Table 5. MTBE-Ban Case Analysis for RFG Production – Federal RFG Producing Refinery

	Base Case		Case 2		Case 3		Case 4	
	RFG Production with MTBE		MTBE Ban – Ethanol at 10%		MTBE Ban – Ethanol at 10% + Increased Alkylate Production		MTBE Ban – Ethanol at 5.8% + Purchase Alkylate	
Gasoline Blend Components Based on 100MB/D Refinery:	**Volume (MB/D)**	**Vol %**	**Volume (MB/D)**	**Vol %**	**Volume (MB/D)**	**Vol %**	**Volume (MB/D)**	**Vol %**
Production								
LSR & Other C_5's	7.3	13.4	3.8	7.8	3.8	7.2	3.8	7.4
Isomerate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reformate	18.3	33.5	16.4	34.4	18.0	34.5	16.1	31.8
FCC Gasoline	15.7	28.8	15.7	32.8	15.7	30.1	15.3	30.3
Alkylate	7.1	13.1	7.1	14.9	9.5	18.2	9.5	18.8
n-Butane	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
Refinery Production	48.4		43.0		47.0		44.6	
Purchases								
MTBE	6.1	11.2	0.0	0.0	0.0	0.0	0.0	0.0
Ethanol	0.0	0.0	4.8	10.0	5.2	10.0	2.9	5.8
C_3 Alkylate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C_4 Alkylate	0.0	0.0	0.0	0.0	0.0	0.0	2.9	5.7
Total Purchases	6.1		4.8		5.2		5.8	
Total Gasoline Production	54.5	100.0	47.8	100.0	52.2	100.0	50.4	100.0
Properties								
Octane: (R+M)/2	87.2		87.8		88.1		87.4	
RVP: psi	6.7		6.5		6.4		6.5	
Benzene: vol%	0.56		0.63		0.58		0.60	
Aromatics: vol%	25.5		26.7		26.3		24.9	
Olefins: vol%	9.0		10.2		9.4		9.3	
Sulfur: ppm	115.1		131.2		120.2		124.0	
E200: vol%	47.4		43.9		42.9		40.5	
E300: vol%	79.2		79.2		78.5		80.3	
Summary RFG Requirements	**Changes from Industry Baseline [a]**	**Federal Target [b]**	**Changes from Industry Baseline [a]**	**Federal Target [b]**	**Changes from Industry Baseline [a]**	**Federal Target [b]**	**Changes from Industry Baseline [a]**	**Federal Target [b]**
VOC: % Reduction	-25.9	≥25.9	-25.9	≥25.9	-25.9	≥25.9	-25.9	≥25.9
Toxics: % Reduction	-32.0	≥20.0	-26.3	≥20.0	-27.2	≥20.0	-28.2	≥20.0
NO_X: % Reduction	-8.8	≥5.5	-7.9	≥5.5	-8.8	≥5.5	-9.1	≥5.5
Benzene: vol %	0.56	≤1.0	0.63	≤1.0	0.58	≤1.0	0.60	≤1.0

[a] Emission reductions and benzene content of illustrative fuel for comparison with Federal requirements.
[b] Federal reformulated gasoline required emission reductions and benzene content from industry baseline.

Definition of abbreviations and technical terms:

LSR = light straight run;
FCC = fluid catalytic cracking;
ppm = parts per million;
psi = pounds per square inch;
vol% = volume percent;
VOC = volatile organic compounds;
POM = polycyclic organic materials;
MB/D = thousand barrels per day
mg/mi = milligrams per mile;
MTBE = methyl tertiary butyl ether;
ETBE = ethyl tertiary butyl ether;
TAME = tertiary amyl methyl ether;
RVP = Reid vapor pressure.

Source: Energy Information Administration