

**Pre-Tertiary Buried Hills, Assessment Unit 31270102
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	806	1,984	3,997	2,144	515	1,349	2,993	1,498	28	79	189	90	134	307	720	349
Gas Fields	30						522	2,095	5,193	2,377	21	90	239	105	151	487	1,657	633
Total		1.00	806	1,984	3,997	2,144	1,037	3,444	8,186	3,875	49	169	428	194				

31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

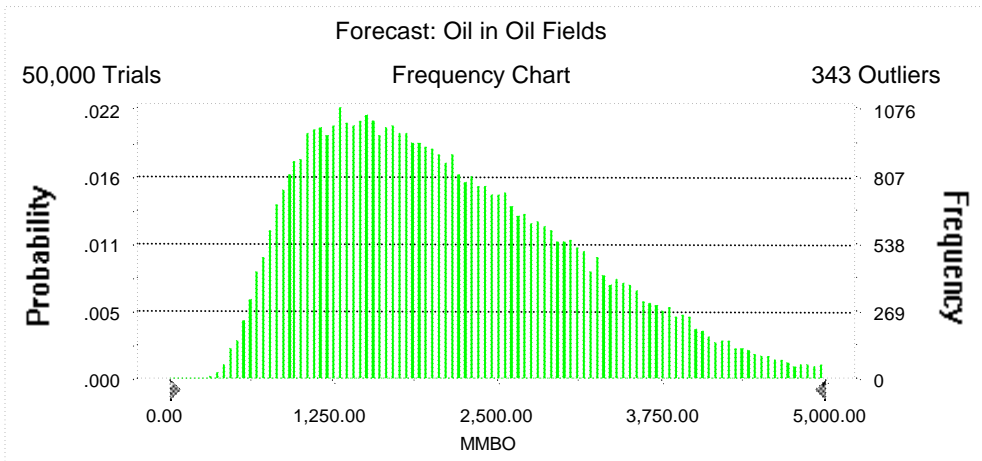
Forecast: Oil in Oil Fields

Summary:

Display range is from 0.00 to 5,000.00 MMBO
 Entire range is from 270.52 to 6,830.18 MMBO
 After 50,000 trials, the standard error of the mean is 4.48

Statistics:

	<u>Value</u>
Trials	50000
Mean	2,143.72
Median	1,984.29
Mode	---
Standard Deviation	1,001.57
Variance	1,003,147.46
Skewness	0.70
Kurtosis	3.08
Coefficient of Variability	0.47
Range Minimum	270.52
Range Maximum	6,830.18
Range Width	6,559.65
Mean Standard Error	4.48



31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

Forecast: Oil in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	270.52
95%	805.72
90%	968.76
85%	1,105.41
80%	1,231.73
75%	1,352.86
70%	1,476.31
65%	1,596.55
60%	1,723.25
55%	1,850.08
50%	1,984.29
45%	2,123.33
40%	2,270.58
35%	2,431.81
30%	2,600.84
25%	2,791.66
20%	3,001.70
15%	3,247.07
10%	3,556.83
5%	3,997.09
0%	6,830.18

End of Forecast

31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

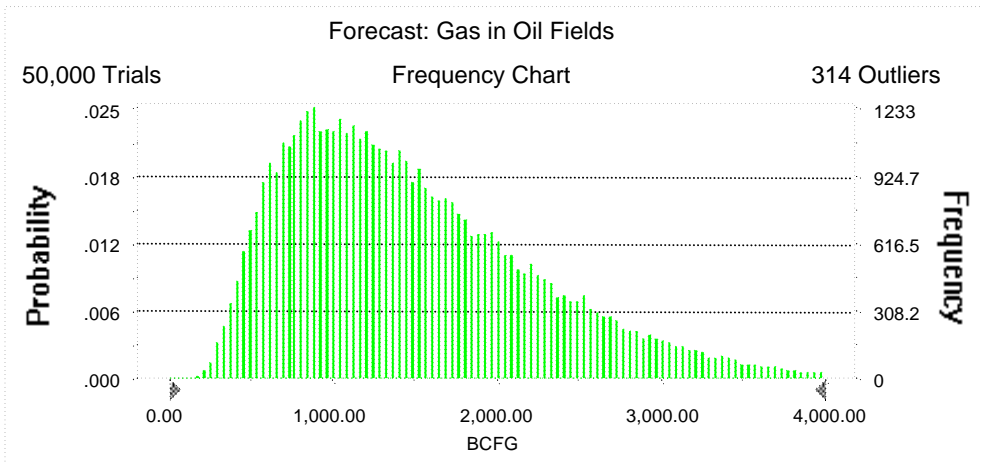
Forecast: Gas in Oil Fields

Summary:

Display range is from 0.00 to 4,000.00 BCFG
 Entire range is from 130.76 to 5,982.66 BCFG
 After 50,000 trials, the standard error of the mean is 3.48

Statistics:

	<u>Value</u>
Trials	50000
Mean	1,498.06
Median	1,348.97
Mode	---
Standard Deviation	777.44
Variance	604,413.26
Skewness	0.97
Kurtosis	3.94
Coefficient of Variability	0.52
Range Minimum	130.76
Range Maximum	5,982.66
Range Width	5,851.91
Mean Standard Error	3.48



31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

Forecast: Gas in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	130.76
95%	515.32
90%	631.19
85%	729.91
80%	820.96
75%	903.09
70%	989.29
65%	1,074.54
60%	1,163.82
55%	1,254.27
50%	1,348.97
45%	1,448.57
40%	1,554.31
35%	1,671.32
30%	1,798.59
25%	1,946.74
20%	2,109.23
15%	2,313.77
10%	2,579.38
5%	2,992.93
0%	5,982.66

End of Forecast

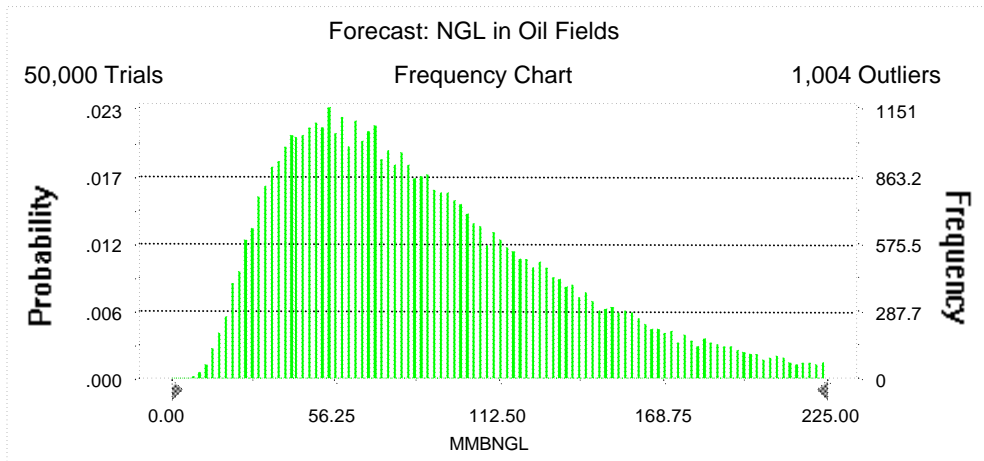
31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

Forecast: NGL in Oil Fields

Summary:

Display range is from 0.00 to 225.00 MMBNGL
 Entire range is from 8.37 to 479.07 MMBNGL
 After 50,000 trials, the standard error of the mean is 0.23

Statistics:	<u>Value</u>
Trials	50000
Mean	89.80
Median	79.01
Mode	---
Standard Deviation	50.97
Variance	2,597.97
Skewness	1.19
Kurtosis	4.81
Coefficient of Variability	0.57
Range Minimum	8.37
Range Maximum	479.07
Range Width	470.70
Mean Standard Error	0.23



31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

Forecast: NGL in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	8.37
95%	28.15
90%	35.23
85%	41.10
80%	46.58
75%	51.82
70%	56.88
65%	62.22
60%	67.64
55%	72.98
50%	79.01
45%	85.17
40%	91.74
35%	98.98
30%	107.06
25%	116.48
20%	127.61
15%	141.01
10%	159.23
5%	188.82
0%	479.07

End of Forecast

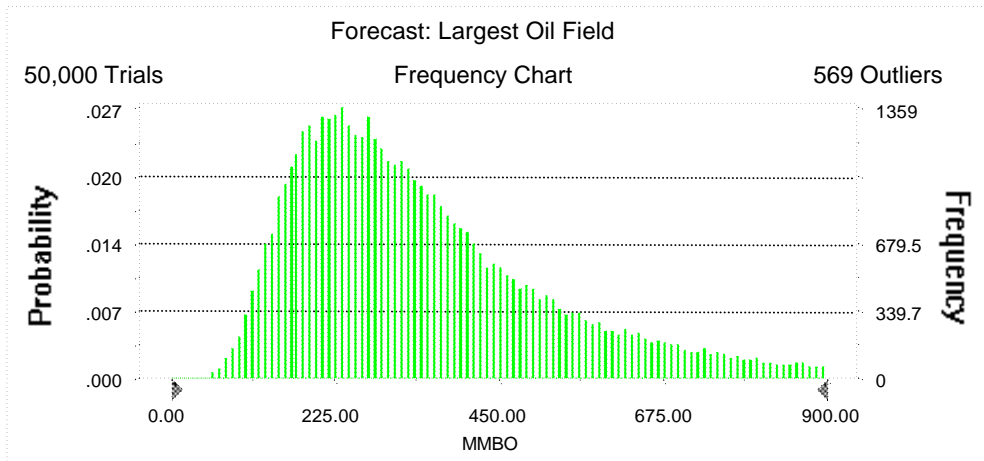
31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

Forecast: Largest Oil Field

Summary:

Display range is from 0.00 to 900.00 MMBO
Entire range is from 42.77 to 1,000.00 MMBO
After 50,000 trials, the standard error of the mean is 0.80

Statistics:	Value
Trials	50000
Mean	348.71
Median	307.13
Mode	---
Standard Deviation	179.27
Variance	32,137.32
Skewness	1.12
Kurtosis	4.04
Coefficient of Variability	0.51
Range Minimum	42.77
Range Maximum	1,000.00
Range Width	957.23
Mean Standard Error	0.80



31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

Forecast: Largest Oil Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	42.77
95%	134.29
90%	160.34
85%	180.99
80%	198.99
75%	216.63
70%	233.87
65%	251.02
60%	269.33
55%	287.25
50%	307.13
45%	327.96
40%	350.48
35%	375.31
30%	403.66
25%	437.37
20%	478.68
15%	530.86
10%	605.20
5%	719.94
0%	1,000.00

End of Forecast

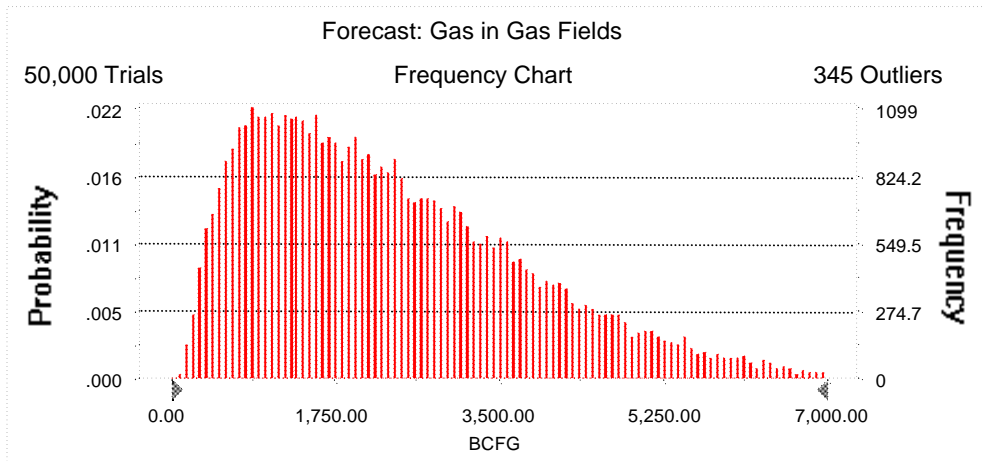
31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

Forecast: Gas in Gas Fields

Summary:

Display range is from 0.00 to 7,000.00 BCFG
 Entire range is from 72.09 to 12,525.28 BCFG
 After 50,000 trials, the standard error of the mean is 6.61

Statistics:	<u>Value</u>
Trials	50000
Mean	2,376.87
Median	2,095.18
Mode	---
Standard Deviation	1,478.56
Variance	2,186,148.98
Skewness	0.94
Kurtosis	3.82
Coefficient of Variability	0.62
Range Minimum	72.09
Range Maximum	12,525.28
Range Width	12,453.19
Mean Standard Error	6.61



31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

Forecast: Gas in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	72.09
95%	521.92
90%	716.83
85%	885.25
80%	1,048.08
75%	1,213.45
70%	1,379.13
65%	1,548.75
60%	1,722.73
55%	1,907.37
50%	2,095.18
45%	2,297.46
40%	2,501.81
35%	2,739.41
30%	2,988.30
25%	3,262.32
20%	3,573.59
15%	3,946.75
10%	4,441.44
5%	5,192.94
0%	12,525.28

End of Forecast

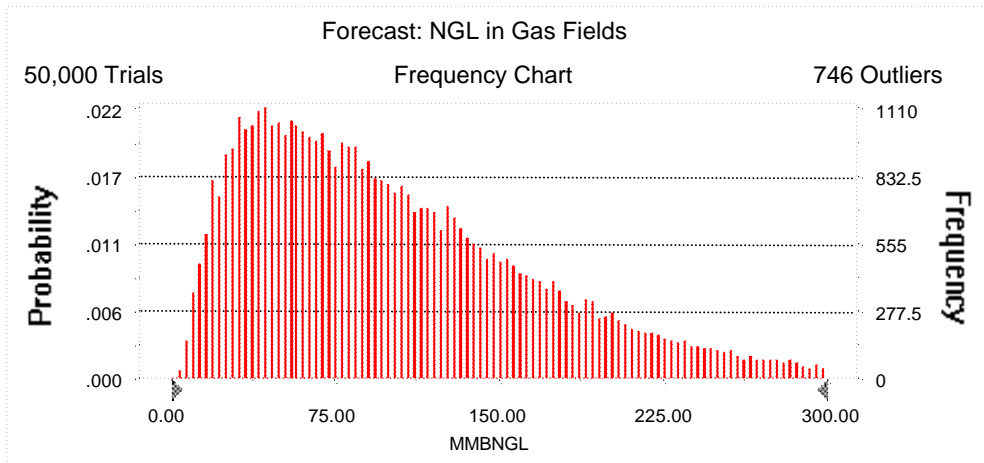
31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

Forecast: NGL in Gas Fields

Summary:

Display range is from 0.00 to 300.00 MMBNGL
 Entire range is from 2.64 to 553.66 MMBNGL
 After 50,000 trials, the standard error of the mean is 0.31

Statistics:	<u>Value</u>
Trials	50000
Mean	104.57
Median	89.66
Mode	---
Standard Deviation	69.43
Variance	4,820.00
Skewness	1.16
Kurtosis	4.65
Coefficient of Variability	0.66
Range Minimum	2.64
Range Maximum	553.66
Range Width	551.02
Mean Standard Error	0.31



31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

Forecast: NGL in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	2.64
95%	21.30
90%	29.89
85%	37.08
80%	43.99
75%	51.10
70%	58.43
65%	65.73
60%	73.47
55%	81.46
50%	89.66
45%	98.45
40%	108.02
35%	118.64
30%	129.70
25%	142.36
20%	157.43
15%	175.65
10%	199.94
5%	238.84
0%	553.66

End of Forecast

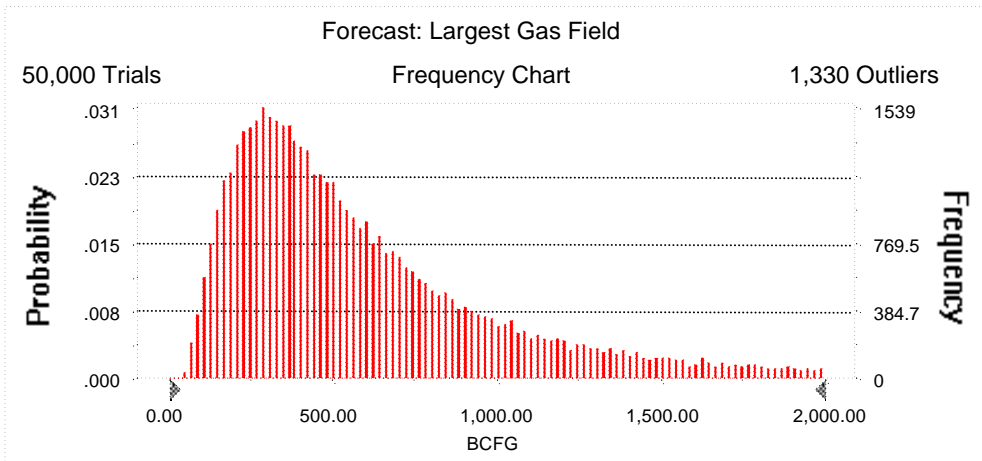
31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

Forecast: Largest Gas Field

Summary:

Display range is from 0.00 to 2,000.00 BCFG
 Entire range is from 36.34 to 2,997.95 BCFG
 After 50,000 trials, the standard error of the mean is 2.17

Statistics:	<u>Value</u>
Trials	50000
Mean	632.51
Median	487.40
Mode	---
Standard Deviation	485.31
Variance	235,527.84
Skewness	1.82
Kurtosis	6.82
Coefficient of Variability	0.77
Range Minimum	36.34
Range Maximum	2,997.95
Range Width	2,961.61
Mean Standard Error	2.17



31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

Forecast: Largest Gas Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	36.34
95%	150.98
90%	196.10
85%	233.05
80%	267.92
75%	301.07
70%	334.91
65%	369.43
60%	405.95
55%	444.27
50%	487.40
45%	534.02
40%	586.46
35%	647.03
30%	715.72
25%	799.50
20%	908.04
15%	1,053.29
10%	1,270.73
5%	1,657.48
0%	2,997.95

End of Forecast

31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

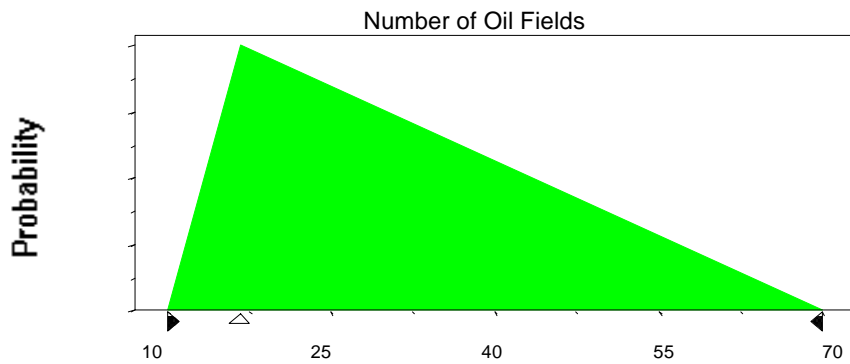
Assumptions

Assumption: Number of Oil Fields

Triangular distribution with parameters:

Minimum	10
Likeliest	17
Maximum	70

Selected range is from 10 to 70
Mean value in simulation was 32



Assumption: Sizes of Oil Fields

Lognormal distribution with parameters:

Mean	62.94
Standard Deviation	94.06

Shifted parameters

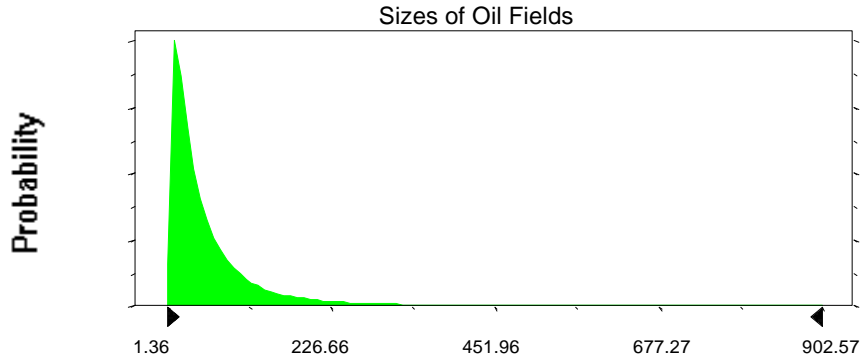
67.94
94.06

Selected range is from 0.00 to 995.00
Mean value in simulation was 62.18

5.00 to 1,000.00
67.18

31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

Assumption: Sizes of Oil Fields (cont'd)



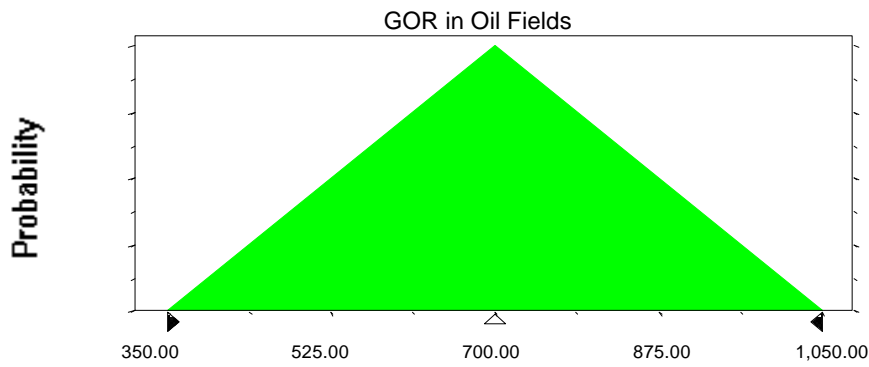
Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	350.00
Likeliest	700.00
Maximum	1,050.00

Selected range is from 350.00 to 1,050.00

Mean value in simulation was 698.85



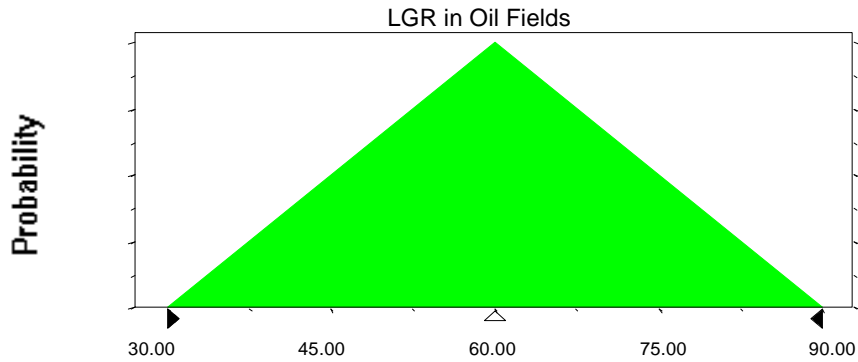
31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

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 59.93



Assumption: Number of Gas Fields

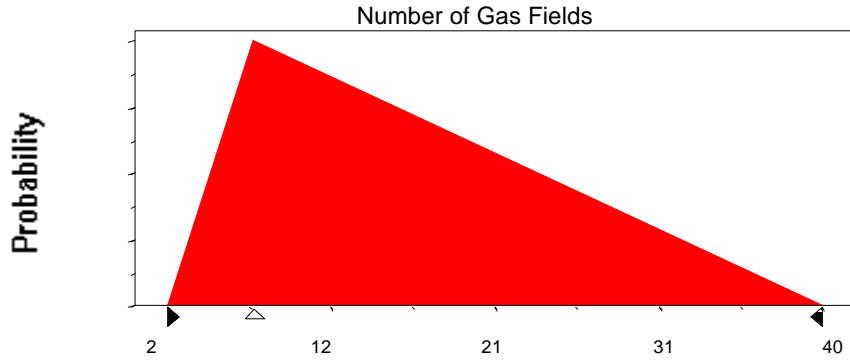
Triangular distribution with parameters:

Minimum	2
Likeliest	7
Maximum	40

Selected range is from 2 to 40
Mean value in simulation was 16

31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

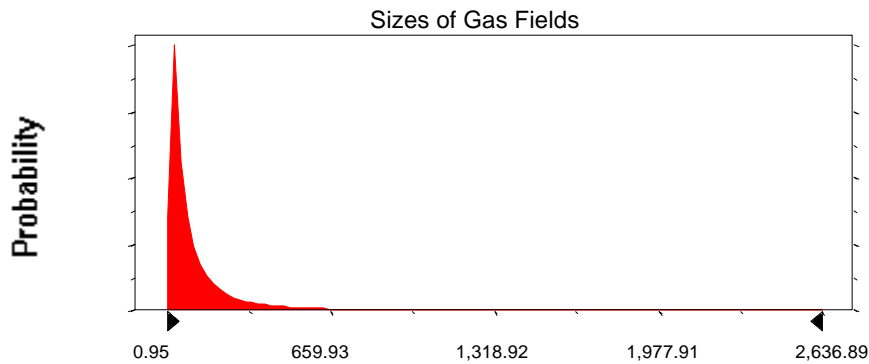
Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	119.77	149.77
Standard Deviation	260.70	260.7

Selected range is from 0.00 to 2,970.00	30.00 to 3,000.00
Mean value in simulation was 113.72	143.72



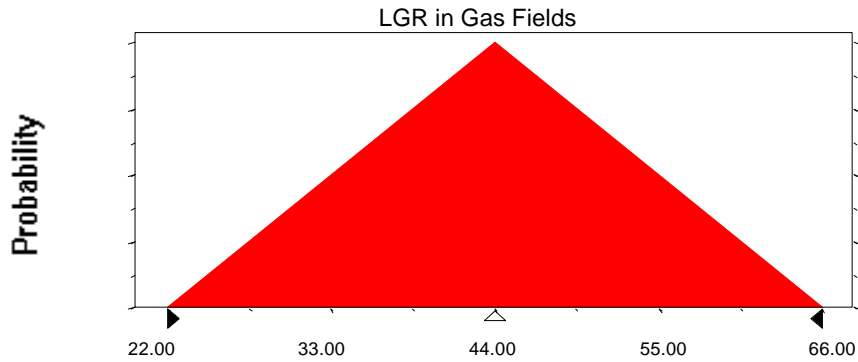
31270102
Pre-Tertiary Buried Hills
Monte Carlo Results

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 44.02



End of Assumptions

Simulation started on 5/28/99 at 12:16:27
Simulation stopped on 5/28/99 at 12:45:55