

Tanezzuft-Benoud Structural/Stratigraphic, Assessment Unit 20580501
Assessment Results Summary

[MMBO, million barrels of oil. BCFG, billion cubic feet of gas. MMBNGL, million barrels of natural gas liquids. MFS, minimum field size assessed (MMBO or BCFG). Prob., probability (including both geologic and accessibility probabilities) of at least one field equal to or greater than the MFS. Results shown are fully risked estimates. For gas fields, all liquids are included under the NGL (natural gas liquids) category. F95 represents a 95 percent chance of at least the amount tabulated. Other fractiles are defined similarly. Fractiles are additive under the assumption of perfect positive correlation. Shading indicates not applicable]

Field Type	MFS	Prob. (0-1)	Undiscovered Resources												Largest Undiscovered Field (MMBO or BCFG)			
			Oil (MMBO)				Gas (BCFG)				NGL (MMBNGL)				F95	F50	F5	Mean
			F95	F50	F5	Mean	F95	F50	F5	Mean	F95	F50	F5	Mean				
Oil Fields	4	1.00	21	64	156	72	72	233	607	272	4	14	38	16	10	26	84	34
Gas Fields	24						357	1,880	5,483	2,268	16	88	273	109	144	590	2,363	823
Total		1.00	21	64	156	72	429	2,113	6,090	2,541	20	102	311	125				

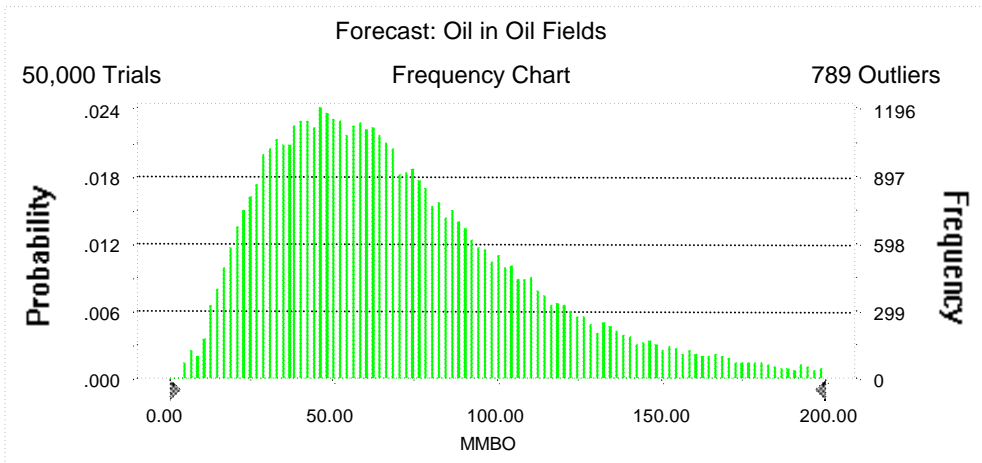
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Forecast: Oil in Oil Fields

Summary:

Display range is from 0.00 to 200.00 MMBO
Entire range is from 4.28 to 450.59 MMBO
After 50,000 trials, the standard error of the mean is 0.19

Statistics:	Value
Trials	50000
Mean	72.48
Median	63.62
Mode	---
Standard Deviation	43.28
Variance	1,873.23
Skewness	1.44
Kurtosis	6.38
Coefficient of Variability	0.60
Range Minimum	4.28
Range Maximum	450.59
Range Width	446.31
Mean Standard Error	0.19



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Forecast: Oil in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	4.28
95%	20.69
90%	27.18
85%	32.29
80%	37.07
75%	41.52
70%	45.97
65%	50.23
60%	54.58
55%	59.10
50%	63.62
45%	68.29
40%	73.67
35%	79.27
30%	85.82
25%	93.00
20%	101.94
15%	112.85
10%	128.53
5%	155.69
0%	450.59

End of Forecast

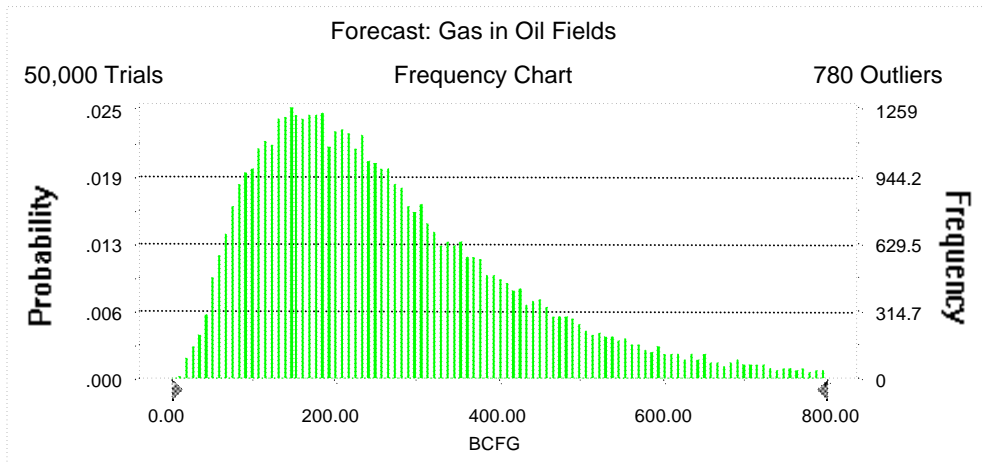
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Forecast: Gas in Oil Fields

Summary:

Display range is from 0.00 to 800.00 BCFG
 Entire range is from 11.41 to 2,255.31 BCFG
 After 50,000 trials, the standard error of the mean is 0.78

Statistics:	<u>Value</u>
Trials	50000
Mean	272.20
Median	233.04
Mode	---
Standard Deviation	175.35
Variance	30,746.11
Skewness	1.65
Kurtosis	7.69
Coefficient of Variability	0.64
Range Minimum	11.41
Range Maximum	2,255.31
Range Width	2,243.90
Mean Standard Error	0.78



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Forecast: Gas in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	11.41
95%	71.98
90%	94.64
85%	113.95
80%	131.70
75%	148.24
70%	164.30
65%	180.65
60%	197.82
55%	214.91
50%	233.04
45%	252.03
40%	272.19
35%	295.23
30%	321.53
25%	352.62
20%	387.64
15%	432.76
10%	495.12
5%	606.79
0%	2,255.31

End of Forecast

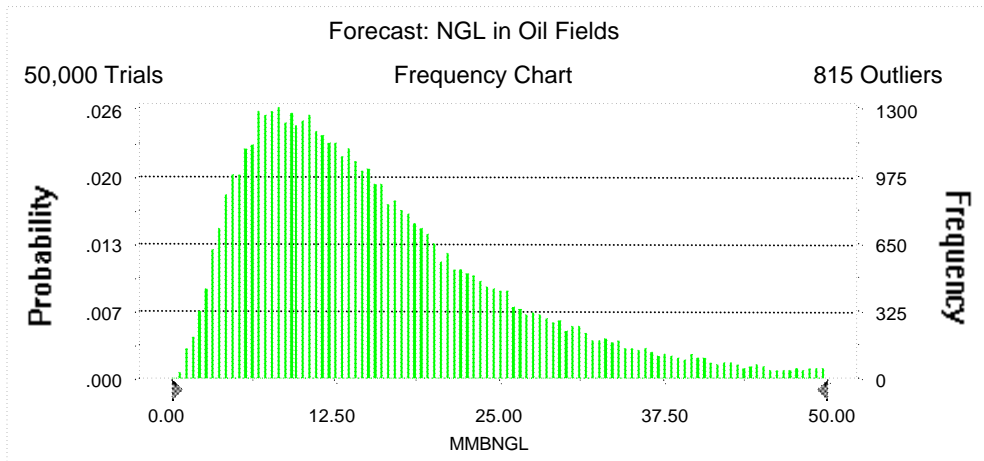
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Forecast: NGL in Oil Fields

Summary:

Display range is from 0.00 to 50.00 MMBNGL
Entire range is from 0.65 to 144.26 MMBNGL
After 50,000 trials, the standard error of the mean is 0.05

Statistics:	Value
Trials	50000
Mean	16.32
Median	13.65
Mode	---
Standard Deviation	11.23
Variance	126.10
Skewness	1.80
Kurtosis	8.37
Coefficient of Variability	0.69
Range Minimum	0.65
Range Maximum	144.26
Range Width	143.62
Mean Standard Error	0.05



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Forecast: NGL in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	0.65
95%	4.01
90%	5.34
85%	6.46
80%	7.45
75%	8.41
70%	9.41
65%	10.42
60%	11.44
55%	12.52
50%	13.65
45%	14.85
40%	16.13
35%	17.56
30%	19.18
25%	21.09
20%	23.43
15%	26.33
10%	30.63
5%	37.93
0%	144.26

End of Forecast

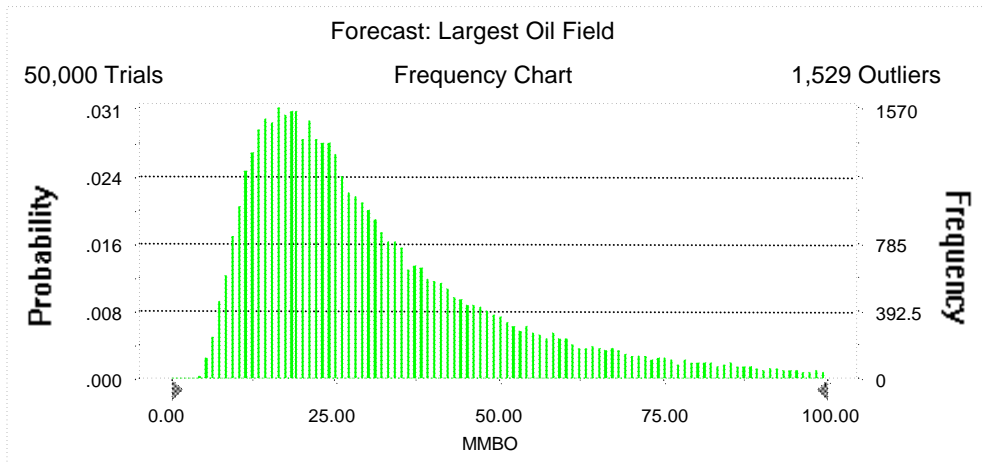
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Forecast: Largest Oil Field

Summary:

Display range is from 0.00 to 100.00 MMBO
Entire range is from 4.28 to 199.82 MMBO
After 50,000 trials, the standard error of the mean is 0.11

Statistics:	Value
Trials	50000
Mean	33.83
Median	26.21
Mode	---
Standard Deviation	25.38
Variance	644.21
Skewness	2.32
Kurtosis	10.36
Coefficient of Variability	0.75
Range Minimum	4.28
Range Maximum	199.82
Range Width	195.54
Mean Standard Error	0.11



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Forecast: Largest Oil Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	4.28
95%	10.24
90%	12.43
85%	14.18
80%	15.84
75%	17.45
70%	19.08
65%	20.77
60%	22.49
55%	24.30
50%	26.21
45%	28.49
40%	30.95
35%	33.82
30%	37.26
25%	41.42
20%	46.60
15%	53.55
10%	64.06
5%	83.89
0%	199.82

End of Forecast

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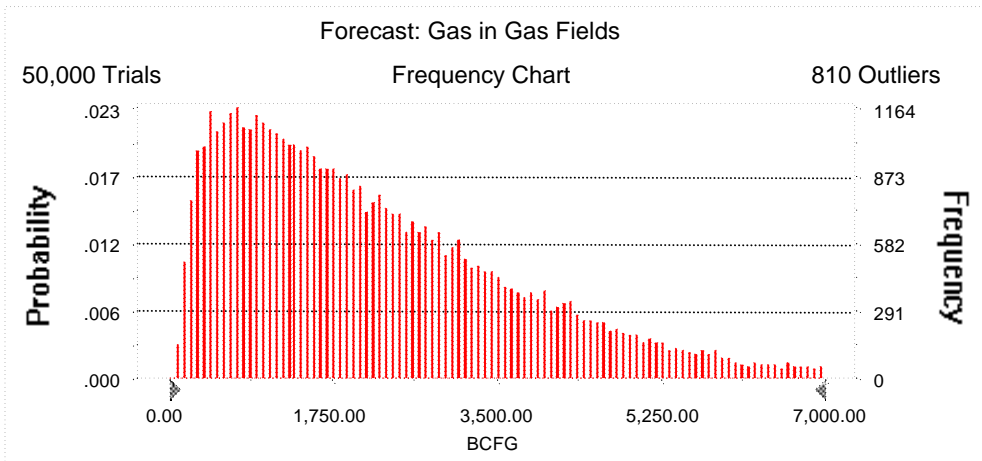
Forecast: Gas in Gas Fields

Summary:

Display range is from 0.00 to 7,000.00 BCFG
 Entire range is from 57.86 to 13,334.63 BCFG
 After 50,000 trials, the standard error of the mean is 7.43

Statistics:

	<u>Value</u>
Trials	50000
Mean	2,268.48
Median	1,879.52
Mode	---
Standard Deviation	1,661.87
Variance	2,761,798.62
Skewness	1.27
Kurtosis	5.02
Coefficient of Variability	0.73
Range Minimum	57.86
Range Maximum	13,334.63
Range Width	13,276.76
Mean Standard Error	7.43



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Forecast: Gas in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	57.86
95%	356.64
90%	516.46
85%	675.91
80%	831.09
75%	990.66
70%	1,152.87
65%	1,322.35
60%	1,499.47
55%	1,684.06
50%	1,879.52
45%	2,089.69
40%	2,320.10
35%	2,570.87
30%	2,842.01
25%	3,140.97
20%	3,504.81
15%	3,962.02
10%	4,534.05
5%	5,482.84
0%	13,334.63

End of Forecast

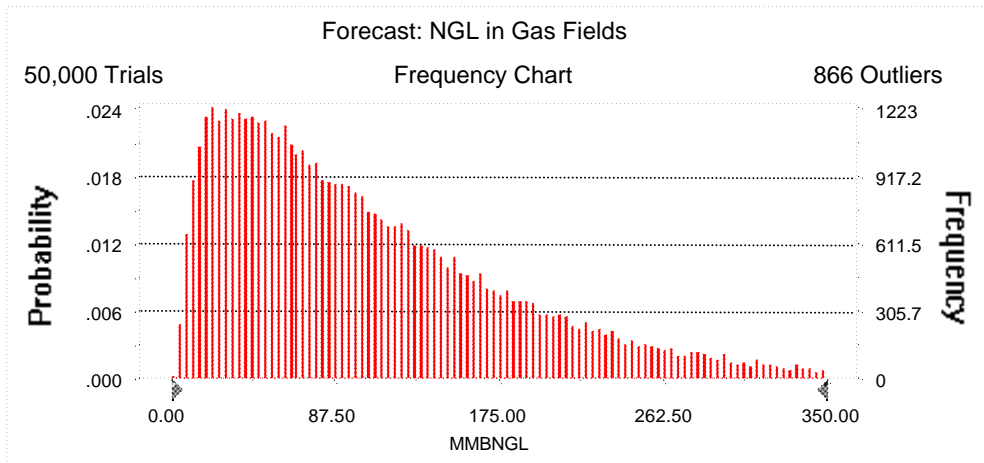
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Forecast: NGL in Gas Fields

Summary:

Display range is from 0.00 to 350.00 MMBNGL
 Entire range is from 2.53 to 700.14 MMBNGL
 After 50,000 trials, the standard error of the mean is 0.38

Statistics:	<u>Value</u>
Trials	50000
Mean	108.88
Median	87.93
Mode	---
Standard Deviation	84.15
Variance	7,081.18
Skewness	1.48
Kurtosis	6.06
Coefficient of Variability	0.77
Range Minimum	2.53
Range Maximum	700.14
Range Width	697.61
Mean Standard Error	0.38



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Forecast: NGL in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	2.53
95%	16.32
90%	23.71
85%	31.01
80%	38.41
75%	45.78
70%	53.39
65%	61.29
60%	69.58
55%	78.34
50%	87.93
45%	97.93
40%	108.81
35%	121.08
30%	134.40
25%	149.78
20%	167.87
15%	191.05
10%	221.91
5%	273.08
0%	700.14

End of Forecast

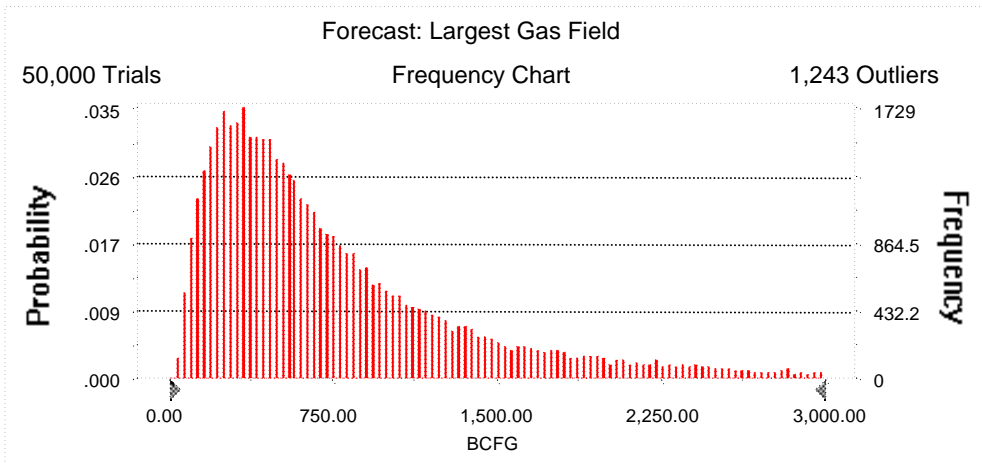
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Forecast: Largest Gas Field

Summary:

Display range is from 0.00 to 3,000.00 BCFG
 Entire range is from 31.60 to 4,999.38 BCFG
 After 50,000 trials, the standard error of the mean is 3.32

Statistics:	<u>Value</u>
Trials	50000
Mean	822.52
Median	590.26
Mode	---
Standard Deviation	742.12
Variance	550,744.88
Skewness	2.16
Kurtosis	8.79
Coefficient of Variability	0.90
Range Minimum	31.60
Range Maximum	4,999.38
Range Width	4,967.78
Mean Standard Error	3.32



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Forecast: Largest Gas Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	31.60
95%	143.88
90%	198.46
85%	245.87
80%	290.36
75%	335.96
70%	381.47
65%	430.56
60%	479.10
55%	532.90
50%	590.26
45%	655.20
40%	729.45
35%	813.03
30%	912.00
25%	1,034.97
20%	1,195.04
15%	1,404.05
10%	1,749.42
5%	2,362.60
0%	4,999.38

End of Forecast

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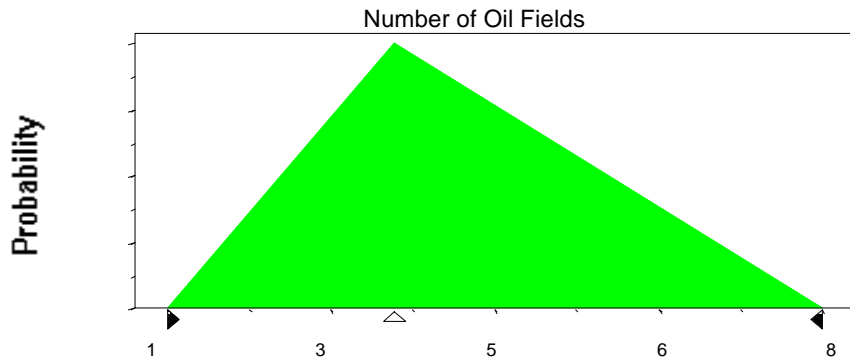
Assumptions

Assumption: Number of Oil Fields

Triangular distribution with parameters:

Minimum	1
Likeliest	3
Maximum	8

Selected range is from 1 to 8
Mean value in simulation was 4



Assumption: Sizes of Oil Fields

Lognormal distribution with parameters:

Mean	13.67
Standard Deviation	18.94

Shifted parameters

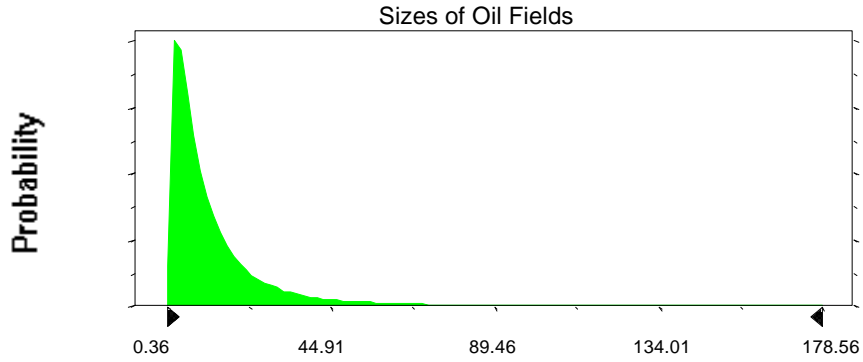
17.67
18.94

Selected range is from 0.00 to 196.00
Mean value in simulation was 13.38

4.00 to 200.00
17.38

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Assumption: Sizes of Oil Fields (cont'd)



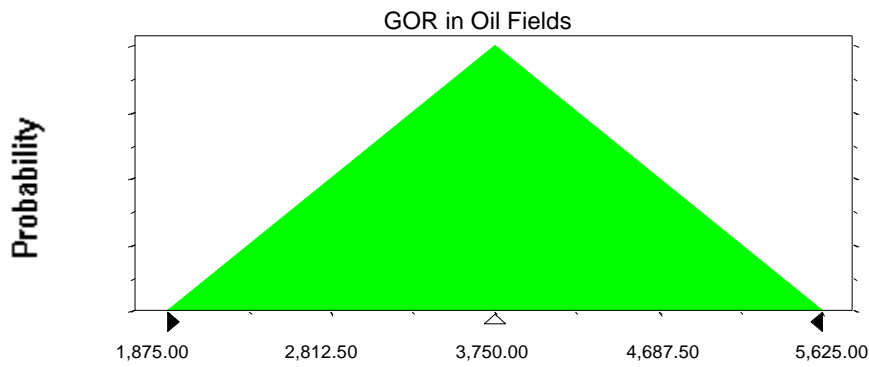
Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	1,875.00
Likeliest	3,750.00
Maximum	5,625.00

Selected range is from 1,875.00 to 5,625.00

Mean value in simulation was 3,753.90



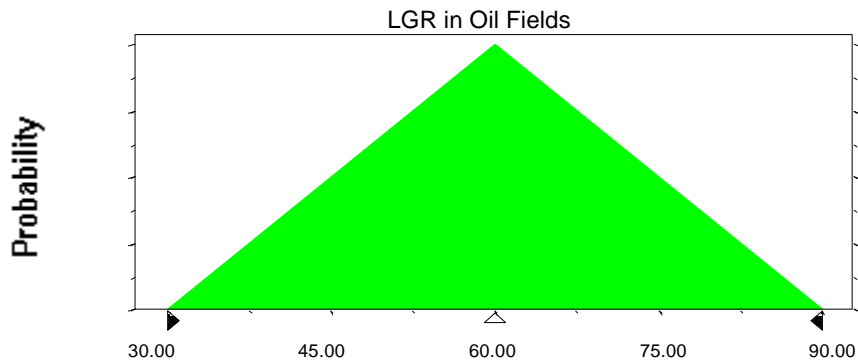
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Assumption: LGR in Oil Fields

Triangular distribution with parameters:

Minimum	30.00
Likeliest	60.00
Maximum	90.00

Selected range is from 30.00 to 90.00
Mean value in simulation was 59.93



Assumption: Number of Gas Fields

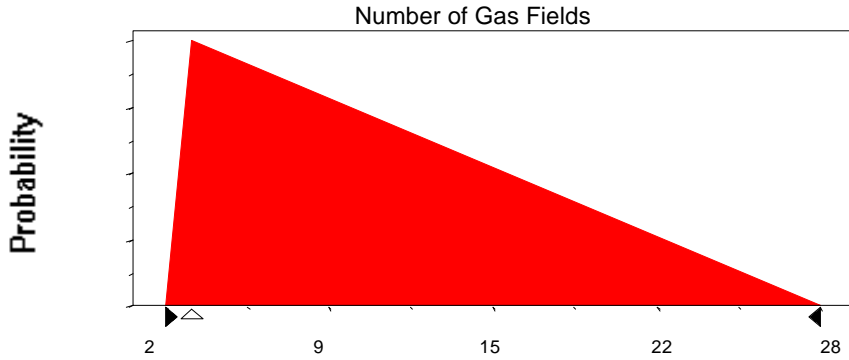
Triangular distribution with parameters:

Minimum	2
Likeliest	3
Maximum	28

Selected range is from 2 to 28
Mean value in simulation was 11

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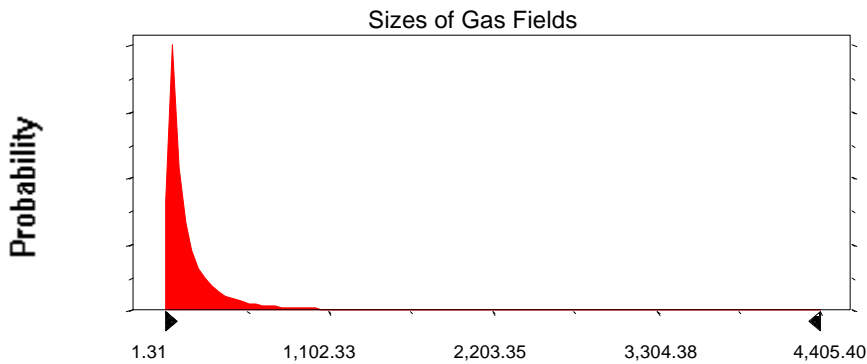
Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	189.89	213.89
Standard Deviation	434.77	434.77

Selected range is from 0.00 to 4,976.00	24.00 to 5,000.00
Mean value in simulation was 179.92	203.92



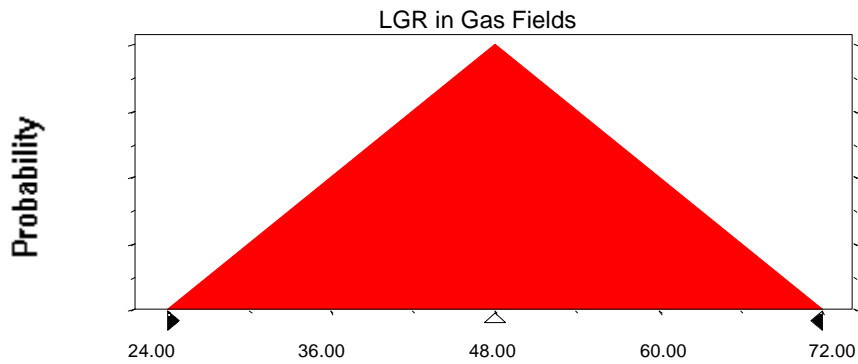
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Assumption: LGR in Gas Fields

Triangular distribution with parameters:

Minimum	24.00
Likeliest	48.00
Maximum	72.00

Selected range is from 24.00 to 72.00
Mean value in simulation was 48.06



End of Assumptions

Simulation started on 12/7/98 at 12:42:33
Simulation stopped on 12/7/98 at 12:59:07