

RE-Studio – Props Builder



PVT Builder

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Enjoy Engineering

Correlations used

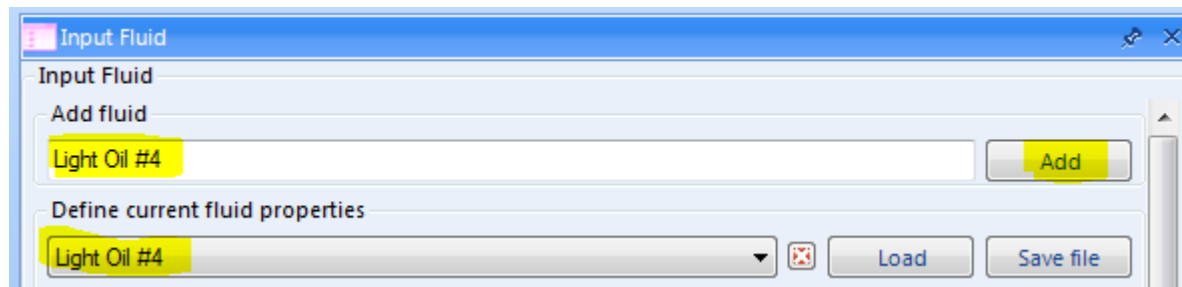
- The database used in our PVT calculations contain the following correlations with respect to the fluid properties
 - Sutton's Correlation for Pseudo-Critical Pressure and Temperature
 - Dranchuk and Abou-Kassem Correlation for z-Factor
 - Lee, Gonzalez and Eakin Correlation for Gas Viscosity
 - Vazquez and Beggs Correlation for the Oil Formation Volume Factor
 - Vazquez and Beggs and Robinson Correlations for Oil Viscosity
 - McCain Correlation for Water Viscosity and Formation Volume Factor

Overview of PVT wizard

- In order to generate the appropriate PVT plots, the Reservoir Engineer must input the following physical and compositional data into the wizard
 - Type of fluid
 - Dry gas, wet gas, dead oil, black oil, Gas condensate/volatile
 - Oil Gravity in API units
 - Salinity in PPM units
 - Reservoir Temperature in °C
 - Min Pressure in PSIA units
 - Saturated GOR in MSCF/STB (dependent on type of fluid selected)
 - Gas gravity
 - Number of pressure points
 - Reference Pressure in PSIA units
 - Max Pressure in PSIA units
 - Saturated OGR in STB/MSCF (dependent on type of fluid selected)

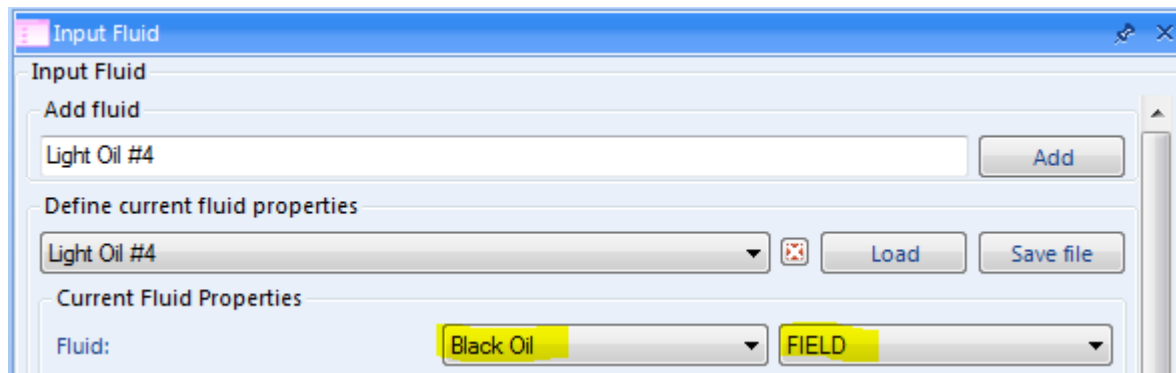
Step 1

- Define a name for you PVT study by inputting it into the Add fluid section



Step 2

- Specify the type of Fluid which then allows the PVT algorithm to access the related correlations with respect to the remaining input



Step 3

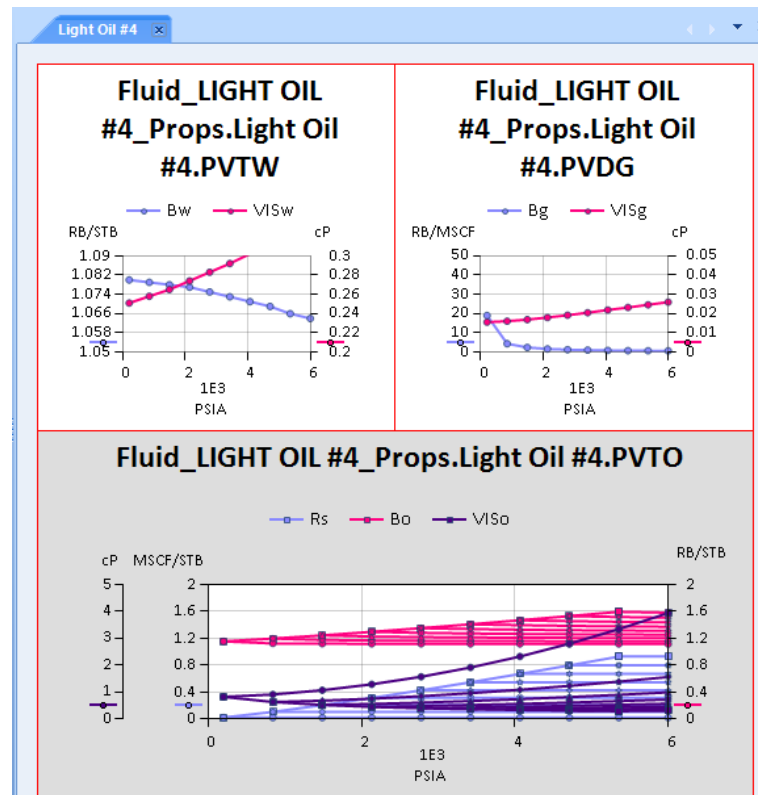
- Populate the input data with the analysis results taken from the laboratory for the fluid or input pseudo values to observe experimental PVT relationships

The screenshot shows the 'Input Fluid' window with the following configuration:

- Add fluid:** Light Oil #4
- Define current fluid properties:** Light Oil #4
- Current Fluid Properties:**
 - Fluid: Black Oil
 - FIELD: FIELD
 - Oil Gravity [API]: 35
 - Gas Gravity [1/air]: 0.65
 - Salinity [ppm]: 70000
 - Number points: 10
 - Reservoir Temperature [degC]: 150.00
 - Reference Pressure [PSIA]: 1000.00
 - Min Pressure [PSIA]: 200.00
 - Max Pressure [PSIA]: 6000.00
 - Saturated GOR [Mscf/stb]: 0.000
 - Saturated OGR [stb/Mscf]: 0.000

Step 4

- Then press apply/plot in order to visualize the resulting plots



Step 5

- Finally press write, add the Fluid which you would like to generate an ASCII format ECLIPSE input text file for and press write again

