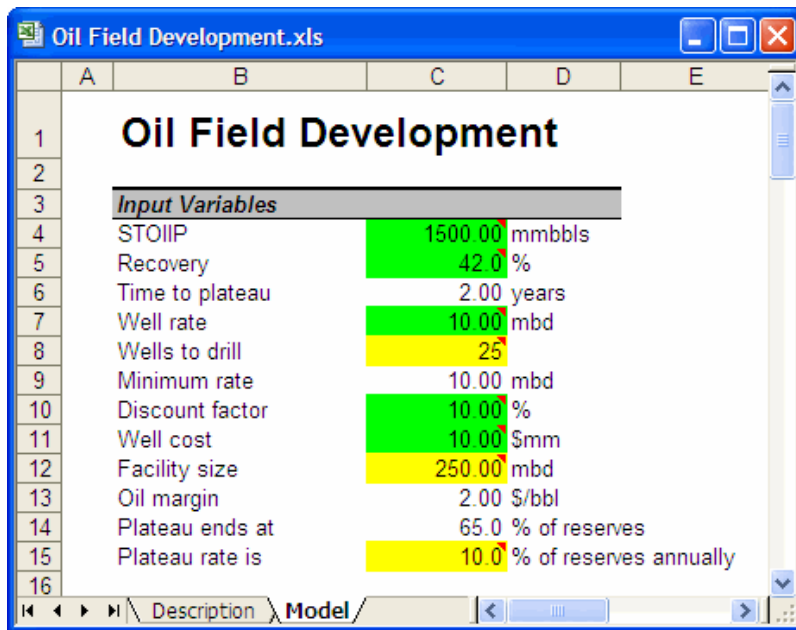


# One-Minute Spotlight

## The Scenario Analysis Tool

Have you ever wondered which combination of assumption values gives you a particular result? The Scenario Analysis tool runs a simulation and then sorts and matches all the resulting values of a target forecast with their corresponding assumption values. The output table shows the values of the target forecast extracted for the percentile or value range you designate.

You can run the Scenario Analysis tool on any Crystal Ball model. The example below calculates the Net Present Value (NPV) for an oil field prospect where several key variables, including recovery rate, well rate, and well cost, are uncertain.



	A	B	C	D	E
1	<b>Oil Field Development</b>				
2					
3	<b>Input Variables</b>				
4	STOIP		1500.00	mmbbls	
5	Recovery		42.0	%	
6	Time to plateau		2.00	years	
7	Well rate		10.00	mbd	
8	Wells to drill		25		
9	Minimum rate		10.00	mbd	
10	Discount factor		10.00	%	
11	Well cost		10.00	\$mm	
12	Facility size		250.00	mbd	
13	Oil margin		2.00	\$/bbl	
14	Plateau ends at		65.0	% of reserves	
15	Plateau rate is		10.0	% of reserves annually	
16					

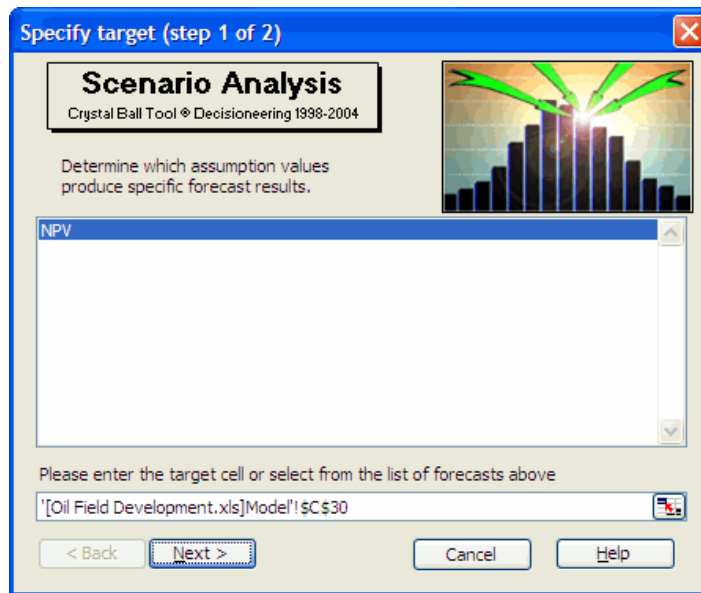
## Opening the Tool and Selecting a Forecast

You can open the Scenario Analysis tool through the Run -> Tools menu.

When the tool opens, select a forecast from the list (there is only one forecast in this example). Click on Next to move to Step 2.

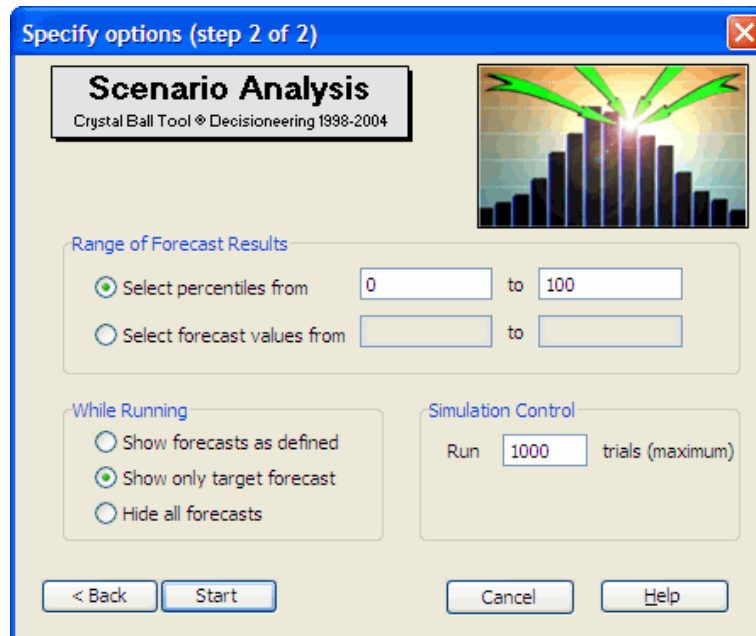


# One-Minute Spotlight



## Specifying the Options

Step 2 lets you select the range of result values you want to examine and how you want Crystal Ball to run the simulation.



# One-Minute Spotlight

Specify the forecast results you are interested in using a range of either percentiles or values. For example, you could choose to look at only the top 10% of all NPV results (the 90%-100% percentile range), or you could choose to look at all trials where the NPV was within the range of \$200M-\$300M.

In this example, you will view the top 10% of the NPV results. Click on Start to run the tool.

## Analyzing the Scenarios

The tool creates a new workbook and populates it with the sorted forecast results, from low to high value, as shown below.

	A	B	C	D	E	F	G
	Paste Selected Scenario						
	Paste Next Scenario						
	Paste Previous Scenario						
	Reset Original Values						
1		NPV	STOIFP	Recovery	Well rate	Discount factor	Well cost
948	94.50%	-54.75	1002.87	41.9	10.49	11.71	11.08
949	94.60%	-35.23	878.89	42.7	9.03	9.32	10.08
950	94.70%	261.86	1417.32	44.2	8.59	10.06	9.65
951	94.80%	219.23	1353.96	42.1	10.61	8.26	10.91
952	94.90%	350.03	1574.48	41.6	9.78	8.01	10.49
953	95.00%	274.74	1598.88	42.2	9.60	11.05	10.07
954	95.10%	68.86	1107.17	39.8	15.09	8.63	9.81
955	95.20%	31.80	982.03	43.8	6.54	10.26	9.24
956	95.30%	220.27	1255.82	42.0	14.72	7.15	10.11
957	95.40%	132.37	1321.53	41.0	13.46	11.33	9.41
958	95.50%	206.62	1308.39	40.8	10.00	8.12	9.74
959	95.60%	282.69	1518.00	41.4	7.28	8.16	11.55

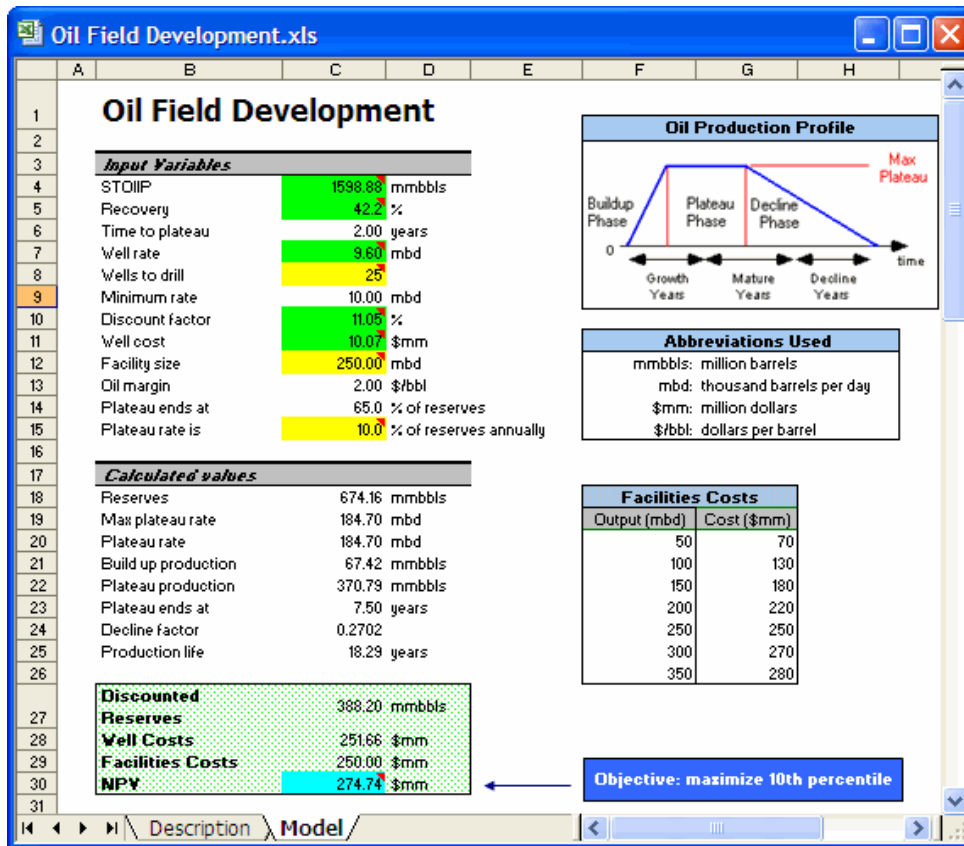
Each row represents one trial of the simulation, or scenario. Column A contains the percentile ranking of the forecast value in Column B. The remaining columns are the assumption values that produced the forecast value.

To view any scenario within your model, simply select the row and click on the Paste Selected Scenario button. Crystal Ball then recalculates the workbook with the selected assumption values and updates the forecast cell. If you were interested in the 95<sup>th</sup> percentile scenario result, you would select that row, as shown above, and then click on Paste Selected Scenario.

# One-Minute Spotlight

## Viewing a Scenario in Your Model

The 95th percentile scenario is now entered into the model. You can now examine this outcome in detail.



Scroll through the scenarios in your model using the Next and Previous buttons. Click on Reset to restore your original values.

You can also use the table of values in that workbook to determine if there are any obvious relationships between a specific range of forecast values and your key assumptions. For example, you could create a scatter chart in Excel to check for patterns between the highest NPVs and Well Costs.

For more information or to contact us, browse to <http://www.oracle.com/crystalball>.