EOR Pilot Testing

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Introduction

Welcome

This plug-in act as an effective tool for selection of a suitable EOR method based on reservoir characteristics and evaluates their technical and economic applicability. We will evaluate the five EOR methods Steam injection, CO_2 miscible injection, Hydrocarbon miscible injection, In-situ combustion, Polymer flooding method and then on the basis of certain reservoir characteristics plug-in will select efficient EOR method.

Getting Started

System requirements

The time that you as a user spend working with Petrel far outweighs the cost of many-end workstations.Since this plugin requires geophysical modelling, simulation workflows, it is our recommendation that you purchase a fully feature workstation you can afford.

Recommended System Requirements

Processor	Dual core/Quad core
Internal Memory	4 GB RAM (8 GB RAM Windows XP 64-bit)
Graphics Card	OpenGL 3D graphic card 256MB or higher
Operating System	Windows XP professional 64 bit

Minimum System Requirements

Processor	Intel or AMD 1.5 GHz
Internal Memory	1 GB RAM (2 GB RAM windows XP 64 bit)
Graphics Card	64 MB OpenGL compatible card
Operating System	Microsoft Windows XP Professional,Windows 2000 SP4
Disk Space	At least 1GB disk space for installation

Starting with EOR pilot testing

Video

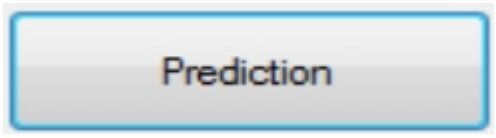
Click the GETTING STARTED button.
It contains a demo video which will shows the user how to use the plug-in.

Functions

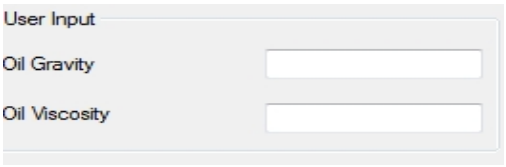
Predictor

This function evaluates the reservoir properties and provides the user with efficient EOR method.

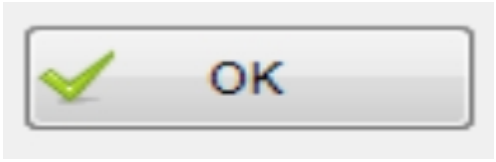
Step 1 Single click the PREDICTOR button.



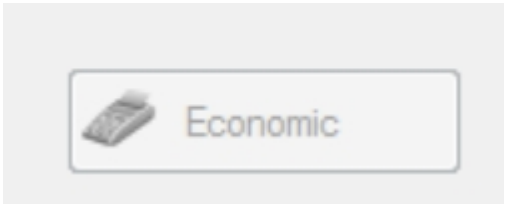
Step 2 Enter the values of Oil Gravity and Viscosity.



Step 3 Click on OK button



Step 4 Selected EOR will be highlighted and user can view the economic profile of EOR by Clicking the 'ECONOMICS' button adjacent to the EOR.



Training

This function helps in training the Artificial Neural network used for selecting the EOR methods.
STEP 1 User has to enter the Learning rate, Momentum, Number of iterations and Current error values.

STEP 2 Then user has to enter the reservoir inputs and select the EOR method and click on TRAIN button.

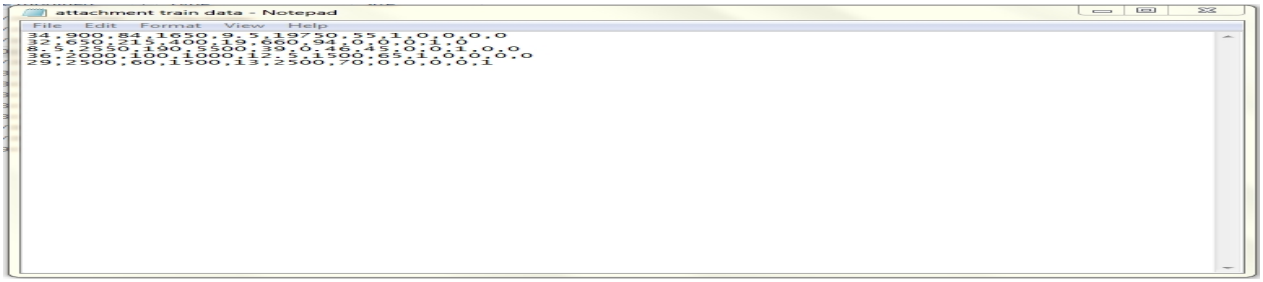
STEP 3 User can also import a text file (.txt) to train the ANN using multiple input values.The following image shows how write a text file for inputs.

(This not to be typed in text file.:only for user to write the text file.
Write the values of reservoir properties in the given order ie porosity,permeability,temperature,depth,oil gravity,oil viscosity,EOR method.
The EOR should be should be written in following manner

STEAM-1,0,0,0,0

CO2 Miscible-0,1,0,0,0,
HC miscible-0,0,1,0,0
In situ combustion -0,0,0,1,0
Polymer flooding-0,0,0,0,1
examples are provided below)

35,2000,95,850,13.5,2750,75,1,0,0,0,0
12,10,160,6000,35,2,38,0,1,0,0,0



STEP 4 Once the ANN is trained user can get back to the prediction function to see whether the ANN is improved or not.

Help

It contains a document that provides user a guide to the plug-in.

Exit

This function returns user to the petrel by closing the plug-in.