Basinal Oil and Gas, Assessment Unit 20230202
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	20	1.00	572	1,834	3,352	1,886	832	2,709	5,216	2,830	47	157	334	170	114	270	680	315
Gas Fields	120						3,410	11,105	20,202	11,371	141	472	953	500	685	1,626	4,097	1,891
Total		1.00	572	1,834	3,352	1,886	4,242	13,813	25,419	14,201	187	629	1,288	670				

Forecast: Oil in Oil Fields

Summary:
   Display range is from 0.00 to 4,500.00 MMBO
   Entire range is from 23.99 to 6,306.26 MMBO
   After 50,000 trials, the standard error of the mean is 3.78

Statistics:	Value
Trials	50000
Mean	1,886.42
Median	1,834.38
Mode	---
Standard Deviation	845.92
Variance	715,587.97
Skewness	0.34
Kurtosis	2.85
Coefficient of Variability	0.45
Range Minimum	23.99
Range Maximum	6,306.26
Range Width	6,282.27
Mean Standard Error	3.78
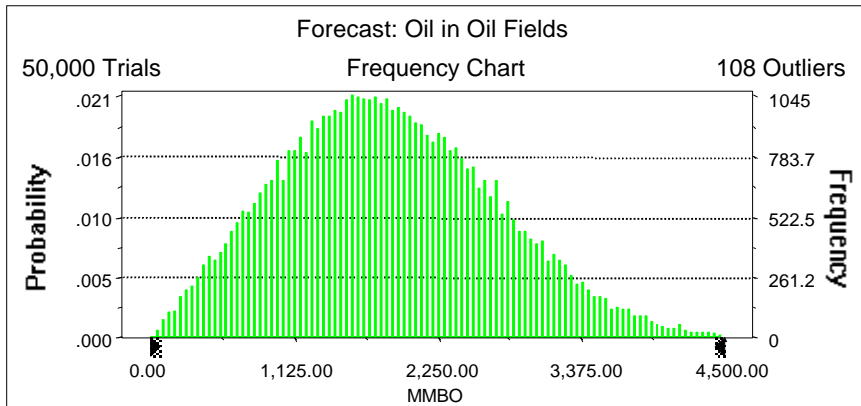
Forecast: Oil in Oil Fields

Forecast: Oil in Oil Fields (cont'd)

Percentiles:

Percentile	MMBO
100%	23.99
95%	571.97
90%	804.96
85%	984.63
80%	1,134.18
75%	1,268.49
70%	1,389.69
65%	1,506.12
60%	1,616.38
55%	1,725.31
50%	1,834.38
45%	1,947.37
40%	2,061.59
35%	2,185.33
30%	2,313.33
25%	2,453.03
20%	2,611.30
15%	2,791.12
10%	3,022.78
5%	3,351.97
0%	6,306.26

End of Forecast

Forecast: Gas in Oil Fields

Summary:
　　Display range is from 0.00 to 7,000.00 BCFG
　　Entire range is from 26.10 to 10,081.74 BCFG
　　After 50,000 trials, the standard error of the mean is 5.98

Statistics:	Value
Trials	50000
Mean	2,830.38
Median	2,708.69
Mode	---
Standard Deviation	1,337.76
Variance	1,789,591.10
Skewness	0.52
Kurtosis	3.20
Coefficient of Variability	0.47
Range Minimum	26.10
Range Maximum	10,081.74
Range Width	10,055.63
Mean Standard Error	5.98
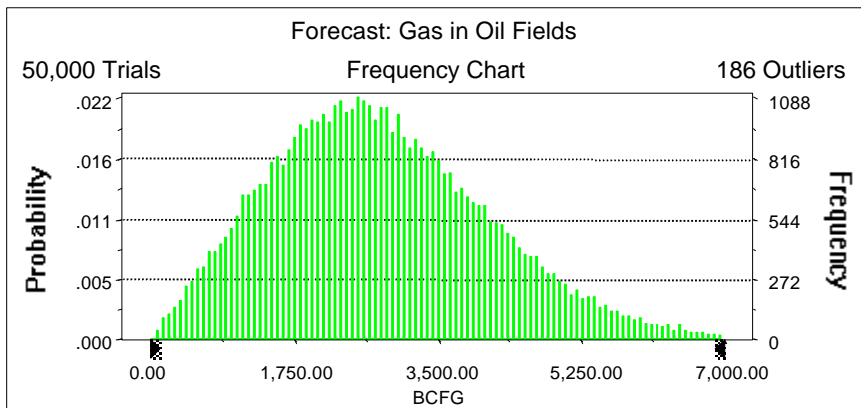
Forecast: Gas in Oil Fields

Forecast: Gas in Oil Fields (cont'd)

Percentiles:

Percentile	BCFG
100%	26.10
95%	832.02
90%	1,172.77
85%	1,433.00
80%	1,654.82
75%	1,855.62
70%	2,034.23
65%	2,208.78
60%	2,376.92
55%	2,545.04
50%	2,708.69
45%	2,881.12
40%	3,055.03
35%	3,251.45
30%	3,455.77
25%	3,675.41
20%	3,938.91
15%	4,242.27
10%	4,623.89
5%	5,216.14
0%	10,081.74

End of Forecast

Forecast: NGL in Oil Fields

Summary:
    Display range is from 0.00 to 450.00 MMBNGL
    Entire range is from 1.59 to 730.41 MMBNGL
    After 50,000 trials, the standard error of the mean is 0.40

Statistics:	Value
Trials	50000
Mean	169.84
Median	157.38
Mode	---
Standard Deviation	88.74
Variance	7,874.73
Skewness	0.81
Kurtosis	3.88
Coefficient of Variability	0.52
Range Minimum	1.59
Range Maximum	730.41
Range Width	728.82
Mean Standard Error	0.40

Forecast: NGL in Oil Fields
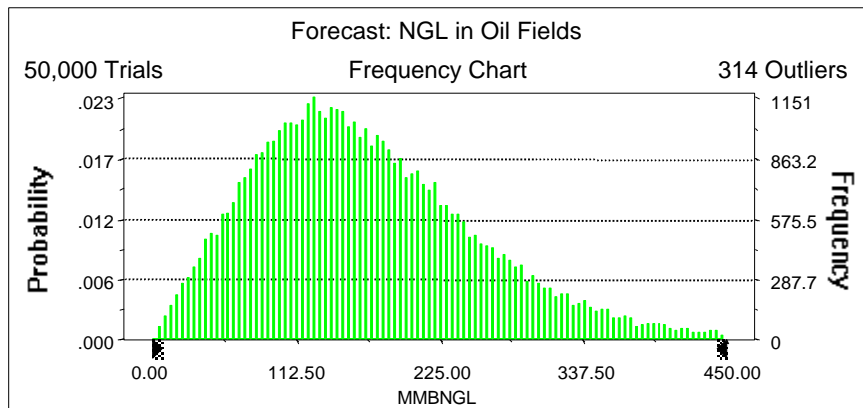
50,000 Trials   Frequency Chart   314 Outliers

Forecast: NGL in Oil Fields (cont'd)

Percentiles:

Percentile	MMBNGL
100%	1.59
95%	46.58
90%	66.08
85%	80.72
80%	93.28
75%	104.84
70%	115.87
65%	126.24
60%	136.52
55%	146.83
50%	157.38
45%	168.54
40%	180.35
35%	192.98
30%	206.89
25%	221.88
20%	239.20
15%	260.94
10%	289.03
5%	334.36
0%	730.41

End of Forecast

Forecast: Largest Oil Field

Summary:
    Display range is from 0.00 to 800.00 MMBO
    Entire range is from 23.99 to 999.66 MMBO
    After 50,000 trials, the standard error of the mean is 0.78

Statistics:	Value
Trials	50000
Mean	314.84
Median	270.16
Mode	---
Standard Deviation	174.82
Variance	30,560.92
Skewness	1.30
Kurtosis	4.66
Coefficient of Variability	0.56
Range Minimum	23.99
Range Maximum	999.66
Range Width	975.67
Mean Standard Error	0.78
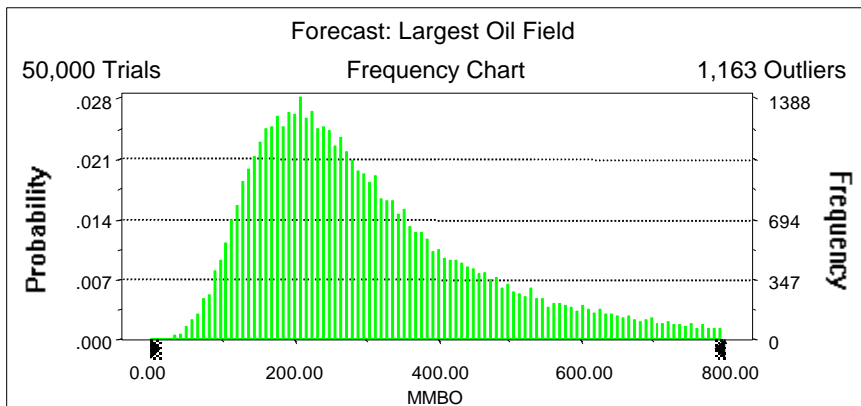
Forecast: Largest Oil Field

Forecast: Largest Oil Field (cont'd)

Percentiles:

Percentile	MMBO
100%	23.99
95%	114.14
90%	138.72
85%	157.74
80%	174.23
75%	190.24
70%	205.72
65%	220.74
60%	236.41
55%	253.00
50%	270.16
45%	289.36
40%	310.74
35%	333.90
30%	360.59
25%	393.32
20%	434.44
15%	484.89
10%	559.65
5%	680.25
0%	999.66

End of Forecast

Forecast: Gas in Gas Fields

Summary:
    Display range is from 0.00 to 25,000.00 BCFG
    Entire range is from 127.19 to 36,741.45 BCFG
    After 50,000 trials, the standard error of the mean is 22.74

Statistics:	Value
Trials	50000
Mean	11,370.64
Median	11,104.54
Mode	---
Standard Deviation	5,084.52
Variance	25,852,332.46
Skewness	0.33
Kurtosis	2.86
Coefficient of Variability	0.45
Range Minimum	127.19
Range Maximum	36,741.45
Range Width	36,614.26
Mean Standard Error	22.74
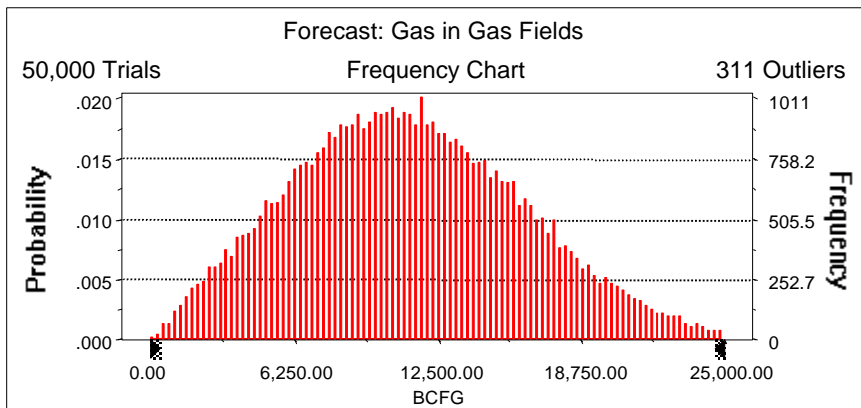
Forecast: Gas in Gas Fields

Forecast: Gas in Gas Fields (cont'd)

Percentiles:

Percentile	BCFG
100%	127.19
95%	3,409.60
90%	4,860.36
85%	5,950.86
80%	6,845.05
75%	7,677.83
70%	8,400.78
65%	9,098.08
60%	9,778.54
55%	10,440.00
50%	11,104.54
45%	11,774.25
40%	12,437.66
35%	13,171.26
30%	13,944.62
25%	14,785.05
20%	15,708.80
15%	16,766.43
10%	18,117.43
5%	20,202.37
0%	36,741.45

End of Forecast

Forecast: NGL in Gas Fields

Summary:
Display range is from 0.00 to 1,200.00 MMBNGL
Entire range is from 3.91 to 2,134.58 MMBNGL
After 50,000 trials, the standard error of the mean is 1.12

Statistics:	Value
Trials	50000
Mean	499.87
Median	471.90
Mode	---
Standard Deviation	249.64
Variance	62,322.54
Skewness	0.66
Kurtosis	3.48
Coefficient of Variability	0.50
Range Minimum	3.91
Range Maximum	2,134.58
Range Width	2,130.68
Mean Standard Error	1.12

Forecast: NGL in Gas Fields
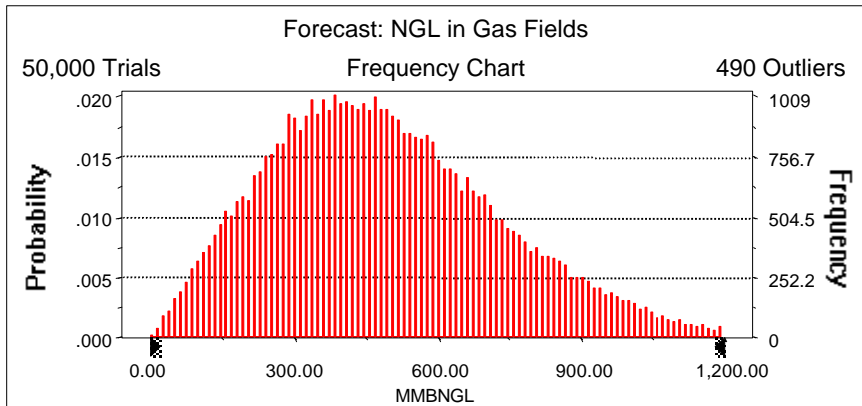
50,000 Trials — Frequency Chart — 490 Outliers

Forecast: NGL in Gas Fields (cont'd)

Percentiles:

Percentile	MMBNGL
100%	3.91
95%	140.51
90%	197.71
85%	243.89
80%	282.55
75%	316.15
70%	348.13
65%	379.61
60%	409.88
55%	440.62
50%	471.90
45%	502.91
40%	536.69
35%	571.75
30%	608.95
25%	652.79
20%	701.47
15%	760.78
10%	838.63
5%	953.30
0%	2,134.58

End of Forecast

Forecast: Largest Gas Field

Summary:
Display range is from 0.00 to 5,000.00 BCFG
Entire range is from 127.19 to 5,999.63 BCFG
After 50,000 trials, the standard error of the mean is 4.69

Statistics:	Value
Trials	50000
Mean	1,890.53
Median	1,626.00
Mode	---
Standard Deviation	1,047.70
Variance	1,097,676.77
Skewness	1.29
Kurtosis	4.63
Coefficient of Variability	0.55
Range Minimum	127.19
Range Maximum	5,999.63
Range Width	5,872.44
Mean Standard Error	4.69

Forecast: Largest Gas Field
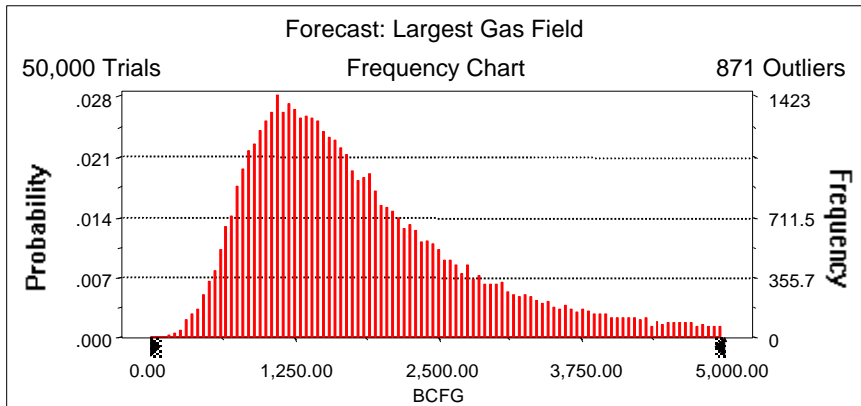
50,000 Trials   Frequency Chart   871 Outliers

Forecast: Largest Gas Field (cont'd)

Percentiles:

Percentile	BCFG
100%	127.19
95%	685.16
90%	836.14
85%	948.58
80%	1,048.68
75%	1,139.41
70%	1,231.82
65%	1,325.77
60%	1,423.09
55%	1,520.43
50%	1,626.00
45%	1,739.39
40%	1,867.78
35%	2,008.00
30%	2,173.67
25%	2,364.78
20%	2,595.88
15%	2,908.30
10%	3,348.33
5%	4,096.80
0%	5,999.63

End of Forecast

Assumptions

Assumption: Number of Oil Fields

Triangular distribution with parameters:
Minimum	1
Likeliest	24
Maximum	50

Selected range is from 1 to 50
Mean value in simulation was 25

Number of Oil Fields
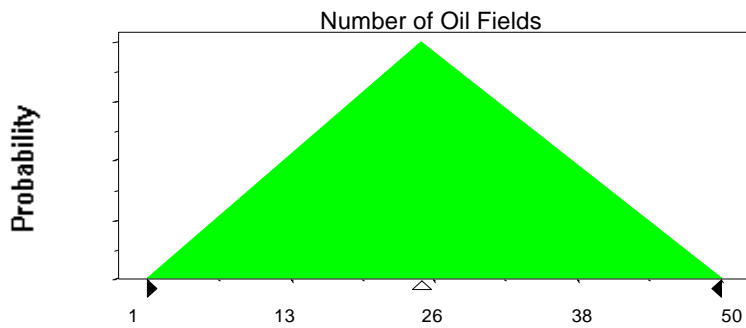
Assumption: Sizes of Oil Fields

Lognormal distribution with parameters: Shifted parameters
Mean	56.70	76.7
Standard Deviation	90.92	90.92

Selected range is from 0.00 to 980.00   20.00 to 1,000.00
Mean value in simulation was 55.70   75.7

Assumption: Sizes of Oil Fields (cont'd)

Sizes of Oil Fields

| 1.02 | 222.11 | 443.19 | 664.28 | 885.37 |
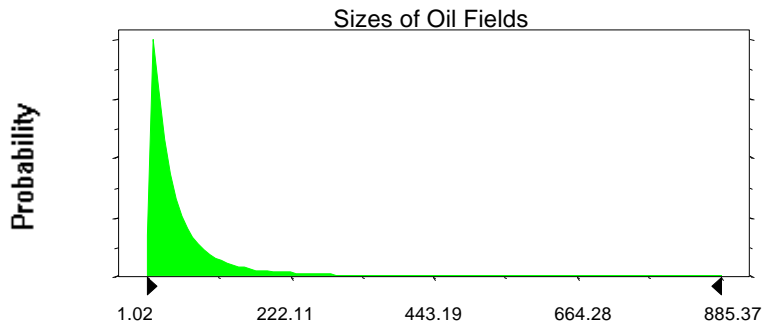
Assumption: GOR in Oil Fields

Triangular distribution with parameters:
Minimum	1,000.00
Likeliest	1,500.00
Maximum	2,000.00

Selected range is from 1,000.00 to 2,000.00
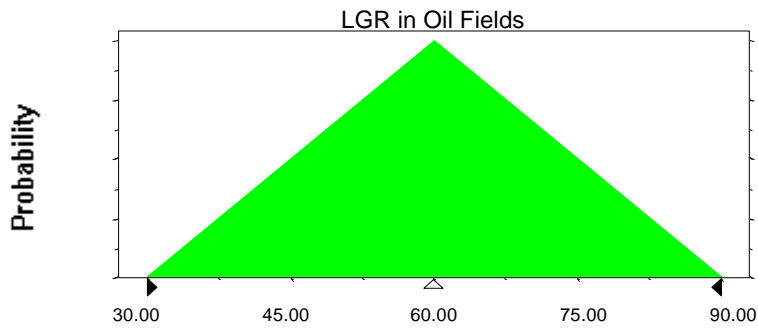Mean value in simulation was 1,500.38

GOR in Oil Fields

| 1,000.00 | 1,250.00 | 1,500.00 | 1,750.00 | 2,000.00 |
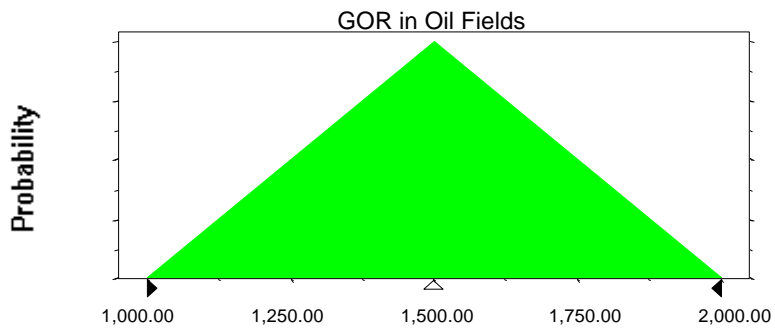
Assumption: LGR in Oil Fields

Triangular distribution with parameters:
Minimum	30.00
Likeliest	60.00
Maximum	90.00

Selected range is from 30.00 to 90.00
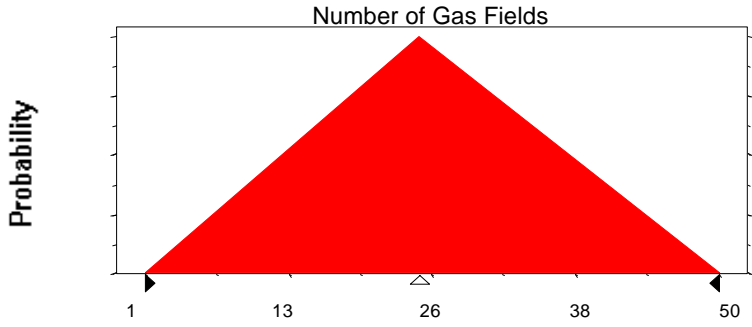Mean value in simulation was 60.02

LGR in Oil Fields

Assumption: Number of Gas Fields

Triangular distribution with parameters:
Minimum	1
Likeliest	24
Maximum	50

Selected range is from 1 to 50
Mean value in simulation was 25

Assumption: Number of Gas Fields (cont'd)

Number of Gas Fields

Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:		Shifted parameters	
Mean	340.17		460.17
Standard Deviation	545.50		545.5

Selected range is from 0.00 to 5,880.00   120.00 to 6,000.00
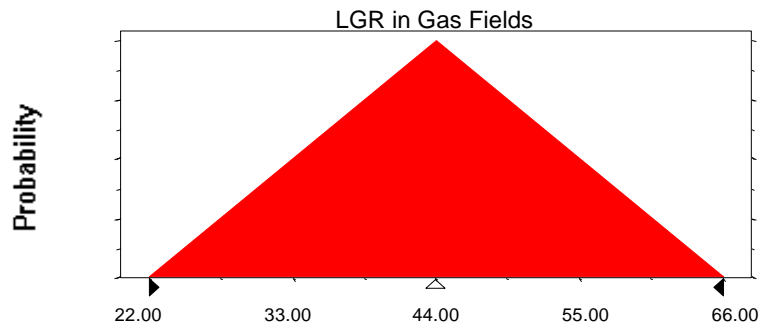Mean value in simulation was 330.91   450.91
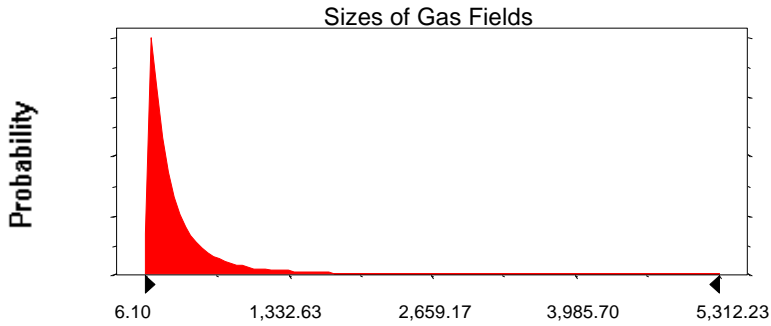
Sizes of Gas Fields

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 43.98

LGR in Gas Fields

End of Assumptions

Simulation started on 8/27/99 at 12:11:52
Simulation stopped on 8/27/99 at 12:39:04