

**Ardjuna, Assessment Unit 38240201  
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	81	183	353	195	147	356	752	391	8	21	48	23	14	34	98	42
Gas Fields	6						2,630	5,899	10,663	6,188	23	59	132	66	349	810	1,925	926
Total		1.00	81	183	353	195	2,777	6,255	11,414	6,579	31	79	180	89				

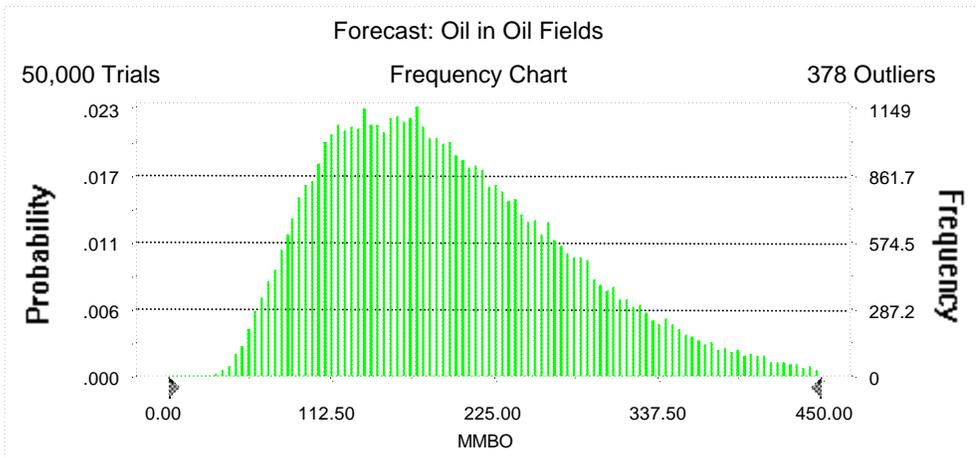
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**Monte Carlo Results**

**Forecast: Oil in Oil Fields**

Summary:

Display range is from 0.00 to 450.00 MMBO  
Entire range is from 22.29 to 676.17 MMBO  
After 50,000 trials, the standard error of the mean is 0.38

Statistics:	Value
Trials	50000
Mean	195.47
Median	182.60
Mode	---
Standard Deviation	84.87
Variance	7,203.22
Skewness	0.79
Kurtosis	3.63
Coefficient of Variability	0.43
Range Minimum	22.29
Range Maximum	676.17
Range Width	653.89
Mean Standard Error	0.38



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**Forecast: Oil in Oil Fields (cont'd)**

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	22.29
95%	80.72
90%	96.82
85%	109.57
80%	120.36
75%	130.95
70%	141.27
65%	151.76
60%	162.03
55%	172.33
50%	182.60
45%	193.80
40%	205.56
35%	218.01
30%	231.71
25%	246.83
20%	263.91
15%	284.54
10%	311.64
5%	353.17
0%	676.17

End of Forecast

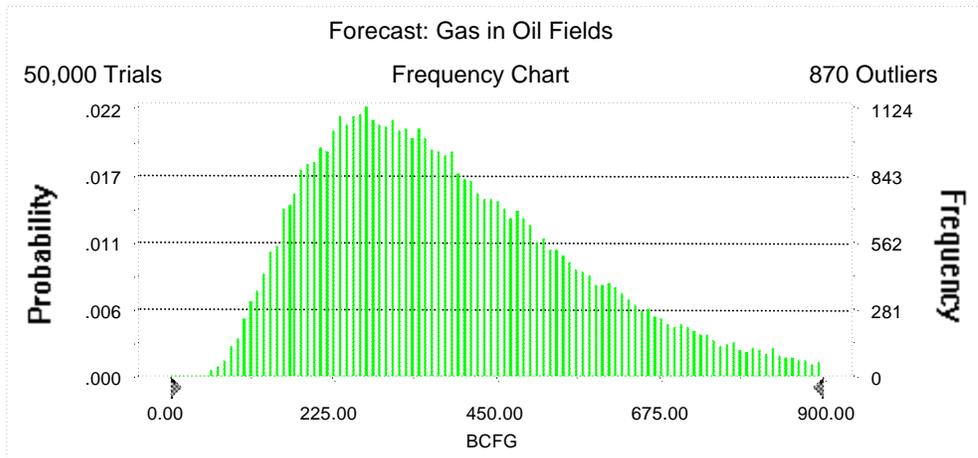
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**Forecast: Gas in Oil Fields**

Summary:

Display range is from 0.00 to 900.00 BCFG  
Entire range is from 37.89 to 1,754.08 BCFG  
After 50,000 trials, the standard error of the mean is 0.85

Statistics:	Value
Trials	50000
Mean	391.30
Median	356.20
Mode	---
Standard Deviation	191.09
Variance	36,515.16
Skewness	1.05
Kurtosis	4.52
Coefficient of Variability	0.49
Range Minimum	37.89
Range Maximum	1,754.08
Range Width	1,716.19
Mean Standard Error	0.85



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**Forecast: Gas in Oil Fields (cont'd)**

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	37.89
95%	146.90
90%	179.48
85%	205.07
80%	228.42
75%	249.52
70%	270.52
65%	291.11
60%	312.19
55%	334.03
50%	356.20
45%	379.86
40%	404.81
35%	432.80
30%	463.63
25%	497.17
20%	536.74
15%	585.62
10%	648.93
5%	751.78
0%	1,754.08

End of Forecast

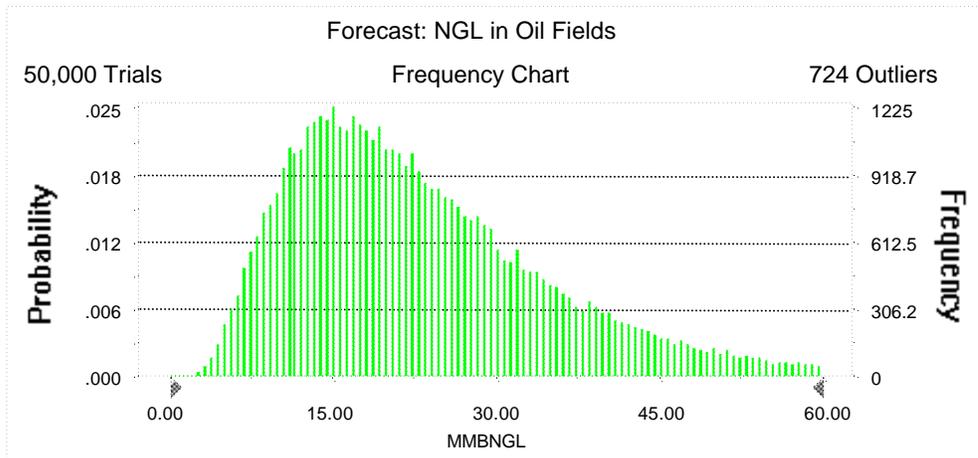
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**Forecast: NGL in Oil Fields**

Summary:

Display range is from 0.00 to 60.00 MMBNGL  
Entire range is from 1.40 to 132.04 MMBNGL  
After 50,000 trials, the standard error of the mean is 0.06

Statistics:	Value
Trials	50000
Mean	23.50
Median	20.88
Mode	---
Standard Deviation	12.70
Variance	161.32
Skewness	1.30
Kurtosis	5.69
Coefficient of Variability	0.54
Range Minimum	1.40
Range Maximum	132.04
Range Width	130.64
Mean Standard Error	0.06



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**Forecast: NGL in Oil Fields (cont'd)**

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	1.40
95%	8.03
90%	10.01
85%	11.54
80%	12.95
75%	14.24
70%	15.50
65%	16.81
60%	18.11
55%	19.45
50%	20.88
45%	22.39
40%	24.00
35%	25.78
30%	27.74
25%	29.88
20%	32.60
15%	35.91
10%	40.52
5%	47.81
0%	132.04

End of Forecast

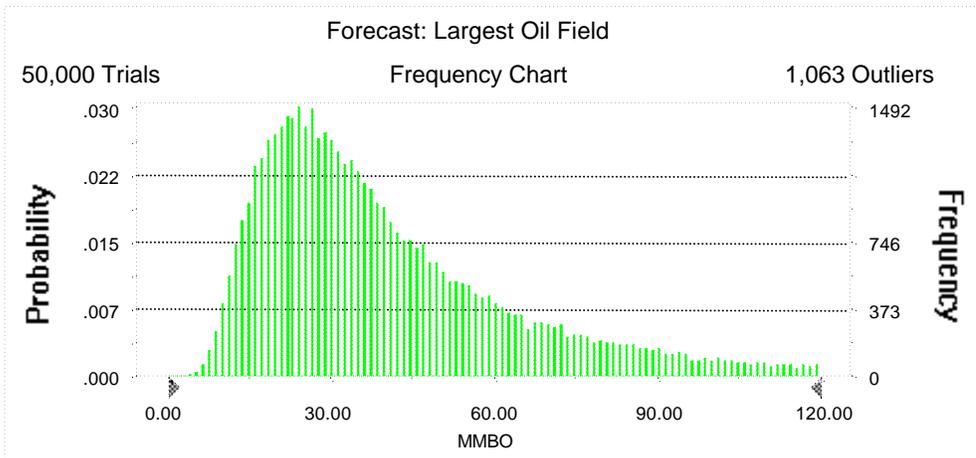
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**Forecast: Largest Oil Field**

Summary:

Display range is from 0.00 to 120.00 MMBO  
Entire range is from 3.78 to 149.87 MMBO  
After 50,000 trials, the standard error of the mean is 0.12

Statistics:	Value
Trials	50000
Mean	41.95
Median	34.45
Mode	---
Standard Deviation	26.41
Variance	697.46
Skewness	1.48
Kurtosis	5.20
Coefficient of Variability	0.63
Range Minimum	3.78
Range Maximum	149.87
Range Width	146.09
Mean Standard Error	0.12



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**Forecast: Largest Oil Field (cont'd)**

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	3.78
95%	13.63
90%	16.60
85%	18.98
80%	21.19
75%	23.28
70%	25.36
65%	27.43
60%	29.65
55%	31.97
50%	34.45
45%	37.16
40%	40.17
35%	43.76
30%	47.84
25%	52.83
20%	58.96
15%	67.18
10%	78.68
5%	98.20
0%	149.87

End of Forecast

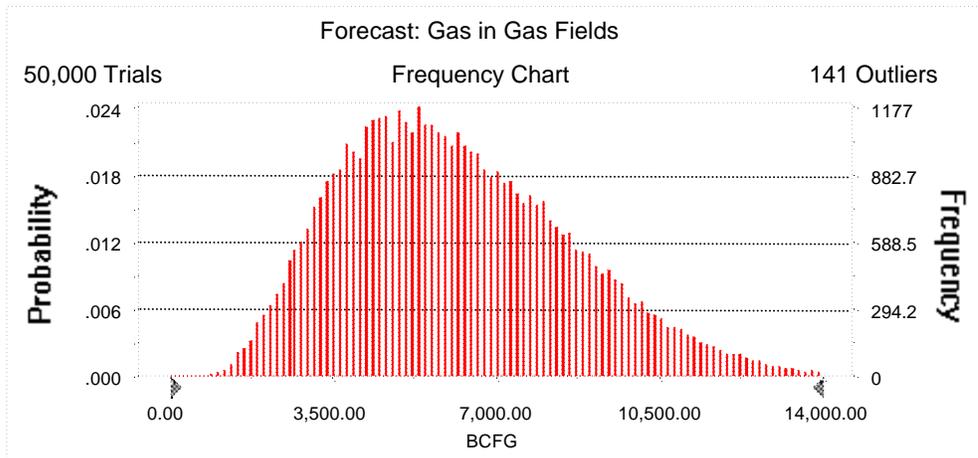
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**Forecast: Gas in Gas Fields**

Summary:

Display range is from 0.00 to 14,000.00 BCFG  
Entire range is from 763.35 to 18,002.77 BCFG  
After 50,000 trials, the standard error of the mean is 11.07

Statistics:	Value
Trials	50000
Mean	6,187.72
Median	5,898.73
Mode	---
Standard Deviation	2,475.72
Variance	6,129,201.44
Skewness	0.55
Kurtosis	3.03
Coefficient of Variability	0.40
Range Minimum	763.35
Range Maximum	18,002.77
Range Width	17,239.42
Mean Standard Error	11.07



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**Forecast: Gas in Gas Fields (cont'd)**

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	763.35
95%	2,630.29
90%	3,190.12
85%	3,613.49
80%	3,975.50
75%	4,322.52
70%	4,632.77
65%	4,954.60
60%	5,268.51
55%	5,575.91
50%	5,898.73
45%	6,239.75
40%	6,584.42
35%	6,967.15
30%	7,370.43
25%	7,808.38
20%	8,285.43
15%	8,859.69
10%	9,579.50
5%	10,662.68
0%	18,002.77

End of Forecast

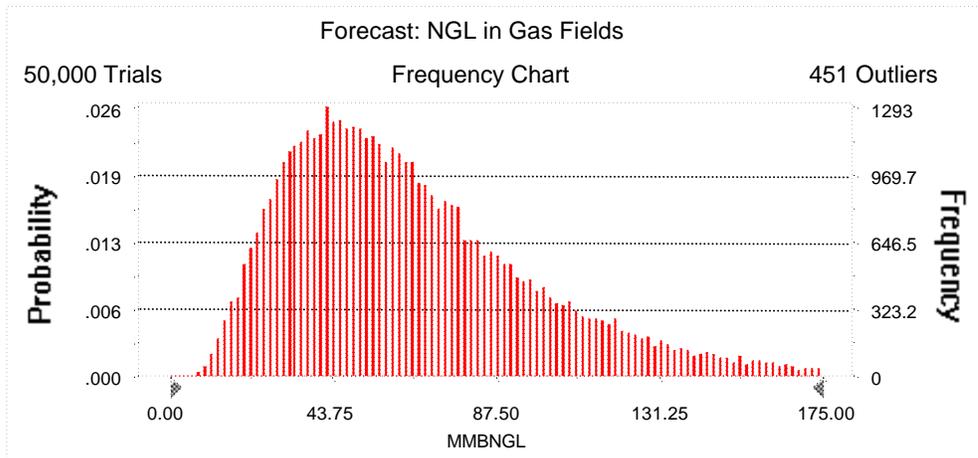
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**Forecast: NGL in Gas Fields**

Summary:

Display range is from 0.00 to 175.00 MMBNGL  
 Entire range is from 5.33 to 330.66 MMBNGL  
 After 50,000 trials, the standard error of the mean is 0.15

Statistics:	<u>Value</u>
Trials	50000
Mean	65.50
Median	58.61
Mode	---
Standard Deviation	34.55
Variance	1,193.88
Skewness	1.15
Kurtosis	4.74
Coefficient of Variability	0.53
Range Minimum	5.33
Range Maximum	330.66
Range Width	325.32
Mean Standard Error	0.15



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**Forecast: NGL in Gas Fields (cont'd)**

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	5.33
95%	22.60
90%	28.17
85%	32.55
80%	36.43
75%	40.16
70%	43.75
65%	47.31
60%	50.97
55%	54.69
50%	58.61
45%	62.66
40%	66.94
35%	71.80
30%	77.10
25%	83.37
20%	90.90
15%	100.27
10%	112.88
5%	132.46
0%	330.66

End of Forecast

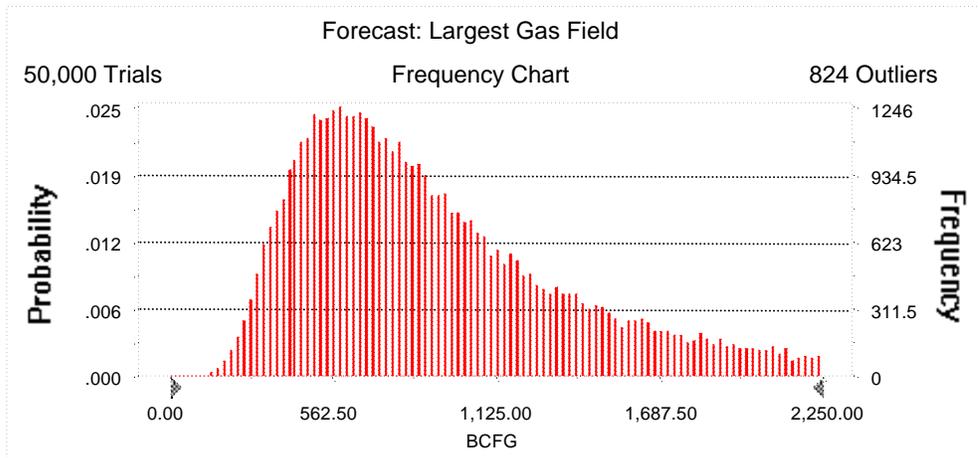
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**Forecast: Largest Gas Field**

Summary:

Display range is from 0.00 to 2,250.00 BCFG  
Entire range is from 87.36 to 2,499.95 BCFG  
After 50,000 trials, the standard error of the mean is 2.14

Statistics:	Value
Trials	50000
Mean	926.05
Median	810.43
Mode	---
Standard Deviation	478.93
Variance	229,372.84
Skewness	1.02
Kurtosis	3.58
Coefficient of Variability	0.52
Range Minimum	87.36
Range Maximum	2,499.95
Range Width	2,412.60
Mean Standard Error	2.14



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**Forecast: Largest Gas Field (cont'd)**

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	87.36
95%	349.13
90%	418.08
85%	472.56
80%	520.79
75%	567.85
70%	613.10
65%	660.38
60%	706.87
55%	757.37
50%	810.43
45%	867.54
40%	929.89
35%	1,000.03
30%	1,079.22
25%	1,176.37
20%	1,292.25
15%	1,437.40
10%	1,634.81
5%	1,925.28
0%	2,499.95

End of Forecast

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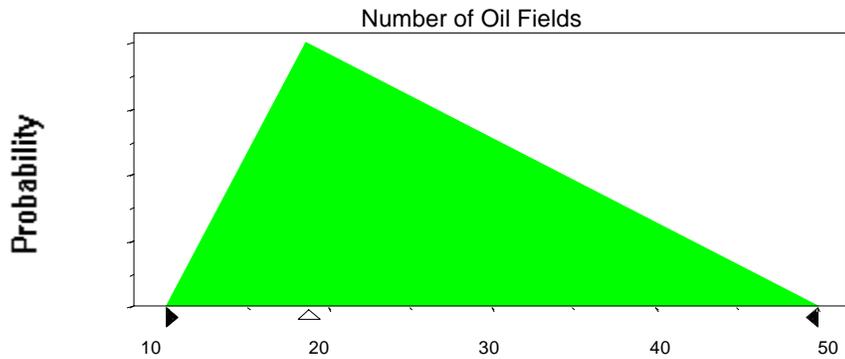
Assumptions

**Assumption: Number of Oil Fields**

Triangular distribution with parameters:

Minimum	10
Likeliest	19
Maximum	50

Selected range is from 10 to 50  
Mean value in simulation was 26



**Assumption: Sizes of Oil Fields**

Lognormal distribution with parameters:

Mean	6.67
Standard Deviation	13.24

Shifted parameters

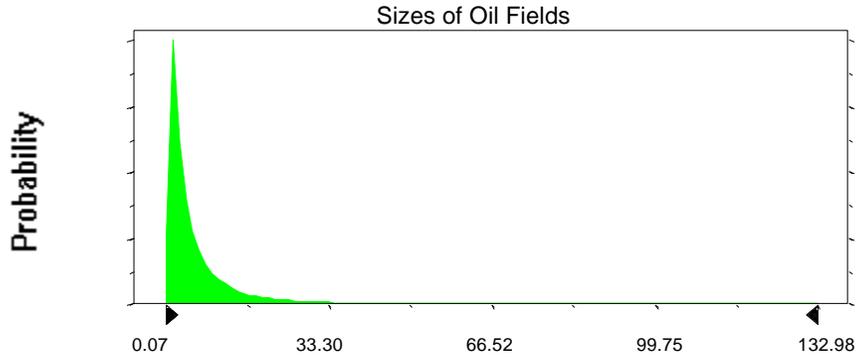
7.67
13.24

Selected range is from 0.00 to 149.00  
Mean value in simulation was 6.44

1.00 to 150.00  
7.44

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Assumption: Sizes of Oil Fields (cont'd)



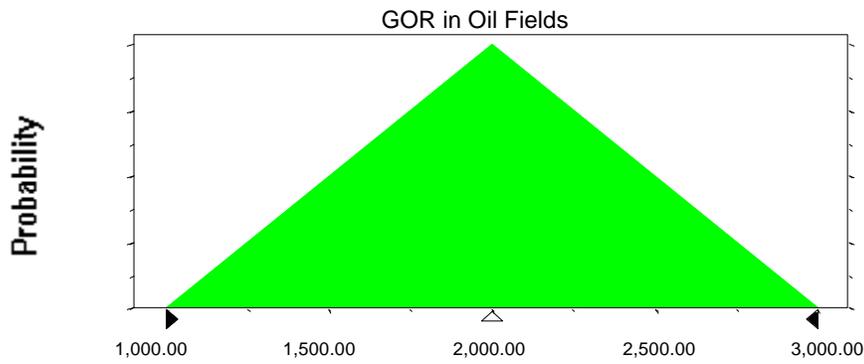
Assumption: GOR in Oil Fields

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 2,001.68



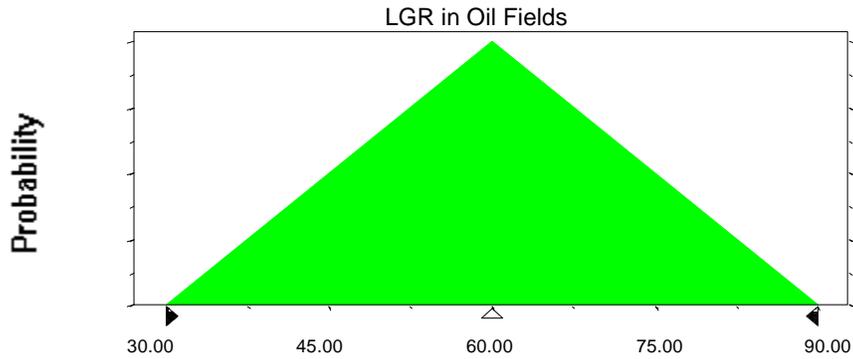
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**Assumption: LGR in Oil Fields**

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 60.01



**Assumption: Number of Gas Fields**

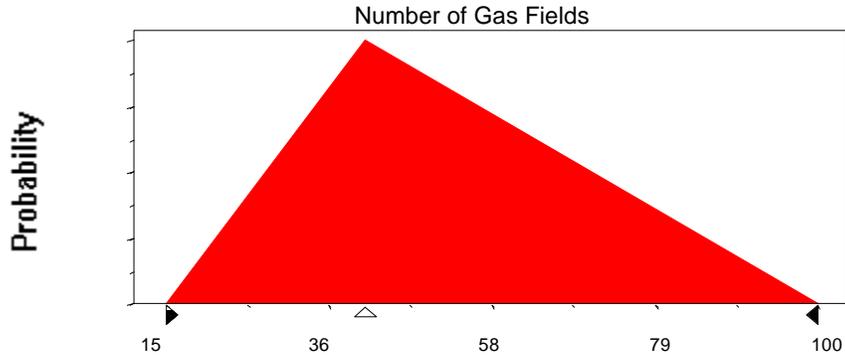
Triangular distribution with parameters:

Minimum	15
Likeliest	41
Maximum	100

Selected range is from 15 to 100  
Mean value in simulation was 52

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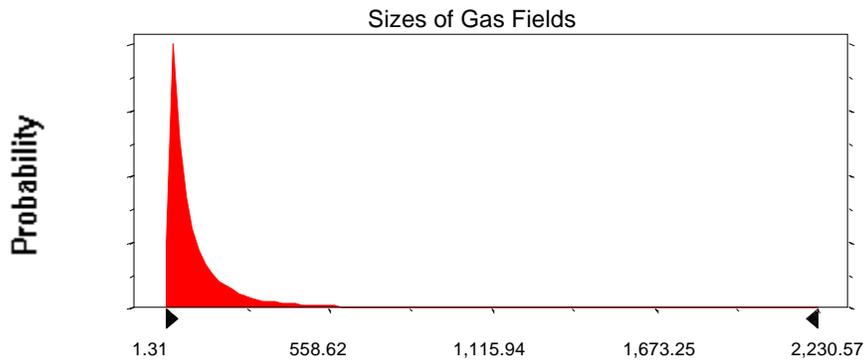
Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	116.54	122.54
Standard Deviation	222.87	222.87

Selected range is from 0.00 to 2,494.00                      6.00 to 2,500.00  
Mean value in simulation was 111.43                                      117.43



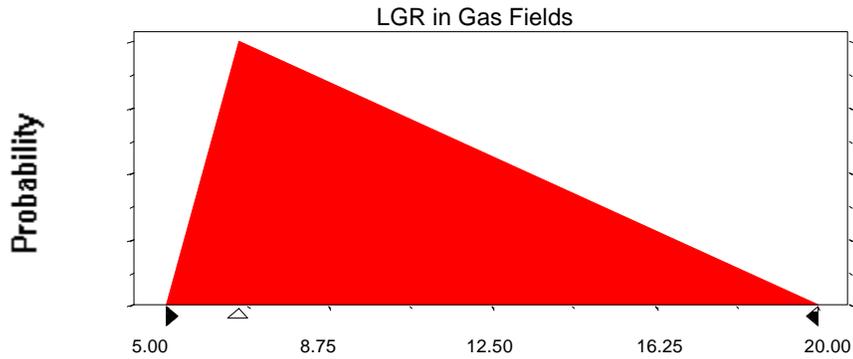
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**Assumption: LGR in Gas Fields**

Triangular distribution with parameters:

Minimum	5.00
Likeliest	6.67
Maximum	20.00

Selected range is from 5.00 to 20.00  
Mean value in simulation was 10.58



End of Assumptions

Simulation started on 5/28/99 at 16:26:27  
Simulation stopped on 5/28/99 at 17:08:26