

Central Sirte Carbonates, Assessment Unit 20430102
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	1,711	3,785	6,144	3,840	1,488	3,633	6,946	3,841	88	217	419	231	175	385	825	426
Gas Fields	30						2,467	5,618	11,252	6,076	71	166	347	182	466	1,229	3,671	1,522
Total		1.00	1,711	3,785	6,144	3,840	3,956	9,252	18,198	9,918	159	383	766	413				

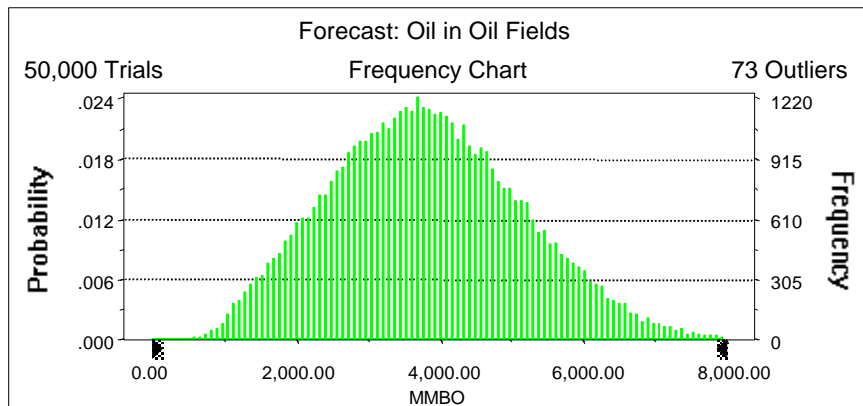
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Forecast: Oil in Oil Fields

Summary:

Display range is from 0.00 to 8,000.00 MMBO
Entire range is from 513.49 to 9,467.40 MMBO
After 50,000 trials, the standard error of the mean is 5.99

Statistics:	Value
Trials	50000
Mean	3,840.02
Median	3,785.21
Mode	---
Standard Deviation	1,338.54
Variance	1,791,689.71
Skewness	0.25
Kurtosis	2.76
Coefficient of Variability	0.35
Range Minimum	513.49
Range Maximum	9,467.40
Range Width	8,953.90
Mean Standard Error	5.99



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Forecast: Oil in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	513.49
95%	1,710.51
90%	2,105.25
85%	2,407.35
80%	2,659.91
75%	2,872.52
70%	3,073.23
65%	3,261.17
60%	3,444.46
55%	3,616.55
50%	3,785.21
45%	3,958.50
40%	4,132.50
35%	4,322.85
30%	4,519.60
25%	4,730.91
20%	4,984.28
15%	5,265.32
10%	5,628.80
5%	6,143.89
0%	9,467.40

End of Forecast

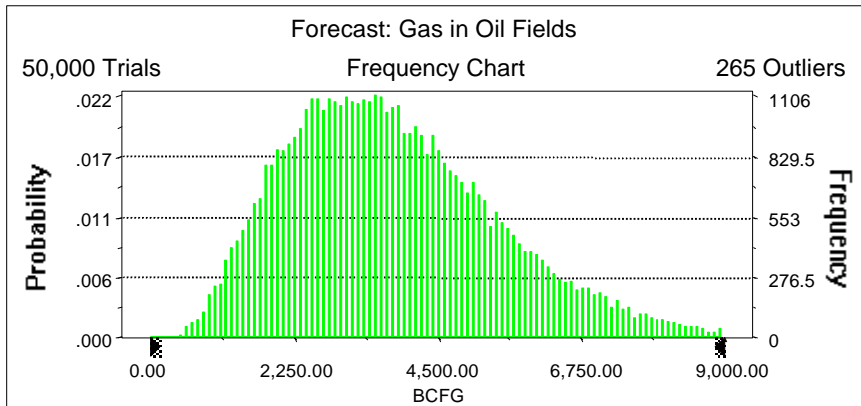
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Forecast: Gas in Oil Fields

Summary:

Display range is from 0.00 to 9,000.00 BCFG
Entire range is from 319.20 to 12,919.86 BCFG
After 50,000 trials, the standard error of the mean is 7.48

Statistics:	Value
Trials	50000
Mean	3,841.40
Median	3,633.33
Mode	---
Standard Deviation	1,672.52
Variance	2,797,337.65
Skewness	0.69
Kurtosis	3.42
Coefficient of Variability	0.44
Range Minimum	319.20
Range Maximum	12,919.86
Range Width	12,600.66
Mean Standard Error	7.48



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Forecast: Gas in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	319.20
95%	1,488.29
90%	1,854.15
85%	2,125.54
80%	2,375.56
75%	2,595.73
70%	2,803.41
65%	3,011.08
60%	3,218.19
55%	3,427.44
50%	3,633.33
45%	3,847.13
40%	4,073.86
35%	4,313.15
30%	4,569.42
25%	4,861.12
20%	5,190.97
15%	5,589.15
10%	6,111.88
5%	6,945.82
0%	12,919.86

End of Forecast

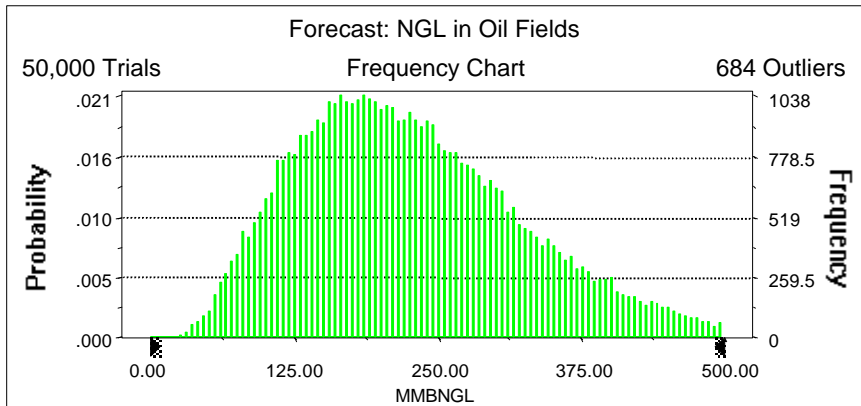
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Forecast: NGL in Oil Fields

Summary:

Display range is from 0.00 to 500.00 MMBNGL
Entire range is from 20.12 to 797.70 MMBNGL
After 50,000 trials, the standard error of the mean is 0.46

Statistics:	Value
Trials	50000
Mean	230.63
Median	217.16
Mode	---
Standard Deviation	101.93
Variance	10,388.93
Skewness	0.73
Kurtosis	3.53
Coefficient of Variability	0.44
Range Minimum	20.12
Range Maximum	797.70
Range Width	777.58
Mean Standard Error	0.46



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Forecast: NGL in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	20.12
95%	88.33
90%	110.73
85%	126.80
80%	141.35
75%	155.15
70%	167.21
65%	179.81
60%	192.03
55%	204.43
50%	217.16
45%	230.36
40%	243.93
35%	258.44
30%	274.60
25%	292.20
20%	311.80
15%	337.10
10%	369.49
5%	419.18
0%	797.70

End of Forecast

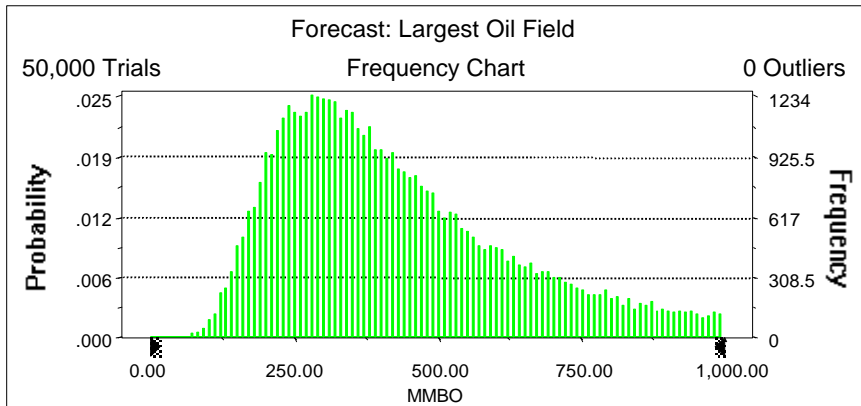
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Forecast: Largest Oil Field

Summary:

Display range is from 0.00 to 1,000.00 MMBO
Entire range is from 62.21 to 999.84 MMBO
After 50,000 trials, the standard error of the mean is 0.88

Statistics:	Value
Trials	50000
Mean	426.34
Median	384.52
Mode	---
Standard Deviation	196.51
Variance	38,616.27
Skewness	0.81
Kurtosis	3.04
Coefficient of Variability	0.46
Range Minimum	62.21
Range Maximum	999.84
Range Width	937.62
Mean Standard Error	0.88



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Forecast: Largest Oil Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	62.21
95%	175.49
90%	208.21
85%	233.05
80%	254.37
75%	276.57
70%	297.17
65%	317.43
60%	338.93
55%	360.81
50%	384.52
45%	409.89
40%	437.23
35%	467.16
30%	500.56
25%	539.86
20%	588.99
15%	646.32
10%	719.57
5%	825.33
0%	999.84

End of Forecast

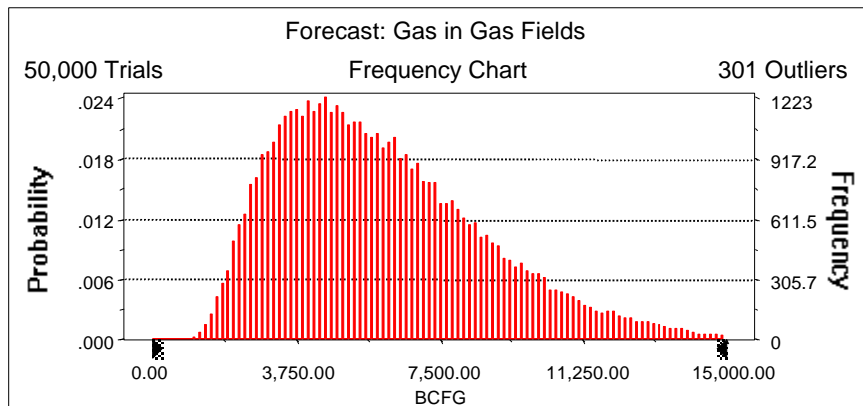
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Forecast: Gas in Gas Fields

Summary:

Display range is from 0.00 to 15,000.00 BCFG
Entire range is from 781.06 to 23,283.53 BCFG
After 50,000 trials, the standard error of the mean is 12.34

Statistics:	Value
Trials	50000
Mean	6,076.15
Median	5,618.19
Mode	---
Standard Deviation	2,759.19
Variance	7,613,144.52
Skewness	0.91
Kurtosis	3.97
Coefficient of Variability	0.45
Range Minimum	781.06
Range Maximum	23,283.53
Range Width	22,502.47
Mean Standard Error	12.34



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Forecast: Gas in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	781.06
95%	2,467.25
90%	2,936.75
85%	3,324.07
80%	3,658.69
75%	3,982.08
70%	4,300.60
65%	4,614.66
60%	4,935.18
55%	5,269.30
50%	5,618.19
45%	5,976.36
40%	6,354.34
35%	6,751.18
30%	7,191.16
25%	7,688.60
20%	8,256.36
15%	8,942.19
10%	9,852.47
5%	11,252.09
0%	23,283.53

End of Forecast

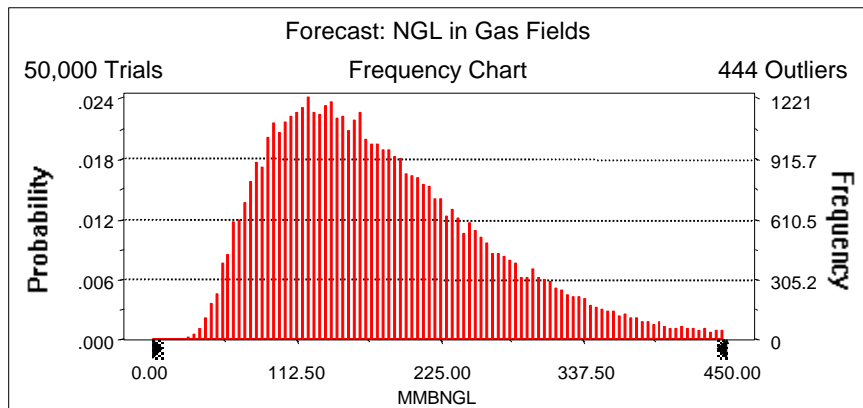
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Forecast: NGL in Gas Fields

Summary:

Display range is from 0.00 to 450.00 MMBNGL
Entire range is from 23.15 to 793.29 MMBNGL
After 50,000 trials, the standard error of the mean is 0.39

Statistics:	Value
Trials	50000
Mean	182.28
Median	166.15
Mode	---
Standard Deviation	87.15
Variance	7,595.06
Skewness	1.03
Kurtosis	4.45
Coefficient of Variability	0.48
Range Minimum	23.15
Range Maximum	793.29
Range Width	770.14
Mean Standard Error	0.39



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Forecast: NGL in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	23.15
95%	70.78
90%	85.15
85%	96.80
80%	107.22
75%	117.13
70%	126.52
65%	136.26
60%	145.96
55%	156.03
50%	166.15
45%	177.36
40%	188.97
35%	201.65
30%	215.32
25%	231.05
20%	249.50
15%	271.50
10%	301.43
5%	346.57
0%	793.29

End of Forecast

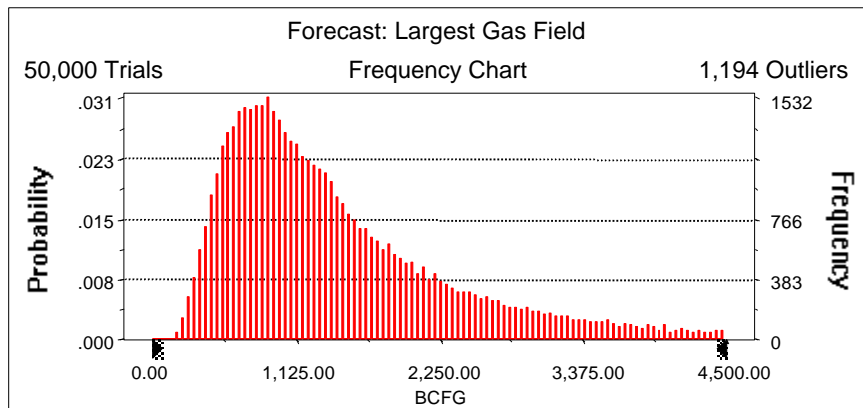
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Forecast: Largest Gas Field

Summary:

Display range is from 0.00 to 4,500.00 BCFG
Entire range is from 129.14 to 5,997.26 BCFG
After 50,000 trials, the standard error of the mean is 4.56

Statistics:	Value
Trials	50000
Mean	1,521.92
Median	1,228.63
Mode	---
Standard Deviation	1,018.63
Variance	1,037,608.61
Skewness	1.63
Kurtosis	5.91
Coefficient of Variability	0.67
Range Minimum	129.14
Range Maximum	5,997.26
Range Width	5,868.12
Mean Standard Error	4.56



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Forecast: Largest Gas Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	129.14
95%	466.15
90%	572.85
85%	658.81
80%	737.56
75%	813.70
70%	889.34
65%	963.91
60%	1,044.83
55%	1,132.77
50%	1,228.63
45%	1,330.15
40%	1,438.27
35%	1,569.95
30%	1,727.32
25%	1,911.23
20%	2,145.78
15%	2,451.32
10%	2,894.72
5%	3,670.71
0%	5,997.26

End of Forecast

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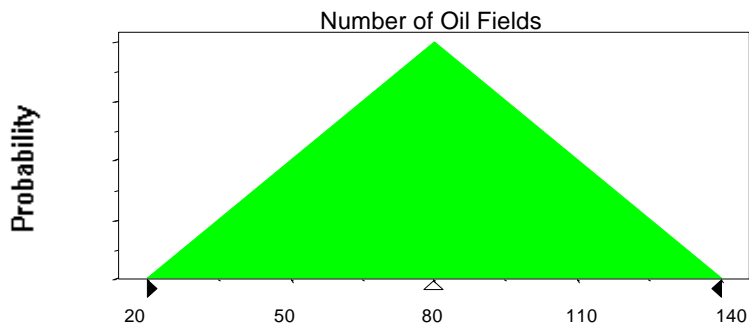
Assumptions

Assumption: Number of Oil Fields

Triangular distribution with parameters:

Minimum	20
Likeliest	80
Maximum	140

Selected range is from 20 to 140
Mean value in simulation was 80



Assumption: Sizes of Oil Fields

Lognormal distribution with parameters:

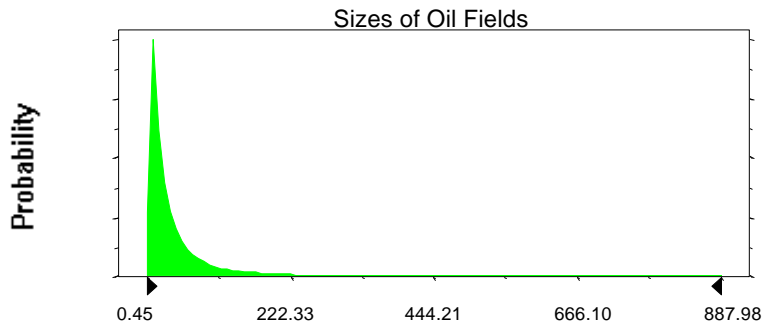
Mean	44.48	49.48
Standard Deviation	88.37	88.37

Shifted parameters

Selected range is from 0.00 to 995.00 5.00 to 1,000.00
Mean value in simulation was 42.76 47.76

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Assumption: Sizes of Oil Fields (cont'd)



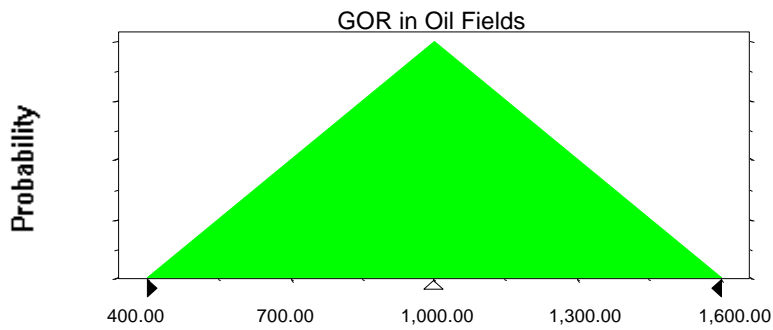
Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	400.00
Likeliest	1,000.00
Maximum	1,600.00

Selected range is from 400.00 to 1,600.00

Mean value in simulation was 1,000.21



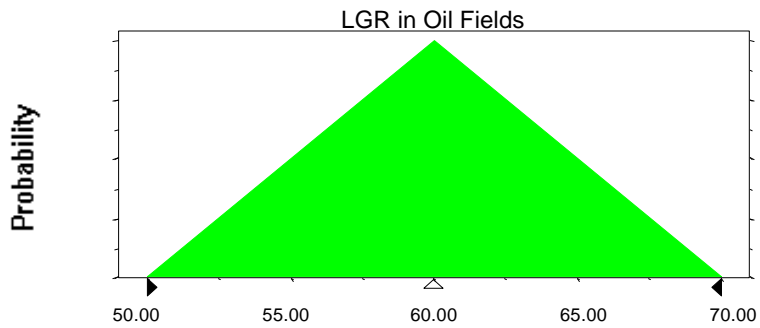
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Assumption: LGR in Oil Fields

Triangular distribution with parameters:

Minimum	50.00
Likeliest	60.00
Maximum	70.00

Selected range is from 50.00 to 70.00
Mean value in simulation was 60.03



Assumption: Number of Gas Fields

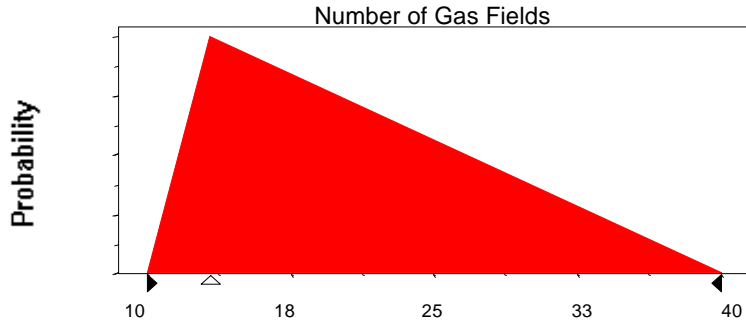
Triangular distribution with parameters:

Minimum	10
Likeliest	13
Maximum	40

Selected range is from 10 to 40
Mean value in simulation was 21

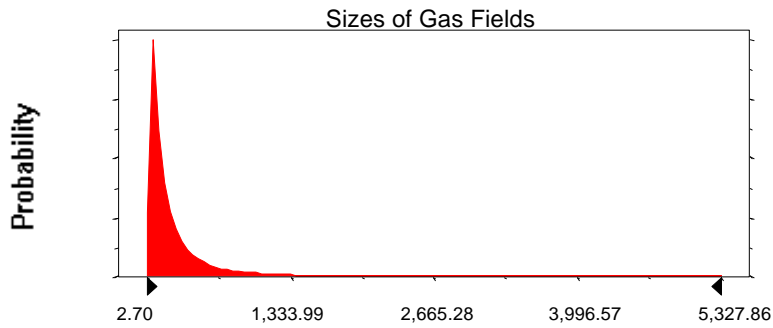
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Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	266.89	296.89
Standard Deviation	530.22	530.22
Selected range is from 0.00 to 5,970.00		30.00 to 6,000.00
Mean value in simulation was 258.57		288.57



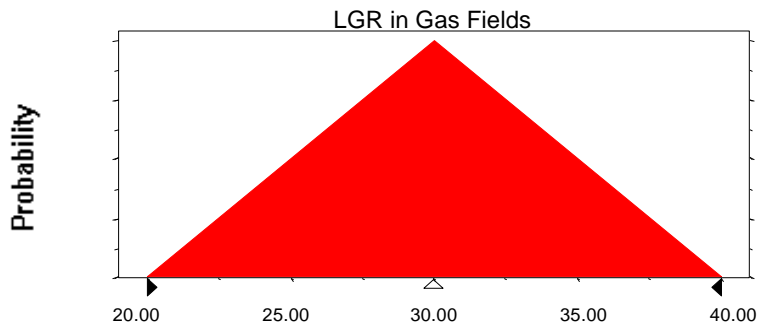
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Assumption: LGR in Gas Fields

Triangular distribution with parameters:

Minimum	20.00
Likeliest	30.00
Maximum	40.00

Selected range is from 20.00 to 40.00
Mean value in simulation was 30.00



End of Assumptions

Simulation started on 12/1/98 at 14:19:48
Simulation stopped on 12/1/98 at 15:06:05