

Late Jurassic/Early Cretaceous-Mesozoic, Assessment Unit 39130101
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	15	1.00	229	855	2,606	1,055	670	2,536	7,930	3,163	38	148	488	190	61	260	1,312	408
Gas Fields	90						4,176	14,579	37,731	16,930	173	623	1,717	745	885	3,459	14,616	4,935
Total		1.00	229	855	2,606	1,055	4,846	17,114	45,661	20,093	211	771	2,205	934				

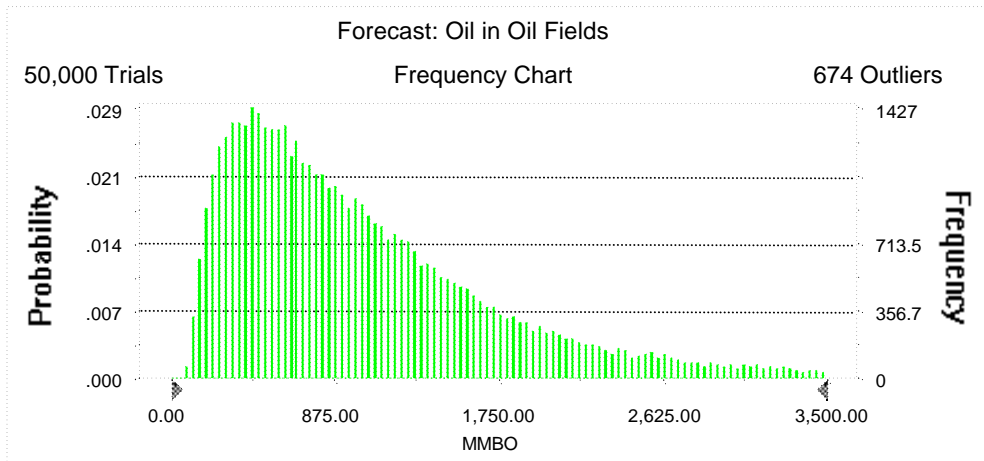
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Forecast: Oil in Oil Fields

Summary:

Display range is from 0.00 to 3,500.00 MMBO
Entire range is from 69.17 to 7,073.13 MMBO
After 50,000 trials, the standard error of the mean is 3.45

Statistics:	Value
Trials	50000
Mean	1,055.47
Median	855.11
Mode	---
Standard Deviation	771.75
Variance	595,593.65
Skewness	1.63
Kurtosis	6.70
Coefficient of Variability	0.73
Range Minimum	69.17
Range Maximum	7,073.13
Range Width	7,003.95
Mean Standard Error	3.45



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Forecast: Oil in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	69.17
95%	228.99
90%	301.10
85%	367.48
80%	431.35
75%	493.53
70%	559.30
65%	625.61
60%	697.53
55%	774.08
50%	855.11
45%	944.14
40%	1,038.16
35%	1,142.85
30%	1,259.20
25%	1,393.40
20%	1,555.59
15%	1,767.53
10%	2,070.67
5%	2,605.91
0%	7,073.13

End of Forecast

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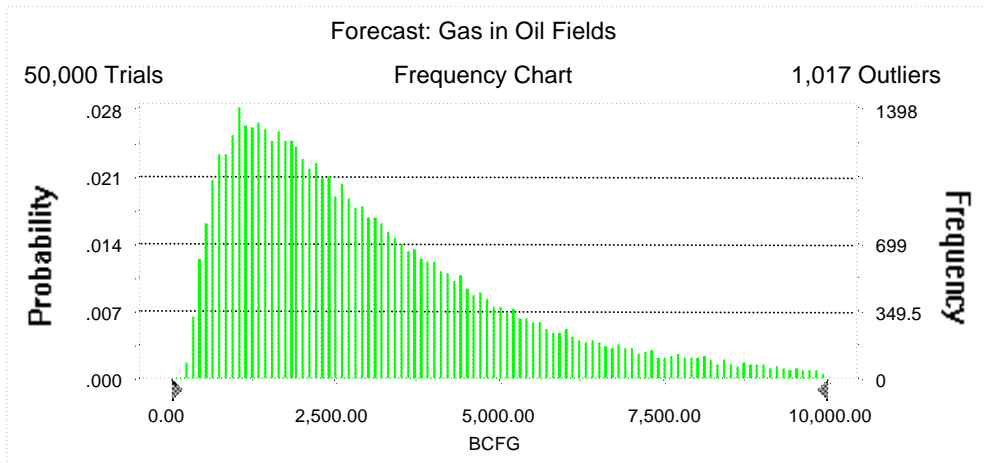
Forecast: Gas in Oil Fields

Summary:

Display range is from 0.00 to 10,000.00 BCFG
 Entire range is from 186.11 to 22,710.96 BCFG
 After 50,000 trials, the standard error of the mean is 10.60

Statistics:

	<u>Value</u>
Trials	50000
Mean	3,162.63
Median	2,535.67
Mode	---
Standard Deviation	2,370.45
Variance	5,619,044.71
Skewness	1.72
Kurtosis	7.25
Coefficient of Variability	0.75
Range Minimum	186.11
Range Maximum	22,710.96
Range Width	22,524.85
Mean Standard Error	10.60



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Forecast: Gas in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	186.11
95%	669.95
90%	886.48
85%	1,075.79
80%	1,267.17
75%	1,453.86
70%	1,657.22
65%	1,854.57
60%	2,069.26
55%	2,294.77
50%	2,535.67
45%	2,796.50
40%	3,081.60
35%	3,395.15
30%	3,751.51
25%	4,163.70
20%	4,653.26
15%	5,305.35
10%	6,240.03
5%	7,930.42
0%	22,710.96

End of Forecast

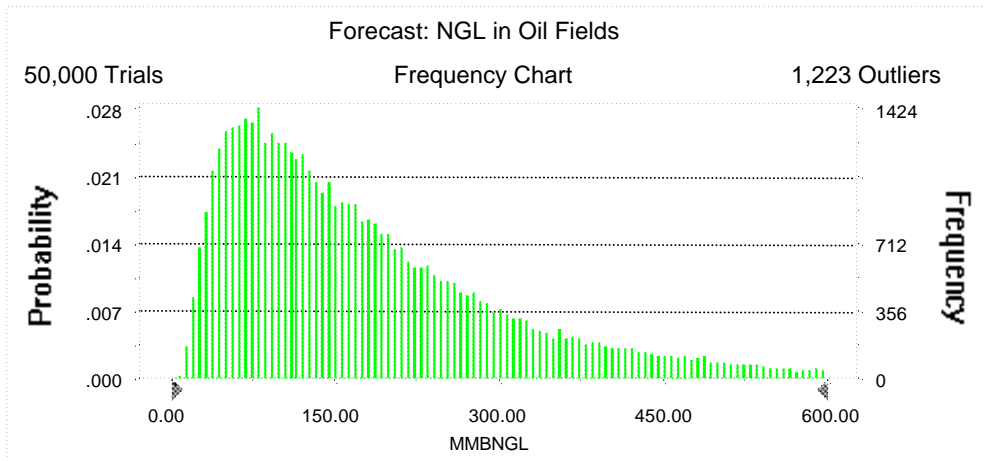
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Forecast: NGL in Oil Fields

Summary:

Display range is from 0.00 to 600.00 MMBNGL
Entire range is from 8.05 to 1,934.56 MMBNGL
After 50,000 trials, the standard error of the mean is 0.68

Statistics:	Value
Trials	50000
Mean	189.79
Median	148.27
Mode	---
Standard Deviation	151.19
Variance	22,859.92
Skewness	2.01
Kurtosis	9.65
Coefficient of Variability	0.80
Range Minimum	8.05
Range Maximum	1,934.56
Range Width	1,926.51
Mean Standard Error	0.68



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Forecast: NGL in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	8.05
95%	37.81
90%	50.38
85%	61.73
80%	72.89
75%	83.54
70%	95.39
65%	107.39
60%	120.26
55%	133.52
50%	148.27
45%	164.29
40%	181.44
35%	200.28
30%	222.32
25%	248.55
20%	279.45
15%	320.58
10%	382.70
5%	487.52
0%	1,934.56

End of Forecast

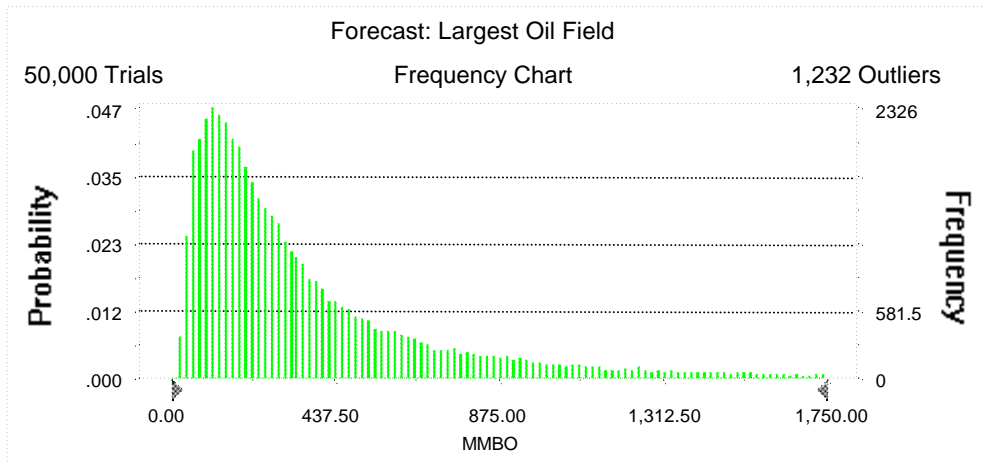
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Forecast: Largest Oil Field

Summary:

Display range is from 0.00 to 1,750.00 MMBO
 Entire range is from 19.33 to 2,997.17 MMBO
 After 50,000 trials, the standard error of the mean is 1.95

Statistics:	<u>Value</u>
Trials	50000
Mean	408.38
Median	259.63
Mode	---
Standard Deviation	436.44
Variance	190,480.76
Skewness	2.54
Kurtosis	10.83
Coefficient of Variability	1.07
Range Minimum	19.33
Range Maximum	2,997.17
Range Width	2,977.85
Mean Standard Error	1.95



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Forecast: Largest Oil Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	19.33
95%	61.15
90%	82.15
85%	102.33
80%	120.77
75%	140.40
70%	160.30
65%	181.88
60%	204.92
55%	230.93
50%	259.63
45%	290.78
40%	328.52
35%	372.21
30%	426.60
25%	495.29
20%	587.29
15%	714.37
10%	920.35
5%	1,312.30
0%	2,997.17

End of Forecast

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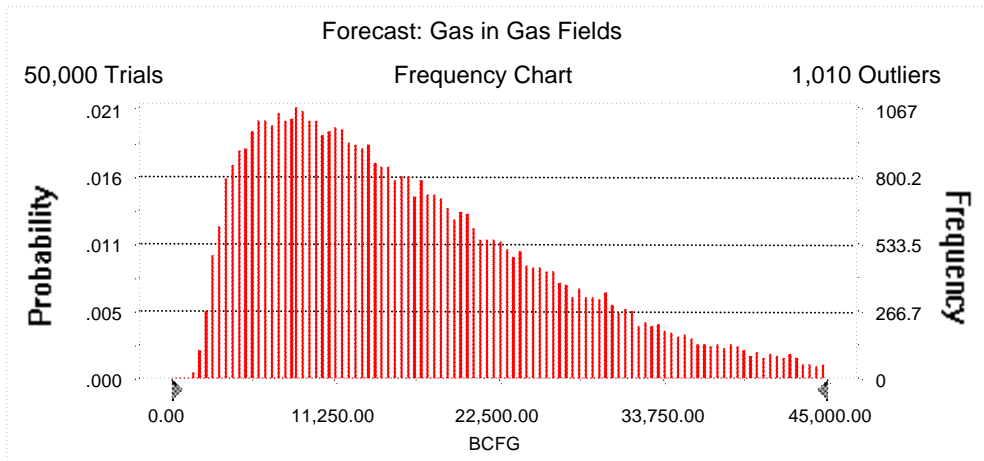
Forecast: Gas in Gas Fields

Summary:

Display range is from 0.00 to 45,000.00 BCFG
 Entire range is from 1,421.31 to 91,386.77 BCFG
 After 50,000 trials, the standard error of the mean is 47.84

Statistics:

	<u>Value</u>
Trials	50000
Mean	16,930.14
Median	14,578.64
Mode	---
Standard Deviation	10,698.07
Variance	114,448,674.64
Skewness	1.18
Kurtosis	4.70
Coefficient of Variability	0.63
Range Minimum	1,421.31
Range Maximum	91,386.77
Range Width	89,965.46
Mean Standard Error	47.84



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Forecast: Gas in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	1,421.31
95%	4,176.39
90%	5,433.42
85%	6,560.74
80%	7,653.27
75%	8,744.13
70%	9,819.19
65%	10,980.71
60%	12,100.74
55%	13,314.49
50%	14,578.64
45%	15,969.90
40%	17,430.80
35%	18,988.65
30%	20,720.40
25%	22,745.65
20%	25,053.75
15%	27,897.92
10%	31,523.87
5%	37,730.81
0%	91,386.77

End of Forecast

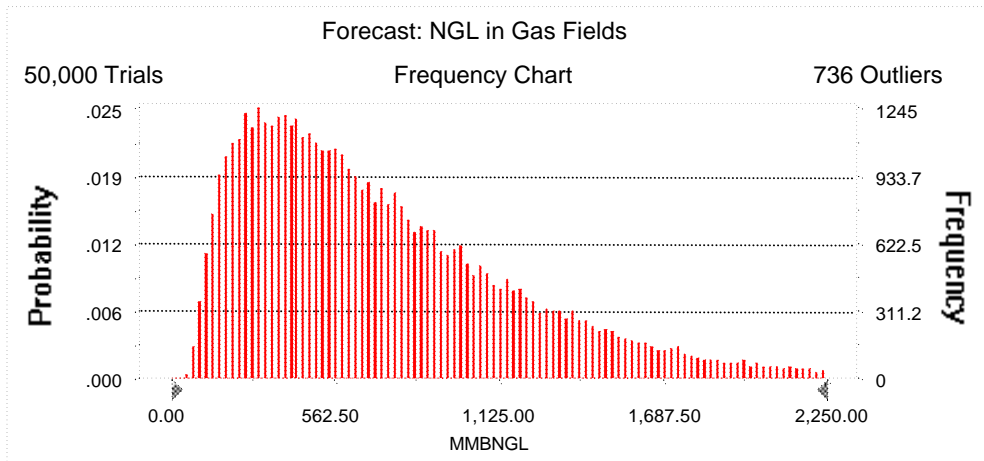
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Forecast: NGL in Gas Fields

Summary:

Display range is from 0.00 to 2,250.00 MMBNGL
 Entire range is from 36.91 to 4,543.79 MMBNGL
 After 50,000 trials, the standard error of the mean is 2.25

Statistics:	<u>Value</u>
Trials	50000
Mean	744.54
Median	622.92
Mode	---
Standard Deviation	503.44
Variance	253,453.65
Skewness	1.41
Kurtosis	5.79
Coefficient of Variability	0.68
Range Minimum	36.91
Range Maximum	4,543.79
Range Width	4,506.89
Mean Standard Error	2.25



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Forecast: NGL in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	36.91
95%	173.30
90%	226.65
85%	274.53
80%	321.73
75%	369.76
70%	416.20
65%	464.24
60%	514.94
55%	568.30
50%	622.92
45%	684.75
40%	751.14
35%	821.38
30%	902.45
25%	995.53
20%	1,103.12
15%	1,239.27
10%	1,421.65
5%	1,717.30
0%	4,543.79

End of Forecast

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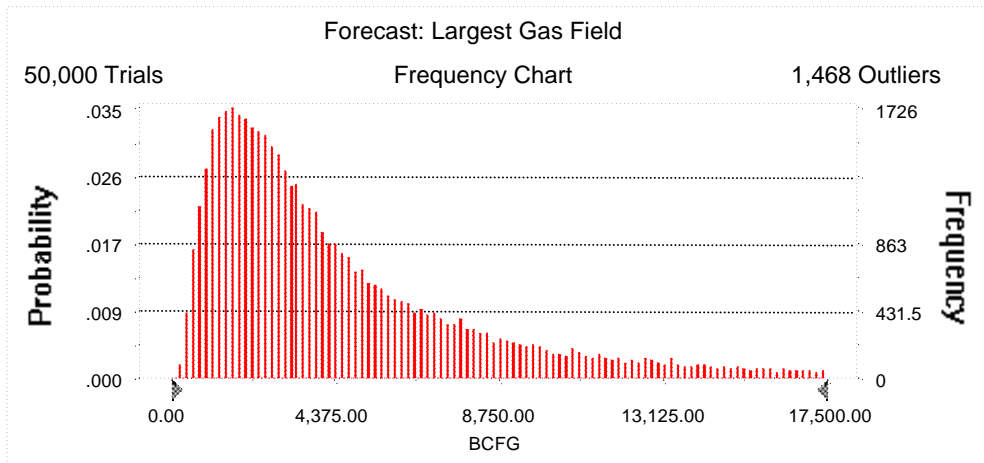
Forecast: Largest Gas Field

Summary:

Display range is from 0.00 to 17,500.00 BCFG
 Entire range is from 197.41 to 24,999.82 BCFG
 After 50,000 trials, the standard error of the mean is 19.74

Statistics:

	<u>Value</u>
Trials	50000
Mean	4,935.21
Median	3,458.79
Mode	---
Standard Deviation	4,413.85
Variance	19,482,058.61
Skewness	1.89
Kurtosis	6.78
Coefficient of Variability	0.89
Range Minimum	197.41
Range Maximum	24,999.82
Range Width	24,802.41
Mean Standard Error	19.74



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Forecast: Largest Gas Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	197.41
95%	884.70
90%	1,183.64
85%	1,448.45
80%	1,704.58
75%	1,958.35
70%	2,229.46
65%	2,505.65
60%	2,793.88
55%	3,106.11
50%	3,458.79
45%	3,853.15
40%	4,309.08
35%	4,838.39
30%	5,484.22
25%	6,302.40
20%	7,330.07
15%	8,685.25
10%	10,823.68
5%	14,616.40
0%	24,999.82

End of Forecast

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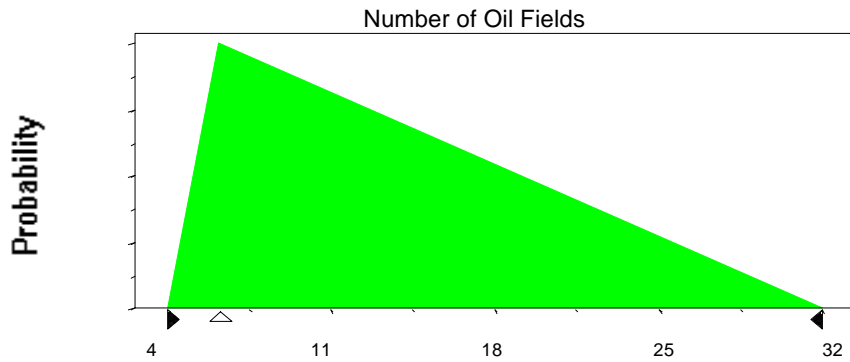
Assumptions

Assumption: Number of Oil Fields

Triangular distribution with parameters:

Minimum	4
Likeliest	6
Maximum	32

Selected range is from 4 to 32
Mean value in simulation was 14



Assumption: Sizes of Oil Fields

Lognormal distribution with parameters:

Mean	65.06
Standard Deviation	274.58

Shifted parameters

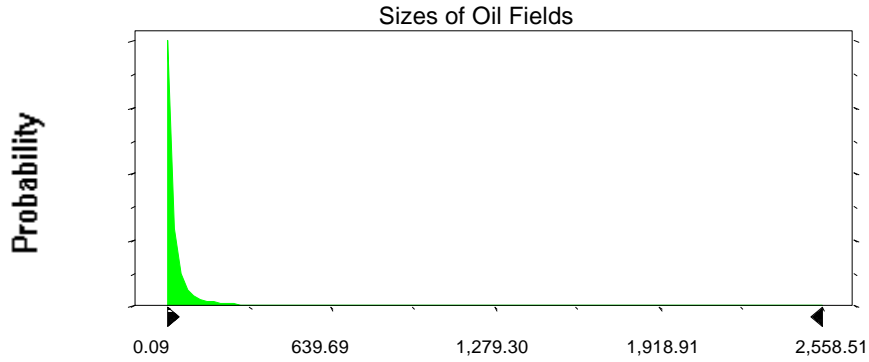
80.06
274.58

Selected range is from 0.00 to 2,985.00
Mean value in simulation was 59.89

15.00 to 3,000.00
74.89

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Assumption: Sizes of Oil Fields (cont'd)



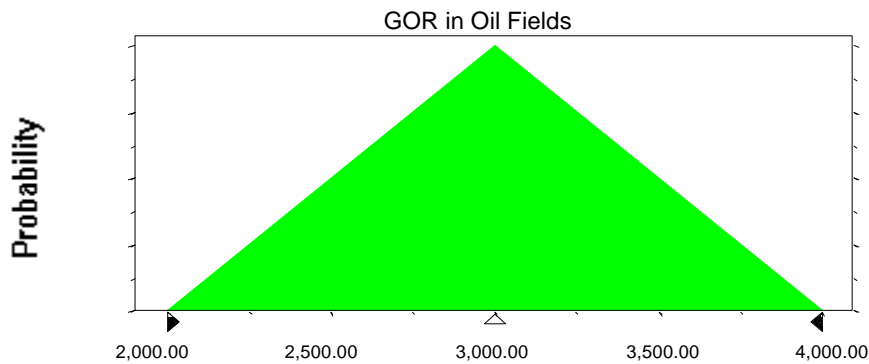
Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	2,000.00
Likeliest	3,000.00
Maximum	4,000.00

Selected range is from 2,000.00 to 4,000.00

Mean value in simulation was 2,997.51



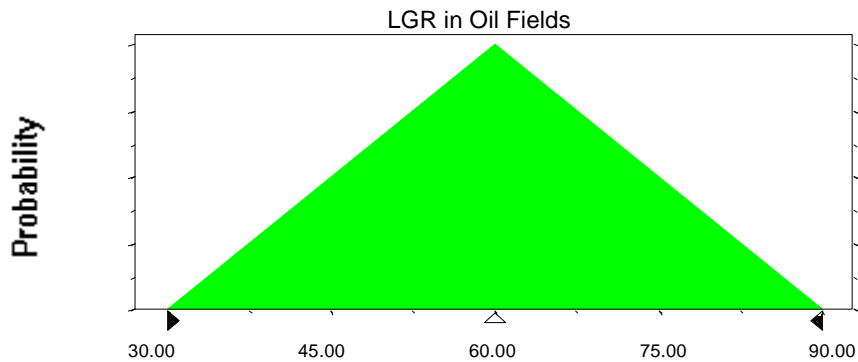
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Assumption: LGR in Oil Fields

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 59.97



Assumption: Number of Gas Fields

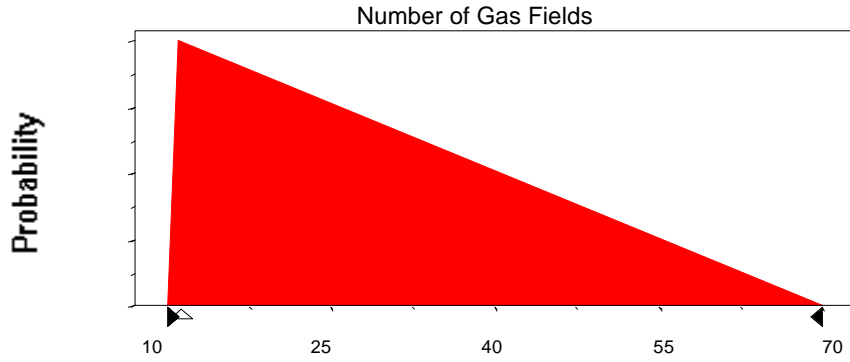
Triangular distribution with parameters:

Minimum	10
Likeliest	11
Maximum	70

Selected range is from 10 to 70
Mean value in simulation was 30

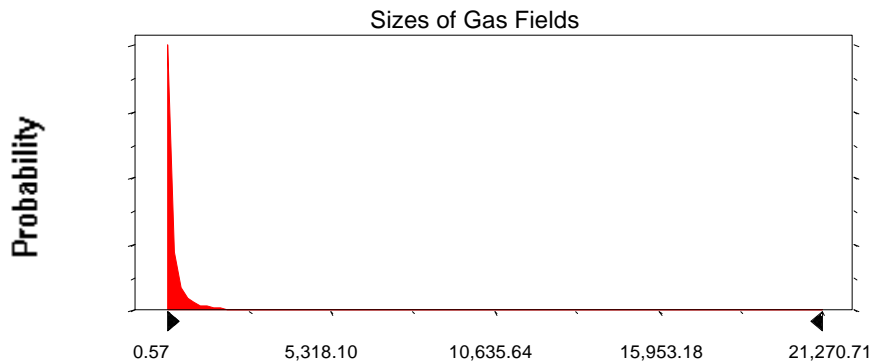
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Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	512.99	602.99
Standard Deviation	2,336.73	2,336.73
Selected range is from 0.00 to 24,910.00		90.00 to 25,000.00
Mean value in simulation was 473.08		563.08



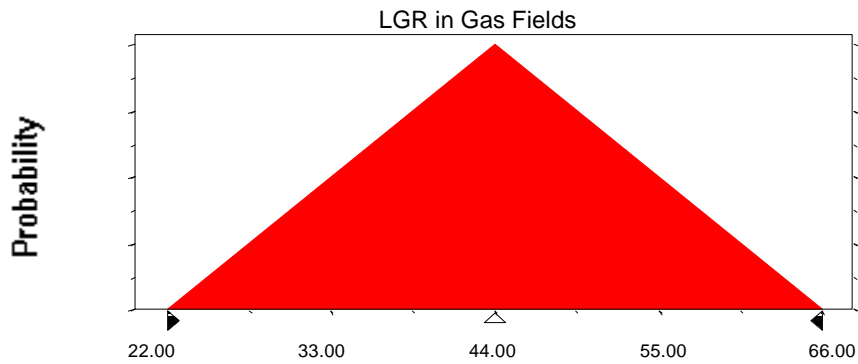
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Assumption: LGR in Gas Fields

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 44.01



End of Assumptions

Simulation started on 2/24/99 at 15:28:19
Simulation stopped on 2/24/99 at 15:56:17