7631
    0               0.120823      3444.7                  1.08165       1.8469
    0               0.120823      3833.2                  1.07875       1.9312
    0               0.120823      3835.6                  1.07873       1.9318
    0               0.120823      4221.6                  1.07600       2.0160
  ]

  OilTable "OilTable1" {
    OilSurfaceDensity=54.35
  }

  WaterCompressibilities {
    SurfaceDensity=62.46
    RefPressure=  4351.1
    FormationVolumeFactor= 1.02669
    Viscosity= 0.29931
    Compressibility=0.30464E-05
    ViscosityCompressibility=0.62198E-05
  }
```
A new InSitu Fluid option recreates the original fluid in place from a depleted sample. This is done using an inverse CVD simulation for gas condensate and inverse differential liberation simulation for oil mixtures. The required input is the composition of the depleted sample, the reservoir temperature, and either the original GOR or the original saturation point.
The options for developing a common EoS model have been enhanced to also support fluids contaminated with OBM. This very much facilitates the previous tedious process of creating artificial PVT data for the pure reservoir fluids, when the PVT data was measured on a contaminated fluid sample.
The new Multi Fluid Compare with Data option provides a quick overview of experimental and simulated data for fluids belonging to a common EoS model. With a single click, summary plots and tables are output, which for each fluid show the match of saturation points, GOR, and density data.
Video Tutorials have been introduced taking the user through the EoS modeling steps from inputting of fluid information, cleaning of fluids for oil-based mud, development of an EoS model using Auto EoS and exporting the EoS model to a reservoir or flow simulator.
PVTsim Nova 5 allows water analyses to be stored in a database and selected in the Scale module. From the Fluid Explorer it is possible to convert a water analysis with ion concentrations in mg/l to a molar salt water composition that can be used in flash and hydrate calculations.
In 2020 we will release Calsep’s Flash API, which allows you to perform fast and robust thermodynamic simulations using PVTsim Nova technology in the cloud. The Flash API is developed and designed for implementation in high performance solutions that might require more than 1000 flash calculations per second. The Calsep Flash API can be used to build cloud applications that require access to volumetric, thermal and transport properties of all types of reservoir fluid compositions. Contact your local Calsep office for more information about Calsep’s Flash API.