

**Offshore Sirte Hypothetical, Assessment Unit 20430103  
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	10	0.48	0	0	1,254	382	0	0	6,633	1,909	0	0	400	115	67	175	556	223
Gas Fields	60						0	0	7,488	2,290	0	0	229	69	404	1,053	3,328	1,338
Total		0.48	0	0	1,254	382	0	0	14,121	4,199	0	0	629	183				

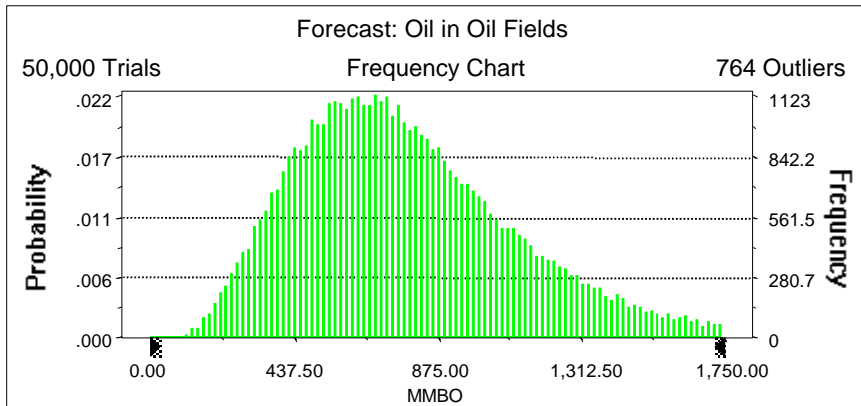
**20430103**  
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**Monte Carlo Results**

**Forecast: Oil in Oil Fields**

Summary:

Display range is from 0.00 to 1,750.00 MMBO  
Entire range is from 98.93 to 3,364.00 MMBO  
After 50,000 trials, the standard error of the mean is 1.57

Statistics:	Value
Trials	50000
Mean	794.08
Median	740.49
Mode	---
Standard Deviation	352.06
Variance	123,943.22
Skewness	0.94
Kurtosis	4.32
Coefficient of Variability	0.44
Range Minimum	98.93
Range Maximum	3,364.00
Range Width	3,265.07
Mean Standard Error	1.57



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Forecast: Oil in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	98.93
95%	319.31
90%	392.55
85%	447.57
80%	496.52
75%	540.03
70%	580.56
65%	621.06
60%	660.61
55%	700.34
50%	740.49
45%	782.19
40%	827.25
35%	875.69
30%	928.80
25%	991.27
20%	1,061.46
15%	1,149.18
10%	1,264.41
5%	1,449.14
0%	3,364.00

End of Forecast

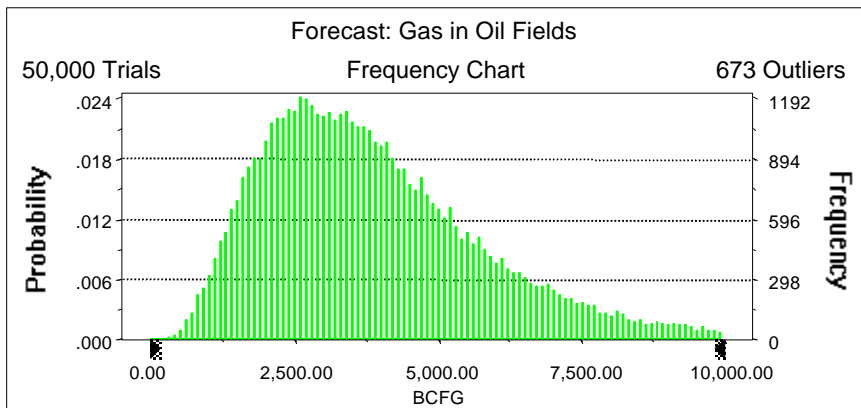
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**Forecast: Gas in Oil Fields**

Summary:

Display range is from 0.00 to 10,000.00 BCFG  
Entire range is from 316.13 to 21,444.51 BCFG  
After 50,000 trials, the standard error of the mean is 9.16

Statistics:	Value
Trials	50000
Mean	3,969.23
Median	3,594.22
Mode	---
Standard Deviation	2,047.54
Variance	4,192,407.19
Skewness	1.20
Kurtosis	5.29
Coefficient of Variability	0.52
Range Minimum	316.13
Range Maximum	21,444.51
Range Width	21,128.38
Mean Standard Error	9.16



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

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	316.13
95%	1,393.16
90%	1,741.50
85%	2,021.22
80%	2,260.23
75%	2,484.00
70%	2,700.17
65%	2,914.89
60%	3,139.22
55%	3,366.80
50%	3,594.22
45%	3,833.23
40%	4,087.92
35%	4,364.58
30%	4,682.10
25%	5,029.47
20%	5,450.52
15%	5,967.30
10%	6,684.77
5%	7,850.40
0%	21,444.51

End of Forecast

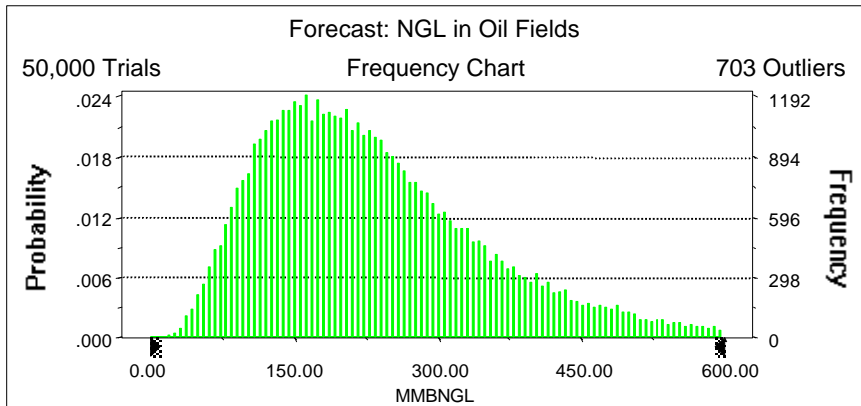
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**Forecast: NGL in Oil Fields**

Summary:

Display range is from 0.00 to 600.00 MMBNGL  
Entire range is from 17.68 to 1,414.79 MMBNGL  
After 50,000 trials, the standard error of the mean is 0.56

Statistics:	Value
Trials	50000
Mean	238.21
Median	215.04
Mode	---
Standard Deviation	124.39
Variance	15,472.58
Skewness	1.23
Kurtosis	5.42
Coefficient of Variability	0.52
Range Minimum	17.68
Range Maximum	1,414.79
Range Width	1,397.12
Mean Standard Error	0.56



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Forecast: NGL in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	17.68
95%	82.81
90%	103.92
85%	120.01
80%	134.38
75%	147.86
70%	161.04
65%	174.22
60%	187.48
55%	201.15
50%	215.04
45%	229.74
40%	244.84
35%	261.41
30%	280.30
25%	301.99
20%	327.90
15%	359.69
10%	404.01
5%	476.04
0%	1,414.79

End of Forecast

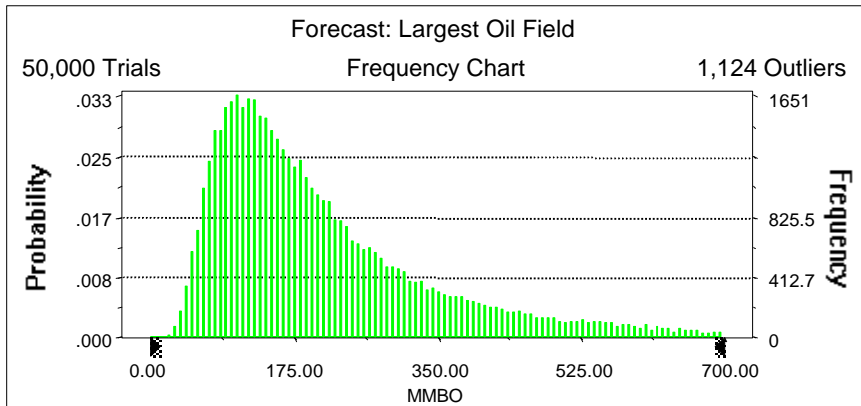
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Forecast: Largest Oil Field

Summary:

Display range is from 0.00 to 700.00 MMBO  
Entire range is from 21.70 to 999.10 MMBO  
After 50,000 trials, the standard error of the mean is 0.71

Statistics:	Value
Trials	50000
Mean	222.65
Median	175.20
Mode	---
Standard Deviation	158.65
Variance	25,171.03
Skewness	1.85
Kurtosis	6.98
Coefficient of Variability	0.71
Range Minimum	21.70
Range Maximum	999.10
Range Width	977.40
Mean Standard Error	0.71





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

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	21.70
95%	66.85
90%	81.08
85%	93.18
80%	104.18
75%	114.89
70%	125.79
65%	136.74
60%	148.55
55%	161.22
50%	175.20
45%	189.97
40%	207.08
35%	225.90
30%	248.69
25%	276.79
20%	311.46
15%	359.43
10%	429.31
5%	556.15
0%	999.10

End of Forecast

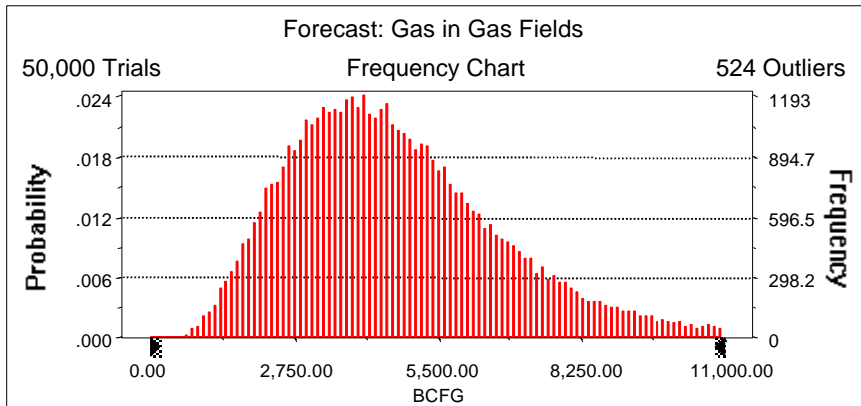
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**Forecast: Gas in Gas Fields**

Summary:

Display range is from 0.00 to 11,000.00 BCFG  
Entire range is from 552.27 to 19,088.78 BCFG  
After 50,000 trials, the standard error of the mean is 9.41

Statistics:	Value
Trials	50000
Mean	4,767.61
Median	4,455.78
Mode	---
Standard Deviation	2,103.07
Variance	4,422,904.26
Skewness	0.95
Kurtosis	4.38
Coefficient of Variability	0.44
Range Minimum	552.27
Range Maximum	19,088.78
Range Width	18,536.52
Mean Standard Error	9.41



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**Monte Carlo Results**

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

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	552.27
95%	1,935.94
90%	2,364.01
85%	2,701.37
80%	2,986.46
75%	3,244.94
70%	3,487.45
65%	3,735.72
60%	3,971.49
55%	4,207.41
50%	4,455.78
45%	4,707.61
40%	4,974.80
35%	5,264.50
30%	5,573.80
25%	5,926.68
20%	6,349.56
15%	6,877.15
10%	7,555.84
5%	8,706.62
0%	19,088.78

End of Forecast

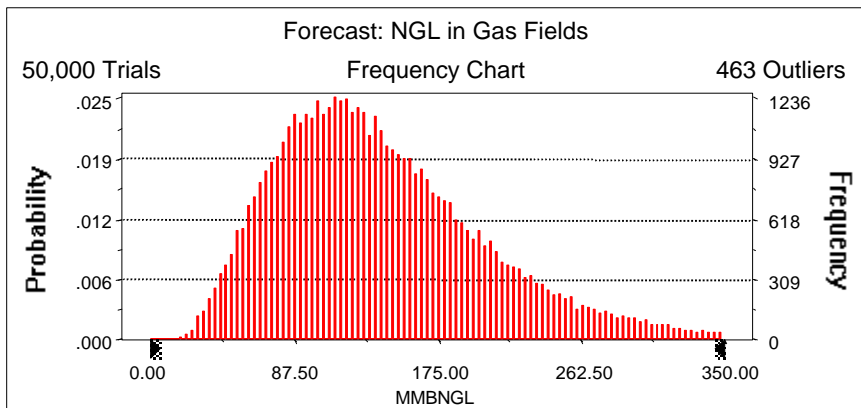
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Forecast: NGL in Gas Fields

Summary:

Display range is from 0.00 to 350.00 MMBNGL  
Entire range is from 14.85 to 670.19 MMBNGL  
After 50,000 trials, the standard error of the mean is 0.30

Statistics:	Value
Trials	50000
Mean	142.86
Median	131.66
Mode	---
Standard Deviation	66.51
Variance	4,423.84
Skewness	1.07
Kurtosis	4.86
Coefficient of Variability	0.47
Range Minimum	14.85
Range Maximum	670.19
Range Width	655.33
Mean Standard Error	0.30



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

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	14.85
95%	55.59
90%	68.56
85%	78.27
80%	86.97
75%	94.76
70%	102.36
65%	109.80
60%	116.95
55%	124.19
50%	131.66
45%	139.62
40%	148.09
35%	157.46
30%	167.31
25%	178.80
20%	192.14
15%	208.65
10%	231.02
5%	268.18
0%	670.19

End of Forecast

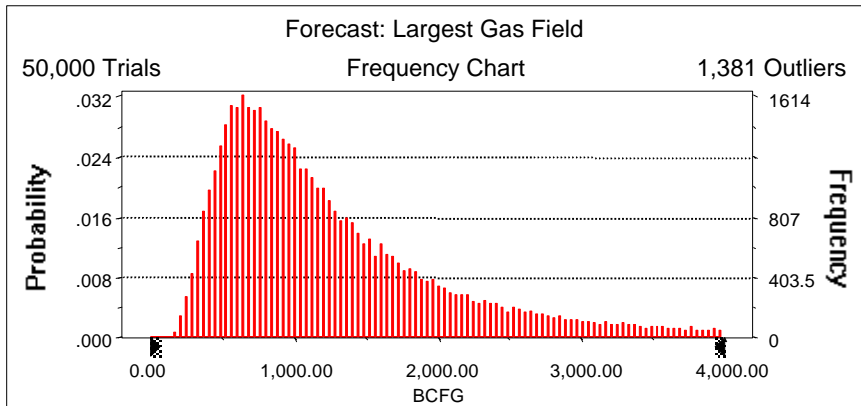
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**Forecast: Largest Gas Field**

Summary:

Display range is from 0.00 to 4,000.00 BCFG  
Entire range is from 116.28 to 5,999.00 BCFG  
After 50,000 trials, the standard error of the mean is 4.24

Statistics:	Value
Trials	50000
Mean	1,338.06
Median	1,053.27
Mode	---
Standard Deviation	948.46
Variance	899,585.25
Skewness	1.87
Kurtosis	7.12
Coefficient of Variability	0.71
Range Minimum	116.28
Range Maximum	5,999.00
Range Width	5,882.73
Mean Standard Error	4.24



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**Offshore Sirte Hypothetical**  
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**Forecast: Largest Gas Field (cont'd)**

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	116.28
95%	404.04
90%	495.25
85%	567.24
80%	632.39
75%	694.58
70%	760.97
65%	828.41
60%	899.25
55%	974.49
50%	1,053.27
45%	1,144.71
40%	1,244.23
35%	1,361.48
30%	1,495.19
25%	1,659.32
20%	1,861.89
15%	2,139.83
10%	2,563.19
5%	3,327.88
0%	5,999.00

End of Forecast

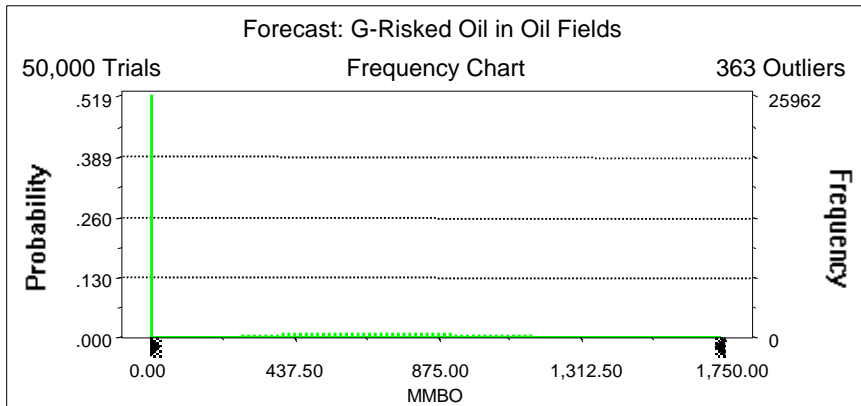
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**Forecast: G-Risk Oil in Oil Fields**

Summary:

Display range is from 0.00 to 1,750.00 MMBO  
 Entire range is from 0.00 to 2,981.30 MMBO  
 After 50,000 trials, the standard error of the mean is 2.08

Statistics:	<u>Value</u>
Trials	50000
Mean	381.74
Median	0.00
Mode	0.00
Standard Deviation	465.49
Variance	216,677.92
Skewness	0.96
Kurtosis	3.13
Coefficient of Variability	1.22
Range Minimum	0.00
Range Maximum	2,981.30
Range Width	2,981.30
Mean Standard Error	2.08





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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%	0.00
50%	0.00
45%	343.74
40%	464.94
35%	558.55
30%	641.61
25%	723.72
20%	814.87
15%	915.38
10%	1,048.26
5%	1,253.86
0%	2,981.30

End of Forecast

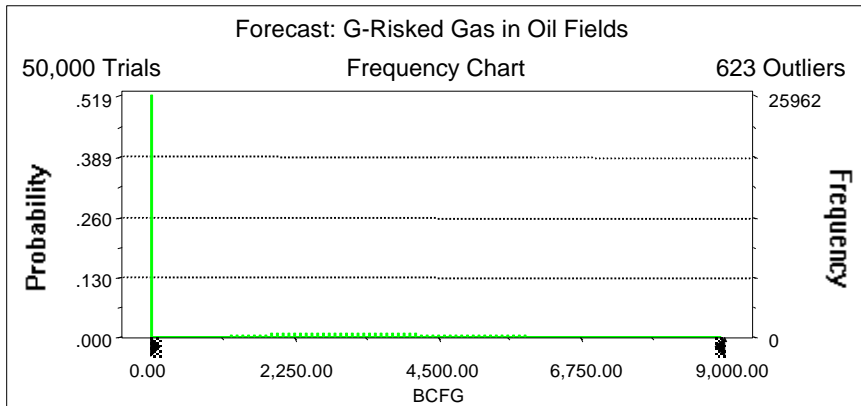
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**Forecast: G-Risk Gas in Oil Fields**

Summary:

Display range is from 0.00 to 9,000.00 BCFG  
 Entire range is from 0.00 to 17,454.40 BCFG  
 After 50,000 trials, the standard error of the mean is 10.91

Statistics:	<u>Value</u>
Trials	50000
Mean	1,909.26
Median	0.00
Mode	0.00
Standard Deviation	2,440.59
Variance	5,956,455.70
Skewness	1.24
Kurtosis	4.26
Coefficient of Variability	1.28
Range Minimum	0.00
Range Maximum	17,454.40
Range Width	17,454.40
Mean Standard Error	10.91



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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%	0.00
50%	0.00
45%	1,499.51
40%	2,117.69
35%	2,578.83
30%	3,027.62
25%	3,500.46
20%	4,000.14
15%	4,600.37
10%	5,368.16
5%	6,632.65
0%	17,454.40

End of Forecast

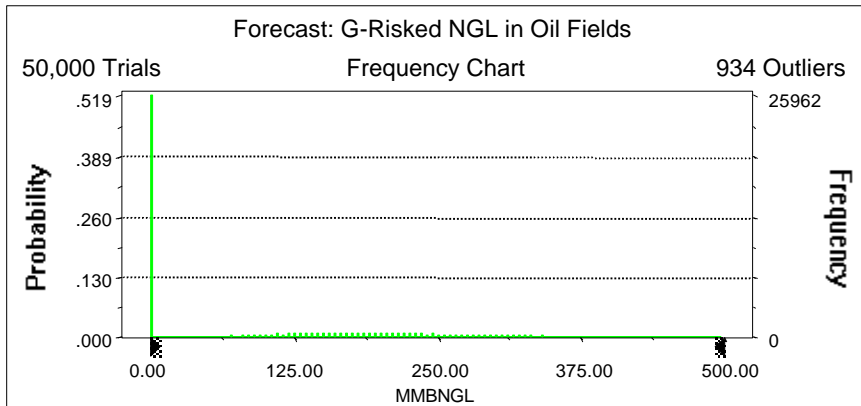
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**Forecast: G-Risked NGL in Oil Fields**

Summary:

Display range is from 0.00 to 500.00 MMBNGL  
Entire range is from 0.00 to 1,071.15 MMBNGL  
After 50,000 trials, the standard error of the mean is 0.66

Statistics:	Value
Trials	50000
Mean	114.65
Median	0.00
Mode	0.00
Standard Deviation	147.18
Variance	21,661.17
Skewness	1.26
Kurtosis	4.36
Coefficient of Variability	1.28
Range Minimum	0.00
Range Maximum	1,071.15
Range Width	1,071.15
Mean Standard Error	0.66



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Forecast: G-Riskd 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%	0.00
50%	0.00
45%	89.53
40%	125.63
35%	153.82
30%	180.47
25%	209.52
20%	239.96
15%	275.76
10%	323.44
5%	400.08
0%	1,071.15

End of Forecast

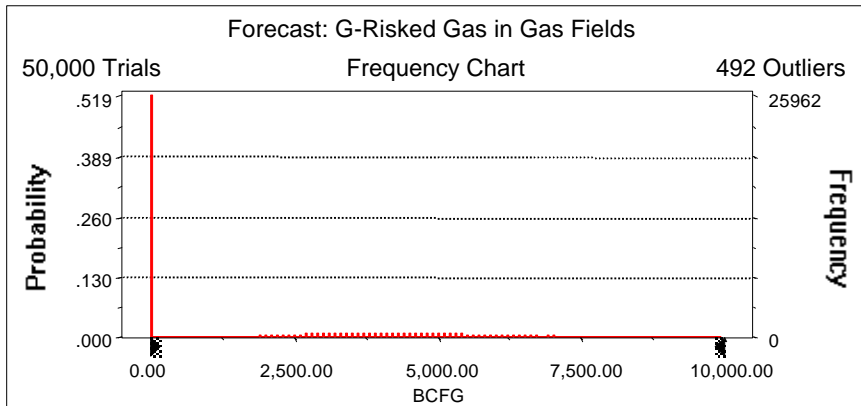
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**Forecast: G-Risked Gas in Gas Fields**

Summary:

Display range is from 0.00 to 10,000.00 BCFG  
 Entire range is from 0.00 to 19,088.78 BCFG  
 After 50,000 trials, the standard error of the mean is 12.46

Statistics:	<u>Value</u>
Trials	50000
Mean	2,289.89
Median	0.00
Mode	0.00
Standard Deviation	2,786.94
Variance	7,767,037.73
Skewness	0.96
Kurtosis	3.17
Coefficient of Variability	1.22
Range Minimum	0.00
Range Maximum	19,088.78
Range Width	19,088.78
Mean Standard Error	12.46



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**Forecast: G-Risk 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%	0.00
50%	0.00
45%	2,088.03
40%	2,808.17
35%	3,359.80
30%	3,854.57
25%	4,353.29
20%	4,887.11
15%	5,493.08
10%	6,275.60
5%	7,487.88
0%	19,088.78

End of Forecast

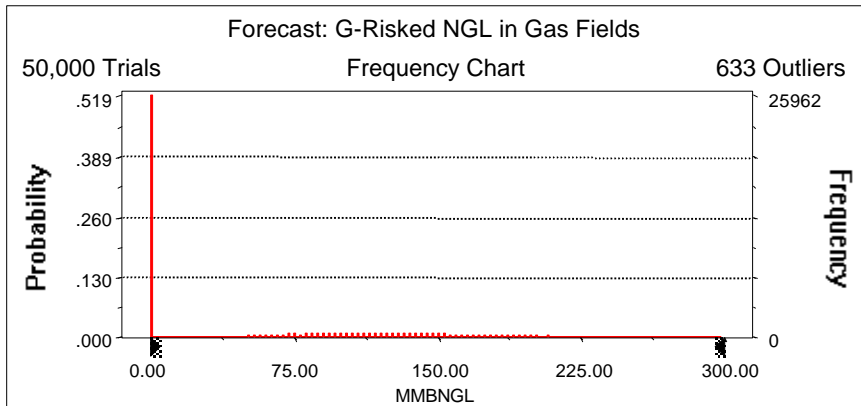
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**Forecast: G-Riskied NGL in Gas Fields**

Summary:

Display range is from 0.00 to 300.00 MMBNGL  
Entire range is from 0.00 to 670.19 MMBNGL  
After 50,000 trials, the standard error of the mean is 0.38

Statistics:	Value
Trials	50000
Mean	68.60
Median	0.00
Mode	0.00
Standard Deviation	84.80
Variance	7,191.89
Skewness	1.06
Kurtosis	3.57
Coefficient of Variability	1.24
Range Minimum	0.00
Range Maximum	670.19
Range Width	670.19
Mean Standard Error	0.38





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**Forecast: G-Riskd 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%	0.00
50%	0.00
45%	59.83
40%	81.89
35%	98.07
30%	113.65
25%	128.62
20%	144.99
15%	164.64
10%	189.31
5%	228.93
0%	670.19

End of Forecast

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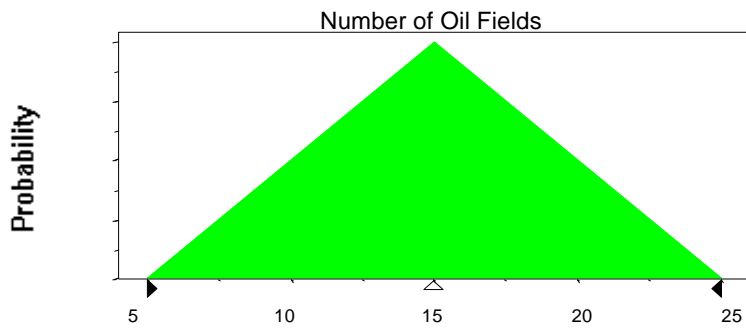
Assumptions

**Assumption: Number of Oil Fields**

Triangular distribution with parameters:

Minimum	5
Likeliest	15
Maximum	25

Selected range is from 5 to 25  
Mean value in simulation was 15



**Assumption: Sizes of Oil Fields**

Lognormal distribution with parameters:

Mean	44.39
Standard Deviation	87.96

Shifted parameters

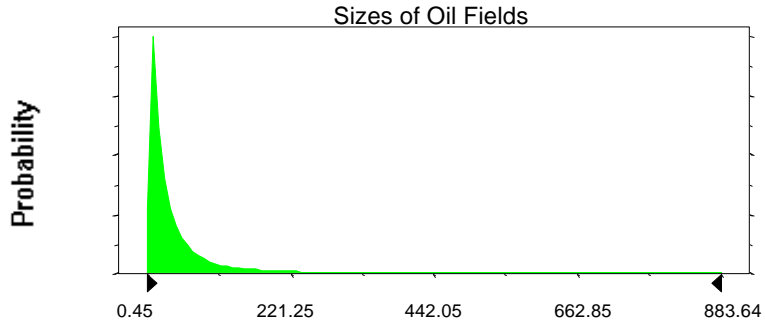
54.39
87.96

Selected range is from 0.00 to 990.00  
Mean value in simulation was 43.52

10.00 to 1,000.00  
53.52

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Assumption: Sizes of Oil Fields (cont'd)



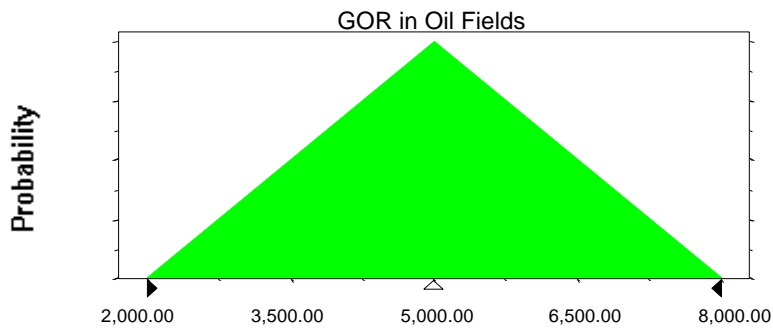
Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	2,000.00
Likeliest	5,000.00
Maximum	8,000.00

Selected range is from 2,000.00 to 8,000.00

Mean value in simulation was 5,002.64



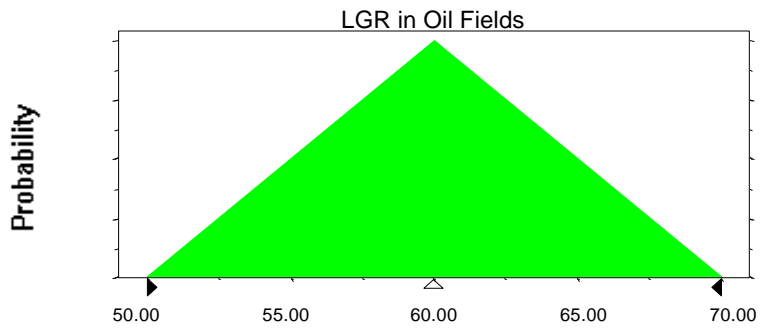
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**Assumption: LGR in Oil Fields**

Triangular distribution with parameters:

Minimum	50.00
Likeliest	60.00
Maximum	70.00

Selected range is from 50.00 to 70.00  
Mean value in simulation was 59.99



**Assumption: Number of Gas Fields**

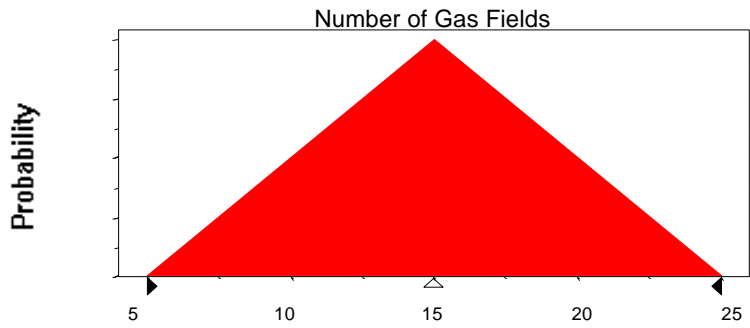
Triangular distribution with parameters:

Minimum	5
Likeliest	15
Maximum	25

Selected range is from 5 to 25  
Mean value in simulation was 15

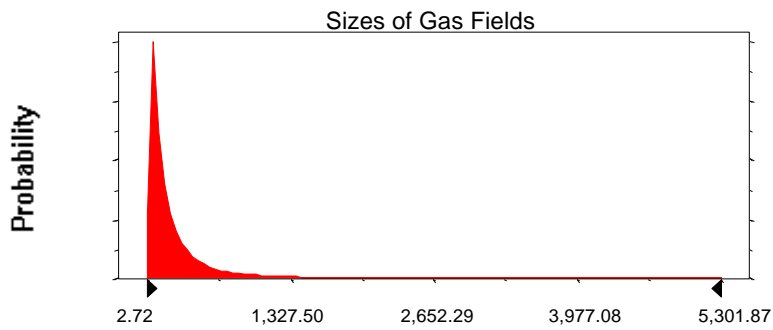
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Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:	Shifted parameters	
Mean	266.34	326.34
Standard Deviation	527.76	527.76
Selected range is from 0.00 to 5,940.00	60.00 to 6,000.00	
Mean value in simulation was 258.39	318.39	



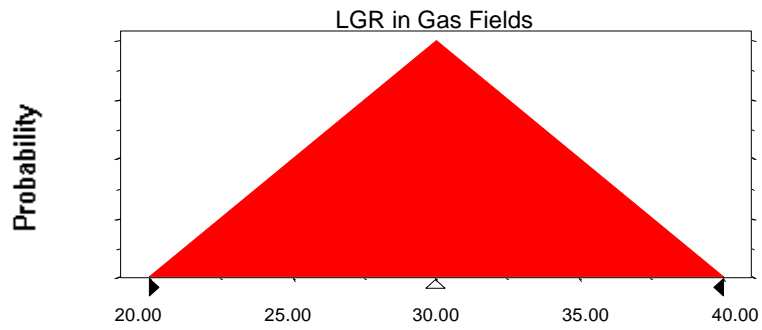
20430103  
Offshore Sirte Hypothetical  
Monte Carlo Results

**Assumption: LGR in Gas Fields**

Triangular distribution with parameters:

Minimum	20.00
Likeliest	30.00
Maximum	40.00

Selected range is from 20.00 to 40.00  
Mean value in simulation was 29.97



End of Assumptions

Simulation started on 12/1/98 at 15:17:44  
Simulation stopped on 12/1/98 at 15:37:26