

Jeanne d'Arc, Assessment Unit 52150101
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	10	1.00	443	1,618	3,723	1,796	1,601	6,360	17,947	7,589	90	372	1,120	456	95	232	546	263
Gas Fields	60						392	1,193	2,577	1,304	16	51	120	57	188	386	851	433
Total		1.00	443	1,618	3,723	1,796	1,993	7,553	20,524	8,893	106	422	1,241	514				

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Monte Carlo Results

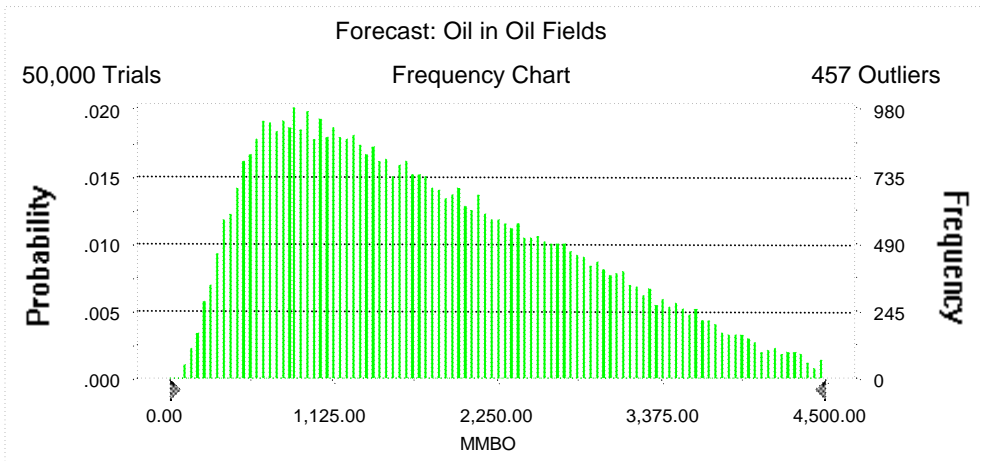
Forecast: Oil in Oil Fields

Summary:

Display range is from 0.00 to 4,500.00 MMBO
Entire range is from 64.42 to 6,167.84 MMBO
After 50,000 trials, the standard error of the mean is 4.62

Statistics:

	<u>Value</u>
Trials	50000
Mean	1,796.30
Median	1,617.70
Mode	---
Standard Deviation	1,032.47
Variance	1,066,003.99
Skewness	0.65
Kurtosis	2.77
Coefficient of Variability	0.57
Range Minimum	64.42
Range Maximum	6,167.84
Range Width	6,103.41
Mean Standard Error	4.62



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Forecast: Oil in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	64.42
95%	442.87
90%	590.97
85%	714.72
80%	837.12
75%	957.00
70%	1,078.80
65%	1,205.24
60%	1,332.90
55%	1,471.92
50%	1,617.70
45%	1,767.49
40%	1,930.89
35%	2,102.72
30%	2,288.28
25%	2,496.35
20%	2,722.13
15%	2,974.90
10%	3,288.99
5%	3,722.66
0%	6,167.84

End of Forecast

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Forecast: Gas in Oil Fields

Summary:

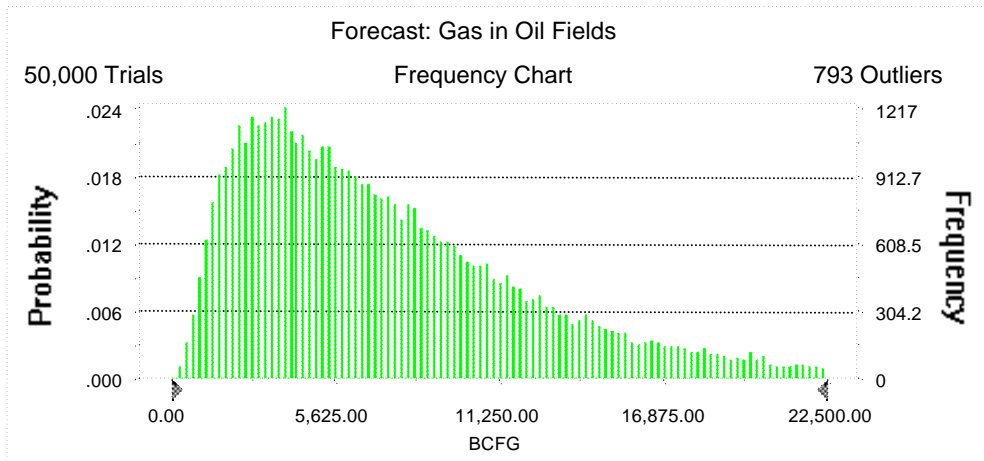
Display range is from 0.00 to 22,500.00 BCFG

Entire range is from 233.71 to 39,543.27 BCFG

After 50,000 trials, the standard error of the mean is 23.23

Statistics:

	<u>Value</u>
Trials	50000
Mean	7,588.53
Median	6,360.00
Mode	---
Standard Deviation	5,194.38
Variance	26,981,547.85
Skewness	1.28
Kurtosis	4.92
Coefficient of Variability	0.68
Range Minimum	233.71
Range Maximum	39,543.27
Range Width	39,309.56
Mean Standard Error	23.23



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Forecast: Gas in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	233.71
95%	1,600.92
90%	2,185.68
85%	2,700.83
80%	3,185.87
75%	3,670.03
70%	4,146.55
65%	4,664.84
60%	5,215.59
55%	5,763.94
50%	6,360.00
45%	7,003.07
40%	7,687.63
35%	8,422.61
30%	9,260.45
25%	10,212.42
20%	11,354.44
15%	12,757.92
10%	14,724.09
5%	17,947.36
0%	39,543.27

End of Forecast

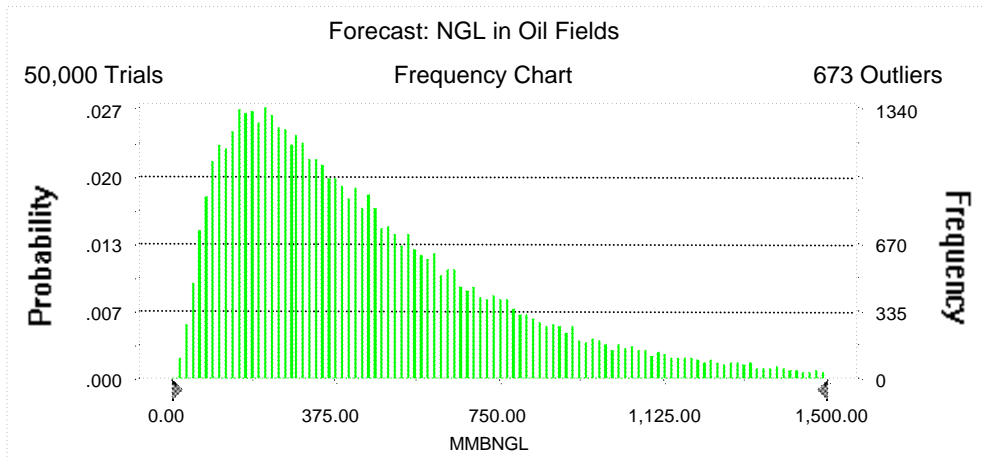
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Forecast: NGL in Oil Fields

Summary:

Display range is from 0.00 to 1,500.00 MMBNGL
Entire range is from 11.21 to 3,095.05 MMBNGL
After 50,000 trials, the standard error of the mean is 1.49

Statistics:	Value
Trials	50000
Mean	456.33
Median	371.51
Mode	---
Standard Deviation	333.38
Variance	111,140.52
Skewness	1.51
Kurtosis	6.12
Coefficient of Variability	0.73
Range Minimum	11.21
Range Maximum	3,095.05
Range Width	3,083.84
Mean Standard Error	1.49



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Forecast: NGL in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	11.21
95%	90.01
90%	123.69
85%	154.43
80%	183.02
75%	211.88
70%	240.28
65%	270.57
60%	302.22
55%	335.81
50%	371.51
45%	410.56
40%	451.93
35%	497.86
30%	550.75
25%	610.31
20%	684.73
15%	775.45
10%	901.16
5%	1,120.35
0%	3,095.05

End of Forecast

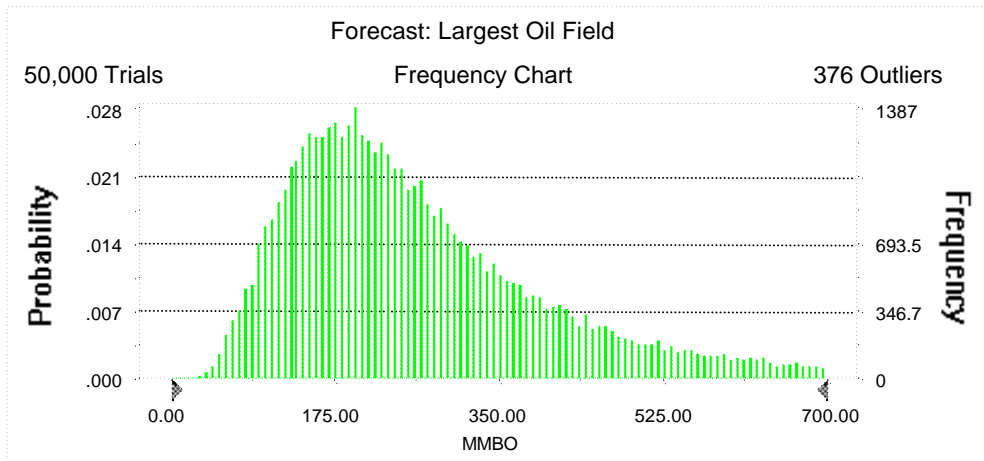
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Forecast: Largest Oil Field

Summary:

Display range is from 0.00 to 700.00 MMBO
Entire range is from 24.60 to 749.65 MMBO
After 50,000 trials, the standard error of the mean is 0.61

Statistics:	Value
Trials	50000
Mean	263.22
Median	232.44
Mode	---
Standard Deviation	136.93
Variance	18,749.31
Skewness	1.07
Kurtosis	3.92
Coefficient of Variability	0.52
Range Minimum	24.60
Range Maximum	749.65
Range Width	725.05
Mean Standard Error	0.61



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Forecast: Largest Oil Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	24.60
95%	95.46
90%	116.99
85%	134.14
80%	149.04
75%	163.13
70%	176.88
65%	190.55
60%	203.57
55%	217.83
50%	232.44
45%	248.45
40%	265.93
35%	284.94
30%	306.25
25%	332.31
20%	363.74
15%	403.16
10%	457.52
5%	546.40
0%	749.65

End of Forecast

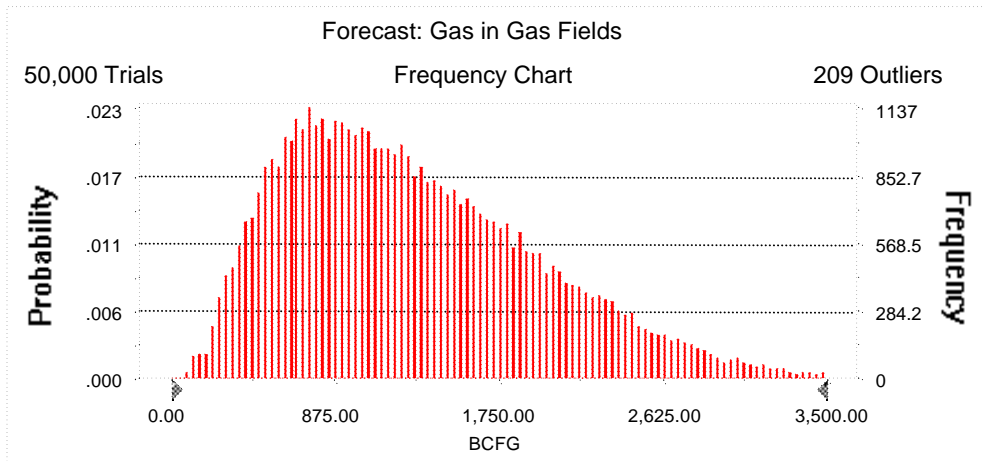
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Forecast: Gas in Gas Fields

Summary:

Display range is from 0.00 to 3,500.00 BCFG
 Entire range is from 77.07 to 5,439.37 BCFG
 After 50,000 trials, the standard error of the mean is 3.06

Statistics:	<u>Value</u>
Trials	50000
Mean	1,303.98
Median	1,193.28
Mode	---
Standard Deviation	684.32
Variance	468,299.31
Skewness	0.75
Kurtosis	3.31
Coefficient of Variability	0.52
Range Minimum	77.07
Range Maximum	5,439.37
Range Width	5,362.30
Mean Standard Error	3.06



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Forecast: Gas in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	77.07
95%	392.46
90%	510.61
85%	604.75
80%	689.09
75%	769.57
70%	851.21
65%	933.86
60%	1,017.65
55%	1,102.21
50%	1,193.28
45%	1,284.14
40%	1,386.08
35%	1,493.70
30%	1,607.73
25%	1,734.91
20%	1,877.74
15%	2,047.73
10%	2,265.34
5%	2,577.10
0%	5,439.37

End of Forecast

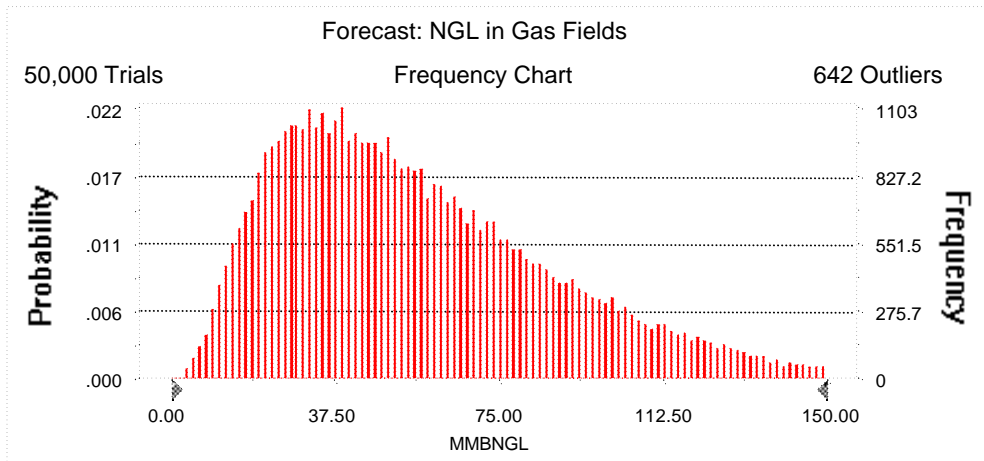
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Forecast: NGL in Gas Fields

Summary:

Display range is from 0.00 to 150.00 MMBNGL
Entire range is from 2.24 to 286.24 MMBNGL
After 50,000 trials, the standard error of the mean is 0.15

Statistics:	Value
Trials	50000
Mean	57.39
Median	50.90
Mode	---
Standard Deviation	32.97
Variance	1,086.96
Skewness	1.01
Kurtosis	4.19
Coefficient of Variability	0.57
Range Minimum	2.24
Range Maximum	286.24
Range Width	284.00
Mean Standard Error	0.15



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Forecast: NGL in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	2.24
95%	15.93
90%	21.00
85%	24.99
80%	28.65
75%	32.28
70%	35.79
65%	39.44
60%	43.09
55%	46.98
50%	50.90
45%	55.19
40%	59.67
35%	64.65
30%	70.12
25%	76.16
20%	83.18
15%	91.92
10%	103.13
5%	120.44
0%	286.24

End of Forecast

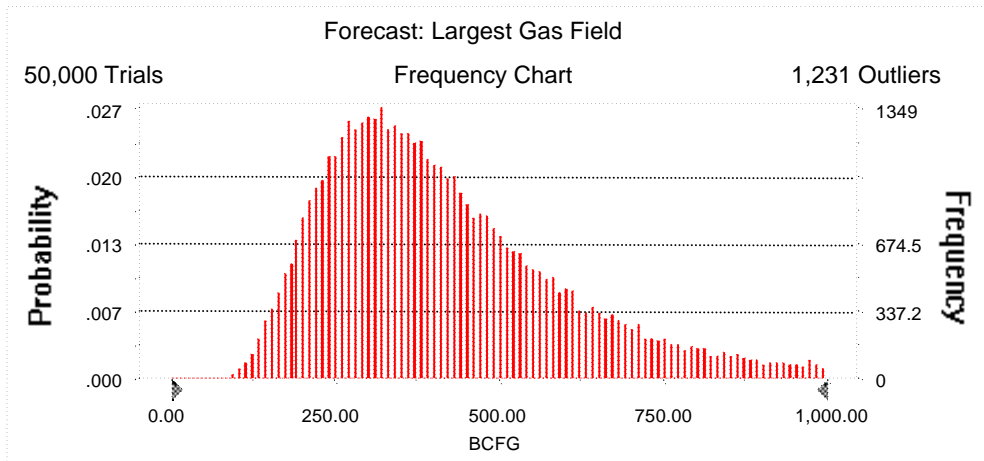
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Forecast: Largest Gas Field

Summary:

Display range is from 0.00 to 1,000.00 BCFG
Entire range is from 77.07 to 1,496.14 BCFG
After 50,000 trials, the standard error of the mean is 0.94

Statistics:	Value
Trials	50000
Mean	433.45
Median	385.87
Mode	---
Standard Deviation	210.91
Variance	44,483.61
Skewness	1.47
Kurtosis	5.90
Coefficient of Variability	0.49
Range Minimum	77.07
Range Maximum	1,496.14
Range Width	1,419.07
Mean Standard Error	0.94



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Forecast: Largest Gas Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	77.07
95%	187.64
90%	219.56
85%	244.55
80%	266.60
75%	286.69
70%	305.99
65%	325.11
60%	344.57
55%	364.91
50%	385.87
45%	408.62
40%	432.67
35%	459.71
30%	490.43
25%	526.08
20%	569.88
15%	625.23
10%	705.65
5%	850.85
0%	1,496.14

End of Forecast

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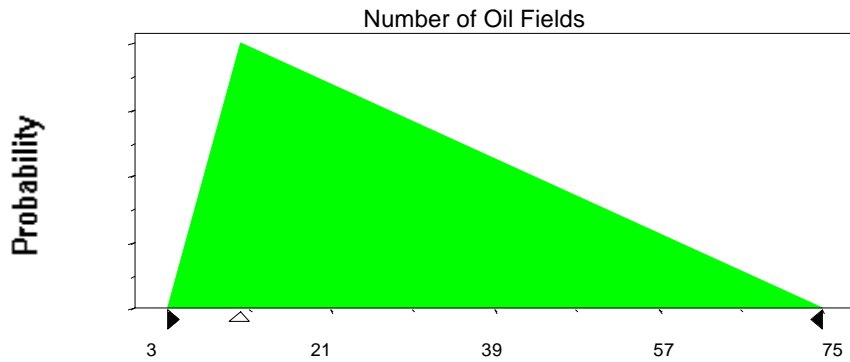
Assumptions

Assumption: Number of Oil Fields

Triangular distribution with parameters:

Minimum	3
Likeliest	11
Maximum	75

Selected range is from 3 to 75
Mean value in simulation was 30



Assumption: Sizes of Oil Fields

Lognormal distribution with parameters:

Mean	51.38
Standard Deviation	71.44

Shifted parameters

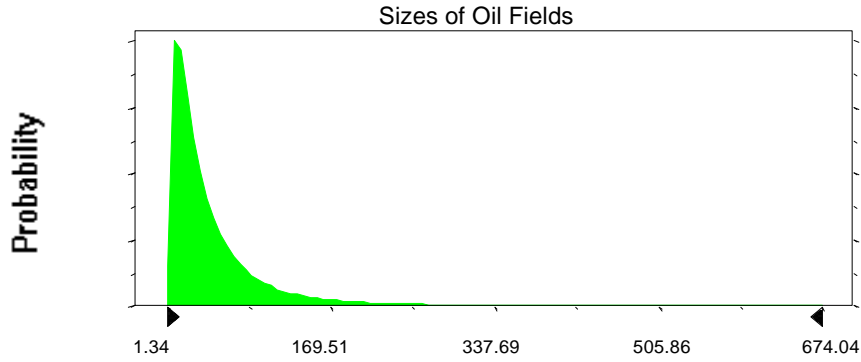
61.38
71.44

Selected range is from 0.00 to 740.00
Mean value in simulation was 50.53

10.00 to 750.00
60.53

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Assumption: Sizes of Oil Fields (cont'd)



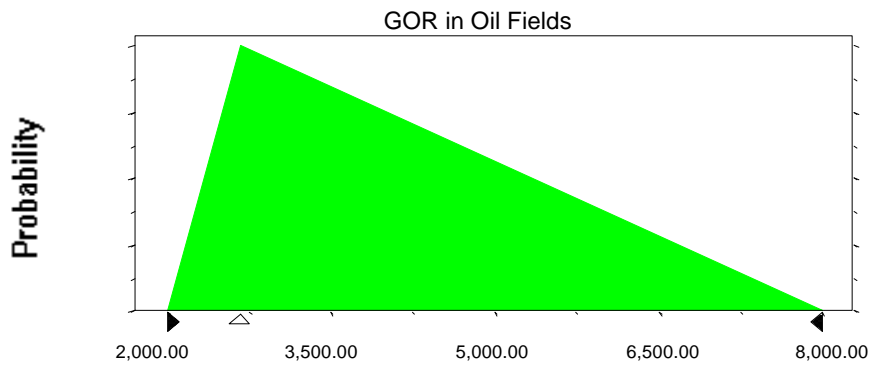
Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	2,000.00
Likeliest	2,666.67
Maximum	8,000.00

Selected range is from 2,000.00 to 8,000.00

Mean value in simulation was 4,223.44



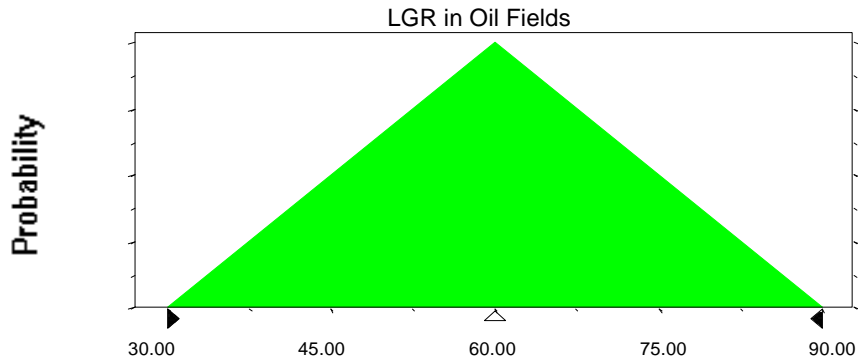
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Assumption: LGR in Oil Fields

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 60.08



Assumption: Number of Gas Fields

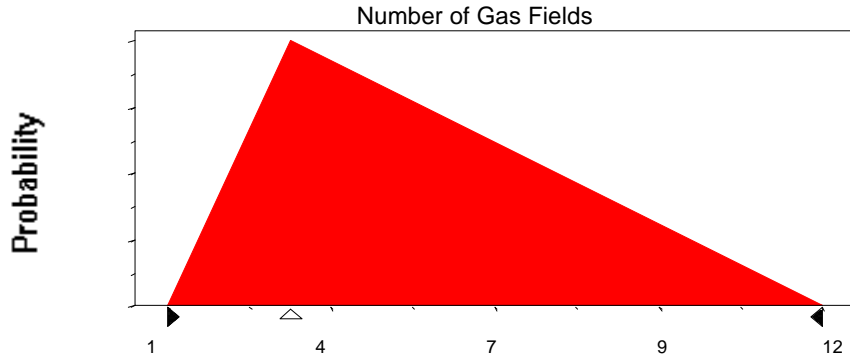
Triangular distribution with parameters:

Minimum	1
Likeliest	3
Maximum	12

Selected range is from 1 to 12
Mean value in simulation was 5

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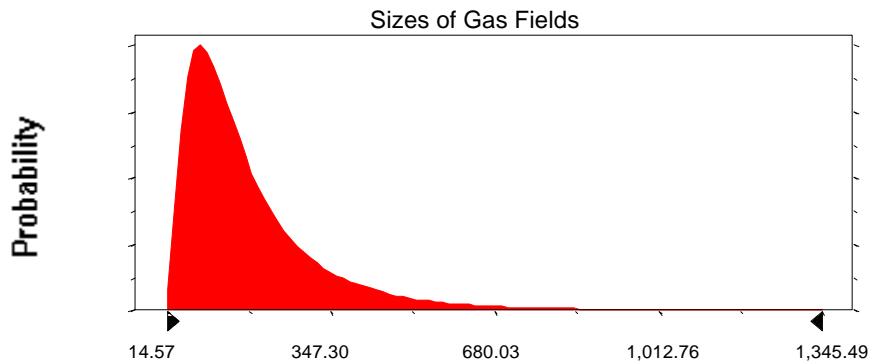
Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:	Shifted parameters	
Mean	186.07	246.07
Standard Deviation	162.89	162.89

Selected range is from 0.00 to 1,440.00 60.00 to 1,500.00
Mean value in simulation was 183.32 243.32



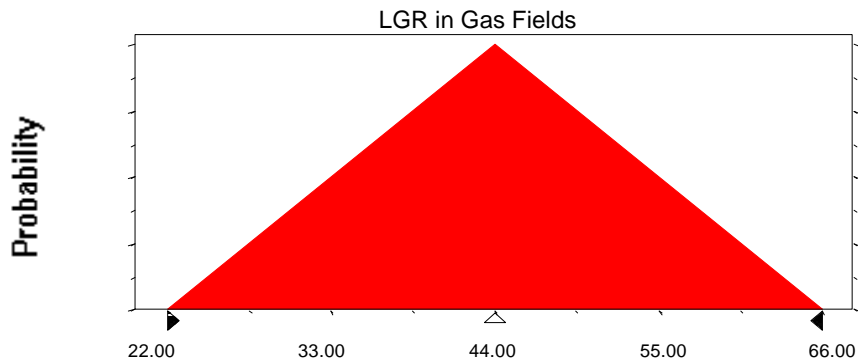
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Assumption: LGR in Gas Fields

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 43.99



End of Assumptions

Simulation started on 7/13/99 at 14:42:32
Simulation stopped on 7/13/99 at 15:08:43