

Tanezzuft-Melrhir Structural/Stratigraphic, Assessment Unit 20540201
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	348	1,629	4,224	1,875	450	2,175	6,079	2,574	17	84	252	103	96	403	1,557	550
Gas Fields	6						495	2,032	5,060	2,313	33	142	382	166	160	539	1,756	686
Total		1.00	348	1,629	4,224	1,875	945	4,206	11,139	4,887	50	226	635	269				

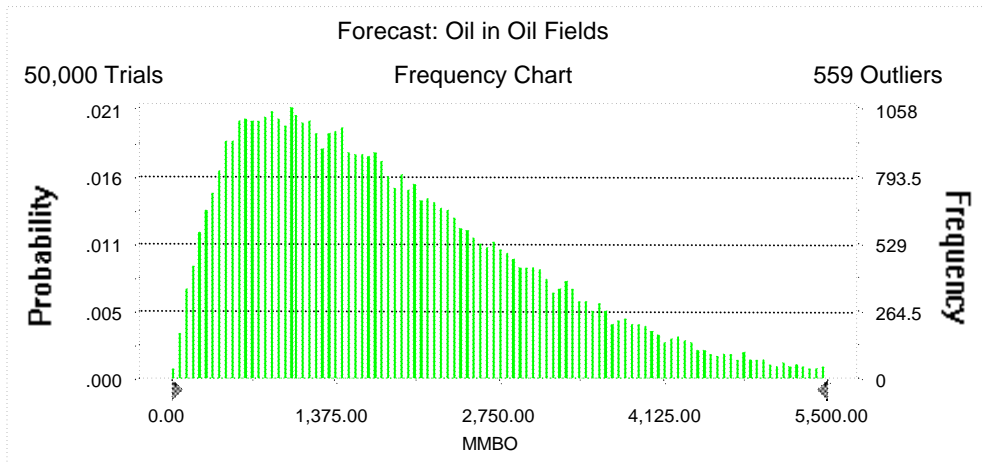
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Forecast: Oil in Oil Fields

Summary:

Display range is from 0.00 to 5,500.00 MMBO
 Entire range is from 21.95 to 10,648.82 MMBO
 After 50,000 trials, the standard error of the mean is 5.53

Statistics:	<u>Value</u>
Trials	50000
Mean	1,875.12
Median	1,629.35
Mode	---
Standard Deviation	1,236.27
Variance	1,528,371.62
Skewness	1.05
Kurtosis	4.32
Coefficient of Variability	0.66
Range Minimum	21.95
Range Maximum	10,648.82
Range Width	10,626.87
Mean Standard Error	5.53



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Forecast: Oil in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	21.95
95%	348.33
90%	508.54
85%	649.54
80%	785.74
75%	917.27
70%	1,052.92
65%	1,188.27
60%	1,333.87
55%	1,475.46
50%	1,629.35
45%	1,786.81
40%	1,962.57
35%	2,150.38
30%	2,351.97
25%	2,584.32
20%	2,850.02
15%	3,162.10
10%	3,577.23
5%	4,224.08
0%	10,648.82

End of Forecast

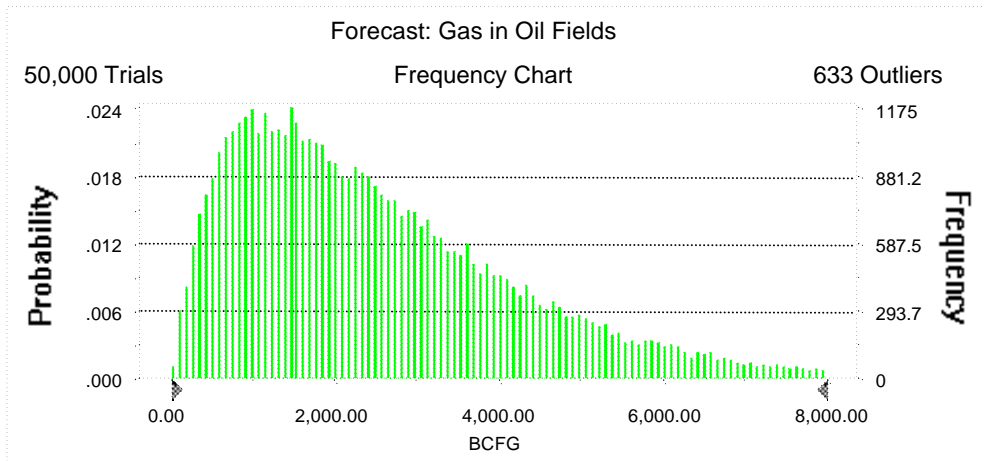
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Forecast: Gas in Oil Fields

Summary:

Display range is from 0.00 to 8,000.00 BCFG
 Entire range is from 26.04 to 19,524.33 BCFG
 After 50,000 trials, the standard error of the mean is 8.10

Statistics:	<u>Value</u>
Trials	50000
Mean	2,573.73
Median	2,174.65
Mode	---
Standard Deviation	1,811.87
Variance	3,282,858.98
Skewness	1.29
Kurtosis	5.40
Coefficient of Variability	0.70
Range Minimum	26.04
Range Maximum	19,524.33
Range Width	19,498.29
Mean Standard Error	8.10



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Forecast: Gas in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	26.04
95%	449.99
90%	663.09
85%	847.53
80%	1,023.47
75%	1,202.89
70%	1,388.03
65%	1,567.25
60%	1,755.51
55%	1,954.03
50%	2,174.65
45%	2,395.95
40%	2,634.50
35%	2,901.21
30%	3,183.00
25%	3,522.91
20%	3,908.77
15%	4,384.58
10%	5,030.39
5%	6,078.79
0%	19,524.33

End of Forecast

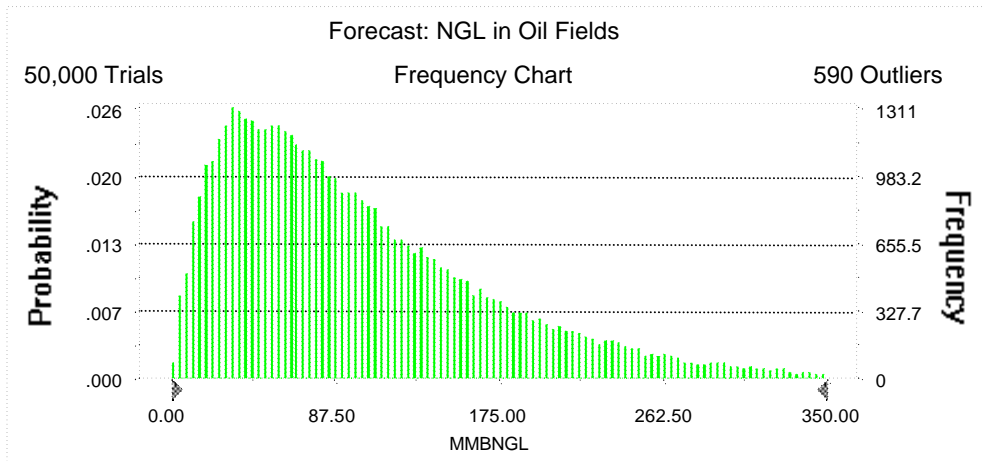
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Forecast: NGL in Oil Fields

Summary:

Display range is from 0.00 to 350.00 MMBNGL
Entire range is from 0.74 to 885.10 MMBNGL
After 50,000 trials, the standard error of the mean is 0.35

Statistics:	<u>Value</u>
Trials	50000
Mean	103.17
Median	84.07
Mode	---
Standard Deviation	77.22
Variance	5,962.76
Skewness	1.53
Kurtosis	6.66
Coefficient of Variability	0.75
Range Minimum	0.74
Range Maximum	885.10
Range Width	884.37
Mean Standard Error	0.35



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Forecast: NGL in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	0.74
95%	16.87
90%	25.35
85%	32.53
80%	39.24
75%	46.25
70%	53.44
65%	60.53
60%	68.03
55%	75.86
50%	84.07
45%	93.18
40%	102.90
35%	113.40
30%	126.00
25%	140.16
20%	156.60
15%	177.66
10%	206.99
5%	252.42
0%	885.10

End of Forecast

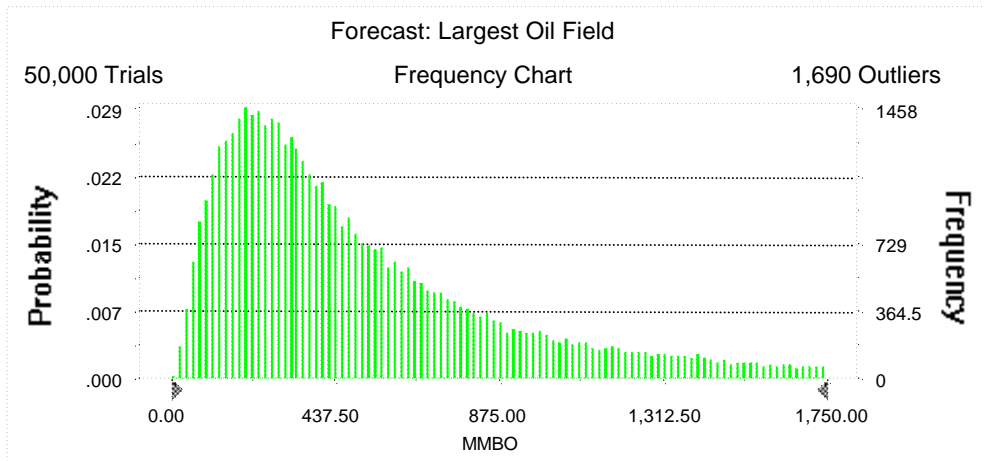
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Forecast: Largest Oil Field

Summary:

Display range is from 0.00 to 1,750.00 MMBO
 Entire range is from 10.10 to 2,487.60 MMBO
 After 50,000 trials, the standard error of the mean is 2.06

Statistics:	<u>Value</u>
Trials	50000
Mean	549.57
Median	403.14
Mode	---
Standard Deviation	459.75
Variance	211,370.60
Skewness	1.67
Kurtosis	5.80
Coefficient of Variability	0.84
Range Minimum	10.10
Range Maximum	2,487.60
Range Width	2,477.50
Mean Standard Error	2.06



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Forecast: Largest Oil Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	10.10
95%	95.96
90%	134.82
85%	169.35
80%	200.07
75%	230.53
70%	261.65
65%	293.51
60%	327.21
55%	362.69
50%	403.14
45%	447.49
40%	499.50
35%	559.67
30%	628.71
25%	711.35
20%	819.20
15%	969.35
10%	1,190.13
5%	1,556.53
0%	2,487.60

End of Forecast

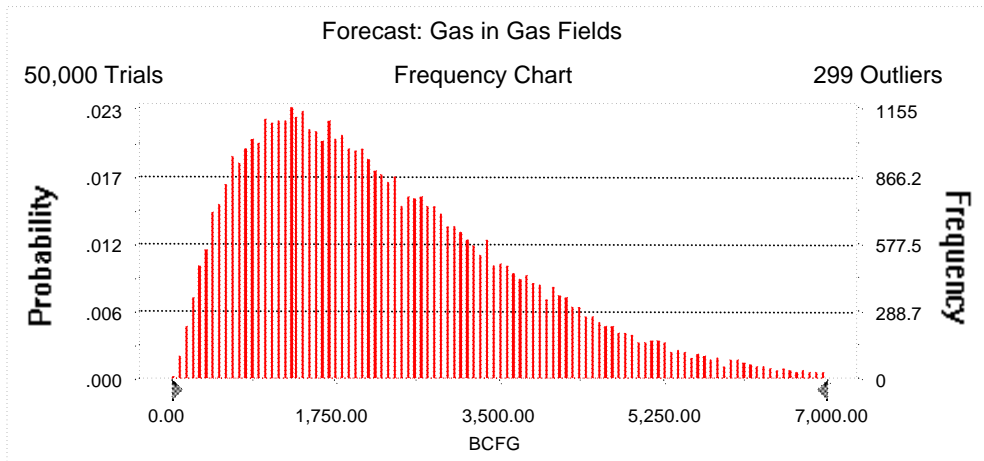
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Forecast: Gas in Gas Fields

Summary:

Display range is from 0.00 to 7,000.00 BCFG
Entire range is from 41.39 to 11,342.62 BCFG
After 50,000 trials, the standard error of the mean is 6.44

Statistics:	<u>Value</u>
Trials	50000
Mean	2,312.84
Median	2,031.67
Mode	---
Standard Deviation	1,440.58
Variance	2,075,262.98
Skewness	0.99
Kurtosis	4.08
Coefficient of Variability	0.62
Range Minimum	41.39
Range Maximum	11,342.62
Range Width	11,301.23
Mean Standard Error	6.44



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Forecast: Gas in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	41.39
95%	495.18
90%	702.83
85%	882.56
80%	1,049.65
75%	1,209.10
70%	1,364.83
65%	1,521.74
60%	1,688.63
55%	1,852.91
50%	2,031.67
45%	2,217.36
40%	2,419.50
35%	2,645.61
30%	2,878.89
25%	3,144.98
20%	3,452.92
15%	3,830.86
10%	4,298.73
5%	5,060.07
0%	11,342.62

End of Forecast

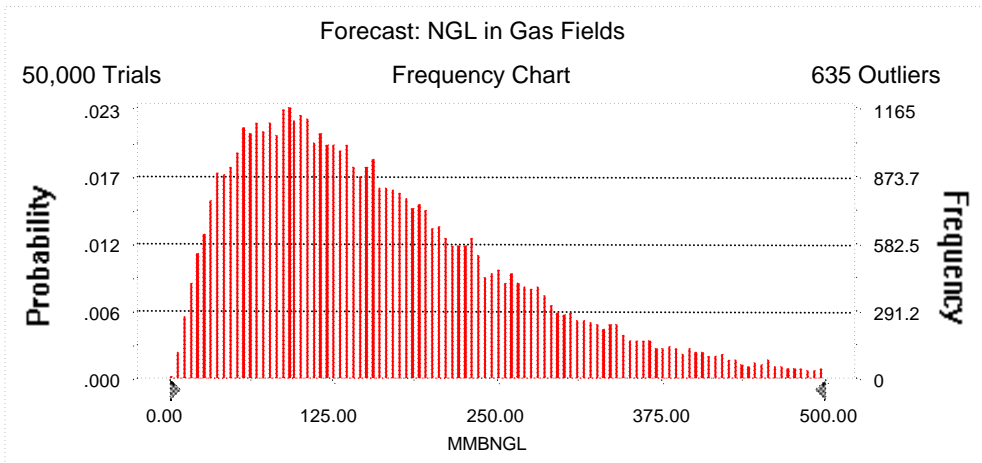
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Forecast: NGL in Gas Fields

Summary:

Display range is from 0.00 to 500.00 MMBNGL
 Entire range is from 2.41 to 915.68 MMBNGL
 After 50,000 trials, the standard error of the mean is 0.50

Statistics:	<u>Value</u>
Trials	50000
Mean	166.21
Median	142.04
Mode	---
Standard Deviation	111.23
Variance	12,373.00
Skewness	1.26
Kurtosis	5.17
Coefficient of Variability	0.67
Range Minimum	2.41
Range Maximum	915.68
Range Width	913.27
Mean Standard Error	0.50



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Forecast: NGL in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	2.41
95%	33.34
90%	47.77
85%	60.08
80%	71.81
75%	83.20
70%	94.28
65%	105.30
60%	117.03
55%	129.27
50%	142.04
45%	155.99
40%	170.46
35%	186.33
30%	203.82
25%	224.36
20%	247.95
15%	277.15
10%	317.15
5%	382.42
0%	915.68

End of Forecast

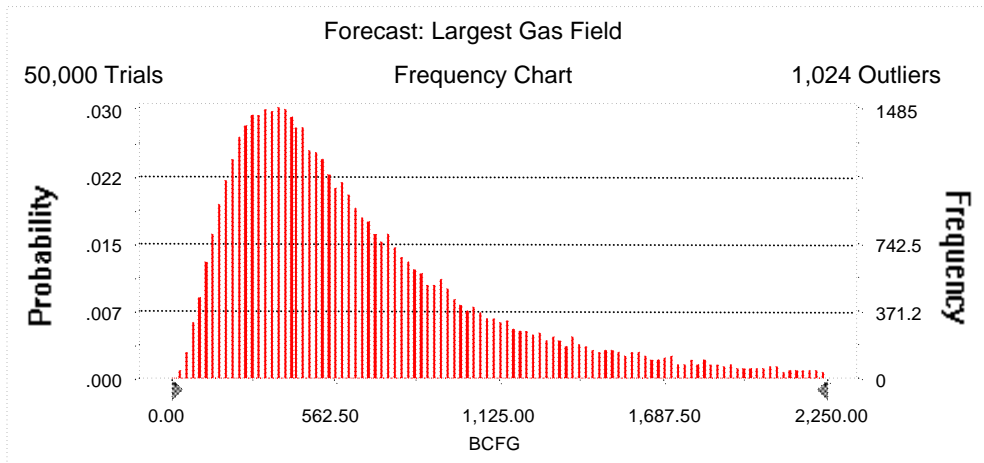
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Forecast: Largest Gas Field

Summary:

Display range is from 0.00 to 2,250.00 BCFG
 Entire range is from 20.34 to 3,143.72 BCFG
 After 50,000 trials, the standard error of the mean is 2.29

Statistics:	<u>Value</u>
Trials	50000
Mean	686.07
Median	538.53
Mode	---
Standard Deviation	511.72
Variance	261,860.73
Skewness	1.72
Kurtosis	6.42
Coefficient of Variability	0.75
Range Minimum	20.34
Range Maximum	3,143.72
Range Width	3,123.39
Mean Standard Error	2.29



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Forecast: Largest Gas Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	20.34
95%	160.01
90%	212.98
85%	255.86
80%	295.29
75%	333.24
70%	371.71
65%	409.77
60%	449.80
55%	492.69
50%	538.53
45%	590.27
40%	645.44
35%	710.36
30%	785.09
25%	874.39
20%	984.46
15%	1,140.70
10%	1,364.93
5%	1,756.02
0%	3,143.72

End of Forecast

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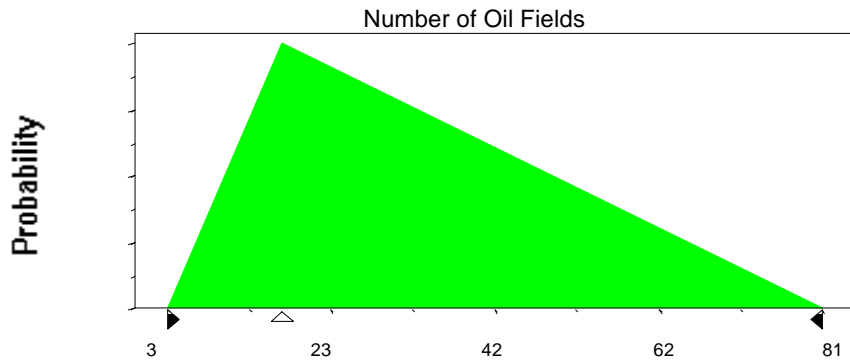
Assumptions

Assumption: Number of Oil Fields

Triangular distribution with parameters:

Minimum	3
Likeliest	17
Maximum	81

Selected range is from 3 to 81
Mean value in simulation was 34



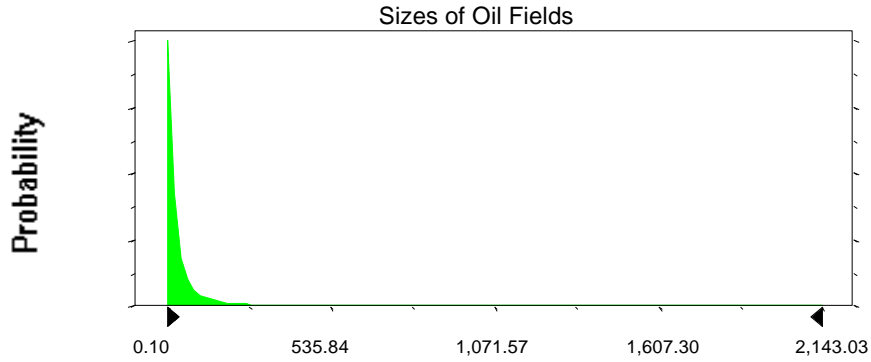
Assumption: Sizes of Oil Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	58.90	59.9
Standard Deviation	223.67	223.67

Selected range is from 0.00 to 2,487.00 1.00 to 2,488.00
Mean value in simulation was 55.42 56.42

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Assumption: Sizes of Oil Fields (cont'd)



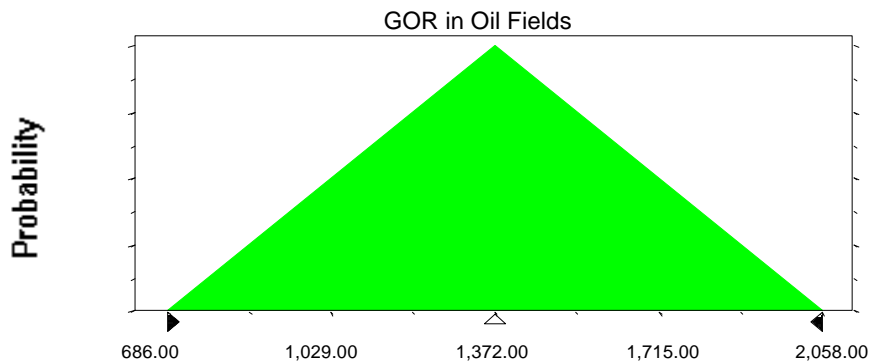
Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	686.00
Likeliest	1,372.00
Maximum	2,058.00

Selected range is from 686.00 to 2,058.00

Mean value in simulation was 1,371.97



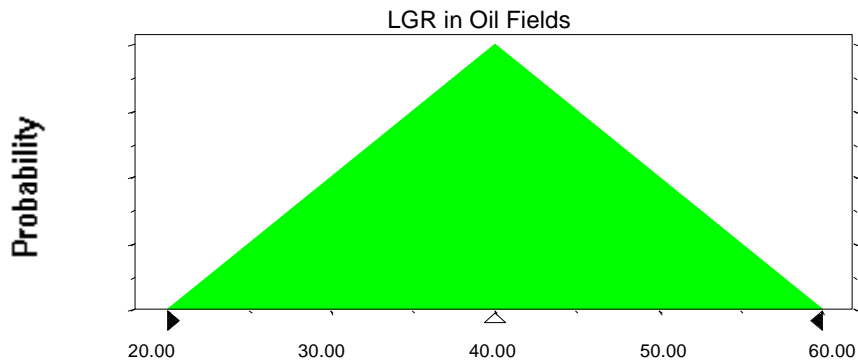
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Assumption: LGR in Oil Fields

Triangular distribution with parameters:

Minimum	20.00
Likeliest	40.00
Maximum	60.00

Selected range is from 20.00 to 60.00
Mean value in simulation was 40.08



Assumption: Number of Gas Fields

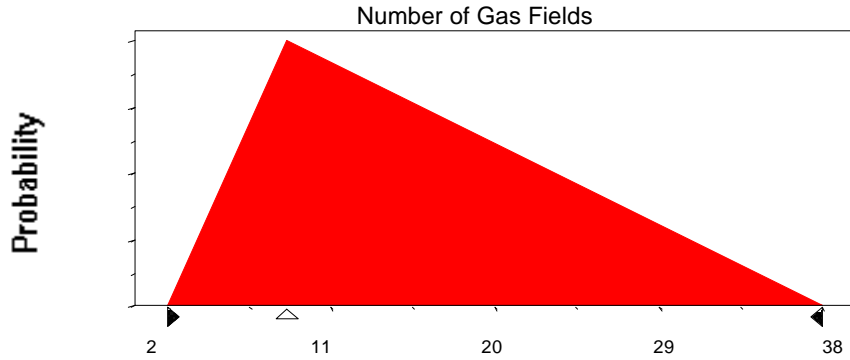
Triangular distribution with parameters:

Minimum	2
Likeliest	9
Maximum	38

Selected range is from 2 to 38
Mean value in simulation was 16

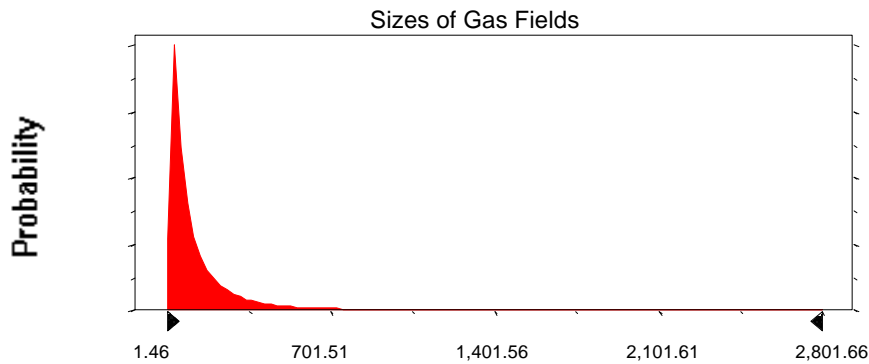
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Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	141.50	147.5
Standard Deviation	279.02	279.02
Selected range is from 0.00 to 3,138.00		6.00 to 3,144.00
Mean value in simulation was 136.31		142.31



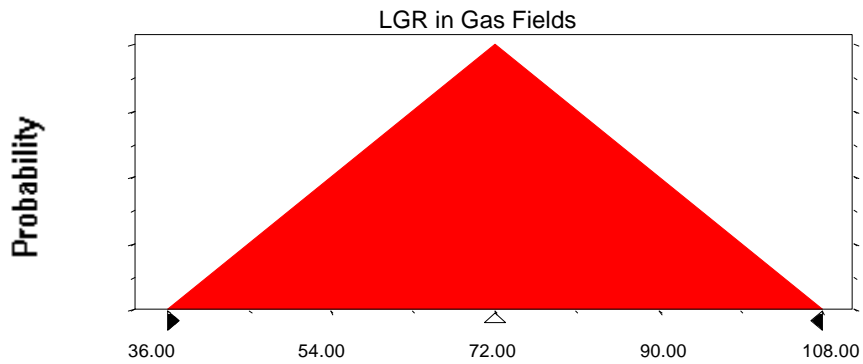
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Assumption: LGR in Gas Fields

Triangular distribution with parameters:

Minimum	36.00
Likeliest	72.00
Maximum	108.00

Selected range is from 36.00 to 108.00
Mean value in simulation was 71.87



End of Assumptions

Simulation started on 12/1/98 at 16:48:58
Simulation stopped on 12/1/98 at 17:21:20