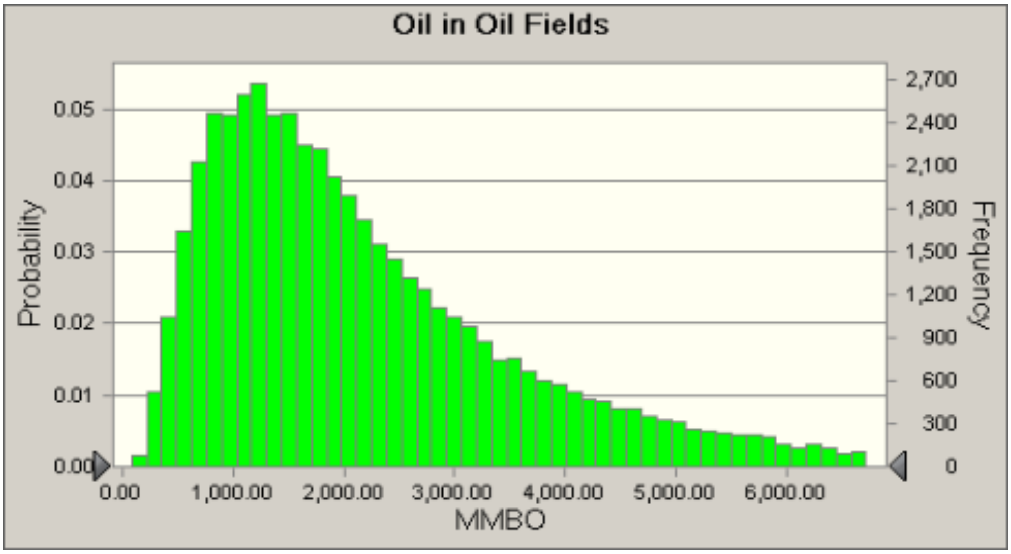
20430102
Offshore Sirte Basin
Monte Carlo Results

Forecast: Oil in Oil Fields

Summary:
Entire range is from 77.21 to 18,020.14
Filter range is from 0.00 to Infinity
After 50,000 trials, the standard error of the mean is 7.11



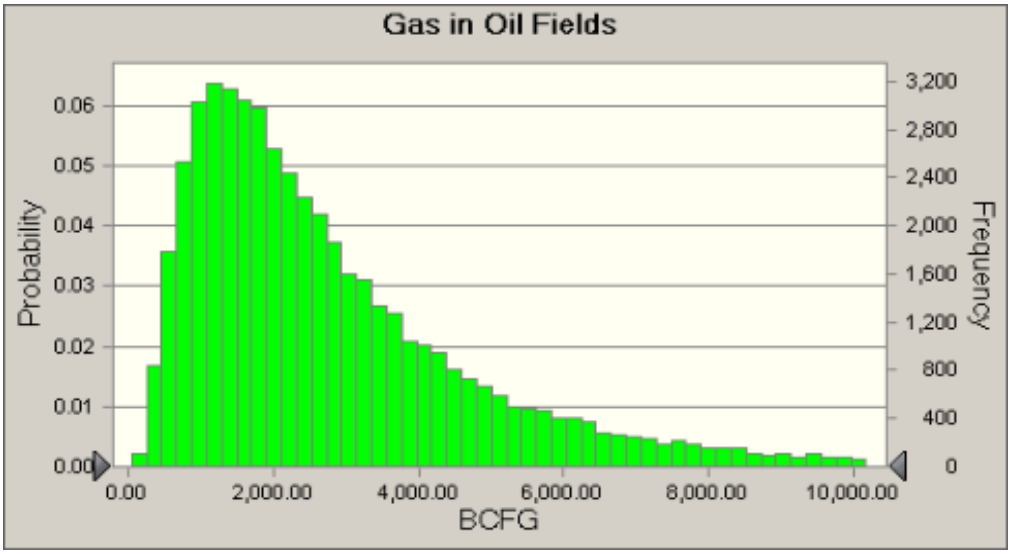
Statistics:	Forecast values
Trials	50,000
Mean	2,266.72
Median	1,837.96
Mode	---
Standard Deviation	1,590.71
Variance	2,530,350.56
Skewness	1.66
Kurtosis	7.07
Coefficient of Variability	0.7018
Minimum	77.21
Maximum	18,020.14
Range Width	17,942.94
Mean Standard Error	7.11

Forecast: Oil in Oil Fields (continued)

Percentiles:	MMBO
100%	77.21
95%	562.52
90%	729.65
85%	869.45
80%	1,006.76
75%	1,137.85
70%	1,265.71
65%	1,403.06
60%	1,537.09
55%	1,684.97
50%	1,837.96
45%	2,005.82
40%	2,194.32
35%	2,408.38
30%	2,655.81
25%	2,944.72
20%	3,293.91
15%	3,765.42
10%	4,413.79
5%	5,456.78
0%	18,020.14

Forecast: Gas in Oil Fields

Summary:
Entire range is from 34.13 to 42,491.71
Filter range is from 0.00 to Infinity
After 50,000 trials, the standard error of the mean is 11.50



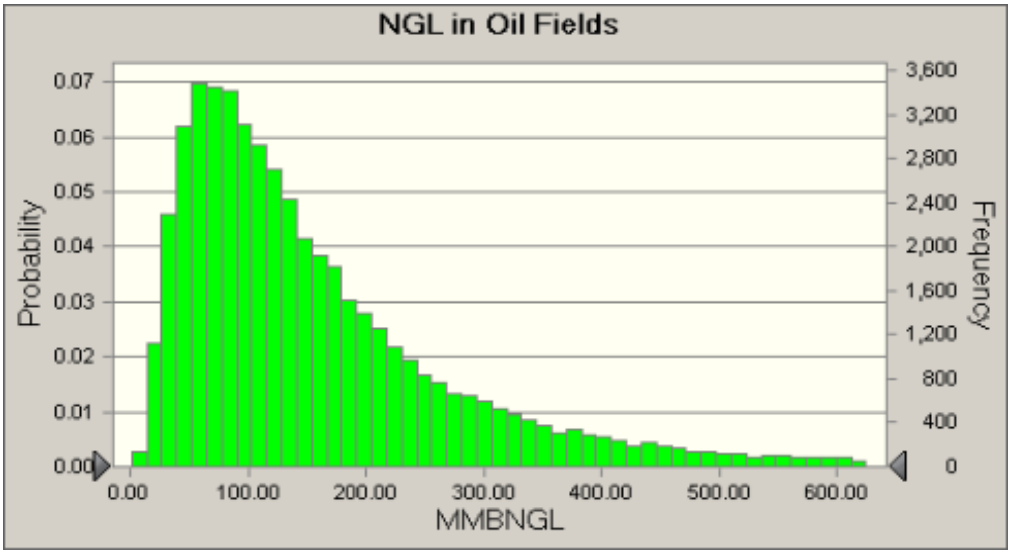
Statistics:	Forecast values
Trials	50,000
Mean	2,971.65
Median	2,249.92
Mode	---
Standard Deviation	2,572.33
Variance	6,616,867.87
Skewness	2.99
Kurtosis	19.62
Coefficient of Variability	0.8656
Minimum	34.13
Maximum	42,491.71
Range Width	42,457.58
Mean Standard Error	11.50

Forecast: Gas in Oil Fields (continued)

Percentiles:	BCFG
100%	34.13
95%	632.94
90%	842.14
85%	1,019.10
80%	1,179.60
75%	1,344.89
70%	1,510.22
65%	1,679.36
60%	1,852.45
55%	2,039.04
50%	2,249.73
45%	2,475.48
40%	2,720.89
35%	3,003.95
30%	3,336.89
25%	3,731.26
20%	4,234.89
15%	4,889.32
10%	5,882.63
5%	7,676.57
0%	42,491.71

Forecast: NGL in Oil Fields

Summary:
Entire range is from 0.91 to 3,308.11
Filter range is from 0.00 to Infinity
After 50,000 trials, the standard error of the mean is 0.73



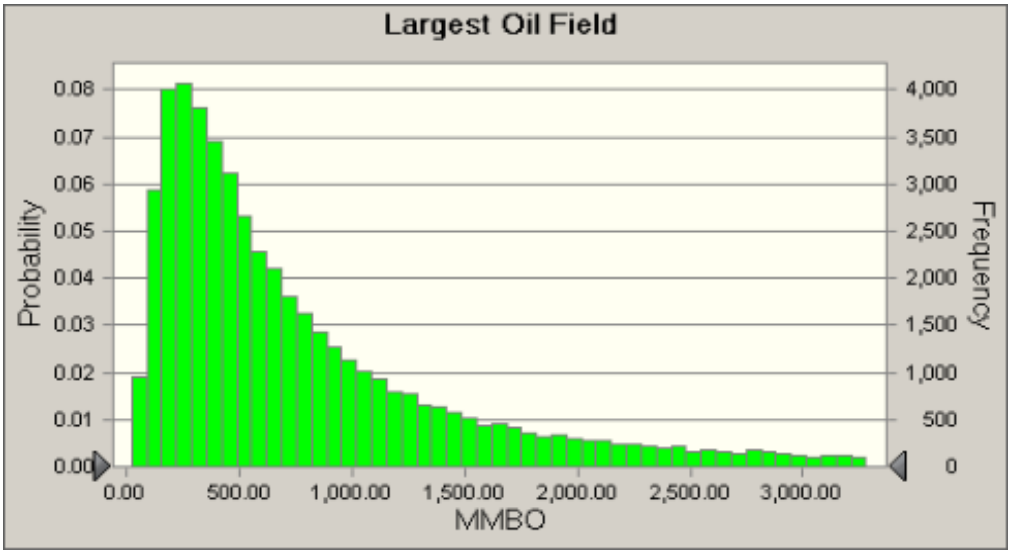
Statistics:	Forecast values
Trials	50,000
Mean	170.19
Median	124.37
Mode	---
Standard Deviation	162.40
Variance	26,374.36
Skewness	3.94
Kurtosis	34.93
Coefficient of Variability	0.9543
Minimum	0.91
Maximum	3,308.11
Range Width	3,307.20
Mean Standard Error	0.73

Forecast: NGL in Oil Fields (continued)

Percentiles:	MMBNGL
100%	0.91
95%	34.02
90%	45.39
85%	55.03
80%	64.03
75%	73.48
70%	82.31
65%	91.89
60%	102.09
55%	112.92
50%	124.36
45%	137.20
40%	151.72
35%	168.32
30%	187.04
25%	210.05
20%	239.02
15%	280.81
10%	339.06
5%	454.36
0%	3,308.11

Forecast: Largest Oil Field

Summary:
Entire range is from 18.21 to 4,997.92
Filter range is from 0.00 to Infinity
After 50,000 trials, the standard error of the mean is 3.87



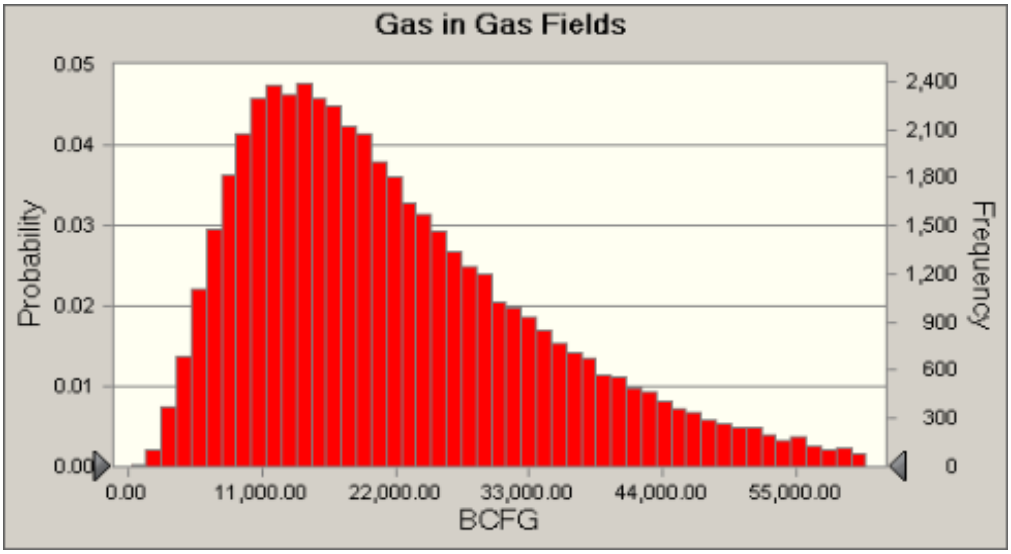
Statistics:	Forecast values
Trials	50,000
Mean	856.71
Median	551.01
Mode	---
Standard Deviation	865.38
Variance	748,888.10
Skewness	2.10
Kurtosis	7.78
Coefficient of Variability	1.01
Minimum	18.21
Maximum	4,997.92
Range Width	4,979.71
Mean Standard Error	3.87

Forecast: Largest Oil Field (continued)

Percentiles:	MMBO
100%	18.21
95%	124.41
90%	170.21
85%	211.61
80%	252.16
75%	293.66
70%	336.79
65%	384.49
60%	434.89
55%	487.65
50%	551.01
45%	624.29
40%	705.79
35%	804.16
30%	923.13
25%	1,072.03
20%	1,268.99
15%	1,544.25
10%	1,984.68
5%	2,784.97
0%	4,997.92

Forecast: Gas in Gas Fields

Summary:
Entire range is from 218.00 to 122,926.68
Filter range is from 0.00 to Infinity
After 50,000 trials, the standard error of the mean is 60.89



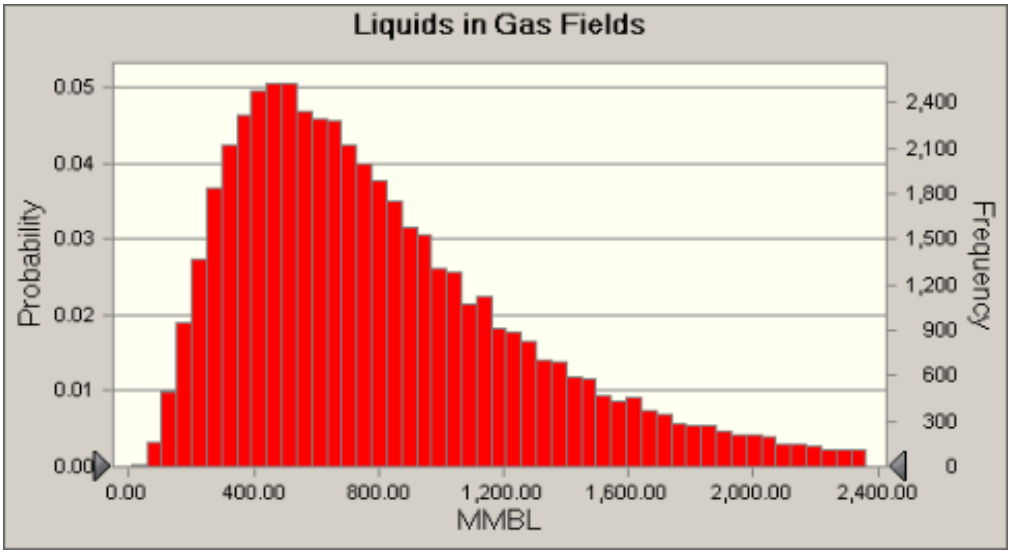
Statistics:	Forecast values
Trials	50,000
Mean	22,637.40
Median	19,540.50
Mode	---
Standard Deviation	13,614.38
Variance	185,351,308.91
Skewness	1.34
Kurtosis	5.54
Coefficient of Variability	0.6014
Minimum	218.00
Maximum	122,926.68
Range Width	122,708.68
Mean Standard Error	60.89

Forecast: Gas in Gas Fields (continued)

Percentiles:	BCFG
100%	218.00
95%	6,590.52
90%	8,494.30
85%	10,014.58
80%	11,362.87
75%	12,668.93
70%	14,003.04
65%	15,304.60
60%	16,639.01
55%	18,061.65
50%	19,540.30
45%	21,120.88
40%	22,844.60
35%	24,813.85
30%	26,921.31
25%	29,422.68
20%	32,449.34
15%	36,077.30
10%	40,982.87
5%	49,076.75
0%	122,926.68

Forecast: Liquids in Gas Fields

Summary:
Entire range is from 8.05 to 5,671.88
Filter range is from 0.00 to Infinity
After 50,000 trials, the standard error of the mean is 2.43



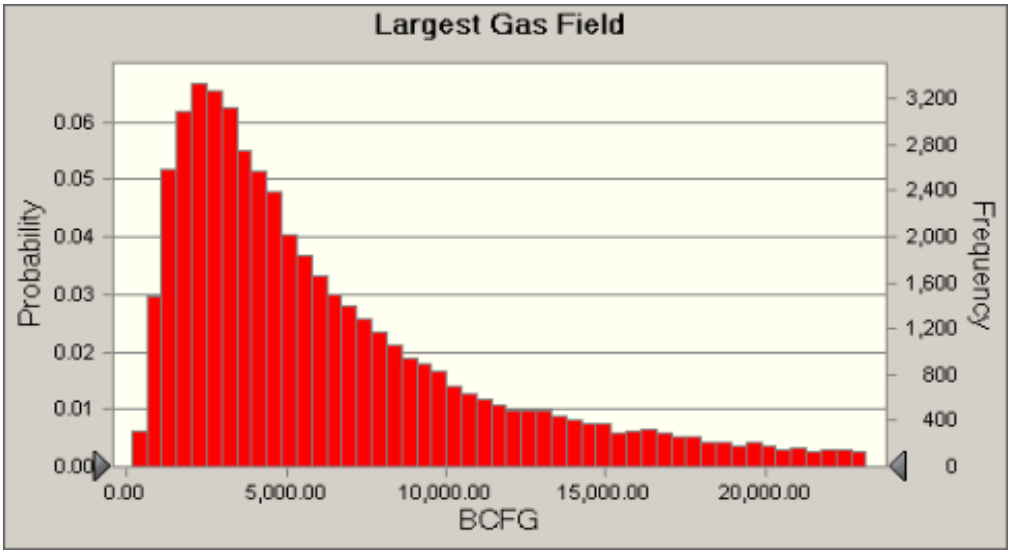
Statistics:	Forecast values
Trials	50,000
Mean	840.28
Median	709.07
Mode	---
Standard Deviation	543.17
Variance	295,034.31
Skewness	1.64
Kurtosis	7.20
Coefficient of Variability	0.6464
Minimum	8.05
Maximum	5,671.88
Range Width	5,663.84
Mean Standard Error	2.43

Forecast: Liquids in Gas Fields (continued)

Percentiles:	MMBL
100%	8.05
95%	233.02
90%	300.64
85%	356.66
80%	407.27
75%	454.83
70%	502.55
65%	551.26
60%	602.32
55%	654.86
50%	709.06
45%	769.11
40%	832.63
35%	904.49
30%	985.34
25%	1,080.23
20%	1,195.67
15%	1,342.92
10%	1,548.29
5%	1,902.63
0%	5,671.88

Forecast: Largest Gas Field

Summary:
Entire range is from 148.78 to 29,998.82
Filter range is from 0.00 to Infinity
After 50,000 trials, the standard error of the mean is 26.05



Statistics:	Forecast values
Trials	50,000
Mean	6,843.14
Median	4,868.24
Mode	---
Standard Deviation	5,824.09
Variance	33,920,078.94
Skewness	1.61
Kurtosis	5.36
Coefficient of Variability	0.8511
Minimum	148.78
Maximum	29,998.82
Range Width	29,850.04
Mean Standard Error	26.05

Forecast: Largest Gas Field (continued)

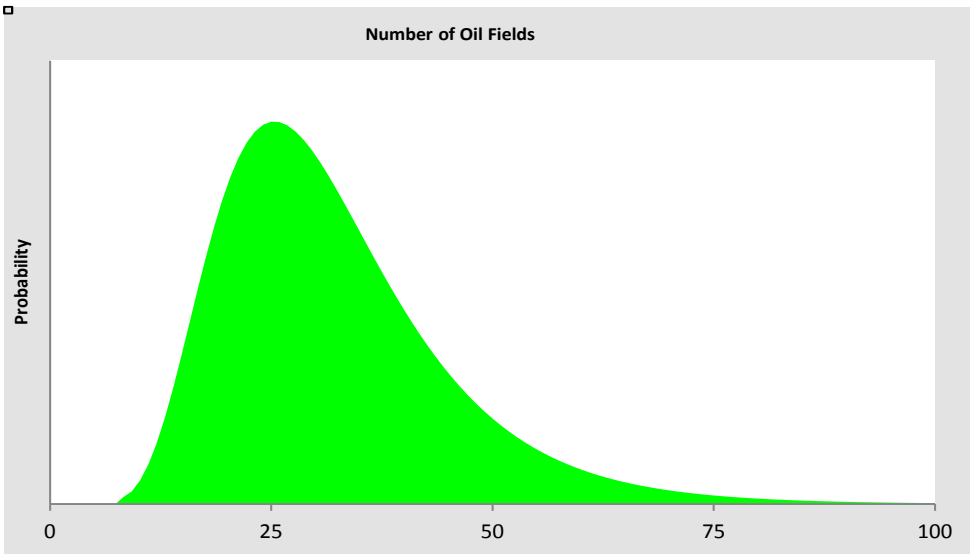
Percentiles:	BCFG
100%	148.78
95%	1,232.56
90%	1,649.23
85%	2,031.88
80%	2,383.77
75%	2,736.70
70%	3,094.84
65%	3,480.97
60%	3,916.22
55%	4,374.42
50%	4,868.24
45%	5,463.68
40%	6,127.59
35%	6,922.02
30%	7,829.82
25%	8,957.70
20%	10,350.51
15%	12,426.48
10%	15,212.84
5%	19,771.70
0%	29,998.82

End of Forecasts

Assumptions

Assumption: Number of Oil Fields

Lognormal distribution with parameters:		Shifted parameters
Location	0.00	1
Mean	31.38	32.38
Standard Deviation	12.98	12.98
Selected range is from -Infinity to 99.00		1.00 to 100.00



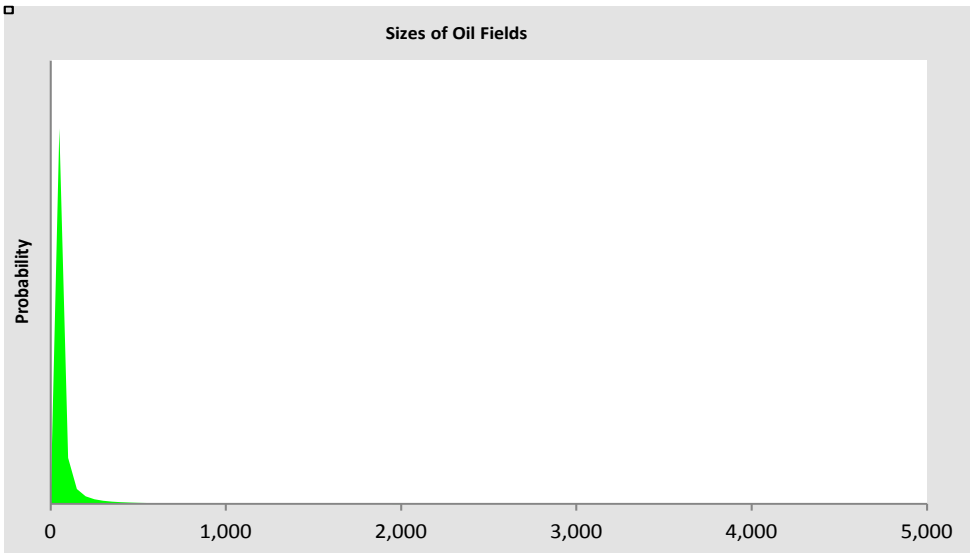
Statistics:	Simulated values	Theoretical values
Trials	50,000	---
Mean	32.33	32.30
Median	30.04	29.99
Mode	---	---
Standard Deviation	12.65	12.73
Variance	160.14	162.09
Skewness	1.12	1.14
Kurtosis	4.84	4.89
Coefficient of Variability	0.3915	0.3941
Minimum	7.02	1.00
Maximum	99.87	100.00
Range Width	92.85	99.00
Mean Standard Error	0.06	---

Assumption: Number of Oil Fields (continued)

Percentiles:	Simulated values	Theoretical values
100%	7.02	1.00
95%	16.13	16.08
90%	18.49	18.42
85%	20.25	20.21
80%	21.80	21.75
75%	23.24	23.18
70%	24.61	24.54
65%	25.94	25.87
60%	27.27	27.21
55%	28.65	28.58
50%	30.04	29.99
45%	31.55	31.47
40%	33.12	33.05
35%	34.84	34.77
30%	36.76	36.69
25%	38.88	38.88
20%	41.53	41.47
15%	44.73	44.71
10%	49.11	49.16
5%	56.44	56.55
0%	99.87	100.00

Assumption: Sizes of Oil Fields

Lognormal distribution with parameters:		Shifted parameters
Location	0.00	5
Mean	75.52	80.52
Standard Deviation	565.30	565.3
Selected range is from -Infinity to 4,995.00		5.00 to 5,000.00



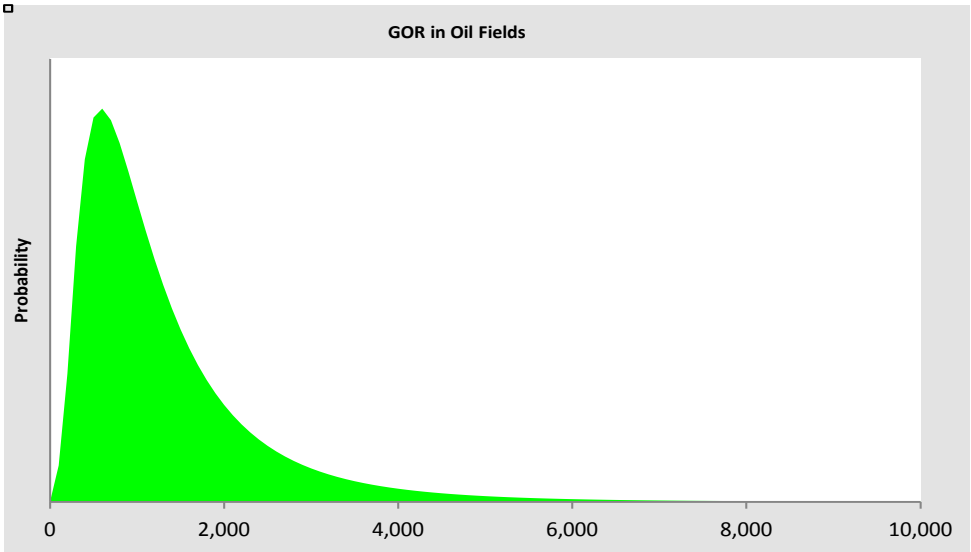
Statistics:	Simulated values	Theoretical values
Trials	50,000	---
Mean	68.14	72.26
Median	15.04	14.97
Mode	---	---
Standard Deviation	217.00	229.62
Variance	47,090.24	52,724.83
Skewness	9.85	9.84
Kurtosis	139.49	134.63
Coefficient of Variability	3.18	3.18
Minimum	5.00	5.00
Maximum	4,930.92	5,000.00
Range Width	4,925.92	4,995.00
Mean Standard Error	0.97	---

Assumption: Sizes of Oil Fields (continued)

Percentiles:	Simulated values	Theoretical values
100%	5.00	5.00
95%	5.37	5.37
90%	5.76	5.76
85%	6.23	6.24
80%	6.83	6.84
75%	7.58	7.57
70%	8.53	8.48
65%	9.65	9.60
60%	11.06	11.00
55%	12.80	12.75
50%	15.04	14.97
45%	17.90	17.84
40%	21.82	21.59
35%	26.91	26.63
30%	34.16	33.59
25%	44.21	43.63
20%	59.44	59.01
15%	84.76	84.79
10%	134.53	135.23
5%	273.67	273.21
0%	4,930.92	5,000.00

Assumption: GOR in Oil Fields

Lognormal distribution with parameters:		Shifted parameters
Location	0.00	7
Mean	1,312.78	1,319.78
Standard Deviation	1,135.20	1,135.20
Selected range is from -Infinity to 9,993.00		7.00 to 10,000.00



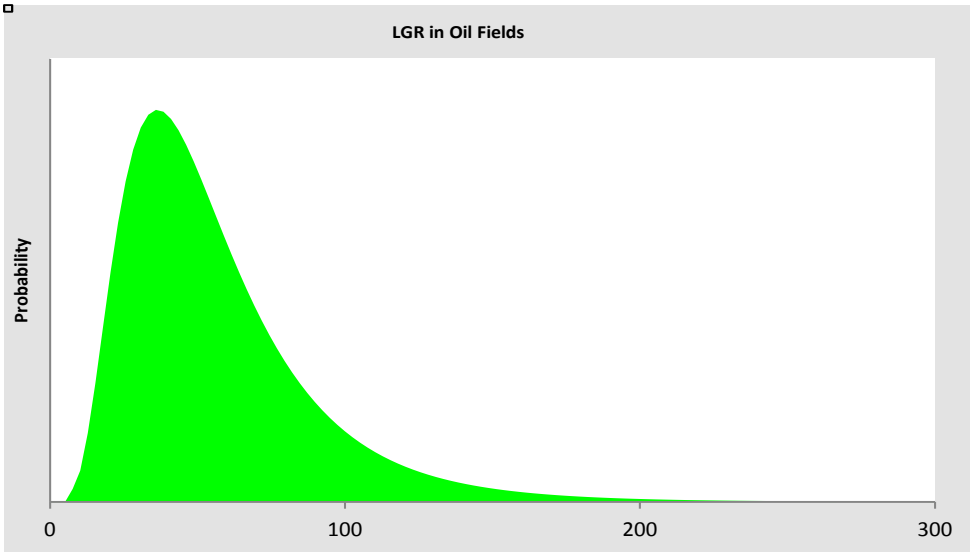
Statistics:	Simulated values	Theoretical values
Trials	50,000	---
Mean	1,309.08	1,308.51
Median	995.91	999.07
Mode	---	---
Standard Deviation	1,081.25	1,074.49
Variance	1,169,109.14	1,154,534.68
Skewness	2.43	2.40
Kurtosis	11.88	11.74
Coefficient of Variability	0.8260	0.8212
Minimum	58.26	7.00
Maximum	9,997.01	10,000.00
Range Width	9,938.76	9,993.00
Mean Standard Error	4.84	---

Assumption: GOR in Oil Fields (continued)

Percentiles:	Simulated values	Theoretical values
100%	58.26	7.00
95%	297.18	297.41
90%	388.46	387.96
85%	463.51	464.51
80%	533.63	536.18
75%	605.17	606.53
70%	679.31	677.65
65%	750.91	751.05
60%	828.34	828.10
55%	908.92	910.24
50%	995.90	999.07
45%	1,090.07	1,096.62
40%	1,199.88	1,205.56
35%	1,326.23	1,329.58
30%	1,474.62	1,474.14
25%	1,645.72	1,647.83
20%	1,859.95	1,865.40
15%	2,156.29	2,155.35
10%	2,588.16	2,584.33
5%	3,384.40	3,377.99
0%	9,997.01	10,000.00

Assumption: LGR in Oil Fields

Lognormal distribution with parameters:		Shifted parameters
Location	0.00	1
Mean	56.66	57.66
Standard Deviation	32.88	32.88
Selected range is from -Infinity to 259.00		1.00 to 260.00



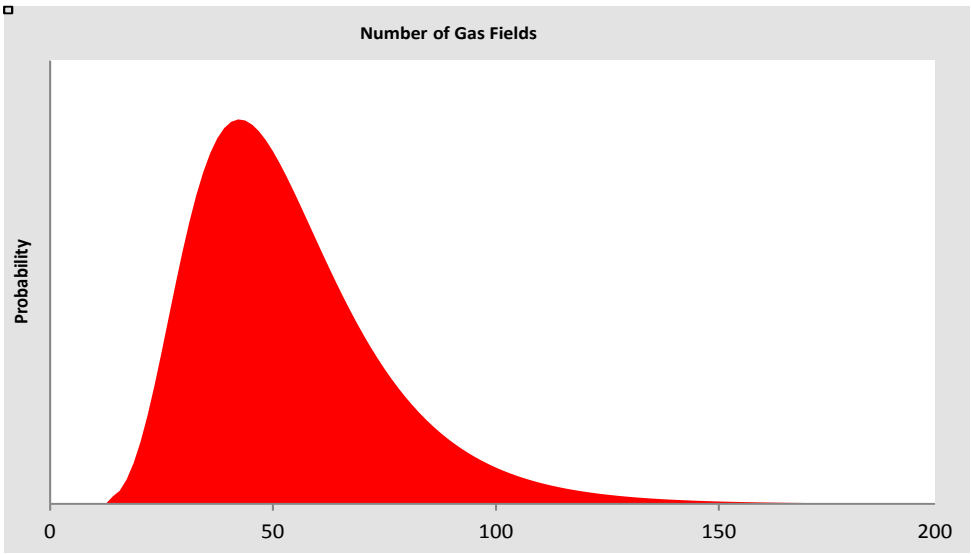
Statistics:	Simulated values	Theoretical values
Trials	50,000	---
Mean	57.43	57.41
Median	50.06	49.97
Mode	---	---
Standard Deviation	31.86	31.92
Variance	1,015.26	1,018.85
Skewness	1.59	1.61
Kurtosis	6.79	6.90
Coefficient of Variability	0.5548	0.5560
Minimum	6.65	1.00
Maximum	258.72	260.00
Range Width	252.06	259.00
Mean Standard Error	0.14	---

Assumption: LGR in Oil Fields (continued)

Percentiles:	Simulated values	Theoretical values
100%	6.65	1.00
95%	21.25	21.19
90%	25.45	25.56
85%	28.95	29.02
80%	32.06	32.12
75%	34.97	35.05
70%	37.88	37.92
65%	40.78	40.79
60%	43.74	43.72
55%	46.86	46.76
50%	50.06	49.97
45%	53.36	53.39
40%	57.21	57.12
35%	61.46	61.25
30%	66.09	65.93
25%	71.65	71.39
20%	78.18	78.00
15%	86.51	86.48
10%	98.66	98.48
5%	119.02	119.30
0%	258.72	260.00

Assumption: Number of Gas Fields

Lognormal distribution with parameters:		Shifted parameters
Location	0.00	1
Mean	53.10	54.1
Standard Deviation	22.16	22.16
Selected range is from -Infinity to 169.00		1.00 to 170.00



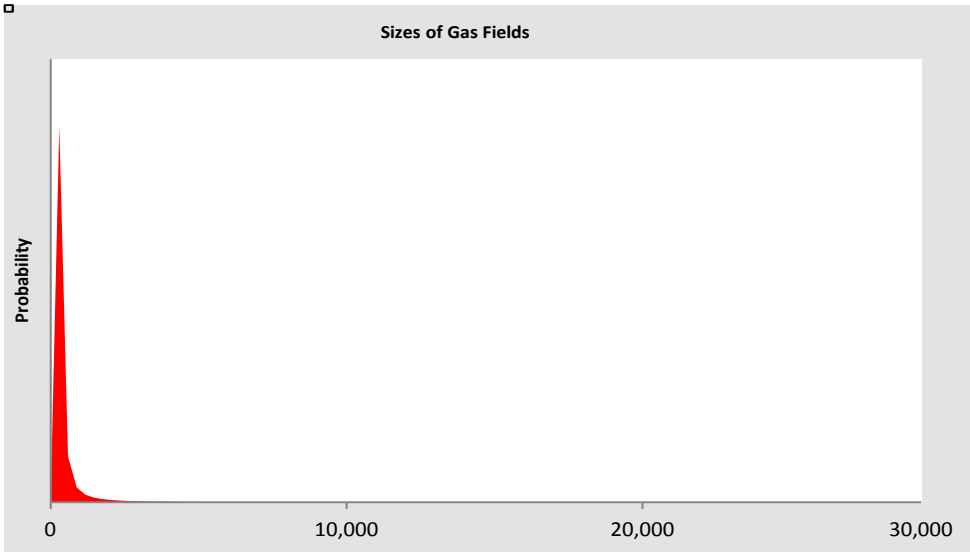
Statistics:	Simulated values	Theoretical values
Trials	50,000	---
Mean	53.87	53.96
Median	49.92	49.98
Mode	---	---
Standard Deviation	21.60	21.73
Variance	466.71	472.20
Skewness	1.13	1.15
Kurtosis	4.85	4.93
Coefficient of Variability	0.4010	0.4027
Minimum	9.42	1.00
Maximum	169.98	170.00
Range Width	160.56	169.00
Mean Standard Error	0.10	---

Assumption: Number of Gas Fields (continued)

Percentiles:	Simulated values	Theoretical values
100%	9.42	1.00
95%	26.26	26.34
90%	30.27	30.32
85%	33.34	33.34
80%	35.94	35.96
75%	38.39	38.38
70%	40.69	40.70
65%	43.01	42.97
60%	45.26	45.25
55%	47.49	47.57
50%	49.92	49.98
45%	52.50	52.50
40%	55.19	55.20
35%	58.09	58.14
30%	61.41	61.41
25%	65.16	65.14
20%	69.64	69.57
15%	75.00	75.12
10%	82.27	82.72
5%	95.16	95.37
0%	169.98	170.00

Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:		Shifted parameters
Location	0.00	30
Mean	453.12	483.12
Standard Deviation	3,391.82	3,391.82
Selected range is from -Infinity to 29,970.00		30.00 to 30,000.00



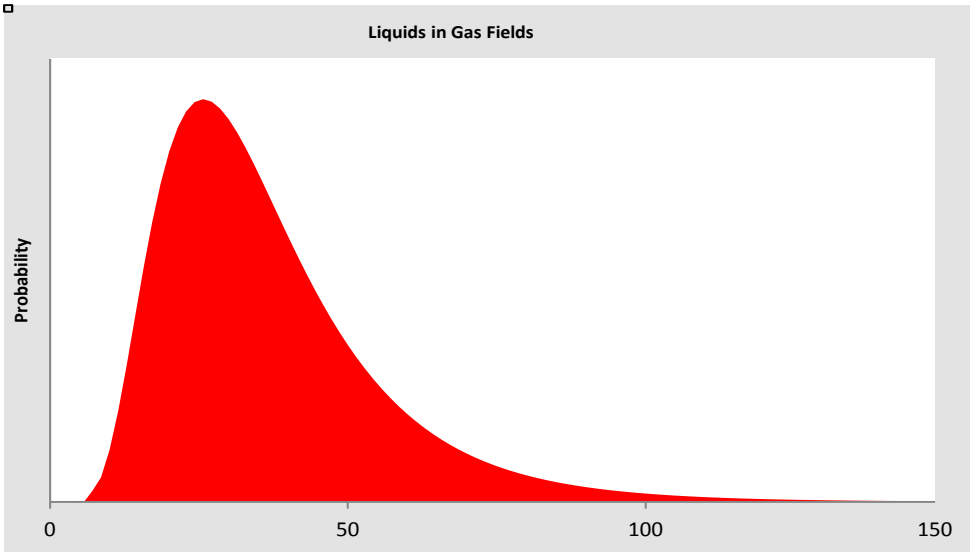
Statistics:	Simulated values	Theoretical values
Trials	50,000	---
Mean	425.80	433.58
Median	89.36	89.85
Mode	---	---
Standard Deviation	1,405.09	1,377.71
Variance	1,974,289.74	1,898,093.93
Skewness	9.87	9.84
Kurtosis	136.15	134.63
Coefficient of Variability	3.30	3.18
Minimum	30.01	30.00
Maximum	29,601.56	30,000.00
Range Width	29,571.56	29,970.00
Mean Standard Error	6.28	---

Assumption: Sizes of Gas Fields (continued)

Percentiles:	Simulated values	Theoretical values
100%	30.01	30.00
95%	32.18	32.19
90%	34.50	34.55
85%	37.41	37.46
80%	40.96	41.03
75%	45.60	45.43
70%	51.11	50.87
65%	57.81	57.59
60%	65.90	65.97
55%	76.49	76.50
50%	89.36	89.85
45%	107.23	107.03
40%	129.51	129.55
35%	159.49	159.75
30%	202.69	201.54
25%	265.43	261.81
20%	360.48	354.08
15%	520.53	508.74
10%	830.28	811.41
5%	1,640.91	1,639.28
0%	29,601.56	30,000.00

Assumption: Liquids in Gas Fields

Lognormal distribution with parameters:		Shifted parameters
Location	0.00	1
Mean	36.22	37.22
Standard Deviation	19.21	19.21
Selected range is from -Infinity to 149.00		1.00 to 150.00



Statistics:	Simulated values	Theoretical values
Trials	50,000	---
Mean	36.97	37.08
Median	32.79	32.98
Mode	---	---
Standard Deviation	18.67	18.71
Variance	348.70	350.05
Skewness	1.48	1.47
Kurtosis	6.26	6.22
Coefficient of Variability	0.5051	0.5045
Minimum	4.76	1.00
Maximum	149.77	150.00
Range Width	145.01	149.00
Mean Standard Error	0.08	---

Assumption: Liquids in Gas Fields (continued)

Percentiles:	Simulated values	Theoretical values
100%	4.76	1.00
95%	15.07	15.11
90%	17.91	17.90
85%	20.13	20.10
80%	22.03	22.04
75%	23.82	23.86
70%	25.59	25.64
65%	27.30	27.40
60%	29.08	29.19
55%	30.88	31.04
50%	32.79	32.98
45%	34.89	35.04
40%	37.09	37.27
35%	39.54	39.73
30%	42.34	42.50
25%	45.54	45.72
20%	49.35	49.58
15%	54.28	54.51
10%	61.26	61.41
5%	73.16	73.24
0%	149.77	150.00

End of Assumptions

Simulation started on 12/29/2010 at 2:54 PM
Simulation stopped on 12/29/2010 at 3:40 PM