⊠ IPR

This new tool, accessible from **Tools > IPR**, allows calculating IPR curves using the wells' tests. All the tests previously loaded in Sahara, for the selected well, will be shown in the table. The user can choose which of them will be used in the calculation. The data associated to each test may be edited manually using the **Edit Wellworks** window.

🌐 Tests data

The information shown in this window comes from the tests data previously loaded in Sahara as wellworks data. Nevertheless, some of them may be entered or edited manually as the density, the bubble pressure (Pb) and the static pressure (Ps).

	#	Date	Top [m MD]	Bottom [m MD]	Level [m TVD]	Qo [m³/DC]	Qw [m³/DC]	Density [g/cm³]	Commingled		Layer	Pb [kg/cm²]	Ps [kg/cm²]	Pwf [kg/cm²]	Q [m³/DC]	QMax [m³/DC]	Qb [m³/d]	Model	C [kg/cm²], [m³/DC]	n
⊠	5	24/09/1994	1685,00	1686,00	1600,00	3,2	0,8	0,86		⊠	Z-13	140,0		0,0	0,0					
⊠	6	24/09/1994	1659,00	1661,50	1150,00	0,0	57,6	1,00		⊠	Z-9	140,0		0,0	0,0					
⊠	7	24/09/1994	1640,00	1649,00	1505,00	55,1	12,1	0,86	☐	⊠	Z-6	140,0		0,0	0,0					
										⊠	Z-7	140,0		0,0	0,0					
⊠	8	24/09/1994	1640,00	1643,00	1410,00	35,4	7,8	0,86		⊠	Z-6	140,0		0,0	0,0					
⊠	9	24/09/1994	1592,00	1595,00	1405,00	0,0	38,9	1,00		⊠	Z-3	140,0		0,0	0,0					

f_x Calculation models

The current available models are **Vogel** and **Fetkovich**. The characteristic parameters C, n and AOF for both models are reported in the table after the calculation is performed. Additionally, the user can choose to calculate with the option "Best fit". This option will try to calculate first using Fetkovich model and then, if it is not possible, using Vogel.
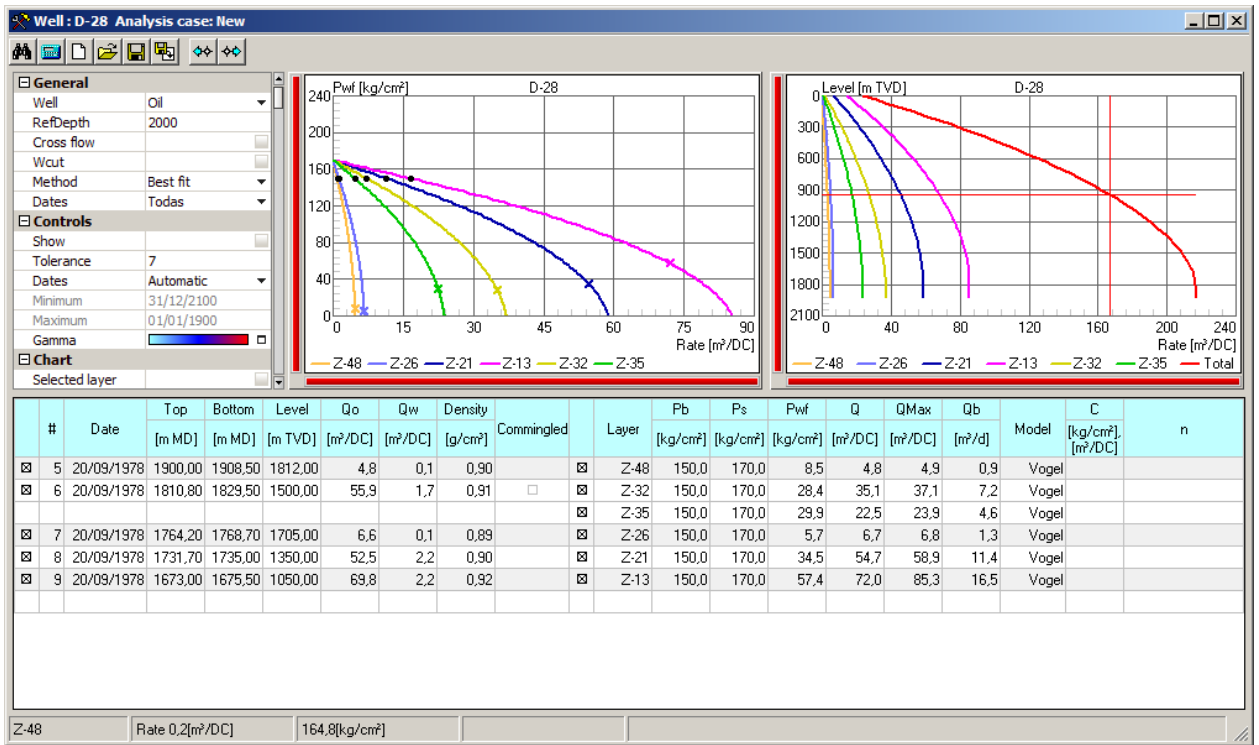
⚗ Analysis type

The calculation can be done for several layers producing simultaneously by selecting the tests corresponding to each of them. This option is the best to determine the well's operational point, once defined the IPR curve and the fluid level. In the case of several layers, the curve is composed for the contribution of each of them.

When the Cross-flow option is enabled, those layers in which the static pressure is lower than the dynamic pressure will have negative production.

Additionally, the water cut curve for the total IPR can be plotted in the right chart.
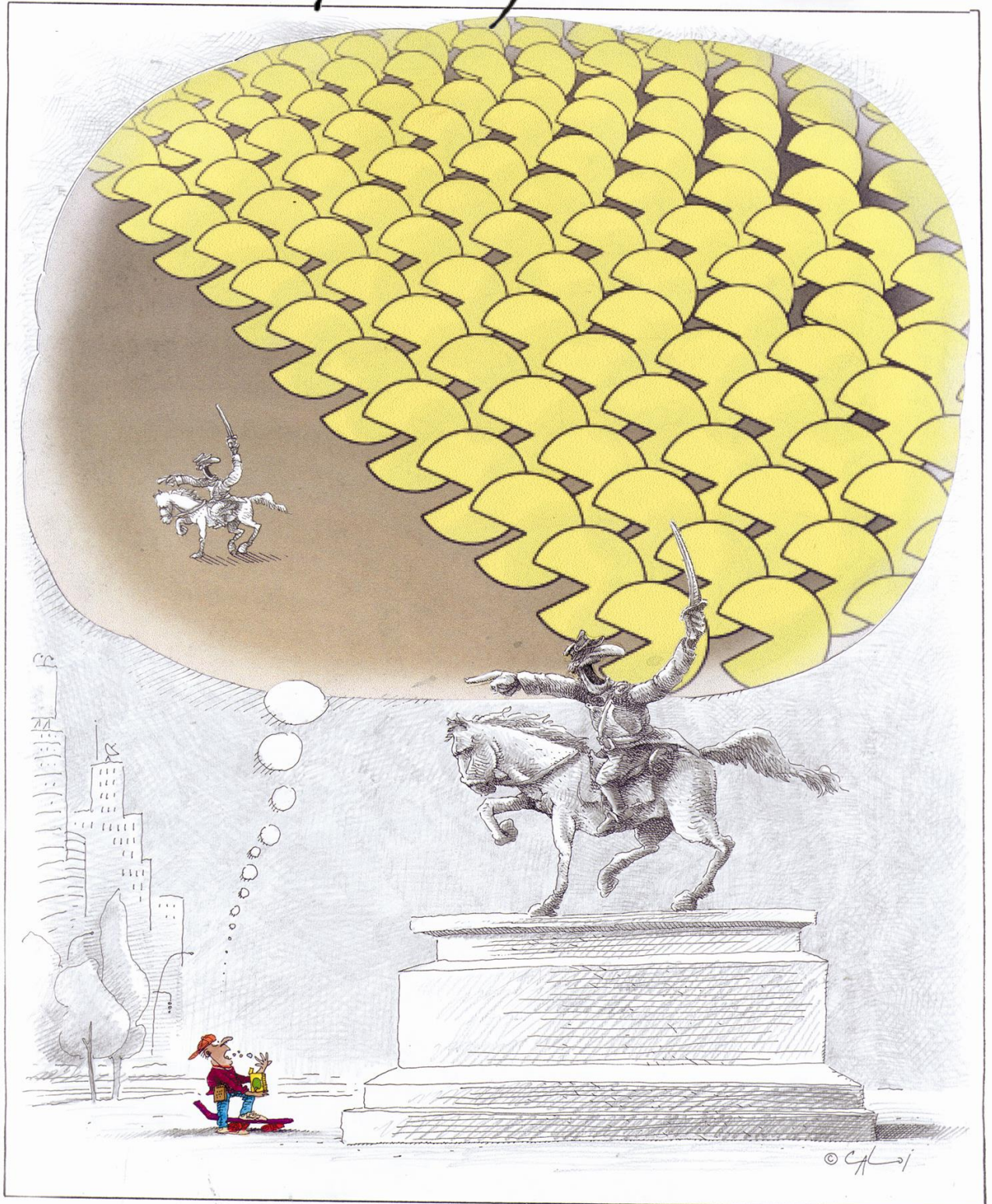
🗄 Controls

The well's controls can be shown in the right chart, previously entering a tolerance in days. This tolerance will be used to pair rate and level data closer in time. By default, all data range is selected but the user can customize it as desired. The points are colored, according to the measurement date, to help estimating the IPR curve evolution in time.

Well : D-28 Analysis case: New

General	
Well	Oil
RefDepth	2000
Cross flow	
Wcut	
Method	Best fit
Dates	Todas
Controls	
Show	
Tolerance	7
Dates	Automatic
Minimum	31/12/2100
Maximum	01/01/1900
Gamma	
Chart	
Selected layer	

	#	Date	Top [m MD]	Bottom [m MD]	Level [m TVD]	Qo [m³/DC]	Qw [m³/DC]	Density [g/cm³]	Commingled		Layer	Pb [kg/cm²]	Ps [kg/cm²]	Pwf [kg/cm²]	Q [m³/DC]	QMax [m³/DC]	Qb [m³/d]	Model	C [kg/cm²], [m³/DC]	n
⊠	5	20/09/1978	1900,00	1908,50	1812,00	4,8	0,1	0,90		⊠	Z-48	150,0	170,0	8,5	4,8	4,9	0,9	Vogel		
⊠	6	20/09/1978	1810,80	1829,50	1500,00	55,9	1,7	0,91	☐	⊠	Z-32	150,0	170,0	28,4	35,1	37,1	7,2	Vogel		
										⊠	Z-35	150,0	170,0	29,9	22,5	23,9	4,6	Vogel		
⊠	7	20/09/1978	1764,20	1768,70	1705,00	6,6	0,1	0,89		⊠	Z-26	150,0	170,0	5,7	6,7	6,8	1,3	Vogel		
⊠	8	20/09/1978	1731,70	1735,00	1350,00	52,5	2,2	0,90		⊠	Z-21	150,0	170,0	34,5	54,7	58,9	11,4	Vogel		
⊠	9	20/09/1978	1673,00	1675,50	1050,00	69,8	2,2	0,92		⊠	Z-13	150,0	170,0	57,4	72,0	85,3	16,5	Vogel		

| Z-48 | Rate 0,2[m³/DC] | 164,8[kg/cm²] | | |

interfaces