

**Subsalt, Assessment Unit 40680101  
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	20	0.60	0	216	1,399	388	0	454	3,149	856	0	26	193	51	50	193	921	297
Gas Fields	120						0	41,207	148,531	50,354	0	1,715	6,809	2,214	3,845	10,934	28,067	12,709
Total		0.60	0	216	1,399	388	0	41,661	151,679	51,210	0	1,741	7,001	2,265				

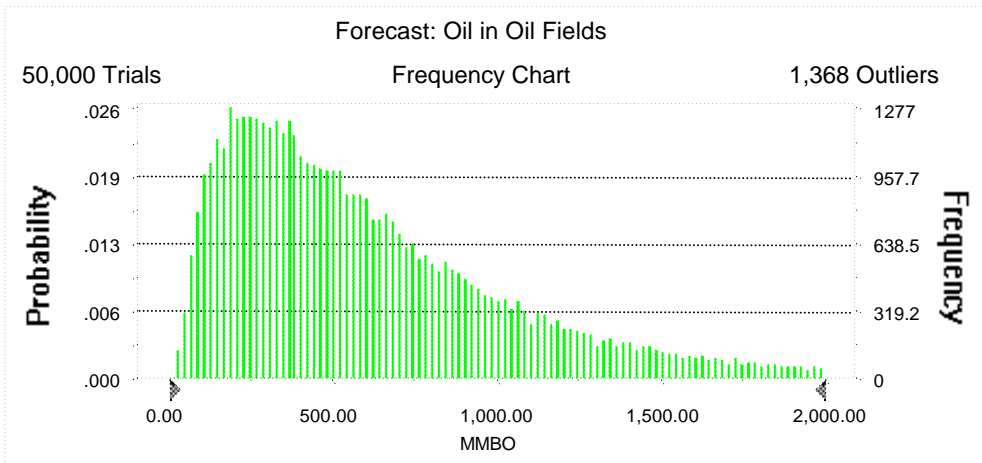
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**Monte Carlo Results**

**Forecast: Oil in Oil Fields**

Summary:

Display range is from 0.00 to 2,000.00 MMBO  
Entire range is from 20.75 to 5,120.52 MMBO  
After 50,000 trials, the standard error of the mean is 2.30

Statistics:	Value
Trials	50000
Mean	648.55
Median	512.05
Mode	---
Standard Deviation	514.79
Variance	265,003.76
Skewness	1.83
Kurtosis	7.81
Coefficient of Variability	0.79
Range Minimum	20.75
Range Maximum	5,120.52
Range Width	5,099.77
Mean Standard Error	2.30



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

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	20.75
95%	114.40
90%	161.13
85%	203.45
80%	244.14
75%	284.37
70%	325.89
65%	368.48
60%	412.18
55%	461.21
50%	512.05
45%	565.83
40%	624.23
35%	690.17
30%	766.42
25%	858.47
20%	964.89
15%	1,103.31
10%	1,300.78
5%	1,668.23
0%	5,120.52

End of Forecast

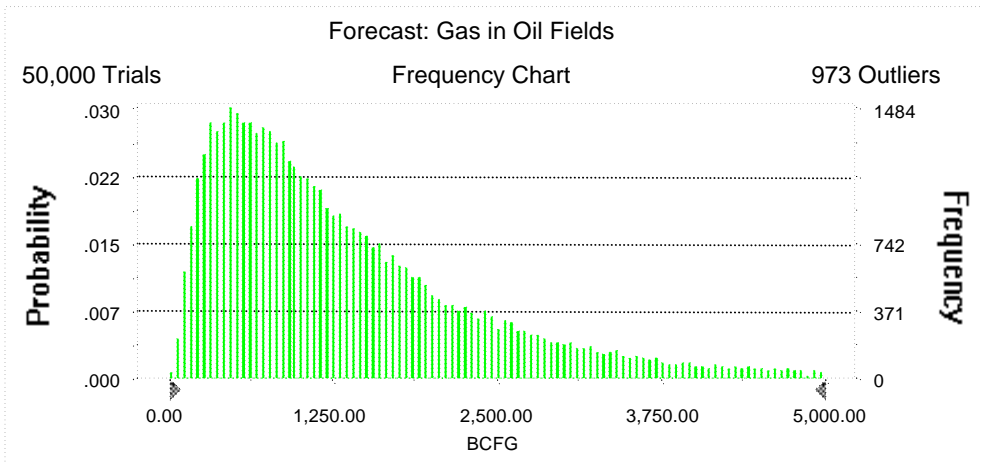
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**Forecast: Gas in Oil Fields**

Summary:

Display range is from 0.00 to 5,000.00 BCFG  
Entire range is from 28.83 to 11,148.28 BCFG  
After 50,000 trials, the standard error of the mean is 5.34

Statistics:	Value
Trials	50000
Mean	1,428.46
Median	1,092.87
Mode	---
Standard Deviation	1,194.70
Variance	1,427,312.91
Skewness	2.00
Kurtosis	8.92
Coefficient of Variability	0.84
Range Minimum	28.83
Range Maximum	11,148.28
Range Width	11,119.45
Mean Standard Error	5.34



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

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	28.83
95%	237.43
90%	335.35
85%	426.25
80%	511.73
75%	599.77
70%	691.15
65%	781.36
60%	877.18
55%	980.49
50%	1,092.87
45%	1,214.26
40%	1,352.25
35%	1,503.35
30%	1,675.85
25%	1,871.80
20%	2,128.47
15%	2,463.20
10%	2,930.76
5%	3,774.17
0%	11,148.28

End of Forecast

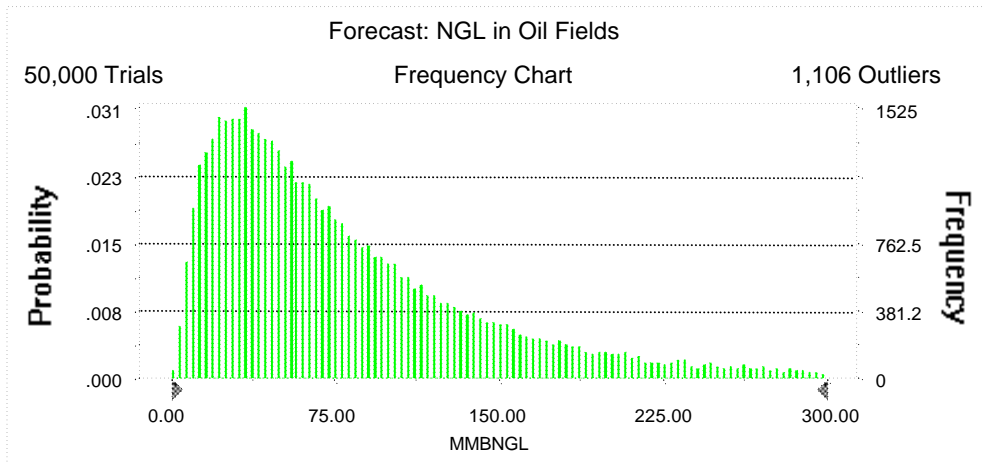
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**Forecast: NGL in Oil Fields**

Summary:

Display range is from 0.00 to 300.00 MMBNGL  
Entire range is from 1.19 to 890.71 MMBNGL  
After 50,000 trials, the standard error of the mean is 0.34

Statistics:	Value
Trials	50000
Mean	85.84
Median	64.02
Mode	---
Standard Deviation	75.33
Variance	5,674.89
Skewness	2.23
Kurtosis	10.90
Coefficient of Variability	0.88
Range Minimum	1.19
Range Maximum	890.71
Range Width	889.52
Mean Standard Error	0.34



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

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	1.19
95%	13.34
90%	19.18
85%	24.46
80%	29.70
75%	34.72
70%	39.85
65%	45.39
60%	51.10
55%	57.42
50%	64.02
45%	71.48
40%	79.54
35%	89.07
30%	99.68
25%	112.24
20%	128.08
15%	148.72
10%	178.59
5%	234.28
0%	890.71

End of Forecast

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**Forecast: Largest Oil Field**

Summary:

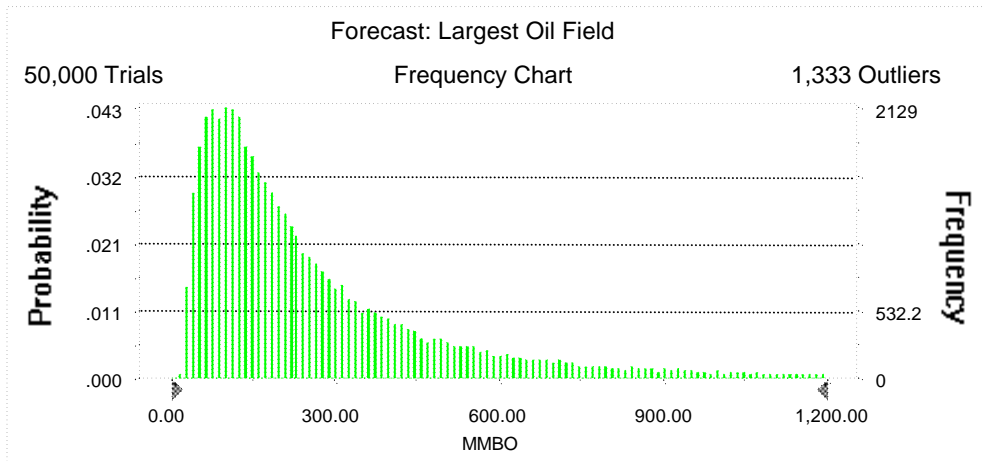
Display range is from 0.00 to 1,200.00 MMBO

Entire range is from 20.75 to 2,496.94 MMBO

After 50,000 trials, the standard error of the mean is 1.41

Statistics:

	<u>Value</u>
Trials	50000
Mean	297.43
Median	193.44
Mode	---
Standard Deviation	315.40
Variance	99,474.87
Skewness	2.83
Kurtosis	13.53
Coefficient of Variability	1.06
Range Minimum	20.75
Range Maximum	2,496.94
Range Width	2,476.19
Mean Standard Error	1.41





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

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	20.75
95%	49.93
90%	65.67
85%	79.90
80%	94.17
75%	108.50
70%	122.78
65%	137.82
60%	154.57
55%	173.36
50%	193.44
45%	216.24
40%	242.40
35%	273.53
30%	311.86
25%	359.30
20%	419.90
15%	506.26
10%	643.67
5%	921.49
0%	2,496.94

End of Forecast

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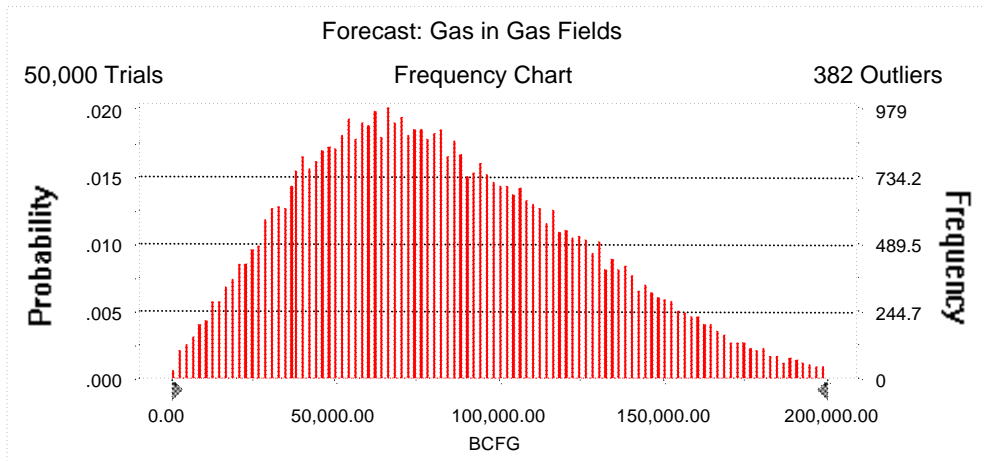
**Forecast: Gas in Gas Fields**

Summary:

Display range is from 0.00 to 200,000.00 BCFG  
Entire range is from 445.30 to 267,642.92 BCFG  
After 50,000 trials, the standard error of the mean is 191.23

Statistics:

	<u>Value</u>
Trials	50000
Mean	84,041.34
Median	79,048.86
Mode	---
Standard Deviation	42,761.38
Variance	1,828,535,440.70
Skewness	0.52
Kurtosis	2.89
Coefficient of Variability	0.51
Range Minimum	445.30
Range Maximum	267,642.92
Range Width	267,197.63
Mean Standard Error	191.23



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

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	445.30
95%	22,004.85
90%	31,809.82
85%	39,249.68
80%	45,633.19
75%	51,711.46
70%	57,302.62
65%	62,734.81
60%	68,045.28
55%	73,431.07
50%	79,048.86
45%	84,775.64
40%	90,862.01
35%	97,486.22
30%	104,606.17
25%	112,220.64
20%	120,935.23
15%	130,787.17
10%	143,269.19
5%	161,196.14
0%	267,642.92

End of Forecast

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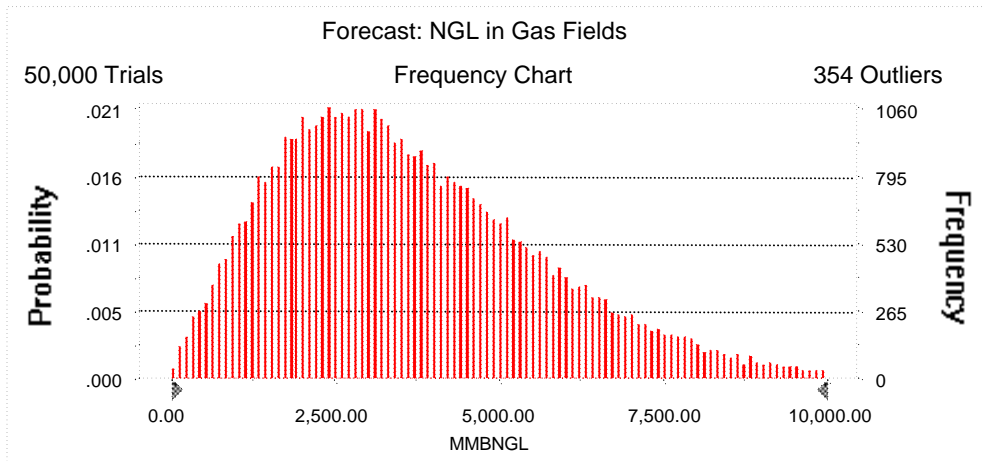
**Forecast: NGL in Gas Fields**

Summary:

Display range is from 0.00 to 10,000.00 MMBNGL  
Entire range is from 22.10 to 15,954.34 MMBNGL  
After 50,000 trials, the standard error of the mean is 9.20

Statistics:

	<u>Value</u>
Trials	50000
Mean	3,697.44
Median	3,369.72
Mode	---
Standard Deviation	2,058.12
Variance	4,235,845.26
Skewness	0.81
Kurtosis	3.65
Coefficient of Variability	0.56
Range Minimum	22.10
Range Maximum	15,954.34
Range Width	15,932.24
Mean Standard Error	9.20



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**Monte Carlo Results**

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

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	22.10
95%	910.30
90%	1,313.03
85%	1,627.74
80%	1,898.52
75%	2,151.90
70%	2,401.61
65%	2,640.58
60%	2,883.00
55%	3,124.05
50%	3,369.72
45%	3,640.12
40%	3,925.11
35%	4,233.11
30%	4,560.04
25%	4,922.61
20%	5,342.45
15%	5,850.56
10%	6,519.73
5%	7,567.90
0%	15,954.34

End of Forecast

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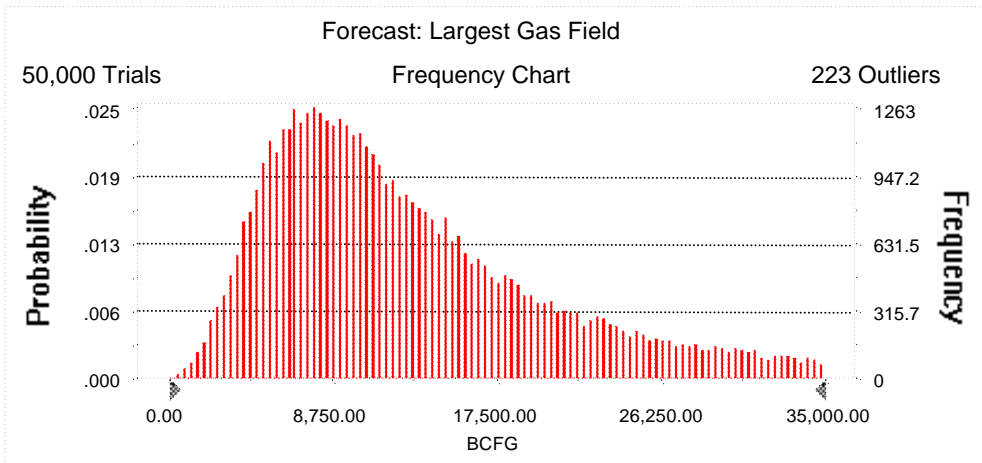
**Forecast: Largest Gas Field**

Summary:

Display range is from 0.00 to 35,000.00 BCFG  
 Entire range is from 235.52 to 35,998.61 BCFG  
 After 50,000 trials, the standard error of the mean is 32.69

Statistics:

	<u>Value</u>
Trials	50000
Mean	12,709.02
Median	10,933.90
Mode	---
Standard Deviation	7,308.87
Variance	53,419,619.12
Skewness	0.99
Kurtosis	3.48
Coefficient of Variability	0.58
Range Minimum	235.52
Range Maximum	35,998.61
Range Width	35,763.10
Mean Standard Error	32.69



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

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	235.52
95%	3,845.15
90%	4,933.13
85%	5,764.54
80%	6,534.59
75%	7,250.00
70%	7,953.04
65%	8,662.79
60%	9,393.60
55%	10,144.19
50%	10,933.90
45%	11,826.18
40%	12,809.47
35%	13,902.81
30%	15,105.70
25%	16,558.21
20%	18,342.87
15%	20,565.31
10%	23,558.28
5%	28,067.49
0%	35,998.61

End of Forecast

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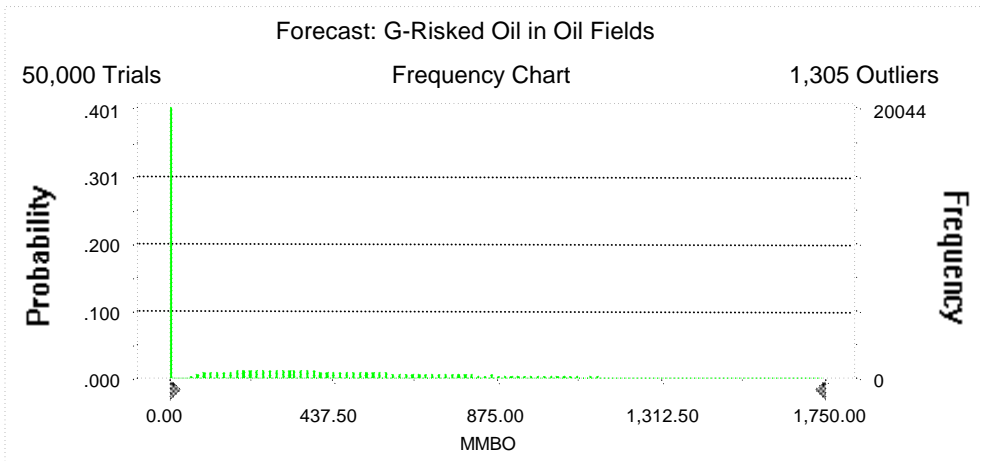
**Forecast: G-Riskd Oil in Oil Fields**

Summary:

Display range is from 0.00 to 1,750.00 MMBO  
 Entire range is from 0.00 to 4,621.17 MMBO  
 After 50,000 trials, the standard error of the mean is 2.28

Statistics:

	<u>Value</u>
Trials	50000
Mean	388.29
Median	216.29
Mode	0.00
Standard Deviation	509.37
Variance	259,454.30
Skewness	1.96
Kurtosis	8.24
Coefficient of Variability	1.31
Range Minimum	0.00
Range Maximum	4,621.17
Range Width	4,621.17
Mean Standard Error	2.28





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**Forecast: G-Risk Oil in Oil Fields (cont'd)**

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	0.00
95%	0.00
90%	0.00
85%	0.00
80%	0.00
75%	0.00
70%	0.00
65%	0.00
60%	0.00
55%	145.96
50%	216.29
45%	283.39
40%	354.93
35%	427.36
30%	510.22
25%	601.71
20%	713.17
15%	855.66
10%	1,052.30
5%	1,398.85
0%	4,621.17

End of Forecast

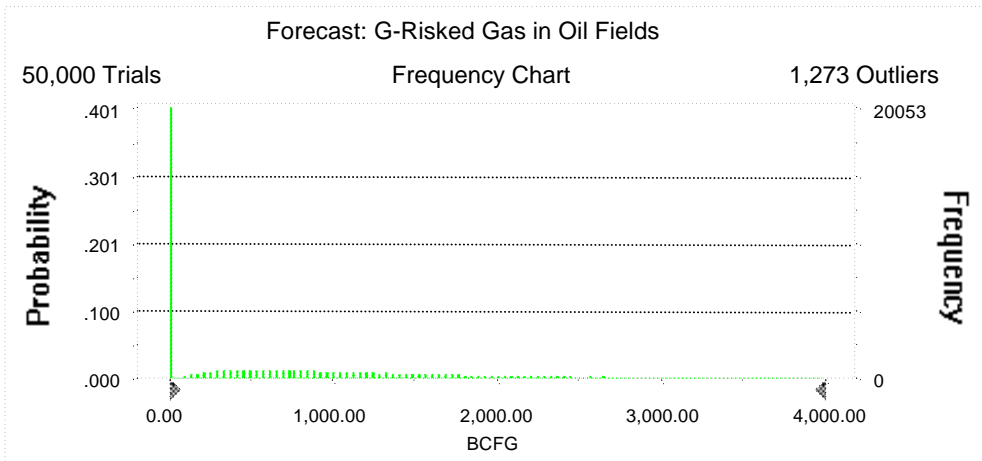
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**Forecast: G-Risk Gas in Oil Fields**

Summary:

Display range is from 0.00 to 4,000.00 BCFG  
Entire range is from 0.00 to 10,770.30 BCFG  
After 50,000 trials, the standard error of the mean is 5.19

Statistics:	Value
Trials	50000
Mean	856.28
Median	453.98
Mode	0.00
Standard Deviation	1,159.98
Variance	1,345,543.91
Skewness	2.15
Kurtosis	9.60
Coefficient of Variability	1.35
Range Minimum	0.00
Range Maximum	10,770.30
Range Width	10,770.30
Mean Standard Error	5.19



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**Monte Carlo Results**

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

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	0.00
95%	0.00
90%	0.00
85%	0.00
80%	0.00
75%	0.00
70%	0.00
65%	0.00
60%	0.00
55%	303.78
50%	453.98
45%	596.38
40%	751.77
35%	910.61
30%	1,091.17
25%	1,304.34
20%	1,553.48
15%	1,871.80
10%	2,344.42
5%	3,148.87
0%	10,770.30

End of Forecast

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**Monte Carlo Results**

**Forecast: G-Riskd NGL in Oil Fields**

Summary:

Display range is from 0.00 to 250.00 MMBNGL  
Entire range is from 0.00 to 890.71 MMBNGL  
After 50,000 trials, the standard error of the mean is 0.32

Statistics:	Value
Trials	50000
Mean	51.43
Median	26.08
Mode	0.00
Standard Deviation	71.92
Variance	5,172.92
Skewness	2.39
Kurtosis	11.74
Coefficient of Variability	1.40
Range Minimum	0.00
Range Maximum	890.71
Range Width	890.71
Mean Standard Error	0.32



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

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	0.00
95%	0.00
90%	0.00
85%	0.00
80%	0.00
75%	0.00
70%	0.00
65%	0.00
60%	0.00
55%	17.14
50%	26.08
45%	34.61
40%	43.38
35%	53.28
30%	63.82
25%	76.61
20%	91.88
15%	111.85
10%	140.59
5%	192.58
0%	890.71

End of Forecast

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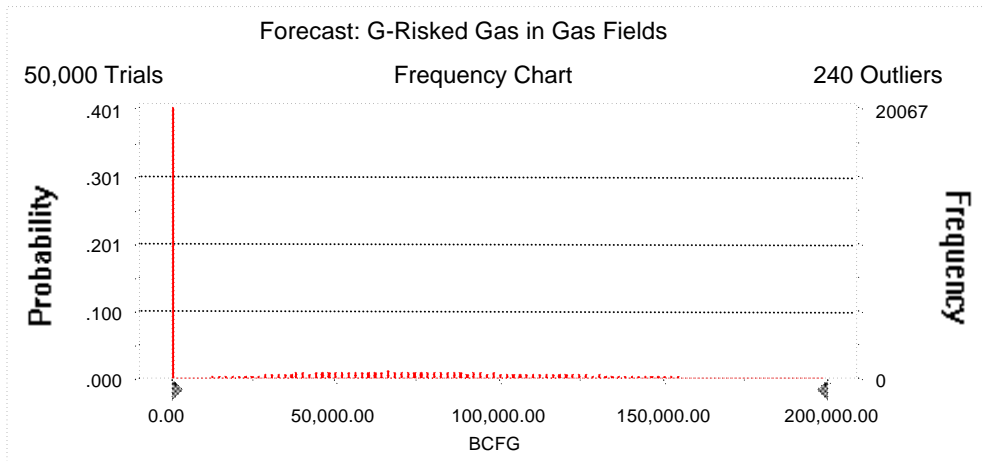
**Forecast: G-Risk Gas in Gas Fields**

Summary:

Display range is from 0.00 to 200,000.00 BCFG  
 Entire range is from 0.00 to 267,187.20 BCFG  
 After 50,000 trials, the standard error of the mean is 236.30

Statistics:

	<u>Value</u>
Trials	50000
Mean	50,354.05
Median	41,207.42
Mode	0.00
Standard Deviation	52,838.11
Variance	2,791,866,382.13
Skewness	0.73
Kurtosis	2.56
Coefficient of Variability	1.05
Range Minimum	0.00
Range Maximum	267,187.20
Range Width	267,187.20
Mean Standard Error	236.30



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**Forecast: G-Risked Gas in Gas Fields (cont'd)**

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	0.00
95%	0.00
90%	0.00
85%	0.00
80%	0.00
75%	0.00
70%	0.00
65%	0.00
60%	0.00
55%	29,115.08
50%	41,207.42
45%	51,603.59
40%	60,833.66
35%	69,697.45
30%	78,825.99
25%	88,571.91
20%	99,620.10
15%	112,204.72
10%	127,228.46
5%	148,530.57
0%	267,187.20

End of Forecast

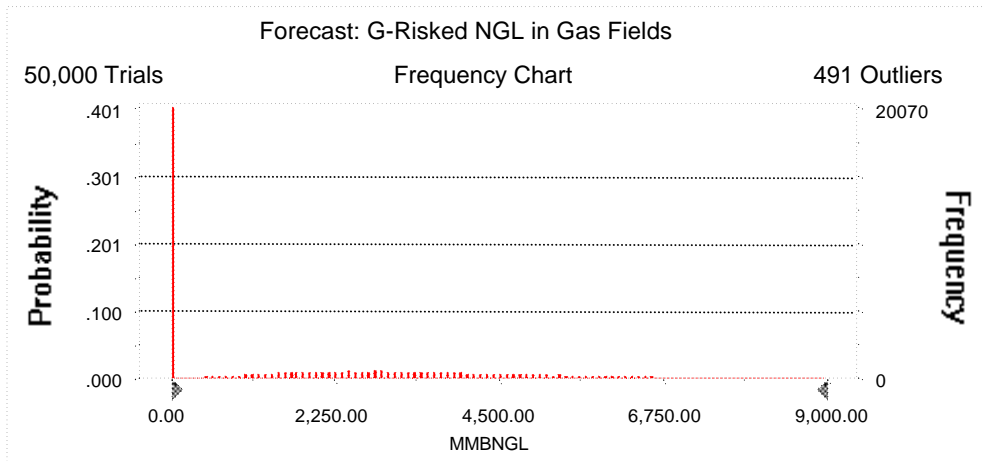
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**Forecast: G-Riskd NGL in Gas Fields**

Summary:

Display range is from 0.00 to 9,000.00 MMBNGL  
 Entire range is from 0.00 to 13,766.24 MMBNGL  
 After 50,000 trials, the standard error of the mean is 10.78

Statistics:	<u>Value</u>
Trials	50000
Mean	2,213.51
Median	1,714.70
Mode	0.00
Standard Deviation	2,410.78
Variance	5,811,880.13
Skewness	0.93
Kurtosis	3.23
Coefficient of Variability	1.09
Range Minimum	0.00
Range Maximum	13,766.24
Range Width	13,766.24
Mean Standard Error	10.78





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

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	0.00
95%	0.00
90%	0.00
85%	0.00
80%	0.00
75%	0.00
70%	0.00
65%	0.00
60%	0.00
55%	1,179.62
50%	1,714.70
45%	2,147.08
40%	2,553.57
35%	2,950.24
30%	3,353.75
25%	3,809.17
20%	4,322.09
15%	4,923.35
10%	5,674.76
5%	6,808.74
0%	13,766.24

End of Forecast

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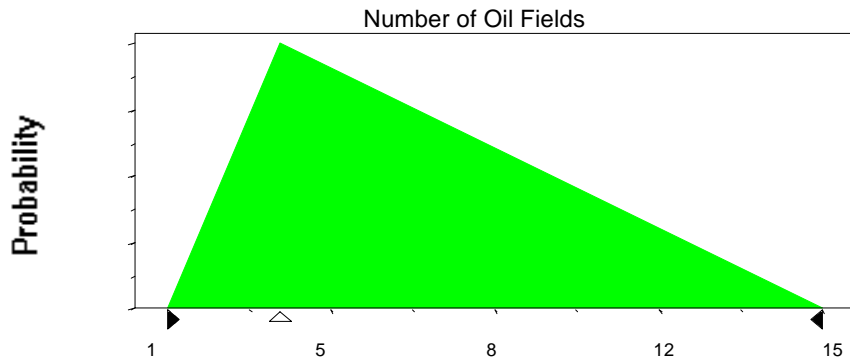
Assumptions

**Assumption: Number of Oil Fields**

Triangular distribution with parameters:

Minimum	1
Likeliest	3
Maximum	15

Selected range is from 1 to 15  
Mean value in simulation was 6



**Assumption: Sizes of Oil Fields**

Lognormal distribution with parameters:

Mean	83.25
Standard Deviation	215.50

Shifted parameters

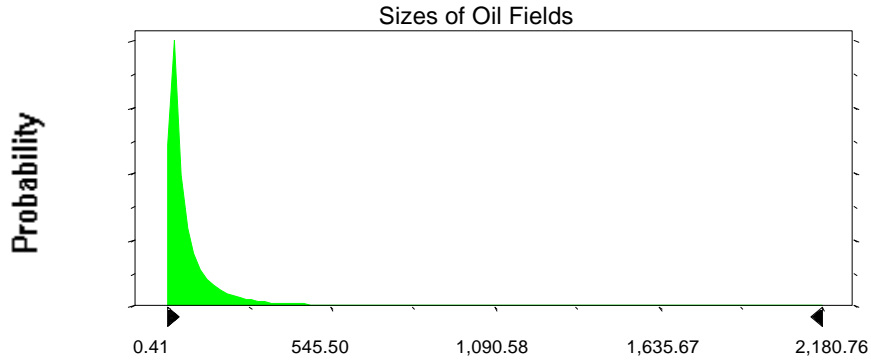
103.25
215.5

Selected range is from 0.00 to 2,480.00  
Mean value in simulation was 79.78

20.00 to 2,500.00  
99.78

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Assumption: Sizes of Oil Fields (cont'd)



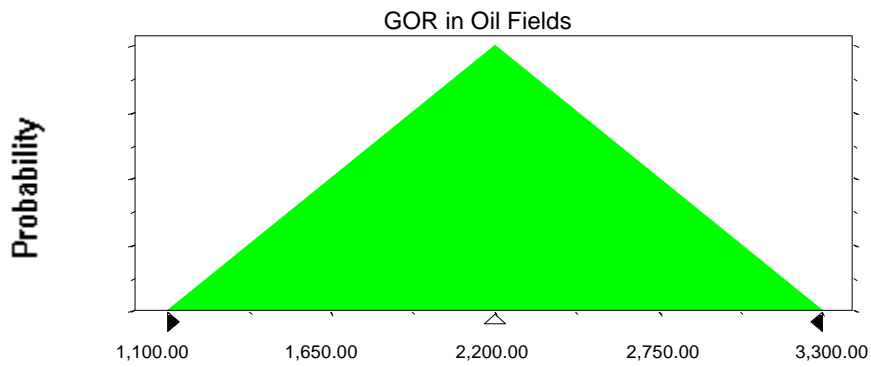
Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	1,100.00
Likeliest	2,200.00
Maximum	3,300.00

Selected range is from 1,100.00 to 3,300.00

Mean value in simulation was 2,199.87



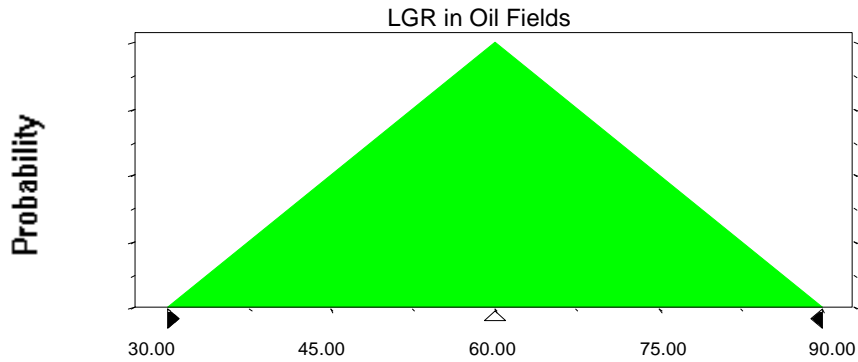
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**Assumption: LGR in Oil Fields**

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 60.11



**Assumption: Number of Gas Fields**

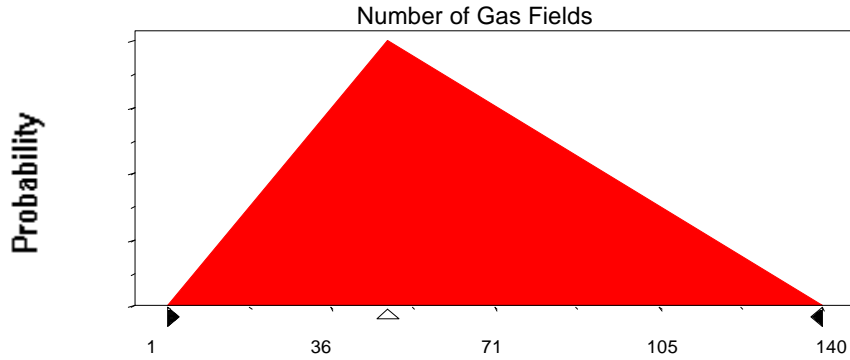
Triangular distribution with parameters:

Minimum	1
Likeliest	48
Maximum	140

Selected range is from 1 to 140  
Mean value in simulation was 63

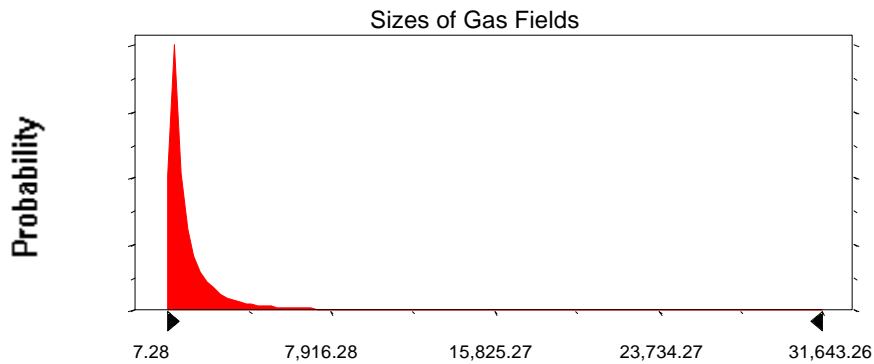
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Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:	Shifted parameters	
Mean	1,272.10	1,392.10
Standard Deviation	3,122.12	3,122.12
Selected range is from 0.00 to 35,880.00	120.00 to 36,000.00	
Mean value in simulation was 1,215.56	1,335.56	



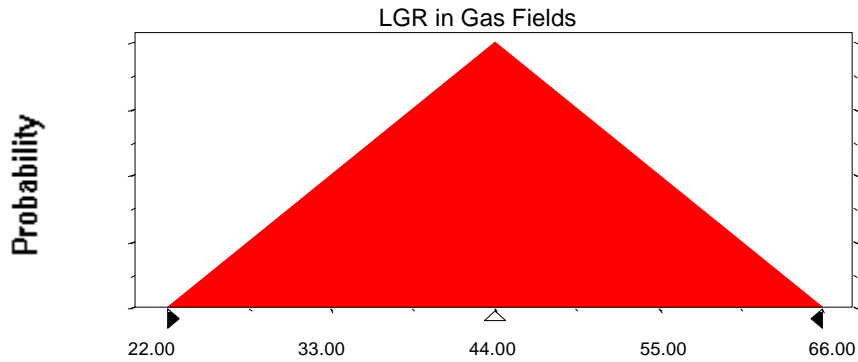
**40680101**  
**Subsalt**  
**Monte Carlo Results**

**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 44.03



End of Assumptions

Simulation started on 1/4/00 at 16:43:33  
Simulation stopped on 1/4/00 at 17:30:44