

Magallanes Extensional Structures, Assessment Unit 60590101
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	176	479	856	494	658	1,861	3,683	1,975	5	14	31	16	21	52	122	59
Gas Fields	6						3,036	8,118	14,815	8,411	72	199	388	210	386	1,033	2,475	1,176
Total		1.00	176	479	856	494	3,693	9,979	18,498	10,386	77	213	420	226				

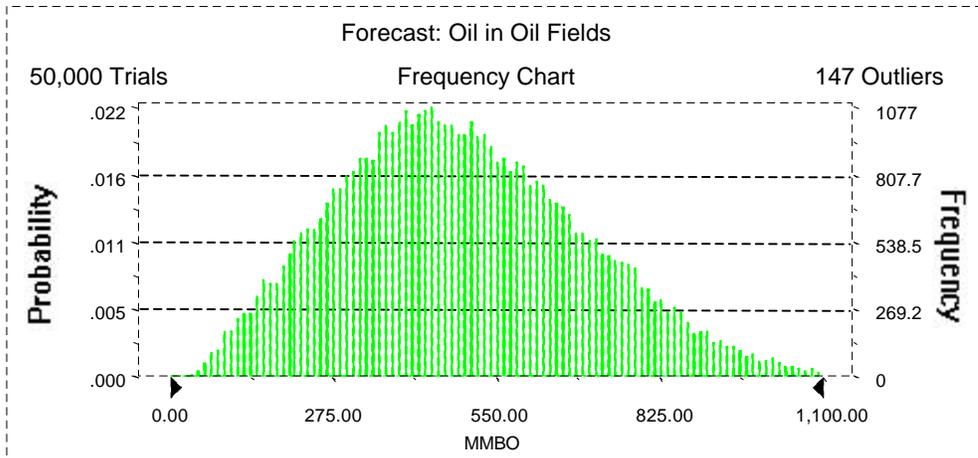
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Forecast: Oil in Oil Fields

Summary:

Display range is from 0.00 to 1,100.00 MMBO
Entire range is from 18.58 to 1,366.71 MMBO
After 50,000 trials, the standard error of the mean is 0.92

Statistics:	Value
Trials	50000
Mean	493.93
Median	478.52
Mode	---
Standard Deviation	206.44
Variance	42,617.16
Skewness	0.35
Kurtosis	2.79
Coefficient of Variability	0.42
Range Minimum	18.58
Range Maximum	1,366.71
Range Width	1,348.12
Mean Standard Error	0.92



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Forecast: Oil in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	18.58
95%	175.56
90%	232.18
85%	275.54
80%	310.81
75%	343.19
70%	371.78
65%	399.04
60%	425.53
55%	451.34
50%	478.52
45%	506.53
40%	534.90
35%	565.17
30%	597.22
25%	632.26
20%	671.09
15%	717.97
10%	774.57
5%	855.76
0%	1,366.71

End of Forecast

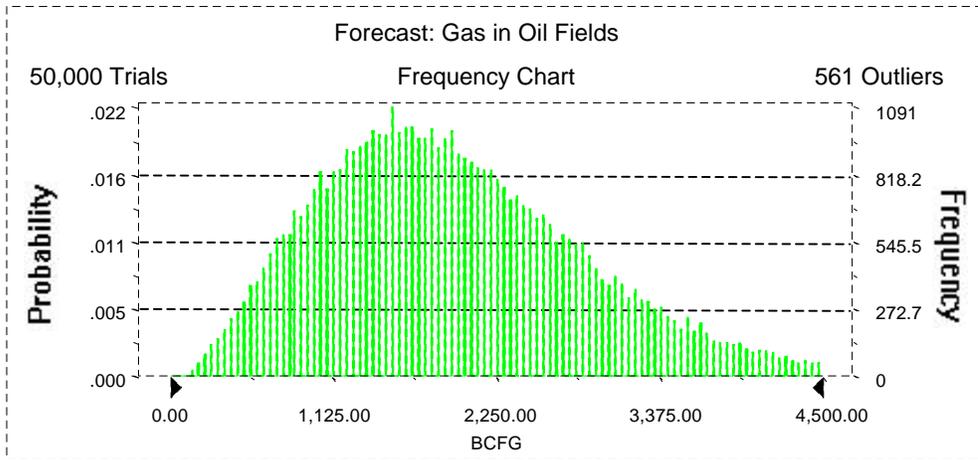
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Forecast: Gas in Oil Fields

Summary:

Display range is from 0.00 to 4,500.00 BCFG
Entire range is from 78.99 to 7,021.71 BCFG
After 50,000 trials, the standard error of the mean is 4.16

Statistics:	Value
Trials	50000
Mean	1,974.63
Median	1,860.99
Mode	---
Standard Deviation	929.78
Variance	864,489.07
Skewness	0.69
Kurtosis	3.48
Coefficient of Variability	0.47
Range Minimum	78.99
Range Maximum	7,021.71
Range Width	6,942.72
Mean Standard Error	4.16



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Forecast: Gas in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	78.99
95%	657.65
90%	861.43
85%	1,024.32
80%	1,164.67
75%	1,291.12
70%	1,410.40
65%	1,524.26
60%	1,631.66
55%	1,744.41
50%	1,860.99
45%	1,975.64
40%	2,101.72
35%	2,234.02
30%	2,378.91
25%	2,540.93
20%	2,726.39
15%	2,939.75
10%	3,233.30
5%	3,682.51
0%	7,021.71

End of Forecast

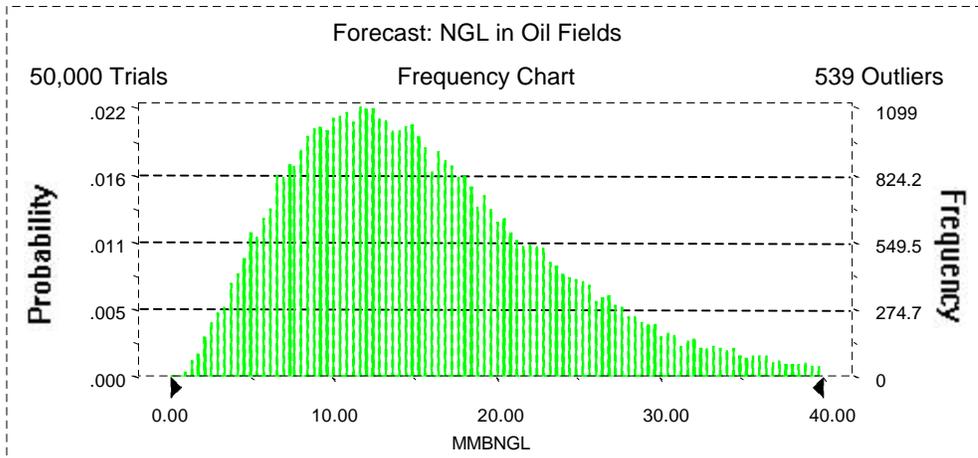
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Forecast: NGL in Oil Fields

Summary:

Display range is from 0.00 to 40.00 MMBNGL
Entire range is from 0.55 to 68.13 MMBNGL
After 50,000 trials, the standard error of the mean is 0.04

Statistics:	Value
Trials	50000
Mean	15.78
Median	14.46
Mode	---
Standard Deviation	8.23
Variance	67.70
Skewness	0.95
Kurtosis	4.24
Coefficient of Variability	0.52
Range Minimum	0.55
Range Maximum	68.13
Range Width	67.57
Mean Standard Error	0.04



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Forecast: NGL in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	0.55
95%	4.86
90%	6.46
85%	7.64
80%	8.73
75%	9.70
70%	10.67
65%	11.62
60%	12.54
55%	13.48
50%	14.46
45%	15.45
40%	16.54
35%	17.69
30%	18.95
25%	20.40
20%	22.13
15%	24.15
10%	26.87
5%	31.20
0%	68.13

End of Forecast

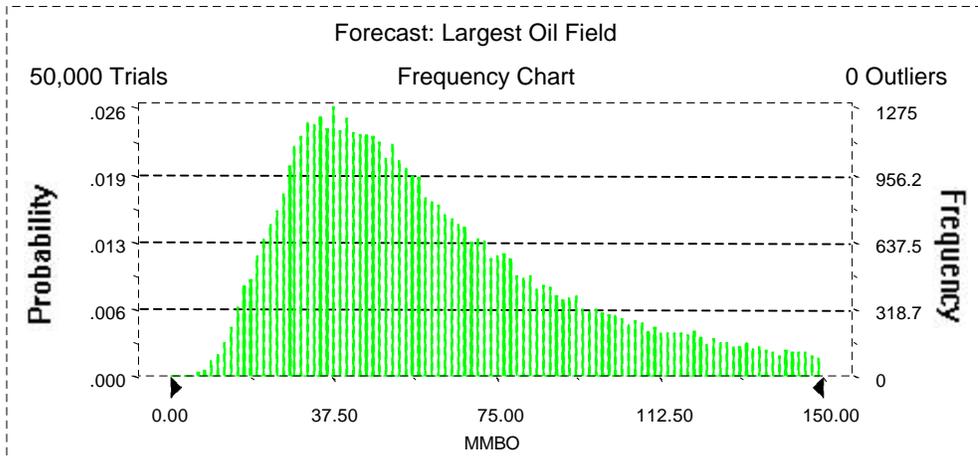
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Forecast: Largest Oil Field

Summary:

Display range is from 0.00 to 150.00 MMBO
 Entire range is from 2.79 to 150.00 MMBO
 After 50,000 trials, the standard error of the mean is 0.14

Statistics:	<u>Value</u>
Trials	50000
Mean	59.35
Median	52.45
Mode	---
Standard Deviation	30.45
Variance	927.07
Skewness	0.86
Kurtosis	3.14
Coefficient of Variability	0.51
Range Minimum	2.79
Range Maximum	150.00
Range Width	147.21
Mean Standard Error	0.14



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Forecast: Largest Oil Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	2.79
95%	21.17
90%	26.13
85%	29.91
80%	33.10
75%	36.19
70%	39.28
65%	42.38
60%	45.64
55%	48.95
50%	52.45
45%	56.17
40%	60.32
35%	65.06
30%	70.39
25%	76.55
20%	83.89
15%	93.20
10%	105.28
5%	121.96
0%	150.00

End of Forecast

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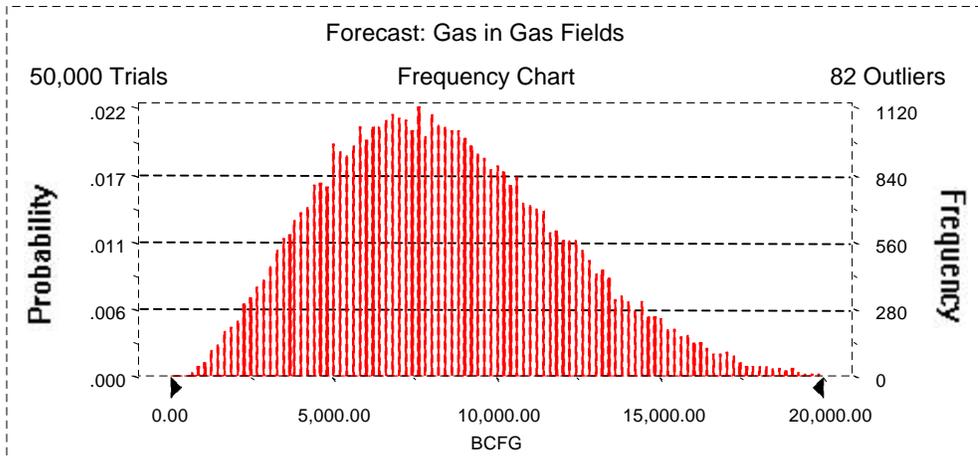
Forecast: Gas in Gas Fields

Summary:

Display range is from 0.00 to 20,000.00 BCFG
 Entire range is from 455.15 to 25,526.34 BCFG
 After 50,000 trials, the standard error of the mean is 16.04

Statistics:

	<u>Value</u>
Trials	50000
Mean	8,410.94
Median	8,118.22
Mode	---
Standard Deviation	3,586.85
Variance	12,865,481.10
Skewness	0.42
Kurtosis	2.85
Coefficient of Variability	0.43
Range Minimum	455.15
Range Maximum	25,526.34
Range Width	25,071.19
Mean Standard Error	16.04



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Forecast: Gas in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	455.15
95%	3,035.79
90%	3,935.31
85%	4,621.34
80%	5,205.59
75%	5,742.89
70%	6,235.39
65%	6,710.92
60%	7,177.94
55%	7,646.30
50%	8,118.22
45%	8,589.97
40%	9,080.93
35%	9,602.02
30%	10,169.29
25%	10,769.46
20%	11,470.56
15%	12,286.39
10%	13,286.67
5%	14,815.22
0%	25,526.34

End of Forecast

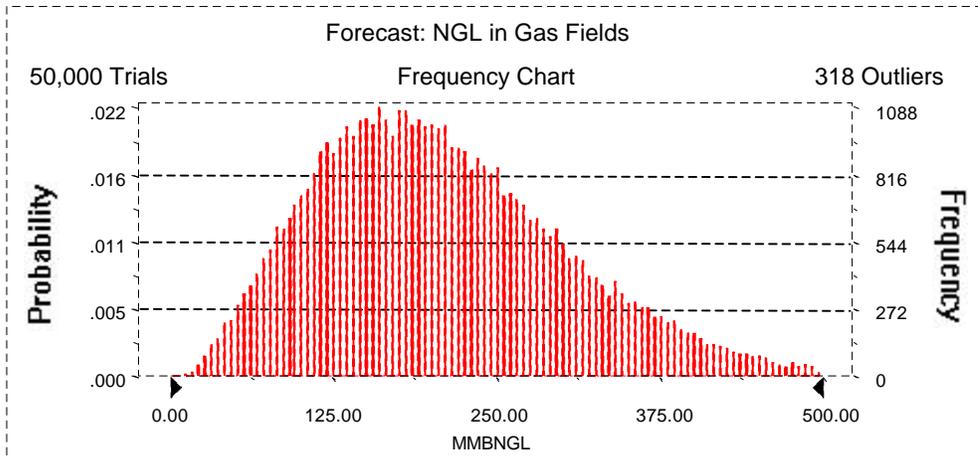
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Forecast: NGL in Gas Fields

Summary:

Display range is from 0.00 to 500.00 MMBNGL
Entire range is from 10.05 to 782.71 MMBNGL
After 50,000 trials, the standard error of the mean is 0.43

Statistics:	Value
Trials	50000
Mean	210.23
Median	198.71
Mode	---
Standard Deviation	97.01
Variance	9,411.74
Skewness	0.65
Kurtosis	3.33
Coefficient of Variability	0.46
Range Minimum	10.05
Range Maximum	782.71
Range Width	772.65
Mean Standard Error	0.43



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Forecast: NGL in Gas Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	10.05
95%	72.01
90%	93.99
85%	111.04
80%	124.97
75%	138.10
70%	150.54
65%	162.30
60%	174.72
55%	186.47
50%	198.71
45%	210.90
40%	224.13
35%	238.11
30%	253.04
25%	269.70
20%	289.19
15%	312.19
10%	343.37
5%	388.31
0%	782.71

End of Forecast

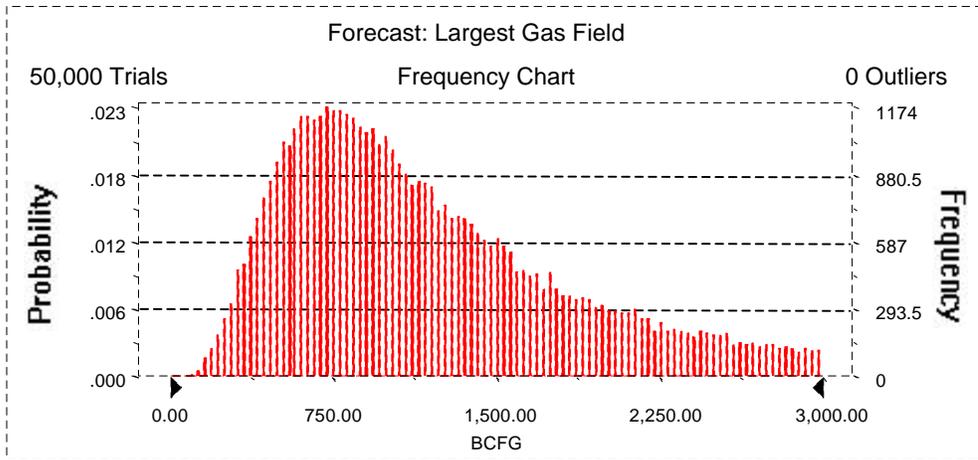
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Forecast: Largest Gas Field

Summary:

Display range is from 0.00 to 3,000.00 BCFG
 Entire range is from 81.38 to 2,999.93 BCFG
 After 50,000 trials, the standard error of the mean is 2.82

Statistics:	<u>Value</u>
Trials	50000
Mean	1,176.19
Median	1,032.79
Mode	---
Standard Deviation	629.71
Variance	396,537.64
Skewness	0.84
Kurtosis	3.04
Coefficient of Variability	0.54
Range Minimum	81.38
Range Maximum	2,999.93
Range Width	2,918.55
Mean Standard Error	2.82



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Forecast: Largest Gas Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	81.38
95%	385.58
90%	483.08
85%	559.21
80%	627.28
75%	693.61
70%	758.14
65%	822.86
60%	890.75
55%	959.77
50%	1,032.79
45%	1,114.15
40%	1,203.53
35%	1,302.53
30%	1,412.30
25%	1,538.58
20%	1,692.93
15%	1,884.93
10%	2,130.78
5%	2,475.05
0%	2,999.93

End of Forecast

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Assumptions

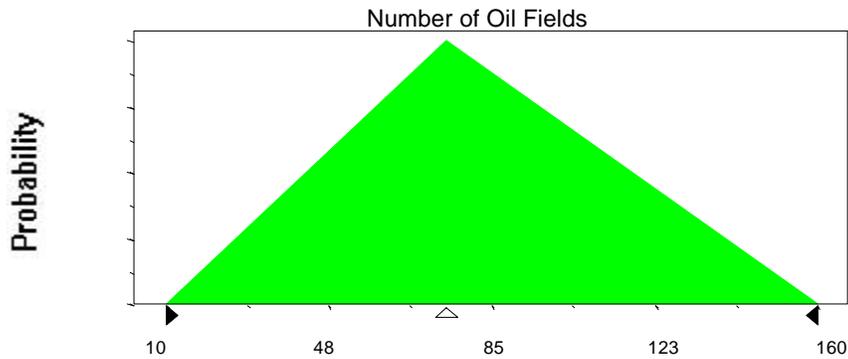
Assumption: Number of Oil Fields

Triangular distribution with parameters:

Minimum	10
Likeliest	75
Maximum	160

Selected range is from 10 to 160

Mean value in simulation was 82



Assumption: Sizes of Oil Fields

Lognormal distribution with parameters:

Mean	5.29
Standard Deviation	12.97

Shifted parameters

6.29
12.97

Selected range is from 0.00 to 149.00

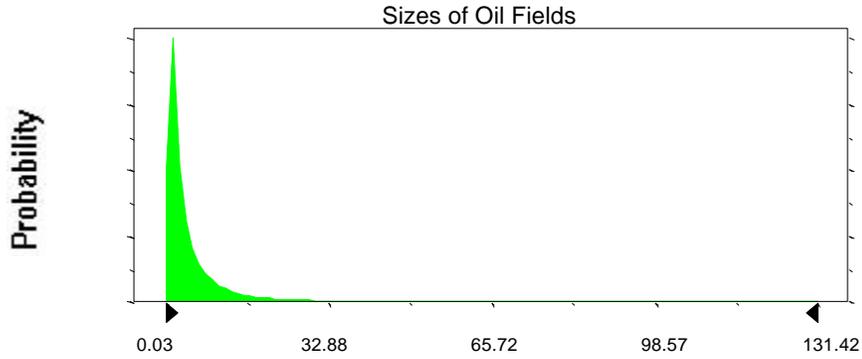
Mean value in simulation was 5.06

1.00 to 150.00

6.06

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Assumption: Sizes of Oil Fields (cont'd)



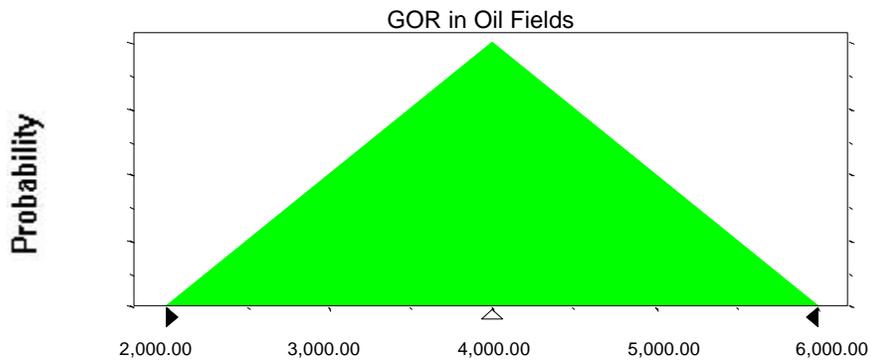
Assumption: GOR in Oil Fields

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 4,001.22



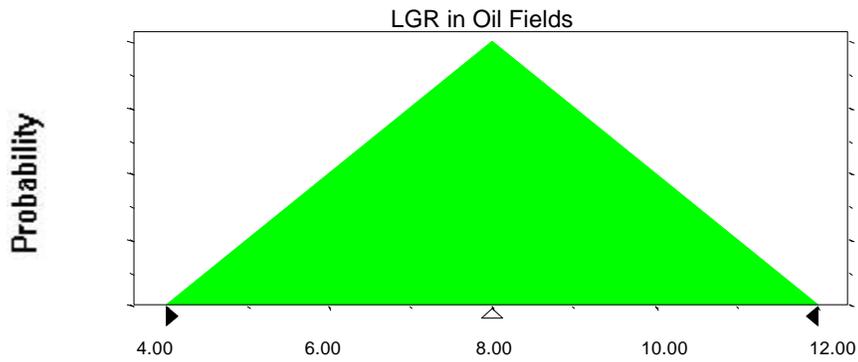
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Assumption: LGR in Oil Fields

Triangular distribution with parameters:

Minimum	4.00
Likeliest	8.00
Maximum	12.00

Selected range is from 4.00 to 12.00
Mean value in simulation was 7.99



Assumption: Number of Gas Fields

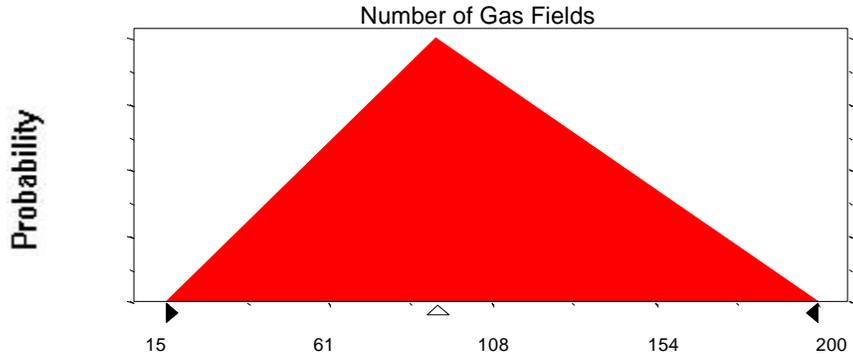
Triangular distribution with parameters:

Minimum	15
Likeliest	92
Maximum	200

Selected range is from 15 to 200
Mean value in simulation was 102

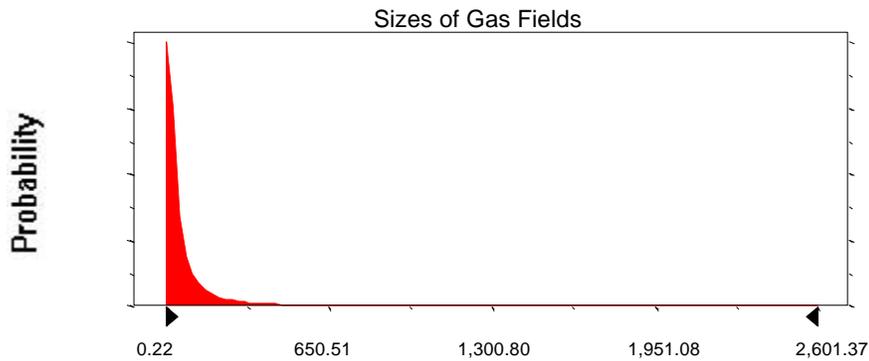
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Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	81.28	87.28
Standard Deviation	262.96	262.96
Selected range is from 0.00 to 2,994.00		6.00 to 3,000.00
Mean value in simulation was 76.33		82.33



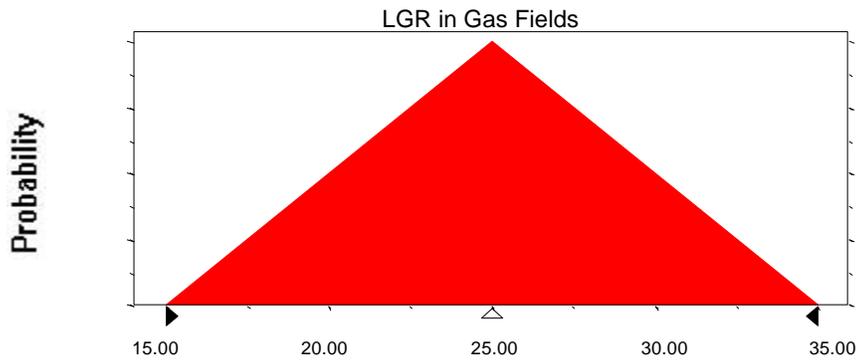
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Assumption: LGR in Gas Fields

Triangular distribution with parameters:

Minimum	15.00
Likeliest	25.00
Maximum	35.00

Selected range is from 15.00 to 35.00
Mean value in simulation was 25.00



End of Assumptions

Simulation started on 2/25/99 at 13:41:44
Simulation stopped on 2/25/99 at 15:05:37