

South Malay Lacustrine, Assessment Unit 37030101
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	279	909	2,025	1,003	1,244	4,239	10,306	4,811	16	58	151	67	53	126	295	143
Gas Fields	30						5,162	15,973	32,544	17,124	96	310	697	343	818	2,017	4,656	2,266
Total		1.00	279	909	2,025	1,003	6,406	20,212	42,850	21,935	113	368	848	410				

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Monte Carlo Results

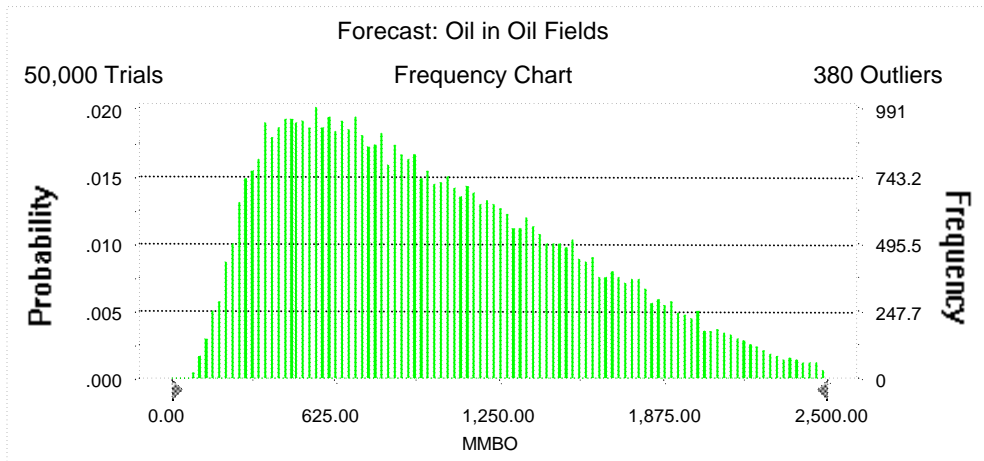
Forecast: Oil in Oil Fields

Summary:

Display range is from 0.00 to 2,500.00 MMBO
Entire range is from 60.62 to 3,354.11 MMBO
After 50,000 trials, the standard error of the mean is 2.46

Statistics:

	<u>Value</u>
Trials	50000
Mean	1,002.98
Median	908.70
Mode	---
Standard Deviation	549.22
Variance	301,644.61
Skewness	0.65
Kurtosis	2.81
Coefficient of Variability	0.55
Range Minimum	60.62
Range Maximum	3,354.11
Range Width	3,293.50
Mean Standard Error	2.46



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Monte Carlo Results

Forecast: Oil in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	60.62
95%	278.77
90%	358.91
85%	426.96
80%	492.89
75%	559.05
70%	624.64
65%	692.82
60%	761.11
55%	833.68
50%	908.70
45%	989.56
40%	1,074.99
35%	1,166.17
30%	1,262.21
25%	1,370.91
20%	1,489.65
15%	1,624.46
10%	1,793.46
5%	2,024.98
0%	3,354.11

End of Forecast

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South Malay Lacustrine
Monte Carlo Results

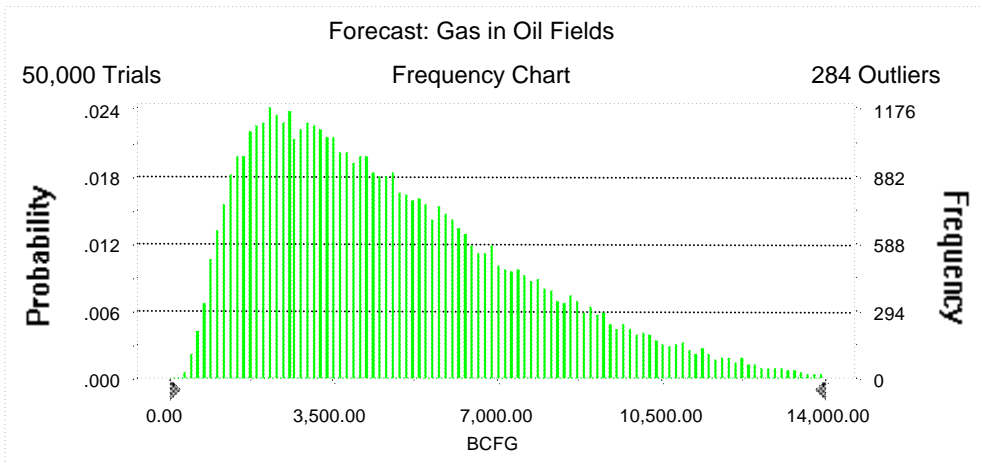
Forecast: Gas in Oil Fields

Summary:

Display range is from 0.00 to 14,000.00 BCFG
Entire range is from 254.41 to 19,728.88 BCFG
After 50,000 trials, the standard error of the mean is 12.80

Statistics:

	<u>Value</u>
Trials	50000
Mean	4,810.82
Median	4,239.35
Mode	---
Standard Deviation	2,861.33
Variance	8,187,234.89
Skewness	0.93
Kurtosis	3.68
Coefficient of Variability	0.59
Range Minimum	254.41
Range Maximum	19,728.88
Range Width	19,474.46
Mean Standard Error	12.80



37030101
South Malay Lacustrine
Monte Carlo Results

Forecast: Gas in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	254.41
95%	1,243.75
90%	1,617.57
85%	1,946.59
80%	2,253.80
75%	2,564.96
70%	2,884.85
65%	3,202.94
60%	3,530.57
55%	3,875.20
50%	4,239.35
45%	4,629.38
40%	5,032.43
35%	5,477.73
30%	5,952.74
25%	6,490.75
20%	7,131.79
15%	7,894.62
10%	8,873.79
5%	10,305.79
0%	19,728.88

End of Forecast

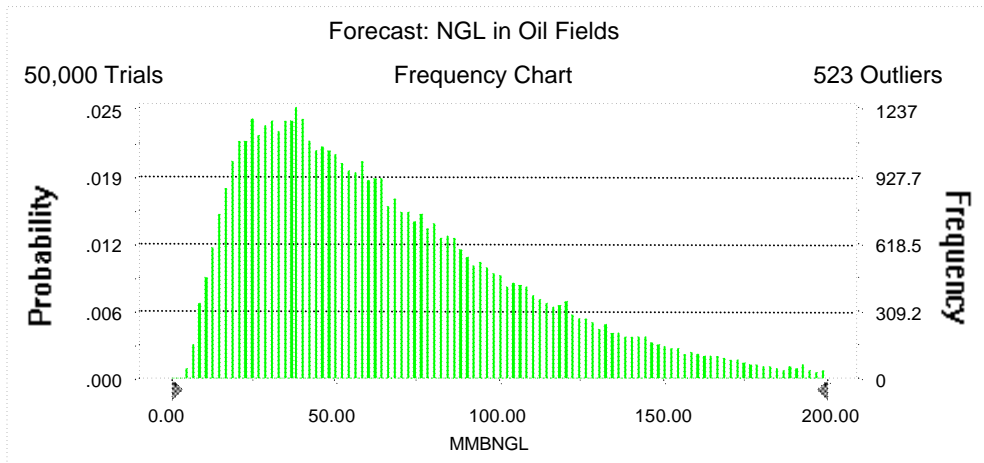
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Monte Carlo Results

Forecast: NGL in Oil Fields

Summary:

Display range is from 0.00 to 200.00 MMBNGL
Entire range is from 2.53 to 394.59 MMBNGL
After 50,000 trials, the standard error of the mean is 0.19

Statistics:	Value
Trials	50000
Mean	67.27
Median	57.73
Mode	---
Standard Deviation	43.06
Variance	1,853.85
Skewness	1.17
Kurtosis	4.60
Coefficient of Variability	0.64
Range Minimum	2.53
Range Maximum	394.59
Range Width	392.06
Mean Standard Error	0.19



37030101
South Malay Lacustrine
Monte Carlo Results

Forecast: NGL in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	2.53
95%	16.27
90%	21.38
85%	25.80
80%	30.18
75%	34.55
70%	38.71
65%	42.97
60%	47.68
55%	52.50
50%	57.73
45%	63.00
40%	68.77
35%	75.36
30%	82.36
25%	90.29
20%	99.90
15%	111.55
10%	127.00
5%	151.20
0%	394.59

End of Forecast

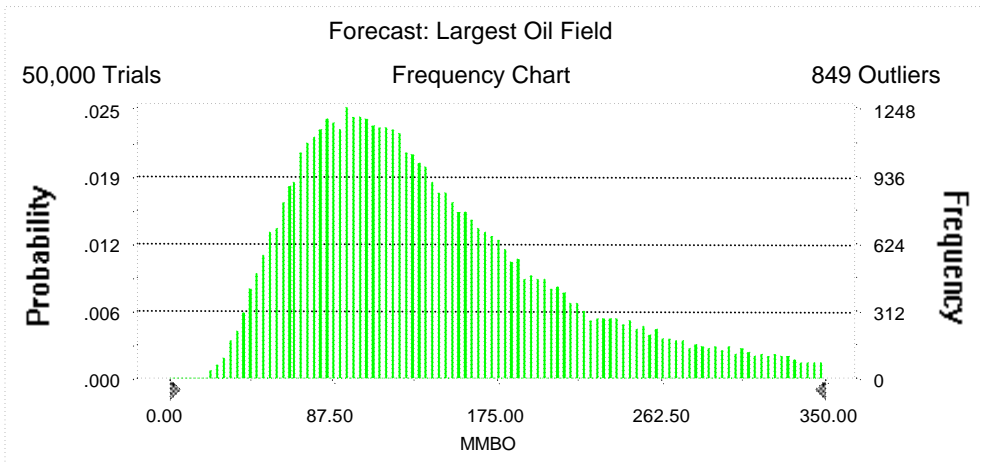
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South Malay Lacustrine
Monte Carlo Results

Forecast: Largest Oil Field

Summary:

Display range is from 0.00 to 350.00 MMBO
Entire range is from 13.80 to 399.98 MMBO
After 50,000 trials, the standard error of the mean is 0.33

Statistics:	Value
Trials	50000
Mean	142.64
Median	126.11
Mode	---
Standard Deviation	73.08
Variance	5,340.41
Skewness	1.07
Kurtosis	3.89
Coefficient of Variability	0.51
Range Minimum	13.80
Range Maximum	399.98
Range Width	386.18
Mean Standard Error	0.33



37030101
South Malay Lacustrine
Monte Carlo Results

Forecast: Largest Oil Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	13.80
95%	53.05
90%	64.69
85%	73.74
80%	81.61
75%	89.03
70%	96.33
65%	103.56
60%	110.96
55%	118.44
50%	126.11
45%	134.61
40%	143.78
35%	154.26
30%	165.98
25%	179.18
20%	195.88
15%	216.72
10%	247.54
5%	294.76
0%	399.98

End of Forecast

37030101
South Malay Lacustrine
Monte Carlo Results

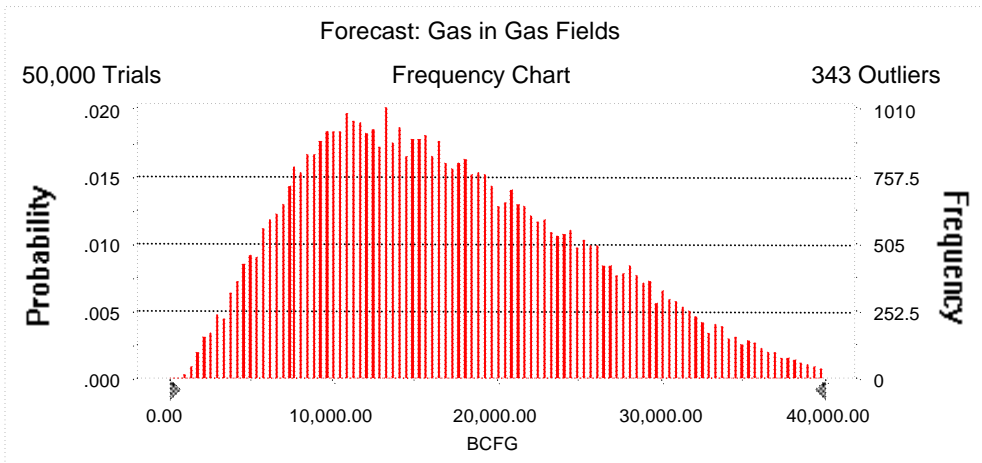
Forecast: Gas in Gas Fields

Summary:

Display range is from 0.00 to 40,000.00 BCFG
 Entire range is from 603.18 to 53,013.90 BCFG
 After 50,000 trials, the standard error of the mean is 37.89

Statistics:

	<u>Value</u>
Trials	50000
Mean	17,123.84
Median	15,972.96
Mode	---
Standard Deviation	8,471.95
Variance	71,773,860.78
Skewness	0.55
Kurtosis	2.79
Coefficient of Variability	0.49
Range Minimum	603.18
Range Maximum	53,013.90
Range Width	52,410.72
Mean Standard Error	37.89



37030101
South Malay Lacustrine
Monte Carlo Results

Forecast: Gas in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	603.18
95%	5,162.37
90%	6,930.68
85%	8,282.18
80%	9,471.18
75%	10,558.30
70%	11,587.62
65%	12,668.68
60%	13,727.48
55%	14,866.39
50%	15,972.96
45%	17,153.90
40%	18,402.08
35%	19,712.64
30%	21,188.64
25%	22,793.98
20%	24,602.55
15%	26,603.17
10%	29,089.06
5%	32,544.24
0%	53,013.90

End of Forecast

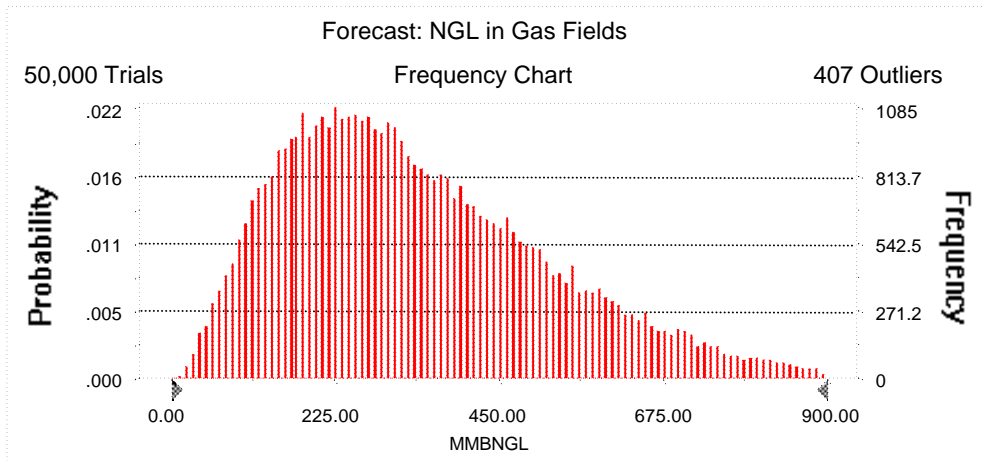
37030101
South Malay Lacustrine
Monte Carlo Results

Forecast: NGL in Gas Fields

Summary:

Display range is from 0.00 to 900.00 MMBNGL
Entire range is from 11.47 to 1,338.14 MMBNGL
After 50,000 trials, the standard error of the mean is 0.83

Statistics:	Value
Trials	50000
Mean	342.64
Median	310.15
Mode	---
Standard Deviation	186.51
Variance	34,786.90
Skewness	0.84
Kurtosis	3.60
Coefficient of Variability	0.54
Range Minimum	11.47
Range Maximum	1,338.14
Range Width	1,326.67
Mean Standard Error	0.83



37030101
South Malay Lacustrine
Monte Carlo Results

Forecast: NGL in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	11.47
95%	96.24
90%	128.80
85%	155.28
80%	178.92
75%	201.31
70%	222.84
65%	244.07
60%	265.47
55%	287.54
50%	310.15
45%	333.87
40%	360.72
35%	388.60
30%	419.99
25%	455.25
20%	493.47
15%	541.51
10%	602.47
5%	697.11
0%	1,338.14

End of Forecast

37030101
South Malay Lacustrine
Monte Carlo Results

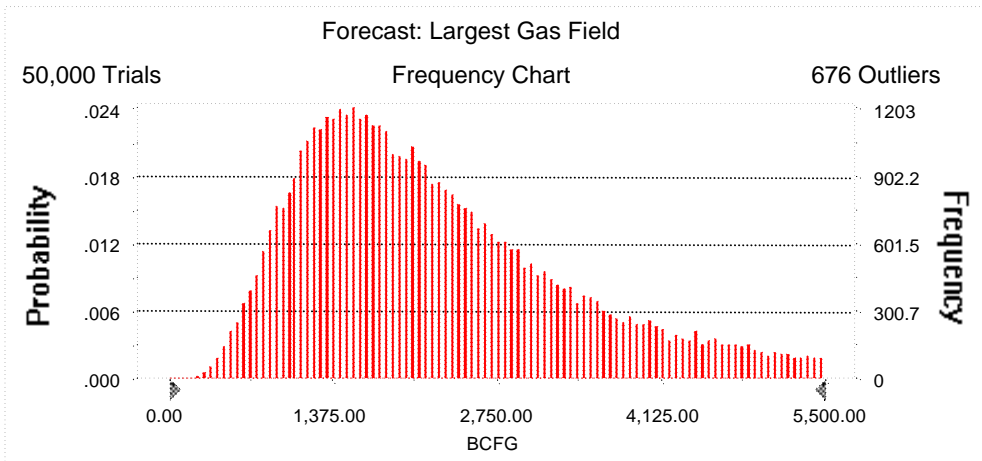
Forecast: Largest Gas Field

Summary:

Display range is from 0.00 to 5,500.00 BCFG
 Entire range is from 152.65 to 5,999.32 BCFG
 After 50,000 trials, the standard error of the mean is 5.18

Statistics:

	<u>Value</u>
Trials	50000
Mean	2,266.16
Median	2,017.06
Mode	---
Standard Deviation	1,157.27
Variance	1,339,279.85
Skewness	0.93
Kurtosis	3.44
Coefficient of Variability	0.51
Range Minimum	152.65
Range Maximum	5,999.32
Range Width	5,846.68
Mean Standard Error	5.18



37030101
South Malay Lacustrine
Monte Carlo Results

Forecast: Largest Gas Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	152.65
95%	818.46
90%	1,006.15
85%	1,155.08
80%	1,282.38
75%	1,401.73
70%	1,517.29
65%	1,635.80
60%	1,755.52
55%	1,878.59
50%	2,017.06
45%	2,154.97
40%	2,309.70
35%	2,479.40
30%	2,670.34
25%	2,892.59
20%	3,160.14
15%	3,496.82
10%	3,960.59
5%	4,656.30
0%	5,999.32

End of Forecast

37030101
South Malay Lacustrine
Monte Carlo Results

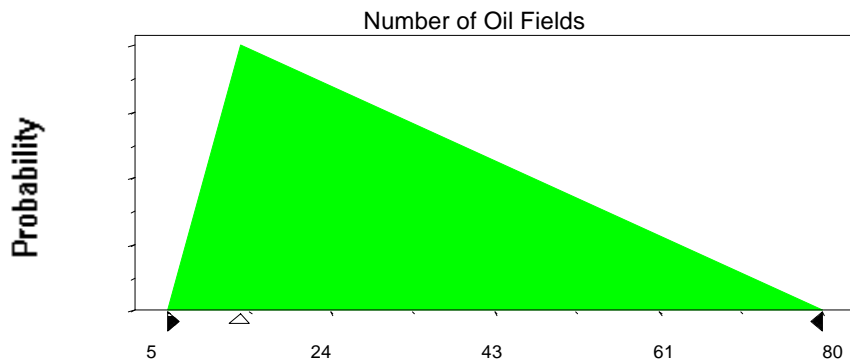
Assumptions

Assumption: Number of Oil Fields

Triangular distribution with parameters:

Minimum	5
Likeliest	13
Maximum	80

Selected range is from 5 to 80
Mean value in simulation was 33



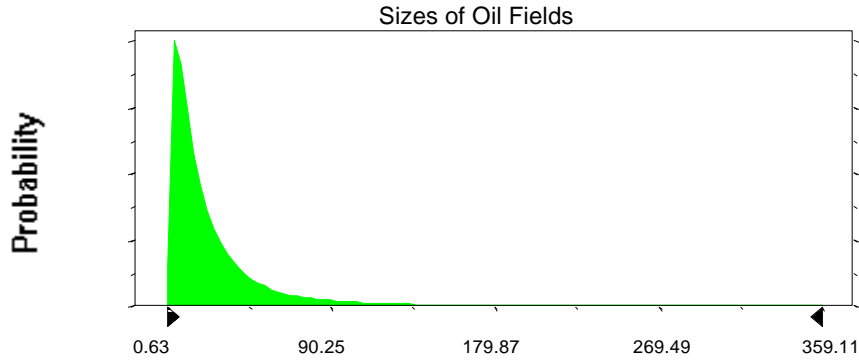
Assumption: Sizes of Oil Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	26.27	31.27
Standard Deviation	37.76	37.76

Selected range is from 0.00 to 395.00 5.00 to 400.00
Mean value in simulation was 25.67 30.67

37030101
South Malay Lacustrine
Monte Carlo Results

Assumption: Sizes of Oil Fields (cont'd)



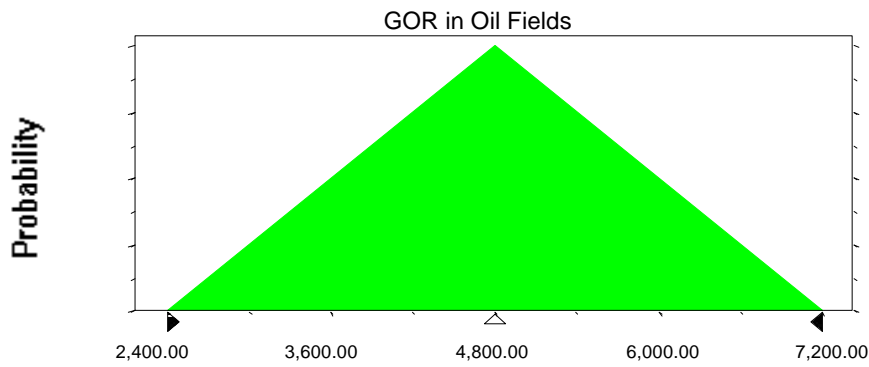
Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	2,400.00
Likeliest	4,800.00
Maximum	7,200.00

Selected range is from 2,400.00 to 7,200.00

Mean value in simulation was 4,797.75



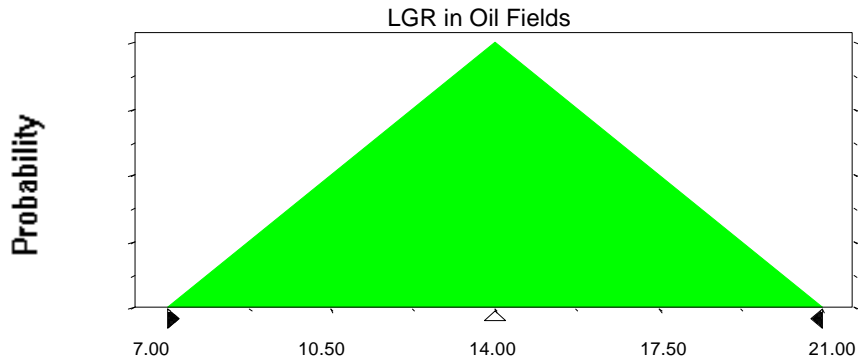
37030101
South Malay Lacustrine
Monte Carlo Results

Assumption: LGR in Oil Fields

Triangular distribution with parameters:

Minimum	7.00
Likeliest	14.00
Maximum	21.00

Selected range is from 7.00 to 21.00
Mean value in simulation was 13.99



Assumption: Number of Gas Fields

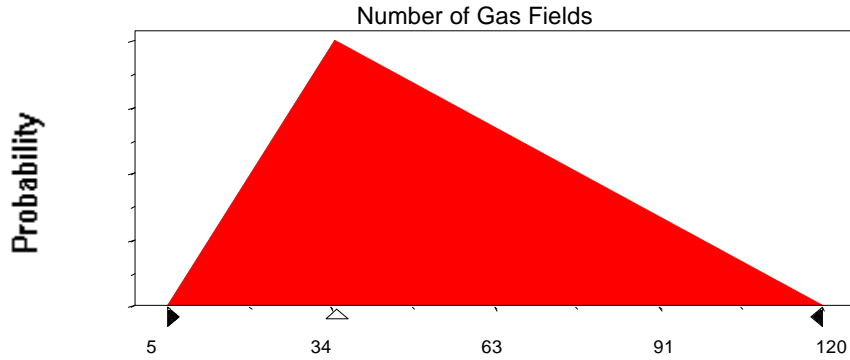
Triangular distribution with parameters:

Minimum	5
Likeliest	35
Maximum	120

Selected range is from 5 to 120
Mean value in simulation was 53

37030101
South Malay Lacustrine
Monte Carlo Results

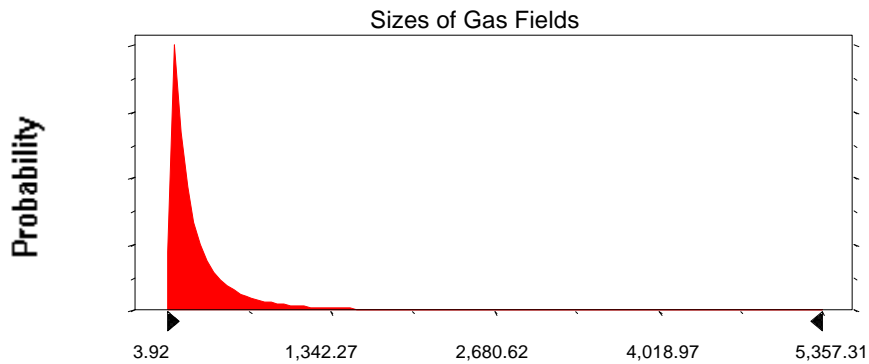
Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	299.03	329.03
Standard Deviation	539.32	539.32

Selected range is from 0.00 to 5,970.00	30.00 to 6,000.00
Mean value in simulation was 289.73	319.73



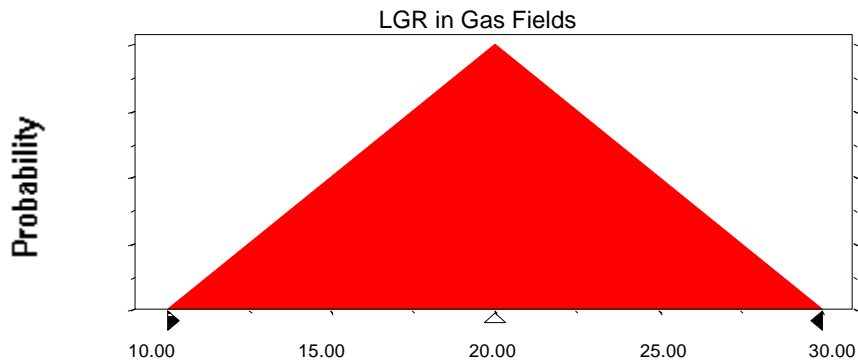
37030101
South Malay Lacustrine
Monte Carlo Results

Assumption: LGR in Gas Fields

Triangular distribution with parameters:

Minimum	10.00
Likeliest	20.00
Maximum	30.00

Selected range is from 10.00 to 30.00
Mean value in simulation was 20.01



End of Assumptions

Simulation started on 10/7/99 at 11:01:58
Simulation stopped on 10/7/99 at 11:51:08