

Brunei-Sabah Turbidites, Assessment Unit 37010102
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	5	1.00	382	1,185	2,341	1,252	984	3,230	7,001	3,509	55	188	445	210	77	221	663	272
Gas Fields	30						892	3,391	7,783	3,740	37	145	358	164	262	889	3,219	1,183
Total		1.00	382	1,185	2,341	1,252	1,876	6,621	14,784	7,249	92	333	803	375				

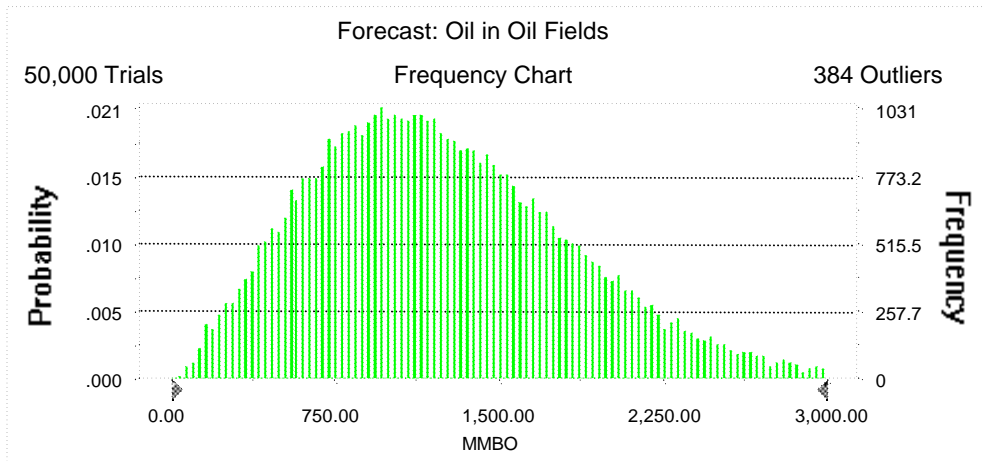
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Monte Carlo Results

Forecast: Oil in Oil Fields

Summary:

Display range is from 0.00 to 3,000.00 MMBO
Entire range is from 37.31 to 4,593.06 MMBO
After 50,000 trials, the standard error of the mean is 2.70

Statistics:	Value
Trials	50000
Mean	1,252.40
Median	1,185.25
Mode	---
Standard Deviation	604.20
Variance	365,058.52
Skewness	0.63
Kurtosis	3.37
Coefficient of Variability	0.48
Range Minimum	37.31
Range Maximum	4,593.06
Range Width	4,555.74
Mean Standard Error	2.70



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Forecast: Oil in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	37.31
95%	382.38
90%	521.00
85%	627.16
80%	723.56
75%	805.57
70%	884.75
65%	960.92
60%	1,035.52
55%	1,110.93
50%	1,185.25
45%	1,264.12
40%	1,347.35
35%	1,434.79
30%	1,525.99
25%	1,629.57
20%	1,744.28
15%	1,884.88
10%	2,064.27
5%	2,340.59
0%	4,593.06

End of Forecast

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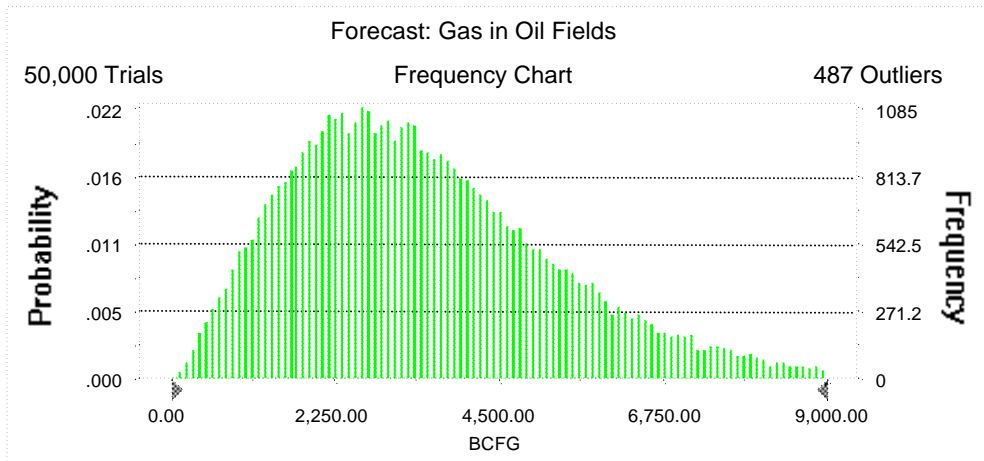
Forecast: Gas in Oil Fields

Summary:

Display range is from 0.00 to 9,000.00 BCFG
Entire range is from 88.01 to 17,050.60 BCFG
After 50,000 trials, the standard error of the mean is 8.36

Statistics:

	<u>Value</u>
Trials	50000
Mean	3,508.67
Median	3,230.16
Mode	---
Standard Deviation	1,868.79
Variance	3,492,386.24
Skewness	0.92
Kurtosis	4.25
Coefficient of Variability	0.53
Range Minimum	88.01
Range Maximum	17,050.60
Range Width	16,962.59
Mean Standard Error	8.36



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Forecast: Gas in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	88.01
95%	983.63
90%	1,351.80
85%	1,645.61
80%	1,902.69
75%	2,138.28
70%	2,352.25
65%	2,572.87
60%	2,780.80
55%	3,003.41
50%	3,230.16
45%	3,454.32
40%	3,706.73
35%	3,963.61
30%	4,251.67
25%	4,571.57
20%	4,955.05
15%	5,419.28
10%	6,012.61
5%	7,000.60
0%	17,050.60

End of Forecast

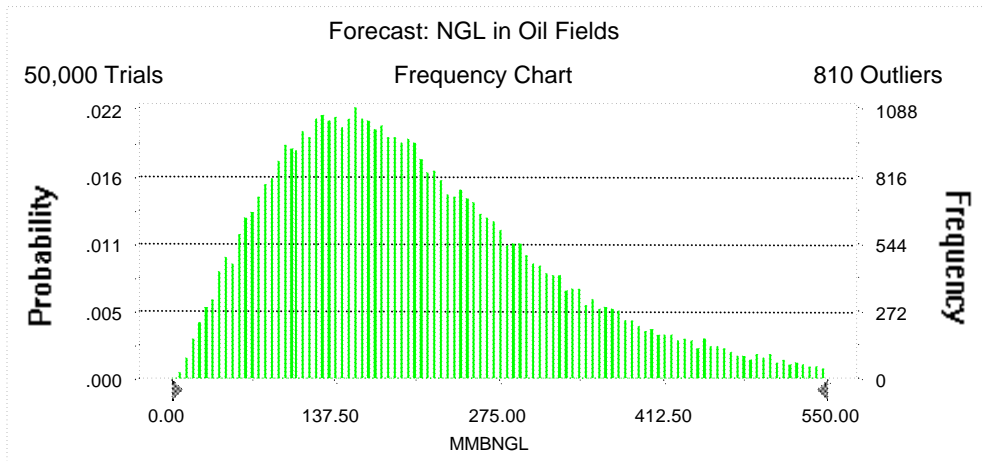
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Forecast: NGL in Oil Fields

Summary:

Display range is from 0.00 to 550.00 MMBNGL
Entire range is from 4.19 to 1,134.73 MMBNGL
After 50,000 trials, the standard error of the mean is 0.55

Statistics:	Value
Trials	50000
Mean	210.50
Median	188.17
Mode	---
Standard Deviation	122.20
Variance	14,932.46
Skewness	1.15
Kurtosis	5.02
Coefficient of Variability	0.58
Range Minimum	4.19
Range Maximum	1,134.73
Range Width	1,130.54
Mean Standard Error	0.55



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Forecast: NGL in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	4.19
95%	55.00
90%	76.04
85%	92.87
80%	107.66
75%	121.76
70%	134.95
65%	148.18
60%	161.05
55%	174.39
50%	188.17
45%	202.59
40%	217.57
35%	235.03
30%	253.64
25%	274.48
20%	299.28
15%	330.41
10%	373.59
5%	445.34
0%	1,134.73

End of Forecast

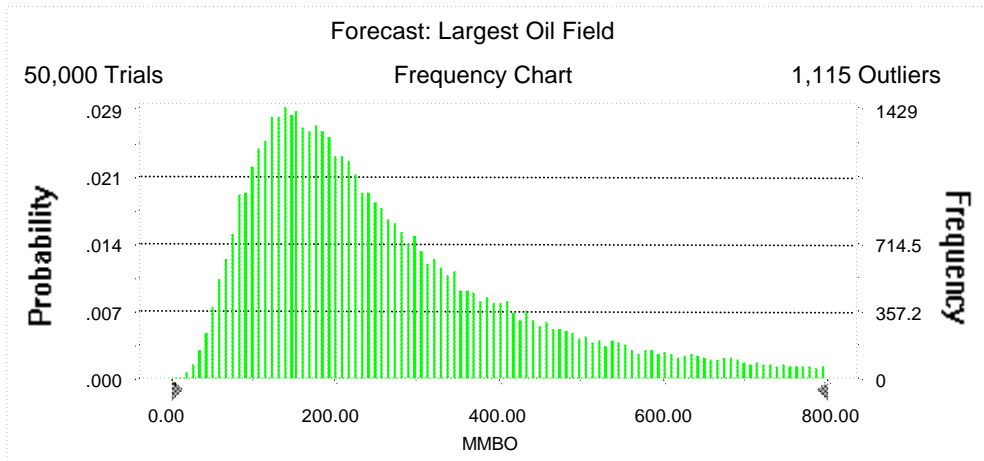
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Forecast: Largest Oil Field

Summary:

Display range is from 0.00 to 800.00 MMBO
Entire range is from 13.27 to 999.79 MMBO
After 50,000 trials, the standard error of the mean is 0.81

Statistics:	Value
Trials	50000
Mean	272.41
Median	220.76
Mode	---
Standard Deviation	181.48
Variance	32,934.05
Skewness	1.45
Kurtosis	5.07
Coefficient of Variability	0.67
Range Minimum	13.27
Range Maximum	999.79
Range Width	986.52
Mean Standard Error	0.81



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Forecast: Largest Oil Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	13.27
95%	76.62
90%	97.72
85%	114.46
80%	129.52
75%	143.61
70%	157.91
65%	172.82
60%	187.72
55%	203.53
50%	220.76
45%	239.96
40%	261.14
35%	285.11
30%	313.23
25%	347.39
20%	390.90
15%	444.85
10%	524.98
5%	662.88
0%	999.79

End of Forecast

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Monte Carlo Results

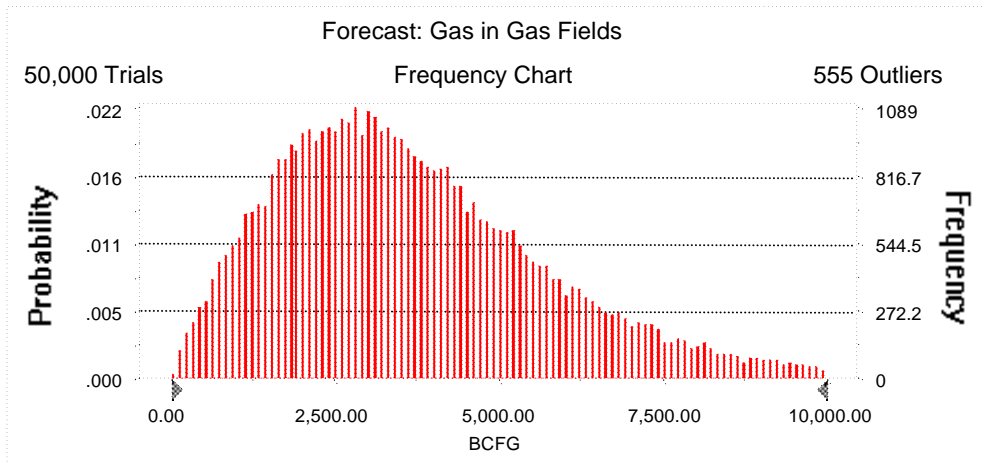
Forecast: Gas in Gas Fields

Summary:

Display range is from 0.00 to 10,000.00 BCFG
 Entire range is from 34.39 to 20,661.78 BCFG
 After 50,000 trials, the standard error of the mean is 9.57

Statistics:

	<u>Value</u>
Trials	50000
Mean	3,740.46
Median	3,390.53
Mode	---
Standard Deviation	2,140.55
Variance	4,581,967.07
Skewness	0.99
Kurtosis	4.43
Coefficient of Variability	0.57
Range Minimum	34.39
Range Maximum	20,661.78
Range Width	20,627.39
Mean Standard Error	9.57



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Forecast: Gas in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	34.39
95%	891.89
90%	1,304.89
85%	1,634.56
80%	1,909.18
75%	2,170.98
70%	2,423.44
65%	2,665.24
60%	2,905.02
55%	3,146.65
50%	3,390.53
45%	3,648.35
40%	3,932.21
35%	4,229.96
30%	4,551.19
25%	4,930.07
20%	5,349.83
15%	5,884.81
10%	6,615.55
5%	7,783.39
0%	20,661.78

End of Forecast

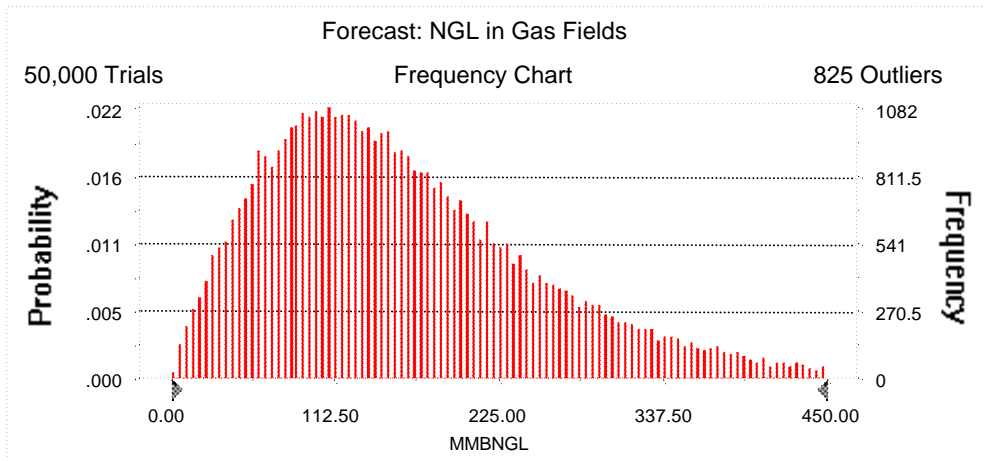
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Forecast: NGL in Gas Fields

Summary:

Display range is from 0.00 to 450.00 MMBNGL
 Entire range is from 1.02 to 1,339.90 MMBNGL
 After 50,000 trials, the standard error of the mean is 0.45

Statistics:	<u>Value</u>
Trials	50000
Mean	164.31
Median	145.05
Mode	---
Standard Deviation	101.55
Variance	10,312.59
Skewness	1.24
Kurtosis	5.59
Coefficient of Variability	0.62
Range Minimum	1.02
Range Maximum	1,339.90
Range Width	1,338.88
Mean Standard Error	0.45



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Forecast: NGL in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	1.02
95%	36.75
90%	54.05
85%	67.21
80%	79.59
75%	90.81
70%	101.62
65%	112.03
60%	122.78
55%	133.75
50%	145.05
45%	156.82
40%	169.60
35%	183.26
30%	198.83
25%	216.39
20%	237.10
15%	263.88
10%	299.53
5%	358.00
0%	1,339.90

End of Forecast

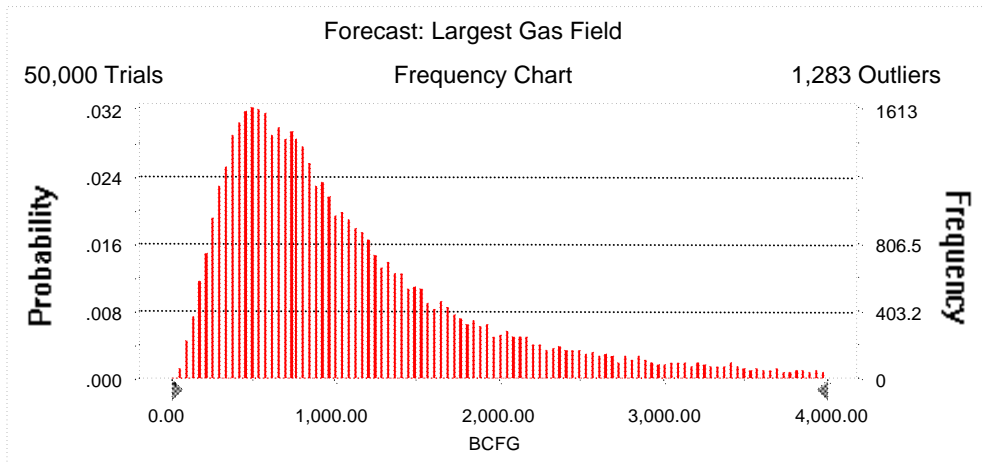
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Forecast: Largest Gas Field

Summary:

Display range is from 0.00 to 4,000.00 BCFG
 Entire range is from 34.39 to 5,999.51 BCFG
 After 50,000 trials, the standard error of the mean is 4.29

Statistics:	<u>Value</u>
Trials	50000
Mean	1,182.83
Median	889.47
Mode	---
Standard Deviation	960.10
Variance	921,801.39
Skewness	1.96
Kurtosis	7.52
Coefficient of Variability	0.81
Range Minimum	34.39
Range Maximum	5,999.51
Range Width	5,965.12
Mean Standard Error	4.29



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Forecast: Largest Gas Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	34.39
95%	261.89
90%	349.23
85%	418.30
80%	481.52
75%	543.55
70%	606.50
65%	674.31
60%	742.89
55%	813.48
50%	889.47
45%	978.32
40%	1,076.36
35%	1,185.25
30%	1,317.87
25%	1,478.34
20%	1,685.15
15%	1,971.26
10%	2,407.79
5%	3,219.48
0%	5,999.51

End of Forecast

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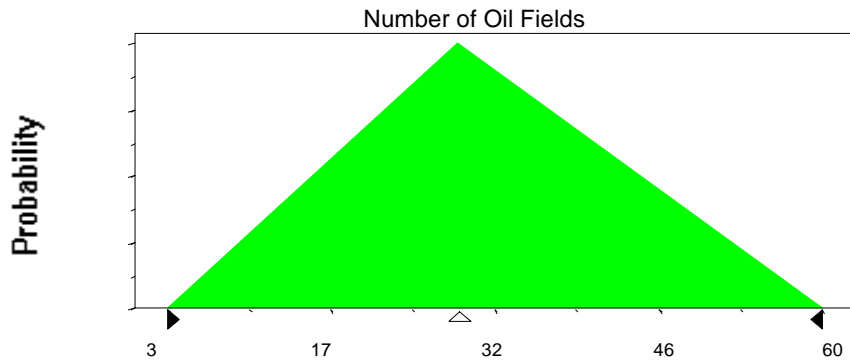
Assumptions

Assumption: Number of Oil Fields

Triangular distribution with parameters:

Minimum	3
Likeliest	28
Maximum	60

Selected range is from 3 to 60
Mean value in simulation was 30



Assumption: Sizes of Oil Fields

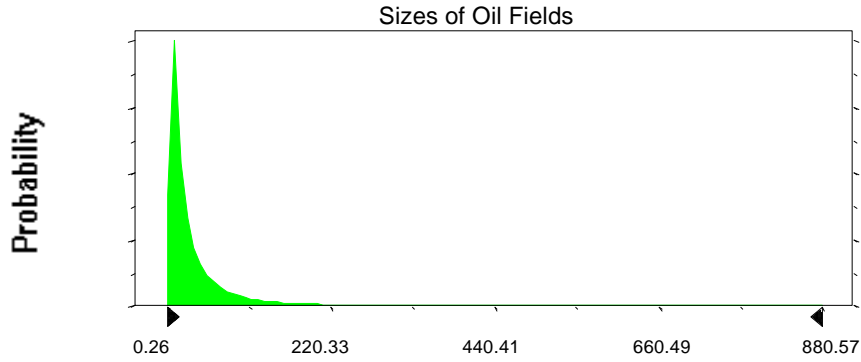
Lognormal distribution with parameters:

Mean	37.69	Shifted parameters	42.69
Standard Deviation	86.89		86.89

Selected range is from 0.00 to 995.00 5.00 to 1,000.00
Mean value in simulation was 35.91 40.91

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Assumption: Sizes of Oil Fields (cont'd)



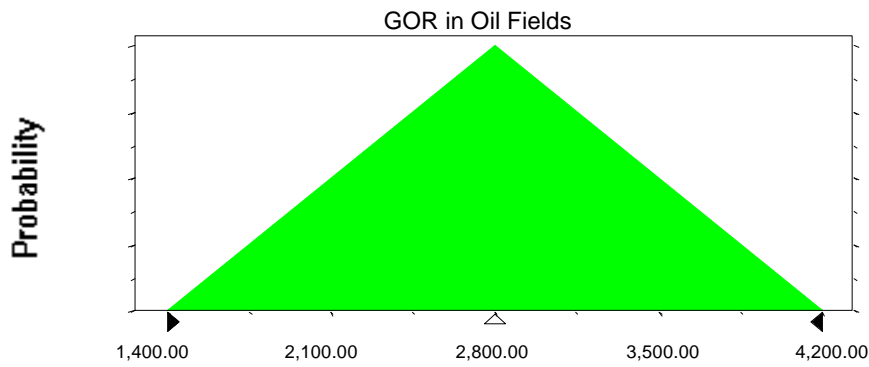
Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	1,400.00
Likeliest	2,800.00
Maximum	4,200.00

Selected range is from 1,400.00 to 4,200.00

Mean value in simulation was 2,802.18



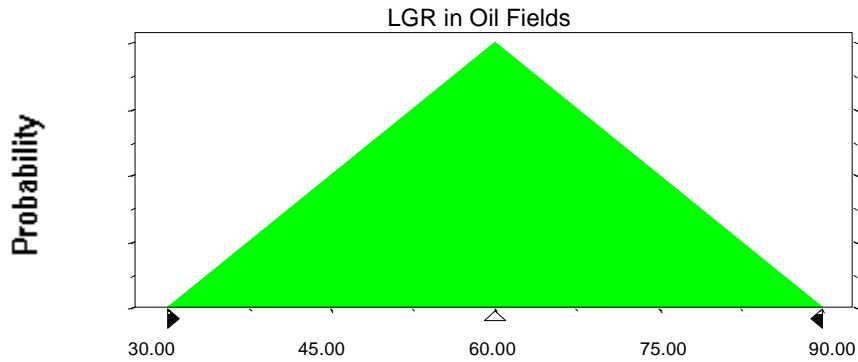
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Assumption: LGR in Oil Fields

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 60.01



Assumption: Number of Gas Fields

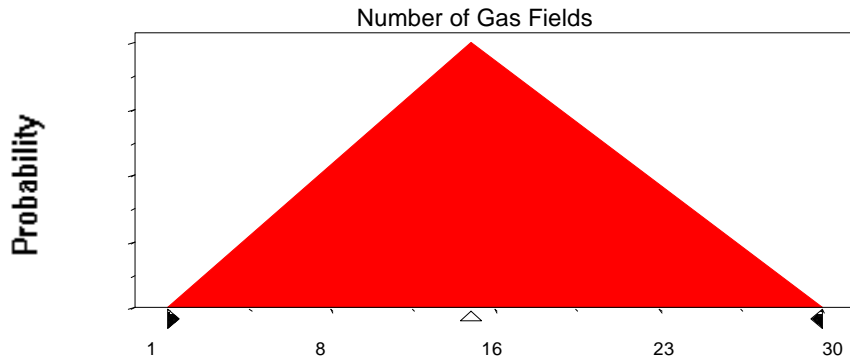
Triangular distribution with parameters:

Minimum	1
Likeliest	14
Maximum	30

Selected range is from 1 to 30
Mean value in simulation was 15

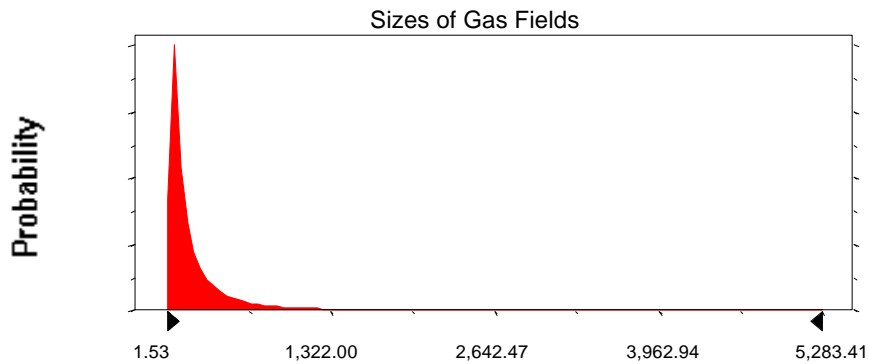
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Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	226.16	256.15
Standard Deviation	521.35	521.35
Selected range is from 0.00 to 5,970.00		30.00 to 6,000.00
Mean value in simulation was 215.48		245.48



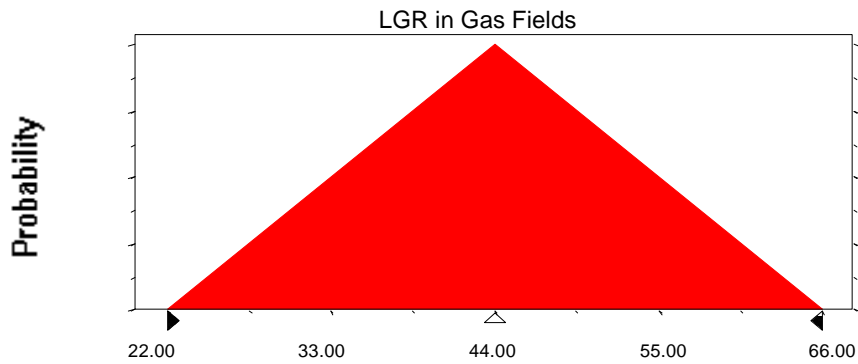
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Assumption: LGR in Gas Fields

Triangular distribution with parameters:

Minimum	22.00
Likeliest	44.00
Maximum	66.00

Selected range is from 22.00 to 66.00
Mean value in simulation was 43.97



End of Assumptions

Simulation started on 7/20/99 at 11:34:59
Simulation stopped on 7/20/99 at 12:00:07