

Horst-Block Anticlinal Oil, Assessment Unit 20210201
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	11,296	26,408	43,172	26,715	6,566	15,641	27,023	16,055	242	606	1,170	642	1,103	2,492	5,179	2,728
Gas Fields	120						0	0	0	0	0	0	0	0	NA	NA	NA	NA
Total		1.00	11,296	26,408	43,172	26,715	6,566	15,641	27,023	16,055	242	606	1,170	642				

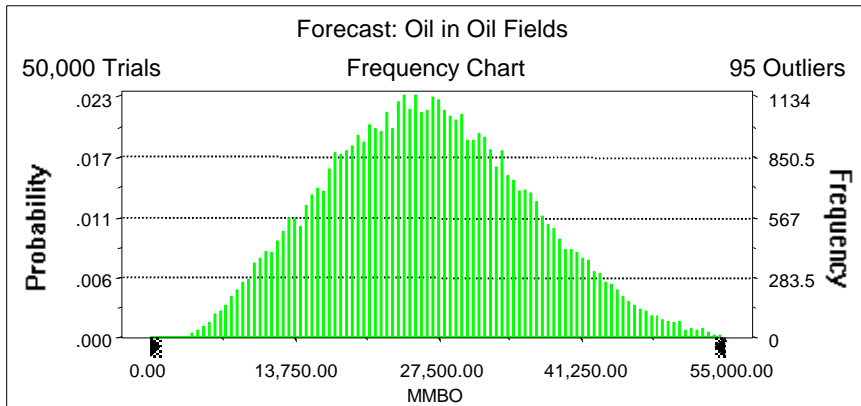
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Horst-Block Anticlinal Oil
Monte Carlo Results

Forecast: Oil in Oil Fields

Summary:

Display range is from 0.00 to 55,000.00 MMBO
Entire range is from 2,705.71 to 65,177.15 MMBO
After 50,000 trials, the standard error of the mean is 43.06

Statistics:	Value
Trials	50000
Mean	26,714.63
Median	26,408.42
Mode	---
Standard Deviation	9,628.01
Variance	92,698,604.33
Skewness	0.21
Kurtosis	2.69
Coefficient of Variability	0.36
Range Minimum	2,705.71
Range Maximum	65,177.15
Range Width	62,471.44
Mean Standard Error	43.06



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Forecast: Oil in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	2,705.71
95%	11,295.97
90%	14,119.90
85%	16,351.34
80%	18,130.31
75%	19,706.65
70%	21,172.63
65%	22,581.18
60%	23,907.87
55%	25,153.10
50%	26,408.42
45%	27,648.47
40%	28,935.60
35%	30,269.36
30%	31,750.01
25%	33,249.03
20%	34,984.07
15%	37,005.20
10%	39,535.60
5%	43,172.42
0%	65,177.15

End of Forecast

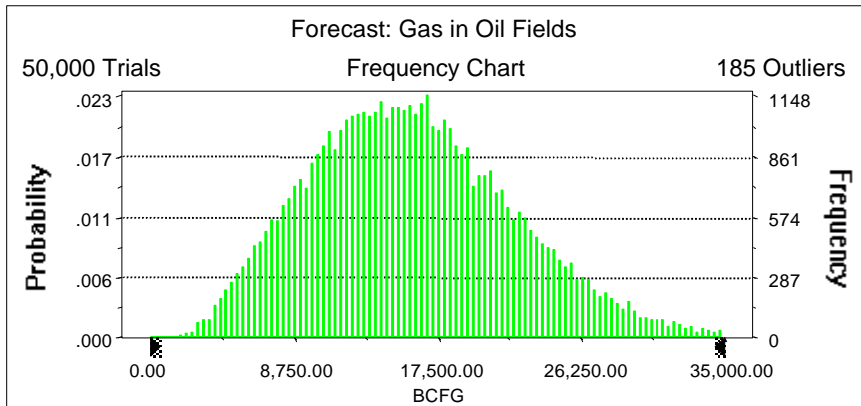
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Monte Carlo Results**

Forecast: Gas in Oil Fields

Summary:

Display range is from 0.00 to 35,000.00 BCFG
 Entire range is from 1,333.33 to 46,405.54 BCFG
 After 50,000 trials, the standard error of the mean is 27.90

Statistics:	<u>Value</u>
Trials	50000
Mean	16,055.12
Median	15,640.53
Mode	---
Standard Deviation	6,239.46
Variance	38,930,906.34
Skewness	0.43
Kurtosis	3.04
Coefficient of Variability	0.39
Range Minimum	1,333.33
Range Maximum	46,405.54
Range Width	45,072.21
Mean Standard Error	27.90



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Forecast: Gas in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>BCFG</u>
100%	1,333.33
95%	6,566.21
90%	8,225.49
85%	9,483.67
80%	10,571.46
75%	11,510.71
70%	12,375.51
65%	13,198.19
60%	14,022.57
55%	14,833.12
50%	15,640.53
45%	16,445.43
40%	17,223.74
35%	18,100.27
30%	19,026.16
25%	20,096.40
20%	21,253.15
15%	22,646.39
10%	24,408.96
5%	27,022.61
0%	46,405.54

End of Forecast

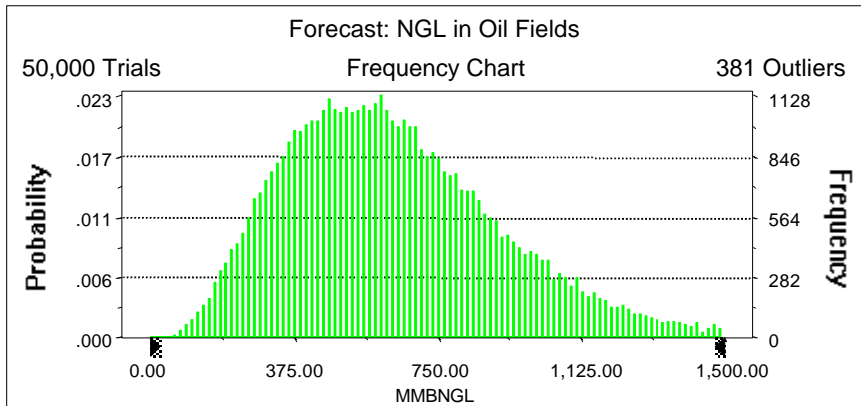
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Forecast: NGL in Oil Fields

Summary:

Display range is from 0.00 to 1,500.00 MMBNGL
Entire range is from 47.20 to 2,298.24 MMBNGL
After 50,000 trials, the standard error of the mean is 1.28

Statistics:	Value
Trials	50000
Mean	642.22
Median	606.01
Mode	---
Standard Deviation	286.96
Variance	82,346.02
Skewness	0.76
Kurtosis	3.71
Coefficient of Variability	0.45
Range Minimum	47.20
Range Maximum	2,298.24
Range Width	2,251.04
Mean Standard Error	1.28



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Forecast: NGL in Oil Fields (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBNGL</u>
100%	47.20
95%	241.93
90%	303.80
85%	351.77
80%	392.15
75%	430.04
70%	466.52
65%	501.11
60%	536.10
55%	571.79
50%	606.01
45%	641.68
40%	678.72
35%	718.76
30%	763.29
25%	812.39
20%	868.18
15%	938.05
10%	1,028.36
5%	1,169.66
0%	2,298.24

End of Forecast

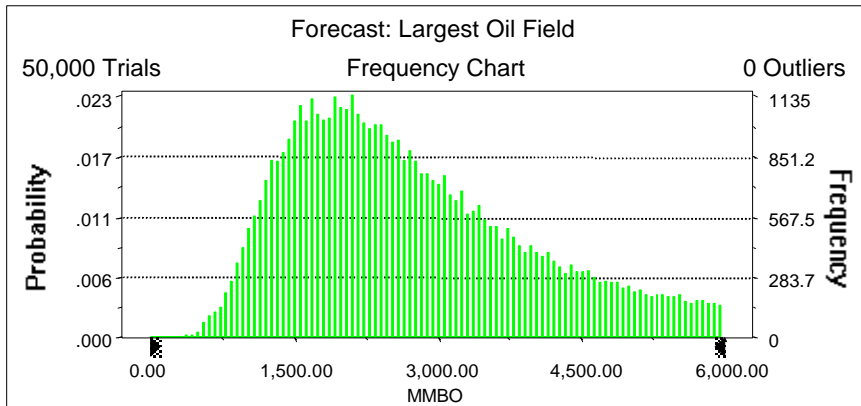
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Forecast: Largest Oil Field

Summary:

Display range is from 0.00 to 6,000.00 MMBO
 Entire range is from 179.15 to 5,999.66 MMBO
 After 50,000 trials, the standard error of the mean is 5.50

Statistics:	<u>Value</u>
Trials	50000
Mean	2,728.40
Median	2,491.95
Mode	---
Standard Deviation	1,229.91
Variance	1,512,675.51
Skewness	0.66
Kurtosis	2.71
Coefficient of Variability	0.45
Range Minimum	179.15
Range Maximum	5,999.66
Range Width	5,820.50
Mean Standard Error	5.50



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Forecast: Largest Oil Field (cont'd)

Percentiles:

<u>Percentile</u>	<u>MMBO</u>
100%	179.15
95%	1,102.74
90%	1,314.56
85%	1,485.29
80%	1,633.18
75%	1,770.61
70%	1,916.80
65%	2,054.06
60%	2,190.76
55%	2,340.01
50%	2,491.95
45%	2,654.85
40%	2,834.39
35%	3,034.90
30%	3,252.14
25%	3,495.73
20%	3,787.35
15%	4,142.15
10%	4,587.13
5%	5,178.88
0%	5,999.66

End of Forecast

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Assumptions

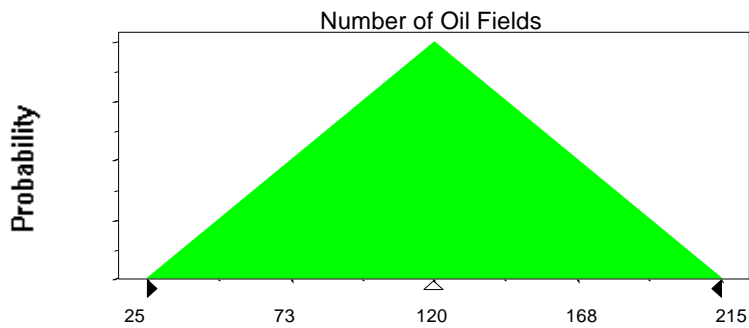
Assumption: Number of Oil Fields

Triangular distribution with parameters:

Minimum	25
Likeliest	120
Maximum	215

Selected range is from 25 to 215

Mean value in simulation was 120



Assumption: Sizes of Oil Fields

Lognormal distribution with parameters:

Mean	212.02
Standard Deviation	520.35

Shifted parameters

232.02
520.35

Selected range is from 0.00 to 5,980.00

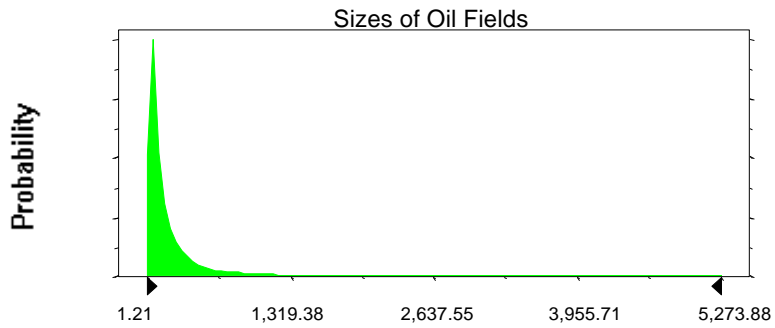
Mean value in simulation was 199.59

20.00 to 6,000.00

219.59

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Assumption: Sizes of Oil Fields (cont'd)



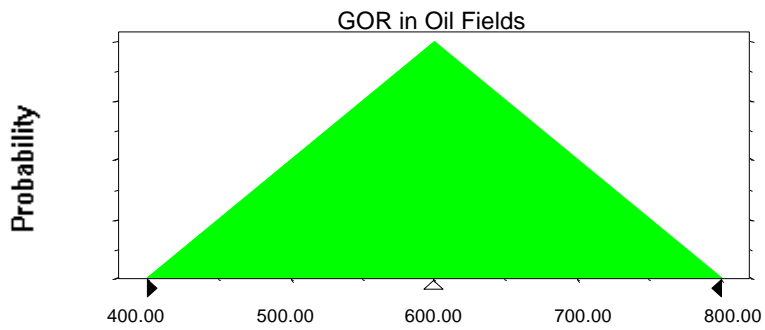
Assumption: GOR in Oil Fields

Triangular distribution with parameters:

Minimum	400.00
Likeliest	600.00
Maximum	800.00

Selected range is from 400.00 to 800.00

Mean value in simulation was 600.93



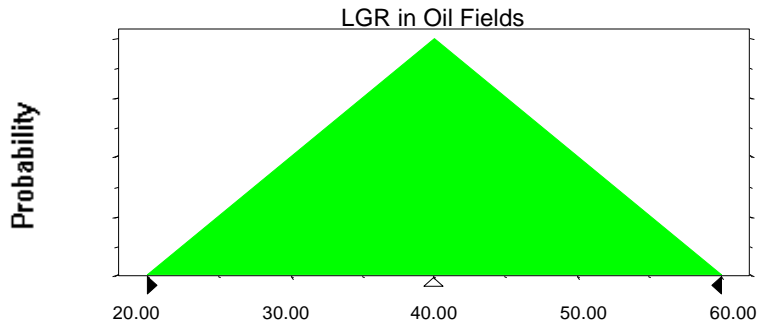
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Assumption: LGR in Oil Fields

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 40.00



End of Assumptions

Simulation started on 5/27/99 at 17:25:27
Simulation stopped on 5/27/99 at 18:25:26