

Repaso

TP1 Uso del simulador

Builder - Reservoir Simulator Settings

Simulator
☐ GEM
☒ IMEX
☐ STARS

Working Units
☐ SI
☒ Field
☐ Lab
☐ MODSI
[Advanced...](#)

Porosity
☒ Single Porosity
☐ DUALPOR
☐ DUALPERM
☐ MINC
☐ SUBDOMAIN

Shape Factor
☐ Gilman and Kazemi
☐ Warren and Root

Subdivisions for Matrix Blocks
Number of subdivisions:
Volume fractions
(2 values expected):

Simulation Start Date
Year: Month: Day:

[OK](#) [Cancel](#)

Create Cartesian Grid

Grid Type
☒ Cartesian
☐ Corner point (orthogonal)

K Direction
☐ Up
☒ Down

Number of Grid Blocks
I direction: J direction: K direction:

Block widths
I direction:
J direction:

Controlling Grid spacing
☐ Snap spacing

Snap grid lines as multiples of:
I direction: J direction:

[OK](#) [Cancel](#)

File: CMGBuilds
User: Silvia Ma
Date: 31/3/2023
Scale: 1:1204
Y/X: 1.00:1
Axis Units: ft

0.00 80.00 160.00 feet
0.00 25.00 50.00 meters

General Property Specification

Edit Specification

Only for Start Time, Go to: Permeability K Use Regions / Sectors

	Grid Top	Grid Thickness	Porosity	Permeabil...	Permeabil...	Perm...	Net Pay	Block Vol/Area Mc
UNITS:	ft	ft		md	md	md	ft	
SPECIFIED:	X	X	X	X	X	X		
HAS VALUES:								
Whole Grid								
Layer 1	2000	5	0.2	100	105	10		
Layer 2		10	0.21	97	92	10		
Layer 3		15	0.19	150	145	15		
Layer 4		20	0.18	122	120	12		
Layer 5		25	0.15	80	85	8		
Layer 6		30	0.17	50	55	5		
Layer 7		35	0.2	200	195	20		

Block/Corner Value Calculation

☒ Grid Thickness
☒ Grid Top
☒ Oil Saturation
☒ Permeability I
☒ Permeability J
☒ Permeability K
☒ Porosity
☒ Water Saturation

Interpolation Options

Refined Blocks: ☐ Use property value in the parent block
☒ Interpolate from contour maps

☐ Do not overshoot/undershoot points outside min/max values. Explain overshoot / undershoot

☐ Do not calculate property for grid block if nearest contour or mesh point is farther than: 125 ft

☐ Set grid block to NULL if a property cannot be calculated or if too far from the nearest contour or mesh point.

☐ If property is not calculated, use an inverse weighted average of nearby points to estimate the value. (Default: Value will be set to zero if not calculated.)

OK Cancel

Rock Compressibility

Pressure dependence of formation porosity / Rock Compressibility (CPOR)

3e-6 1/psi

Reference pressure for calculating the effect of rock compressibility (PRPOR)

14.6923 psi

OK Cancel

Option to Create a QUICK Model

☒ Launch Dialog to Create a Quick BLACKOIL Model Using Correlations

☐ Launch Dialog to Create a Quick GAS/WATER Model Using Correlations

☐ None of the above. Launch detailed dialog

OK Cancel

Tables (SOLDMC)

Quick Blackoil Model

#	Description	Option	Value
1	Reservoir temperature		180 F
2	Generate data upto max. pressure of		5000 psi
3	Bubble point pressure calculation	Value provided	1250 psi
4	Oil density at STC(14.7 psia, 60 F)	Stock tank oil gravity (API)	38
5	Gas density at STC(14.7 psia, 60 F)	Gas gravity (Air=1)	0.7
6	Reference pressure for water properties		14.696 psi
7	Pressure dependence of water viscosity		
8	Water salinity (ppm)		15000

OK Cancel

Rock Types

Rock Type 1

Rocktype Properties Relative Permeability Tables Hysteresis Modelling

Liquid-Gas Kr Table dependency: ☒ Liquid Saturation ☐ Gas Saturation

Tools

☒ Include capillary pressure (drainage curve if using hysteresis)
☒ Include capillary pressure hysteresis (imbibition curve)
☐ Include water gas relative permeability in table
☐ Include irreducible oil saturation due to water blocking in table

Smoothing method for table end-points: Power law or quadratic smoothing

	Sw	krw	krow	Pcow psi	Pcwi psi	Comment
1				0.0	0.0	
2						
3						
4						
5						
6						
7						
8						
9						
10						

☐ Reduce vertical extent of Pcow cycle for trapped oil hysteresis

Rock Types

Rock Type 1

Rocktype Properties Relative Permeability Tables Hysteresis Modelling

Liquid-Gas Kr Table dependency: ☒ Liquid Saturation ☐ Gas Saturation

Relative Permeability Table: Water-Oil Table

Tools

☐ Include capillary pressure (drainage curve if using hysteresis)
☐ Include capillary pressure hysteresis (imbibition curve)
☐ Include water gas relative permeability in table
☐ Include irreducible oil saturation due to water blocking in table

Smoothing method for table end-points: Power law or quadratic smoothing

☐ Specified threshold value for end-point determination: 5e-007
☒ Use new option for rel. perm. table end point scaling (8 end points vs. 4)
☐ Measured liquid saturation does not include connate water saturation

	Sw	krw	krow	Comment
1	0.01	0	0.99	
2	0.1	0.091	0.9	
3	0.2	0.192	0.8	
4	0.3	0.293	0.7	
5	0.4	0.394	0.6	
6	0.5	0.495	0.5	
7	0.6	0.596	0.4	
8	0.7	0.697	0.3	
9	0.8	0.798	0.2	
10	0.9	0.899	0.1	
11	1	1	0	

☐ Reduce vertical extent of Pcow cycle for trapped oil hysteresis (DAMP-PCOW-TROIL)

OK

Rock Types

Rock Type 1

Rocktype Properties Relative Permeability Tables Hysteresis Modelling

Liquid-Gas Kr Table dependency: ☒ Liquid Saturation ☐ Gas Saturation

Relative Permeability Table: Liquid-Gas Table (Liquid Saturation)

Tools

☐ Include capillary pressure (drainage curve if using hysteresis)
☐ Include capillary pressure hysteresis (imbibition curve)
☐ Include water gas relative permeability in table
☐ Include irreducible oil saturation due to water blocking in table

Smoothing method for table end-points: Power law or quadratic smoothing

☐ Specified threshold value for end-point determination: 5e-007
☒ Use new option for rel. perm. table end point scaling (8 end points vs. 4)
☐ Measured liquid saturation does not include connate water saturation

	Sl	krg	krog	Comment
1	0	1	0	
2	0.05	0.95	0.05	
3	0.25	0.75	0.25	
4	0.5	0.5	0.5	
5	0.75	0.25	0.75	
6	0.95	0.05	0.95	
7	1	0	0.99	
8				
9				
10				

OK Cancel Apply Help

Destildar Include

Avancemos!