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Northern Qatar Arch Extension, Assessment Unit 20300201
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	1.00	0	0	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA
Gas Fields	120						20,678	64,824	131,518	69,031	839	2,763	6,138	3,039	3,678	10,584	29,166	12,597
Total		1.00	0	0	0	0	20,678	64,824	131,518	69,031	839	2,763	6,138	3,039				

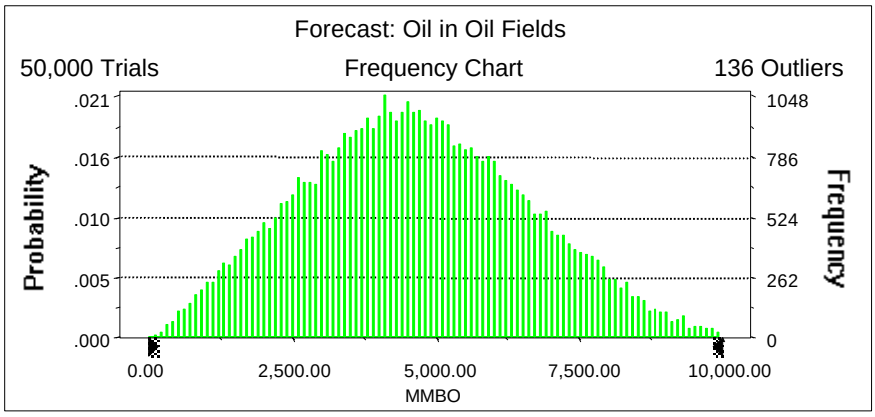
20230201
Platform Horst/Graben-Related Oil
Monte Carlo Results

Forecast: Oil in Oil Fields

Summary:

Display range is from 0.00 to 10,000.00 MMBO
Entire range is from 87.82 to 12,159.30 MMBO
After 50,000 trials, the standard error of the mean is 8.78

Statistics:	Value
Trials	50000
Mean	4,682.32
Median	4,605.08
Mode	---
Standard Deviation	1,962.57
Variance	3,851,669.77
Skewness	0.19
Kurtosis	2.60
Coefficient of Variability	0.42
Range Minimum	87.82
Range Maximum	12,159.30
Range Width	12,071.49
Mean Standard Error	8.78



20230201
Platform Horst/Graben-Related Oil
Monte Carlo Results

Forecast: Oil in Oil Fields (cont'd)

Percentiles:

Percentile	MMBO
100%	87.82
95%	1,530.36
90%	2,107.89
85%	2,561.67
80%	2,932.45
75%	3,263.97
70%	3,560.51
65%	3,834.54
60%	4,100.71
55%	4,350.02
50%	4,605.08
45%	4,862.79
40%	5,131.79
35%	5,409.66
30%	5,716.79
25%	6,038.44
20%	6,397.71
15%	6,816.80
10%	7,333.17
5%	8,038.30
0%	12,159.30

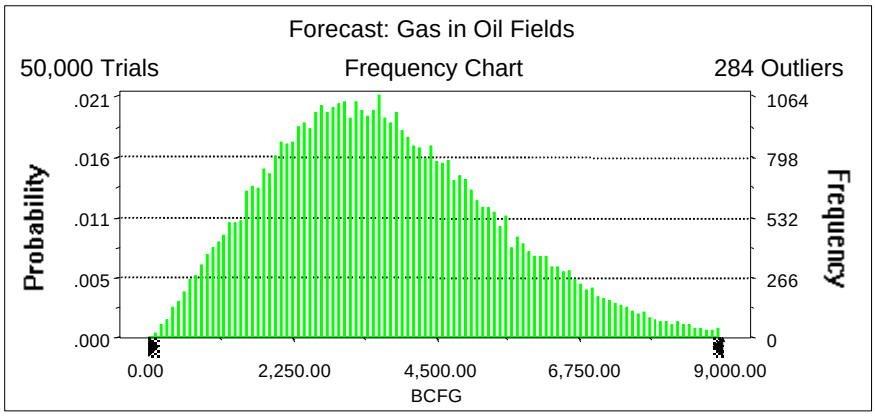
End of Forecast

20230201
Platform Horst/Graben-Related Oil
Monte Carlo Results

Forecast: Gas in Oil Fields

Summary:
Display range is from 0.00 to 9,000.00 BCFG
Entire range is from 67.77 to 12,429.07 BCFG
After 50,000 trials, the standard error of the mean is 7.96

Statistics:	Value
Trials	50000
Mean	3,747.81
Median	3,570.00
Mode	---
Standard Deviation	1,779.02
Variance	3,164,912.58
Skewness	0.55
Kurtosis	3.15
Coefficient of Variability	0.47
Range Minimum	67.77
Range Maximum	12,429.07
Range Width	12,361.30
Mean Standard Error	7.96



20230201
Platform Horst/Graben-Related Oil
Monte Carlo Results

Forecast: Gas in Oil Fields (cont'd)

Percentiles:

Percentile	BCFG
100%	67.77
95%	1,127.70
90%	1,570.59
85%	1,901.53
80%	2,183.87
75%	2,438.64
70%	2,677.06
65%	2,900.35
60%	3,118.66
55%	3,342.42
50%	3,570.00
45%	3,792.65
40%	4,027.66
35%	4,289.85
30%	4,568.60
25%	4,875.05
20%	5,212.87
15%	5,622.63
10%	6,171.89
5%	6,951.58
0%	12,429.07

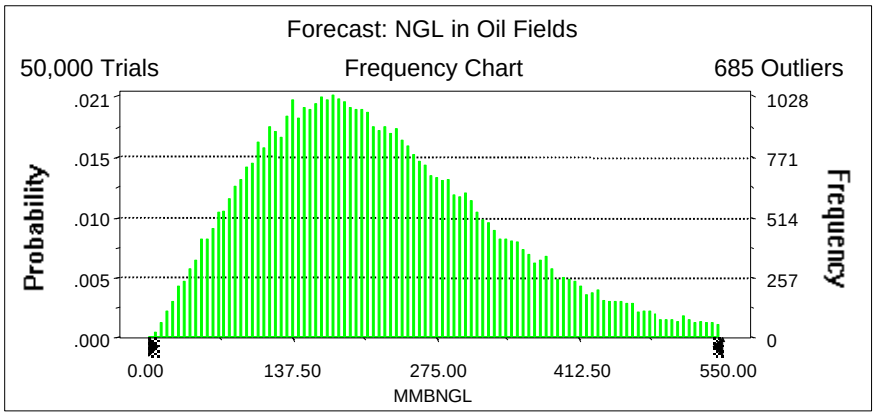
End of Forecast

20230201
Platform Horst/Graben-Related Oil
Monte Carlo Results

Forecast: NGL in Oil Fields

Summary:
Display range is from 0.00 to 550.00 MMBNGL
Entire range is from 3.66 to 897.57 MMBNGL
After 50,000 trials, the standard error of the mean is 0.53

Statistics:	Value
Trials	50000
Mean	224.92
Median	207.43
Mode	---
Standard Deviation	118.46
Variance	14,032.62
Skewness	0.86
Kurtosis	3.94
Coefficient of Variability	0.53
Range Minimum	3.66
Range Maximum	897.57
Range Width	893.91
Mean Standard Error	0.53



20230201
Platform Horst/Graben-Related Oil
Monte Carlo Results

Forecast: NGL in Oil Fields (cont'd)

Percentiles:

Percentile	MMBNGL
100%	3.66
95%	62.87
90%	87.42
85%	106.40
80%	122.73
75%	138.07
70%	152.22
65%	166.22
60%	179.61
55%	193.20
50%	207.43
45%	222.42
40%	237.85
35%	254.17
30%	272.96
25%	293.55
20%	317.07
15%	346.48
10%	383.94
5%	445.65
0%	897.57

End of Forecast

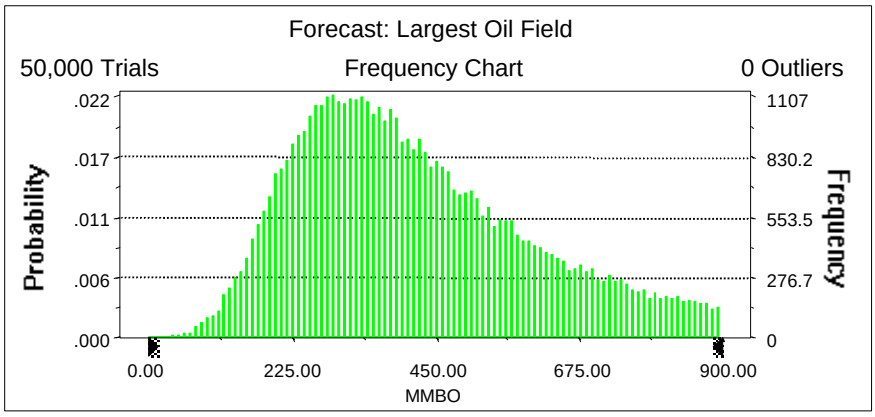
20230201
Platform Horst/Graben-Related Oil
Monte Carlo Results

Forecast: Largest Oil Field

Summary:

Display range is from 0.00 to 900.00 MMBO
Entire range is from 20.58 to 899.99 MMBO
After 50,000 trials, the standard error of the mean is 0.80

Statistics:	Value
Trials	50000
Mean	417.69
Median	385.99
Mode	---
Standard Deviation	179.98
Variance	32,393.29
Skewness	0.61
Kurtosis	2.72
Coefficient of Variability	0.43
Range Minimum	20.58
Range Maximum	899.99
Range Width	879.41
Mean Standard Error	0.80



20230201
Platform Horst/Graben-Related Oil
Monte Carlo Results

Forecast: Largest Oil Field (cont'd)

Percentiles:

Percentile	MMBO
100%	20.58
95%	173.85
90%	208.76
85%	235.76
80%	259.57
75%	280.51
70%	300.94
65%	321.67
60%	342.60
55%	363.89
50%	385.99
45%	409.78
40%	435.29
35%	463.20
30%	495.18
25%	530.95
20%	572.20
15%	622.47
10%	687.50
5%	771.64
0%	899.99

End of Forecast

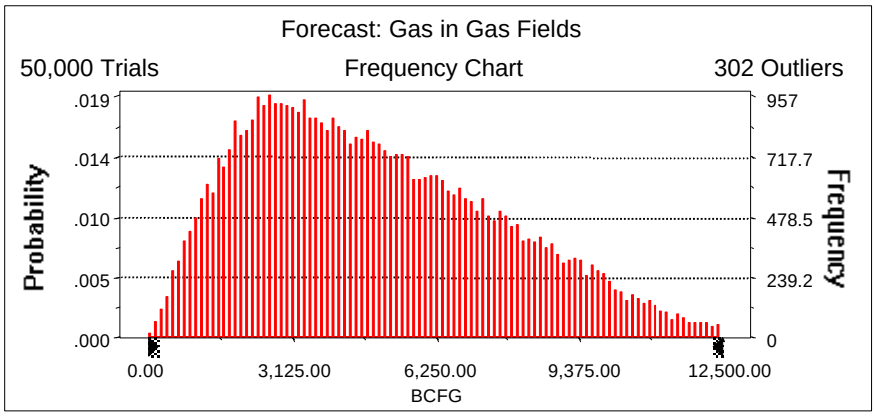
20230201
Platform Horst/Graben-Related Oil
Monte Carlo Results

Forecast: Gas in Gas Fields

Summary:

Display range is from 0.00 to 12,500.00 BCFG
Entire range is from 47.79 to 15,930.70 BCFG
After 50,000 trials, the standard error of the mean is 12.36

Statistics:	Value
Trials	50000
Mean	4,992.96
Median	4,583.87
Mode	---
Standard Deviation	2,764.79
Variance	7,644,066.80
Skewness	0.57
Kurtosis	2.70
Coefficient of Variability	0.55
Range Minimum	47.79
Range Maximum	15,930.70
Range Width	15,882.91
Mean Standard Error	12.36



20230201
Platform Horst/Graben-Related Oil
Monte Carlo Results

Forecast: Gas in Gas Fields (cont'd)

Percentiles:

Percentile	BCFG
100%	47.79
95%	1,192.10
90%	1,688.24
85%	2,087.95
80%	2,453.16
75%	2,786.69
70%	3,125.21
65%	3,468.11
60%	3,827.23
55%	4,193.28
50%	4,583.87
45%	4,976.65
40%	5,400.80
35%	5,848.55
30%	6,341.72
25%	6,874.61
20%	7,467.48
15%	8,130.23
10%	8,957.89
5%	10,051.80
0%	15,930.70

End of Forecast

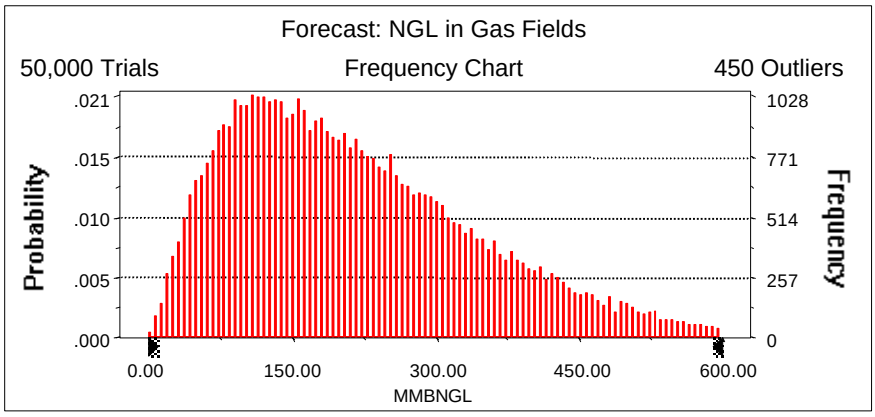
20230201
Platform Horst/Graben-Related Oil
Monte Carlo Results

Forecast: NGL in Gas Fields

Summary:

Display range is from 0.00 to 600.00 MMBNGL
Entire range is from 2.38 to 940.02 MMBNGL
After 50,000 trials, the standard error of the mean is 0.59

Statistics:	Value
Trials	50000
Mean	219.36
Median	195.31
Mode	---
Standard Deviation	131.75
Variance	17,357.15
Skewness	0.86
Kurtosis	3.51
Coefficient of Variability	0.60
Range Minimum	2.38
Range Maximum	940.02
Range Width	937.64
Mean Standard Error	0.59



20230201
Platform Horst/Graben-Related Oil
Monte Carlo Results

Forecast: NGL in Gas Fields (cont'd)

Percentiles:

Percentile	MMBNGL
100%	2.38
95%	48.79
90%	70.04
85%	86.64
80%	102.20
75%	117.02
70%	131.82
65%	146.81
60%	162.41
55%	178.74
50%	195.31
45%	213.32
40%	231.76
35%	252.12
30%	273.61
25%	298.50
20%	326.55
15%	361.14
10%	405.53
5%	471.29
0%	940.02

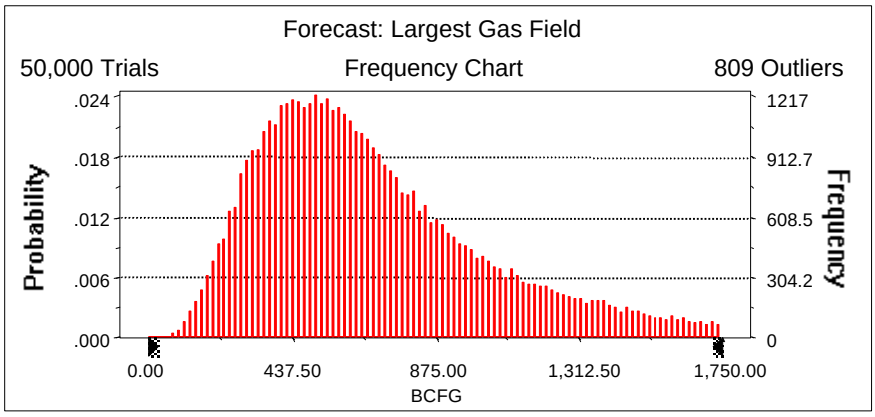
End of Forecast

20230201
Platform Horst/Graben-Related Oil
Monte Carlo Results

Forecast: Largest Gas Field

Summary:
Display range is from 0.00 to 1,750.00 BCFG
Entire range is from 43.31 to 1,999.86 BCFG
After 50,000 trials, the standard error of the mean is 1.64

Statistics:	Value
Trials	50000
Mean	700.02
Median	619.55
Mode	---
Standard Deviation	366.93
Variance	134,635.92
Skewness	1.06
Kurtosis	3.89
Coefficient of Variability	0.52
Range Minimum	43.31
Range Maximum	1,999.86
Range Width	1,956.55
Mean Standard Error	1.64



20230201
Platform Horst/Graben-Related Oil
Monte Carlo Results

Forecast: Largest Gas Field (cont'd)

Percentiles:

Percentile	BCFG
100%	43.31
95%	247.45
90%	306.96
85%	353.28
80%	394.91
75%	432.72
70%	469.33
65%	506.75
60%	543.11
55%	580.19
50%	619.55
45%	661.23
40%	706.25
35%	756.86
30%	815.44
25%	884.64
20%	968.13
15%	1,074.98
10%	1,225.68
5%	1,455.08
0%	1,999.86

End of Forecast

20230201
Platform Horst/Graben-Related Oil
Monte Carlo Results

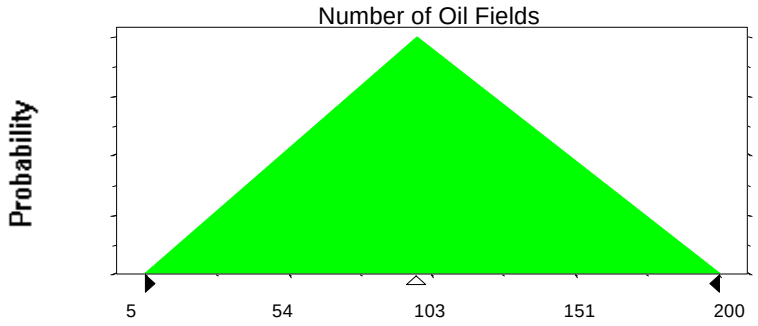
Assumptions

Assumption: Number of Oil Fields

Triangular distribution with parameters:

Minimum	5
Likeliest	97
Maximum	200

Selected range is from 5 to 200
Mean value in simulation was 101



Assumption: Sizes of Oil Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	42.62	47.62
Standard Deviation	80.20	80.2
Selected range is from 0.00 to 895.00		5.00 to 900.00
Mean value in simulation was 40.99		45.99

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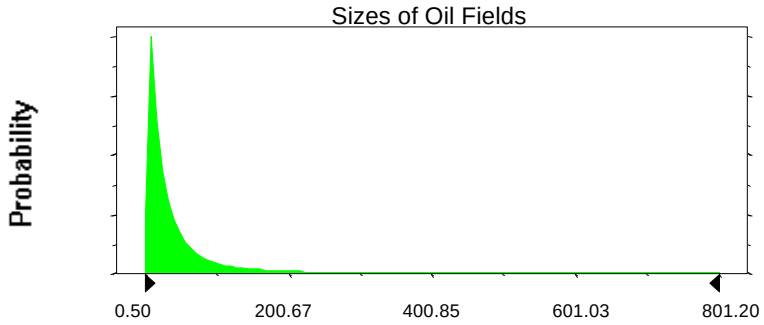
Platform Horst/Graben-Related Oil
Monte Carlo Results

Assumption: Sizes of Oil Fields (cont'd)

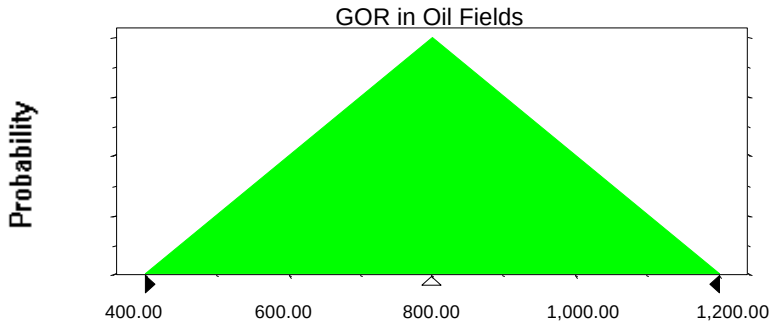


Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	400.00
Likeliest	800.00
Maximum	1,200.00

Selected range is from 400.00 to 1,200.00
Mean value in simulation was 799.77



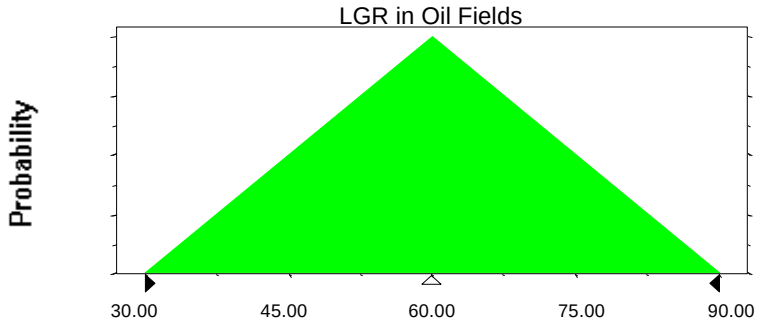
20230201
Platform Horst/Graben-Related Oil
Monte Carlo Results

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 59.98



Assumption: Number of Gas Fields

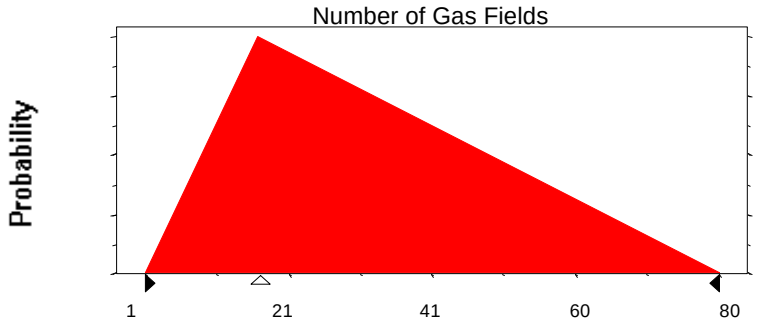
Triangular distribution with parameters:

Minimum	1
Likeliest	17
Maximum	80

Selected range is from 1 to 80
Mean value in simulation was 33

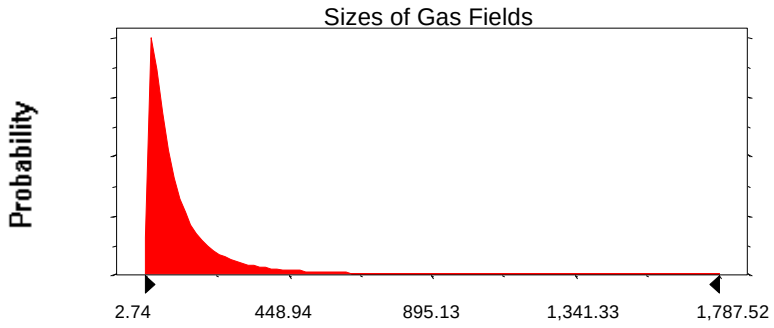
20230201
Platform Horst/Graben-Related Oil
Monte Carlo Results

Assumption: Number of Gas Fields (cont'd)



Assumption: Sizes of Gas Fields

Lognormal distribution with parameters:		Shifted parameters
Mean	125.43	155.43
Standard Deviation	186.49	186.49
Selected range is from 0.00 to 1,970.00		30.00 to 2,000.00
Mean value in simulation was 121.77		151.77



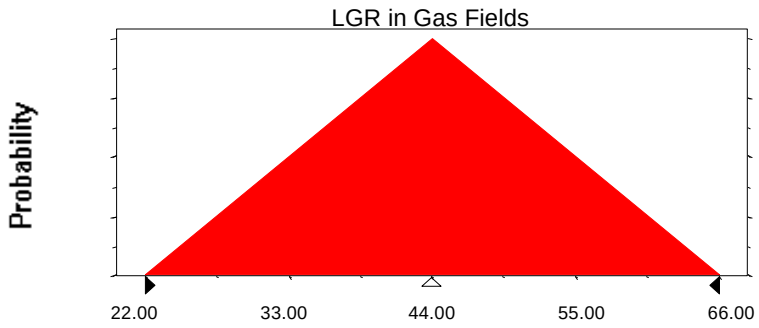
20230201
Platform Horst/Graben-Related Oil
Monte Carlo Results

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 43.95



End of Assumptions

Simulation started on 8/27/99 at 11:03:49
Simulation stopped on 8/27/99 at 12:08:02