

Terek-Sunzha Subsalt Jurassic, Assessment Unit 11090102
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	0.85	0	264	633	283	0	1,291	3,270	1,413	0	77	198	85	48	96	219	109
Gas Fields	120	0.85	0	264	633	283	0	10,488	18,245	10,051	0	620	1,139	603	910	1,804	4,110	2,054
Total		0.85	0	264	633	283	0	11,779	21,516	11,464	0	697	1,337	688				

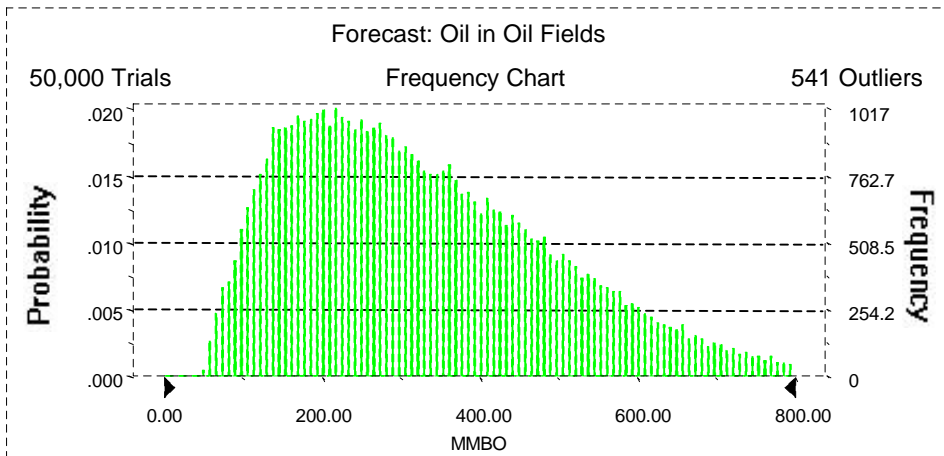
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Forecast: Oil in Oil Fields

Summary:

Display range is from 0.00 to 800.00 MMBO
 Entire range is from 50.91 to 1,263.33 MMBO
 After 50,000 trials, the standard error of the mean is 0.76

Statistics:	<u>Value</u>
Trials	50000
Mean	332.18
Median	302.70
Mode	---
Standard Deviation	170.83
Variance	29,182.80
Skewness	0.80
Kurtosis	3.45
Coefficient of Variability	0.51
Range Minimum	50.91
Range Maximum	1,263.33
Range Width	1,212.42
Mean Standard Error	0.76



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Forecast: Oil in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	50.91
95%	109.01
90%	135.51
85%	156.73
80%	177.32
75%	197.84
70%	218.02
65%	238.20
60%	259.05
55%	280.33
50%	302.70
45%	326.28
40%	352.13
35%	377.91
30%	407.95
25%	439.88
20%	475.24
15%	517.40
10%	570.63
5%	651.27
0%	1,263.33

End of Forecast

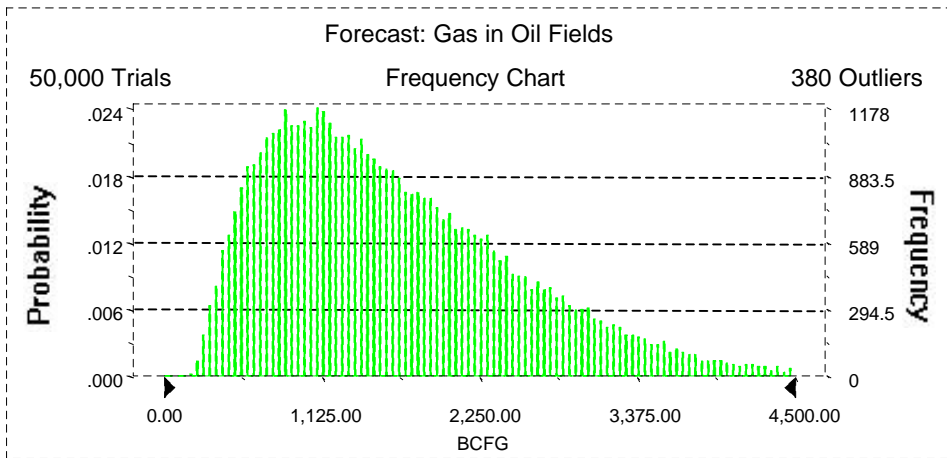
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Forecast: Gas in Oil Fields

Summary:

Display range is from 0.00 to 4,500.00 BCFG
 Entire range is from 177.85 to 7,290.16 BCFG
 After 50,000 trials, the standard error of the mean is 4.05

Statistics:	<u>Value</u>
Trials	50000
Mean	1,659.55
Median	1,483.37
Mode	---
Standard Deviation	906.25
Variance	821,281.29
Skewness	0.99
Kurtosis	4.10
Coefficient of Variability	0.55
Range Minimum	177.85
Range Maximum	7,290.16
Range Width	7,112.32
Mean Standard Error	4.05



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Forecast: Gas in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	177.85
95%	516.41
90%	648.05
85%	760.26
80%	862.92
75%	962.82
70%	1,064.34
65%	1,161.81
60%	1,264.41
55%	1,373.06
50%	1,483.37
45%	1,604.18
40%	1,730.63
35%	1,870.31
30%	2,021.16
25%	2,188.32
20%	2,375.70
15%	2,611.18
10%	2,913.28
5%	3,374.98
0%	7,290.16

End of Forecast

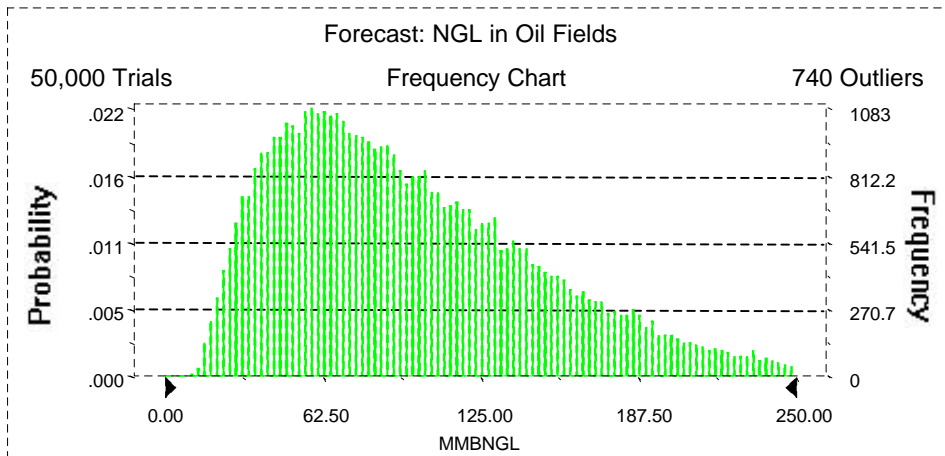
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Forecast: NGL in Oil Fields

Summary:

Display range is from 0.00 to 250.00 MMBNGL
 Entire range is from 9.28 to 476.14 MMBNGL
 After 50,000 trials, the standard error of the mean is 0.25

Statistics:	<u>Value</u>
Trials	50000
Mean	99.58
Median	88.65
Mode	---
Standard Deviation	55.00
Variance	3,025.16
Skewness	1.03
Kurtosis	4.27
Coefficient of Variability	0.55
Range Minimum	9.28
Range Maximum	476.14
Range Width	466.85
Mean Standard Error	0.25



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Forecast: NGL in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	9.28
95%	30.74
90%	38.66
85%	45.30
80%	51.55
75%	57.59
70%	63.39
65%	69.30
60%	75.46
55%	81.94
50%	88.65
45%	95.94
40%	103.61
35%	111.94
30%	121.12
25%	131.04
20%	142.62
15%	156.89
10%	175.46
5%	203.95
0%	476.14

End of Forecast

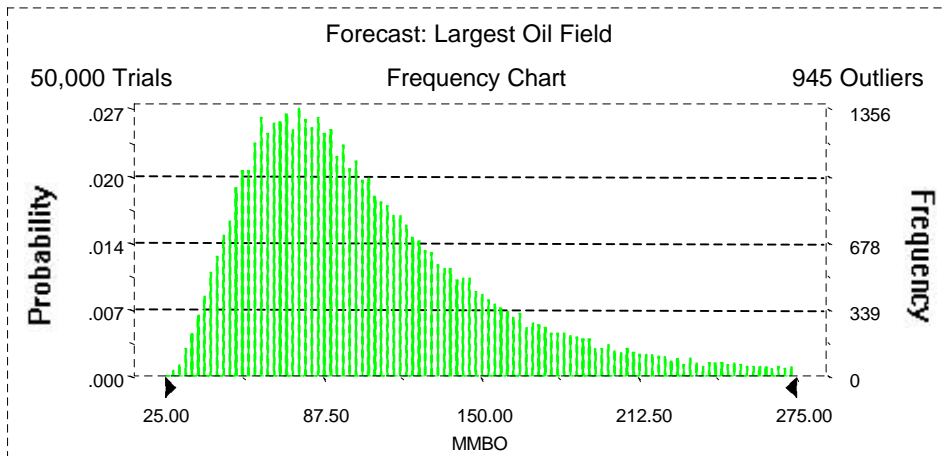
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Forecast: Largest Oil Field

Summary:

Display range is from 25.00 to 275.00 MMBO
 Entire range is from 25.78 to 399.75 MMBO
 After 50,000 trials, the standard error of the mean is 0.25

Statistics:	<u>Value</u>
Trials	50000
Mean	109.43
Median	95.91
Mode	---
Standard Deviation	55.29
Variance	3,056.82
Skewness	1.66
Kurtosis	6.68
Coefficient of Variability	0.51
Range Minimum	25.78
Range Maximum	399.75
Range Width	373.97
Mean Standard Error	0.25



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Forecast: Largest Oil Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	25.78
95%	48.10
90%	55.58
85%	61.34
80%	66.34
75%	71.15
70%	76.02
65%	80.75
60%	85.67
55%	90.55
50%	95.91
45%	101.52
40%	107.73
35%	114.76
30%	122.58
25%	131.92
20%	143.48
15%	158.30
10%	180.45
5%	219.03
0%	399.75

End of Forecast

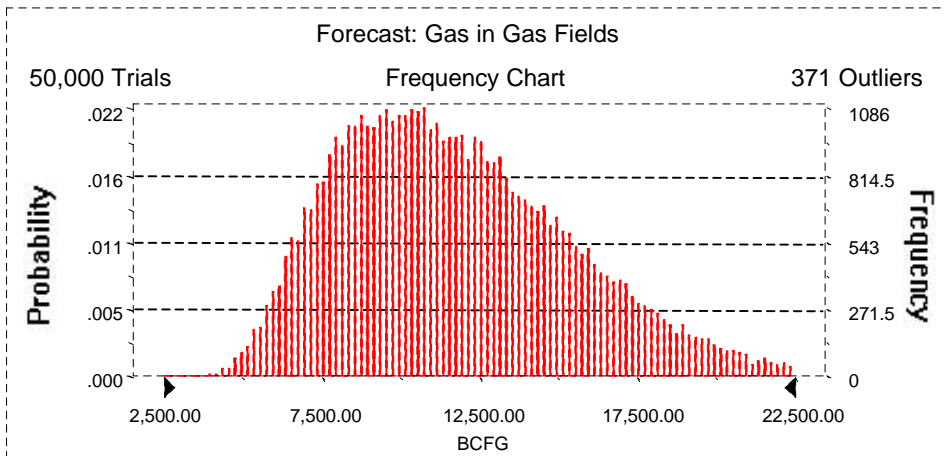
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Forecast: Gas in Gas Fields

Summary:

Display range is from 2,500.00 to 22,500.00 BCFG
 Entire range is from 3,390.48 to 31,801.28 BCFG
 After 50,000 trials, the standard error of the mean is 16.77

Statistics:	<u>Value</u>
Trials	50000
Mean	11,815.08
Median	11,331.74
Mode	---
Standard Deviation	3,749.46
Variance	14,058,425.53
Skewness	0.65
Kurtosis	3.29
Coefficient of Variability	0.32
Range Minimum	3,390.48
Range Maximum	31,801.28
Range Width	28,410.80
Mean Standard Error	16.77



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Forecast: Gas in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	3,390.48
95%	6,569.43
90%	7,365.89
85%	7,956.59
80%	8,466.36
75%	8,950.89
70%	9,435.02
65%	9,911.11
60%	10,379.68
55%	10,844.96
50%	11,331.74
45%	11,846.52
40%	12,375.83
35%	12,923.31
30%	13,504.56
25%	14,194.11
20%	14,945.54
15%	15,814.66
10%	16,955.22
5%	18,656.53
0%	31,801.28

End of Forecast

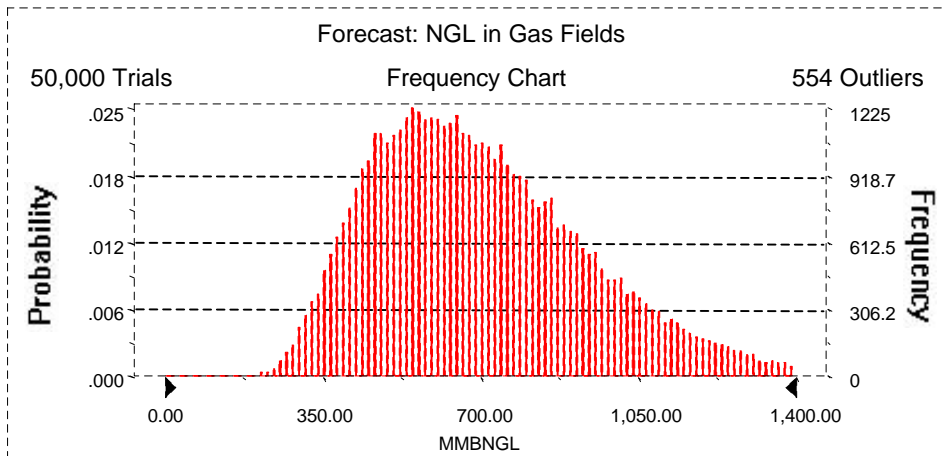
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Forecast: NGL in Gas Fields

Summary:

Display range is from 0.00 to 1,400.00 MMBNGL
 Entire range is from 181.92 to 2,185.79 MMBNGL
 After 50,000 trials, the standard error of the mean is 1.10

Statistics:	<u>Value</u>
Trials	50000
Mean	708.87
Median	673.18
Mode	---
Standard Deviation	246.65
Variance	60,836.06
Skewness	0.79
Kurtosis	3.71
Coefficient of Variability	0.35
Range Minimum	181.92
Range Maximum	2,185.79
Range Width	2,003.87
Mean Standard Error	1.10



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Forecast: NGL in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	181.92
95%	373.58
90%	423.13
85%	460.46
80%	492.13
75%	524.11
70%	553.79
65%	582.66
60%	612.59
55%	642.91
50%	673.18
45%	705.37
40%	739.14
35%	774.27
30%	812.89
25%	856.85
20%	905.65
15%	964.18
10%	1,044.51
5%	1,166.11
0%	2,185.79

End of Forecast

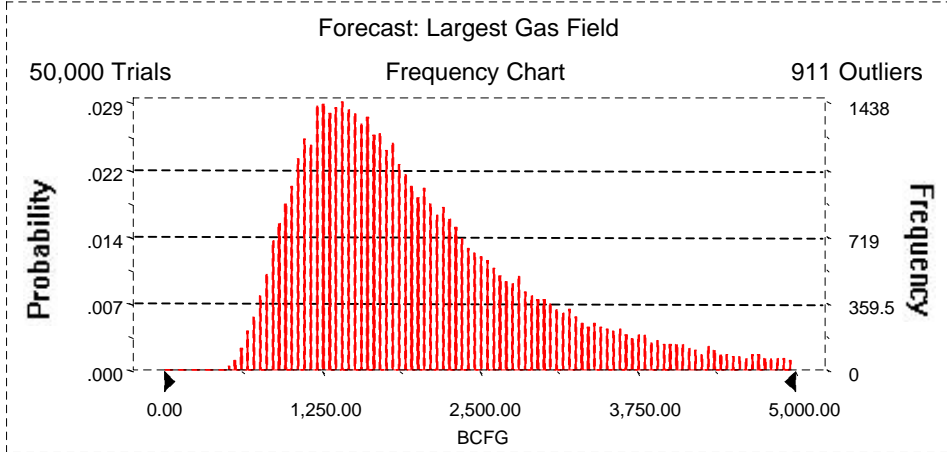
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Forecast: Largest Gas Field

Summary:

Display range is from 0.00 to 5,000.00 BCFG
 Entire range is from 383.01 to 5,998.42 BCFG
 After 50,000 trials, the standard error of the mean is 4.44

Statistics:	<u>Value</u>
Trials	50000
Mean	2,053.58
Median	1,804.24
Mode	---
Standard Deviation	993.79
Variance	987,608.67
Skewness	1.30
Kurtosis	4.69
Coefficient of Variability	0.48
Range Minimum	383.01
Range Maximum	5,998.42
Range Width	5,615.40
Mean Standard Error	4.44



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Forecast: Largest Gas Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	383.01
95%	910.31
90%	1,048.86
85%	1,153.48
80%	1,248.84
75%	1,337.29
70%	1,425.32
65%	1,514.22
60%	1,606.89
55%	1,702.09
50%	1,804.24
45%	1,913.10
40%	2,037.26
35%	2,173.69
30%	2,324.81
25%	2,510.49
20%	2,735.99
15%	3,023.69
10%	3,435.22
5%	4,109.65
0%	5,998.42

End of Forecast

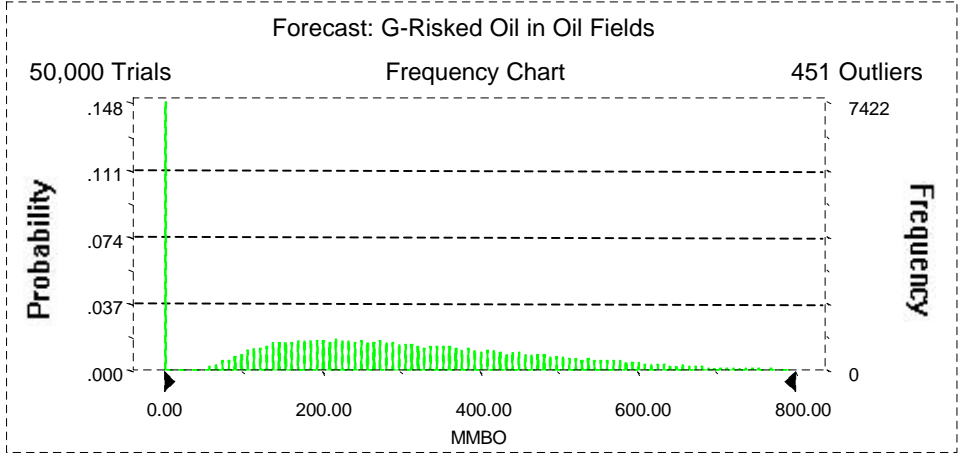
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Forecast: G-Riskd Oil in Oil Fields

Summary:

Display range is from 0.00 to 800.00 MMBO
 Entire range is from 0.00 to 1,263.33 MMBO
 After 50,000 trials, the standard error of the mean is 0.88

Statistics:	<u>Value</u>
Trials	50000
Mean	282.76
Median	264.45
Mode	0.00
Standard Deviation	197.00
Variance	38,810.44
Skewness	0.50
Kurtosis	2.98
Coefficient of Variability	0.70
Range Minimum	0.00
Range Maximum	1,263.33
Range Width	1,263.33
Mean Standard Error	0.88



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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%	60.20
80%	115.03
75%	143.60
70%	168.33
65%	192.45
60%	216.33
55%	239.75
50%	264.45
45%	289.21
40%	316.16
35%	345.84
30%	376.44
25%	411.68
20%	449.88
15%	494.41
10%	550.94
5%	633.44
0%	1,263.33

End of Forecast

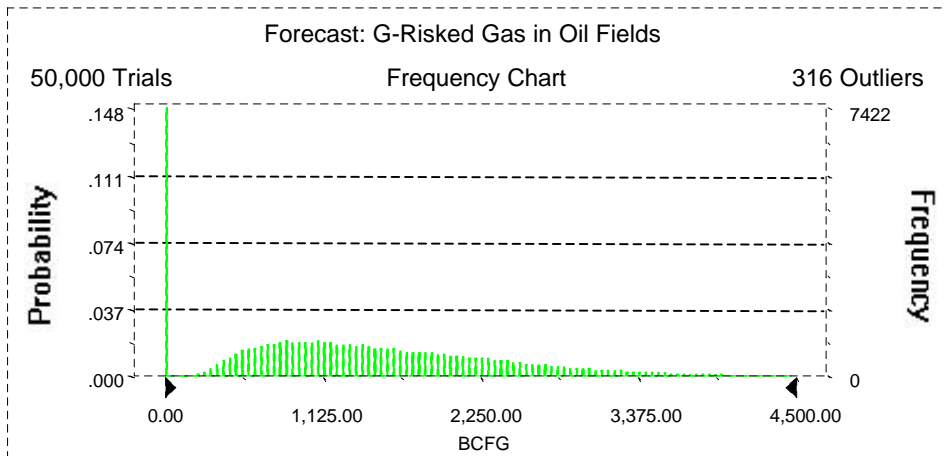
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Forecast: G-Risked Gas in Oil Fields

Summary:

Display range is from 0.00 to 4,500.00 BCFG
Entire range is from 0.00 to 7,250.17 BCFG
After 50,000 trials, the standard error of the mean is 4.58

Statistics:	Value
Trials	50000
Mean	1,412.86
Median	1,290.64
Mode	0.00
Standard Deviation	1,023.35
Variance	1,047,240.06
Skewness	0.68
Kurtosis	3.44
Coefficient of Variability	0.72
Range Minimum	0.00
Range Maximum	7,250.17
Range Width	7,250.17
Mean Standard Error	4.58



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

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	0.00
95%	0.00
90%	0.00
85%	267.57
80%	546.66
75%	691.41
70%	818.60
65%	934.14
60%	1,053.25
55%	1,168.74
50%	1,290.64
45%	1,418.66
40%	1,553.73
35%	1,701.32
30%	1,863.33
25%	2,040.22
20%	2,245.02
15%	2,482.84
10%	2,801.98
5%	3,270.48
0%	7,250.17

End of Forecast

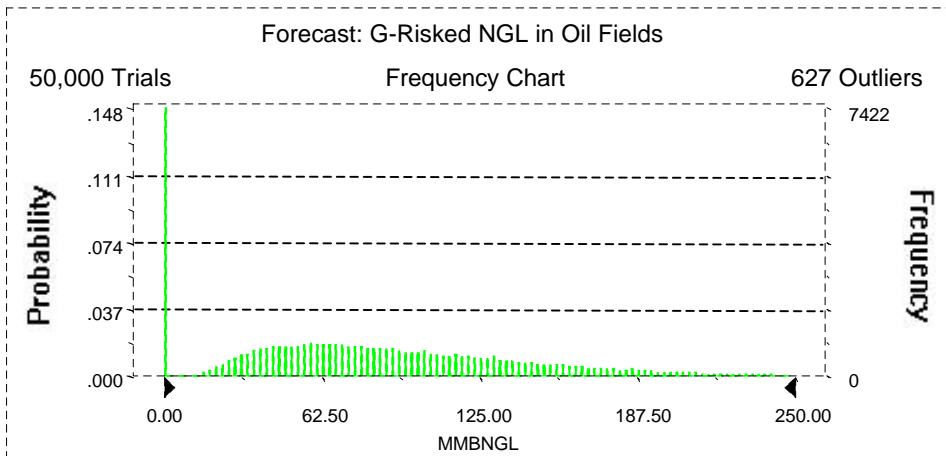
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Forecast: G-Risked NGL in Oil Fields

Summary:

Display range is from 0.00 to 250.00 MMBNGL
 Entire range is from 0.00 to 476.14 MMBNGL
 After 50,000 trials, the standard error of the mean is 0.28

Statistics:	<u>Value</u>
Trials	50000
Mean	84.77
Median	77.04
Mode	0.00
Standard Deviation	61.86
Variance	3,826.22
Skewness	0.72
Kurtosis	3.56
Coefficient of Variability	0.73
Range Minimum	0.00
Range Maximum	476.14
Range Width	476.14
Mean Standard Error	0.28



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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%	16.01
80%	32.42
75%	41.18
70%	48.77
65%	56.05
60%	62.83
55%	69.73
50%	77.04
45%	84.81
40%	92.91
35%	102.04
30%	111.56
25%	122.23
20%	134.24
15%	149.24
10%	168.39
5%	197.68
0%	476.14

End of Forecast

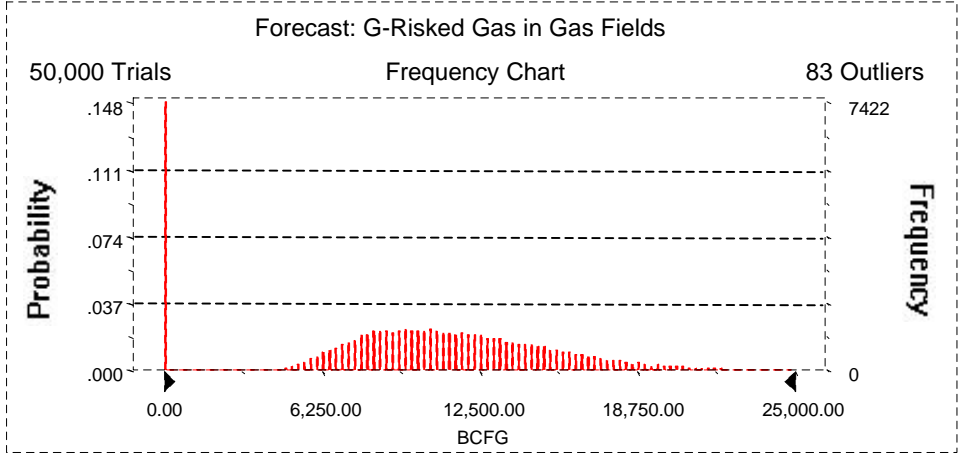
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Forecast: G-Risked Gas in Gas Fields

Summary:

Display range is from 0.00 to 25,000.00 BCFG
 Entire range is from 0.00 to 31,801.28 BCFG
 After 50,000 trials, the standard error of the mean is 24.30

Statistics:	<u>Value</u>
Trials	50000
Mean	10,051.15
Median	10,488.11
Mode	0.00
Standard Deviation	5,434.48
Variance	29,533,556.90
Skewness	-0.34
Kurtosis	2.86
Coefficient of Variability	0.54
Range Minimum	0.00
Range Maximum	31,801.28
Range Width	31,801.28
Mean Standard Error	24.30



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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%	4,693.57
80%	6,772.08
75%	7,608.24
70%	8,249.60
65%	8,812.35
60%	9,375.87
55%	9,933.05
50%	10,488.11
45%	11,044.10
40%	11,634.12
35%	12,245.67
30%	12,879.47
25%	13,581.18
20%	14,414.71
15%	15,325.92
10%	16,499.30
5%	18,245.17
0%	31,801.28

End of Forecast

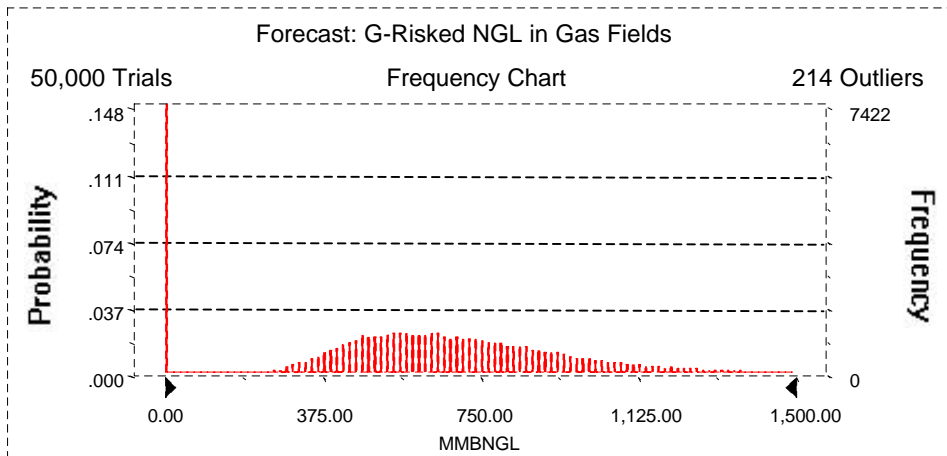
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Forecast: G-Risked NGL in Gas Fields

Summary:

Display range is from 0.00 to 1,500.00 MMBNGL
 Entire range is from 0.00 to 2,185.79 MMBNGL
 After 50,000 trials, the standard error of the mean is 1.52

Statistics:	<u>Value</u>
Trials	50000
Mean	603.30
Median	619.81
Mode	0.00
Standard Deviation	339.26
Variance	115,095.24
Skewness	-0.13
Kurtosis	2.95
Coefficient of Variability	0.56
Range Minimum	0.00
Range Maximum	2,185.79
Range Width	2,185.79
Mean Standard Error	1.52



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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%	253.36
80%	386.31
75%	438.56
70%	478.48
65%	515.88
60%	550.95
55%	584.70
50%	619.81
45%	654.66
40%	692.10
35%	730.21
30%	771.13
25%	817.65
20%	869.52
15%	931.42
10%	1,014.05
5%	1,139.47
0%	2,185.79

End of Forecast

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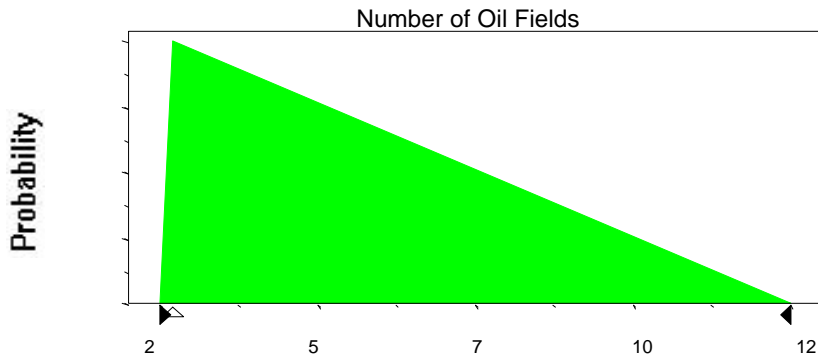
Assumptions

Assumption: Number of Oil Fields

Triangular distribution with parameters:

Minimum	2
Likeliest	2
Maximum	12

Selected range is from 2 to 12
Mean value in simulation was 5



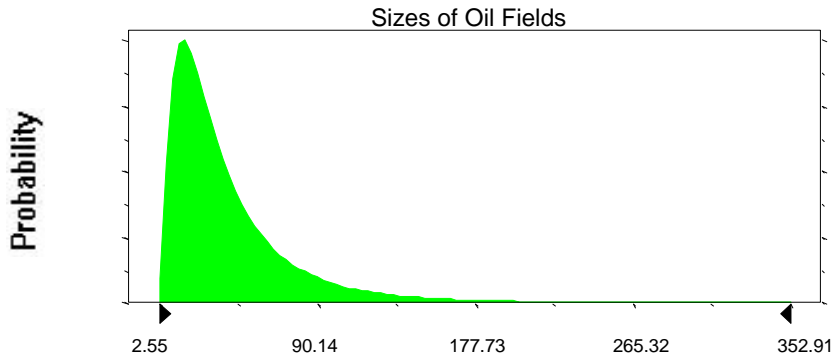
Assumption: Sizes of Oil Fields

Lognormal distribution with parameters:	Shifted parameters	
Mean	42.05	62.05
Standard Deviation	41.29	41.29

Selected range is from 0.00 to 380.00	20.00 to 400.00
Mean value in simulation was 41.55	61.55

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Assumption: Sizes of Oil Fields (cont'd)



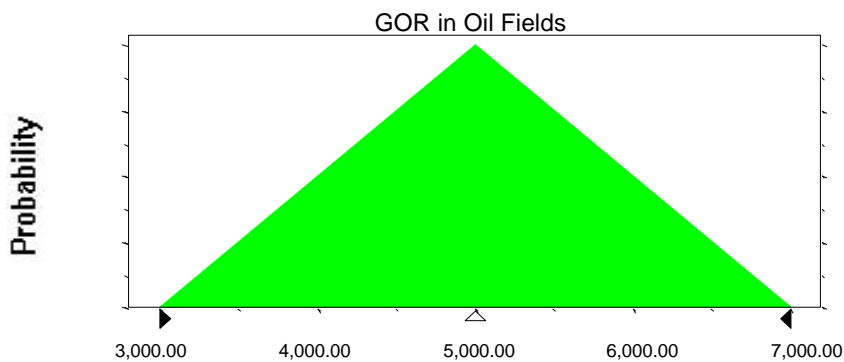
Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	3,000.00
Likeliest	5,000.00
Maximum	7,000.00

Selected range is from 3,000.00 to 7,000.00

Mean value in simulation was 4,996.89



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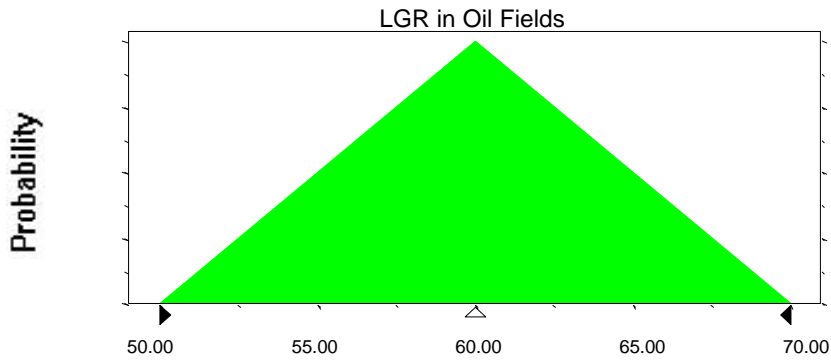
Assumption: LGR in Oil Fields

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:

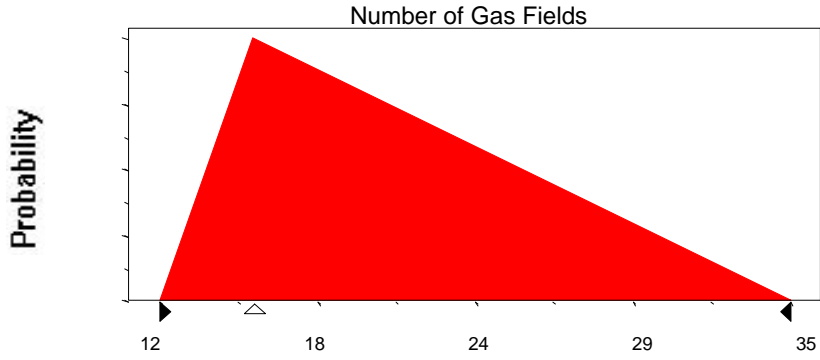
Minimum	12
Likeliest	15
Maximum	35

Selected range is from 12 to 35

Mean value in simulation was 21

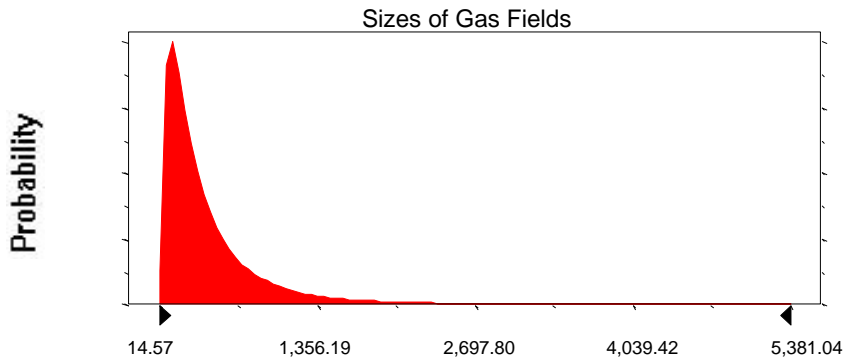
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Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:	Shifted parameters	
Mean	454.95	574.95
Standard Deviation	582.62	582.62
Selected range is from 0.00 to 5,880.00	120.00 to 6,000.00	
Mean value in simulation was 445.51	565.51	



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Terek-Sunzha Subsalt Jurassic
Monte Carlo Results

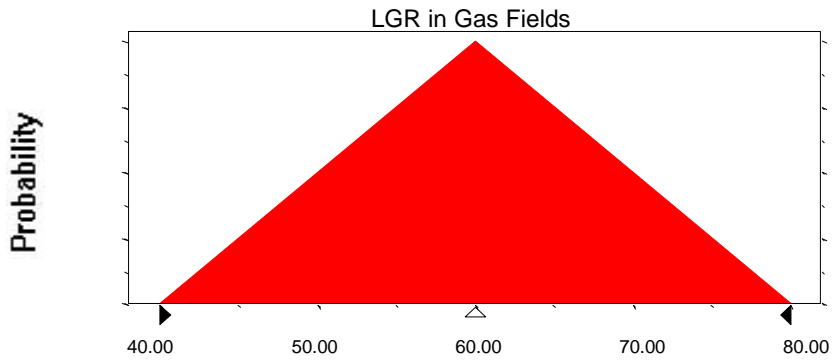
Assumption: LGR in Gas Fields

Triangular distribution with parameters:

Minimum	40.00
Likeliest	60.00
Maximum	80.00

Selected range is from 40.00 to 80.00

Mean value in simulation was 60.00



End of Assumptions

Simulation started on 12/8/98 at 8:30:09
Simulation stopped on 12/8/98 at 9:55:32