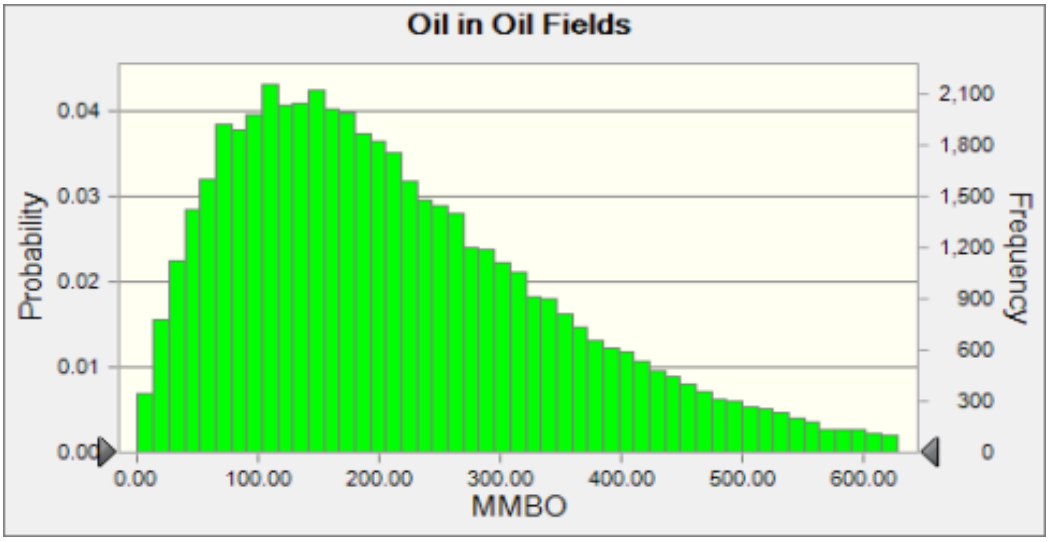
20540303
Hamra Basin Margin Structures
Monte Carlo Results

Forecast: Oil in Oil Fields

Summary:
Entire range is from 1.21 to 1,273.26
After 50,000 trials, the standard error of the mean is 0.65



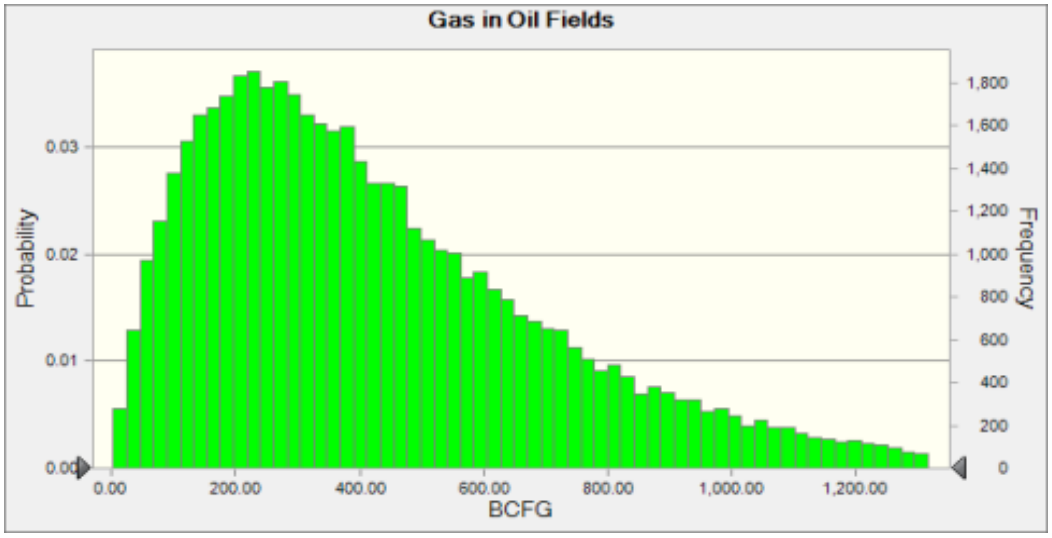
Statistics:	Forecast values
Trials	50,000
Mean	219.61
Median	189.77
Mode	---
Standard Deviation	144.99
Variance	21,021.41
Skewness	1.16
Kurtosis	4.75
Coefficient of Variability	0.6602
Minimum	1.21
Maximum	1,273.26
Range Width	1,272.05
Mean Standard Error	0.65

Forecast: Oil in Oil Fields (continued)

Percentiles:	MMBO
100%	1.21
95%	42.24
90%	62.89
85%	79.77
80%	95.83
75%	110.90
70%	125.66
65%	140.81
60%	156.53
55%	173.09
50%	189.77
45%	207.60
40%	226.65
35%	246.97
30%	270.32
25%	296.79
20%	328.74
15%	366.91
10%	417.23
5%	498.96
0%	1,273.26

Forecast: Gas in Oil Fields

Summary:
Entire range is from 2.09 to 2,811.57
After 50,000 trials, the standard error of the mean is 1.38



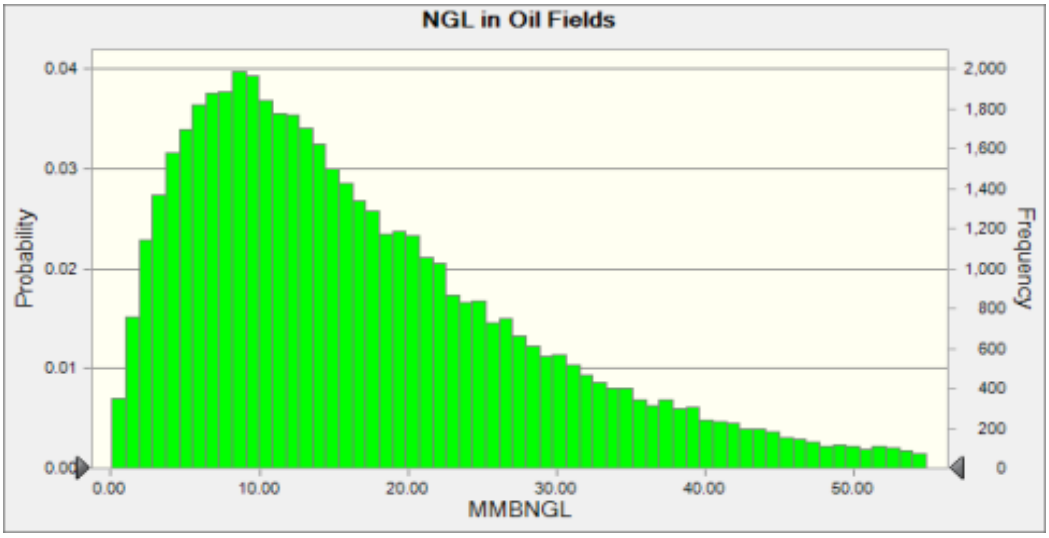
Statistics:	Forecast values
Trials	50,000
Mean	438.89
Median	369.27
Mode	---
Standard Deviation	309.03
Variance	95,496.46
Skewness	1.39
Kurtosis	5.81
Coefficient of Variability	0.7041
Minimum	2.09
Maximum	2,811.57
Range Width	2,809.48
Mean Standard Error	1.38

Forecast: Gas in Oil Fields (continued)

Percentiles:	BCFG
100%	2.09
95%	79.31
90%	118.00
85%	150.72
80%	182.16
75%	211.40
70%	241.35
65%	271.61
60%	302.93
55%	335.73
50%	369.27
45%	405.06
40%	443.51
35%	486.51
30%	534.38
25%	589.04
20%	656.50
15%	741.69
10%	852.69
5%	1,042.03
0%	2,811.57

Forecast: NGL in Oil Fields

Summary:
Entire range is from 0.07 to 163.12
After 50,000 trials, the standard error of the mean is 0.06



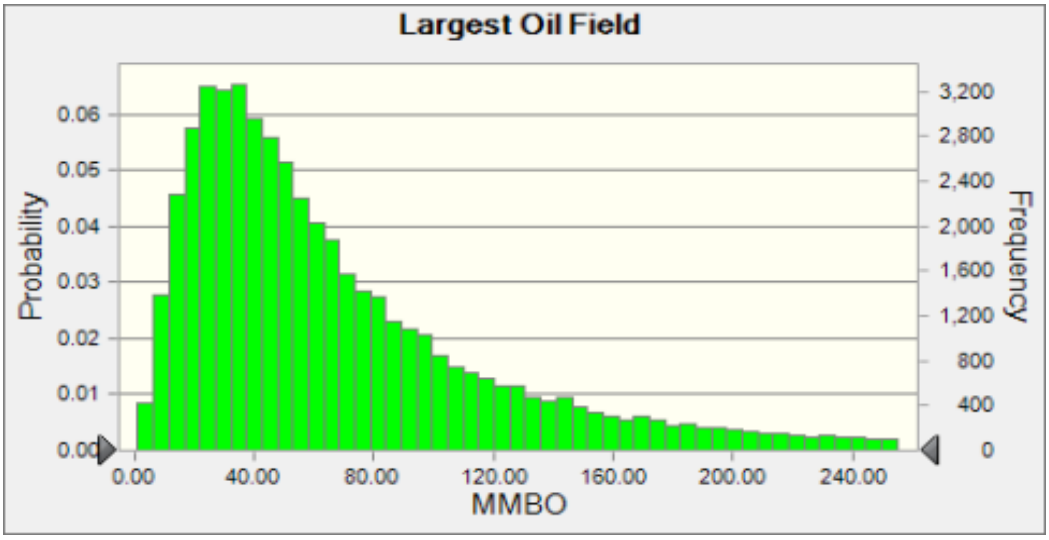
Statistics:	Forecast values
Trials	50,000
Mean	17.58
Median	14.34
Mode	---
Standard Deviation	13.18
Variance	173.61
Skewness	1.62
Kurtosis	7.15
Coefficient of Variability	0.7496
Minimum	0.07
Maximum	163.12
Range Width	163.05
Mean Standard Error	0.06

Forecast: NGL in Oil Fields (continued)

Percentiles:	MMBNGL
100%	0.07
95%	2.98
90%	4.46
85%	5.74
80%	6.91
75%	8.07
70%	9.25
65%	10.43
60%	11.69
55%	13.01
50%	14.34
45%	15.79
40%	17.41
35%	19.15
30%	21.14
25%	23.54
20%	26.33
15%	29.98
10%	34.92
5%	43.34
0%	163.12

Forecast: Largest Oil Field

Summary:
Entire range is from 1.21 to 399.89
After 50,000 trials, the standard error of the mean is 0.29



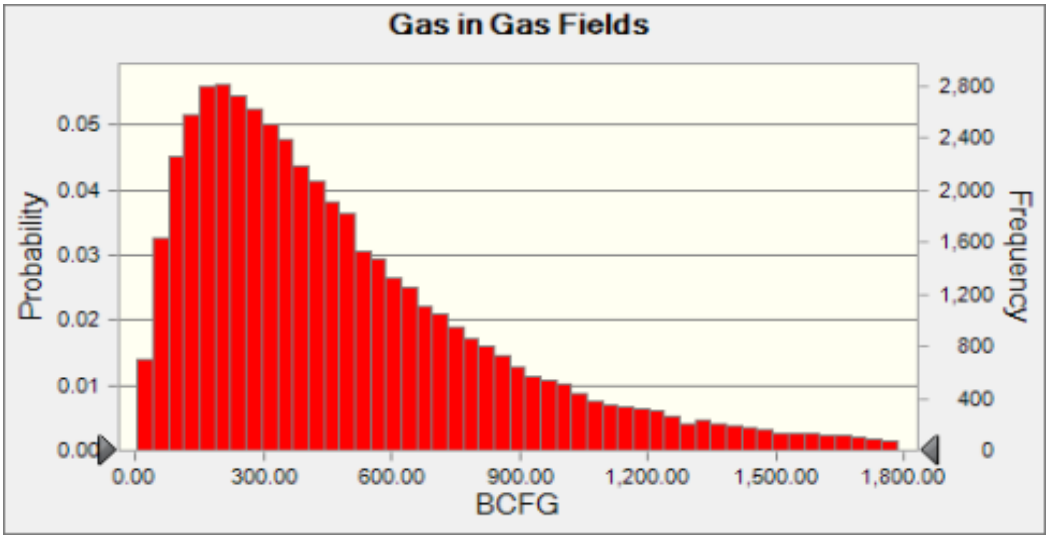
Statistics:	Forecast values
Trials	50,000
Mean	73.45
Median	52.90
Mode	---
Standard Deviation	64.93
Variance	4,215.64
Skewness	2.01
Kurtosis	7.70
Coefficient of Variability	0.8840
Minimum	1.21
Maximum	399.89
Range Width	398.67
Mean Standard Error	0.29

Forecast: Largest Oil Field (continued)

Percentiles:	MMBO
100%	1.21
95%	13.15
90%	18.00
85%	22.42
80%	26.44
75%	30.36
70%	34.41
65%	38.55
60%	42.95
55%	47.66
50%	52.90
45%	58.74
40%	65.12
35%	72.49
30%	81.40
25%	93.10
20%	107.49
15%	127.36
10%	155.99
5%	211.68
0%	399.89

Forecast: Gas in Gas Fields

Summary:
Entire range is from 6.72 to 5,118.66
After 50,000 trials, the standard error of the mean is 2.00



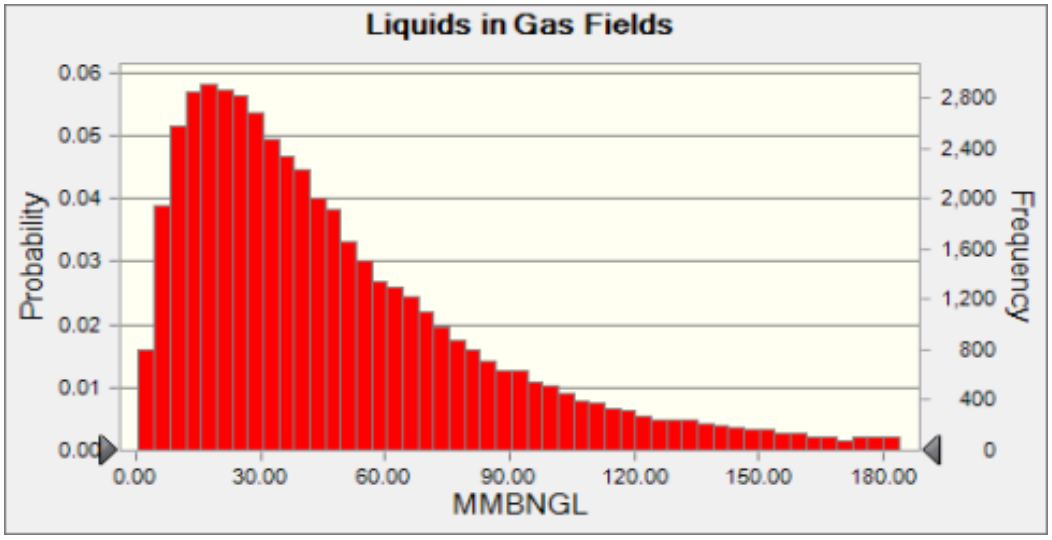
Statistics:	Forecast values
Trials	50,000
Mean	524.75
Median	400.43
Mode	---
Standard Deviation	447.69
Variance	200,425.03
Skewness	2.09
Kurtosis	9.54
Coefficient of Variability	0.8531
Minimum	6.72
Maximum	5,118.66
Range Width	5,111.94
Mean Standard Error	2.00

Forecast: Gas in Gas Fields (continued)

Percentiles:	BCFG
100%	6.72
95%	79.50
90%	119.48
85%	154.89
80%	188.02
75%	220.84
70%	253.50
65%	287.72
60%	323.16
55%	359.73
50%	400.43
45%	442.87
40%	492.16
35%	545.87
30%	609.18
25%	685.22
20%	775.89
15%	899.75
10%	1,076.43
5%	1,410.64
0%	5,118.66

Forecast: Liquids in Gas Fields

Summary:
Entire range is from 0.59 to 565.46
After 50,000 trials, the standard error of the mean is 0.21



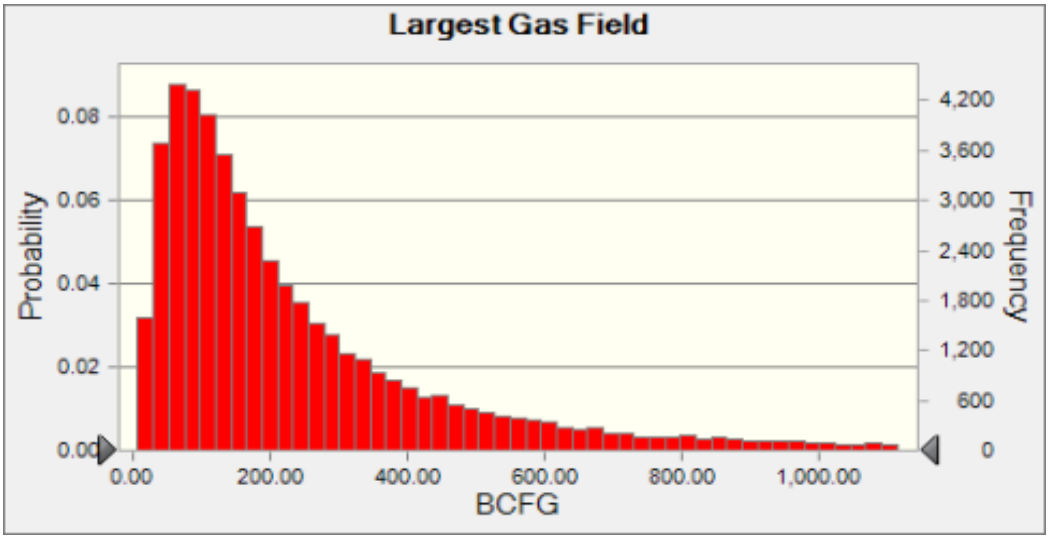
Statistics:	Forecast values
Trials	50,000
Mean	52.44
Median	39.00
Mode	---
Standard Deviation	46.90
Variance	2,199.77
Skewness	2.30
Kurtosis	11.28
Coefficient of Variability	0.8944
Minimum	0.59
Maximum	565.46
Range Width	564.87
Mean Standard Error	0.21

Forecast: Liquids in Gas Fields (continued)

Percentiles:	MMBL
100%	0.59
95%	7.55
90%	11.35
85%	14.67
80%	18.02
75%	21.18
70%	24.40
65%	27.78
60%	31.19
55%	34.95
50%	39.00
45%	43.40
40%	48.36
35%	54.06
30%	60.53
25%	68.15
20%	77.91
15%	90.71
10%	108.99
5%	142.91
0%	565.46

Forecast: Largest Gas Field

Summary:
Entire range is from 6.72 to 2,398.61
After 50,000 trials, the standard error of the mean is 1.35



Statistics:	Forecast values
Trials	50,000
Mean	266.43
Median	166.12
Mode	---
Standard Deviation	300.98
Variance	90,590.56
Skewness	2.92
Kurtosis	14.09
Coefficient of Variability	1.13
Minimum	6.72
Maximum	2,398.61
Range Width	2,391.89
Mean Standard Error	1.35

Forecast: Largest Gas Field (continued)

Percentiles:	BCFG
100%	6.72
95%	35.03
90%	49.83
85%	63.21
80%	75.98
75%	88.98
70%	101.51
65%	115.87
60%	131.27
55%	147.83
50%	166.12
45%	187.39
40%	211.98
35%	241.52
30%	276.87
25%	319.36
20%	377.16
15%	462.00
10%	593.13
5%	853.25
0%	2,398.61

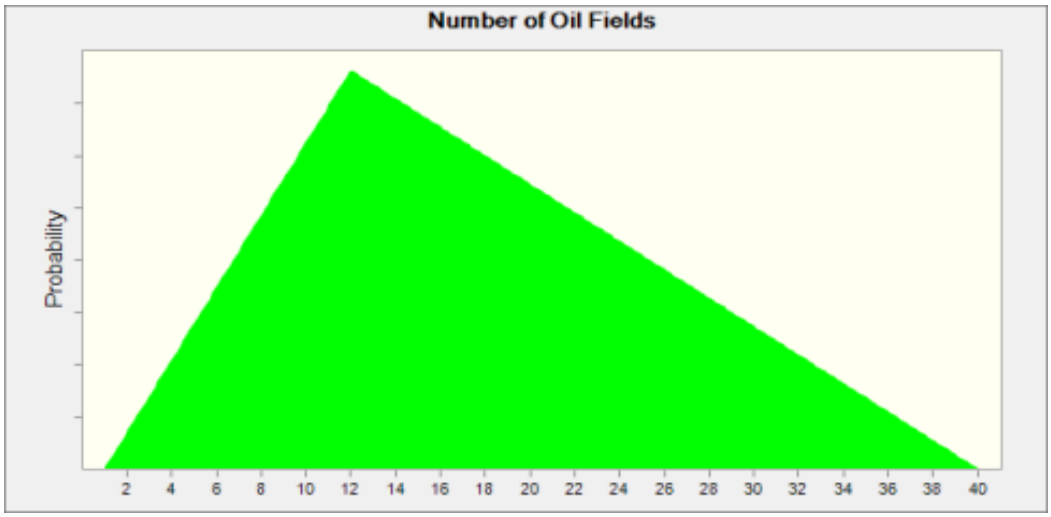
End of Forecasts

Assumptions

Assumption: Number of Oil Fields

Triangular distribution with parameters:

Minimum	1
Likeliest	12
Maximum	40



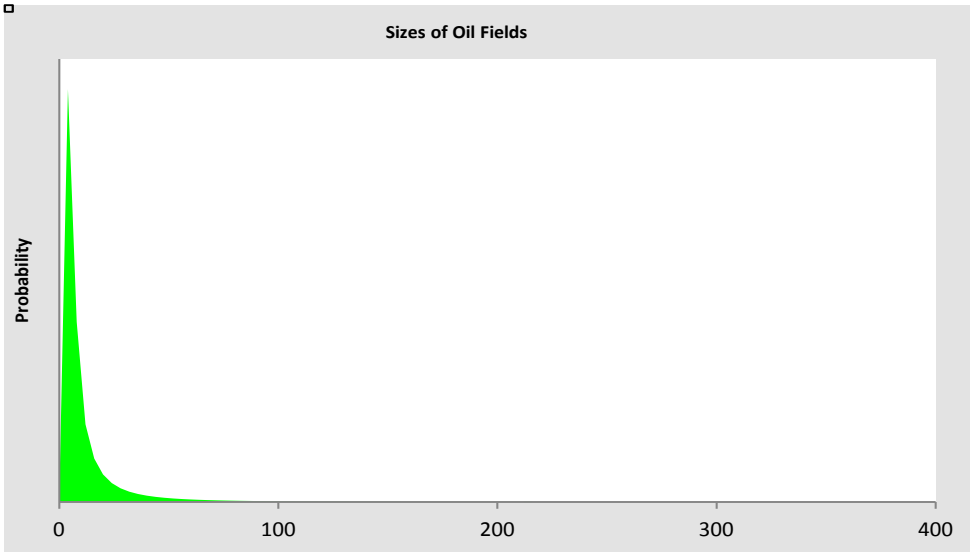
Statistics:	Actual values	Theoretical values
Trials	50,000	---
Mean	18	18
Median	17	17
Mode	---	12
Standard Deviation	8	8
Variance	67	67
Skewness	0.3839	0.3813
Kurtosis	2.41	2.40
Coefficient of Variability	0.4636	0.4647
Minimum	1	1
Maximum	40	40
Range Width	39	39
Mean Standard Error	0	---

Assumption: Number of Oil Fields (continued)

Percentiles:	Theoretical values
100%	1
95%	6
90%	8
85%	9
80%	10
75%	11
70%	12
65%	13
60%	14
55%	15
50%	17
45%	18
40%	19
35%	20
30%	22
25%	23
20%	25
15%	27
10%	30
5%	33
0%	40

Assumption: Sizes of Oil Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	12.13	13.13
Standard Deviation	34.72	34.72
Selected range is from -Infinity to 399.00		1.00 to 400.00



Statistics:	Actual values	Theoretical values
Trials	50,000	---
Mean	12.76	12.50
Median	5.05	4.99
Mode	---	0.43
Standard Deviation	25.76	24.60
Variance	663.59	604.93
Skewness	6.59	6.33
Kurtosis	64.89	60.64
Coefficient of Variability	2.02	1.97
Minimum	1.01	1.00
Maximum	399.35	400.00
Range Width	398.34	399.00
Mean Standard Error	0.12	---

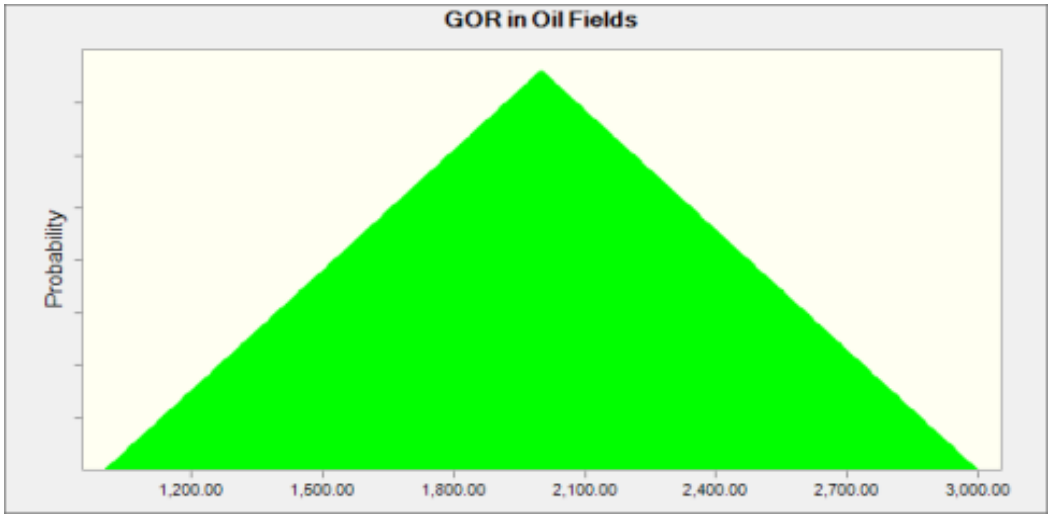
Assumption: Sizes of Oil Fields (continued)

Percentiles:	Theoretical values
100%	1.00
95%	1.34
90%	1.59
85%	1.85
80%	2.14
75%	2.46
70%	2.83
65%	3.25
60%	3.74
55%	4.31
50%	4.99
45%	5.81
40%	6.82
35%	8.08
30%	9.71
25%	11.89
20%	14.95
15%	19.63
10%	27.78
5%	46.73
0%	400.00

Assumption: GOR in Oil Fields

Triangular distribution with parameters:

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



Statistics:	Actual values	Theoretical values
Trials	50,000	---
Mean	1,998.81	2,000.00
Median	2,001.02	2,000.00
Mode	---	2,000.00
Standard Deviation	408.52	408.25
Variance	166,891.16	166,666.67
Skewness	-0.0083	0.00
Kurtosis	2.41	2.40
Coefficient of Variability	0.2044	0.2041
Minimum	1,006.02	1,000.00
Maximum	2,994.52	3,000.00
Range Width	1,988.49	2,000.00
Mean Standard Error	1.83	---

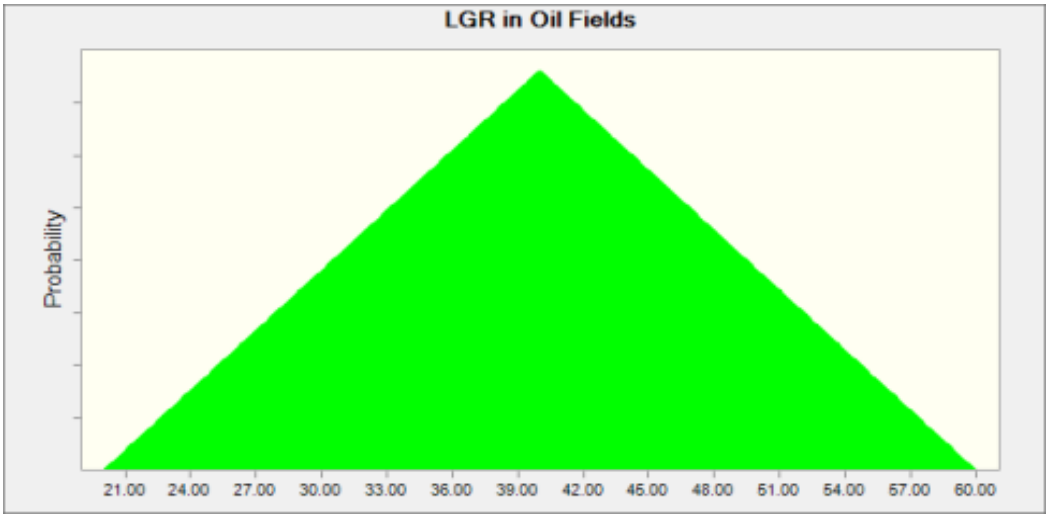
Assumption: GOR in Oil Fields (continued)

Percentiles:	Theoretical values
100%	1,000.00
95%	1,316.23
90%	1,447.21
85%	1,547.72
80%	1,632.46
75%	1,707.11
70%	1,774.60
65%	1,836.66
60%	1,894.43
55%	1,948.68
50%	2,000.00
45%	2,051.32
40%	2,105.57
35%	2,163.34
30%	2,225.40
25%	2,292.89
20%	2,367.54
15%	2,452.28
10%	2,552.79
5%	2,683.77
0%	3,000.00

Assumption: LGR in Oil Fields

Triangular distribution with parameters:

Minimum	20.00
Likeliest	40.00
Maximum	60.00



Statistics:	Actual values	Theoretical values
Trials	50,000	---
Mean	40.00	40.00
Median	40.03	40.00
Mode	---	40.00
Standard Deviation	8.13	8.16
Variance	66.17	66.67
Skewness	-0.0026	0.00
Kurtosis	2.41	2.40
Coefficient of Variability	0.2034	0.2041
Minimum	20.05	20.00
Maximum	59.90	60.00
Range Width	39.85	40.00
Mean Standard Error	0.04	---

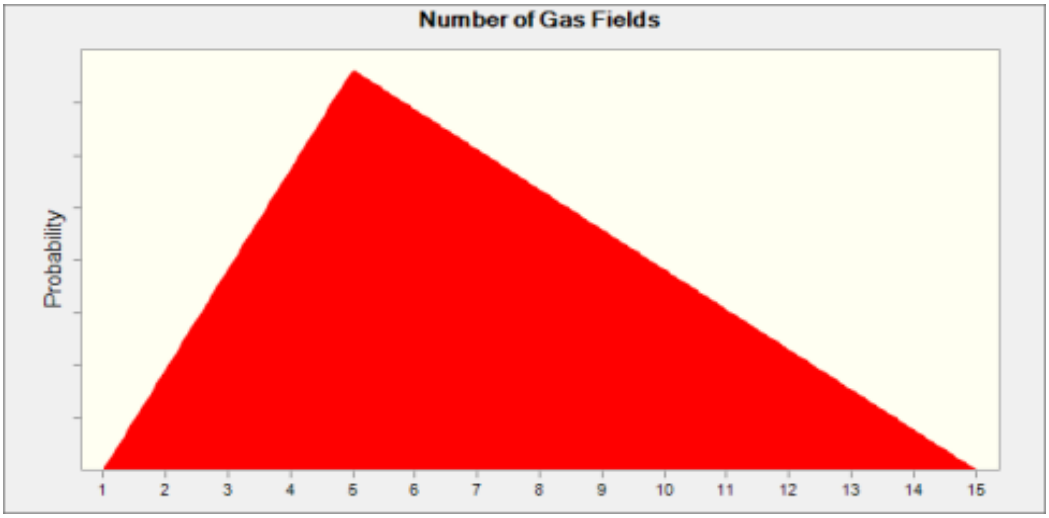
Assumption: LGR in Oil Fields (continued)

Percentiles:	Theoretical values
100%	20.00
95%	26.32
90%	28.94
85%	30.95
80%	32.65
75%	34.14
70%	35.49
65%	36.73
60%	37.89
55%	38.97
50%	40.00
45%	41.03
40%	42.11
35%	43.27
30%	44.51
25%	45.86
20%	47.35
15%	49.05
10%	51.06
5%	53.68
0%	60.00

Assumption: Number of Gas Fields

Triangular distribution with parameters:

Minimum	1
Likeliest	5
Maximum	15



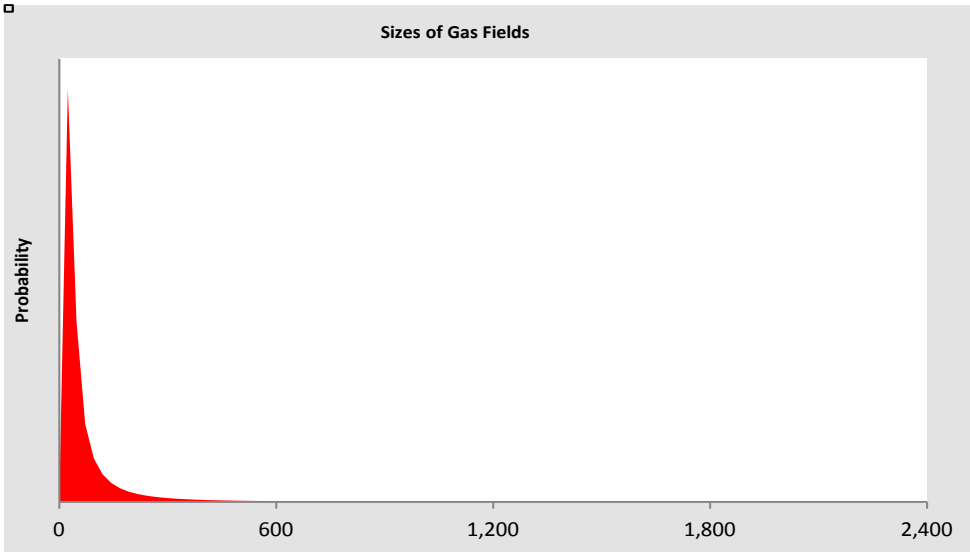
Statistics:	Actual values	Theoretical values
Trials	50,000	---
Mean	7	7
Median	7	7
Mode	---	5
Standard Deviation	3	3
Variance	9	9
Skewness	0.3704	0.3763
Kurtosis	2.40	2.40
Coefficient of Variability	0.4200	0.4206
Minimum	1	1
Maximum	15	15
Range Width	14	14
Mean Standard Error	0	---

Assumption: Number of Gas Fields (continued)

Percentiles:	Theoretical values
100%	1
95%	3
90%	3
85%	4
80%	4
75%	5
70%	5
65%	5
60%	6
55%	6
50%	7
45%	7
40%	8
35%	8
30%	9
25%	9
20%	10
15%	10
10%	11
5%	12
0%	15

Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	72.78	78.78
Standard Deviation	208.35	208.35
Selected range is from -Infinity to 2,394.00		6.00 to 2,400.00



Statistics:	Actual values	Theoretical values
Trials	50,000	---
Mean	74.52	74.97
Median	29.93	29.96
Mode	---	2.61
Standard Deviation	144.71	147.57
Variance	20,939.82	21,777.38
Skewness	6.14	6.33
Kurtosis	57.34	60.64
Coefficient of Variability	1.94	1.97
Minimum	6.04	6.00
Maximum	2,396.32	2,400.00
Range Width	2,390.27	2,394.00
Mean Standard Error	0.65	---

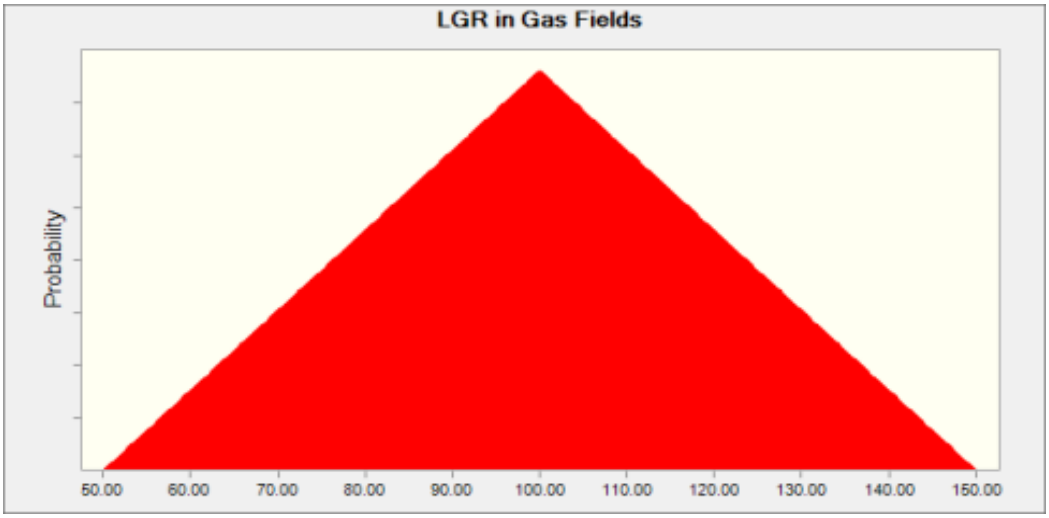
Assumption: Sizes of Gas Fields (continued)

Percentiles:	Theoretical values
100%	6.00
95%	8.07
90%	9.55
85%	11.12
80%	12.84
75%	14.78
70%	16.98
65%	19.50
60%	22.43
55%	25.87
50%	29.96
45%	34.88
40%	40.92
35%	48.50
30%	58.26
25%	71.31
20%	89.72
15%	117.77
10%	166.67
5%	280.37
0%	2,400.00

Assumption: LGR in Gas Fields

Triangular distribution with parameters:

Minimum	50.00
Likeliest	100.00
Maximum	150.00



Statistics:	Actual values	Theoretical values
Trials	50,000	---
Mean	99.96	100.00
Median	99.93	100.00
Mode	---	100.00
Standard Deviation	20.51	20.41
Variance	420.86	416.67
Skewness	-0.0055	0.00
Kurtosis	2.38	2.40
Coefficient of Variability	0.2052	0.2041
Minimum	50.30	50.00
Maximum	149.63	150.00
Range Width	99.32	100.00
Mean Standard Error	0.09	---

Assumption: LGR in Gas Fields (continued)

Percentiles:	Theoretical values
100%	50.00
95%	65.81
90%	72.36
85%	77.39
80%	81.62
75%	85.36
70%	88.73
65%	91.83
60%	94.72
55%	97.43
50%	100.00
45%	102.57
40%	105.28
35%	108.17
30%	111.27
25%	114.64
20%	118.38
15%	122.61
10%	127.64
5%	134.19
0%	150.00

End of Assumptions

Simulation started on 7/31/2012 at 10:35 AM
Simulation stopped on 7/31/2012 at 10:37 AM