

**Lower Volga, Assessment Unit 10150102
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	1	1.00	69	145	240	148	48	107	201	114	3	6	13	7	10	22	56	26
Gas Fields	6						188	422	782	444	5	13	26	14	38	93	276	116
Total		1.00	69	145	240	148	236	529	983	558	8	19	39	21				

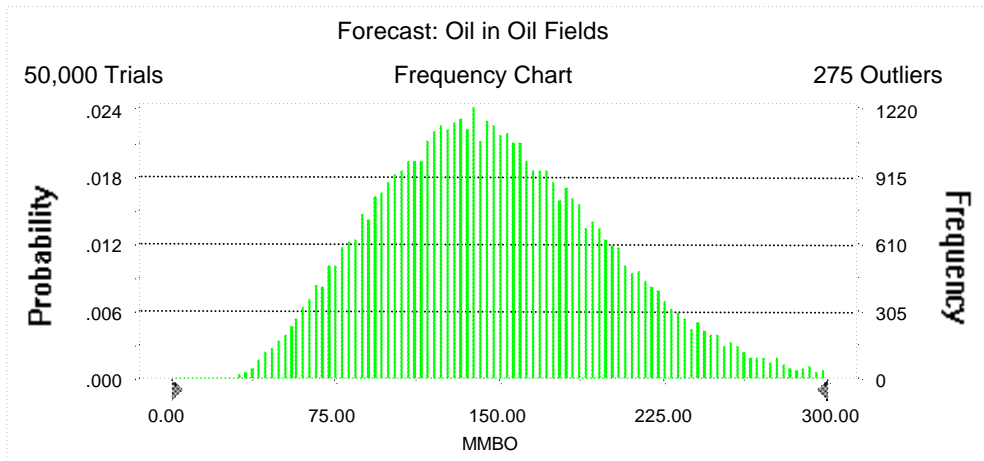
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Forecast: Oil in Oil Fields

Summary:

Display range is from 0.00 to 300.00 MMBO
Entire range is from 22.06 to 443.75 MMBO
After 50,000 trials, the standard error of the mean is 0.23

Statistics:	Value
Trials	50000
Mean	148.44
Median	144.51
Mode	---
Standard Deviation	52.14
Variance	2,718.29
Skewness	0.46
Kurtosis	3.21
Coefficient of Variability	0.35
Range Minimum	22.06
Range Maximum	443.75
Range Width	421.68
Mean Standard Error	0.23



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Forecast: Oil in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	22.06
95%	69.29
90%	83.42
85%	94.10
80%	102.81
75%	110.74
70%	118.29
65%	124.94
60%	131.51
55%	138.02
50%	144.51
45%	151.19
40%	157.97
35%	165.25
30%	173.29
25%	182.07
20%	191.65
15%	203.05
10%	217.62
5%	240.35
0%	443.75

End of Forecast

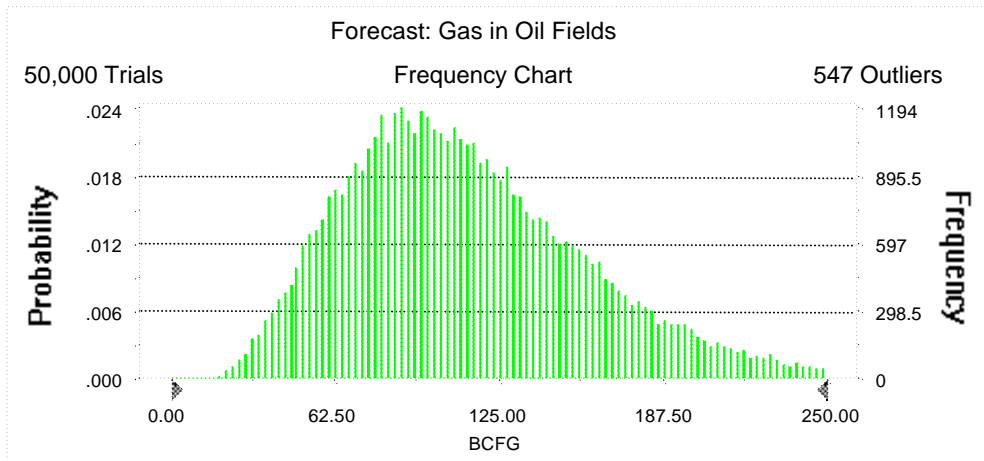
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Forecast: Gas in Oil Fields

Summary:

Display range is from 0.00 to 250.00 BCFG
Entire range is from 13.46 to 431.28 BCFG
After 50,000 trials, the standard error of the mean is 0.21

Statistics:	Value
Trials	50000
Mean	113.70
Median	107.10
Mode	---
Standard Deviation	47.56
Variance	2,261.65
Skewness	0.82
Kurtosis	3.96
Coefficient of Variability	0.42
Range Minimum	13.46
Range Maximum	431.28
Range Width	417.82
Mean Standard Error	0.21



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Forecast: Gas in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	13.46
95%	48.12
90%	58.40
85%	66.23
80%	73.14
75%	79.29
70%	85.03
65%	90.30
60%	95.84
55%	101.28
50%	107.10
45%	112.98
40%	119.07
35%	125.73
30%	132.97
25%	141.47
20%	151.15
15%	162.27
10%	177.44
5%	201.34
0%	431.28

End of Forecast

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Forecast: NGL in Oil Fields

Summary:

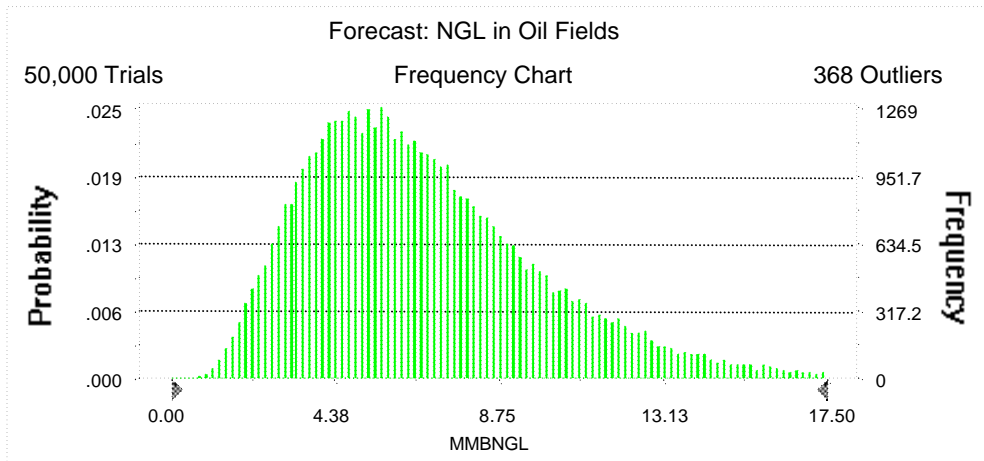
Display range is from 0.00 to 17.50 MMBNGL

Entire range is from 0.77 to 31.06 MMBNGL

After 50,000 trials, the standard error of the mean is 0.01

Statistics:

	<u>Value</u>
Trials	50000
Mean	6.82
Median	6.27
Mode	---
Standard Deviation	3.24
Variance	10.50
Skewness	1.07
Kurtosis	4.78
Coefficient of Variability	0.47
Range Minimum	0.77
Range Maximum	31.06
Range Width	30.28
Mean Standard Error	0.01



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Forecast: NGL in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	0.77
95%	2.61
90%	3.21
85%	3.68
80%	4.09
75%	4.46
70%	4.82
65%	5.18
60%	5.54
55%	5.89
50%	6.27
45%	6.67
40%	7.08
35%	7.51
30%	8.02
25%	8.58
20%	9.24
15%	10.06
10%	11.16
5%	12.87
0%	31.06

End of Forecast

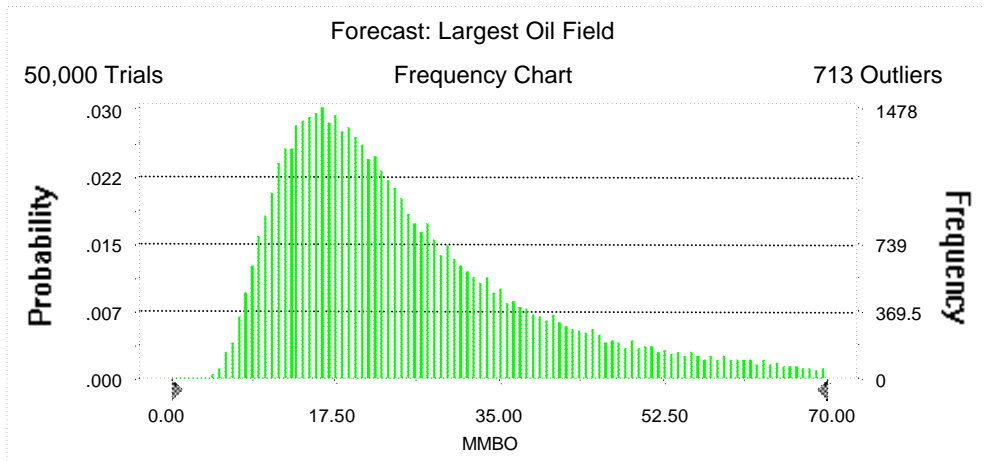
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Forecast: Largest Oil Field

Summary:

Display range is from 0.00 to 70.00 MMBO
Entire range is from 3.42 to 79.99 MMBO
After 50,000 trials, the standard error of the mean is 0.06

Statistics:	Value
Trials	50000
Mean	25.65
Median	21.84
Mode	---
Standard Deviation	14.22
Variance	202.17
Skewness	1.31
Kurtosis	4.56
Coefficient of Variability	0.55
Range Minimum	3.42
Range Maximum	79.99
Range Width	76.56
Mean Standard Error	0.06



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Forecast: Largest Oil Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	3.42
95%	9.68
90%	11.48
85%	12.90
80%	14.18
75%	15.42
70%	16.61
65%	17.85
60%	19.13
55%	20.42
50%	21.84
45%	23.33
40%	25.03
35%	27.04
30%	29.34
25%	32.02
20%	35.35
15%	39.76
10%	45.80
5%	55.89
0%	79.99

End of Forecast

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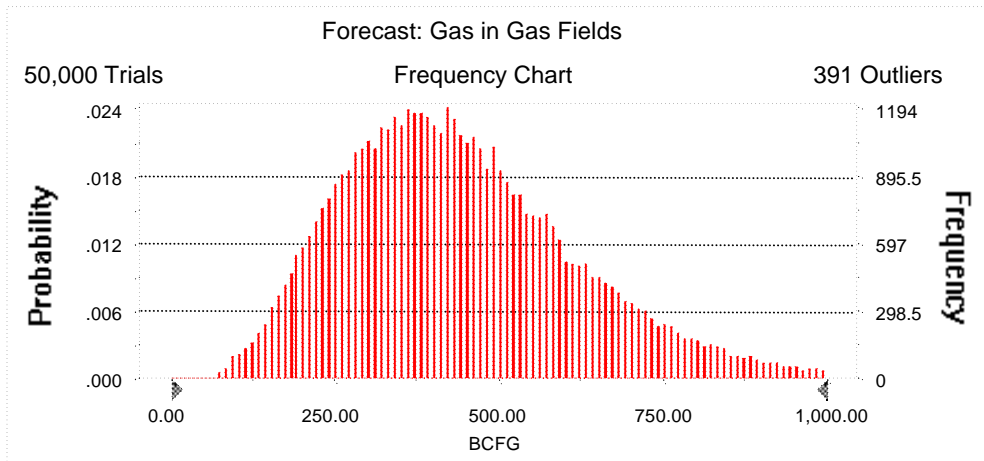
Forecast: Gas in Gas Fields

Summary:

Display range is from 0.00 to 1,000.00 BCFG
Entire range is from 52.92 to 1,563.35 BCFG
After 50,000 trials, the standard error of the mean is 0.82

Statistics:

	<u>Value</u>
Trials	50000
Mean	444.44
Median	422.14
Mode	---
Standard Deviation	183.30
Variance	33,600.52
Skewness	0.77
Kurtosis	3.80
Coefficient of Variability	0.41
Range Minimum	52.92
Range Maximum	1,563.35
Range Width	1,510.44
Mean Standard Error	0.82



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Forecast: Gas in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	52.92
95%	187.64
90%	229.06
85%	260.22
80%	287.03
75%	311.17
70%	334.53
65%	356.77
60%	378.00
55%	399.46
50%	422.14
45%	443.50
40%	467.07
35%	492.51
30%	519.62
25%	551.31
20%	586.40
15%	632.43
10%	690.42
5%	781.97
0%	1,563.35

End of Forecast

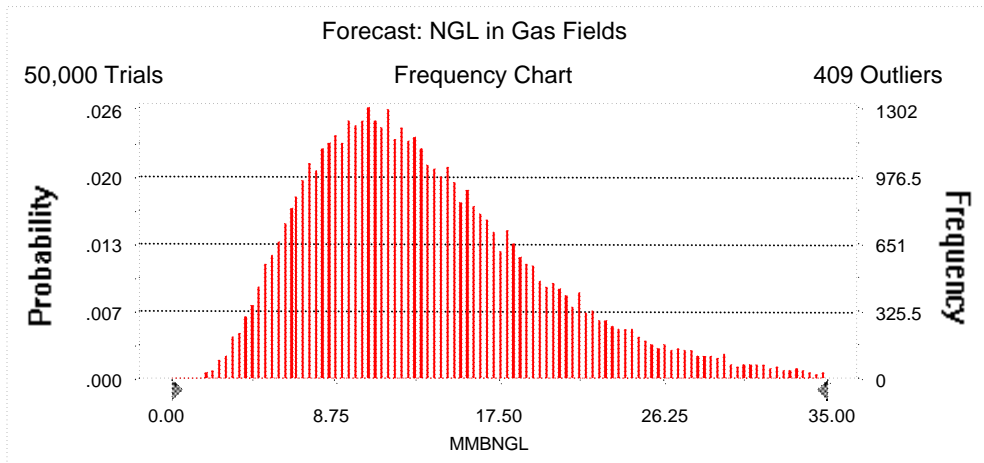
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Forecast: NGL in Gas Fields

Summary:

Display range is from 0.00 to 35.00 MMBNGL
Entire range is from 1.49 to 64.97 MMBNGL
After 50,000 trials, the standard error of the mean is 0.03

Statistics:	<u>Value</u>
Trials	50000
Mean	13.81
Median	12.67
Mode	---
Standard Deviation	6.54
Variance	42.81
Skewness	1.11
Kurtosis	4.97
Coefficient of Variability	0.47
Range Minimum	1.49
Range Maximum	64.97
Range Width	63.48
Mean Standard Error	0.03



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Forecast: NGL in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	1.49
95%	5.32
90%	6.56
85%	7.51
80%	8.35
75%	9.10
70%	9.84
65%	10.55
60%	11.24
55%	11.94
50%	12.67
45%	13.45
40%	14.29
35%	15.16
30%	16.15
25%	17.27
20%	18.57
15%	20.25
10%	22.47
5%	26.23
0%	64.97

End of Forecast

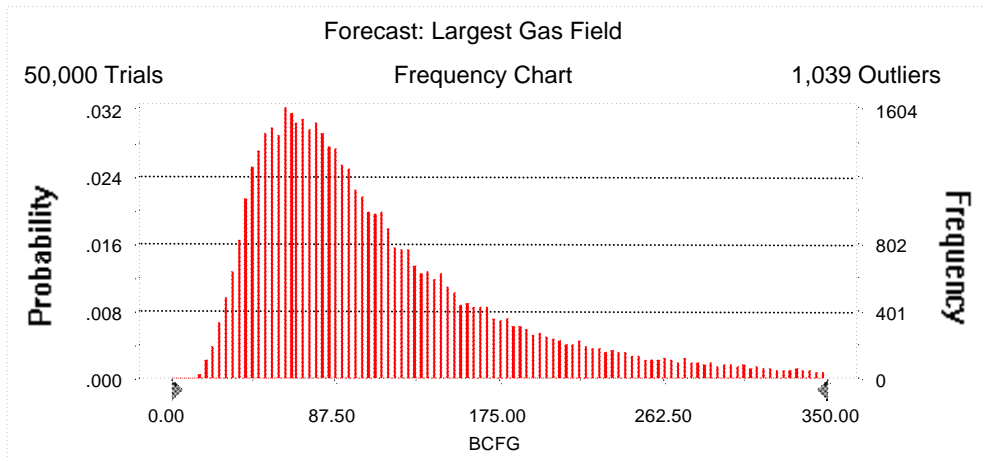
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Forecast: Largest Gas Field

Summary:

Display range is from 0.00 to 350.00 BCFG
Entire range is from 11.43 to 479.99 BCFG
After 50,000 trials, the standard error of the mean is 0.34

Statistics:	Value
Trials	50000
Mean	115.55
Median	93.39
Mode	---
Standard Deviation	76.24
Variance	5,812.37
Skewness	1.75
Kurtosis	6.56
Coefficient of Variability	0.66
Range Minimum	11.43
Range Maximum	479.99
Range Width	468.55
Mean Standard Error	0.34



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Forecast: Largest Gas Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	11.43
95%	38.10
90%	45.64
85%	51.87
80%	57.84
75%	63.53
70%	69.10
65%	74.90
60%	80.71
55%	86.85
50%	93.39
45%	100.61
40%	109.11
35%	118.23
30%	129.46
25%	143.18
20%	160.03
15%	182.37
10%	215.98
5%	276.43
0%	479.99

End of Forecast

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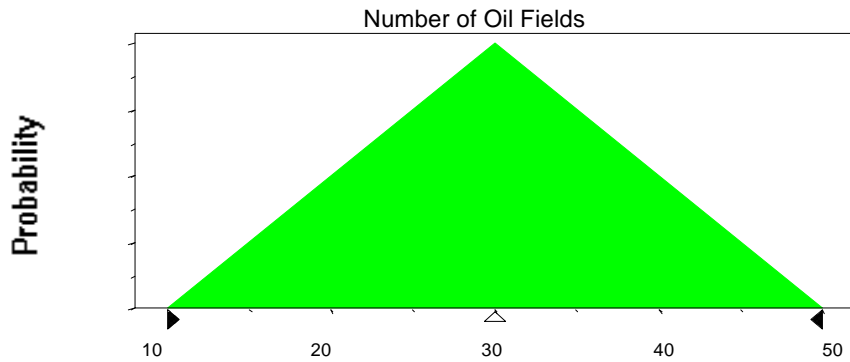
Assumptions

Assumption: Number of Oil Fields

Triangular distribution with parameters:

Minimum	10
Likeliest	30
Maximum	50

Selected range is from 10 to 50
Mean value in simulation was 30



Assumption: Sizes of Oil Fields

Lognormal distribution with parameters:

Mean	4.06
Standard Deviation	7.17

Shifted parameters

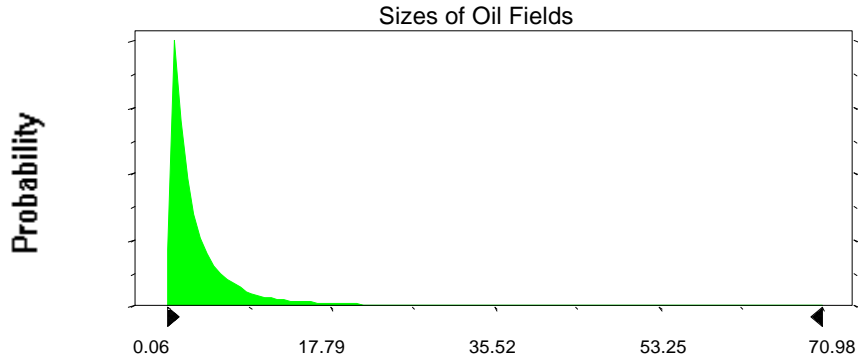
5.06
7.17

Selected range is from 0.00 to 79.00
Mean value in simulation was 3.91

1.00 to 80.00
4.91

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Assumption: Sizes of Oil Fields (cont'd)



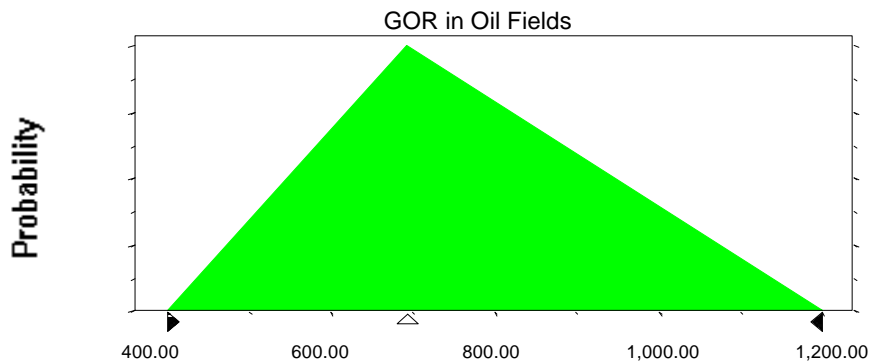
Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	400.00
Likeliest	693.75
Maximum	1,200.00

Selected range is from 400.00 to 1,200.00

Mean value in simulation was 766.17



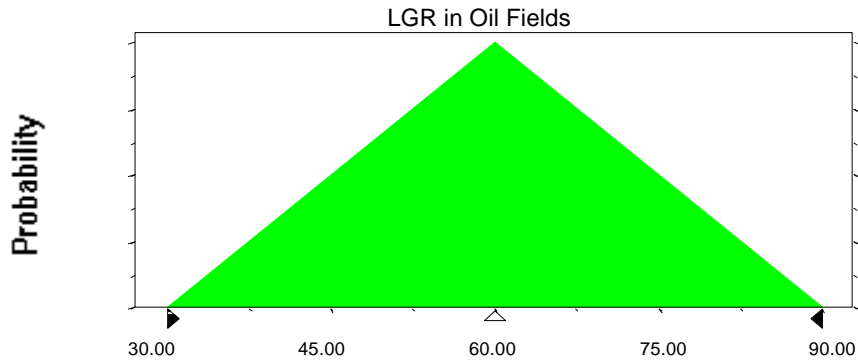
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Assumption: LGR in Oil Fields

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 59.99



Assumption: Number of Gas Fields

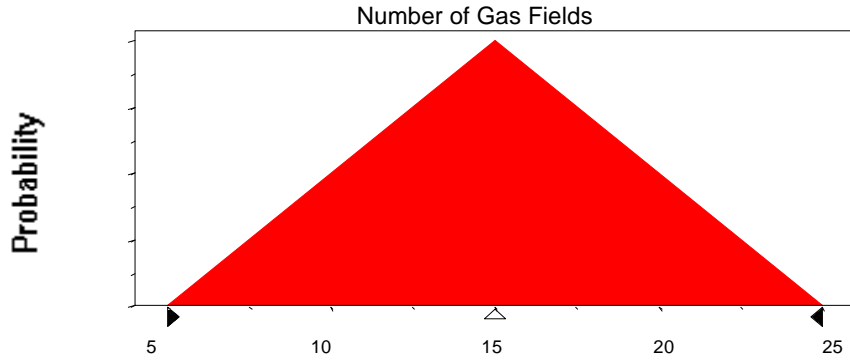
Triangular distribution with parameters:

Minimum	5
Likeliest	15
Maximum	25

Selected range is from 5 to 25
Mean value in simulation was 15

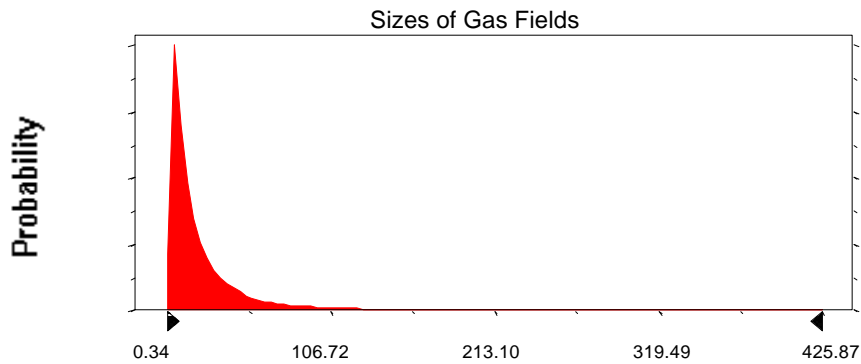
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Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	24.35	30.35
Standard Deviation	43.01	43.01
Selected range is from 0.00 to 474.00		6.00 to 480.00
Mean value in simulation was 23.33		29.33



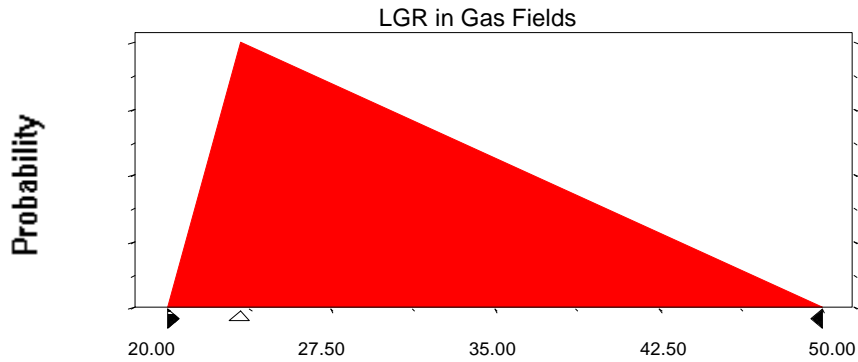
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Assumption: LGR in Gas Fields

Triangular distribution with parameters:

Minimum	20.00
Likeliest	23.33
Maximum	50.00

Selected range is from 20.00 to 50.00
Mean value in simulation was 31.09



End of Assumptions

Simulation started on 1/28/00 at 15:53:21
Simulation stopped on 1/28/00 at 16:17:03