

Iran Onshore/Nearshore, Assessment Unit 11120105
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	5	0.90	0	141	524	185	0	547	2,164	743	0	32	133	45	15	66	286	97
Gas Fields	30						0	1,856	5,635	2,218	0	79	259	98	163	616	2,239	823
Total		0.90	0	141	524	185	0	2,403	7,799	2,960	0	111	392	142				

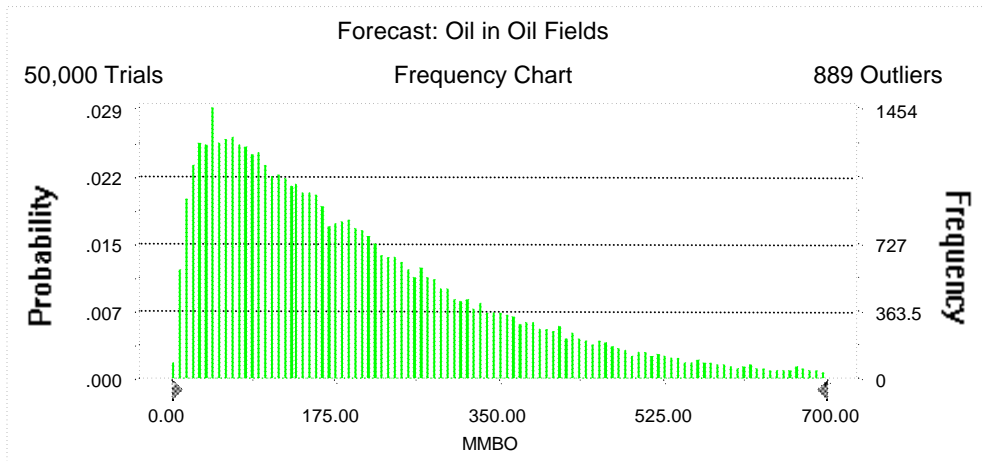
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Forecast: Oil in Oil Fields

Summary:

Display range is from 0.00 to 700.00 MMBO
Entire range is from 5.17 to 1,920.37 MMBO
After 50,000 trials, the standard error of the mean is 0.76

Statistics:	Value
Trials	50000
Mean	205.85
Median	160.58
Mode	---
Standard Deviation	170.10
Variance	28,933.52
Skewness	1.67
Kurtosis	7.19
Coefficient of Variability	0.83
Range Minimum	5.17
Range Maximum	1,920.37
Range Width	1,915.20
Mean Standard Error	0.76



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Forecast: Oil in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	5.17
95%	26.28
90%	40.13
85%	52.90
80%	66.47
75%	80.50
70%	94.89
65%	110.10
60%	126.23
55%	143.00
50%	160.58
45%	180.77
40%	201.70
35%	224.46
30%	251.51
25%	282.01
20%	319.87
15%	367.55
10%	430.54
5%	538.22
0%	1,920.37

End of Forecast

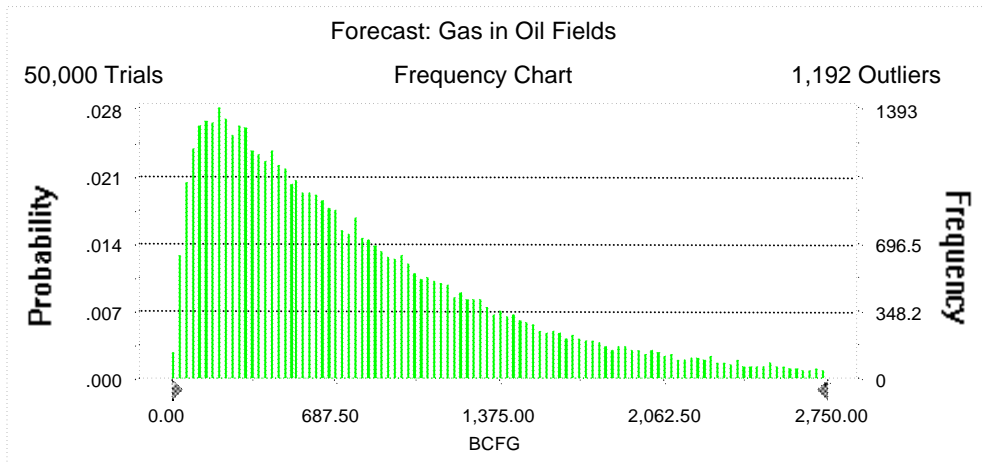
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Forecast: Gas in Oil Fields

Summary:

Display range is from 0.00 to 2,750.00 BCFG
 Entire range is from 14.03 to 7,312.81 BCFG
 After 50,000 trials, the standard error of the mean is 3.21

Statistics:	<u>Value</u>
Trials	50000
Mean	825.24
Median	626.08
Mode	---
Standard Deviation	718.01
Variance	515,539.43
Skewness	1.86
Kurtosis	8.18
Coefficient of Variability	0.87
Range Minimum	14.03
Range Maximum	7,312.81
Range Width	7,298.78
Mean Standard Error	3.21



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Forecast: Gas in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	14.03
95%	99.67
90%	152.49
85%	204.22
80%	254.96
75%	308.38
70%	364.58
65%	425.01
60%	487.16
55%	554.57
50%	626.08
45%	702.46
40%	790.01
35%	884.37
30%	994.59
25%	1,122.95
20%	1,276.12
15%	1,470.38
10%	1,752.93
5%	2,240.09
0%	7,312.81

End of Forecast

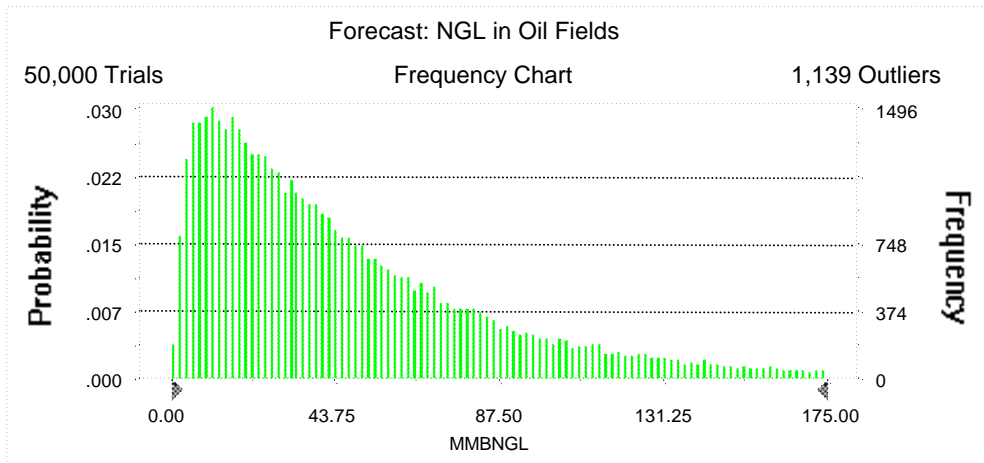
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Forecast: NGL in Oil Fields

Summary:

Display range is from 0.00 to 175.00 MMBNGL
Entire range is from 0.66 to 517.44 MMBNGL
After 50,000 trials, the standard error of the mean is 0.20

Statistics:	Value
Trials	50000
Mean	49.54
Median	36.58
Mode	---
Standard Deviation	45.23
Variance	2,045.78
Skewness	2.10
Kurtosis	10.00
Coefficient of Variability	0.91
Range Minimum	0.66
Range Maximum	517.44
Range Width	516.78
Mean Standard Error	0.20



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Forecast: NGL in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	0.66
95%	5.62
90%	8.71
85%	11.71
80%	14.75
75%	17.87
70%	21.10
65%	24.67
60%	28.30
55%	32.35
50%	36.58
45%	41.14
40%	46.27
35%	52.09
30%	58.79
25%	66.70
20%	76.23
15%	88.48
10%	106.81
5%	138.34
0%	517.44

End of Forecast

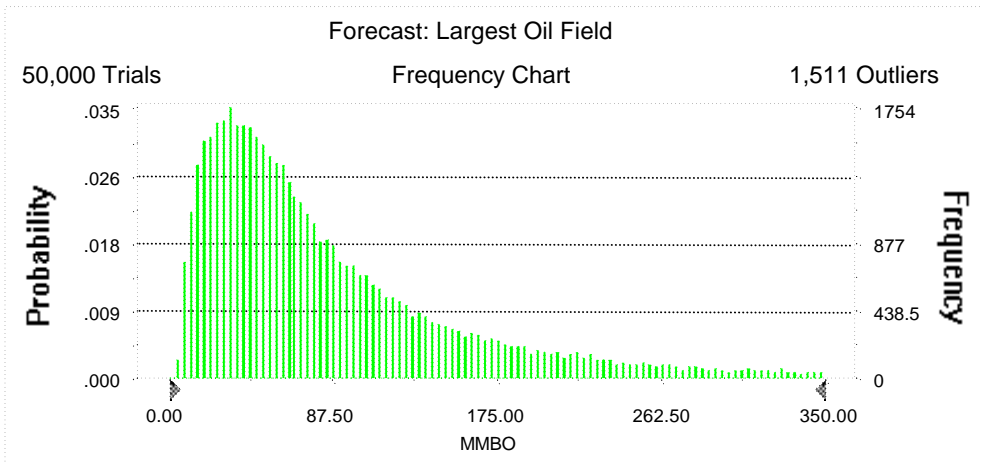
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Forecast: Largest Oil Field

Summary:

Display range is from 0.00 to 350.00 MMBO
 Entire range is from 5.17 to 748.98 MMBO
 After 50,000 trials, the standard error of the mean is 0.43

Statistics:	<u>Value</u>
Trials	50000
Mean	96.99
Median	66.41
Mode	---
Standard Deviation	96.60
Variance	9,331.70
Skewness	2.65
Kurtosis	12.41
Coefficient of Variability	1.00
Range Minimum	5.17
Range Maximum	748.98
Range Width	743.81
Mean Standard Error	0.43



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Forecast: Largest Oil Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	5.17
95%	15.39
90%	21.29
85%	26.72
80%	31.86
75%	37.02
70%	42.33
65%	47.84
60%	53.59
55%	59.80
50%	66.41
45%	73.95
40%	82.67
35%	92.88
30%	105.08
25%	119.84
20%	139.04
15%	165.82
10%	207.16
5%	286.17
0%	748.98

End of Forecast

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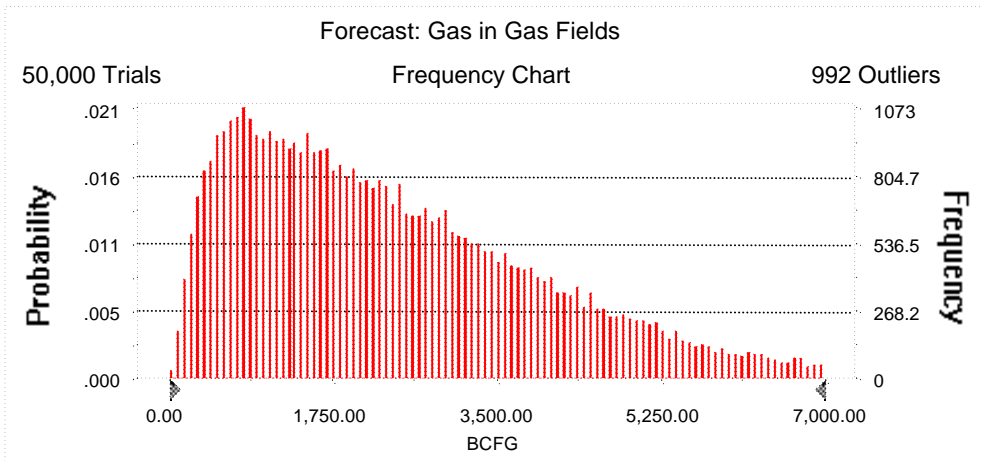
Forecast: Gas in Gas Fields

Summary:

Display range is from 0.00 to 7,000.00 BCFG
 Entire range is from 33.22 to 13,109.89 BCFG
 After 50,000 trials, the standard error of the mean is 7.75

Statistics:

	<u>Value</u>
Trials	50000
Mean	2,464.33
Median	2,095.05
Mode	---
Standard Deviation	1,733.06
Variance	3,003,501.25
Skewness	1.13
Kurtosis	4.53
Coefficient of Variability	0.70
Range Minimum	33.22
Range Maximum	13,109.89
Range Width	13,076.67
Mean Standard Error	7.75



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Forecast: Gas in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	33.22
95%	399.80
90%	587.28
85%	760.55
80%	928.59
75%	1,109.00
70%	1,295.18
65%	1,486.03
60%	1,674.70
55%	1,880.03
50%	2,095.05
45%	2,320.54
40%	2,559.97
35%	2,830.20
30%	3,108.81
25%	3,436.62
20%	3,808.57
15%	4,259.02
10%	4,848.80
5%	5,780.00
0%	13,109.89

End of Forecast

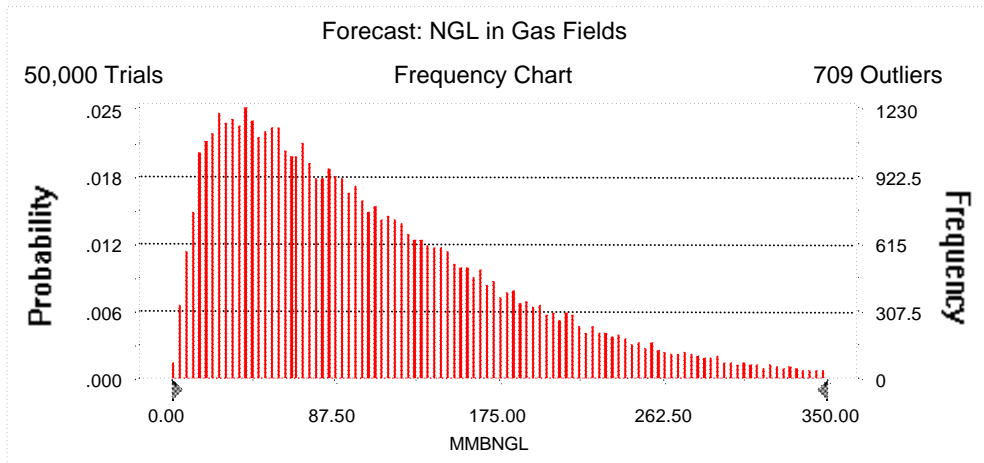
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Forecast: NGL in Gas Fields

Summary:

Display range is from 0.00 to 350.00 MMBNGL
Entire range is from 1.09 to 813.17 MMBNGL
After 50,000 trials, the standard error of the mean is 0.36

Statistics:	Value
Trials	50000
Mean	108.56
Median	89.40
Mode	---
Standard Deviation	81.17
Variance	6,588.51
Skewness	1.37
Kurtosis	5.64
Coefficient of Variability	0.75
Range Minimum	1.09
Range Maximum	813.17
Range Width	812.08
Mean Standard Error	0.36



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Forecast: NGL in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	1.09
95%	16.57
90%	24.55
85%	31.96
80%	39.29
75%	46.79
70%	54.60
65%	62.48
60%	71.08
55%	79.90
50%	89.40
45%	99.24
40%	110.12
35%	122.13
30%	135.28
25%	150.06
20%	167.36
15%	189.31
10%	217.94
5%	265.93
0%	813.17

End of Forecast

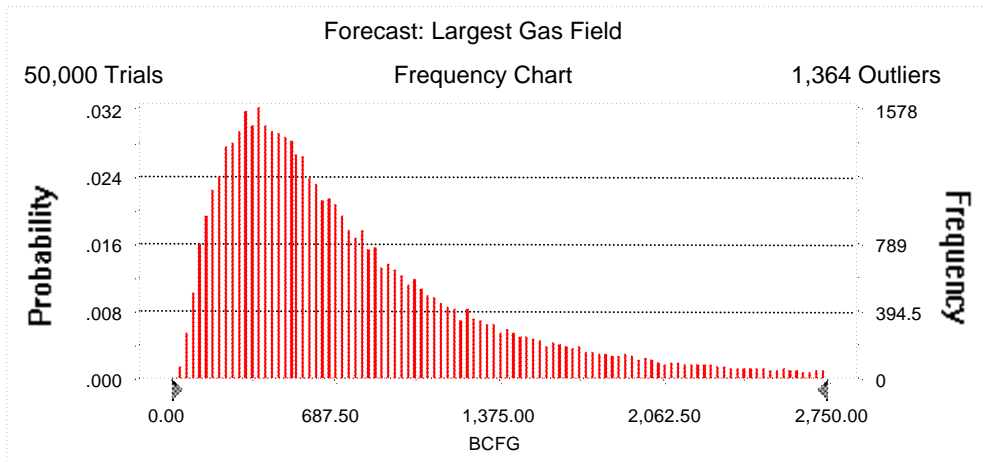
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Forecast: Largest Gas Field

Summary:

Display range is from 0.00 to 2,750.00 BCFG
 Entire range is from 33.22 to 4,497.58 BCFG
 After 50,000 trials, the standard error of the mean is 3.08

Statistics:	<u>Value</u>
Trials	50000
Mean	822.91
Median	615.60
Mode	---
Standard Deviation	687.73
Variance	472,969.44
Skewness	2.02
Kurtosis	8.04
Coefficient of Variability	0.84
Range Minimum	33.22
Range Maximum	4,497.58
Range Width	4,464.36
Mean Standard Error	3.08



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Forecast: Largest Gas Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	33.22
95%	162.57
90%	222.87
85%	273.29
80%	319.49
75%	364.85
70%	409.60
65%	458.07
60%	506.32
55%	558.28
50%	615.60
45%	679.21
40%	749.80
35%	830.87
30%	927.12
25%	1,042.04
20%	1,188.91
15%	1,387.91
10%	1,682.98
5%	2,238.67
0%	4,497.58

End of Forecast

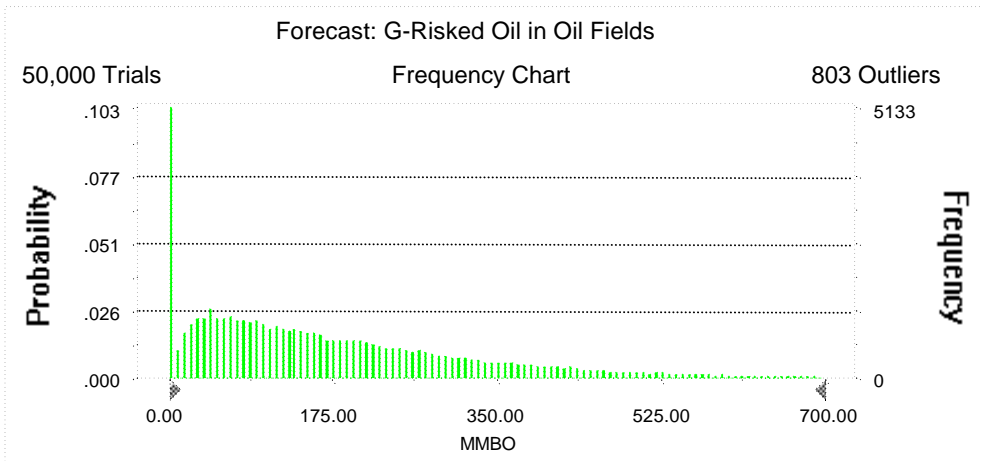
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Forecast: G-Riskd Oil in Oil Fields

Summary:

Display range is from 0.00 to 700.00 MMBO
Entire range is from 0.00 to 1,920.37 MMBO
After 50,000 trials, the standard error of the mean is 0.77

Statistics:	<u>Value</u>
Trials	50000
Mean	185.35
Median	141.07
Mode	0.00
Standard Deviation	173.13
Variance	29,973.43
Skewness	1.63
Kurtosis	7.02
Coefficient of Variability	0.93
Range Minimum	0.00
Range Maximum	1,920.37
Range Width	1,920.37
Mean Standard Error	0.77



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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%	27.56
80%	42.86
75%	57.33
70%	72.41
65%	88.05
60%	104.63
55%	122.62
50%	141.07
45%	160.48
40%	183.37
35%	207.04
30%	233.65
25%	265.45
20%	301.92
15%	351.09
10%	414.93
5%	523.64
0%	1,920.37

End of Forecast

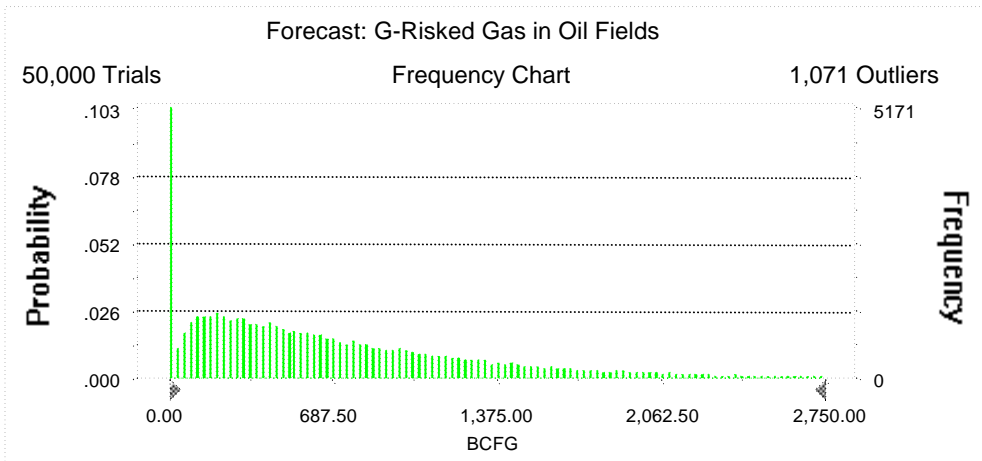
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Forecast: G-Risk Gas in Oil Fields

Summary:

Display range is from 0.00 to 2,750.00 BCFG
 Entire range is from 0.00 to 7,312.81 BCFG
 After 50,000 trials, the standard error of the mean is 3.24

Statistics:	<u>Value</u>
Trials	50000
Mean	742.56
Median	546.66
Mode	0.00
Standard Deviation	725.33
Variance	526,104.13
Skewness	1.83
Kurtosis	8.05
Coefficient of Variability	0.98
Range Minimum	0.00
Range Maximum	7,312.81
Range Width	7,312.81
Mean Standard Error	3.24



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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%	104.90
80%	163.01
75%	219.12
70%	278.74
65%	338.86
60%	405.77
55%	472.16
50%	546.66
45%	625.57
40%	711.15
35%	809.02
30%	922.10
25%	1,048.92
20%	1,206.04
15%	1,401.46
10%	1,680.81
5%	2,164.05
0%	7,312.81

End of Forecast

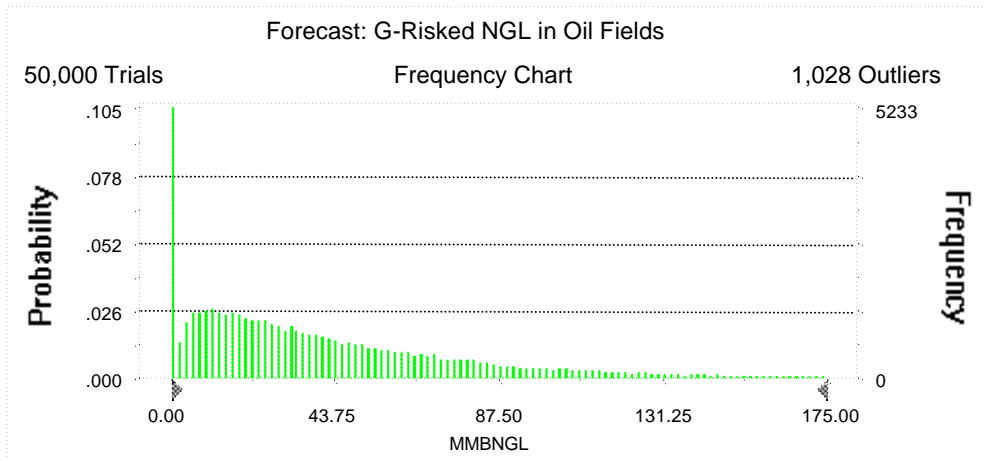
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Forecast: G-Risked NGL in Oil Fields

Summary:

Display range is from 0.00 to 175.00 MMBNGL
Entire range is from 0.00 to 517.44 MMBNGL
After 50,000 trials, the standard error of the mean is 0.20

Statistics:	Value
Trials	50000
Mean	44.58
Median	31.83
Mode	0.00
Standard Deviation	45.46
Variance	2,066.40
Skewness	2.06
Kurtosis	9.76
Coefficient of Variability	1.02
Range Minimum	0.00
Range Maximum	517.44
Range Width	517.44
Mean Standard Error	0.20



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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%	5.93
80%	9.31
75%	12.59
70%	16.06
65%	19.59
60%	23.40
55%	27.43
50%	31.83
45%	36.53
40%	41.66
35%	47.55
30%	54.21
25%	62.29
20%	71.69
15%	84.08
10%	102.49
5%	133.40
0%	517.44

End of Forecast

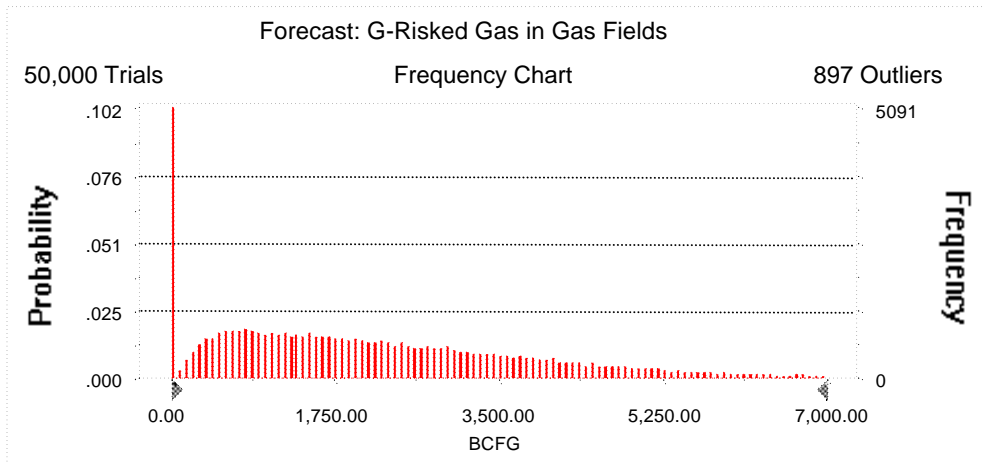
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Forecast: G-Riskd Gas in Gas Fields

Summary:

Display range is from 0.00 to 7,000.00 BCFG
 Entire range is from 0.00 to 13,109.89 BCFG
 After 50,000 trials, the standard error of the mean is 8.07

Statistics:	<u>Value</u>
Trials	50000
Mean	2,217.72
Median	1,856.19
Mode	0.00
Standard Deviation	1,803.89
Variance	3,254,023.06
Skewness	1.06
Kurtosis	4.27
Coefficient of Variability	0.81
Range Minimum	0.00
Range Maximum	13,109.89
Range Width	13,109.89
Mean Standard Error	8.07



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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%	416.63
80%	624.60
75%	813.30
70%	1,009.09
65%	1,212.96
60%	1,422.99
55%	1,635.45
50%	1,856.19
45%	2,096.07
40%	2,348.52
35%	2,623.05
30%	2,919.94
25%	3,247.17
20%	3,634.63
15%	4,096.05
10%	4,701.25
5%	5,634.56
0%	13,109.89

End of Forecast

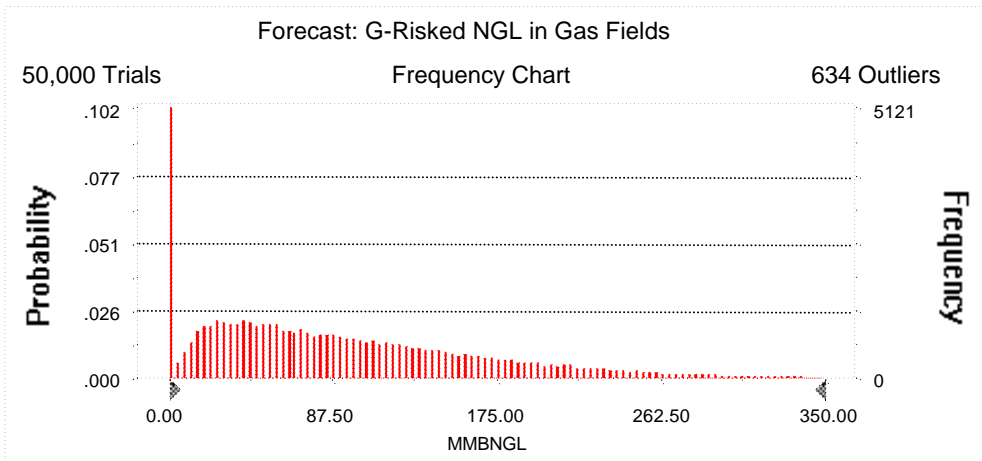
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Forecast: G-Riskd NGL in Gas Fields

Summary:

Display range is from 0.00 to 350.00 MMBNGL
Entire range is from 0.00 to 788.69 MMBNGL
After 50,000 trials, the standard error of the mean is 0.37

Statistics:	<u>Value</u>
Trials	50000
Mean	97.66
Median	79.02
Mode	0.00
Standard Deviation	83.56
Variance	6,982.72
Skewness	1.29
Kurtosis	5.26
Coefficient of Variability	0.86
Range Minimum	0.00
Range Maximum	788.69
Range Width	788.69
Mean Standard Error	0.37



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

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	0.00
95%	0.00
90%	0.00
85%	17.37
80%	26.06
75%	34.32
70%	42.52
65%	51.09
60%	59.58
55%	69.26
50%	79.02
45%	89.51
40%	100.49
35%	112.85
30%	126.29
25%	141.65
20%	159.48
15%	181.37
10%	211.32
5%	258.53
0%	788.69

End of Forecast

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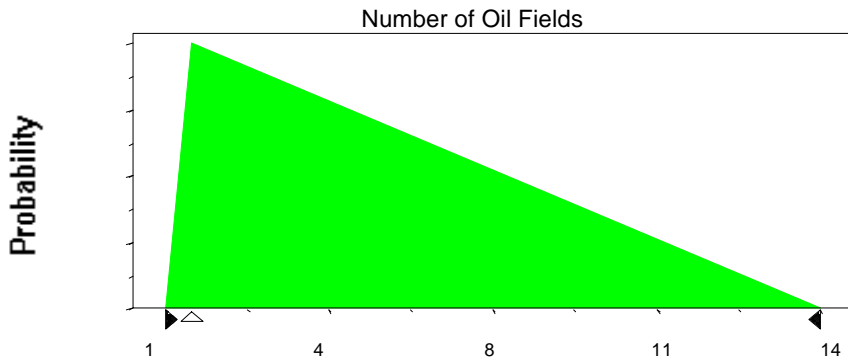
Assumptions

Assumption: Number of Oil Fields

Triangular distribution with parameters:

Minimum	1
Likeliest	2
Maximum	14

Selected range is from 1 to 14
Mean value in simulation was 5



Assumption: Sizes of Oil Fields

Lognormal distribution with parameters:

Mean	33.34
Standard Deviation	66.18

Shifted parameters

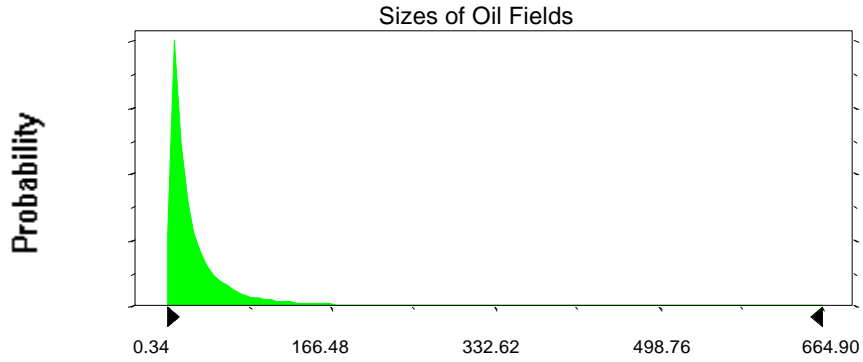
38.34
66.18

Selected range is from 0.00 to 745.00
Mean value in simulation was 32.45

5.00 to 750.00
37.45

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Assumption: Sizes of Oil Fields (cont'd)



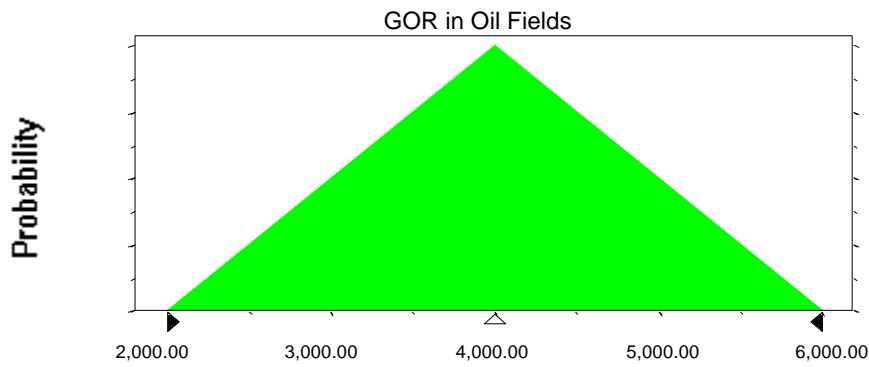
Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	2,000.00
Likeliest	4,000.00
Maximum	6,000.00

Selected range is from 2,000.00 to 6,000.00

Mean value in simulation was 4,003.18



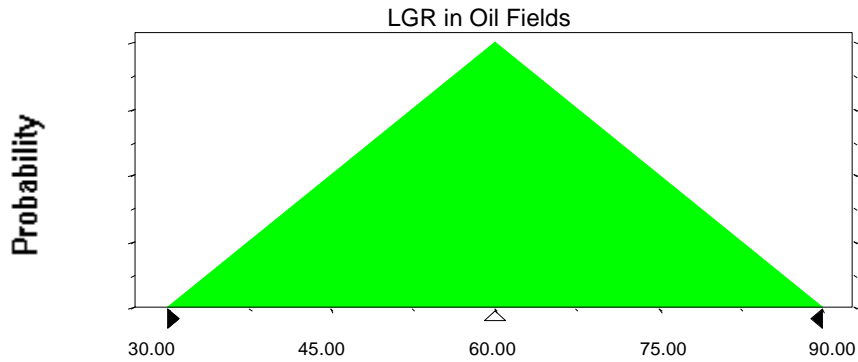
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Assumption: LGR in Oil Fields

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 59.99



Assumption: Number of Gas Fields

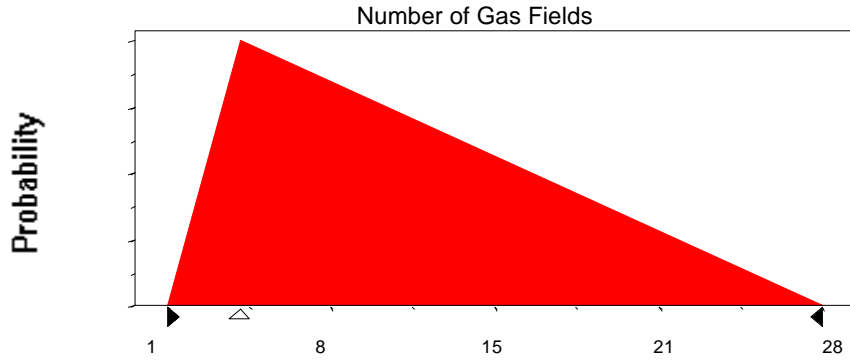
Triangular distribution with parameters:

Minimum	1
Likeliest	4
Maximum	28

Selected range is from 1 to 28
Mean value in simulation was 11

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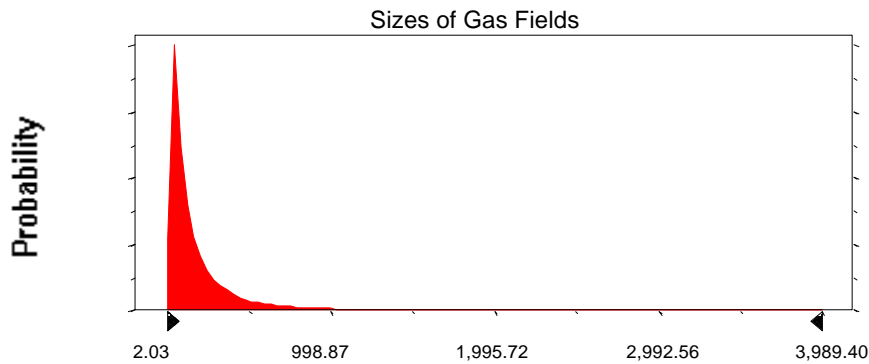
Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:	Shifted parameters	
Mean	200.03	230.03
Standard Deviation	397.05	397.05

Selected range is from 0.00 to 4,470.00 30.00 to 4,500.00
Mean value in simulation was 193.12 223.12



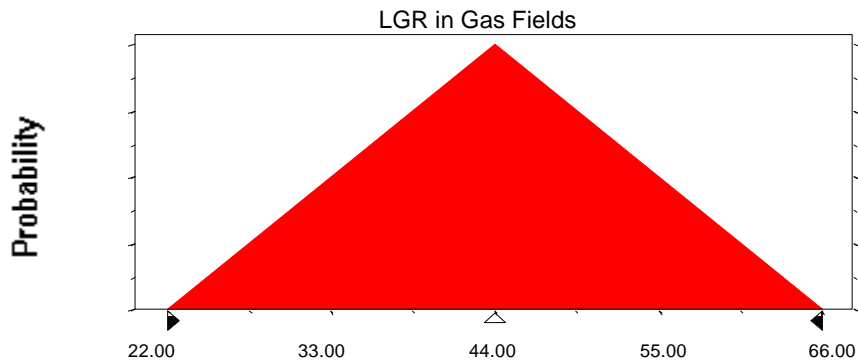
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Assumption: LGR in Gas Fields

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 44.00



End of Assumptions

Simulation started on 1/17/00 at 21:07:27
Simulation stopped on 1/17/00 at 21:25:19