

Keg River Oil and Gas, Assessment Unit 52430102
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	1	1.00	26	77	165	84	24	74	175	84	1	4	11	5	4	12	35	15
Gas Fields	3						308	790	1,448	824	6	15	31	16	43	112	296	132
Total		1.00	26	77	165	84	333	865	1,623	907	7	20	42	21				

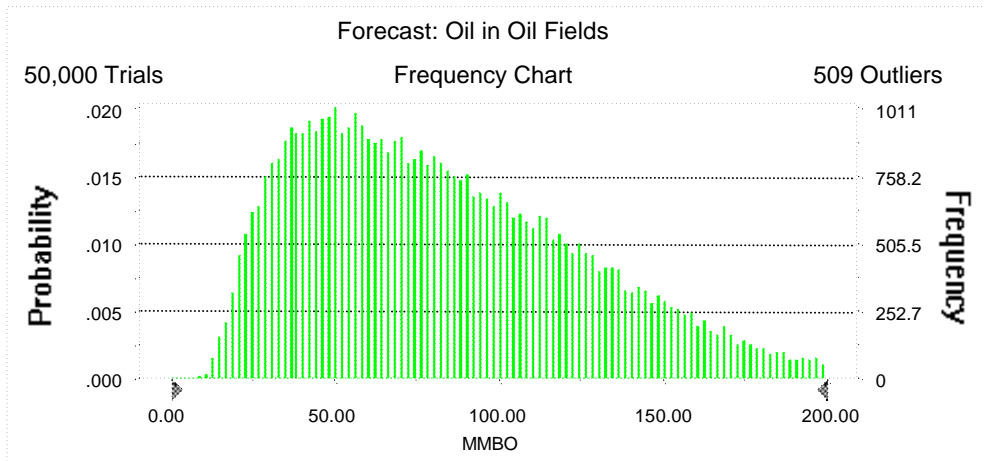
52430102
Keg River Oil and Gas
Monte Carlo Results

Forecast: Oil in Oil Fields

Summary:

Display range is from 0.00 to 200.00 MMBO
Entire range is from 8.25 to 301.39 MMBO
After 50,000 trials, the standard error of the mean is 0.19

Statistics:	<u>Value</u>
Trials	50000
Mean	83.73
Median	76.71
Mode	---
Standard Deviation	43.47
Variance	1,890.04
Skewness	0.71
Kurtosis	3.09
Coefficient of Variability	0.52
Range Minimum	8.25
Range Maximum	301.39
Range Width	293.14
Mean Standard Error	0.19



52430102
Keg River Oil and Gas
Monte Carlo Results

Forecast: Oil in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	8.25
95%	26.27
90%	32.85
85%	38.48
80%	43.84
75%	49.04
70%	54.27
65%	59.45
60%	64.95
55%	70.70
50%	76.71
45%	82.71
40%	89.32
35%	96.20
30%	103.72
25%	112.15
20%	121.03
15%	131.71
10%	145.24
5%	164.72
0%	301.39

End of Forecast

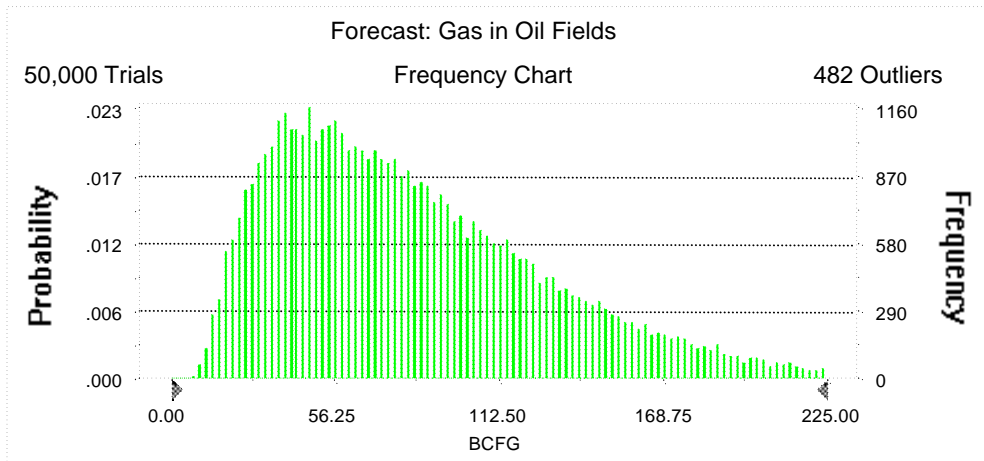
52430102
Keg River Oil and Gas
Monte Carlo Results

Forecast: Gas in Oil Fields

Summary:

Display range is from 0.00 to 225.00 BCFG
Entire range is from 5.74 to 380.90 BCFG
After 50,000 trials, the standard error of the mean is 0.21

Statistics:	Value
Trials	50000
Mean	83.63
Median	74.40
Mode	---
Standard Deviation	47.48
Variance	2,254.55
Skewness	0.98
Kurtosis	3.97
Coefficient of Variability	0.57
Range Minimum	5.74
Range Maximum	380.90
Range Width	375.16
Mean Standard Error	0.21



52430102
Keg River Oil and Gas
Monte Carlo Results

Forecast: Gas in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	5.74
95%	24.27
90%	31.00
85%	36.62
80%	41.68
75%	46.96
70%	52.12
65%	57.33
60%	62.80
55%	68.43
50%	74.40
45%	80.55
40%	87.07
35%	94.15
30%	102.18
25%	111.10
20%	121.11
15%	133.45
10%	149.72
5%	175.00
0%	380.90

End of Forecast

52430102
Keg River Oil and Gas
Monte Carlo Results

Forecast: NGL in Oil Fields

Summary:

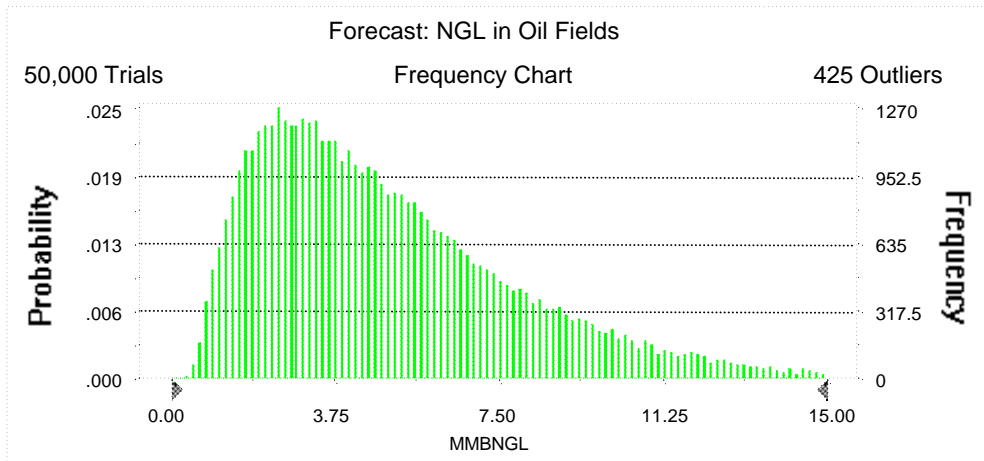
Display range is from 0.00 to 15.00 MMBNGL

Entire range is from 0.28 to 28.22 MMBNGL

After 50,000 trials, the standard error of the mean is 0.01

Statistics:

	<u>Value</u>
Trials	50000
Mean	5.02
Median	4.35
Mode	---
Standard Deviation	3.08
Variance	9.49
Skewness	1.22
Kurtosis	4.97
Coefficient of Variability	0.61
Range Minimum	0.28
Range Maximum	28.22
Range Width	27.93
Mean Standard Error	0.01



52430102
Keg River Oil and Gas
Monte Carlo Results

Forecast: NGL in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	0.28
95%	1.35
90%	1.74
85%	2.08
80%	2.40
75%	2.70
70%	3.01
65%	3.32
60%	3.65
55%	3.99
50%	4.35
45%	4.73
40%	5.15
35%	5.59
30%	6.08
25%	6.63
20%	7.31
15%	8.15
10%	9.26
5%	10.97
0%	28.22

End of Forecast

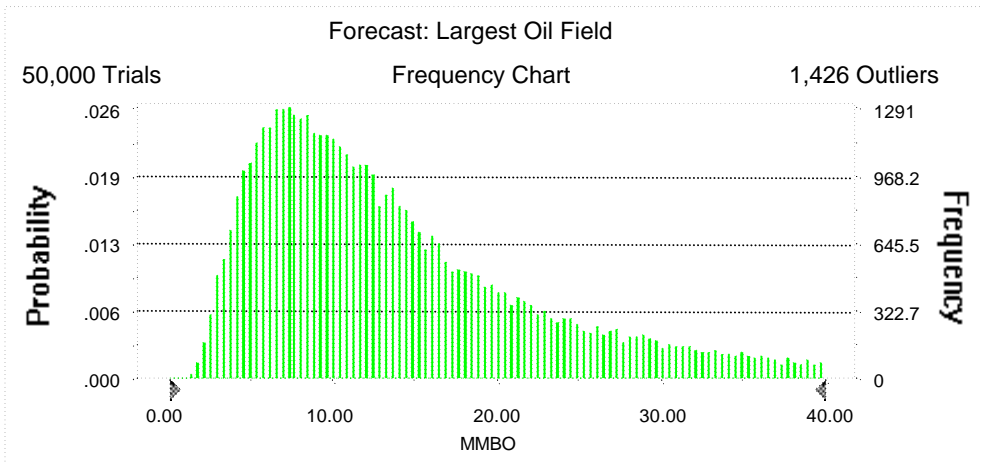
52430102
Keg River Oil and Gas
Monte Carlo Results

Forecast: Largest Oil Field

Summary:

Display range is from 0.00 to 40.00 MMBO
Entire range is from 1.21 to 49.99 MMBO
After 50,000 trials, the standard error of the mean is 0.04

Statistics:	Value
Trials	50000
Mean	14.56
Median	11.90
Mode	---
Standard Deviation	9.58
Variance	91.75
Skewness	1.32
Kurtosis	4.45
Coefficient of Variability	0.66
Range Minimum	1.21
Range Maximum	49.99
Range Width	48.78
Mean Standard Error	0.04



52430102
Keg River Oil and Gas
Monte Carlo Results

Forecast: Largest Oil Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	1.21
95%	4.06
90%	5.10
85%	5.97
80%	6.78
75%	7.55
70%	8.35
65%	9.17
60%	10.03
55%	10.93
50%	11.90
45%	12.92
40%	14.06
35%	15.33
30%	16.88
25%	18.80
20%	21.14
15%	24.22
10%	28.50
5%	35.16
0%	49.99

End of Forecast

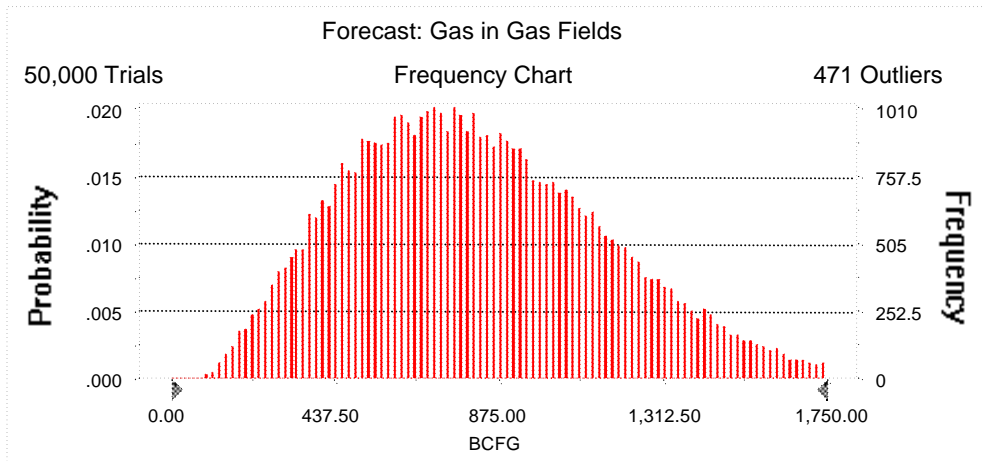
52430102
Keg River Oil and Gas
Monte Carlo Results

Forecast: Gas in Gas Fields

Summary:

Display range is from 0.00 to 1,750.00 BCFG
Entire range is from 58.58 to 2,945.82 BCFG
After 50,000 trials, the standard error of the mean is 1.56

Statistics:	Value
Trials	50000
Mean	823.74
Median	790.13
Mode	---
Standard Deviation	349.01
Variance	121,810.29
Skewness	0.51
Kurtosis	3.06
Coefficient of Variability	0.42
Range Minimum	58.58
Range Maximum	2,945.82
Range Width	2,887.24
Mean Standard Error	1.56



52430102
Keg River Oil and Gas
Monte Carlo Results

Forecast: Gas in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	58.58
95%	308.38
90%	393.34
85%	458.19
80%	513.48
75%	562.24
70%	610.66
65%	656.66
60%	701.26
55%	745.75
50%	790.13
45%	836.66
40%	885.02
35%	934.98
30%	991.12
25%	1,051.48
20%	1,117.65
15%	1,195.65
10%	1,297.08
5%	1,448.42
0%	2,945.82

End of Forecast

52430102
Keg River Oil and Gas
Monte Carlo Results

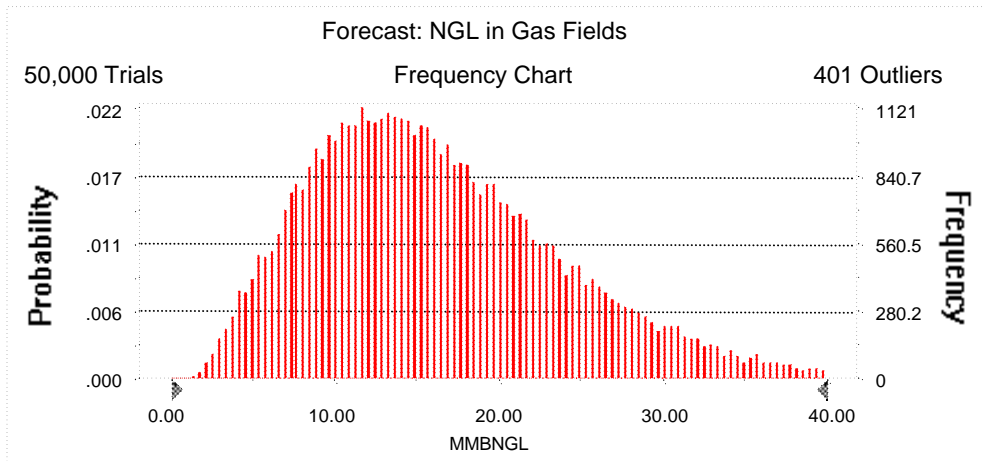
Forecast: NGL in Gas Fields

Summary:

Display range is from 0.00 to 40.00 MMBNGL
Entire range is from 1.23 to 64.18 MMBNGL
After 50,000 trials, the standard error of the mean is 0.04

Statistics:

	<u>Value</u>
Trials	50000
Mean	16.44
Median	15.31
Mode	---
Standard Deviation	7.86
Variance	61.75
Skewness	0.81
Kurtosis	3.76
Coefficient of Variability	0.48
Range Minimum	1.23
Range Maximum	64.18
Range Width	62.95
Mean Standard Error	0.04



52430102
Keg River Oil and Gas
Monte Carlo Results

Forecast: NGL in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	1.23
95%	5.62
90%	7.30
85%	8.54
80%	9.64
75%	10.63
70%	11.58
65%	12.50
60%	13.43
55%	14.34
50%	15.31
45%	16.27
40%	17.32
35%	18.45
30%	19.71
25%	21.07
20%	22.67
15%	24.63
10%	27.15
5%	31.09
0%	64.18

End of Forecast

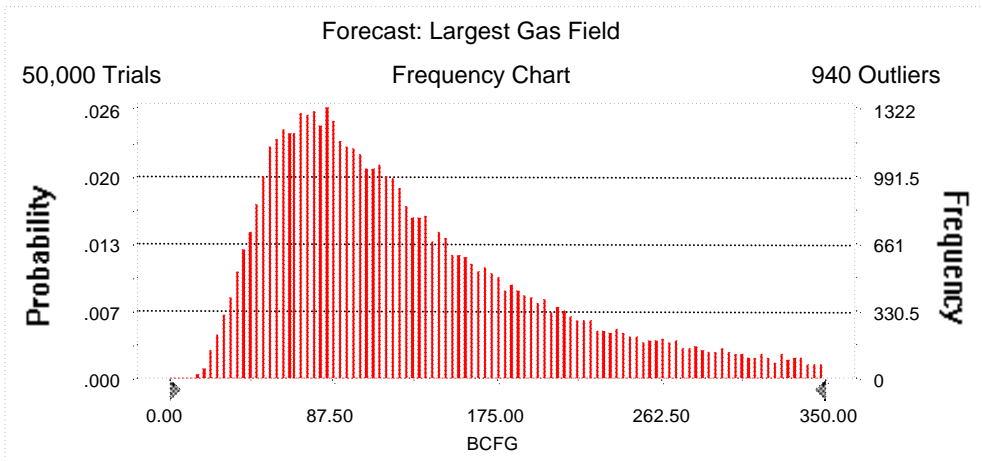
52430102
Keg River Oil and Gas
Monte Carlo Results

Forecast: Largest Gas Field

Summary:

Display range is from 0.00 to 350.00 BCFG
 Entire range is from 9.61 to 400.00 BCFG
 After 50,000 trials, the standard error of the mean is 0.35

Statistics:	<u>Value</u>
Trials	50000
Mean	131.82
Median	111.66
Mode	---
Standard Deviation	77.46
Variance	6,000.55
Skewness	1.17
Kurtosis	3.99
Coefficient of Variability	0.59
Range Minimum	9.61
Range Maximum	400.00
Range Width	390.39
Mean Standard Error	0.35



52430102
Keg River Oil and Gas
Monte Carlo Results

Forecast: Largest Gas Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	9.61
95%	42.94
90%	52.84
85%	60.39
80%	67.52
75%	74.58
70%	81.35
65%	88.14
60%	95.49
55%	103.27
50%	111.66
45%	120.33
40%	129.98
35%	141.27
30%	154.31
25%	169.75
20%	188.07
15%	211.53
10%	244.96
5%	296.18
0%	400.00

End of Forecast

52430102
Keg River Oil and Gas
Monte Carlo Results

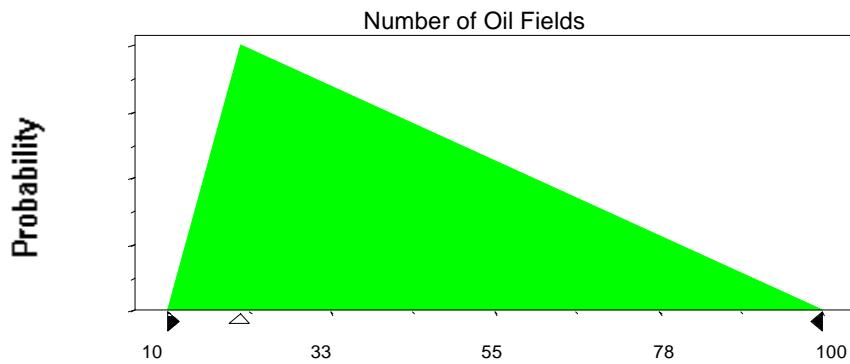
Assumptions

Assumption: Number of Oil Fields

Triangular distribution with parameters:

Minimum	10
Likeliest	20
Maximum	100

Selected range is from 10 to 100
Mean value in simulation was 43



Assumption: Sizes of Oil Fields

Lognormal distribution with parameters:

Mean	1.51
Standard Deviation	4.31

Shifted parameters

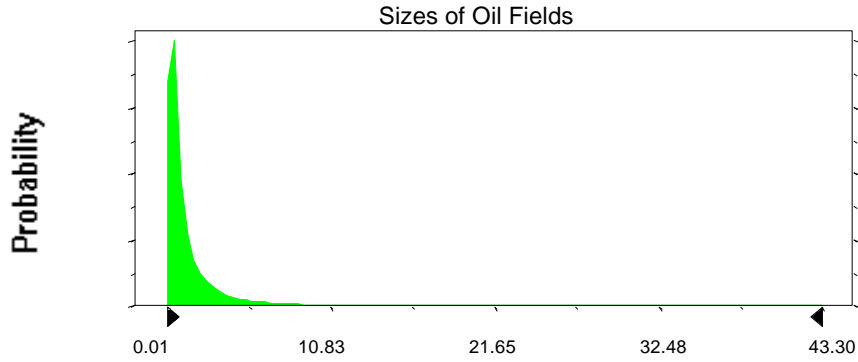
2.01
4.31

Selected range is from 0.00 to 49.50
Mean value in simulation was 1.43

0.50 to 50.00
1.93

52430102
Keg River Oil and Gas
Monte Carlo Results

Assumption: Sizes of Oil Fields (cont'd)



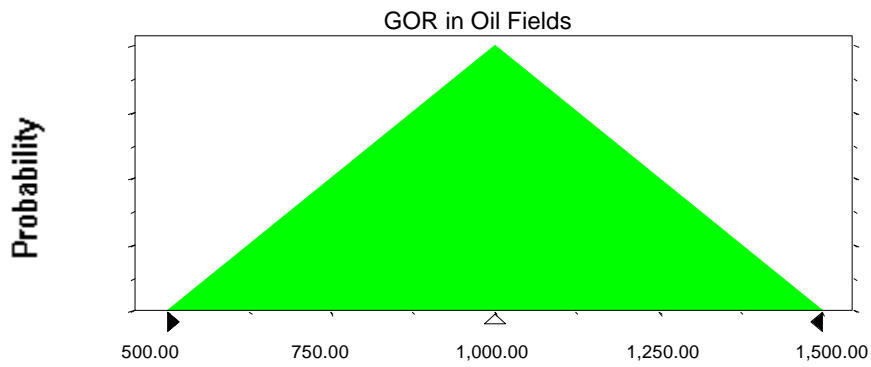
Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	500.00
Likeliest	1,000.00
Maximum	1,500.00

Selected range is from 500.00 to 1,500.00

Mean value in simulation was 998.87



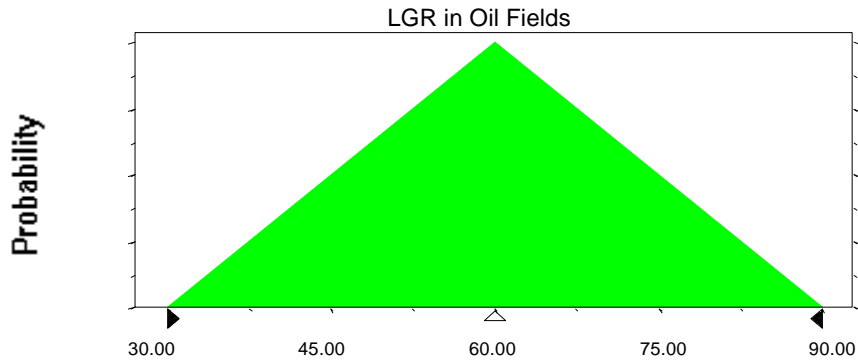
52430102
Keg River Oil and Gas
Monte Carlo Results

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 60.09



Assumption: Number of Gas Fields

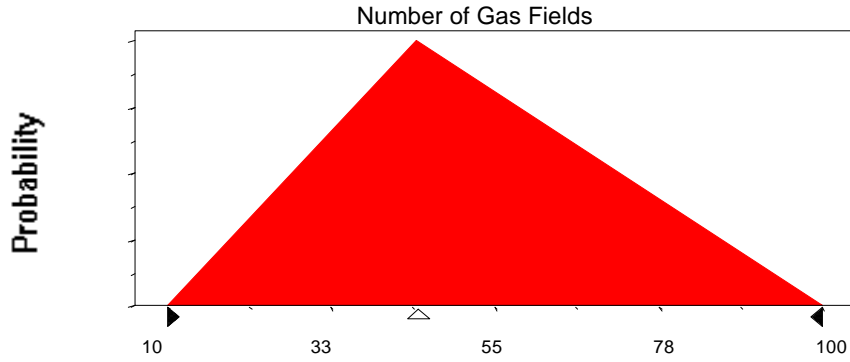
Triangular distribution with parameters:

Minimum	10
Likeliest	44
Maximum	100

Selected range is from 10 to 100
Mean value in simulation was 51

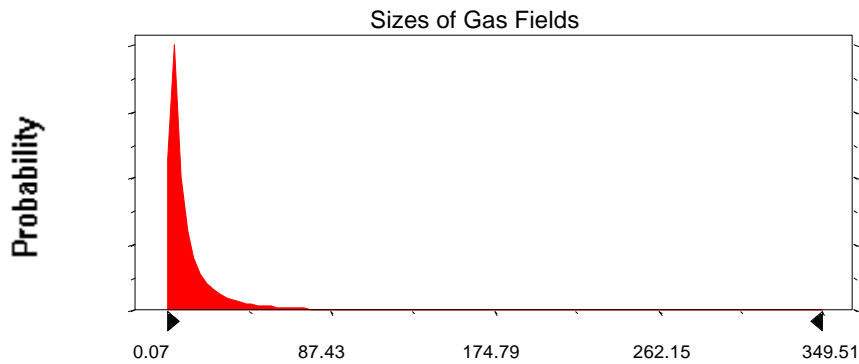
52430102
Keg River Oil and Gas
Monte Carlo Results

Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	13.62	16.62
Standard Deviation	34.51	34.51
Selected range is from 0.00 to 397.00		3.00 to 400.00
Mean value in simulation was 13.07		16.07



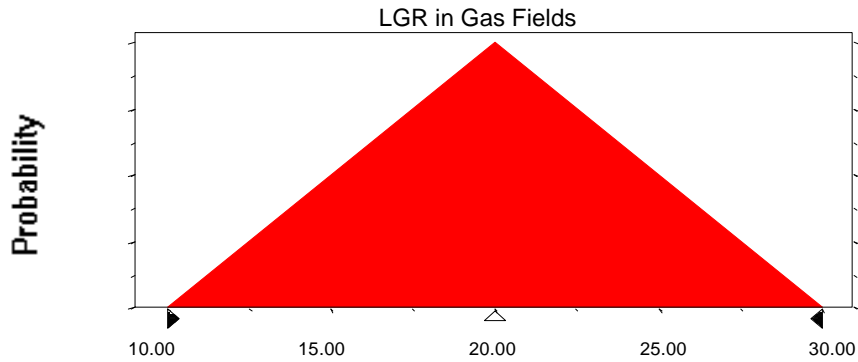
52430102
Keg River Oil and Gas
Monte Carlo Results

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 19.96



End of Assumptions

Simulation started on 10/20/99 at 17:11:37
Simulation stopped on 10/20/99 at 18:01:31