

Southwest Maracaibo Basin Fold Belt, Assessment Unit 60990102
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	4	1.00	105	322	641	341	194	623	1,362	681	11	36	86	41	23	60	173	73
Gas Fields	24						226	742	1,624	810	9	32	76	36	68	185	598	237
Total		1.00	105	322	641	341	420	1,365	2,985	1,491	20	68	162	77				

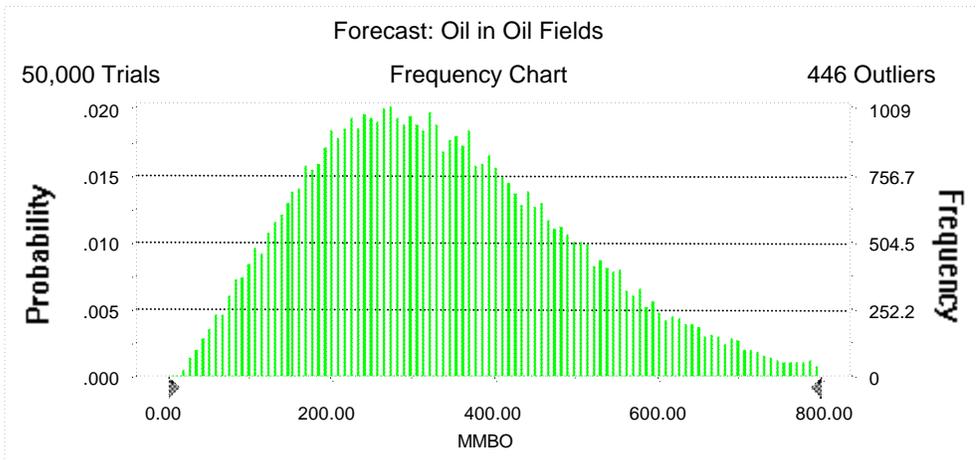
60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

Forecast: Oil in Oil Fields

Summary:

Display range is from 0.00 to 800.00 MMBO
Entire range is from 11.76 to 1,300.85 MMBO
After 50,000 trials, the standard error of the mean is 0.74

Statistics:	Value
Trials	50000
Mean	341.02
Median	322.21
Mode	---
Standard Deviation	164.63
Variance	27,102.23
Skewness	0.64
Kurtosis	3.36
Coefficient of Variability	0.48
Range Minimum	11.76
Range Maximum	1,300.85
Range Width	1,289.09
Mean Standard Error	0.74



60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

Forecast: Oil in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	11.76
95%	105.06
90%	142.32
85%	171.42
80%	196.46
75%	218.59
70%	239.52
65%	260.11
60%	280.24
55%	301.00
50%	322.21
45%	343.78
40%	366.38
35%	390.26
30%	415.59
25%	444.66
20%	476.66
15%	514.61
10%	562.54
5%	640.99
0%	1,300.85

End of Forecast

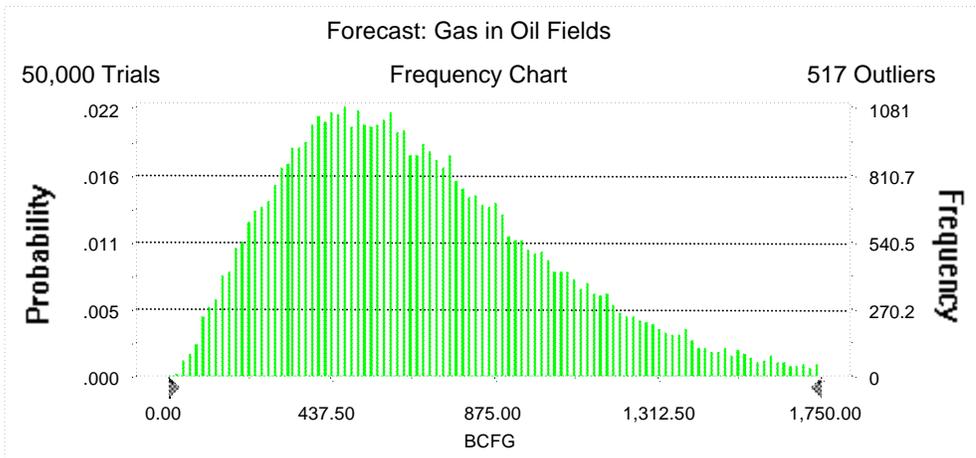
60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

Forecast: Gas in Oil Fields

Summary:

Display range is from 0.00 to 1,750.00 BCFG
Entire range is from 12.44 to 3,161.02 BCFG
After 50,000 trials, the standard error of the mean is 1.63

Statistics:	<u>Value</u>
Trials	50000
Mean	681.37
Median	623.23
Mode	---
Standard Deviation	364.45
Variance	132,821.60
Skewness	0.94
Kurtosis	4.27
Coefficient of Variability	0.53
Range Minimum	12.44
Range Maximum	3,161.02
Range Width	3,148.58
Mean Standard Error	1.63



60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

Forecast: Gas in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	12.44
95%	194.14
90%	263.64
85%	320.01
80%	368.20
75%	412.03
70%	453.83
65%	495.29
60%	537.60
55%	580.98
50%	623.23
45%	669.74
40%	717.81
35%	768.09
30%	826.34
25%	887.91
20%	963.30
15%	1,055.65
10%	1,173.48
5%	1,361.53
0%	3,161.02

End of Forecast

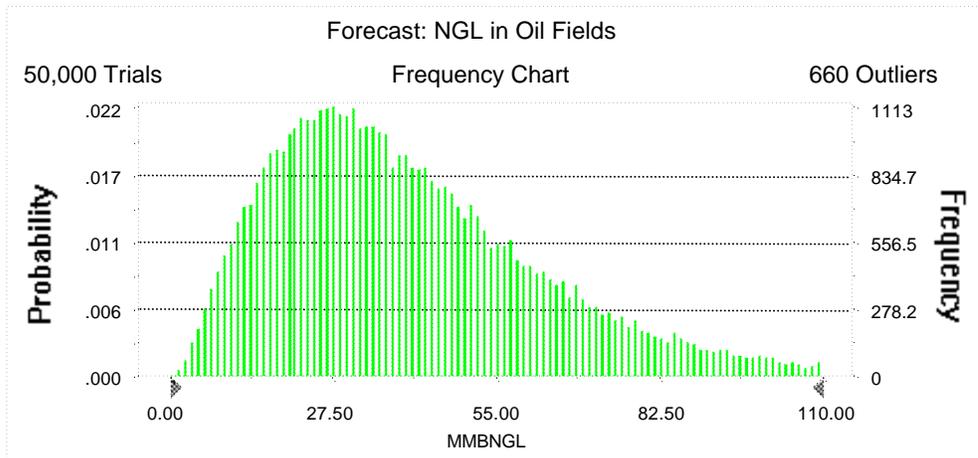
60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

Forecast: NGL in Oil Fields

Summary:

Display range is from 0.00 to 110.00 MMBNGL
 Entire range is from 0.70 to 212.71 MMBNGL
 After 50,000 trials, the standard error of the mean is 0.11

Statistics:	<u>Value</u>
Trials	50000
Mean	40.88
Median	36.29
Mode	---
Standard Deviation	23.81
Variance	566.87
Skewness	1.15
Kurtosis	4.96
Coefficient of Variability	0.58
Range Minimum	0.70
Range Maximum	212.71
Range Width	212.01
Mean Standard Error	0.11



60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

Forecast: NGL in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	0.70
95%	10.86
90%	14.83
85%	17.93
80%	20.82
75%	23.43
70%	26.01
65%	28.48
60%	31.01
55%	33.63
50%	36.29
45%	39.27
40%	42.33
35%	45.66
30%	49.30
25%	53.44
20%	58.45
15%	64.64
10%	72.70
5%	86.26
0%	212.71

End of Forecast

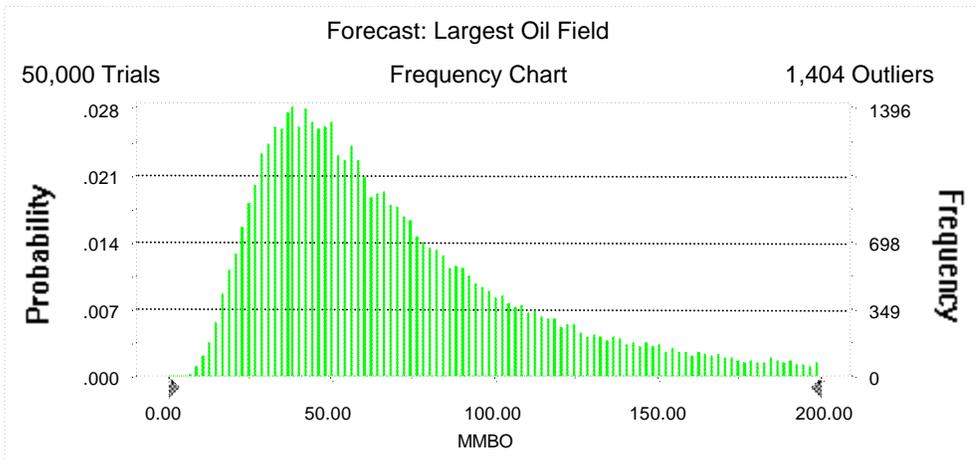
60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

Forecast: Largest Oil Field

Summary:

Display range is from 0.00 to 200.00 MMBO
 Entire range is from 5.29 to 279.97 MMBO
 After 50,000 trials, the standard error of the mean is 0.21

Statistics:	<u>Value</u>
Trials	50000
Mean	72.95
Median	59.63
Mode	---
Standard Deviation	47.29
Variance	2,236.43
Skewness	1.56
Kurtosis	5.68
Coefficient of Variability	0.65
Range Minimum	5.29
Range Maximum	279.97
Range Width	274.68
Mean Standard Error	0.21



60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

Forecast: Largest Oil Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	5.29
95%	22.55
90%	28.07
85%	32.26
80%	36.15
75%	39.72
70%	43.46
65%	47.23
60%	51.07
55%	55.30
50%	59.63
45%	64.69
40%	70.08
35%	76.05
30%	83.26
25%	91.80
20%	102.55
15%	116.59
10%	137.03
5%	172.56
0%	279.97

End of Forecast

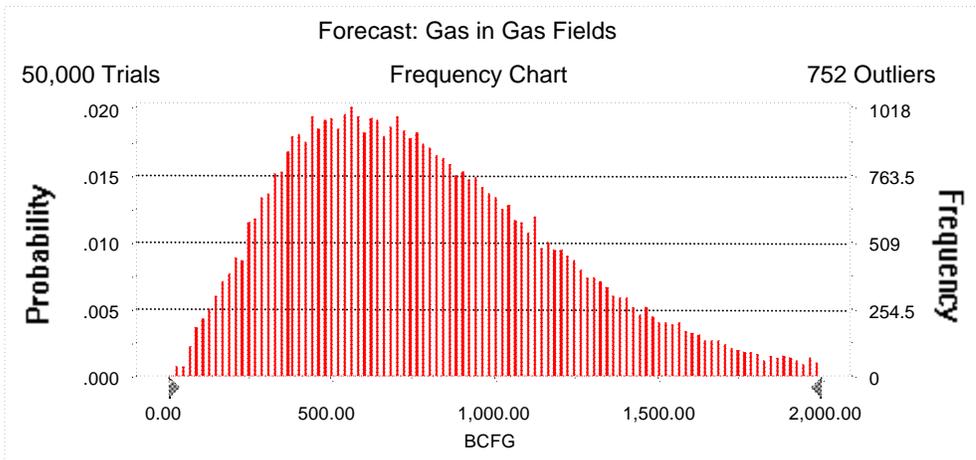
60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

Forecast: Gas in Gas Fields

Summary:

Display range is from 0.00 to 2,000.00 BCFG
Entire range is from 25.37 to 3,814.30 BCFG
After 50,000 trials, the standard error of the mean is 1.96

Statistics:	<u>Value</u>
Trials	50000
Mean	810.08
Median	741.93
Mode	---
Standard Deviation	437.96
Variance	191,804.61
Skewness	0.91
Kurtosis	4.07
Coefficient of Variability	0.54
Range Minimum	25.37
Range Maximum	3,814.30
Range Width	3,788.93
Mean Standard Error	1.96



60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

Forecast: Gas in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	25.37
95%	226.35
90%	309.68
85%	373.82
80%	429.16
75%	482.00
70%	534.06
65%	583.82
60%	636.54
55%	688.82
50%	741.93
45%	796.94
40%	855.93
35%	919.77
30%	987.34
25%	1,064.30
20%	1,151.13
15%	1,256.76
10%	1,397.34
5%	1,623.64
0%	3,814.30

End of Forecast

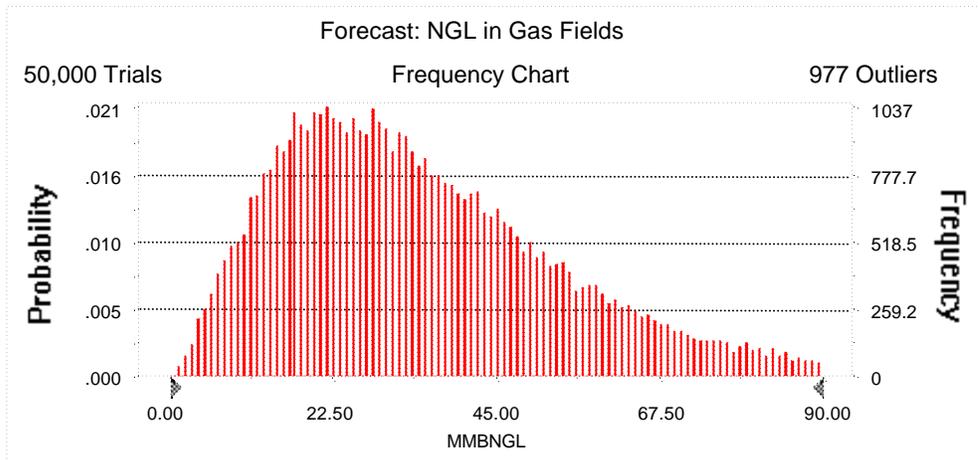
60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

Forecast: NGL in Gas Fields

Summary:

Display range is from 0.00 to 90.00 MMBNGL
Entire range is from 0.80 to 182.00 MMBNGL
After 50,000 trials, the standard error of the mean is 0.09

Statistics:	<u>Value</u>
Trials	50000
Mean	35.62
Median	31.74
Mode	---
Standard Deviation	20.85
Variance	434.88
Skewness	1.11
Kurtosis	4.71
Coefficient of Variability	0.59
Range Minimum	0.80
Range Maximum	182.00
Range Width	181.20
Mean Standard Error	0.09



60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

Forecast: NGL in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	0.80
95%	9.18
90%	12.74
85%	15.47
80%	17.87
75%	20.20
70%	22.38
65%	24.68
60%	27.02
55%	29.32
50%	31.74
45%	34.20
40%	37.00
35%	40.01
30%	43.20
25%	46.81
20%	51.17
15%	56.48
10%	63.67
5%	75.51
0%	182.00

End of Forecast

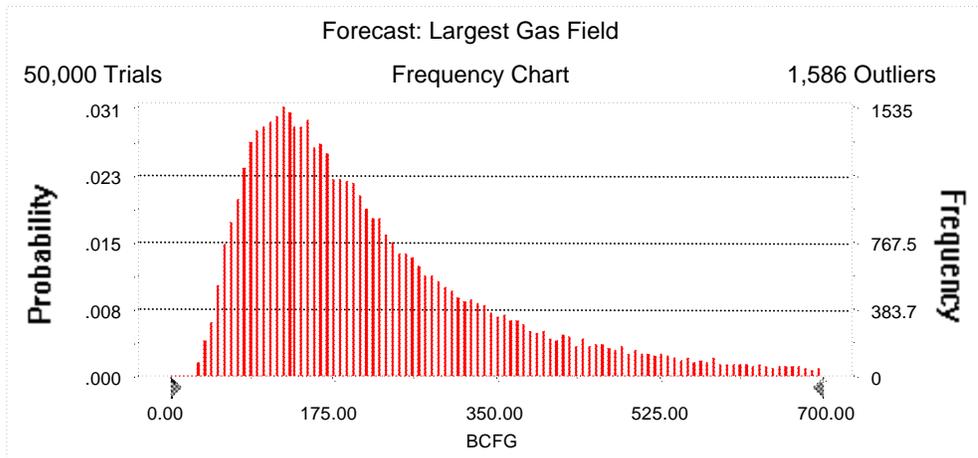
60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

Forecast: Largest Gas Field

Summary:

Display range is from 0.00 to 700.00 BCFG
 Entire range is from 25.17 to 1,199.72 BCFG
 After 50,000 trials, the standard error of the mean is 0.79

Statistics:	<u>Value</u>
Trials	50000
Mean	237.21
Median	185.13
Mode	---
Standard Deviation	176.33
Variance	31,090.54
Skewness	2.07
Kurtosis	8.39
Coefficient of Variability	0.74
Range Minimum	25.17
Range Maximum	1,199.72
Range Width	1,174.55
Mean Standard Error	0.79



60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

Forecast: Largest Gas Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	25.17
95%	68.08
90%	84.17
85%	96.98
80%	109.23
75%	120.92
70%	132.47
65%	144.63
60%	156.78
55%	170.32
50%	185.13
45%	200.95
40%	218.33
35%	238.58
30%	263.12
25%	292.55
20%	329.92
15%	379.55
10%	456.09
5%	597.65
0%	1,199.72

End of Forecast

60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

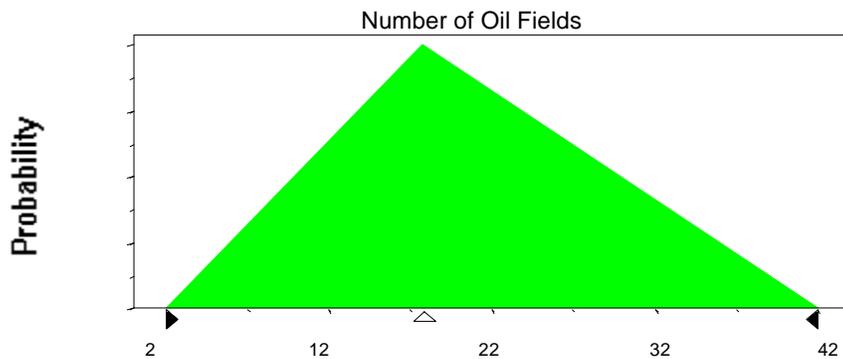
Assumptions

Assumption: Number of Oil Fields

Triangular distribution with parameters:

Minimum	2
Likeliest	18
Maximum	42

Selected range is from 2 to 42
Mean value in simulation was 21



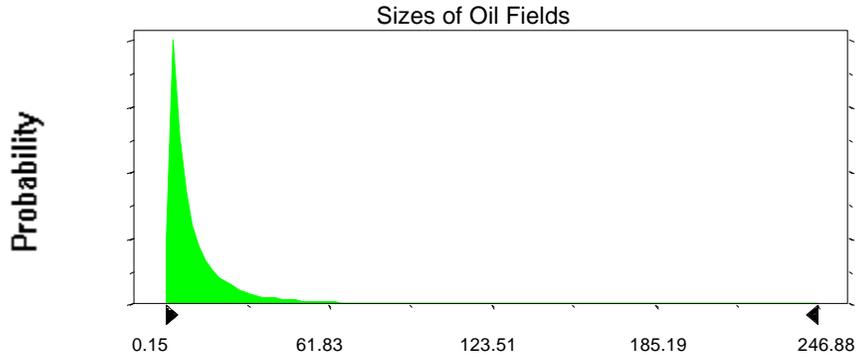
Assumption: Sizes of Oil Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	12.93	16.93
Standard Deviation	24.67	24.67

Selected range is from 0.00 to 276.00 4.00 to 280.00
Mean value in simulation was 12.45 16.45

60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

Assumption: Sizes of Oil Fields (cont'd)



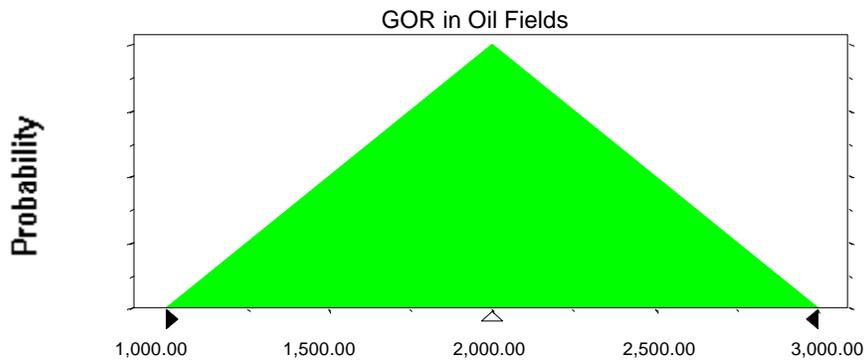
Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	1,000.00
Likeliest	2,000.00
Maximum	3,000.00

Selected range is from 1,000.00 to 3,000.00

Mean value in simulation was 1,997.27



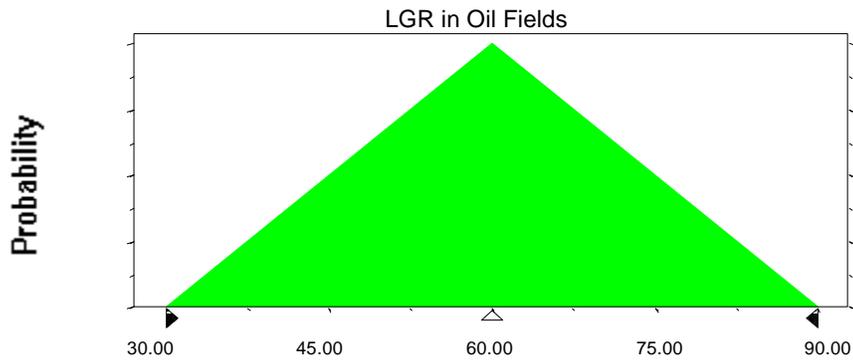
60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

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 60.02



Assumption: Number of Gas Fields

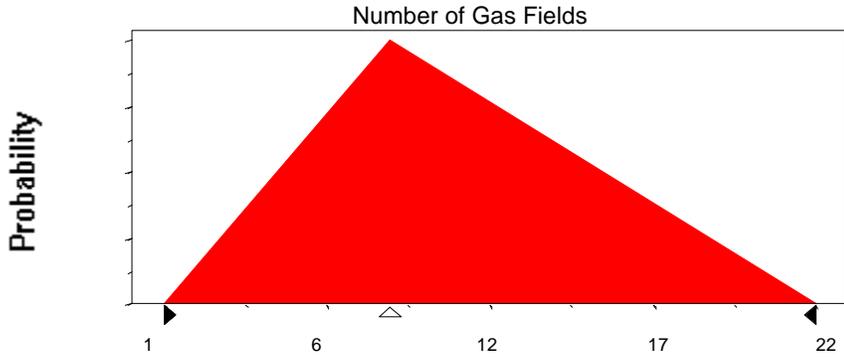
Triangular distribution with parameters:

Minimum	1
Likeliest	8
Maximum	22

Selected range is from 1 to 22
Mean value in simulation was 10

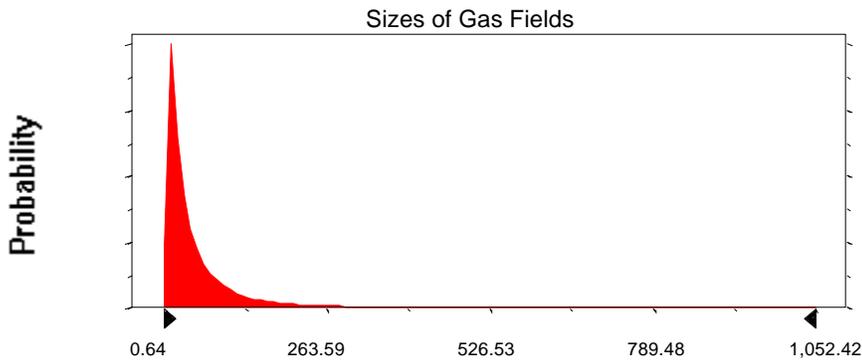
60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	55.64	79.64
Standard Deviation	105.28	105.28
Selected range is from 0.00 to 1,176.00		24.00 to 1,200.00
Mean value in simulation was 54.01		78.01



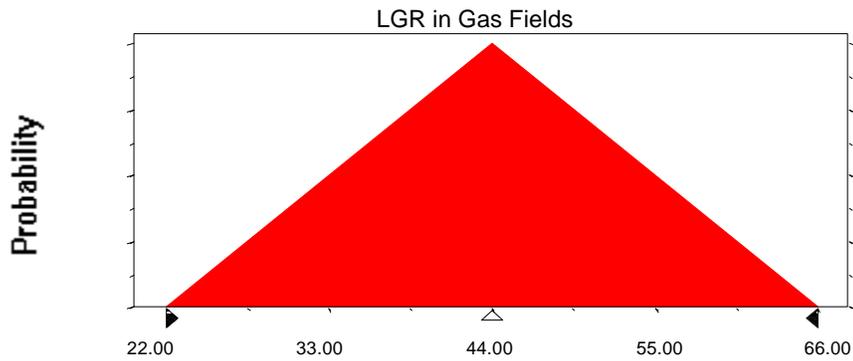
60990102
Southwest Maracaibo Basin Fold Belt
Monte Carlo Results

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 43.99



End of Assumptions

Simulation started on 5/24/99 at 12:13:52
Simulation stopped on 5/24/99 at 12:37:16