Attachment A3

Tables of Organic Gas Profiles From Emission Testing

List of Tables

Table 1. Liquid Gasoline Organic Gas Species Test Results. 1
Table 2. Liquid Gasoline Organic Gas Species Test Results. 1
Table 3. Liquid Gasoline Organic Gas Species Test Results. 2
Table 4. Liquid Gasoline Organic Gas Species Test Results. 2
Table 5. Liquid Gasoline Organic Gas Species Test Results. 7
Table 6. Liquid Gasoline Organic Gas Species Test Results. 12
Table 7. Gasoline Headspace Organic Gas Species Test Results. 16
Table 9. Gasoline Headspace Organic Gas Species Test Results. 16
Table 10. Gasoline Headspace Organic Gas Species Test Results. 17
Table 11. Gasoline Headspace Organic Gas Species Test Results. 18
Table 12. Gasoline Headspace Organic Gas Species Test Results. 20
Table 13. Gasoline Headspace Organic Gas Species Test Results. 22
Table 14. Exhaust Gasoline Organic Gas Species Test Results. 24
Table 15. Exhaust Gasoline Organic Gas Species Test Results. 25
Table 16. Exhaust Gasoline Organic Gas Species Test Results. 26
Table 17. Exhaust Gasoline Organic Gas Species Test Results. 27
Table 18. Exhaust Gasoline Organic Gas Species Test Results. 31
Table 19. Exhaust Gasoline Organic Gas Species Test Results. 35
Table 20. Exhaust Gasoline Organic Gas Species Test Results. 39
Table 21. Exhaust Gasoline Organic Gas Species Test Results. 40
Table 22. Exhaust Gasoline Organic Gas Species Test Results. 41
Table 23. Exhaust Gasoline Organic Gas Species Test Results. 42
Table 24. Exhaust Gasoline Organic Gas Species Test Results. 46
Table 25. Exhaust Gasoline Organic Gas Species Test Results. 50

Table 1. Liquid Gasoline Organic Gas Species Test Results.

(MTBE, Weight Percent)

NAME	BARREL1
propane	0.01
butanes	1.14
pentanes	12.82
c6+ br-alkanes	37.83
c6+ n-alkanes	5.26
propene	0.00
c4+ alkenes	2.69
benzene	0.78
toluene	5.41
c8+ aromatics	19.88
MTBE	10.90
ethanol	0.00
isoprene	0.01
unidentified	3.29
Sum	100.00
MIR	2.42

Note: MIR means Maximum Incremental Reactivity (g ozone/g NM

Table 2. Liquid Gasoline Organic Gas Species Test Results.

(NonOxy, Weight Percent)

NAME	BARREL1	BARREL2	BARREL3	BARREL4	BARREL5	MEAN	COV
propane	0.00	0.00	0.00	0.00	0.00	0.00	n/a
butanes	0.98	0.95	0.89	0.89	1.02	0.94	6%
pentanes	15.18	14.51	15.61	15.61	15.52	15.29	3%
c6+ br-alkanes	47.15	45.37	44.60	44.59	45.80	45.50	2%
c6+ n-alkanes	4.28	4.24	4.17	4.17	4.28	4.23	1%
propene		0.00			0.00	0.00	20%
c4+ alkenes	2.75	2.76	2.69	2.70	2.83	2.75	2%
benzene	0.26	0.26	0.25	0.25	0.27	0.26	2%
toluene	8.60	8.48	8.65	8.64	8.44	8.56	1%
c8+ aromatics	18.13	20.67	20.65	20.69	19.56	19.94	6%
MTBE	0.07	0.07	0.06	0.06	0.05	0.06	11%
ethanol							
isoprene	0.00	0.00	0.00	0.00	0.00	0.00	8%
unidentified	2.63	2.69	2.47	2.43	2.25	2.49	7%
sum	100.03	100.00	100.04	100.04	100.01	100.03	
MIR	2.40	2.59	2.60	2.61	2.55	2.55	3%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).

Table 3. Liquid Gasoline Organic Gas Species Test Results.

(Et2.0%, Weight Percent)

NAME	BARREL1	BARREL2	BARREL3	BARREL4	BARREL5	MEAN	COV
propane	0.00		0.00		0.00	0.00	7%
butanes	0.40	0.41	0.40	0.40	0.42	0.41	2%
pentanes	11.12	11.38	11.11	11.17	11.52	11.26	2%
c6+ br-alkanes	44.99	45.82	47.28	47.27	46.01	46.27	2%
c6+ n-alkanes	3.77	3.79	3.78	3.79	3.76	3.78	0%
propene		0.00		0.00		0.00	0%
c4+ alkenes	0.52	0.51	0.57	0.57	0.44	0.52	10%
benzene	0.56	0.57	0.57	0.56	0.58	0.57	1%
toluene	6.16	6.17	6.16	6.28	6.08	6.17	1%
c8+ aromatics	21.58	22.74	21.16	21.52	22.40	21.88	3%
MTBE	0.10	0.10	0.10	0.10	0.10	0.10	1%
ethanol	6.30	6.50	6.38	5.85	6.69	6.34	5%
isoprene		0.00	0.00	0.00		0.00	0%
unidentified	4.51	2.08	2.56	2.55	2.05	2.75	37%
Sum	100.00	100.06	100.07	100.07	100.04	100.05	
MIR	2.44	2.61	2.45	2.47	2.59	2.51	3%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).

Table 4. Liquid Gasoline Organic Gas Species Test Results.

(MTBE, Weight Percent)

CNUM	CHEMNAME	BARREL1
2	ethane	0.00
2	ethylene	0.00
3	propane	0.01
3	propylene	0.00
4	1,3-butadiene	0.00
4	1-butene	0.03
4	cis-2-butene	0.05
4	isobutane	0.23
4	isobutylene	0.02
4	n-butane	0.91
4	trans-2-butene	0.05
5	1,3-cyclopentadiene	0.01
5	1-pentene	0.05
5	2,2-dimethylpropane	0.01
5	2-methyl-1-butene	0.09
5	2-methyl-2-butene	0.21
5	3-methyl-1-butene	0.01
5	cis-2-pentene	0.08
5	cyclopentadiene	0.00
5	cyclopentane	0.55
5	cyclopentene	0.03
5	isopentane	8.10
5	isoprene	0.01
5	methyl t-butyl ether (MTBE)	10.90
5	n-pentane	4.16
5	trans-1,3-pentadiene	0.01
5	trans-2-pentene	0.14

6	1,5-hexadiene	0.00
6	1-hexene	0.03
6	1-methylcyclopentene	0.12
6	2,2-dimethylbutane	0.09
6	2,3-dimethylbutane	1.04
6	2-methyl-1-pentene	0.04
6	2-methyl-2-pentene	0.10
6	2-methylpentane	4.11
6	3,3-dimethyl-1-butene	0.00
6	3-methyl-1-pentene	0.01
6	3-methyl-cis-2-pentene	0.05
6	3-methyl-trans-2-pentene	0.00
6	3-methylcyclopentene	0.01
6	3-methylpentane	2.56
6	4-methyl-1-pentene	0.01
6	4-methyl-trans-2-pentene	0.03
6	benzene	0.78
6	cis-2-hexene	0.04
6	cis-3-hexene	0.01
6	cyclohexane	1.17
6	methylcyclopentane	3.15
6	n-hexane	2.63
6	trans-2-hexene	0.07
6	trans-3-hexene	0.04
7	1-heptene	0.02
7	1-t-2-dimethylcyclopentane	0.96
7	1-t-3-dimethylcyclopentane	0.88
7	2,2,3-trimethylbutane	0.04
7	2,2-dimethylpentane	0.06
7	2,3-dimethylpentane	1.57
7	2,4-dimethyl-1-pentene	0.01
7	2,4-dimethylpentane	0.96
7	2-ethyl-3-methyl-1-butene	0.01
7	2-methyl-cis-3-hexene	0.01
7	2-methyl-trans-3-hexene	0.02
7	2-methylhexane	1.91
7	3,3-dimethyl-1-pentene	0.08
7	3,3-dimethylpentane	0.06
7	3,4-dimethyl-1-pentene	0.01
7	3,4-dimethyl-2-pentene	0.02
7	3-ethyl-2-pentene	0.03
7	3-ethylcyclopentene	0.00
7	3-ethylpentane	0.20
7	3-methyl-1-hexene	0.01
7	3-methyl-cis-2-hexene	0.13
7	3-methyl-cis-3-hexene	0.03
7	3-methyl-trans-2-hexene	0.13
7	3-methyl-trans-3-hexene	0.05
7	3-methylhexane	2.11

7	4,4-dimethyl-c-pentene-2	0.01
7	4-methyl-1-hexene	0.02
7	4-methyl-trans-2-hexene	0.04
7	cis-2-heptene	0.06
7	dimethylcyclopentane	0.14
7	ethylcyclopentane	0.35
7	methylcyclohexane	2.15
7	n-heptane	1.40
7	toluene	5.41
7	trans-2-heptene	0.06
7	trans-3-heptene	0.14
8	1,1,2-trimethylcyclopentane	0.02
8	1,1-dimethylcyclohexane	0.02
8	1,1-methylethylcyclopentane	0.01
8	1,3-octadiene	0.01
8	1c,2c,3-trimethylcyclopentan	0.04
8	1c,2c,4-trimethylcyclopentan	0.05
8	1c,2t,3-trimethylcyclopentan	0.34
8	1c,2t,4-trimethylcyclopentan	0.24
8	1t,2c,3-trimethylcyclopentan	0.19
8	2,2,3-trimethylpentane	0.11
8	2,2,4-trimethylpentane	2.33
8	2,2-dimethylhexane	0.19
8	2,3,3-trimethylpentane	0.99
8	2,3,4-trimethylpentane	1.05
8	2,3-dimethylhexane	0.46
8	2,4-dimethylhexane	0.53
8	2,5-dimethylhexane	0.48
8	2-methylheptane	0.71
8	3,3-dimethylhexane	0.04
8	3,4-dimethylhexane	0.07
8	3-ethylhexane	0.09
8	3-methyl-3-ethylpentane	0.06
8	3-methylheptane	0.67
8	3t-ethylmethylcyclopentane	0.14
8	4-methylheptane	0.27
8	unidentified	2.53
8	c-1-methyl-3-ethylcyclopenta	0.99
8	cis-1,3-dimethylcyclohexane	0.06
8	cis-1,4-dimethylcyclohexane	0.10
8	cis-2-octene	0.02
8	ethylbenzene	1.37
8	m-xylene	3.96
8	n-octane	0.70
8	n-propylcyclopentane	0.02
8	o-xylene	1.98
8	p-xylene	1.68
8	propylcyclopentane	0.08
8	t-1,2-dimethylcyclohexane	0.13

8	t-2-ethylmethylcyclopentane	0.12
8	trans-1,3-dimethylcyclohexan	0.09
8	trans-1,4-dimethylcyclohexan	0.11
8	trans-2-octene	0.04
8	trans-4-octene	0.04
8	unidentified	0.74
9	1,1,2-trimethylcyclohexane	0.03
9	1,1,3-trimethylcyclohexane	0.04
9	1,1,4-trimethylcyclohexane	0.18
9	1,2,3-trimethylbenzene	0.42
9	1,2,4-trimethylbenzene	2.31
9	1,3,5-trimethylbenzene	0.81
9	1-methyl-2-ethylbenzene	0.63
9	1-methyl-3-ethylbenzene	1.50
9	1-methyl-4-ethylbenzene	0.64
9	1c,2t,4c-trimethylcyclohexane	0.03
9	2,2,3,trimethylhexane	0.12
9	2,2,4-trimethylhexane	0.02
9	2,2,5-trimethylhexane	0.45
9	2,2-dimethylheptane	0.01
9	2,3,4-trimethylhexane	0.09
9	2,3-dimethylheptane	0.12
9	2,4-dimethylheptane	0.02
9	2,5-dimethylheptane	0.21
9	2,6-dimethylheptane	0.05
9	2-methyloctane	0.25
9	3,3-dimethylheptane	0.08
9	3,4-dimethylheptane	0.07
9	3-ethylheptane	0.08
9	3-methyloctane	0.30
9	4,4-dimethylheptane	0.14
9	4-ethylheptane	0.01
9	4-methyloctane	0.20
9	c-1,c-3,5-trimethylcyclohexa	0.09
9	c1,t2,c4-trimethylcyclohexan	0.03
9	ethylmethylcyclohexane	0.17
9	i-butylcyclopentane	0.03
9	indene	0.30
9	isopropylbenzene (cumene)	0.08
9	n-butylcyclopentane	0.03
9	n-nonane	0.29
9	n-propylbenzene	0.35
9	propylcyclohexane	0.02
9	trans-2-nonene	0.02
10	1,2,3,5-tetramethylbenzene	0.22
10	1,2,4,5-tetramethylbenzene	0.16
10	1,2-diethylbenzene (ortho)	0.03
10	1,2-dimethyl-3-ethylbenzene	0.09
10	1,2-dimethyl-4-ethylbenzene	0.42
10	1,2-methyl-n-propylbenzene	0.11
10	1,3-diethylbenzene (meta)	0.14
10	1,3-dimethyl-2-ethylbenzene	0.02
10	1,3-dimethyl-4-ethylbenzene	0.27

10	1,3-dimethyl-5-ethylbenzene	0.32
10	1,4-dimethyl-2-ethylbenzene	0.19
10	1-methyl-2-isopropylbenzene	0.04
10	1-methyl-2n-propylbenzene	0.07
10	1-methyl-3-isopropylbenzene	0.06
10	1-methyl-3n-propylbenzene	0.34
10	1-methyl-4-isopropylbenzene	0.02
10	1-methyl-4n-propylbenzene	0.18
10	2,2-dimethyloctane	0.05
10	2,4-dimethyloctane	0.02
10	2,5-dimethyloctane	0.07
10	2,6-dimethyloctane	0.06
10	2-methylindan	0.18
10	2-methylnonane	0.11
10	3,3-dimethyloctane	0.12
10	3,6-dimethyloctane	0.03
10	3-ethyloctane	0.03
10	3-methyl-5-ethylheptane	0.03
10	3-methylnonane	0.11
10	4-methylindan	0.04
10	5-methylindan	0.19
10	5-methylnonane	0.05
10	butylcyclohexane	0.02
10	dihydronaphthalene	0.01
10	isobutylbenzene	0.04
10	n-butylbenzene	0.10
10	n-decane	0.13
10	naphthalene	0.21
10	sec-butylbenzene	0.06
10	t-decahydronaphthalene	0.01
11	1-ethyl-2-isopropylbenzene	0.02
11	1-methyl-2-n-butylbenzene	0.01
11	1-methyl-2-t-butylbenzene	0.04
11	1-methyl-4-t-butylbenzene	0.03
11	1-methylnaphthalene	0.08
11	1-undecene	0.01
11	2-methylnaphthalene	0.16
11	3-ethylnonane	0.00
11	n-pentylbenzene	0.04
11	n-undecane	0.05
11	pentamethylbenzene	0.04
11	s-pentylbenzene	0.06
12	1,2,4-triethylbenzene	0.01
12	1,2-isodipropylbenzene	0.03
12	1,3-dipropylbenzene	0.04
12	1,3-isodipropylbenzene	0.06
12	1,4-di-i-propylbenzene	0.04
12	1-methyl-4-n-pentylbenzene	0.04
12	n-dodecane	0.01
12	n-hexylbenzene	0.01
13	n-tridecane	0.00
	sum	100.00
	MIR	2.42

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).

Table 5. Liquid Gasoline Organic Gas Species Test Results.
(NonOxy, Weight Percent)

CNUM	CHEMNAME	BARREL1	BARREL2	BARREL3	BARREL4	BARREL5	MEAN	COV
3	propylene		0.00			0.00	0.00	20%
4	1-butene	0.00	0.00			0.00	0.00	9%
4	cis-2-butene	0.00	0.00	0.00	0.00	0.00	0.00	6%
4	isobutane	0.06	0.06	0.06	0.06	0.07	0.06	6%
4	isobutylene	0.00	0.00			0.00	0.00	9%
4	n-butane	0.91	0.89	0.83	0.83	0.95	0.88	6%
4	trans-2-butene	0.00	0.00	0.00	0.00	0.00	0.00	13%
5	1,3-cyclopentadiene	0.01	0.01	0.01	0.01	0.01	0.01	4%
5	1-pentene	0.02	0.02	0.02	0.02	0.02	0.02	4%
5	2,2-dimethylpropane	0.01	0.01	0.01	0.01	0.01	0.01	5%
5	2-methyl-1-butene	0.06	0.06	0.06	0.06	0.06	0.06	5%
5	2-methyl-2-butene	0.21	0.20	0.20	0.20	0.22	0.21	4%
5	3-methyl-1-butene	0.00	0.00	0.00	0.00	0.00	0.00	6%
5	cis-2-pentene	0.06	0.06	0.06	0.05	0.06	0.06	4%
5	cyclopentadiene	0.00	0.00	0.00	0.00	0.00	0.00	8%
5	cyclopentane	0.64	0.62	0.61	0.61	0.66	0.63	4%
5	cyclopentene	0.03	0.03	0.03	0.03	0.03	0.03	4%
5	isopentane	10.18	9.67	10.92	10.92	10.40	10.42	5%
5	isoprene	0.00	0.00	0.00	0.00	0.00	0.00	8%
5	methyl t-butyl ether (MTBE)	0.07	0.07	0.06	0.06	0.05	0.06	11%
5	n-pentane	4.35	4.21	4.07	4.07	4.46	4.23	4%
5	trans-1,3-pentadiene	0.00	0.00	0.00	0.00	0.00	0.00	4%
5	trans-2-pentene	0.10	0.09	0.09	0.09	0.10	0.09	4%
6	1,4-hexadiene	0.00	0.00				0.00	16%
6	1,5-hexadiene	0.00	0.00	0.00	0.00	0.00	0.00	11%
6	1-hexene	0.05	0.05	0.05	0.05	0.05	0.05	3%
6	1-methylcyclopentene	0.14	0.13	0.13	0.13	0.14	0.13	2%
6	2,2-dimethylbutane	3.32	3.22	3.14	3.14	3.38	3.24	3%
6	2,3-dimethylbutane	2.54	2.47	2.42	2.42	2.58	2.48	3%
6	2-methyl-1-pentene	0.11	0.11	0.11	0.11	0.11	0.11	2%
6	2-methyl-2-pentene	0.21	0.21	0.21	0.21	0.22	0.21	3%
6	2-methylpentane	6.26	6.10	6.01	6.00	6.34	6.14	2%
6	3,3-dimethyl-1-butene	0.00	0.00	0.00	0.00	0.00	0.00	6%
6	3-methyl-1-pentene	0.03	0.03	0.03	0.03	0.03	0.03	2%
6	3-methyl-cis-2-pentene	0.11	0.11	0.11	0.11	0.12	0.11	2%
6	3-methyl-trans-2-pentene	0.00	0.00	0.00	0.00	0.00	0.00	6%
6	3-methylcyclopentene	0.02	0.02	0.02	0.02	0.02	0.02	6%
6	3-methylpentane	0.02				0.02	0.02	14%
6	3-methylpentane	3.72	3.62	3.56	3.56	3.76	3.64	2%
6	4-methyl-1-pentene	0.02	0.02	0.02	0.02	0.02	0.02	10%
6	4-methyl-cis-2-pentene					0.01	0.01	
6	4-methyl-trans-2-pentene	0.06	0.07	0.07	0.07	0.07	0.07	3%
6	benzene	0.26	0.26	0.25	0.25	0.27	0.26	2%
6	cis-2-hexene	0.08	0.08	0.07	0.07	0.08	0.08	2%
6	cis-3-hexene	0.02				0.02	0.02	1%
6	cyclohexane	2.25	2.21	2.19	2.18	2.26	2.22	2%
6	cyclohexene		0.03	0.03	0.03	0.03	0.03	2%

6	methylcyclopentane	2.95	2.88	2.85	2.84	2.98	2.90	2%
6	n-hexane	2.68	2.61	2.57	2.57	2.70	2.62	2%
6	trans-2-hexene	0.14	0.13	0.13	0.13	0.14	0.14	2%
6	trans-3-hexene	0.07	0.09	0.09	0.09	0.07	0.08	14%
7	1-c-2-dimethylcyclopentane	0.07				0.06	0.06	5%
7	1-t-2-dimethylcyclopentane	0.13	0.13	0.13	0.13	0.13	0.13	2%
7	1-t-3-dimethylcyclopentane	0.15	0.15	0.15	0.15	0.15	0.15	1%
7	2,2,3-trimethylbutane	0.07	0.07	0.07	0.07	0.07	0.07	1%
7	2,2-dimethylpentane	0.15	0.15	0.14	0.14	0.15	0.15	2%
7	2,3-dimethylpentane	1.48	1.46	1.45	1.44	1.47	1.46	1%
7	2,4-dimethyl-1-pentene	0.01	0.01	0.01	0.01	0.01	0.01	5%
7	2,4-dimethylpentane	0.99	0.98	0.96	0.96	1.00	0.98	2%
7	2-ethyl-3-methyl-1-butene	0.01	0.01	0.01	0.01	0.01	0.01	2%
7	2-methyl-cis-3-hexene	0.01	0.01	0.01	0.01	0.01	0.01	4%
7	2-methyl-trans-3-hexene	0.02	0.02	0.02	0.02	0.02	0.02	1%
7	2-methylhexane	1.37	1.36	1.34	1.34	1.37	1.36	1%
7	3,3-dimethyl-1-pentene	0.18	0.17	0.17	0.17	0.18	0.18	2%
7	3,3-dimethylpentane	0.13	0.13	0.13	0.13	0.13	0.13	1%
7	3,4-dimethyl-1-pentene	0.01	0.01	0.01	0.01	0.01	0.01	3%
7	3,4-dimethyl-2-pentene	0.02	0.02	0.02	0.02	0.02	0.02	2%
7	3-ethyl-2-pentene	0.03	0.03	0.03	0.03	0.03	0.03	4%
7	3-ethylcyclopentene	0.00				0.00	0.00	2%
7	3-ethylpentane	0.17	0.17	0.17	0.17	0.17	0.17	1%
7	3-methyl-1-hexene	0.01	0.01	0.01	0.01	0.01	0.01	2%
7	3-methyl-cis-2-hexene	0.12	0.12	0.12	0.12	0.12	0.12	1%
7	3-methyl-cis-3-hexene	0.03	0.03	0.03	0.03	0.03	0.03	1%
7	3-methyl-trans-2-hexene	0.10	0.10	0.10	0.10	0.10	0.10	1%
7	3-methyl-trans-3-hexene	0.05	0.05	0.05	0.05	0.05	0.05	2%
7	3-methylhexane	1.57	1.56	1.54	1.54	1.57	1.56	1%
7	4,4-dimethyl-c-pentene-2	0.01	0.01	0.01	0.01	0.01	0.01	2%
7	4-methyl-1-hexene	0.02	0.02	0.02	0.02	0.02	0.02	2%
7	4-methyl-trans-2-hexene	0.05	0.04	0.04	0.04	0.05	0.04	2%
7	cis-2-heptene	0.05	0.05	0.05	0.05	0.05	0.05	3%
7	dimethylcyclopentane	0.04	0.04	0.04	0.04	0.04	0.04	1%
7	ethylcyclopentane	0.09	0.09	0.09	0.09	0.09	0.09	1%
7	ethylpentene	0.01	0.01	0.01	0.01	0.01	0.01	10%
7	methylcyclohexane	0.59	0.65	0.64	0.64	0.59	0.62	5%
7	n-heptane	1.00	0.99	0.98	0.98	0.99	0.99	1%
7	toluene	8.60	8.48	8.65	8.64	8.44	8.56	1%
7	trans-2-heptene	0.04	0.04	0.04	0.04	0.04	0.04	2%
7	trans-3-heptene	0.09	0.09	0.09	0.09	0.09	0.09	1%
8	1,1,2-trimethylcyclopentane	0.02	0.02	0.02	0.02	0.02	0.02	8%
8	1,1-dimethylcyclohexane	0.03	0.03	0.03	0.03	0.03	0.03	2%
8	1,1-methylethylcyclopentane	0.02	0.02	0.02	0.02	0.02	0.02	5%
8	1,3-octadiene	0.00	0.00		0.00	0.00	0.00	45%
8	1c,2c,3-trimethylcyclopentan		0.01	0.02	0.01	0.01	0.01	26%
8	1c,2c,4-trimethylcyclopentan	0.02	0.02	0.02	0.02	0.02	0.02	8%
8	1c,2t,3-trimethylcyclopentan	0.28	0.29	0.29	0.29	0.28	0.29	2%
8	1c,2t,4-trimethylcyclopentan	0.06	0.06	0.06	0.06	0.06	0.06	1%

8	1c,4-dimethylcyclohexane				0.00	0.01	0.00	12%
8	1t,2c,3-trimethylcyclopentan	0.04	0.04	0.04	0.04	0.04	0.04	7%
8	2,2,3-trimethylpentane	0.24	0.23	0.24	0.25	0.23	0.24	3%
8	2,2,4-trimethylpentane	4.89	4.86	4.84	4.84	4.83	4.85	1%
8	2,2-dimethylhexane	0.07	0.07	0.07	0.07	0.07	0.07	1%
8	2,3,3-trimethylpentane	2.44	2.47	2.28	2.29	2.41	2.38	4%
8	2,3,4-trimethylpentane	2.18	2.18	2.17	2.17	2.13	2.16	1%
8	2,3-dimethylhexane	0.57	0.57	0.56	0.57	0.55	0.57	1%
8	2,4-dimethylhexane	0.63	0.63	0.63	0.63	0.62	0.63	1%
8	2,5-dimethylhexane	0.70	0.72	0.69	0.69	0.70	0.70	1%
8	2-methylheptane	0.37	0.37	0.36	0.37	0.36	0.37	2%
8	3,3-dimethylhexane	0.03	0.03	0.03	0.03	0.03	0.03	1%
8	3,4-dimethylhexane	0.07	0.07	0.07	0.07	0.07	0.07	3%
8	3-methyl-3-ethylpentane	0.07	0.07	0.07	0.07	0.06	0.07	2%
8	3-methylheptane	0.39	0.40	0.40	0.40	0.39	0.39	1%
8	3t-ethylmethylcyclopentane	0.04	0.06	0.06	0.06	0.06	0.05	17%
8	4-methylheptane	0.15	0.16	0.15	0.15	0.15	0.15	2%
8	unidentified	1.55	1.79	1.59	1.56	1.47	1.65	7%
8	c-1-methyl-3-ethylcyclopenta	0.17	0.16	0.16	0.16	0.17	0.16	1%
8	cis-1,3-dimethylcyclohexane	0.02	0.03	0.03	0.03	0.03	0.03	9%
8	cis-1,4-dimethylcyclohexane	0.06	0.06	0.06	0.06	0.06	0.06	3%
8	cis-2-octene	0.01	0.01	0.01	0.01	0.01	0.01	25%
8	ethylbenzene	1.59	1.62	1.61	1.62	1.56	1.60	1%
8	ethylcyclohexane	0.04					0.04	
8	m-xylene		4.40	4.40	4.42	4.24	4.36	2%
8	n-octane	0.36	0.38	0.38	0.37	0.36	0.37	2%
8	n-propylcyclopentane		0.02	0.02	0.02	0.02	0.02	3%
8	o-xylene	2.22	2.28	2.29	2.30	2.18	2.25	2%
8	p-xylene	4.33	1.82	1.83	1.83	1.74	2.31	49%
8	propylcyclopentane	0.03	0.03	0.03	0.03	0.03	0.03	2%
8	t-1,2-dimethylcyclohexane	0.09	0.09	0.09	0.09	0.09	0.09	2%
8	t-2-ethylmethylcyclopentane	0.03	0.04	0.04	0.04	0.04	0.04	5%
8	trans-1,3-dimethylcyclohexan	0.03	0.06	0.06	0.06	0.06	0.05	24%
8	trans-1,4-dimethylcyclohexan	0.08	0.09	0.09	0.09	0.09	0.09	4%
8	trans-2-octene	0.02	0.02	0.02	0.02	0.02	0.02	1%
8	trans-4-octene	0.02	0.02	0.02	0.02	0.02	0.02	4%
8	unidentified	1.06	0.89	0.87	0.86	0.76	0.89	12%
9	1,1,2-trimethylcyclohexane	0.06	0.07	0.06	0.07	0.06	0.06	7%
9	1,1,3-trimethylcyclohexane		0.02	0.01	0.01	0.01	0.01	4%
9	1,1,4-trimethylcyclohexane		0.08	0.08	0.08	0.08	0.08	2%
9	1,2,3-trimethylbenzene	0.43	0.45	0.45	0.46	0.42	0.44	4%
9	1,2,4-trimethylbenzene	2.39	2.48	2.50	2.51	2.32	2.44	3%
9	1,3,5-trimethylbenzene	0.81	0.85	0.85	0.85	0.80	0.83	3%
9	1-methyl-2-ethylbenzene	0.67	0.70	0.70	0.70	0.65	0.68	3%
9	1-methyl-3-ethylbenzene	1.54	1.60	1.60	1.61	1.50	1.57	3%
9	1-methyl-4-ethylbenzene	0.65	0.68	0.68	0.68	0.64	0.67	3%
9	1c,3c,5c-trimethylcyclohexane		0.08	0.08	0.08	0.08	0.08	5%
9	2,2,3,trimethylhexane		0.05	0.05	0.05	0.05	0.05	3%
9	2,2,4-trimethylhexane	0.01	0.01	0.01	0.01	0.01	0.01	7%

9	2,2,5-trimethylhexane	1.95	1.98	1.98	1.98	1.91	1.96	2%
9	2,2-dimethylheptane					0.00	0.00	
9	2,3,4-trimethylhexane	0.34	0.35	0.35	0.35	0.33	0.34	2%
9	2,3-dimethylheptane	1.92	0.09	0.09	0.09	0.09	0.46	179%
9	2,4-dimethylheptane	0.04	0.01	0.00	0.00	0.00	0.01	133%
9	2,5-dimethylheptane		0.16	0.15	0.15	0.15	0.15	2%
9	2,6-dimethylheptane		0.02	0.02	0.02	0.02	0.02	3%
9	2-methyloctane	0.05	0.14	0.14	0.14	0.13	0.12	33%
9	2-methyloctene-2	0.00					0.00	
9	3,3-dimethylheptane	0.14	0.03	0.03	0.03	0.03	0.05	91%
9	3,4-dimethylheptane	0.04	0.05	0.05	0.05	0.04	0.04	12%
9	3,5-dimethylheptane	0.02					0.02	
9	3-ethylheptane	0.04	0.04	0.04	0.04	0.04	0.04	4%
9	3-methyloctane	0.14	0.15	0.15	0.15	0.14	0.14	3%
9	4,4-dimethylheptane		0.05	0.04	0.05	0.04	0.05	4%
9	4-ethylheptane	0.00	0.01	0.01	0.01	0.01	0.01	32%
9	4-methyloctane	0.04	0.10	0.10	0.10	0.09	0.09	28%
9	c-1,c-3,5-trimethylcyclohexa	0.02					0.02	
9	c1,t2,c4-trimethylcyclohexan	0.01	0.01	0.01	0.01	0.01	0.01	13%
9	c9 internal alkenes	0.01					0.01	
9	ethylmethylcyclohexane	0.05	0.07	0.07	0.07	0.07	0.06	12%
9	i-butylcyclopentane	0.03	0.02	0.02	0.02	0.02	0.02	18%
9	indene	0.22	0.23	0.23	0.23	0.21	0.22	3%
9	isopropylbenzene (cumene)	0.06	0.06	0.06	0.06	0.06	0.06	3%
9	n-butylcyclopentane	0.01	0.01	0.01	0.01	0.01	0.01	4%
9	n-nonane	0.11	0.12	0.12	0.12	0.11	0.11	4%
9	n-propylbenzene	0.39	0.41	0.40	0.41	0.38	0.40	3%
9	propylcyclohexane	0.01	0.01	0.01	0.01	0.01	0.01	16%
9	trans-2-nonene	0.01	0.01	0.01	0.01	0.01	0.01	12%
10	1,2,3,5-tetramethylbenzene	0.19	0.21	0.21	0.21	0.19	0.20	5%
10	1,2,4,5-tetramethylbenzene	0.14	0.16	0.16	0.16	0.15	0.15	5%
10	1,2-diethylbenzene (ortho)	0.02	0.02	0.02	0.02	0.02	0.02	9%
10	1,2-dimethyl-3-ethylbenzene	0.06	0.08	0.07	0.07	0.07	0.07	7%
10	1,2-dimethyl-4-ethylbenzene	0.36	0.39	0.39	0.39	0.36	0.38	5%
10	1,2-methyl-n-propylbenzene	0.09	0.10	0.10	0.09	0.09	0.09	5%
10	1,3-diethylbenzene (meta)	0.12	0.13	0.13	0.12	0.11	0.12	5%
10	1,3-dimethyl-2-ethylbenzene	0.02	0.02	0.02	0.02	0.02	0.02	6%
10	1,3-dimethyl-4-ethylbenzene	0.21	0.23	0.23	0.23	0.27	0.23	8%
10	1,3-dimethyl-5-ethylbenzene	0.28	0.30	0.30	0.30	0.28	0.29	4%
10	1,4-dimethyl-2-ethylbenzene	0.17	0.18	0.18	0.18	0.17	0.18	4%
10	1-methyl-2-isopropylbenzene	0.02	0.02	0.01	0.01	0.01	0.02	13%
10	1-methyl-2n-propylbenzene	0.03	0.03	0.03	0.03	0.03	0.03	6%
10	1-methyl-3-isopropylbenzene	0.03	0.04	0.03	0.03	0.03	0.03	8%
10	1-methyl-3n-propylbenzene	0.36	0.38	0.38	0.38	0.35	0.37	5%
10	1-methyl-4-isopropylbenzene	0.01	0.02	0.01	0.01	0.01	0.01	13%
10	1-methyl-4n-propylbenzene	0.15	0.17	0.16	0.16	0.20	0.17	10%
10	2,2-dimethyloctane	0.02	0.02	0.02	0.02	0.02	0.02	4%
10	2,4-dimethyloctane	0.01	0.01	0.01	0.01	0.01	0.01	6%
10	2,5-dimethyloctane	0.03	0.04	0.03	0.03	0.03	0.03	3%

10	2,6-dimethyloctane	0.02	0.02	0.02	0.02	0.02	0.02	3%
10	2-methylindan	0.10	0.11	0.11	0.11	0.10	0.10	5%
10	2-methylnonane	0.07	0.08	0.07	0.07	0.07	0.07	4%
10	3,3-dimethyloctane	0.04	0.04	0.04	0.04	0.04	0.04	4%
10	3,6-dimethyloctane	0.01	0.01	0.01	0.01	0.01	0.01	10%
10	3-ethyloctane	0.01	0.01	0.01	0.01	0.01	0.01	18%
10	3-methyl-5-ethylheptane	0.01	0.01	0.01	0.01	0.01	0.01	21%
10	3-methylnonane	0.07	0.07	0.07	0.07	0.07	0.07	4%
10	4-methylindan	0.02	0.03	0.03	0.03	0.02	0.03	6%
10	5-methylindan	0.11	0.12	0.12	0.12	0.11	0.11	6%
10	5-methylnonane	0.02	0.03	0.03	0.02	0.03	0.03	10%
10	butylcyclohexane	0.01	0.01	0.01	0.01	0.01	0.01	16%
10	dihydronaphthalene	0.01	0.01	0.01	0.01	0.01	0.01	7%
10	isobutylbenzene	0.03	0.03	0.02	0.03	0.02	0.03	4%
10	n-butylbenzene	0.05	0.05	0.06	0.05		0.05	3%
10	n-decane	0.07	0.07	0.06	0.07	0.06	0.07	8%
10	naphthalene	0.14	0.15	0.15	0.15	0.14	0.15	5%
10	sec-butylbenzene	0.03	0.04	0.03	0.03	0.05	0.04	22%
10	sec-butylcyclohexane					0.01	0.01	
10	t-2,2,5,5-tetram-3-hexene	0.01	0.01	0.01	0.01	0.01	0.01	34%
10	t-decahydronaphthalene	0.01	0.01	0.01	0.01	0.01	0.01	10%
11	1-ethyl-2-isopropylbenzene	0.01	0.01	0.01	0.01	0.01	0.01	23%
11	1-methyl-2-n-butylbenzene	0.01	0.01	0.01	0.01	0.01	0.01	8%
11	1-methyl-2-t-butylbenzene	0.03	0.03	0.03	0.03	0.03	0.03	6%
11	1-methyl-4-t-butylbenzene	0.02	0.02	0.02	0.02	0.02	0.02	6%
11	1-methylnaphthalene	0.03	0.04	0.04	0.04	0.03	0.03	6%
11	1-undecene	0.01	0.02	0.02	0.01	0.01	0.02	12%
11	2-methylnaphthalene	0.07	0.08	0.08	0.08	0.07	0.07	6%
11	3-ethylnonane	0.00	0.00				0.00	19%
11	n-pentylbenzene	0.02	0.01	0.01	0.01	0.01	0.01	43%
11	n-undecane	0.04	0.05	0.05	0.05	0.05	0.05	7%
11	pentamethylbenzene	0.01	0.01	0.00	0.00	0.01	0.01	59%
11	s-pentylbenzene	0.02	0.02	0.02	0.02	0.02	0.02	7%
12	1,2,4-triethylbenzene	0.00		0.00	0.00	0.00	0.00	8%
12	1,2-isodipropylbenzene	0.01	0.01	0.01	0.01	0.01	0.01	7%
12	1,3,5-triethylbenzene			0.00	0.00	0.00	0.00	15%
12	1,3-dipropylbenzene	0.01	0.02	0.01	0.01	0.01	0.01	7%
12	1,3-isodipropylbenzene	0.05	0.05	0.05	0.05	0.05	0.05	5%
12	1,4-di-i-propylbenzene	0.02	0.02	0.02	0.02	0.02	0.02	6%
12	1-methyl-4-n-pentylbenzene	0.01	0.01			0.01	0.01	5%
12	n-dodecane	0.01	0.01	0.01	0.01	0.01	0.01	5%
13	c13 internal alkenes		0.00				0.00	
13	n-tridecane		0.00				0.00	
13	tridecene-1	0.00					0.00	
	sum	100.03	100.00	100.04	100.04	100.01	101.23	
	MIR	2.40	2.59	2.60	2.61	2.55	2.55	3%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).

The COVs were calculated before the mean and standard deviation were rounded.

MIR means Maximum Incremental Reactivity (g ozone/g NMOG).

Table 6. Liquid Gasoline Organic Gas Species Test Results.
(Et2.0%, Weight Percent)

CNUM	CHEMNAME	BARREL1	BARREL2	BARREL3	BARREL4	BARREL5	MEAN	COV
2	ethyl alcohol	6.30	6.50	6.38	5.85	6.69	6.34	5%
3	acetone					0.00	0.00	
3	propane	0.00		0.00		0.00	0.00	7%
3	propylene		0.00		0.00		0.00	0%
4	1-butene	0.00	0.00	0.00	0.00	0.00	0.00	5%
4	cis-2-butene	0.00	0.00	0.00	0.00	0.00	0.00	5%
4	isobutane	0.03	0.03	0.03	0.03	0.03	0.03	3%
4	isobutylene	0.00	0.00	0.00	0.00	0.00	0.00	7%
4	n-butane	0.37	0.38	0.37	0.37	0.39	0.38	2%
4	trans-2-butene	0.00	0.00	0.00	0.00	0.00	0.00	5%
5	1-pentene	0.00	0.00	0.00	0.00	0.00	0.00	2%
5	2,2-dimethylpropane	0.01	0.01	0.01	0.01	0.01	0.01	2%
5	2-methyl-1-butene	0.01	0.01	0.01	0.01	0.01	0.01	2%
5	2-methyl-2-butene	0.01	0.01	0.01	0.01	0.01	0.01	2%
5	3-methyl-1-butene	0.04	0.03	0.06	0.05		0.04	30%
5	cis-2-pentene	0.00	0.00	0.00	0.00	0.00	0.00	2%
5	cyclopentane	0.80	0.82	0.81	0.80	0.83	0.81	2%
5	cyclopentene	0.00	0.00	0.00	0.00	0.00	0.00	3%
5	isopentane	8.06	8.24	8.00	8.06	8.32	8.14	2%
5	isoprene		0.00	0.00	0.00		0.00	0%
5	methyl t-butyl ether (MTBE)	0.10	0.10	0.10	0.10	0.10	0.10	1%
5	n-pentane	2.26	2.31	2.30	2.30	2.35	2.31	2%
5	trans-2-pentene	0.01	0.01	0.01	0.01	0.01	0.01	2%
6	1-hexene	0.00	0.00	0.00	0.00	0.00	0.00	13%
6	1-methylcyclopentene	0.00	0.01	0.01	0.00	0.00	0.00	2%
6	2,2-dimethylbutane	2.92	2.98	2.97	2.96	3.02	2.97	1%
6	2,3-dimethylbutane	2.39	2.44	2.43	2.42	2.47	2.43	1%
6	2-methyl-1-pentene	0.00	0.00	0.00	0.00	0.00	0.00	14%
6	2-methyl-2-pentene	0.01	0.01	0.01	0.01	0.01	0.01	3%
6	2-methylpentane	8.15	8.29	8.28	8.22	8.38	8.27	1%
6	3-methyl-1-pentene	0.00	0.00	0.00	0.00	0.00	0.00	5%
6	3-methyl-cis-2-pentene	0.00	0.00	0.00	0.00	0.00	0.00	3%
6	3-methyl-trans-2-pentene	0.00	0.00	0.00	0.00		0.00	12%
6	3-methylcyclopentene	0.00	0.00	0.00	0.00	0.00	0.00	13%
6	3-methylpentane	5.15	5.25	5.23	5.20	5.30	5.22	1%
6	4-methyl-1-pentene	0.00	0.00	0.00	0.00	0.00	0.00	5%
6	4-methyl-trans-2-pentene					0.00	0.00	
6	benzene	0.56	0.57	0.57	0.56	0.58	0.57	1%
6	cis-2-hexene	0.00	0.00	0.00	0.00	0.00	0.00	4%
6	cis-3-hexene	0.00	0.00			0.00	0.00	0%
6	cyclohexane	1.10	1.12	1.12	1.12	1.13	1.12	1%
6	cyclohexene					0.00	0.00	
6	methylcyclopentane	3.80	3.87	3.86	3.84	3.90	3.85	1%
6	n-hexane	1.25	1.27	1.26	1.27	1.28	1.27	1%
6	trans-2-hexene	0.00	0.00	0.00	0.00	0.00	0.00	2%
6	trans-3-hexene	0.00	0.00	0.00	0.00	0.00	0.00	17%

7	1-t-2-dimethylcyclopentane	0.46	0.47	0.46	0.46	0.47	0.46	1%
7	1-t-3-dimethylcyclopentane	0.43	0.44	0.44	0.43	0.44	0.44	1%
7	2,2,3-trimethylbutane	0.04	0.04	0.04	0.04	0.04	0.04	1%
7	2,2-dimethylpentane	0.15	0.15	0.15	0.15	0.16	0.15	2%
7	2,3-dimethylpentane	1.19	1.20	1.20	1.19	1.20	1.19	0%
7	2,4-dimethylpentane	0.69	0.70	0.70	0.69	0.70	0.70	1%
7	2-methyl-cis-3-hexene	0.00	0.00	0.00	0.00	0.00	0.00	3%
7	2-methyl-trans-3-hexene	0.00	0.00	0.00	0.00	0.00	0.00	4%
7	2-methylhexane	1.76	1.78	1.78	1.78	1.78	1.78	0%
7	3,3-dimethyl-1-pentene	0.00	0.01	0.01	0.01	0.01	0.01	2%
7	3,3-dimethylpentane	0.13	0.13	0.13	0.13	0.13	0.13	1%
7	3,4-dimethyl-2-pentene	0.00	0.00	0.00	0.00	0.00	0.00	17%
7	3-ethyl-2-pentene	0.00	0.00	0.00	0.00	0.00	0.00	9%
7	3-ethylpentane	0.17	0.17	0.17	0.17	0.17	0.17	1%
7	3-methyl-1-hexene	0.00	0.00	0.00	0.00	0.00	0.00	20%
7	3-methyl-cis-2-hexene	0.02	0.02	0.02	0.02	0.02	0.02	1%
7	3-methyl-cis-3-hexene	0.00	0.00	0.00	0.00	0.00	0.00	4%
7	3-methyl-trans-2-hexene	0.01	0.01	0.01	0.01	0.01	0.01	1%
7	3-methyl-trans-3-hexene	0.01	0.01	0.01	0.01	0.01	0.01	3%
7	3-methylhexane	1.98	2.00	2.00	2.00	2.00	2.00	0%
7	4,4-dimethyl-c-pentene-2	0.00	0.00	0.00	0.00	0.00	0.00	6%
7	4-methyl-1-hexene	0.00	0.00	0.00	0.00	0.00	0.00	5%
7	4-methyl-trans-2-hexene	0.01	0.01	0.01	0.01	0.01	0.01	3%
7	cis-2-heptene	0.01	0.01	0.01	0.01	0.01	0.01	3%
7	dimethylcyclopentane	0.08	0.09	0.09	0.09	0.09	0.09	1%
7	ethylcyclopentane	0.21	0.21	0.21	0.21	0.21	0.21	1%
7	methylcyclohexane	1.44	1.45	1.45	1.44	1.45	1.45	0%
7	n-heptane	1.44	1.45	1.45	1.45	1.45	1.45	0%
7	toluene	6.16	6.17	6.16	6.28	6.08	6.17	1%
7	trans-2-heptene	0.00	0.01	0.00	0.00	0.00	0.00	6%
7	trans-3-heptene	0.01	0.01	0.01	0.01	0.01	0.01	2%
8	1,1,2-trimethylcyclopentane	0.00	0.01	0.00	0.00	0.00	0.00	6%
8	1,1-dimethylcyclohexane	0.02	0.02	0.02	0.02	0.02	0.02	2%
8	1,1-methylethylcyclopentane	0.01	0.01	0.01	0.01	0.01	0.01	12%
8	1c,2c,3-trimethylcyclopentan	0.01	0.01	0.01	0.01	0.01	0.01	4%
8	1c,2c,4-trimethylcyclopentan	0.03	0.03		0.03	0.06	0.03	48%
8	1c,2t,3-trimethylcyclopentan	0.43	0.43	0.48	0.43	0.47	0.45	6%
8	1c,2t,4-trimethylcyclopentan	0.19	0.19	0.19	0.19	0.19	0.19	0%
8	1t,2c,3-trimethylcyclopentan	0.11	0.11	0.11	0.11	0.11	0.11	0%
8	2,2,4-trimethylpentane	2.60	2.61	2.61	2.64	2.60	2.61	1%
8	2,2-dimethylhexane	0.16	0.16	0.16	0.16	0.16	0.16	1%
8	2,3,3-trimethylpentane	0.80	0.79	0.83	0.81	0.85	0.82	3%
8	2,3,4-trimethylpentane	1.09	1.09	1.09	1.10	1.08	1.09	1%
8	2,3-dimethylhexane	0.46	0.46	0.46	0.46	0.46	0.46	1%
8	2,4-dimethylhexane	0.56	0.56	0.56	0.56	0.56	0.56	0%
8	2,5-dimethylhexane	0.54	0.55	0.54	0.55	0.54	0.54	1%
8	2-methylheptane	0.71	0.71	0.71	0.71	0.70	0.71	1%
8	3,3-dimethylhexane	0.07	0.07	0.07	0.07	0.07	0.07	1%
8	3,4-dimethylhexane	0.07	0.07	0.07	0.07	0.07	0.07	1%
8	3-ethylhexane	0.06	0.05		0.05		0.05	7%

9	3-methyloctane	0.27	0.27	0.27	0.27	0.26	0.27	2%
9	4,4-dimethylheptane	0.04	0.05			0.04	0.04	1%
9	4-ethylheptane	0.00	0.00	0.00	0.00	0.00	0.00	5%
9	4-methyloctane	0.20	0.19	0.19	0.20	0.19	0.19	2%
9	c-1,c-3,5-trimethylcyclohexa			0.02	0.02		0.02	3%
9	c1,t2,c4-trimethylcyclohexan	0.02	0.03	0.03	0.03	0.02	0.03	12%
9	c9 internal alkenes			0.03	0.03		0.03	1%
9	ethylmethylcyclohexane	0.12	0.12	0.12	0.12	0.12	0.12	1%
9	i-butylcyclopentane	0.02	0.02	0.02	0.02	0.02	0.02	2%
9	indene	0.27	0.26	0.26	0.27	0.25	0.26	2%
9	isopropylbenzene (cumene)	0.12	0.12	0.12	0.12	0.12	0.12	2%
9	n-butylcyclopentane	0.02	0.02	0.02	0.01	0.01	0.01	3%
9	n-nonane	0.23	0.23	0.23	0.23	0.22	0.23	2%
9	n-propylbenzene	0.52	0.50	0.51	0.52	0.50	0.51	2%
9	propylcyclohexane	0.02	0.02	0.02	0.02	0.02	0.02	3%
9	trans-2-methyl-3-octene		0.00	0.00	0.00	0.00	0.00	10%
9	trans-2-nonene	0.02	0.02	0.02	0.02	0.02	0.02	4%
10	1,2,3,5-tetramethylbenzene	0.32	0.29	0.30	0.31	0.29	0.30	4%
10	1,2,4,5-tetramethylbenzene	0.24	0.22	0.23	0.23	0.22	0.23	4%
10	1,2-diethylbenzene (ortho)	0.03	0.03	0.03	0.03	0.03	0.03	3%
10	1,2-dimethyl-3-ethylbenzene	0.11	0.10	0.10	0.10	0.10	0.10	3%
10	1,2-dimethyl-4-ethylbenzene	0.43	0.41	0.42	0.43	0.40	0.42	3%
10	1,2-methyl-n-propylbenzene	0.13	0.13	0.13	0.13	0.12	0.13	4%
10	1,3-diethylbenzene (meta)	0.15	0.15	0.15	0.15	0.14	0.15	3%
10	1,3-dimethyl-2-ethylbenzene	0.03	0.02	0.02	0.02	0.02	0.02	4%
10	1,3-dimethyl-4-ethylbenzene	0.28	0.26	0.27	0.27	0.25	0.27	3%
10	1,3-dimethyl-5-ethylbenzene	0.38	0.36	0.37	0.37	0.35	0.37	3%
10	1,4-dimethyl-2-ethylbenzene	0.23	0.21	0.22	0.22	0.21	0.22	3%
10	1-methyl-2-isopropylbenzen	0.02	0.02	0.02	0.02	0.02	0.02	7%
10	1-methyl-2n-propylbenzene	0.06	0.06	0.06	0.06	0.05	0.06	4%
10	1-methyl-3-isopropylbenzen	0.08	0.08	0.08	0.08	0.08	0.08	3%
10	1-methyl-3n-propylbenzene	0.43	0.41	0.42	0.43	0.40	0.42	3%
10	1-methyl-4-isopropylbenzen	0.02	0.03	0.02	0.02	0.02	0.02	10%
10	1-methyl-4n-propylbenzene	0.23	0.22	0.22	0.23	0.22	0.22	3%
10	2,2-dimethyloctane	0.04	0.04	0.04	0.04	0.04	0.04	7%
10	2,4-dimethyloctane	0.01		0.01	0.01		0.01	11%
10	2,5-dimethyloctane	0.06	0.06	0.06	0.06	0.06	0.06	3%
10	2,6-dimethyloctane	0.05	0.05	0.05	0.05	0.05	0.05	3%
10	2-methylindan	0.18	0.16	0.17	0.17	0.16	0.17	3%
10	2-methylnonane	0.08	0.08	0.08	0.08	0.08	0.08	2%
10	3,3-dimethyloctane	0.08	0.08	0.08	0.08	0.08	0.08	2%
10	3,6-dimethyloctane	0.02	0.02	0.02	0.02	0.02	0.02	3%
10	3-ethyloctane	0.02	0.02	0.02	0.02	0.02	0.02	7%
10	3-methyl-5-ethylheptane	0.02	0.02	0.02	0.02	0.02	0.02	5%
10	3-methylnonane	0.08	0.08	0.08	0.08	0.08	0.08	2%
10	4-methylindan	0.04	0.04	0.04	0.04	0.04	0.04	4%
10	5-methylindan	0.16	0.14	0.15	0.15	0.14	0.15	4%
10	5-methylnonane	0.03	0.03	0.03	0.03	0.03	0.03	2%
10	butylcyclohexane	0.02	0.02	0.02	0.02	0.02	0.02	5%

10	dihydronaphthalene	0.00	0.00	0.00	0.00	0.00	0.00	21%
10	isobutylbenzene	0.05	0.05	0.05	0.05	0.05	0.05	2%
10	n-butylbenzene	0.12	0.11	0.12	0.12	0.11	0.11	3%
10	n-decane	0.06	0.06	0.06	0.06	0.06	0.06	2%
10	naphthalene	0.25	0.23	0.24	0.25	0.23	0.24	3%
10	sec-butylbenzene	0.08	0.08	0.07	0.07	0.07	0.07	7%
10	sec-butylcyclohexane		0.01	0.01	0.01	0.01	0.01	15%
10	t-decahydronaphthalene	0.01	0.01	0.01	0.01	0.01	0.01	6%
10	t1-methyl-2n-propylcyclohex	0.01	0.01	0.01	0.01	0.01	0.01	10%
11	1-ethyl-2-isopropylbenzene	0.01	0.01	0.01	0.01	0.01	0.01	11%
11	1-methyl-2-n-butylbenzene	0.01	0.01	0.01	0.01	0.01	0.01	5%
11	1-methyl-2-t-butylbenzene	0.01	0.01	0.01	0.01	0.01	0.01	6%
11	1-methyl-4-t-butylbenzene	0.03	0.03	0.03	0.03	0.03	0.03	3%
11	1-methylnaphthalene	0.11	0.10	0.11	0.11	0.10	0.11	5%
11	1-undecene	0.01	0.01	0.01	0.01	0.00	0.01	7%
11	2-methylnaphthalene	0.23	0.22	0.22	0.23	0.21	0.22	4%
11	n-pentylbenzene	0.03	0.03	0.03	0.03	0.01	0.03	25%
11	n-undecane	0.01	0.01	0.01	0.01	0.01	0.01	5%
11	pentamethylbenzene	0.04	0.04	0.04	0.04	0.04	0.04	4%
11	s-pentylbenzene	0.04	0.04	0.04	0.04	0.04	0.04	4%
12	1,2,4-triethylbenzene	0.00	0.00	0.00	0.00	0.00	0.00	16%
12	1,2-isodipropylbenzene	0.03	0.03	0.03	0.03	0.03	0.03	5%
12	1,3,5-triethylbenzene			0.00	0.00	0.00	0.00	3%
12	1,3-dipropylbenzene	0.05	0.04	0.05	0.05	0.04	0.05	5%
12	1,3-isodipropylbenzene	0.09	0.08	0.09	0.09	0.08	0.09	4%
12	1,4-di-i-propylbenzene	0.03	0.03	0.03	0.03	0.03	0.03	4%
12	1-methyl-4-n-pentylbenzene	0.05	0.04	0.04	0.05	0.04	0.04	5%
12	n-dodecane	0.00	0.00	0.00	0.00	0.00	0.00	8%
12	n-hexylbenzene	0.00	0.00	0.00	0.00	0.00	0.00	39%
13	c13 internal alkenes	0.01						
	sum	100.00	100.06	100.07	100.07	100.04	103.23	
	MIR	2.44	2.61	2.45	2.47	2.59	2.51	3%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).

Table 7. Gasoline Headspace Organic Gas Species Test Results.

(MTBE, Weight Percent)

NAME	BARREL1	BARREL2	MEAN	COV
ethane	0.17	0.13	0.15	18%
propane	0.36	0.24	0.30	28%
butanes	16.14	11.58	13.86	23%
pentanes	49.06	44.80	46.93	6%
c6+ br-alkanes	10.95	17.46	14.21	32%
c6+ n-alkanes	1.60	2.53	2.07	32%
ethene	0.04	0.03	0.04	17%
propene	0.09	0.06	0.08	28%
1,3-butadiene	0.05	0.00	0.02	141%
c4+ alkenes	4.05	3.95	4.00	2%
acetylene	0.00	0.00	0.00	n/a
benzene	0.34	0.56	0.45	35%
alkynes	0.00	0.00	0.00	n/a
toluene	0.34	0.87	0.60	62%
c8+ aromatics	0.15	0.30	0.22	46%
MTBE	16.71	17.44	17.08	3%
ethanol	0.00	0.00	0.00	n/a
ethers	0.00	0.00	0.00	n/a
styrenes	0.00	0.00	0.00	n/a
isoprene	0.00	0.03	0.01	141%
sum	100.06	100.00	100.03	
MIR	1.46	1.48	1.47	1%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).

Table 8. Gasoline Headspace Organic Gas Species Test Results.

(NonOxy, Weight Percent)

NAME	BARREL1	BARREL2	BARREL3	BARREL4	BARREL5	BARREL6	MEAN	COV
ethane	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
propane	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
butanes	12.53	10.37	12.13	9.88	10.14	8.50	11.01	0.11
pentanes	63.22	59.57	61.96	57.62	59.56	54.09	60.39	0.04
c6+ br-alkanes	20.00	24.24	20.99	25.88	24.64	29.35	23.15	0.11
c6+ n-alkanes	1.45	1.93	1.59	2.12	2.00	2.57	1.82	0.16
ethene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
propene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
1,3-butadiene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
c4+ alkenes	1.96	2.14	1.97	2.19	2.15	2.36	2.08	5%
acetylene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
benzene	0.15	0.20	0.17	0.23	0.22	0.27	0.19	16%
alkynes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
toluene	0.54	1.10	0.89	1.50	1.01	2.11	1.01	34%
c8+ aromatics	0.20	0.66	0.36	0.65	0.28	0.81	0.43	50%
MTBE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
ethanol	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
ethers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
styrenes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
isoprene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
sum	100.05	100.20	100.07	100.07	100.00	100.06	100.08	
MIR	1.40	1.45	1.42	1.47	1.44	1.51	1.45	3%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).

Table 9. Gasoline Headspace Organic Gas Species Test Results.
(Et2.0%, Weight Percent)

NAME	BARREL1	BARREL2	BARREL3	BARREL4	BARREL5	BARREL6	MEAN	COV
ethane	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
propane	0.05	0.05	0.04	0.04	0.05	0.04	0.05	0.08
butanes	4.41	4.55	4.09	3.99	4.70	3.90	4.35	0.07
pentanes	45.09	45.63	42.38	42.01	47.27	41.47	44.48	0.05
c6+ br-alkanes	35.83	35.37	36.46	36.93	35.01	37.25	35.92	0.02
c6+ n-alkanes	1.55	1.51	1.68	1.70	1.50	1.78	1.59	0.06
ethene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
propene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
1,3-butadiene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
c4+ alkenes	0.23	0.25	0.27	0.28	0.25	0.29	0.26	8%
acetylene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
benzene	0.37	0.36	0.41	0.41	0.37	0.43	0.39	6%
alkynes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
toluene	1.13	1.09	1.37	1.38	0.91	1.52	1.18	17%
c8+ aromatics	0.61	0.55	1.06	0.75	0.41	0.88	0.67	37%
MTBE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
ethanol	10.80	10.68	12.35	12.56	9.55	12.50	11.19	11%
ethers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
styrenes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
isoprene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
sum	100.06	100.05	100.10	100.05	100.02	100.07	100.06	
MIR	1.42	1.42	1.45	1.44	1.41	1.45	1.43	1%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).

Table 10. Gasoline Headspace Organic Gas Species Test Results.

(MTBE, Weight Percent)

CNUM	CHEMNAME	BARREL1	BARREL2	MEAN	COV
2	ethane	0.17	0.13	0.15	18%
2	ethylene	0.04	0.03	0.04	17%
3	propane	0.36	0.24	0.30	28%
3	propylene	0.09	0.06	0.08	28%
4	1,3-butadiene	0.05	0.00	0.02	141%
4	1-butene	0.32	0.22	0.27	26%
4	cis-2-butene	0.53	0.38	0.45	23%
4	isobutane	4.41	3.06	3.74	26%
4	isobutylene	0.56	0.58	0.57	3%
4	n-butane	11.73	8.53	10.13	22%
4	trans-2-butene	0.61	0.43	0.52	23%
5	1-pentene	0.21	0.17	0.19	13%
5	2,2-dimethylpropane	0.07	0.05	0.06	25%
5	2-methyl-1-butene	0.30	0.07	0.19	87%
5	2-methyl-2-butene	0.53	0.74	0.63	23%
5	3-methyl-1-butene	0.09	0.07	0.08	11%
5	cis-2-pentene	0.21	0.20	0.21	4%
5	cyclopentane	0.00	0.96	0.48	141%
5	cyclopentene	0.07	0.07	0.07	4%
5	isopentane	35.97	31.80	33.88	9%
5	isoprene	0.00	0.03	0.01	141%
5	methyl t-butyl ether (MTBE)	16.71	17.44	17.08	3%
5	n-pentane	13.03	12.00	12.51	6%
5	trans-1,3-pentadiene	0.00	0.02	0.00	141%
5	trans-2-pentene	0.39	0.37	0.38	3%
6	1-hexene	0.00	0.03	0.01	141%
6	2,2-dimethylbutane	0.16	0.19	0.17	12%
6	2,3-dimethylbutane	0.86	1.41	1.14	34%
6	2-methyl-1-pentene	0.04	0.05	0.04	20%
6	2-methyl-2-pentene	0.06	0.09	0.08	25%
6	2-methylpentane	3.89	4.96	4.43	17%
6	3-methyl-1-pentene	0.00	0.04	0.02	141%
6	3-methylcyclopentene	0.04	0.05	0.04	26%
6	3-methylpentane	2.01	2.73	2.37	22%
6	4-methyl-trans-2-pentene	0.03	0.04	0.04	12%
6	benzene	0.34	0.56	0.45	35%
6	cis-2-hexene	0.00	0.03	0.02	141%
6	cyclohexane	0.35	0.65	0.50	41%
6	cyclohexene	0.03	0.06	0.04	41%
6	methylcyclopentane	1.54	2.39	1.96	31%
6	n-hexane	1.47	2.19	1.83	28%
6	trans-2-hexene	0.04	0.06	0.05	26%
6	trans-3-hexene	0.00	0.04	0.02	141%

7	1-c-3-dimethylcyclopentane	0.14	0.29	0.21	50%
7	1-t-3-dimethylcyclopentane	0.16	0.33	0.25	51%
7	2,2,3-trimethylbutane	0.00	0.02	0.00	141%
7	2,3-dimethylpentane	0.26	0.54	0.40	50%
7	2,4-dimethyl-2-pentene	0.00	0.02	0.01	141%
7	2,4-dimethylpentane	0.29	0.52	0.41	41%
7	2-methyl-2-hexene	0.00	0.03	0.01	141%
7	2-methylhexane	0.30	0.66	0.48	53%
7	3-ethylpentane	0.15	0.37	0.26	61%
7	3-methyl-cis-2-hexene	0.00	0.03	0.02	141%
7	3-methylhexane	0.30	0.65	0.47	53%
7	ethylcyclopentane	0.00	0.07	0.03	141%
7	methylcyclohexane	0.19	0.47	0.33	60%
7	n-heptane	0.13	0.31	0.22	59%
7	toluene	0.34	0.87	0.60	62%
7	trans-3-heptene	0.00	0.04	0.02	141%
8	1,2,4-trimethylcyclopentene	0.00	0.04	0.02	141%
8	1c,2t,3-trimethylcyclopentan	0.00	0.02	0.01	141%
8	2,2,4-trimethylpentane	0.24	0.57	0.40	58%
8	2,2-dimethylhexane	0.00	0.04	0.02	141%
8	2,3,4-trimethylpentane	0.05	0.14	0.09	67%
8	2,3-dimethylhexane	0.00	0.04	0.02	141%
8	2,4-dimethylhexane	0.04	0.09	0.06	63%
8	2,5-dimethylhexane	0.05	0.07	0.06	23%
8	2-methylheptane	0.00	0.06	0.03	141%
8	3-methylheptane	0.00	0.06	0.03	141%
8	4-methylheptane	0.00	0.02	0.01	141%
8	cis-1,3-dimethylcyclohexane	0.00	0.03	0.01	141%
8	ethylbenzene	0.00	0.05	0.03	141%
8	m-xylene	0.04	0.18	0.11	87%
8	n-octane	0.00	0.03	0.01	141%
8	o-xylene	0.00	0.05	0.03	141%
9	1,2,4-trimethylbenzene	0.00	0.02	0.00	141%
9	1-methyl-4-ethylbenzene	0.06	0.00	0.03	141%
9	2,2,5-trimethylhexane	0.00	0.03	0.02	141%
9	p-ethyltoluene (99914)	0.06	0.00	0.03	141%
	sum	100.11	99.98	99.99	
	MIR	1.46	1.48	1.47	1%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).

Table 11. Gasoline Headspace Organic Gas Species Test Results.

(NonOxy, Weight Percent)

CNUM	CHEMNAME	BARREL1	BARREL2	BARREL3	BARREL4	BARREL5	BARREL6	MEAN	COV
4	cis-2-butene	0.00	0.02	0.00	0.00	0.00	0.00	0.00	245%
4	isobutane	1.20	0.97	1.16	0.93	0.94	0.78	1.00	16%
4	n-butane	11.33	9.40	10.96	8.95	9.20	7.72	9.59	14%
4	trans-2-butene	0.00	0.02	0.00	0.02	0.00	0.02	0.01	110%
5	1-pentene	0.10	0.10	0.09	0.08	0.09	0.08	0.09	10%
5	2,2-dimethylpropane	0.09	0.08	0.10	0.08	0.08	0.07	0.08	13%
5	2-methyl-1-butene	0.18	0.18	0.22	0.20	0.05	0.05	0.15	51%
5	2-methyl-2-butene	0.53	0.51	0.52	0.51	0.64	0.61	0.55	11%
5	3-methyl-1-butene	0.00	0.00	0.00	0.00	0.00	0.02	0.00	245%
5	cis-2-pentene	0.16	0.16	0.16	0.15	0.15	0.15	0.15	4%
5	cyclopentane	0.95	1.00	0.97	1.04	1.05	1.06	1.01	4%
5	cyclopentene	0.05	0.05	0.05	0.05	0.05	0.05	0.05	2%
5	isopentane	49.04	45.81	48.33	44.30	46.06	41.41	45.82	6%
5	n-pentane	13.14	12.69	12.57	12.21	12.37	11.54	12.42	4%
5	trans-2-pentene	0.27	0.26	0.27	0.26	0.26	0.25	0.26	3%
6	1-hexene	0.03	0.04	0.03	0.04	0.04	0.05	0.04	16%
6	2,2-dimethylbutane	5.45	5.71	5.36	5.77	5.80	5.82	5.65	3%
6	2,3-dimethyl-1-butene	0.06	0.07	0.06	0.06	0.04	0.05	0.06	17%
6	2,3-dimethylbutane	2.60	2.93	2.62	3.04	3.04	3.27	2.91	9%
6	2-methyl-1-pentene	0.08	0.10	0.09	0.11	0.11	0.12	0.10	13%
6	2-methyl-2-pentene	0.12	0.15	0.13	0.16	0.16	0.19	0.15	17%
6	2-methylpentane	5.62	6.55	5.64	6.74	6.68	7.39	6.44	11%
6	3-methyl-1-pentene	0.06	0.06	0.00	0.00	0.07	0.07	0.04	78%
6	3-methylcyclopentene	0.07	0.09	0.08	0.10	0.09	0.11	0.09	17%
6	3-methylpentane	2.77	3.32	2.84	3.49	3.43	3.91	3.29	13%
6	4-methyl-trans-2-pentene	0.05	0.06	0.06	0.07	0.07	0.08	0.07	15%
6	benzene	0.15	0.20	0.17	0.23	0.22	0.27	0.21	21%
6	cis-2-hexene	0.04	0.05	0.04	0.06	0.05	0.06	0.05	18%
6	cyclohexane	0.64	0.92	0.73	1.03	0.95	1.31	0.93	26%
6	cyclohexene	0.00	0.00	0.00	0.00	0.00	0.02	0.00	245%
6	methylcyclopentane	1.38	1.82	1.48	1.97	1.89	2.35	1.82	19%
6	n-hexane	1.37	1.78	1.47	1.92	1.86	2.27	1.78	18%
6	trans-2-hexene	0.07	0.09	0.08	0.10	0.10	0.12	0.09	18%
6	trans-3-hexene	0.05	0.07	0.06	0.07	0.07	0.09	0.07	18%
7	1-c-3-dimethylcyclopentane	0.00	0.03	0.03	0.04	0.03	0.06	0.03	58%
7	1-t-2-dimethylcyclopentane	0.00	0.03	0.03	0.04	0.00	0.00	0.02	113%
7	1-t-3-dimethylcyclopentane	0.00	0.04	0.03	0.05	0.04	0.06	0.04	58%
7	2,2,3-trimethylbutane	0.00	0.03	0.00	0.03	0.03	0.04	0.02	80%
7	2,3-dimethylpentane	0.22	0.36	0.28	0.43	0.37	0.59	0.37	34%
7	2,4-dimethyl-2-pentene	0.03	0.04	0.04	0.05	0.04	0.06	0.04	25%
7	2,4-dimethylpentane	0.28	0.40	0.32	0.45	0.42	0.58	0.41	26%
7	2-methyl-2-hexene	0.00	0.02	0.00	0.03	0.02	0.04	0.02	84%
7	2-methylhexane	0.19	0.33	0.25	0.39	0.32	0.53	0.34	35%
7	3-ethylpentane	0.00	0.03	0.00	0.03	0.06	0.11	0.04	105%
7	3-methyl-cis-2-hexene	0.00	0.00	0.00	0.02	0.00	0.03	0.00	158%
7	3-methylhexane	0.19	0.34	0.26	0.41	0.33	0.57	0.35	37%
7	4-methyl-trans-2-hexene	0.00	0.00	0.00	0.00	0.00	0.02	0.00	245%

7	ethylcyclopentane	0.00	0.00	0.00	0.00	0.00	0.02	0.00	245%
7	methylcyclohexane	0.05	0.10	0.08	0.13	0.10	0.18	0.11	42%
7	n-heptane	0.08	0.15	0.12	0.20	0.14	0.27	0.16	42%
7	toluene	0.54	1.10	0.89	1.50	1.01	2.11	1.19	46%
7	trans-3-heptene	0.00	0.00	0.00	0.02	0.02	0.03	0.01	115%
8	2,2,4-trimethylpentane	0.43	0.80	0.64	1.01	0.76	1.41	0.84	40%
8	2,2-dimethylhexane	0.00	0.00	0.00	0.00	0.00	0.02	0.00	245%
8	2,3,4-trimethylpentane	0.08	0.17	0.15	0.27	0.15	0.37	0.20	52%
8	2,3-dimethylhexane	0.00	0.04	0.03	0.06	0.04	0.09	0.04	71%
8	2,4-dimethylhexane	0.04	0.09	0.07	0.12	0.06	0.14	0.09	42%
8	2,5-dimethylhexane	0.03	0.07	0.06	0.10	0.06	0.14	0.08	50%
8	2-methylheptane	0.00	0.02	0.00	0.04	0.00	0.05	0.02	117%
8	3,4-dimethylhexane	0.00	0.00	0.00	0.00	0.00	0.02	0.00	245%
8	3-methylheptane	0.00	0.02	0.00	0.05	0.00	0.06	0.02	120%
8	4-methylheptane	0.00	0.00	0.00	0.00	0.00	0.02	0.00	245%
8	cis-1,3-dimethylcyclohexane	0.00	0.00	0.00	0.02	0.00	0.03	0.00	156%
8	ethylbenzene	0.00	0.05	0.04	0.09	0.05	0.12	0.06	72%
8	m-xylene	0.06	0.15	0.14	0.27	0.16	0.39	0.19	61%
8	n-octane	0.00	0.00	0.00	0.00	0.00	0.03	0.00	245%
8	o-xylene	0.00	0.04	0.04	0.09	0.05	0.12	0.06	73%
9	1,2,4-trimethylbenzene	0.00	0.00	0.00	0.05	0.02	0.05	0.02	119%
9	1,3,5-trimethylbenzene	0.00	0.00	0.00	0.02	0.00	0.02	0.00	155%
9	1-methyl-3-ethylbenzene	0.00	0.10	0.00	0.02	0.00	0.04	0.03	143%
9	1-methyl-4-ethylbenzene	0.05	0.10	0.07	0.05	0.00	0.02	0.05	77%
9	2,2,5-trimethylhexane	0.04	0.09	0.08	0.15	0.08	0.21	0.11	58%
9	2,3,5-trimethylhexane	0.00	0.00	0.00	0.00	0.00	0.03	0.00	245%
9	m-ethyltoluene (99912)	0.00	0.10	0.00	0.02	0.00	0.04	0.03	143%
9	p-ethyltoluene (99914)	0.05	0.10	0.07	0.05	0.00	0.02	0.05	77%
10	naphthalene	0.04	0.03	0.00	0.00	0.00	0.00	0.01	160%
	sum	100.05	100.23	100.06	100.04	99.97	100.10	100.02	
	MIR	1.40	1.45	1.42	1.47	1.44	1.51	1.45	3%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).

The COVs were calculated before the mean and standard deviation were rounded.

MIR means Maximum Incremental Reactivity (g ozone/g NMOG).

Table 12. Gasoline Headspace Organic Gas Species Test Results.
(Et2.0%, Weight Percent)

CNUM	CHEMNAME	BARREL1	BARREL2	BARREL3	BARREL4	BARREL5	BARREL6	MEAN	COV
2	ethyl alcohol	10.80	10.68	12.35	12.56	9.55	12.50	11.41	11%
3	propane	0.05	0.05	0.04	0.04	0.05	0.04	0.05	9%
4	isobutane	0.48	0.50	0.44	0.42	0.51	0.42	0.46	8%
4	n-butane	3.93	4.06	3.64	3.56	4.19	3.48	3.81	8%
5	2,2-dimethylpropane	0.06	0.06	0.06	0.06	0.06	0.05	0.06	5%
5	2-methyl-1-butene	0.00	0.00	0.02	0.02	0.00	0.00	0.00	155%
5	2-methyl-2-butene	0.03	0.03	0.03	0.03	0.04	0.04	0.03	22%
5	cyclopentane	1.52	1.51	1.49	1.48	1.56	1.47	1.51	2%
5	isopentane	35.91	36.42	33.82	33.47	38.10	33.20	35.15	6%
5	n-pentane	7.61	7.64	7.01	7.00	7.55	6.74	7.26	5%
5	trans-2-pentene	0.03	0.03	0.03	0.03	0.03	0.03	0.03	3%
6	2,2-dimethylbutane	6.20	6.20	5.97	6.01	6.21	5.84	6.07	3%
6	2,3-dimethyl-1-butene	0.07	0.07	0.08	0.09	0.08	0.11	0.08	18%
6	2,3-dimethylbutane	3.60	3.57	3.55	3.59	3.59	3.56	3.58	0%
6	2-methylpentane	11.24	11.13	11.02	11.12	11.05	11.13	11.12	0%
6	3-methylpentane	6.22	6.15	6.20	6.27	6.13	6.30	6.21	1%
6	benzene	0.37	0.36	0.41	0.41	0.37	0.43	0.39	7%
6	cyclohexane	0.65	0.64	0.72	0.74	0.64	0.76	0.69	8%
6	cyclohexene	0.04	0.04	0.04	0.04	0.03	0.05	0.04	10%
6	methylcyclopentane	3.24	3.19	3.37	3.43	3.18	3.51	3.32	4%
6	n-hexane	1.15	1.13	1.19	1.22	1.15	1.25	1.18	4%
7	1-c-3-dimethylcyclopentane	0.16	0.16	0.19	0.19	0.15	0.20	0.17	12%
7	1-t-2-dimethylcyclopentane	0.05	0.05	0.06	0.06	0.00	0.00	0.04	79%
7	1-t-3-dimethylcyclopentane	0.19	0.18	0.21	0.22	0.18	0.23	0.20	12%
7	2,2,3-trimethylbutane	0.02	0.02	0.02	0.02	0.02	0.03	0.02	9%
7	2,3-dimethylpentane	0.46	0.44	0.52	0.54	0.41	0.54	0.49	11%
7	2,4-dimethyl-2-pentene	0.06	0.06	0.07	0.07	0.06	0.07	0.07	10%
7	2,4-dimethylpentane	0.40	0.39	0.45	0.46	0.40	0.48	0.43	8%
7	2-methylhexane	0.67	0.65	0.77	0.79	0.64	0.86	0.73	12%
7	3-ethylpentane	0.16	0.16	0.19	0.20	0.21	0.28	0.20	22%
7	3-methylhexane	0.69	0.67	0.79	0.82	0.64	0.87	0.75	13%
7	ethylcyclopentane	0.00	0.00	0.00	0.00	0.04	0.06	0.02	161%
7	methylcyclohexane	0.36	0.35	0.43	0.44	0.32	0.48	0.40	15%
7	n-heptane	0.36	0.34	0.43	0.44	0.32	0.48	0.39	16%
7	toluene	1.13	1.09	1.37	1.38	0.91	1.52	1.23	18%
7	trans-3-heptene	0.00	0.03	0.00	0.00	0.00	0.00	0.00	245%
8	1,1-methylethylcyclopentane	0.00	0.00	0.00	0.00	0.00	0.02	0.00	245%
8	1,2,4-trimethylcyclopentene	0.04	0.04	0.05	0.06	0.03	0.05	0.05	23%
8	1c,2t,3-trimethylcyclopentan	0.02	0.00	0.02	0.02	0.00	0.02	0.01	79%
8	2,2,4-trimethylpentane	0.71	0.69	0.85	0.89	0.64	0.93	0.79	15%
8	2,2-dimethylhexane	0.02	0.02	0.03	0.03	0.03	0.05	0.03	30%
8	2,3,4-trimethylpentane	0.16	0.15	0.20	0.20	0.13	0.22	0.18	21%
8	2,3-dimethylhexane	0.05	0.05	0.07	0.07	0.04	0.08	0.06	22%
8	2,4-dimethylhexane	0.11	0.11	0.14	0.14	0.08	0.15	0.12	20%
8	2,5-dimethylhexane	0.12	0.11	0.15	0.15	0.07	0.11	0.12	26%
8	2-methylheptane	0.07	0.07	0.10	0.10	0.06	0.11	0.09	24%
8	3,4-dimethylhexane	0.02	0.00	0.02	0.02	0.00	0.02	0.01	79%

8	3-methylheptane	0.09	0.08	0.14	0.14	0.07	0.13	0.11	29%
8	4-methylheptane	0.04	0.03	0.04	0.04	0.03	0.05	0.04	22%
8	c-1-methyl-3-ethylcyclopenta	0.00	0.00	0.00	0.00	0.00	0.02	0.00	245%
8	cis-1,3-dimethylcyclohexane	0.04	0.04	0.05	0.05	0.03	0.06	0.04	22%
8	ethylbenzene	0.09	0.08	0.13	0.11	0.06	0.13	0.10	28%
8	m-xylene	0.29	0.26	0.44	0.35	0.20	0.44	0.33	29%
8	n-octane	0.04	0.04	0.05	0.05	0.03	0.06	0.04	25%
8	o-xylene	0.08	0.08	0.14	0.11	0.06	0.13	0.10	31%
8	t-1-methyl-3-ethylcyclopenta	0.00	0.00	0.02	0.02	0.00	0.02	0.00	110%
8	trans-1,3-dimethylcyclohexan	0.00	0.00	0.02	0.02	0.00	0.03	0.01	110%
8	trans-1,4-dimethylcyclohexan	0.00	0.00	0.02	0.02	0.00	0.02	0.01	110%
9	1,2,4-trimethylbenzene	0.03	0.02	0.06	0.03	0.03	0.04	0.04	44%
9	1,3,5-trimethylbenzene	0.00	0.00	0.03	0.00	0.00	0.02	0.00	155%
9	1-methyl-3-ethylbenzene	0.03	0.02	0.05	0.03	0.02	0.04	0.03	36%
9	1-methyl-4-ethylbenzene	0.03	0.03	0.03	0.02	0.00	0.02	0.02	57%
9	2,2,5-trimethylhexane	0.03	0.02	0.04	0.04	0.00	0.04	0.03	54%
9	3,5-dimethylheptane	0.00	0.00	0.00	0.00	0.00	0.02	0.00	245%
9	4-methyloctane	0.00	0.00	0.03	0.02	0.00	0.00	0.00	158%
9	m-ethyltoluene (99912)	0.03	0.02	0.05	0.03	0.02	0.04	0.03	36%
9	n-propylbenzene	0.00	0.00	0.02	0.00	0.00	0.00	0.00	245%
9	p-ethyltoluene (99914)	0.03	0.03	0.03	0.02	0.00	0.02	0.02	57%
9	propylbenzene	0.00	0.00	0.02	0.00	0.00	0.00	0.00	245%
10	1,3-dimethyl-2-ethylbenzene	0.00	0.00	0.02	0.03	0.00	0.00	0.00	157%
10	naphthalene	0.00	0.00	0.03	0.02	0.00	0.00	0.00	157%
	sum	100.08	100.04	100.07	100.05	100.00	100.10	100.00	
	MIR	1.42	1.42	1.45	1.44	1.41	1.45	1.43	1%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).

The COVs were calculated before the mean and standard deviation were rounded.

MIR means Maximum Incremental Reactivity (g ozone/g NMOG).

Table 13. Exhaust Gasoline Organic Gas Species Test Results.

(MTBE, Hot Stabilized Emissions, Weight Percent)

NAME	VEH1	VEH2	VEH3	VEH4	VEH5	MEAN	COV
ethane	2.18	1.55	7.52	4.81	1.03	3.42	79%
propane	0.12	0.06	0.00	0.17	0.07	0.08	76%
butanes	0.74	0.65	0.00	1.01	0.89	0.66	60%
pentanes	7.92	7.50	8.99	7.34	10.77	8.50	17%
c6+ br-alkanes	21.36	19.55	22.11	18.12	35.09	23.25	29%
c6+ n-alkanes	2.92	2.40	2.39	2.55	4.88	3.03	35%
ethene	15.23	13.53	3.94	22.26	6.38	12.27	60%
propene	5.99	5.21	2.11	8.43	3.00	4.95	51%
1,3-butadiene	0.22	0.28	0.00	0.24	0.06	0.16	77%
c4+ alkenes	7.49	7.46	0.37	4.00	5.66	5.00	59%
acetylene	4.09	2.86	0.00	1.27	1.82	2.01	77%
alkynes	0.12	0.50	0.00	0.30	0.13	0.21	91%
benzene	7.34	2.64	9.91	7.08	4.40	6.27	45%
toluene	7.59	4.67	6.70	7.60	7.11	6.74	18%
c8+ aromatics	14.76	13.10	33.94	12.87	18.06	18.55	48%
formaldehyde	0.64	9.07	1.01	0.15	0.10	2.19	176%
acetaldehyde	0.18	2.46	0.00	0.45	0.03	0.62	167%
c3+aldehydes	0.12	2.78	0.00	0.76	0.04	0.74	160%
MTBE	0.35	0.37	0.64	0.32	0.35	0.41	32%
ethanol							
c3+ alcohols	0.36	2.73	0.00	0.00	0.00	0.62	192%
ketones	0.14	0.55	0.37	0.20	0.04	0.26	79%
styrenes	0.10	0.05	0.00	0.07	0.09	0.06	62%
isoprene	0.03	0.00	0.00	0.00	0.00	0.01	224%
sum	100.00	100.00	100.00	100.00	100.00	100.00	
Mass (mg/mi)	897.00	408.00	11.00	301.00	1230.00	570.00	86%
MIR	4.01	4.34	3.90	4.37	3.28	3.98	11%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).
Hot stabilized emissions are represented by Bag 2 of Unified Cycle.

Table 14. Exhaust Gasoline Organic Gas Species Test Results.

(NonOxy, Hot Stabilized Emissions, Weight Percent)

NAME	VEH1	VEH2	VEH3	VEH4	VEH5	VEH6	VEH7	MEAN	COV
ethane	2.06	0.82	6.12	2.17	1.20	3.13	2.39	2.56	68%
propane	0.10	0.04	1.06	0.12	0.07	0.00	0.12	0.22	173%
butanes	0.51	0.81	0.18	0.69	0.81	0.46	0.74	0.60	39%
pentanes	8.59	13.51	9.16	10.29	11.87	8.06	10.17	10.24	19%
c6+ br-alkanes	21.69	31.82	29.25	28.32	35.52	22.50	29.00	28.30	17%
c6+ n-alkanes	2.12	2.88	1.92	2.67	3.29	2.05	2.84	2.54	20%
ethene	16.08	6.50	4.50	11.97	7.18	4.67	9.48	8.63	49%
propene	6.50	4.45	3.11	5.92	3.52	2.67	4.76	4.42	32%
1,3-butadiene	0.26	0.14	0.00	0.88	0.06	0.00	0.27	0.23	134%
c4+ alkenes	5.58	6.24	0.58	5.65	2.99	4.78	3.67	4.21	47%
acetylene	4.33	0.87	0.00	0.55	1.81	0.10	0.77	1.20	125%
alkynes	0.14	0.06	0.00	0.07	0.14	0.00	0.07	0.07	85%
benzene	5.96	1.12	9.67	5.75	4.40	6.27	5.70	5.55	46%
toluene	10.44	9.16	9.21	10.74	10.12	11.97	10.95	10.37	10%
c8+ aromatics	15.38	14.40	23.56	13.64	16.14	29.69	18.97	18.82	31%
formaldehyde	0.02	3.50	0.66	0.01	0.25	0.51	0.01	0.71	177%
acetaldehyde	0.01	1.08	0.15	0.00	0.12	0.36	0.00	0.24	159%
c3+aldehydes	0.00	1.84	0.35	0.00	0.33	2.62	0.01	0.74	143%
MTBE	0.05	0.04	0.40	0.04	0.04	0.00	0.01	0.08	171%
ethanol									
c3+ alcohols	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.06	265%
ketones	0.02	0.28	0.10	0.02	0.11	0.15	0.01	0.10	101%
styrenes	0.14	0.02	0.00	0.44	0.04	0.00	0.06	0.10	160%
isoprene	0.03	0.02	0.00	0.09	0.00	0.00	0.01	0.02	145%
sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
Mass (mg/mi)	1194.00	1908.00	20.00	1058.00	1074.00	19.00	1334.00	943.86	73%
MIR	4.05	3.63	3.23	3.74	3.21	3.92	3.65	3.63	9%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).
Hot stabilized emissions are represented by Bag 2 of Unified Cycle.

Table 15. Exhaust Gasoline Organic Gas Species Test Results.

(Et2.0%, Hot Stabilized Emissions, Weight Percent)

NAME	VEH1	VEH3	VEH4	VEH5	VEH6	VEH7	MEAN	COV
ethane	1.91	4.49	3.61	1.70	3.05	1.99	2.79	40%
propane	0.09	1.27	0.16	0.22	0.27	0.08	0.35	131%
butanes	0.33	0.26	0.51	0.57	0.36	0.31	0.39	31%
pentanes	6.85	5.45	7.87	9.84	7.11	7.42	7.42	19%
c6+br-alkanes	31.22	22.16	28.91	37.25	25.06	33.84	29.74	19%
c6+n-alkanes	2.08	2.33	2.27	3.09	3.64	2.62	2.67	22%
ethene	12.91	3.23	15.19	8.43	5.01	8.85	8.94	51%
propene	4.58	2.27	6.90	4.11	3.01	3.74	4.10	39%
1,3-butadiene	0.09	0.00	0.46	0.00	0.00	0.31	0.14	136%
c4+alkenes	3.72	0.00	3.41	1.93	0.00	3.60	2.11	83%
acetylene	2.63	0.00	0.72	1.73	0.18	1.05	1.05	94%
alkynes	0.35	0.00	0.13	0.15	0.00	0.03	0.11	123%
benzene	6.49	8.46	5.75	4.19	12.89	5.40	7.20	43%
toluene	6.93	8.04	8.22	7.24	7.88	8.44	7.79	8%
c8+aromatics	11.79	36.44	15.49	19.41	29.98	20.89	22.33	41%
formaldehyde	3.23	2.01	0.04	0.02	0.50	0.08	0.98	137%
acetaldehyde	1.62	0.26	0.01	0.01	0.00	0.37	0.38	166%
c3+aldehydes	1.55	2.59	0.01	0.00	0.18	0.29	0.77	138%
MTBE	0.00	0.74	0.06	0.07	0.55	0.00	0.24	137%
ethanol	0.63	0.00	0.00	0.00	0.00	0.27	0.15	173%
c3+ alcohols	0.42	0.00	0.00	0.00	0.00	0.16	0.10	176%
ketones	0.53	0.00	0.00	0.01	0.32	0.20	0.18	122%
styrenes	0.04	0.00	0.29	0.04	0.00	0.06	0.07	157%
isoprene								
sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
Mass (mg/mi)	788	19	461	498	22	1415	533.83	98%
MIR	3.57	3.86	3.97	3.45	3.72	3.72	3.72	5%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).
Hot stabilized emissions are represented by Bag 2 of Unified Cycle.

Table 16. Exhaust Gasoline Organic Gas Species Test Results.

(MTBE, Hot Stabilized Emissions, Weight Percent)

CNUM	CHEMNAME	VEH1	VEH2	VEH3	VEH4	VEH5	MEAN	COV
1	formaldehyde	0.64	9.07	1.01	0.15	0.10	2.19	176%
1	methyl alcohol	0.36	2.73	0.00	0.00	0.00	0.62	192%
2	acetaldehyde	0.18	2.46	0.00	0.45	0.03	0.62	168%
2	acetylene	4.09	2.86	0.00	1.27	1.82	2.01	78%
2	ethane	2.18	1.55	7.52	4.81	1.03	3.42	80%
2	ethylene	15.23	13.53	3.94	22.26	6.38	12.27	60%
3	1,2-propadiene	0.27	0.21	0.00	0.00	0.00	0.10	130%
3	1-propyne	0.00	0.37	0.00	0.23	0.11	0.14	114%
3	acetone	0.11	0.55	0.28	0.20	0.03	0.23	87%
3	acrolein (2-propenal)	0.00	0.54	0.00	0.00	0.00	0.11	218%
3	propane	0.12	0.06	0.00	0.17	0.07	0.08	75%
3	propionaldehyde	0.03	0.24	0.00	0.16	0.01	0.09	122%
3	propylene	5.99	5.21	2.11	8.43	3.00	4.95	51%
4	1,3-butadiene	0.22	0.28	0.00	0.24	0.06	0.16	75%
4	1-butene	0.62	0.74	0.00	0.79	0.37	0.51	63%
4	1-butyne (ethylacetylene)	0.02	0.00	0.00	0.00	0.00	0.00	n/a
4	2-methyl-2-propenal	0.00	0.31	0.00	0.11	0.01	0.08	163%
4	butyraldehyde	0.00	0.00	0.00	0.03	0.00	0.01	100%
4	cis-2-butene	0.30	0.31	0.00	0.29	0.17	0.22	59%
4	crotonaldehyde	0.00	0.05	0.00	0.06	0.01	0.03	100%
4	isobutane	0.18	0.20	0.00	0.20	0.00	0.11	91%
4	isobutene	4.36	3.54	0.37	1.80	3.47	2.71	59%
4	methyl ethyl ketone (MEK)	0.03	0.00	0.09	0.00	0.01	0.03	133%
4	n-butane	0.56	0.46	0.00	0.81	0.89	0.54	65%
4	trans-2-butene	0.39	0.44	0.00	0.43	0.24	0.30	63%
4	vinylacetylene	0.10	0.12	0.00	0.07	0.03	0.06	83%
5	1-pentene	0.11	0.17	0.00	0.13	0.10	0.10	60%
5	2-methyl-1-butene	0.07	0.17	0.00	0.00	0.00	0.05	140%
5	2-methyl-2-butene	0.03	0.08	0.00	0.00	0.17	0.06	117%
5	3-methyl-1-butene	0.10	0.16	0.00	0.10	0.07	0.09	67%
5	cis-2-pentene	0.08	0.11	0.00	0.07	0.05	0.06	67%
5	cyclopentane	0.30	0.46	0.00	0.31	0.44	0.30	60%
5	cyclopentene	0.11	0.00	0.00	0.00	0.05	0.03	167%
5	isopentane	5.24	4.70	5.50	4.86	7.02	5.47	17%
5	isoprene	0.03	0.00	0.00	0.00	0.00	0.01	100%
5	isovaleraldehyde	0.00	0.18	0.00	0.04	0.00	0.04	200%
5	methyl t-butyl ether (MTBE)	0.35	0.37	0.64	0.32	0.35	0.41	32%
5	n-pentane	2.38	2.34	3.49	2.18	3.31	2.74	22%
5	trans-2-pentene	0.15	0.20	0.00	0.14	0.13	0.12	58%
6	1-hexene	0.05	0.08	0.00	0.00	0.06	0.04	100%
6	2,2-dimethylbutane	0.07	0.17	0.00	0.08	0.11	0.09	67%
6	2,3-dimethylbutane	0.60	0.65	0.00	0.56	0.91	0.54	61%
6	2-methyl-2-pentene	0.07	0.00	0.00	0.00	0.03	0.02	150%
6	2-methylpentane	2.40	2.31	2.20	2.11	3.49	2.50	22%
6	3-methyl-1-pentene	0.04	0.32	0.00	0.00	0.05	0.08	163%
6	3-methylcyclopentene	0.05	0.00	0.00	0.00	0.02	0.01	200%

6	3-methylpentane	1.46	1.44	2.75	1.29	2.20	1.83	34%
6	4-methyl-1-pentene	0.12	0.00	0.00	0.15	0.06	0.07	100%
6	4-methyl-trans-2-pentene	0.03	0.10	0.00	0.00	0.04	0.03	133%
6	benzene	7.34	2.64	9.91	7.08	4.40	6.27	45%
6	cis-2-hexene	0.03	0.00	0.00	0.00	0.03	0.01	100%
6	cyclohexane	0.64	0.54	0.00	0.57	1.01	0.55	65%
6	cyclohexene	0.07	0.04	0.00	0.09	0.04	0.05	60%
6	hexaldehyde	0.00	0.00	0.00	0.02	0.00	0.00	n/a
6	methylcyclopentane	1.79	1.63	2.29	1.58	2.69	1.99	24%
6	n-hexane	1.47	1.35	2.39	1.34	2.24	1.76	29%
6	trans-2-hexene	0.05	0.00	0.00	0.00	0.05	0.02	150%
6	trans-3-hexene	0.03	0.10	0.00	0.00	0.03	0.03	133%
7	1-c-3-dimethylcyclopentane	0.50	0.47	0.00	0.46	0.82	0.45	64%
7	1-t-2-dimethylcyclopentane	0.00	0.08	0.00	0.00	0.00	0.02	200%
7	1-t-3-dimethylcyclopentane	0.54	0.50	0.00	0.48	0.88	0.48	65%
7	2,2,3-trimethylbutane	0.00	0.00	0.00	0.00	0.03	0.01	200%
7	2,3-dimethylpentane	0.85	0.85	1.74	0.73	1.40	1.12	39%
7	2,4-dimethyl-1-pentene	0.00	0.00	0.00	0.00	0.02	0.00	n/a
7	2,4-dimethyl-2-pentene	0.05	0.07	0.00	0.00	0.07	0.04	75%
7	2,4-dimethylpentane	0.56	0.53	0.00	0.50	0.88	0.49	63%
7	2-methyl-2-hexene	0.09	0.00	0.00	0.00	0.02	0.02	200%
7	2-methylhexane	1.13	1.03	1.74	1.02	1.91	1.37	31%
7	3,3-dimethylpentane	0.02	0.00	0.00	0.07	0.03	0.02	150%
7	3,4-dimethyl-1-pentene	0.02	0.00	0.00	0.00	0.00	0.00	n/a
7	3-ethylpentane	0.66	0.51	0.00	0.60	1.06	0.57	67%
7	3-methylhexane	1.21	1.12	2.39	1.09	2.02	1.56	38%
7	4-methyl-trans-2-hexene	0.00	0.00	0.00	0.00	0.02	0.00	n/a
7	benzaldehyde	0.09	0.96	0.00	0.24	0.01	0.26	154%
7	cis-2-heptene	0.02	0.00	0.00	0.00	0.03	0.01	100%
7	ethylcyclopentane	0.20	0.00	0.00	0.17	0.34	0.14	107%
7	methylcyclohexane	1.18	1.00	1.74	1.05	2.02	1.40	33%
7	n-heptane	0.76	0.65	0.00	0.67	1.32	0.68	69%
7	toluene	7.59	4.67	6.70	7.60	7.11	6.74	18%
7	trans-2-heptene	0.00	0.15	0.00	0.00	0.04	0.04	175%
7	trans-3-heptene	0.03	0.00	0.00	0.00	0.03	0.01	200%
8	1,1-methylethylcyclopentane	0.09	0.00	0.00	0.10	0.16	0.07	100%
8	1,2,4-trimethylcyclopentene	0.15	0.15	0.00	0.13	0.26	0.14	64%
8	1-octene	0.07	0.26	0.00	0.00	0.11	0.09	122%
8	1c,2t,3-trimethylcyclopentan	0.10	0.09	0.00	0.09	0.17	0.09	67%
8	2,2,4-trimethylpentane	1.47	1.46	2.84	1.28	2.49	1.91	37%
8	2,2-dimethylhexane	0.13	0.16	0.00	0.12	0.22	0.13	62%
8	2,3,4-trimethylpentane	0.57	0.57	2.02	0.45	1.10	0.94	69%
8	2,3-dimethylhexane	0.24	0.05	0.00	0.25	0.44	0.20	90%
8	2,4-dimethylhexane	0.40	0.40	0.00	0.30	0.65	0.35	69%
8	2,5-dimethylhexane	0.29	0.45	0.00	0.26	0.54	0.31	68%
8	2-methylheptane	0.43	0.48	0.00	0.36	0.77	0.41	68%
8	3,3-dimethylhexane	0.02	0.00	0.00	0.00	0.04	0.01	200%
8	3,4-dimethylhexane	0.07	0.07	0.00	0.00	0.13	0.06	100%
8	3-methylheptane	0.45	0.54	0.00	0.38	0.85	0.44	70%

8	4-methylheptane	0.16	0.00	0.00	0.14	0.29	0.12	100%
8	c-1,2-dimethylcyclohexane	0.04	0.07	0.00	0.00	0.08	0.04	100%
8	cis-1,3-dimethylcyclohexane	0.19	0.10	0.00	0.18	0.34	0.16	81%
8	cis-2-octene	0.05	0.08	0.00	0.00	0.00	0.02	200%
8	ethylbenzene	1.17	1.01	2.75	1.29	1.40	1.52	46%
8	ethylcyclohexane	0.07	0.13	0.00	0.00	0.12	0.06	100%
8	m-xylene	4.99	3.43	8.26	4.54	5.25	5.29	34%
8	n-octane	0.28	0.00	0.00	0.25	0.52	0.21	105%
8	o-xylene	1.63	1.20	4.59	1.62	1.87	2.18	63%
8	styrene	0.10	0.05	0.00	0.07	0.09	0.06	67%
8	t-1-methyl-3-ethylcyclopenta	0.15	0.07	0.00	0.15	0.20	0.11	73%
8	tolualdehyde	0.00	0.51	0.00	0.11	0.00	0.12	183%
8	trans-1,3-dimethylcyclohexan	0.11	0.05	0.00	0.10	0.20	0.09	89%
8	trans-1,4-dimethylcyclohexan	0.06	0.08	0.00	0.00	0.12	0.05	100%
8	trans-2-octene	0.03	0.00	0.00	0.00	0.05	0.02	100%
8	trans-4-octene	0.00	0.13	0.00	0.00	0.00	0.03	200%
9	1,2,3-trimethylbenzene	0.33	0.36	0.00	0.26	0.42	0.28	57%
9	1,2,4-trimethylbenzene	1.52	1.15	7.16	1.21	1.83	2.57	100%
9	1,3,5-trimethylbenzene	0.57	0.48	2.11	0.48	0.71	0.87	80%
9	1,3,5-trimethylcyclohexane	0.05	0.05	0.00	0.00	0.10	0.04	100%
9	1-methyl-3-ethylbenzene	1.08	0.91	4.04	0.99	1.37	1.68	79%
9	1-methyl-4-ethylbenzene	0.45	0.35	1.74	0.41	0.57	0.71	83%
9	1-methyl-4-ethylcyclohexane	0.03	0.00	0.00	0.00	0.07	0.02	150%
9	1-nonene	0.00	0.00	0.00	0.00	0.04	0.01	200%
9	2,2,4-trimethylhexane	0.06	0.05	0.00	0.06	0.10	0.05	80%
9	2,2,5-trimethylhexane	0.31	0.07	2.39	0.29	0.55	0.72	132%
9	2,3,5-trimethylhexane	0.06	0.17	0.00	0.00	0.12	0.07	114%
9	2,4,4-trimethylhexane	0.00	0.00	0.00	0.00	0.07	0.01	300%
9	2,4-dimethylheptane	0.12	0.06	0.00	0.11	0.13	0.08	75%
9	2,6-dimethylheptane	0.13	0.00	0.00	0.11	0.25	0.10	100%
9	2-methyloctane	0.00	0.00	0.00	0.16	0.00	0.03	233%
9	3,5-dimethylheptane	0.22	0.00	0.00	0.19	0.42	0.16	106%
9	3-methyloctane	0.22	0.21	0.00	0.18	0.44	0.21	76%
9	4-methyloctane	0.30	0.26	0.00	0.10	0.36	0.20	75%
9	indan	0.18	0.17	0.00	0.13	0.26	0.15	67%
9	isopropylbenzene (cumene)	0.06	0.08	0.00	0.00	0.11	0.05	100%
9	n-nonane	0.19	0.20	0.00	0.16	0.39	0.19	74%
9	n-propylbenzene	0.22	0.25	0.00	0.20	0.36	0.21	62%
9	o-ethyltoluene	0.34	0.35	0.00	0.33	0.46	0.29	59%
10	1,2,3,4-tetramethylbenzene	0.03	0.12	0.00	0.00	0.06	0.04	125%
10	1,2,3,5-tetramethylbenzene	0.11	0.11	0.00	0.09	0.15	0.09	67%
10	1,2,4,5-tetramethylbenzene	0.09	0.00	0.00	0.07	0.12	0.06	83%
10	1,2-diethylbenzene (ortho)	0.03	0.09	0.00	0.00	0.03	0.03	133%
10	1,2-dimethyl-3-ethylbenzene	0.05	0.10	0.00	0.00	0.09	0.05	100%
10	1,2-dimethyl-4-ethylbenzene	0.23	0.19	1.65	0.16	0.32	0.51	125%
10	1,3-diethylbenzene (meta)	0.10	0.16	0.00	0.08	0.13	0.09	67%
10	1,3-dimethyl-2-ethylbenzene	0.05	0.11	0.00	0.06	0.11	0.07	57%
10	1,3-dimethyl-4-ethylbenzene	0.13	0.15	0.00	0.09	0.16	0.11	64%
10	1,3-dimethyl-5-ethylbenzene	0.28	0.33	1.65	0.21	0.38	0.57	107%

10	1,4-diethylbenzene (para)	0.11	0.13	0.00	0.08	0.19	0.10	70%
10	1,4-dimethyl-2-ethylbenzene	0.15	0.17	0.00	0.11	0.21	0.13	62%
10	1-methyl-2-isopropylbenzene	0.05	0.12	0.00	0.00	0.14	0.06	100%
10	1-methyl-2n-propylbenzene	0.07	0.10	0.00	0.06	0.14	0.08	63%
10	1-methyl-3-isopropylbenzene	0.03	0.09	0.00	0.00	0.05	0.03	133%
10	1-methyl-3n-propylbenzene	0.28	0.46	0.00	0.25	0.40	0.28	64%
10	1-methyl-4-isopropylbenzene	0.03	0.06	0.00	0.00	0.08	0.03	100%
10	2,2,4-trimethylheptane	0.02	0.00	0.00	0.00	0.05	0.02	100%
10	2,2-dimethyloctane	0.07	0.05	0.00	0.00	0.15	0.05	120%
10	2,3-dimethyloctane	0.03	0.06	0.00	0.00	0.05	0.03	100%
10	2,4-dimethyloctane	0.20	0.33	0.00	0.00	0.16	0.14	100%
10	2,5-dimethyloctane	0.05	0.05	0.00	0.00	0.12	0.04	125%
10	2,6-dimethyloctane	0.07	0.08	0.00	0.00	0.15	0.06	100%
10	2-methylindan	0.08	0.00	0.00	0.00	0.11	0.04	125%
10	2-methylnonane	0.26	0.19	0.00	0.21	0.54	0.24	79%
10	3,3-dimethyloctane	0.04	0.05	0.00	0.00	0.08	0.03	100%
10	4-methylindan	0.03	0.11	0.00	0.00	0.04	0.04	125%
10	5-methylindan	0.06	0.07	0.00	0.00	0.10	0.05	100%
10	isobutylbenzene	0.00	0.05	0.00	0.00	0.05	0.02	150%
10	n-decane	0.16	0.15	0.00	0.13	0.24	0.14	64%
10	naphthalene	0.13	0.15	0.00	0.16	0.16	0.12	58%
11	1-ethyl-2n-propylbenzene	0.03	0.05	0.00	0.00	0.06	0.03	100%
11	1-methyl-2-n-butylbenzene	0.05	0.08	0.00	0.00	0.07	0.04	100%
11	1-methyl-2-tert-butylbenzene	0.00	0.15	0.00	0.00	0.03	0.04	175%
11	n-pentylbenzene	0.02	0.05	0.00	0.00	0.04	0.02	100%
11	n-undecane	0.04	0.00	0.00	0.00	0.09	0.02	200%
12	1,3-dipropylbenzene	0.03	0.06	0.00	0.00	0.04	0.02	150%
12	1-(1,1-dme)-3,5-dmbenzene	0.00	0.15	0.00	0.00	0.03	0.04	150%
12	n-dodecane	0.00	0.00	0.00	0.00	0.04	0.01	200%
13	2,2,5-triethylheptane	0.11	0.14	0.00	0.10	0.22	0.11	73%
	sum	99.99	100.00	100.00	100.06	100.02	100.00	
	Mass (mg/mi)	897.00	408.00	11.00	301.00	1230.00	570.00	86%
	MIR	4.01	4.34	3.90	4.37	3.28	3.98	11%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).
Hot stabilized emissions are represented by Bag 2 of Unified Cycle.

Table 17. Exhaust Gasoline Organic Gas Species Test Results.

(NonOxy, Hot Stabilized Emissions, Weight Percent)

CNUM	CHEMNAME	VEH1	VEH2	VEH3	VEH4	VEH5	VEH6	VEH7	MEAN	COV
1	formaldehyde	0.02	3.50	0.66	0.01	0.25	0.51	0.01	0.71	177%
1	methyl	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.06	250%
2	acetaldehyde	0.01	1.08	0.15	0.00	0.12	0.36	0.00	0.24	163%
2	acetylene	4.33	0.87	0.00	0.55	1.81	0.10	0.77	1.20	125%
2	ethane	2.06	0.82	6.12	2.17	1.20	3.13	2.39	2.56	68%
2	ethylene	16.08	6.50	4.50	11.97	7.18	4.67	9.48	8.63	49%
3	1,2-propadiene	0.24	0.10	0.00	0.03	0.00	0.00	0.00	0.05	180%
3	1-propyne	0.00	0.00	0.00	0.05	0.12	0.00	0.05	0.03	133%
3	acetone	0.01	0.28	0.05	0.01	0.10	0.15	0.01	0.09	111%
3	acrolein (2-propenal)	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.04	300%
3	propane	0.10	0.04	1.06	0.12	0.07	0.00	0.12	0.22	173%
3	propionaldehyde	0.00	0.22	0.03	0.00	0.06	0.05	0.00	0.05	160%
3	propylene	6.50	4.45	3.11	5.92	3.52	2.67	4.76	4.42	32%
4	1,2-butadiene	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.01	400%
4	1,3-butadiene	0.26	0.14	0.00	0.88	0.06	0.00	0.27	0.23	135%
4	1,3-butadiyne	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
4	1-butene	0.60	0.74	0.00	0.51	0.37	0.00	0.48	0.39	74%
4	1-butyne (ethylacetylene)	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a
4	2-butyne	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	n/a
4	2-methyl-2-propenal	0.00	0.22	0.00	0.00	0.04	0.00	0.00	0.04	200%
4	butyraldehyde	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.01	300%
4	cis-2-butene	0.33	0.36	0.00	0.28	0.19	0.00	0.25	0.20	75%
4	crotonaldehyde	0.00	0.11	0.00	0.00	0.03	0.00	0.00	0.02	200%
4	isobutane	0.06	0.06	0.00	0.06	0.03	0.00	0.06	0.04	75%
4	isobutene	2.38	1.70	0.58	2.58	0.84	1.18	1.31	1.51	50%
4	methyl ethyl ketone (MEK)	0.01	0.00	0.05	0.00	0.01	0.00	0.00	0.01	200%
4	n-butane	0.45	0.75	0.18	0.62	0.78	0.46	0.68	0.56	38%
4	trans-2-butene	0.44	0.54	0.00	0.38	0.27	0.00	0.34	0.28	75%
4	vinylacetylene	0.09	0.05	0.00	0.02	0.03	0.00	0.02	0.03	100%
5	1-pentene	0.08	0.17	0.00	0.09	0.08	0.00	0.09	0.07	86%
5	2,2-dimethylpropane	0.09	0.01	0.00	0.01	0.00	0.00	0.01	0.02	150%
5	2-methyl-1-butene	0.09	0.29	0.00	0.14	0.02	0.00	0.02	0.08	138%
5	2-methyl-2-butene	0.20	0.29	0.00	0.31	0.24	0.00	0.16	0.17	76%
5	3-methyl-1-butene	0.11	0.20	0.00	0.11	0.05	0.00	0.08	0.08	88%
5	cis-2-pentene	0.08	0.13	0.00	0.07	0.06	0.00	0.06	0.06	83%
5	cyclopentane	0.30	0.44	0.00	0.37	0.43	0.00	0.37	0.27	70%
5	cyclopentene	0.09	0.13	0.00	0.08	0.05	0.00	0.04	0.06	83%
5	isopentane	6.11	10.08	6.53	7.24	8.51	6.01	7.46	7.42	20%
5	isoprene	0.03	0.02	0.00	0.09	0.00	0.00	0.01	0.02	150%
5	isovaleraldehyde	0.00	0.13	0.00	0.00	0.01	0.00	0.00	0.02	250%
5	methyl t-butyl ether (MTBE)	0.05	0.04	0.40	0.04	0.04	0.00	0.01	0.08	175%
5	n-pentane	2.08	2.98	2.63	2.67	2.93	2.05	2.34	2.53	15%
5	trans-2-pentene	0.13	0.24	0.00	0.12	0.12	0.00	0.12	0.11	73%
6	1-hexene	0.04	0.07	0.00	0.05	0.06	0.00	0.07	0.04	75%
6	2,2-dimethylbutane	1.83	2.70	2.81	2.36	2.65	2.26	2.16	2.39	15%
6	2,3-dimethyl-1-butene	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.01	100%

6	2,3-dimethylbutane	1.20	1.89	1.77	1.56	1.85	2.47	1.51	1.75	22%
6	2-methyl-1-pentene	0.03	0.00	0.00	0.03	0.00	0.00	0.00	0.01	200%
6	2-methyl-2-pentene	0.04	0.06	0.00	0.08	0.02	0.00	0.02	0.03	100%
6	2-methylpentane	3.07	4.52	3.19	3.94	4.50	3.18	3.83	3.75	17%
6	3,3-dimethyl-1-butene	0.03	0.06	0.00	0.03	0.03	0.00	0.03	0.03	67%
6	3-methyl-1-pentene	0.04	0.07	0.00	0.05	0.06	0.00	0.04	0.04	75%
6	3-methylcyclopentene	0.03	0.04	0.00	0.05	0.02	0.00	0.02	0.02	100%
6	3-methylpentane	1.78	2.68	2.63	2.31	2.68	2.67	2.28	2.43	14%
6	4-methyl-1-pentene	0.08	0.16	0.00	0.02	0.04	0.00	0.03	0.05	120%
6	4-methyl-trans-2-pentene	0.04	0.07	0.00	0.05	0.05	0.00	0.04	0.04	75%
6	benzene	5.96	1.12	9.67	5.75	4.40	6.27	5.70	5.55	46%
6	cis-2-hexene	0.03	0.05	0.00	0.03	0.03	0.00	0.02	0.02	100%
6	cyclohexane	1.02	1.44	1.32	1.32	1.59	1.23	1.38	1.33	14%
6	cyclohexene	0.07	0.11	0.00	0.07	0.04	1.34	0.01	0.23	213%
6	hexaldehyde	0.00	0.04	0.23	0.00	0.00	0.00	0.00	0.04	200%
6	methylcyclopentane	1.45	2.13	2.07	1.88	2.19	2.26	1.92	1.99	14%
6	n-hexane	1.25	1.81	1.92	1.62	1.90	2.05	1.63	1.74	16%
6	trans-2-hexene	0.05	0.08	0.00	0.05	0.06	0.00	0.04	0.04	75%
6	trans-3-hexene	0.03	0.06	0.00	0.03	0.04	0.00	0.03	0.03	67%
7	1-c-3-dimethylcyclopentane	0.09	0.11	0.00	0.10	0.13	0.00	0.11	0.08	63%
7	1-t-2-dimethylcyclopentane	0.08	0.09	0.00	0.08	0.11	0.00	0.20	0.08	88%
7	1-t-3-dimethylcyclopentane	0.08	0.12	0.00	0.11	0.14	0.00	0.12	0.08	75%
7	2,2,3-trimethylbutane	0.00	0.00	0.00	0.02	0.06	0.00	0.05	0.02	150%
7	2,3-dimethylpentane	0.68	1.05	1.29	0.94	1.16	0.00	0.94	0.86	50%
7	2,4-dimethyl-1-pentene	0.02	0.04	0.00	0.00	0.02	0.00	0.02	0.01	200%
7	2,4-dimethyl-2-pentene	0.08	0.13	0.00	0.11	0.12	0.00	0.11	0.08	75%
7	2,4-dimethylpentane	0.48	0.70	0.00	0.68	0.77	0.00	0.65	0.47	70%
7	2-methyl-2-hexene	0.04	0.01	0.00	0.03	0.01	0.00	0.02	0.02	100%
7	2-methyl-trans-3-hexene	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	n/a
7	2-methylhexane	0.68	0.99	1.14	0.90	1.16	1.28	0.98	1.02	20%
7	3,3-dimethylpentane	0.02	0.03	0.00	0.00	0.02	0.00	0.03	0.01	100%
7	3,4-dimethyl-1-pentene	0.04	0.06	0.00	0.03	0.00	0.00	0.00	0.02	100%
7	3-ethylpentane	0.08	0.10	0.00	0.10	0.12	3.54	0.00	0.56	234%
7	3-methyl-cis-2-hexene	0.00	0.01	0.00	0.03	0.00	0.00	0.00	0.00	n/a
7	3-methylhexane	0.76	1.12	1.29	1.02	1.30	0.00	1.09	0.94	48%
7	4-methyl-trans-2-hexene	0.02	0.02	0.00	0.00	0.02	1.23	0.02	0.19	242%
7	benzaldehyde	0.00	0.54	0.10	0.00	0.14	1.75	0.00	0.36	178%
7	cis-2-heptene	0.02	0.04	0.00	0.03	0.02	0.00	0.02	0.02	50%
7	ethylcyclopentane	0.00	0.05	0.00	0.03	0.07	0.00	0.07	0.03	100%
7	methylcyclohexane	0.31	0.45	0.00	0.41	0.55	0.00	0.47	0.31	74%
7	n-heptane	0.46	0.65	0.00	0.63	0.81	0.00	0.68	0.46	72%
7	toluene	10.44	9.16	9.21	10.74	10.12	11.97	10.95	10.37	10%
7	trans-2-heptene	0.02	0.02	0.00	0.01	0.02	0.00	0.02	0.01	100%
7	trans-3-heptene	0.02	0.03	0.00	0.02	0.02	1.03	0.02	0.16	238%
8	1,1-methylethylcyclopentane	0.05	0.09	0.00	0.03	0.04	0.00	0.06	0.04	75%
8	1,2,4-trimethylcyclopentene	0.04	0.05	0.00	0.06	0.07	0.00	0.05	0.04	75%
8	1-octene	0.03	0.03	0.00	0.01	0.01	0.00	0.02	0.02	50%
8	1c,2t,3-trimethylcyclopentan	0.02	0.02	0.00	0.03	0.03	1.54	0.03	0.24	238%
8	2,2,4-trimethylpentane	2.56	3.83	4.00	3.53	4.47	0.00	3.52	3.13	48%

8	2,2-dimethylhexane	0.05	0.07	0.00	0.04	0.07	0.00	0.07	0.04	75%
8	2,3,4-trimethylpentane	0.98	1.55	2.05	1.33	1.92	0.00	1.42	1.32	52%
8	2,3-dimethylhexane	0.26	0.39	0.00	0.37	0.55	0.00	0.44	0.29	76%
8	2,4,4-trimethyl-2-pentene	0.00	0.02	0.00	0.00	0.00	0.00	0.02	0.01	100%
8	2,4-dimethylhexane	0.44	0.66	0.00	0.59	0.77	0.00	0.54	0.43	72%
8	2,5-dimethylhexane	0.39	0.50	0.00	0.51	0.67	0.00	0.62	0.38	74%
8	2-methylheptane	0.19	0.25	0.00	0.27	0.35	0.00	0.29	0.19	74%
8	3,3-dimethylhexane	0.02	0.03	0.00	0.00	0.03	0.00	0.02	0.01	100%
8	3,4-dimethylhexane	0.08	0.10	0.00	0.10	0.13	0.00	0.10	0.07	71%
8	3-methylheptane	0.24	0.33	0.00	0.34	0.42	0.00	0.37	0.24	75%
8	4-methylheptane	0.09	0.11	0.00	0.10	0.14	0.00	0.12	0.08	75%
8	c-1,2-dimethylcyclohexane	0.02	0.03	0.00	0.01	0.02	0.00	0.03	0.02	50%
8	cis-1,3-dimethylcyclohexane	0.14	0.18	0.00	0.15	0.20	0.00	0.18	0.12	75%
8	cis-2-octene	0.00	0.02	0.00	0.00	0.00	0.00	0.05	0.01	200%
8	ethylbenzene	1.31	1.41	2.07	1.35	1.44	3.03	1.56	1.74	36%
8	ethylcyclohexane	0.03	0.04	0.00	0.04	0.05	0.00	0.04	0.03	67%
8	m-xylene	5.14	4.72	3.31	4.79	5.03	10.32	5.83	5.59	40%
8	n-octane	0.15	0.17	0.00	0.19	0.24	0.00	0.22	0.14	71%
8	o-xylene	1.76	1.74	2.86	1.80	1.94	4.11	2.17	2.34	37%
8	styrene	0.14	0.02	0.00	0.44	0.04	0.00	0.06	0.10	160%
8	t-1-methyl-3-ethylcyclopenta	0.08	0.11	0.00	0.04	0.07	0.00	0.08	0.05	80%
8	tolualdehyde	0.00	0.21	0.00	0.00	0.05	0.82	0.00	0.16	188%
8	trans-1,3-dimethylcyclohexan	0.06	0.08	0.00	0.07	0.10	0.00	0.10	0.06	67%
8	trans-1,4-dimethylcyclohexan	0.08	0.11	0.00	0.07	0.09	0.00	0.08	0.06	67%
8	trans-2-octene	0.00	0.03	0.00	0.01	0.00	0.00	0.00	0.01	100%
8	trans-4-octene	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	n/a
9	1,2,3-trimethylbenzene	0.32	0.29	1.09	0.28	0.35	0.98	0.43	0.53	66%
9	1,2,4-trimethylbenzene	1.59	1.42	5.04	1.37	1.61	5.19	2.09	2.61	66%
9	1,3,5-trimethylbenzene	0.57	0.52	1.52	0.47	0.61	1.75	0.75	0.88	59%
9	1,3,5-trimethylcyclohexane	0.04	0.04	0.00	0.05	0.03	0.00	0.05	0.03	67%
9	1-methyl-3-ethylbenzene	1.08	1.13	2.68	0.98	1.25	1.03	1.38	1.36	44%
9	1-methyl-4-ethylbenzene	0.43	0.47	0.15	0.40	0.51	0.00	0.59	0.37	57%
9	1-methyl-4-ethylcyclohexane	0.00	0.01	0.00	0.00	0.01	0.00	0.02	0.01	100%
9	1-nonene	0.00	0.01	0.00	0.00	0.00	0.00	0.03	0.01	100%
9	2,2,4-trimethylhexane	0.04	0.05	0.00	0.03	0.05	0.00	0.05	0.03	67%
9	2,2,5-trimethylhexane	1.13	1.61	2.38	1.51	2.09	2.05	1.58	1.77	24%
9	2,3,5-trimethylhexane	0.18	0.27	0.00	0.13	0.35	0.00	0.27	0.17	82%
9	2,3-dimethylheptane	0.00	0.00	3.31	0.00	0.03	0.00	0.00	0.48	260%
9	2,4,4-trimethylhexane	0.03	0.08	0.00	0.02	0.06	0.00	0.00	0.03	100%
9	2,4-dimethylheptane	0.06	0.10	0.00	0.04	0.09	0.00	0.09	0.05	80%
9	2,6-dimethylheptane	0.05	0.07	0.00	0.07	0.09	0.00	0.08	0.05	80%
9	2-methyloctane	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	200%
9	3,5-dimethylheptane	0.10	0.13	0.00	0.12	0.19	0.00	0.15	0.10	70%
9	3-methyloctane	0.09	0.11	0.00	0.13	0.17	0.00	0.14	0.09	78%
9	4-methyloctane	0.14	0.17	0.00	0.14	0.27	0.00	0.22	0.13	77%
9	indan	0.13	0.13	0.00	0.09	0.16	0.00	0.17	0.10	70%
9	isopropylbenzene (cumene)	0.05	0.06	0.00	0.06	0.07	0.00	0.06	0.04	75%
9	n-nonane	0.09	0.10	0.00	0.10	0.18	0.00	0.15	0.09	78%
9	n-propylbenzene	0.21	0.28	0.00	0.24	0.32	0.00	0.31	0.20	70%

9	o-ethyltoluene	0.34	0.36	0.51	0.34	0.41	1.18	0.68	0.55	56%
10	1,2,3,4-tetramethylbenzene	0.05	0.02	0.00	0.02	0.05	0.00	0.06	0.03	67%
10	1,2,3,5-tetramethylbenzene	0.16	0.08	0.48	0.08	0.12	0.00	0.14	0.15	100%
10	1,2,4,5-tetramethylbenzene	0.12	0.07	0.00	0.06	0.10	0.00	0.00	0.05	100%
10	1,2-diethylbenzene (ortho)	0.02	0.02	0.00	0.01	0.02	0.00	0.03	0.01	100%
10	1,2-dimethyl-3-ethylbenzene	0.05	0.03	0.00	0.03	0.03	0.00	0.05	0.03	67%
10	1,2-dimethyl-4-ethylbenzene	0.25	0.18	0.48	0.13	0.24	1.13	0.29	0.39	90%
10	1,3-diethylbenzene (meta)	0.09	0.08	0.00	0.07	0.10	0.00	0.12	0.07	71%
10	1,3-dimethyl-2-ethylbenzene	0.07	0.06	0.00	0.06	0.10	0.00	0.09	0.05	80%
10	1,3-dimethyl-4-ethylbenzene	0.14	0.10	0.00	0.10	0.12	0.00	0.17	0.09	78%
10	1,3-dimethyl-5-ethylbenzene	0.26	0.22	0.71	0.18	0.27	0.00	0.32	0.28	79%
10	1,4-diethylbenzene (para)	0.11	0.11	0.00	0.08	0.15	0.98	0.15	0.22	155%
10	1,4-dimethyl-2-ethylbenzene	0.18	0.14	0.00	0.13	0.20	0.00	0.22	0.12	75%
10	1-methyl-2-isopropylbenzene	0.06	0.06	0.00	0.05	0.07	0.00	0.11	0.05	80%
10	1-methyl-2n-propylbenzene	0.07	0.07	0.00	0.06	0.12	0.00	0.10	0.06	83%
10	1-methyl-3-isopropylbenzene	0.02	0.02	0.00	0.00	0.03	0.00	0.03	0.01	100%
10	1-methyl-3n-propylbenzene	0.30	0.34	1.64	0.24	0.39	0.00	0.35	0.47	115%
10	1-methyl-4-isopropylbenzene	0.02	0.02	0.00	0.02	0.03	0.00	0.04	0.02	50%
10	2,2,4-trimethylheptane	0.02	0.02	0.00	0.02	0.00	0.00	0.00	0.01	100%
10	2,2-dimethyloctane	0.02	0.03	0.00	0.01	0.05	0.00	0.04	0.02	100%
10	2,3-dimethyloctane	0.02	0.03	0.00	0.05	0.02	0.00	0.04	0.02	100%
10	2,4-dimethyloctane	0.02	0.03	0.00	0.03	0.05	0.00	0.04	0.02	100%
10	2,5-dimethyloctane	0.02	0.03	0.00	0.03	0.05	0.00	0.04	0.02	100%
10	2,6-dimethyloctane	0.02	0.03	0.00	0.03	0.06	0.00	0.05	0.03	67%
10	2-methylindan	0.09	0.03	0.00	0.04	0.05	0.00	0.07	0.04	75%
10	2-methylnonane	0.21	0.23	0.00	0.26	0.41	0.00	0.05	0.17	88%
10	3,3-dimethyloctane	0.02	0.02	0.00	0.03	0.03	0.00	0.03	0.02	50%
10	4-methylindan	0.03	0.02	0.00	0.00	0.03	0.00	0.04	0.02	100%
10	5-methylindan	0.07	0.03	0.00	0.03	0.07	0.00	0.03	0.03	100%
10	isobutylbenzene	0.02	0.02	0.00	0.02	0.02	0.00	0.04	0.02	50%
10	n-decane	0.09	0.10	0.00	0.09	0.07	0.00	0.15	0.07	71%
10	naphthalene	0.16	0.06	1.01	0.05	0.08	0.00	0.15	0.22	164%
11	1-ethyl-2n-propylbenzene	0.03	0.01	0.00	0.00	0.01	0.00	0.03	0.01	100%
11	1-methyl-2-n-butylbenzene	0.05	0.03	0.00	0.00	0.02	0.00	0.05	0.02	100%
11	1-methyl-2-tert-butylbenzene	0.00	0.01	0.00	0.00	0.01	0.00	0.18	0.03	233%
11	n-pentylbenzene	0.03	0.01	0.00	0.00	0.01	0.00	0.00	0.01	100%
11	n-undecane	0.04	0.03	0.00	0.05	0.06	0.00	0.00	0.03	100%
12	1,3-dipropylbenzene	0.02	0.01	0.00	0.00	0.02	0.00	0.04	0.01	100%
12	1-(1,1-dme)-3,5-dmbenzene	0.03	0.01	0.00	0.00	0.01	0.00	0.02	0.01	100%
12	n-dodecane	0.02	0.00	0.00	0.00	0.01	0.00	0.02	0.01	100%
13	2,2,5-triethylheptane	0.07	0.09	0.00	0.12	0.15	0.00	0.12	0.08	75%
	sum	100.04	100.01	99.98	99.97	100.00	99.98	99.98	100.01	
	Mass (mg/mi)	1194	1908	20	1058	1074	19	1334	944	73%
	MIR	4.05	3.63	3.23	3.74	3.21	3.92	3.65	3.63	9%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).
Hot stabilized emissions are represented by Bag 2 of Unified Cycle.

Table 18. Exhaust Gasoline Organic Gas Species Test Results.

(Et2.0%, Hot Stabilized Emissions, Weight Percent)

CNUM	CHEMNAME	VEH1	VEH3	VEH4	VEH5	VEH6	VEH7	MEAN	COV
1	formaldehyde	3.23	2.01	0.04	0.02	0.50	0.08	0.98	137%
1	methyl alcohol	0.42	0.00	0.00	0.00	0.00	0.16	0.10	177%
2	acetaldehyde	1.62	0.26	0.01	0.01	0.00	0.37	0.38	166%
2	acetylene	2.63	0.00	0.72	1.73	0.18	1.05	1.05	94%
2	ethane	1.91	4.49	3.61	1.70	3.05	1.99	2.79	40%
2	ethyl alcohol	0.63	0.00	0.00	0.00	0.00	0.27	0.15	173%
2	ethylene	12.91	3.23	15.19	8.43	5.01	8.85	8.94	51%
3	1,2-propadiene	0.15	0.00	0.00	0.00	0.00	0.08	0.04	165%
3	1-propyne	0.29	0.00	0.13	0.11	0.00	0.00	0.09	130%
3	acetone	0.50	0.00	0.00	0.01	0.18	0.17	0.14	135%
3	propane	0.09	1.27	0.16	0.22	0.27	0.08	0.35	131%
3	propionaldehyde	0.15	0.26	0.00	0.00	0.18	0.05	0.11	100%
3	propylene	4.58	2.27	6.90	4.11	3.01	3.74	4.10	39%
4	1,2-butadiene	0.00	0.00	0.00	0.00	0.00	0.18	0.03	245%
4	1,3-butadiene	0.09	0.00	0.46	0.00	0.00	0.31	0.14	137%
4	1-butene	0.45	0.00	0.61	0.47	0.00	0.42	0.33	80%
4	2-methyl-2-propenal	0.10	0.00	0.00	0.00	0.00	0.02	0.02	200%
4	butyraldehyde	0.01	0.00	0.00	0.00	0.00	0.00	0.00	245%
4	cis-2-butene	0.23	0.00	0.27	0.17	0.00	0.21	0.15	81%
4	crotonaldehyde	0.07	0.00	0.00	0.00	0.00	0.03	0.02	173%
4	isobutane	0.09	0.00	0.08	0.06	0.00	0.05	0.05	83%
4	isobutene	1.47	0.00	1.22	0.10	0.00	1.35	0.69	105%
4	methyl ethyl ketone (MEK)	0.03	0.00	0.00	0.00	0.14	0.02	0.03	172%
4	n-butane	0.25	0.26	0.43	0.51	0.36	0.26	0.35	31%
4	trans-2-butene	0.32	0.00	0.39	0.27	0.00	0.28	0.21	80%
4	vinylacetylene	0.07	0.00	0.00	0.04	0.00	0.03	0.02	123%
5	1-pentene	0.08	0.00	0.10	0.10	0.00	0.14	0.07	82%
5	2-methyl-1-butene	0.16	0.00	0.00	0.00	0.00	0.17	0.06	155%
5	2-methyl-2-butene	0.11	0.00	0.09	0.12	0.00	0.00	0.05	111%
5	3-methyl-1-butene	0.09	0.00	0.10	0.00	0.00	0.08	0.05	110%
5	cis-2-pentene	0.06	0.00	0.07	0.06	0.00	0.06	0.04	78%
5	cyclopentane	0.49	0.00	0.53	0.58	0.00	0.54	0.36	78%
5	cyclopentene	0.03	0.00	0.08	0.04	0.00	0.04	0.03	95%
5	isopentane	5.01	4.18	5.81	7.40	5.51	5.36	5.55	19%
5	isovaleraldehyde	0.03	0.00	0.01	0.00	0.00	0.00	0.01	182%
5	methyl t-butyl ether (MTBE)	0.00	0.74	0.06	0.07	0.55	0.00	0.24	137%
5	n-pentane	1.35	1.27	1.53	1.85	1.59	1.52	1.52	13%
5	trans-2-pentene	0.12	0.00	0.13	0.12	0.00	0.10	0.08	78%
6	1-hexene	0.04	0.00	0.06	0.04	0.00	0.05	0.03	81%
6	2,2-dimethylbutane	2.07	2.33	2.27	2.79	2.60	2.28	2.39	11%
6	2,3-dimethylbutane	1.43	1.59	1.54	1.95	1.91	1.62	1.67	13%
6	2-methyl-2-pentene	0.00	0.00	0.00	0.00	0.00	0.02	0.00	245%
6	2-methylpentane	4.76	3.86	5.25	6.48	4.78	5.67	5.13	17%
6	3-methyl-1-pentene	0.06	0.00	0.04	0.06	0.00	0.03	0.03	86%
6	3-methylcyclopentene	0.00	0.00	0.00	0.00	0.00	0.02	0.00	245%
6	3-methylpentane	3.00	3.12	3.26	4.11	2.87	3.54	3.32	14%

6	4-methyl-1-pentene	0.00	0.00	0.05	0.08	0.00	0.02	0.03	133%
6	4-methyl-trans-2-pentene	0.02	0.00	0.00	0.05	0.00	0.02	0.02	132%
6	benzene	6.49	8.46	5.75	4.19	12.89	5.40	7.20	43%
6	cis-2-hexene	0.00	0.00	0.00	0.00	0.00	0.01	0.00	245%
6	cyclohexane	0.59	0.00	0.70	0.83	0.91	0.76	0.63	52%
6	cyclohexene	0.04	0.00	0.05	0.08	0.00	0.04	0.04	88%
6	hexaldehyde	0.07	0.00	0.00	0.00	0.00	0.00	0.01	245%
6	methylcyclopentane	2.19	2.33	2.46	2.96	2.82	2.69	2.58	12%
6	n-hexane	0.70	1.32	0.82	1.04	1.46	0.86	1.03	29%
6	trans-2-hexene	0.00	0.00	0.00	0.00	0.00	0.02	0.00	245%
6	trans-3-hexene	0.04	0.00	0.00	0.00	0.00	0.02	0.01	167%
7	1-c-3-dimethylcyclopentane	0.00	0.00	0.29	0.37	0.00	0.32	0.16	111%
7	1-t-2-dimethylcyclopentane	0.28	0.00	0.00	0.00	0.00	0.10	0.06	179%
7	1-t-3-dimethylcyclopentane	0.28	0.00	0.31	0.39	0.00	0.34	0.22	79%
7	2,2,3-trimethylbutane	0.00	0.00	0.00	0.00	0.00	0.03	0.01	245%
7	2,3-dimethylpentane	1.05	1.59	0.68	0.94	1.23	0.82	1.05	31%
7	2,4-dimethyl-2-pentene	0.11	0.00	0.10	0.13	0.00	0.10	0.07	79%
7	2,4-dimethylpentane	0.41	0.00	0.47	0.62	0.00	0.51	0.34	80%
7	2-methyl-2-hexene	0.00	0.00	0.00	0.04	0.00	0.00	0.01	245%
7	2-methylhexane	0.00	1.27	1.19	1.58	1.55	1.30	1.15	51%
7	3,3-dimethylpentane	0.03	0.00	0.00	0.00	0.00	0.00	0.01	245%
7	3,4-dimethyl-1-pentene	0.03	0.00	0.00	0.00	0.00	0.00	0.01	245%
7	3-ethylpentane	0.09	0.00	0.42	0.53	0.00	0.33	0.23	100%
7	3-methylhexane	1.16	1.43	1.26	1.67	2.19	1.43	1.52	24%
7	benzaldehyde	0.70	1.37	0.00	0.00	0.00	0.12	0.37	154%
7	cis-2-heptene	0.00	0.00	0.00	0.00	0.00	0.01	0.00	245%
7	ethylcyclopentane	0.00	0.00	0.13	0.17	0.00	0.00	0.05	157%
7	methylcyclohexane	0.80	1.22	0.91	1.16	1.23	1.02	1.06	17%
7	n-heptane	0.83	1.00	0.91	1.20	1.18	1.05	1.03	14%
7	toluene	6.93	8.04	8.22	7.24	7.88	8.44	7.79	8%
7	trans-2-heptene	0.00	0.00	0.00	0.00	0.00	0.03	0.01	245%
8	1,1-methylethylcyclopentane	0.07	0.00	0.10	0.07	0.00	0.09	0.06	80%
8	1,2,4-trimethylcyclopentene	0.18	0.00	0.13	0.17	0.00	0.20	0.11	80%
8	1-octene	0.05	0.00	0.05	0.00	0.00	0.06	0.03	110%
8	1c,2t,3-trimethylcyclopentane	0.07	0.00	0.08	0.10	0.00	0.09	0.06	79%
8	2,2,4-trimethylpentane	1.72	2.33	1.76	2.52	1.73	2.12	2.03	17%
8	2,2-dimethylhexane	0.05	0.00	0.12	0.17	0.00	0.08	0.07	96%
8	2,3,4-trimethylpentane	0.63	1.11	0.62	0.95	1.23	0.79	0.89	28%
8	2,3-dimethylhexane	0.28	0.00	0.29	0.47	0.00	0.33	0.23	83%
8	2,4-dimethylhexane	0.43	0.00	0.42	0.57	0.00	0.53	0.33	79%
8	2,5-dimethylhexane	0.40	0.00	0.32	0.46	0.00	0.50	0.28	80%
8	2-methylheptane	0.43	0.00	0.46	0.65	0.00	0.56	0.35	81%
8	3,3-dimethylhexane	0.00	0.00	0.04	0.07	0.00	0.00	0.02	163%
8	3,4-dimethylhexane	0.10	0.00	0.09	0.13	0.00	0.11	0.07	80%
8	3-methylheptane	0.61	0.00	0.57	0.79	0.00	0.70	0.45	79%
8	4-methylheptane	0.20	0.00	0.20	0.28	0.00	0.24	0.15	80%
8	c-1,2-dimethylcyclohexane	0.05	0.00	0.04	0.00	0.00	0.00	0.02	156%
8	cis-1,3-dimethylcyclohexane	0.21	0.00	0.23	0.30	0.00	0.26	0.17	80%
8	cis-2-octene	0.04	0.00	0.00	0.00	0.00	0.00	0.01	245%

8	ethylbenzene	1.22	2.49	1.45	1.53	1.59	0.03	1.39	57%
8	ethylcyclohexane	0.08	0.00	0.07	0.10	0.00	0.11	0.06	81%
8	m-xylene	0.03	7.99	5.32	5.83	7.43	6.80	5.57	52%
8	n-octane	0.31	0.00	0.34	0.48	1.00	0.41	0.42	77%
8	o-xylene	1.72	3.54	1.92	2.09	3.55	2.38	2.53	32%
8	styrene	0.04	0.00	0.29	0.04	0.00	0.06	0.07	153%
8	t-1-methyl-3-ethylcyclopentane	0.08	0.00	0.14	0.12	0.00	0.11	0.08	82%
8	tolualdehyde	0.41	0.95	0.00	0.00	0.00	0.07	0.24	161%
8	trans-1,3-dimethylcyclohexane	0.12	0.00	0.13	0.18	0.00	0.15	0.10	80%
8	trans-1,4-dimethylcyclohexane	0.09	0.00	0.09	0.12	0.00	0.11	0.07	79%
8	trans-2-octene	0.03	0.00	0.00	0.00	0.00	0.04	0.01	157%
9	1,2,3-trimethylbenzene	0.44	1.32	0.33	0.50	0.00	0.38	0.50	89%
9	1,2,4-trimethylbenzene	1.84	6.03	1.61	2.12	5.56	2.79	3.33	59%
9	1,3,5-trimethylbenzene	0.68	1.85	0.61	0.79	2.00	0.96	1.15	54%
9	1,3,5-trimethylcyclohexane	0.08	0.00	0.08	0.11	0.00	1.77	0.34	206%
9	1-methyl-3-ethylbenzene	1.19	3.12	1.18	1.49	2.82	1.68	1.91	44%
9	1-methyl-4-ethylbenzene	0.52	1.80	0.51	0.66	1.32	0.71	0.92	57%
9	1-methyl-4-ethylcyclohexane	0.03	0.00	0.00	0.05	0.00	0.03	0.02	117%
9	2,2,4-trimethylhexane	0.00	0.00	0.00	0.00	0.00	0.03	0.01	245%
9	2,2,5-trimethylhexane	0.24	0.00	0.25	0.37	0.00	0.33	0.20	81%
9	2,3,5-trimethylhexane	0.05	0.00	0.05	0.08	0.00	0.06	0.04	82%
9	2,3-dimethylheptane	5.32	0.00	0.00	0.00	0.00	0.00	0.89	245%
9	2,4,4-trimethylhexane	0.02	0.00	0.00	0.07	0.00	0.04	0.02	132%
9	2,4-dimethylheptane	0.06	0.00	0.08	0.12	0.00	0.07	0.06	86%
9	2,6-dimethylheptane	0.10	0.00	0.10	0.14	0.00	0.06	0.07	86%
9	2-methyloctane	0.00	0.00	0.18	0.00	0.00	0.00	0.03	245%
9	3,5-dimethylheptane	0.14	0.00	0.18	0.24	0.00	0.10	0.11	88%
9	3-methyloctane	0.23	0.00	0.23	0.33	0.00	0.29	0.18	80%
9	4-methyloctane	0.30	0.00	0.14	0.24	0.00	0.38	0.18	89%
9	indan	0.15	0.00	0.12	0.20	0.00	0.19	0.11	82%
9	isopropylbenzene (cumene)	0.09	0.00	0.09	0.11	0.00	0.12	0.07	79%
9	n-nonane	0.15	0.00	0.15	0.21	0.00	0.19	0.12	80%
9	n-propylbenzene	0.33	0.00	0.30	0.44	0.00	0.43	0.25	80%
9	o-ethyltoluene	0.43	1.32	0.42	0.73	1.32	0.60	0.80	52%
10	1,2,3,4-tetramethylbenzene	0.11	0.00	0.04	0.08	0.00	0.07	0.05	89%
10	1,2,3,5-tetramethylbenzene	0.15	1.00	0.11	0.18	0.96	0.28	0.45	93%
10	1,2,4,5-tetramethylbenzene	0.00	1.16	0.08	0.14	0.00	0.22	0.27	167%
10	1,2-diethylbenzene (ortho)	0.04	0.00	0.00	0.00	0.00	0.04	0.01	155%
10	1,2-dimethyl-3-ethylbenzene	0.09	0.00	0.05	0.08	0.00	0.10	0.05	84%
10	1,2-dimethyl-4-ethylbenzene	0.26	1.16	0.19	0.30	1.09	0.36	0.56	79%
10	1,3-diethylbenzene (meta)	0.14	0.00	0.09	0.13	0.00	0.16	0.09	82%
10	1,3-dimethyl-2-ethylbenzene	0.07	0.00	0.05	0.08	0.00	0.11	0.05	86%
10	1,3-dimethyl-4-ethylbenzene	0.17	0.00	0.11	0.17	0.00	0.24	0.12	85%
10	1,3-dimethyl-5-ethylbenzene	0.35	1.27	0.26	0.38	1.05	0.49	0.63	66%
10	1,4-diethylbenzene (para)	0.14	0.00	0.11	0.21	0.00	0.19	0.11	84%
10	1,4-dimethyl-2-ethylbenzene	0.20	0.00	0.14	0.20	0.00	0.27	0.14	83%
10	1-methyl-2-isopropylbenzene	0.07	0.00	0.00	0.09	0.00	0.08	0.04	111%
10	1-methyl-2n-propylbenzene	0.10	0.00	0.07	0.12	0.00	0.12	0.07	82%
10	1-methyl-3-isopropylbenzene	0.06	0.00	0.00	0.14	0.00	0.07	0.05	126%

10	1-methyl-3n-propylbenzene	0.40	1.32	0.25	0.43	1.28	0.48	0.69	69%
10	1-methyl-4-isopropylbenzene	0.04	0.00	0.00	0.04	0.00	0.04	0.02	110%
10	2,2,4-trimethylheptane	0.03	0.00	0.00	0.05	0.00	0.04	0.02	114%
10	2,2-dimethyloctane	0.04	0.00	0.07	0.10	0.00	0.01	0.04	113%
10	2,3-dimethyloctane	0.03	0.00	0.00	0.00	0.00	0.05	0.01	162%
10	2,4-dimethyloctane	0.21	0.00	0.00	0.06	0.00	0.19	0.08	129%
10	2,5-dimethyloctane	0.04	0.00	0.05	0.07	0.00	0.05	0.04	82%
10	2,6-dimethyloctane	0.06	0.00	0.06	0.09	0.00	0.07	0.05	81%
10	2-methylindan	0.00	0.00	0.04	0.08	0.00	0.14	0.04	132%
10	2-methylnonane	0.18	0.00	0.23	0.13	0.00	0.30	0.14	87%
10	3,3-dimethyloctane	0.05	0.00	0.05	0.07	0.00	0.06	0.04	80%
10	4-methylindan	0.09	0.00	0.00	0.00	0.00	0.00	0.02	245%
10	5-methylindan	0.04	0.00	0.00	0.06	0.00	0.12	0.04	131%
10	isobutylbenzene	0.02	0.00	0.00	0.00	0.00	0.03	0.01	159%
10	n-decane	0.04	0.00	0.05	0.15	0.00	0.07	0.05	108%
10	naphthalene	0.04	1.06	0.05	0.00	0.00	0.04	0.20	213%
10	sec-butylbenzene	0.00	0.00	0.00	0.00	0.00	0.05	0.01	245%
11	1-ethyl-2n-propylbenzene	0.04	0.00	0.00	0.00	0.00	0.00	0.01	245%
11	1-methyl-2-n-butylbenzene	0.07	0.00	0.00	0.00	0.00	0.08	0.03	155%
11	1-methyl-2-tert-butylbenzene	0.21	0.00	0.00	0.00	0.00	0.00	0.04	245%
11	n-pentylbenzene	0.05	0.00	0.00	0.00	0.00	0.00	0.01	245%
11	n-undecane	0.00	0.00	0.00	0.00	0.00	0.02	0.00	245%
12	1,3-dipropylbenzene	0.04	0.00	0.00	0.00	0.00	0.05	0.02	156%
12	1-(1,1-dme)-3,5-dmbenzene	0.21	0.00	0.00	0.00	0.00	0.00	0.04	245%
12	n-dodecane	0.00	0.00	0.00	0.00	0.00	0.03	0.01	245%
13	2,2,5-triethylheptane	0.04	0.00	0.11	0.15	0.00	0.09	0.07	95%
	sum	99.98	99.99	100.01	99.97	99.96	100.03	99.99	
	Mass (mg/mi)	788	19	461	498	22	1415	533.83	98%
	MIR	3.57	3.86	3.97	3.45	3.72	3.72	3.72	5%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).
Hot stabilized emissions are represented by Bag 2 of Unified Cycle.

Table 19. Exhaust Gasoline Organic Gas Species Test Results.

(MTBE, Start Emissions, Weight Percent)

NAME	VEH1	VEH2	VEH3	VEH4	VEH5	MEAN	COV
ethane	0.73	1.98	0.88	0.77	0.12	0.90	75%
propane	0.03	0.17	0.06	0.06	0.01	0.07	92%
butanes	0.30	0.14	0.56	0.79	0.65	0.49	54%
pentanes	5.88	0.00	6.85	9.42	9.26	6.28	61%
c6+ br-alkanes	31.19	10.87	25.83	37.25	37.80	28.59	39%
c6+ n-alkanes	3.96	1.65	3.39	4.97	5.07	3.81	37%
ethene	8.30	14.54	8.22	5.38	1.66	7.62	62%
propene	3.33	6.39	3.89	2.65	0.91	3.43	58%
1,3-butadiene	0.66	1.09	0.47	0.47	0.23	0.59	55%
c4+ alkenes	5.75	5.89	7.67	6.32	3.16	5.76	28%
acetylene	9.65	13.49	2.43	2.37	2.32	6.05	86%
alkynes	0.22	0.94	0.16	0.26	0.22	0.36	91%
benzene	1.72	5.46	2.76	2.73	1.26	2.79	58%
toluene	6.89	9.04	7.34	6.57	6.67	7.30	14%
c8+ aromatics	10.33	22.14	20.85	15.28	17.98	17.32	27%
formaldehyde	0.86	0.00	1.32	0.74	0.32	0.65	78%
acetaldehyde	0.37	0.00	0.50	0.36	0.16	0.28	71%
c3+aldehydes	0.75	0.38	0.74	0.24	0.23	0.47	55%
MTBE	7.09	4.62	3.16	1.85	10.73	5.49	64%
ethanol							
c3+ alcohols	1.65	0.97	2.16	0.98	0.90	1.33	42%
ketones	0.15	0.06	0.48	0.28	0.24	0.24	65%
styrenes	0.19	0.18	0.17	0.22	0.06	0.16	39%
isoprene	0.00	0.00	0.10	0.05	0.03	0.04	118%
sum	100.00	100.00	100.00	100.00	100.00	100.00	
Mass (mg/mi)	3399	1714	1564	3773	6320	3354	57%
MIR	3.12	4.36	3.92	3.17	2.74	3.47	19%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).
Start emissions are represented by Bag 1 minus Bag 3 of Unified Cycle.

Table 20. Exhaust Gasoline Organic Gas Species Test Results.

(NonOxy, Start Emissions, Weight Percent)

NAME	VEH1	VEH2	VEH3	VEH4	VEH5	VEH6	VEH7	MEAN	COV
ethane	0.59	1.40	0.78	0.62	0.20	0.79	0.68	0.72	49%
propane	0.05	0.07	0.02	0.05	0.01	0.07	0.08	0.05	52%
butanes	0.37	0.10	0.51	0.60	0.72	0.67	0.88	0.55	47%
pentanes	8.27	6.69	8.57	10.40	10.48	11.31	7.00	8.96	20%
c6+ br-alkanes	32.33	22.30	31.39	40.47	40.13	31.33	23.85	31.69	22%
c6+ n-alkanes	3.21	2.25	2.66	3.78	3.89	2.68	2.40	2.98	22%
ethene	8.15	10.08	8.07	5.77	2.49	6.80	7.99	7.05	34%
propene	2.74	4.75	4.40	2.78	1.22	4.70	4.70	3.61	38%
1,3-butadiene	0.48	0.63	0.23	0.43	0.18	0.78	0.71	0.49	47%
c4+ alkenes	5.46	5.02	5.43	4.10	1.99	6.23	6.00	4.89	30%
acetylene	10.64	11.17	2.51	2.29	3.60	3.65	13.41	6.75	71%
alkynes	0.18	0.36	0.26	0.10	0.25	0.11	0.80	0.30	82%
benzene	1.82	4.03	2.40	2.94	1.16	1.83	2.06	2.32	40%
toluene	9.98	11.34	11.00	10.07	10.69	10.37	9.06	10.36	7%
c8+ aromatics	12.97	19.23	18.94	13.99	21.96	14.75	17.21	17.01	19%
formaldehyde	0.88	0.00	1.04	0.34	0.22	1.46	0.78	0.67	76%
acetaldehyde	0.47	0.00	0.51	0.21	0.12	0.70	0.59	0.37	70%
c3+aldehydes	0.61	0.22	0.67	0.25	0.14	0.97	0.56	0.49	61%
MTBE	0.21	0.01	0.07	0.08	0.11	0.07	0.12	0.10	67%
Ethanol	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.04	265%
c3+ alcohols	0.00	0.20	0.00	0.14	0.24	0.00	0.00	0.08	130%
ketones	0.29	0.00	0.39	0.17	0.09	0.48	0.44	0.27	69%
styrenes	0.22	0.12	0.15	0.26	0.10	0.26	0.25	0.19	36%
isoprene	0.08	0.02	0.00	0.15	0.01	0.00	0.11	0.05	113%
sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
Mass (mg/mi)	5662	3042	1487	6720	5774	1574	6432	4384	52%
MIR	3.22	3.82	3.74	3.05	3.07	3.56	3.66	3.45	9%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).
Start emissions are represented by Bag 1 minus Bag 3 of Unified Cycle.

Table 21. Exhaust Gasoline Organic Gas Species Test Results.

(Et2.0%, Start Emissions, Weight Percent)

NAME	VEH1	VEH3	VEH4	VEH5	VEH6	VEH7	MEAN	COV
ethane	0.79	0.84	0.74	0.31	0.88	0.64	0.70	30%
propane	0.06	0.07	0.07	0.00	0.08	0.05	0.06	52%
butanes	0.19	0.25	0.33	0.38	0.53	0.24	0.32	38%
pentanes	4.11	6.29	6.55	6.43	5.57	5.69	5.77	16%
c6+br-alkanes	34.27	27.85	43.14	35.54	25.71	30.41	32.82	19%
c6+n-alkanes	2.33	2.50	3.82	3.32	2.18	2.60	2.79	23%
ethene	10.94	8.24	5.81	3.93	10.42	8.43	7.96	34%
propene	4.03	4.37	2.79	1.99	5.36	3.88	3.74	32%
1,3-butadiene	0.73	0.09	0.32	0.18	0.75	1.17	0.54	77%
c4+alkenes	4.53	3.46	2.63	1.95	4.32	5.06	3.66	33%
acetylene	9.33	3.33	1.79	3.52	6.04	9.18	5.53	58%
alkynes	0.81	0.13	0.21	0.30	0.50	0.22	0.36	69%
benzene	2.52	2.81	3.37	1.56	3.34	2.10	2.62	27%
toluene	7.57	8.32	8.51	8.32	8.11	7.30	8.02	6%
c8+aromatics	11.96	25.14	16.74	26.03	22.07	18.95	20.15	27%
formaldehyde	0.66	1.10	0.48	0.90	1.24	0.64	0.84	35%
acetaldehyde	0.85	0.96	0.53	0.80	1.16	0.46	0.79	33%
c3+aldehydes	0.67	0.65	0.30	0.50	0.94	0.28	0.56	45%
MTBE	0.05	0.05	0.16	0.18	0.05	0.09	0.10	61%
ethanol	2.61	3.00	0.99	3.11	0.00	1.61	1.89	66%
c3+ alcohols	0.45	0.00	0.27	0.37	0.00	0.22	0.22	85%
ketones	0.29	0.31	0.22	0.27	0.38	0.10	0.26	37%
styrenes	0.23	0.19	0.21	0.04	0.36	0.43	0.24	56%
isoprene	0.02	0.03	0.02	0.04	0.06	0.25	0.07	125%
sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
Mass (mg/mi)	788	19	461	498	22	1415	533.83	98%
MIR	3.57	3.86	3.97	3.45	3.72	3.72	3.72	5%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).
Start emissions are represented by Bag 1 minus Bag 3 of Unified Cycle.

Table 22. Exhaust Gasoline Organic Gas Species Test Results.

(MTBE, Start Emissions, Weight Percent)

CNUM	CHEMNAME	VEH1	VEH2	VEH3	VEH4	VEH5	MEAN	COV
1	formaldehyde	0.86	0.00	1.32	0.74	0.32	0.65	78%
1	methyl alcohol	1.65	0.97	2.16	0.98	0.90	1.33	42%
2	acetaldehyde	0.37	0.00	0.50	0.36	0.16	0.28	71%
2	acetylene	9.65	13.49	2.43	2.37	2.32	6.05	86%
2	ethane	0.73	1.98	0.88	0.77	0.12	0.90	74%
2	ethylene	8.30	14.54	8.22	5.38	1.66	7.62	62%
3	1,2-propadiene	0.45	0.54	0.28	0.00	0.00	0.25	100%
3	1-propyne	0.00	0.70	0.00	0.18	0.14	0.20	145%
3	acetone	0.11	0.06	0.45	0.26	0.16	0.21	71%
3	acrolein (2-propenal)	0.13	0.00	0.00	0.00	0.00	0.03	200%
3	propane	0.03	0.17	0.06	0.06	0.01	0.07	86%
3	propionaldehyde	0.10	0.07	0.21	0.10	0.07	0.11	55%
3	propylene	3.33	6.39	3.89	2.65	0.91	3.43	58%
4	1,2-butadiene	0.00	0.00	0.00	0.03	0.02	0.01	200%
4	1,3-butadiene	0.66	1.09	0.47	0.47	0.23	0.59	54%
4	1,3-butadiyne	0.00	0.06	0.00	0.02	0.02	0.02	150%
4	1-butene	0.71	0.76	1.06	0.37	0.20	0.62	55%
4	2-butyne	0.00	0.00	0.09	0.00	0.01	0.02	200%
4	2-methyl-2-propenal	0.09	0.00	0.09	0.07	0.03	0.06	67%
4	butyraldehyde	0.00	0.00	0.02	0.00	0.00	0.00	n/a
4	cis-2-butene	0.16	0.27	0.50	0.14	0.07	0.23	74%
4	crotonaldehyde	0.08	0.04	0.08	0.05	0.04	0.06	33%
4	isobutane	0.06	0.14	0.13	0.00	0.00	0.07	100%
4	isobutene	2.10	2.77	3.24	3.82	0.95	2.58	43%
4	methyl ethyl ketone (MEK)	0.04	0.00	0.04	0.02	0.08	0.04	75%
4	n-butane	0.24	0.00	0.43	0.79	0.65	0.42	76%
4	trans-2-butene	0.21	0.35	0.46	0.19	0.09	0.26	54%
4	vinylacetylene	0.22	0.18	0.07	0.07	0.06	0.12	58%
5	1-pentene	0.10	0.09	0.16	0.09	0.07	0.10	30%
5	2,2-dimethylpropane	0.00	0.00	0.00	0.00	0.01	0.00	n/a
5	2-methyl-1-butene	0.23	0.22	0.18	0.02	0.03	0.14	71%
5	2-methyl-2-butene	0.27	0.00	0.12	0.22	0.25	0.17	65%
5	3-methyl-1-butene	0.08	0.07	0.12	0.05	0.03	0.07	43%
5	cis-2-pentene	0.07	0.05	0.11	0.07	0.07	0.07	29%
5	cyclopentane	0.31	0.00	0.31	0.41	0.43	0.29	59%
5	cyclopentene	0.10	0.09	0.17	0.06	0.06	0.09	44%
5	isopentane	3.86	0.00	4.50	6.22	5.94	4.10	61%
5	isoprene	0.00	0.00	0.10	0.05	0.03	0.04	100%
5	isovaleraldehyde	0.00	0.00	0.00	0.00	0.03	0.01	200%
5	methyl t-butyl ether (MTBE)	7.09	4.62	3.16	1.85	10.73	5.49	64%
5	n-pentane	1.72	0.00	2.04	2.79	2.89	1.89	62%
5	trans-1,3-pentadiene	0.09	0.00	0.00	0.00	0.00	0.02	200%
5	trans-2-pentene	0.12	0.08	0.17	0.11	0.15	0.13	23%
6	1-hexene	0.07	0.05	0.11	0.06	0.05	0.07	29%
6	2,2-dimethylbutane	0.07	0.00	0.07	0.08	0.10	0.06	67%
6	2,3-dimethylbutane	0.66	0.00	0.58	0.85	0.92	0.60	60%

6	2-methyl-1-pentene	0.00	0.00	0.00	0.03	0.02	0.01	200%
6	2-methyl-2-pentene	0.13	0.06	0.08	0.06	0.05	0.07	43%
6	2-methylpentane	2.72	0.34	2.31	3.32	3.67	2.47	53%
6	3,3-dimethyl-1-butene	0.00	0.01	0.00	0.00	0.01	0.00	n/a
6	3-methyl-1-pentene	0.00	0.00	0.07	0.04	0.03	0.03	100%
6	3-methylcyclopentene	0.08	0.05	0.06	0.04	0.03	0.05	40%
6	3-methylpentane	1.76	0.24	1.46	2.10	2.30	1.57	52%
6	4-methyl-1-pentene	0.10	0.00	0.08	0.05	0.03	0.05	80%
6	4-methyl-cis-2-pentene	0.00	0.00	0.03	0.00	0.00	0.01	100%
6	4-methyl-trans-2-pentene	0.00	0.01	0.03	0.03	0.03	0.02	100%
6	benzene	1.72	5.46	2.76	2.73	1.26	2.79	58%
6	cis-2-hexene	0.00	0.02	0.04	0.03	0.04	0.03	67%
6	cyclohexane	1.01	0.32	0.76	1.07	1.13	0.86	38%
6	cyclohexene	0.07	0.07	0.07	0.04	0.05	0.06	17%
6	methylcyclopentane	2.52	0.74	1.93	2.73	2.92	2.17	41%
6	n-hexane	1.87	0.45	1.54	2.20	2.46	1.70	46%
6	trans-2-hexene	0.07	0.03	0.06	0.05	0.08	0.06	33%
6	trans-3-hexene	0.00	0.00	0.04	0.03	0.05	0.03	67%
7	1-c-3-dimethylcyclopentane	0.86	0.34	0.61	0.88	0.90	0.72	33%
7	1-t-2-dimethylcyclopentane	0.00	0.04	0.00	0.00	0.00	0.01	200%
7	1-t-3-dimethylcyclopentane	0.95	0.34	0.66	0.95	1.01	0.78	36%
7	2,2,3-trimethylbutane	0.00	0.00	0.00	0.04	0.05	0.02	150%
7	2,3-dimethylpentane	1.49	0.33	0.99	1.45	1.49	1.15	44%
7	2,4-dimethyl-1-pentene	0.00	0.00	0.02	0.01	0.02	0.01	100%
7	2,4-dimethyl-2-pentene	0.00	0.01	0.06	0.06	0.06	0.04	75%
7	2,4-dimethylpentane	0.84	0.20	0.62	0.90	1.00	0.71	45%
7	2-methyl-2-hexene	0.08	0.04	0.03	0.03	0.01	0.04	50%
7	2-methyl-trans-3-hexene	0.00	0.01	0.00	0.00	0.00	0.00	n/a
7	2-methylhexane	1.86	0.58	1.32	2.01	2.25	1.60	42%
7	3,3-dimethylpentane	0.00	0.01	0.00	0.02	0.01	0.01	100%
7	3,4-dimethyl-1-pentene	0.00	0.00	0.02	0.00	0.00	0.01	100%
7	3-ethyl-2-pentene	0.00	0.04	0.00	0.01	0.00	0.01	200%
7	3-ethylpentane	1.17	0.36	0.80	1.16	1.19	0.94	38%
7	3-methyl-cis-2-hexene	0.14	0.00	0.00	0.05	0.03	0.04	150%
7	3-methyl-trans-3-hexene	0.00	0.00	0.00	0.02	0.01	0.01	100%
7	3-methylhexane	2.06	0.62	1.43	2.11	2.24	1.69	40%
7	4-methyl-trans-2-hexene	0.00	0.00	0.00	0.03	0.04	0.01	200%
7	benzaldehyde	0.35	0.26	0.33	0.01	0.06	0.20	80%
7	cis-2-heptene	0.00	0.02	0.04	0.04	0.06	0.03	67%
7	ethylcyclopentane	0.35	0.00	0.26	0.37	0.38	0.27	59%
7	methylcyclohexane	2.18	0.88	1.54	2.22	2.27	1.82	33%
7	n-heptane	1.36	0.51	0.95	1.41	1.48	1.14	36%
7	toluene	6.89	9.04	7.34	6.57	6.67	7.30	14%
7	trans-2-heptene	0.00	0.00	0.04	0.05	0.07	0.03	100%
7	trans-3-heptene	0.16	0.02	0.04	0.07	0.08	0.07	71%
8	1,1-methylethylcyclopentane	0.15	0.07	0.14	0.18	0.18	0.15	33%
8	1,2,4-trimethylcyclopentene	0.26	0.13	0.19	0.28	0.29	0.23	30%
8	1-octene	0.12	0.06	0.10	0.14	0.13	0.11	27%
8	1c,2t,3-trimethylcyclopentan	0.19	0.08	0.14	0.21	0.21	0.17	29%

8	2,2,4-trimethylpentane	2.44	0.62	1.72	2.56	2.60	1.99	42%
8	2,2-dimethylhexane	0.21	0.09	0.16	0.22	0.22	0.18	33%
8	2,3,4-trimethylpentane	1.11	0.30	0.87	1.28	1.26	0.96	43%
8	2,3-dimethylhexane	0.43	0.15	0.37	0.49	0.48	0.38	37%
8	2,4,4-trimethyl-2-pentene	0.00	0.00	0.00	0.01	0.01	0.00	n/a
8	2,4-dimethylhexane	0.70	0.26	0.52	0.69	0.64	0.56	32%
8	2,5-dimethylhexane	0.48	0.34	0.36	0.61	0.63	0.48	29%
8	2-methylheptane	0.67	0.34	0.57	0.86	0.81	0.65	32%
8	3,3-dimethylhexane	0.00	0.00	0.03	0.05	0.04	0.02	100%
8	3,4-dimethylhexane	0.12	0.06	0.12	0.15	0.14	0.12	33%
8	3-methylheptane	0.72	0.40	0.63	0.95	0.92	0.72	31%
8	4-methylheptane	0.25	0.12	0.22	0.32	0.31	0.24	33%
8	c-1,2-dimethylcyclohexane	0.00	0.04	0.06	0.10	0.10	0.06	67%
8	cis-1,3-dimethylcyclohexane	0.31	0.17	0.27	0.38	0.37	0.30	30%
8	cis-2-octene	0.07	0.04	0.00	0.01	0.02	0.03	100%
8	ethylbenzene	1.26	1.80	1.81	1.31	1.51	1.54	17%
8	ethylcyclohexane	0.10	0.07	0.10	0.14	0.13	0.11	27%
8	m-xylene	4.20	7.44	6.44	4.96	6.01	5.81	22%
8	n-octane	0.40	0.26	0.40	0.60	0.56	0.44	32%
8	o-xylene	1.38	2.39	2.25	1.78	2.02	1.96	20%
8	styrene	0.19	0.18	0.17	0.22	0.06	0.16	38%
8	t-1-methyl-3-ethylcyclopenta	0.15	0.09	0.26	0.20	0.21	0.18	33%
8	tolualdehyde	0.00	0.00	0.00	0.00	0.00	0.00	n/a
8	trans-1,3-dimethylcyclohexan	0.17	0.09	0.16	0.22	0.22	0.18	28%
8	trans-1,4-dimethylcyclohexan	0.11	0.05	0.09	0.13	0.13	0.10	30%
8	trans-2-octene	0.00	0.04	0.05	0.06	0.06	0.04	75%
8	trans-4-octene	0.00	0.00	0.00	0.00	0.07	0.01	300%
9	1,2,3-trimethylbenzene	0.14	0.49	0.47	0.32	0.37	0.36	39%
9	1,2,4-trimethylbenzene	0.85	2.41	2.28	1.52	1.92	1.80	35%
9	1,3,5-trimethylbenzene	0.33	0.89	0.84	0.57	0.71	0.67	33%
9	1,3,5-trimethylcyclohexane	0.00	0.06	0.07	0.11	0.09	0.07	57%
9	1-methyl-3-ethylbenzene	0.78	1.72	1.75	1.12	1.33	1.34	31%
9	1-methyl-4-ethylbenzene	0.34	0.74	0.74	0.47	0.59	0.58	31%
9	1-methyl-4-ethylcyclohexane	0.00	0.05	0.05	0.09	0.07	0.05	60%
9	1-nonene	0.00	0.00	0.03	0.05	0.04	0.02	100%
9	2,2,4-trimethylhexane	0.00	0.04	0.07	0.03	0.11	0.05	80%
9	2,2,5-trimethylhexane	0.47	0.24	0.58	0.64	0.56	0.50	32%
9	2,3,5-trimethylhexane	0.09	0.05	0.14	0.14	0.12	0.11	36%
9	2,3-dimethylheptane	0.00	0.00	0.00	0.02	0.02	0.01	100%
9	2,4,4-trimethylhexane	0.00	0.02	0.06	0.06	0.07	0.04	75%
9	2,4-dimethylheptane	0.26	0.05	0.09	0.13	0.11	0.13	62%
9	2,6-dimethylheptane	0.16	0.12	0.19	0.29	0.24	0.20	35%
9	2-methyloctane	0.00	0.00	0.00	0.41	0.45	0.17	141%
9	3,5-dimethylheptane	0.27	0.12	0.33	0.50	0.40	0.32	44%
9	3-methyloctane	0.21	0.22	0.33	0.52	0.41	0.34	38%
9	4-methyloctane	0.33	0.29	0.45	0.30	0.12	0.30	40%
9	indan	0.09	0.24	0.30	0.20	0.24	0.21	38%
9	isopropylbenzene (cumene)	0.06	0.08	0.11	0.12	0.11	0.09	22%
9	n-nonane	0.15	0.21	0.28	0.44	0.33	0.28	39%

9	n-propylbenzene	0.19	0.31	0.37	0.33	0.36	0.31	23%
9	o-ethyltoluene	0.24	0.53	0.54	0.39	0.41	0.42	29%
10	1,2,3,4-tetramethylbenzene	0.00	0.13	0.04	0.03	0.01	0.04	125%
10	1,2,3,5-tetramethylbenzene	0.00	0.14	0.15	0.09	0.11	0.10	60%
10	1,2,4,5-tetramethylbenzene	0.00	0.03	0.12	0.07	0.15	0.07	86%
10	1,2-diethylbenzene (ortho)	0.00	0.04	0.04	0.02	0.03	0.03	67%
10	1,2-dimethyl-3-ethylbenzene	0.00	0.10	0.07	0.06	0.06	0.06	67%
10	1,2-dimethyl-4-ethylbenzene	0.08	0.27	0.34	0.19	0.25	0.23	43%
10	1,3-diethylbenzene (meta)	0.04	0.16	0.15	0.09	0.10	0.11	45%
10	1,3-dimethyl-2-ethylbenzene	0.00	0.07	0.07	0.08	0.06	0.06	50%
10	1,3-dimethyl-4-ethylbenzene	0.04	0.20	0.18	0.10	0.12	0.13	46%
10	1,3-dimethyl-5-ethylbenzene	0.12	0.41	0.40	0.22	0.28	0.29	41%
10	1,4-diethylbenzene (para)	0.05	0.14	0.17	0.14	0.16	0.13	38%
10	1,4-dimethyl-2-ethylbenzene	0.05	0.21	0.21	0.14	0.15	0.15	47%
10	1-methyl-2-isopropylbenzene	0.00	0.06	0.06	0.07	0.04	0.05	60%
10	1-methyl-2n-propylbenzene	0.00	0.08	0.11	0.11	0.09	0.08	63%
10	1-methyl-3-isopropylbenzene	0.00	0.05	0.05	0.05	0.05	0.04	50%
10	1-methyl-3n-propylbenzene	0.08	0.33	0.32	0.28	0.28	0.26	38%
10	1-methyl-4-isopropylbenzene	0.00	0.04	0.05	0.07	0.05	0.04	75%
10	2,2,4-trimethylheptane	0.00	0.03	0.04	0.07	0.05	0.04	75%
10	2,2-dimethyloctane	0.06	0.05	0.11	0.18	0.19	0.12	50%
10	2,3-dimethyloctane	0.00	0.03	0.04	0.06	0.00	0.03	100%
10	2,4-dimethyloctane	0.00	0.19	0.14	0.16	0.13	0.12	58%
10	2,5-dimethyloctane	0.00	0.04	0.09	0.15	0.11	0.08	75%
10	2,6-dimethyloctane	0.00	0.09	0.10	0.17	0.12	0.10	60%
10	2-methylindan	0.00	0.03	0.10	0.06	0.08	0.05	80%
10	2-methylnonane	0.17	0.18	0.36	0.57	0.39	0.33	52%
10	3,3-dimethyloctane	0.00	0.05	0.06	0.09	0.08	0.06	67%
10	4-methylindan	0.00	0.12	0.04	0.02	0.02	0.04	125%
10	5-methylindan	0.00	0.06	0.09	0.07	0.07	0.06	50%
10	isobutylbenzene	0.00	0.01	0.03	0.05	0.04	0.03	67%
10	n-decane	0.19	0.14	0.13	0.21	0.16	0.17	18%
10	naphthalene	0.00	0.01	0.06	0.07	0.06	0.04	75%
11	1-ethyl-2n-propylbenzene	0.00	0.04	0.04	0.03	0.03	0.03	67%
11	1-methyl-2-n-butylbenzene	0.00	0.07	0.02	0.02	0.07	0.04	75%
11	1-methyl-2-tert-butylbenzene	0.00	0.15	0.00	0.02	0.02	0.04	175%
11	n-pentylbenzene	0.00	0.03	0.03	0.00	0.02	0.02	50%
11	n-undecane	0.00	0.03	0.05	0.06	0.04	0.04	50%
12	1,3-dipropylbenzene	0.00	0.02	0.03	0.02	0.02	0.02	50%
12	1-(1,1-dme)-3,5-dmbenzene	0.00	0.13	0.00	0.02	0.01	0.03	200%
12	n-dodecane	0.00	0.03	0.00	0.03	0.02	0.02	100%
13	2,2,5-triethylheptane	0.12	0.10	0.19	0.26	0.20	0.17	41%
	sum	100.06	99.94	99.95	99.92	99.99	100.01	
	Mass (mg/mi)	3399	1714	1564	3773	6320	3354	57%
	MIR	3.12	4.36	3.92	3.17	2.74	3.47	19%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).
Start emissions are represented by Bag 1 minus Bag 3 of Unified Cycle.

Table 23. Exhaust Gasoline Organic Gas Species Test Results.

(NonOxy, Start Emissions, Weight Percent)

CNUM	CHEMNAME	VEH1	VEH2	VEH3	VEH4	VEH5	VEH6	VEH7	MEAN	COV
1	formaldehyde	0.88	0.00	1.04	0.34	0.22	1.46	0.78	0.67	76%
1	methyl alcohol	0.00	0.20	0.00	0.14	0.24	0.00	0.00	0.08	130%
2	acetaldehyde	0.47	0.00	0.51	0.21	0.12	0.70	0.59	0.37	70%
2	acetylene	10.64	11.17	2.51	2.29	3.60	3.65	13.41	6.75	71%
2	ethane	0.59	1.40	0.78	0.62	0.20	0.79	0.68	0.72	49%
2	ethyl alcohol	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.04	265%
2	ethylene	8.15	10.08	8.07	5.77	2.49	6.80	7.99	7.05	34%
3	1,2-propadiene	0.25	0.42	0.22	0.05	0.00	0.30	0.00	0.18	92%
3	1-propyne	0.00	0.00	0.13	0.05	0.18	0.00	0.55	0.13	153%
3	acetone	0.25	0.00	0.35	0.16	0.07	0.40	0.40	0.23	69%
3	acrolein (2-propenal)	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.01	265%
3	propane	0.05	0.07	0.02	0.05	0.01	0.07	0.08	0.05	52%
3	propionaldehyde	0.17	0.13	0.18	0.08	0.06	0.34	0.22	0.17	56%
3	propylene	2.74	4.75	4.40	2.78	1.22	4.70	4.70	3.61	38%
4	1,2-butadiene	0.00	0.00	0.00	0.16	0.01	0.51	0.05	0.1	182%
4	1,3-butadiene	0.48	0.63	0.23	0.43	0.18	0.78	0.71	0.49	47%
4	1,3-butadiyne	0.06	0.08	0.00	0.00	0.01	0.00	0.07	0.03	114%
4	1-butene	0.47	0.60	1.03	0.32	0.13	0.70	0.75	0.57	52%
4	1-butyne (athylacetylene)	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.01	265%
4	2-butyne	0.00	0.02	0.08	0.00	0.00	0.11	0.00	0.03	150%
4	2-methyl-2-propenal	0.08	0.00	0.08	0.03	0.01	0.13	0.10	0.06	76%
4	butyraldehyde	0.04	0.05	0.03	0.00	0.02	0.02	0.06	0.03	67%
4	cis-2-butene	0.16	0.26	0.56	0.14	0.06	0.26	0.22	0.24	67%
4	crotonaldehyde	0.08	0.04	0.08	0.03	0.02	0.12	0.06	0.06	54%
4	isobutane	0.04	0.02	0.06	0.05	0.02	0.09	0.00	0.04	75%
4	isobutene	1.42	1.80	1.15	1.28	0.41	2.17	1.76	1.43	40%
4	methyl ethyl ketone (MEK)	0.05	0.00	0.04	0.02	0.02	0.07	0.05	0.04	72%
4	n-butane	0.33	0.08	0.45	0.55	0.70	0.58	0.88	0.51	51%
4	trans-2-butene	0.22	0.36	0.51	0.19	0.16	0.38	0.31	0.3	41%
4	vinylacetylene	0.12	0.22	0.05	0.05	0.06	0.00	0.18	0.1	80%
5	1-pentene	0.07	0.08	0.13	0.06	0.05	0.13	0.16	0.1	43%
5	2,2-dimethylpropane	0.05	0.00	0.00	0.01	0.01	0.00	0.00	0.01	207%
5	2-methyl-1-butene	0.10	0.22	0.18	0.11	0.01	0.33	0.06	0.14	75%
5	2-methyl-2-butene	0.49	0.16	0.28	0.29	0.23	0.00	0.55	0.28	66%
5	3-methyl-1-butene	0.07	0.08	0.15	0.07	0.01	0.16	0.13	0.1	55%
5	cis-2-pentene	0.06	0.08	0.10	0.05	0.04	0.11	0.08	0.07	31%
5	cyclopentane	0.36	0.30	0.37	0.43	0.44	0.47	0.31	0.38	17%
5	cyclopentene	0.08	0.07	0.15	0.05	0.03	0.09	0.13	0.09	48%
5	isopentane	5.73	4.77	5.95	7.26	7.34	7.84	4.63	6.22	21%
5	isoprene	0.08	0.02	0.00	0.15	0.01	0.00	0.11	0.05	113%
5	isovaleraldehyde	0.02	0.00	0.00	0.00	0.01	0.09	0.02	0.02	149%
5	methyl t-butyl ether (MTBE)	0.21	0.01	0.07	0.08	0.11	0.07	0.12	0.0957	67%
5	n-pentane	2.12	1.62	2.24	2.70	2.70	3.00	2.06	2.35	20%
5	trans-1,3-pentadiene	0.37	0.00	0.00	0.01	0.00	0.00	0.00	0.05	256%
5	trans-2-pentene	0.11	0.13	0.16	0.09	0.08	0.19	0.14	0.13	30%
6	1-hexene	0.05	0.05	0.10	0.05	0.06	0.08	0.17	0.08	52%

6	2,2-dimethylbutane	2.01	1.42	1.96	2.34	2.25	2.62	1.39	2	23%
6	2,3-dimethyl-1-butene	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0	265%
6	2,3-dimethylbutane	1.63	1.15	1.38	1.84	1.80	1.84	1.08	1.53	21%
6	2-methyl-1-pentene	0.08	0.00	0.00	0.06	0.03	0.00	0.06	0.03	102%
6	2-methyl-2-pentene	0.18	0.03	0.05	0.11	0.04	0.06	0.09	0.08	64%
6	2-methylpentane	4.29	3.08	3.49	4.68	4.54	4.70	2.97	3.96	19%
6	3,3-dimethyl-1-butene	0.00	0.01	0.03	0.01	0.00	0.04	0.00	0.01	112%
6	3-methyl-1-pentene	0.05	0.04	0.06	0.05	0.04	0.06	0.07	0.05	24%
6	3-methylcyclopentene	0.12	0.02	0.04	0.07	0.01	0.05	0.05	0.05	73%
6	3-methylpentane	2.58	1.82	2.09	2.82	2.75	2.75	1.74	2.36	20%
6	4-methyl-1-pentene	0.05	0.02	0.00	0.01	0.00	0.00	0.08	0.02	132%
6	4-methyl-trans-2-pentene	0.06	0.04	0.05	0.04	0.05	0.06	0.06	0.05	22%
6	benzene	1.82	4.03	2.40	2.94	1.16	1.83	2.06	2.32	40%
6	cis-2-hexene	0.06	0.04	0.06	0.02	0.05	0.05	0.04	0.05	30%
6	cyclohexane	1.77	1.26	1.33	1.91	1.92	1.46	1.15	1.54	21%
6	cyclohexene	0.06	0.05	0.05	0.06	0.03	0.09	0.10	0.06	37%
6	hexaldehyde	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0	265%
6	methylcyclopentane	2.35	1.71	1.78	2.48	2.48	2.22	1.52	2.08	19%
6	n-hexane	1.98	1.37	1.50	2.08	2.05	1.79	1.37	1.74	18%
6	trans-2-hexene	0.11	0.07	0.08	0.07	0.08	0.09	0.08	0.08	15%
6	trans-3-hexene	0.08	0.04	0.05	0.04	0.06	0.06	0.06	0.06	20%
7	1-c-3-dimethylcyclopentane	0.14	0.09	0.11	0.15	0.16	0.12	0.09	0.12	22%
7	1-t-2-dimethylcyclopentane	0.15	0.07	0.09	0.06	0.06	0.10	0.00	0.08	61%
7	1-t-3-dimethylcyclopentane	0.15	0.10	0.12	0.17	0.17	0.13	0.10	0.13	23%
7	2,2,3-trimethylbutane	0.00	0.00	0.02	0.03	0.06	0.05	0.05	0.03	81%
7	2,3-dimethylpentane	1.24	0.73	0.91	1.42	1.34	1.05	0.73	1.06	27%
7	2,4-dimethyl-1-pentene	0.00	0.01	0.00	0.01	0.01	0.00	0.05	0.01	167%
7	2,4-dimethyl-2-pentene	0.10	0.06	0.11	0.15	0.12	0.13	0.08	0.11	27%
7	2,4-dimethylpentane	0.84	0.52	0.59	0.91	0.85	0.73	0.50	0.71	24%
7	2-methyl-2-hexene	0.08	0.00	0.01	0.03	0.01	0.00	0.06	0.03	114%
7	2-methyl-trans-3-hexene	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0	265%
7	2-methylhexane	1.20	0.79	0.89	1.38	1.36	0.99	1.30	1.13	21%
7	3,3-dimethylpentane	0.00	0.01	0.00	0.01	0.01	0.00	0.04	0.01	143%
7	3,4-dimethyl-1-pentene	0.05	0.03	0.02	0.03	0.00	0.00	0.00	0.02	106%
7	3-ethyl-2-pentene	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0	265%
7	3-ethylpentane	0.12	0.08	0.09	0.23	0.24	0.00	0.18	0.14	65%
7	3-methyl-cis-2-hexene	0.09	0.00	0.00	0.08	0.00	0.00	0.06	0.03	124%
7	3-methyl-trans-3-hexene	0.24	0.00	0.00	0.04	0.00	0.00	0.00	0.04	225%
7	3-methylhexane	1.35	0.87	1.02	1.56	1.53	1.11	0.87	1.19	25%
7	4-methyl-trans-2-hexene	0.00	0.03	0.00	0.01	0.02	0.00	0.00	0.01	136%
7	benzaldehyde	0.18	0.00	0.29	0.09	0.02	0.24	0.09	0.13	85%
7	cis-2-heptene	0.05	0.03	0.04	0.06	0.02	0.04	0.04	0.04	35%
7	ethylcyclopentane	0.00	0.04	0.00	0.05	0.10	0.00	0.09	0.04	108%
7	methylcyclohexane	0.58	0.39	0.47	0.70	0.71	0.47	0.42	0.53	25%
7	n-heptane	0.86	0.55	0.64	1.03	1.01	0.66	0.56	0.76	27%
7	toluene	9.98	11.34	11.00	10.07	10.69	10.37	9.06	10.36	7%
7	trans-2-heptene	0.00	0.03	0.01	0.04	0.02	0.00	0.04	0.02	83%
7	trans-3-heptene	0.09	0.04	0.02	0.06	0.05	0.03	0.30	0.08	119%
8	1,1-methylethylcyclopentane	0.06	0.03	0.02	0.07	0.06	0.04	0.10	0.05	52%

8	1,2,4-trimethylcyclopentene	0.06	0.04	0.07	0.12	0.08	0.08	0.05	0.07	40%
8	1-octene	0.00	0.01	0.01	0.02	0.02	0.02	0.00	0.01	74%
8	1c,2t,3-trimethylcyclopentan	0.00	0.03	0.04	0.07	0.02	0.03	0.00	0.03	91%
8	2,2,4-trimethylpentane	4.32	2.54	3.41	5.38	5.00	3.74	2.72	3.87	28%
8	2,2-dimethylhexane	0.06	0.04	0.04	0.07	0.09	0.04	0.10	0.06	39%
8	2,3,4-trimethylpentane	1.72	1.04	1.52	2.51	2.57	1.38	1.20	1.71	36%
8	2,3-dimethylhexane	0.44	0.29	0.43	0.67	0.74	0.36	0.43	0.48	34%
8	2,4,4-trimethyl-2-pentene	0.00	0.00	0.00	0.03	0.00	0.00	0.06	0.01	182%
8	2,4-dimethylhexane	0.74	0.46	0.66	0.92	0.84	0.62	0.51	0.68	25%
8	2,5-dimethylhexane	0.67	0.40	0.54	0.96	0.96	0.51	0.48	0.65	35%
8	2-methylheptane	0.29	0.21	0.29	0.47	0.47	0.28	0.24	0.32	32%
8	3,3-dimethylhexane	0.00	0.01	0.00	0.02	0.01	0.00	0.00	0.01	127%
8	3,4-dimethylhexane	0.11	0.07	0.12	0.18	0.17	0.10	0.08	0.12	36%
8	3-methylheptane	0.35	0.25	0.40	0.59	0.58	0.37	0.32	0.41	31%
8	4-methylheptane	0.12	0.09	0.12	0.19	0.19	0.11	0.10	0.13	32%
8	c-1,2-dimethylcyclohexane	0.00	0.02	0.02	0.02	0.02	0.00	0.00	0.01	95%
8	cis-1,3-dimethylcyclohexane	0.17	0.13	0.18	0.26	0.28	0.16	0.16	0.19	29%
8	cis-2-octene	0.00	0.02	0.02	0.00	0.02	0.04	0.06	0.02	95%
8	ethylbenzene	1.37	1.94	2.10	1.37	1.88	1.68	1.65	1.71	16%
8	ethylcyclohexane	0.00	0.03	0.03	0.03	0.07	0.04	0.04	0.04	62%
8	m-xylene	4.51	6.98	3.54	4.79	6.05	5.58	5.51	5.28	21%
8	n-octane	0.19	0.15	0.21	0.33	0.35	0.18	0.18	0.23	34%
8	o-xylene	1.57	2.37	2.47	1.83	2.80	1.99	2.09	2.16	19%
8	styrene	0.22	0.12	0.15	0.26	0.10	0.26	0.25	0.19	36%
8	t-1-methyl-3-ethylcyclopenta	0.05	0.05	0.05	0.08	0.09	0.06	0.09	0.07	27%
8	tolualdehyde	0.04	0.00	0.01	0.01	0.00	0.00	0.00	0.01	196%
8	trans-1,3-dimethylcyclohexan	0.08	0.04	0.08	0.16	0.14	0.07	0.19	0.11	48%
8	trans-1,4-dimethylcyclohexan	0.08	0.06	0.07	0.13	0.13	0.07	0.07	0.09	34%
8	trans-2-octene	0.00	0.02	0.01	0.01	0.01	0.00	0.00	0.01	103%
8	trans-4-octene	0.00	0.00	0.00	0.04	0.02	0.00	0.00	0.01	186%
9	1,2,3-trimethylbenzene	0.23	0.35	0.52	0.27	0.51	0.35	0.35	0.37	30%
9	1,2,4-trimethylbenzene	1.31	1.96	2.43	1.36	2.69	1.73	1.85	1.9	27%
9	1,3,5-trimethylbenzene	0.46	0.71	0.87	0.50	0.96	0.62	0.65	0.68	27%
9	1,3,5-trimethylcyclohexane	0.00	0.04	0.03	0.08	0.09	0.00	0.06	0.04	84%
9	1-methyl-3-ethylbenzene	0.98	1.52	1.83	1.00	1.80	0.55	1.38	1.29	36%
9	1-methyl-4-ethylbenzene	0.42	0.63	0.73	0.43	0.79	0.03	0.61	0.52	50%
9	1-methyl-4-ethylcyclohexane	0.00	0.02	0.02	0.02	0.04	0.03	0.00	0.02	82%
9	1-nonene	0.00	0.01	0.00	0.01	0.01	0.00	0.05	0.01	140%
9	2,2,4-trimethylhexane	0.00	0.02	0.06	0.04	0.04	0.03	0.05	0.03	57%
9	2,2,5-trimethylhexane	1.53	1.18	1.74	2.51	2.65	1.46	1.29	1.77	33%
9	2,3,5-trimethylhexane	0.23	0.18	0.31	0.26	0.49	0.24	0.25	0.28	36%
9	2,3-dimethylheptane	0.00	0.00	3.48	0.00	0.01	0.05	0.00	0.5	260%
9	2,4,4-trimethylhexane	0.00	0.01	0.04	0.06	0.06	0.00	0.00	0.02	123%
9	2,4-dimethylheptane	0.11	0.03	0.04	0.12	0.09	0.05	0.13	0.08	50%
9	2,6-dimethylheptane	0.06	0.05	0.07	0.12	0.13	0.07	0.08	0.08	39%
9	2-methyloctane	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.01	265%
9	3,5-dimethylheptane	0.12	0.11	0.13	0.20	0.25	0.10	0.13	0.15	38%
9	3-methyloctane	0.10	0.10	0.15	0.22	0.26	0.12	0.13	0.15	41%
9	4-methyloctane	0.15	0.15	0.21	0.23	0.38	0.18	0.21	0.22	37%

9	indan	0.12	0.15	0.26	0.10	0.23	0.06	0.17	0.16	44%
9	isopropylbenzene (cumene)	0.04	0.06	0.08	0.07	0.09	0.06	0.07	0.07	24%
9	n-nonane	0.08	0.10	0.09	0.16	0.25	0.05	0.13	0.12	53%
9	n-propylbenzene	0.24	0.29	0.39	0.28	0.47	0.30	0.33	0.33	23%
9	o-ethyltoluene	0.30	0.45	0.62	0.34	0.83	0.49	0.64	0.52	35%
10	1,2,3,4-tetramethylbenzene	0.00	0.04	0.06	0.02	0.04	0.00	0.03	0.03	87%
10	1,2,3,5-tetramethylbenzene	0.11	0.09	0.16	0.08	0.15	0.10	0.08	0.11	32%
10	1,2,4,5-tetramethylbenzene	0.07	0.08	0.08	0.06	0.13	0.09	0.00	0.07	53%
10	1,2-diethylbenzene (ortho)	0.00	0.02	0.07	0.01	0.01	0.00	0.00	0.02	152%
10	1,2-dimethyl-3-ethylbenzene	0.00	0.03	0.04	0.04	0.06	0.06	0.03	0.04	52%
10	1,2-dimethyl-4-ethylbenzene	0.20	0.21	0.27	0.14	0.31	0.04	0.22	0.2	46%
10	1,3-diethylbenzene (meta)	0.07	0.09	0.18	0.08	0.12	0.26	0.11	0.13	52%
10	1,3-dimethyl-2-ethylbenzene	0.05	0.05	0.07	0.07	0.11	0.03	0.10	0.07	43%
10	1,3-dimethyl-4-ethylbenzene	0.09	0.12	0.20	0.10	0.16	0.03	0.12	0.12	46%
10	1,3-dimethyl-5-ethylbenzene	0.20	0.24	0.40	0.17	0.33	0.00	0.25	0.23	56%
10	1,4-diethylbenzene (para)	0.10	0.10	0.16	0.10	0.19	0.26	0.13	0.15	41%
10	1,4-dimethyl-2-ethylbenzene	0.12	0.14	0.24	0.14	0.24	0.13	0.16	0.17	30%
10	1-methyl-2-isopropylbenzene	0.04	0.04	0.09	0.08	0.16	0.04	0.06	0.07	59%
10	1-methyl-2n-propylbenzene	0.06	0.06	0.12	0.08	0.13	0.05	0.08	0.08	39%
10	1-methyl-3-isopropylbenzene	0.00	0.03	0.05	0.01	0.02	0.04	0.03	0.03	61%
10	1-methyl-3n-propylbenzene	0.18	0.22	0.42	0.25	0.43	0.00	0.27	0.25	58%
10	1-methyl-4-isopropylbenzene	0.00	0.02	0.03	0.04	0.02	0.00	0.00	0.02	98%
10	2,2,4-trimethylheptane	0.00	0.03	0.09	0.03	0.00	0.00	0.00	0.02	156%
10	2,2-dimethyloctane	0.00	0.02	0.00	0.02	0.06	0.00	0.05	0.02	112%
10	2,3-dimethyloctane	0.00	0.03	0.04	0.08	0.03	0.06	0.03	0.04	62%
10	2,4-dimethyloctane	0.00	0.03	0.07	0.05	0.06	0.13	0.04	0.06	71%
10	2,5-dimethyloctane	0.00	0.03	0.03	0.05	0.07	0.02	0.04	0.04	63%
10	2,6-dimethyloctane	0.00	0.02	0.04	0.05	0.08	0.03	0.05	0.04	61%
10	2-methylindan	0.07	0.03	0.05	0.04	0.05	0.00	0.04	0.04	55%
10	2-methylnonane	0.20	0.20	0.28	0.38	0.25	0.22	0.06	0.23	43%
10	3,3-dimethyloctane	0.00	0.02	0.03	0.05	0.05	0.02	0.00	0.02	78%
10	4-methylindan	0.00	0.02	0.05	0.01	0.01	0.05	0.00	0.02	104%
10	5-methylindan	0.06	0.03	0.07	0.04	0.09	0.03	0.06	0.05	39%
10	isobutylbenzene	0.00	0.02	0.02	0.05	0.03	0.06	0.06	0.03	64%
10	n-decane	0.09	0.05	0.11	0.12	0.16	0.00	0.15	0.1	58%
10	naphthalene	0.00	0.06	0.10	0.03	0.03	0.02	0.01	0.04	95%
11	1-ethyl-2n-propylbenzene	0.00	0.02	0.00	0.01	0.02	0.00	0.00	0.01	133%
11	1-methyl-2-n-butylbenzene	0.00	0.01	0.03	0.00	0.01	0.00	0.00	0.01	153%
11	1-methyl-2-tert-butylbenzene	0.00	0.00	0.10	0.01	0.02	0.00	0.10	0.03	148%
11	n-pentylbenzene	0.00	0.01	0.05	0.00	0.01	0.00	0.00	0.01	180%
11	n-undecane	0.00	0.02	0.05	0.05	0.05	0.00	0.00	0.03	102%
12	1,3-dipropylbenzene	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.01	102%
12	1-(1,1-dme)-3,5-dmbenzene	0.00	0.01	0.03	0.01	0.01	0.05	0.00	0.02	107%
12	n-dodecane	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0	175%
13	2,2,5-triethylheptane	0.08	0.08	0.08	0.20	0.21	0.12	0.14	0.13	43%
	sum	99.98	99.96	99.97	100.03	100.06	100.04	100.00	100.00	
	Mass (mg/mi)	5662	3042	1487	6720	5774	1574	6432	4384	52%
	MIR	3.22	3.82	3.74	3.05	3.07	3.56	3.66	3.45	9%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).
Start emissions are represented by Bag 1 minus Bag 3 of Unified Cycle.

Table 24. Exhaust Gasoline Organic Gas Species Test Results.

(Et2.0%, Start Emissions, Weight Percent)

CNUM	CHEMNAME	VEH1	VEH3	VEH4	VEH5	VEH6	VEH7	MEAN	COV
1	formaldehyde	0.66	1.10	0.48	0.90	1.24	0.64	0.84	35%
1	methyl alcohol	0.45	0.00	0.27	0.37	0.00	0.22	0.22	85%
2	acetaldehyde	0.85	0.96	0.53	0.80	1.16	0.46	0.79	33%
2	acetylene	9.33	3.33	1.79	3.52	6.04	9.18	5.53	58%
2	ethane	0.79	0.84	0.74	0.31	0.88	0.64	0.70	30%
2	ethyl alcohol	2.61	3.00	0.99	3.11	0.00	1.61	1.89	66%
2	ethylene	10.94	8.24	5.81	3.93	10.42	8.43	7.96	34%
3	1,2-propadiene	0.35	0.25	0.00	0.00	0.00	0.37	0.16	112%
3	1-propyne	0.54	0.00	0.13	0.21	0.35	0.00	0.21	103%
3	acetone	0.24	0.28	0.22	0.22	0.31	0.08	0.22	35%
3	acrolein (2-propenal)	0.00	0.00	0.00	0.00	0.03	0.00	0.01	245%
3	propane	0.06	0.07	0.07	0.00	0.08	0.05	0.06	52%
3	propionaldehyde	0.20	0.19	0.09	0.18	0.32	0.14	0.19	41%
3	propylene	4.03	4.37	2.79	1.99	5.36	3.88	3.74	32%
4	1,2-butadiene	0.00	0.00	0.01	0.02	0.02	0.59	0.11	224%
4	1,3-butadiene	0.73	0.09	0.32	0.18	0.75	1.17	0.54	77%
4	1,3-butadiyne	0.03	0.00	0.01	0.00	0.00	0.00	0.01	173%
4	1-butene	0.75	0.91	0.34	0.36	0.87	0.71	0.66	38%
4	2-butyne	0.04	0.06	0.00	0.00	0.02	0.22	0.05	150%
4	2-methyl-2-propenal	0.09	0.07	0.04	0.06	0.09	0.04	0.07	35%
4	butyraldehyde	0.03	0.04	0.00	0.02	0.03	0.02	0.02	58%
4	cis-2-butene	0.22	0.35	0.14	0.11	0.38	0.19	0.23	47%
4	crotonaldehyde	0.09	0.09	0.04	0.07	0.11	0.04	0.07	41%
4	isobutane	0.10	0.04	0.00	0.00	0.00	0.07	0.03	119%
4	isobutene	1.35	0.25	0.71	0.46	1.17	1.30	0.87	53%
4	methyl ethyl ketone (MEK)	0.05	0.04	0.00	0.04	0.07	0.02	0.04	66%
4	n-butane	0.09	0.21	0.33	0.38	0.53	0.18	0.29	55%
4	trans-2-butene	0.31	0.37	0.19	0.14	0.41	0.22	0.27	38%
4	vinylacetylene	0.19	0.08	0.06	0.10	0.13	0.00	0.09	70%
5	1-pentene	0.10	0.13	0.07	0.08	0.16	0.17	0.12	35%
5	2-methyl-1-butene	0.21	0.07	0.02	0.02	0.03	0.19	0.09	98%
5	2-methyl-2-butene	0.17	0.10	0.17	0.15	0.26	0.00	0.14	61%
5	3-methyl-1-butene	0.10	0.11	0.06	0.00	0.00	0.08	0.06	83%
5	cis-2-pentene	0.06	0.07	0.04	0.04	0.09	0.06	0.06	32%
5	cyclopentane	0.35	0.45	0.48	0.43	0.39	0.44	0.42	11%
5	cyclopentene	0.11	0.16	0.06	0.03	0.12	0.10	0.10	48%
5	isopentane	2.85	4.62	4.85	4.98	4.13	4.07	4.25	18%
5	isoprene	0.02	0.03	0.02	0.04	0.06	0.25	0.07	125%
5	isovaleraldehyde	0.05	0.00	0.01	0.01	0.05	0.01	0.02	104%
5	methyl t-butyl ether (MTBE)	0.18	0.05	0.09	0.10	0.06	0.61	0.18	118%
5	n-pentane	0.91	1.22	1.22	1.02	1.05	1.18	1.10	11%
5	trans-1,3-pentadiene	0.01	0.00	0.00	0.00	0.00	0.08	0.01	207%
5	trans-2-pentene	0.11	0.13	0.08	0.06	0.16	0.10	0.11	32%
6	1-hexene	0.06	0.08	0.05	0.00	0.10	0.13	0.07	64%
6	2,2-dimethylbutane	1.55	1.79	1.94	1.46	1.56	1.63	1.65	11%
6	2,3-dimethylbutane	1.32	1.32	1.70	1.37	1.22	1.33	1.38	12%

6	2-methyl-1-pentene	0.00	0.00	0.01	0.06	0.00	0.00	0.01	203%
6	2-methyl-2-pentene	0.05	0.05	0.04	0.01	0.06	0.08	0.05	47%
6	2-methylpentane	4.73	4.66	6.04	4.87	4.20	4.77	4.88	13%
6	3,3-dimethyl-1-butene	0.01	0.00	0.01	0.00	0.00	0.00	0.00	157%
6	3-methyl-1-pentene	0.06	0.05	0.03	0.02	0.05	0.04	0.04	33%
6	3-methylcyclopentene	0.04	0.04	0.03	0.02	0.05	0.06	0.04	36%
6	3-methylpentane	3.02	2.94	3.92	3.17	2.64	2.99	3.11	14%
6	4-methyl-1-pentene	0.00	0.04	0.04	0.03	0.08	0.04	0.04	64%
6	4-methyl-trans-2-pentene	0.01	0.00	0.02	0.01	0.03	0.00	0.01	96%
6	benzene	2.52	2.81	3.37	1.56	3.34	2.10	2.62	27%
6	cis-2-hexene	0.02	0.00	0.01	0.01	0.02	0.00	0.01	88%
6	cyclohexane	0.71	0.72	0.99	0.89	0.65	0.80	0.79	16%
6	cyclohexene	0.05	0.06	0.03	0.07	0.06	0.06	0.05	25%
6	hexaldehyde	0.00	0.00	0.00	0.00	0.02	0.01	0.00	178%
6	methylcyclopentane	2.48	2.35	3.20	2.80	2.12	2.58	2.59	14%
6	n-hexane	0.78	0.74	1.05	0.88	0.69	0.80	0.82	15%
6	trans-2-hexene	0.03	0.03	0.02	0.02	0.03	0.03	0.03	21%
6	trans-3-hexene	0.02	0.00	0.01	0.01	0.02	0.00	0.01	84%
7	1-c-3-dimethylcyclopentane	0.31	0.29	0.47	0.40	0.27	0.34	0.35	22%
7	1-t-2-dimethylcyclopentane	0.10	0.30	0.00	0.00	0.00	0.13	0.09	135%
7	1-t-3-dimethylcyclopentane	0.34	0.32	0.52	0.45	0.29	0.37	0.38	23%
7	2,2,3-trimethylbutane	0.00	0.02	0.05	0.03	0.03	0.04	0.03	56%
7	2,3-dimethylpentane	0.76	0.73	1.06	0.91	0.63	0.84	0.82	18%
7	2,4-dimethyl-1-pentene	0.02	0.00	0.01	0.01	0.00	0.00	0.01	114%
7	2,4-dimethyl-2-pentene	0.09	0.10	0.14	0.11	0.10	0.12	0.11	16%
7	2,4-dimethylpentane	0.47	0.45	0.69	0.55	0.41	0.49	0.51	19%
7	2-methyl-2-hexene	0.02	0.00	0.02	0.00	0.00	0.00	0.01	159%
7	2-methyl-trans-3-hexene	0.01	0.00	0.00	0.00	0.00	0.00	0.00	245%
7	2-methylhexane	1.26	1.13	2.12	1.68	1.09	1.30	1.43	28%
7	3,3-dimethylpentane	0.01	0.00	0.02	0.02	0.03	0.00	0.01	88%
7	3,4-dimethyl-1-pentene	0.03	0.00	0.00	0.00	0.00	0.00	0.00	245%
7	3-ethyl-2-pentene	0.02	0.00	0.00	0.00	0.00	0.00	0.00	245%
7	3-ethylpentane	0.32	0.10	0.70	0.58	0.38	0.35	0.41	52%
7	3-methyl-cis-2-hexene	0.00	0.00	0.01	0.00	0.00	0.00	0.00	245%
7	3-methyl-trans-3-hexene	0.00	0.00	0.00	0.00	0.00	0.16	0.03	245%
7	3-methylhexane	1.36	1.27	2.17	1.78	1.15	1.47	1.53	25%
7	4-methyl-trans-2-hexene	0.00	0.00	0.01	0.00	0.00	0.00	0.00	245%
7	benzaldehyde	0.21	0.27	0.11	0.15	0.27	0.02	0.17	59%
7	cis-2-heptene	0.02	0.00	0.01	0.01	0.02	0.00	0.01	79%
7	ethylcyclopentane	0.00	0.00	0.24	0.21	0.13	0.00	0.10	115%
7	methylcyclohexane	1.00	0.98	1.64	1.42	0.87	1.16	1.18	25%
7	n-heptane	1.00	0.95	1.67	1.38	0.85	1.15	1.17	27%
7	toluene	7.57	8.32	8.51	8.32	8.11	7.30	8.02	6%
7	trans-2-heptene	0.00	0.00	0.01	0.01	0.02	0.00	0.01	111%
7	trans-3-heptene	0.02	0.00	0.01	0.01	0.00	0.00	0.01	113%
8	1,1-methylethylcyclopentane	0.08	0.06	0.16	0.09	0.05	0.10	0.09	42%
8	1,2,4-trimethylcyclopentene	0.19	0.19	0.25	0.21	0.13	0.22	0.20	20%
8	1-octene	0.06	0.00	0.11	0.00	0.00	0.08	0.04	118%
8	1c,2t,3-trimethylcyclopentan	0.08	0.09	0.15	0.12	0.08	0.10	0.10	28%

8	2,2,4-trimethylpentane	1.87	1.85	3.15	2.50	1.69	2.12	2.20	25%
8	2,2-dimethylhexane	0.08	0.08	0.22	0.18	0.13	0.09	0.13	43%
8	2,3,4-trimethylpentane	0.70	0.73	1.43	1.19	0.68	0.90	0.94	33%
8	2,3-dimethylhexane	0.29	0.32	0.69	0.57	0.35	0.37	0.43	37%
8	2,4-dimethylhexane	0.49	0.50	0.80	0.65	0.43	0.57	0.57	23%
8	2,5-dimethylhexane	0.46	0.46	0.65	0.55	0.32	0.53	0.50	22%
8	2-methylheptane	0.49	0.52	0.95	0.80	0.45	0.61	0.64	31%
8	3,3-dimethylhexane	0.00	0.00	0.09	0.07	0.05	0.00	0.03	116%
8	3,4-dimethylhexane	0.10	0.11	0.19	0.16	0.10	0.13	0.13	28%
8	3-methylheptane	0.68	0.65	1.35	1.00	0.56	0.83	0.84	34%
8	4-methylheptane	0.21	0.22	0.41	0.35	0.21	0.25	0.28	31%
8	c-1,2-dimethylcyclohexane	0.05	0.00	0.10	0.00	0.00	0.00	0.02	167%
8	cis-1,3-dimethylcyclohexane	0.23	0.10	0.45	0.39	0.24	0.29	0.28	44%
8	cis-2-octene	0.03	0.00	0.01	0.00	0.00	0.00	0.01	193%
8	ethylbenzene	1.66	2.12	1.61	2.04	1.83	2.37	1.94	15%
8	ethylcyclohexane	0.08	0.00	0.14	0.13	0.08	0.10	0.09	56%
8	m-xylene	0.04	7.43	5.92	8.08	6.83	5.88	5.69	51%
8	n-octane	0.34	0.40	0.70	0.61	0.33	0.43	0.47	32%
8	o-xylene	2.02	2.65	2.11	2.87	2.41	2.02	2.35	15%
8	styrene	0.23	0.19	0.21	0.04	0.36	0.43	0.24	56%
8	t-1-methyl-3-ethylcyclopenta	0.09	0.08	0.17	0.14	0.10	0.14	0.12	27%
8	tolualdehyde	0.00	0.00	0.02	0.02	0.02	0.00	0.01	113%
8	trans-1,3-dimethylcyclohexan	0.13	0.15	0.30	0.23	0.14	0.16	0.18	36%
8	trans-1,4-dimethylcyclohexan	0.09	0.26	0.18	0.15	0.10	0.12	0.15	42%
8	trans-2-octene	0.03	0.04	0.00	0.04	0.02	0.04	0.03	55%
9	1,2,3-trimethylbenzene	0.39	0.64	0.33	0.62	0.56	0.40	0.49	27%
9	1,2,4-trimethylbenzene	1.93	2.94	1.60	3.11	2.64	2.09	2.38	25%
9	1,3,5-trimethylbenzene	0.69	1.04	0.59	1.11	0.96	0.73	0.85	25%
9	1,3,5-trimethylcyclohexane	0.07	0.10	0.15	0.13	0.09	0.00	0.09	58%
9	1-methyl-3-ethylbenzene	1.40	2.01	1.16	1.99	1.72	1.39	1.61	22%
9	1-methyl-4-ethylbenzene	0.62	0.89	0.51	0.99	0.78	0.62	0.74	25%
9	1-methyl-4-ethylcyclohexane	0.03	0.03	0.06	0.06	0.04	0.04	0.04	33%
9	1-nonene	0.00	0.06	0.06	0.00	0.00	0.08	0.03	112%
9	2,2,4-trimethylhexane	0.02	0.03	0.02	0.02	0.02	0.00	0.02	52%
9	2,2,5-trimethylhexane	0.26	0.32	0.47	0.38	0.29	0.31	0.34	22%
9	2,3,5-trimethylhexane	0.05	0.07	0.12	0.09	0.07	0.07	0.08	29%
9	2,3-dimethylheptane	6.34	0.00	0.02	0.02	0.00	0.00	1.06	243%
9	2,4,4-trimethylhexane	0.01	0.04	0.07	0.05	0.04	0.05	0.04	44%
9	2,4-dimethylheptane	0.06	0.07	0.12	0.10	0.07	0.10	0.08	29%
9	2,6-dimethylheptane	0.09	0.09	0.23	0.18	0.11	0.14	0.14	39%
9	2-methyloctane	0.00	0.00	0.37	0.00	0.16	0.00	0.09	173%
9	3,5-dimethylheptane	0.13	0.17	0.37	0.31	0.18	0.18	0.22	42%
9	3-methyloctane	0.21	0.27	0.44	0.43	0.24	0.28	0.31	32%
9	4-methyloctane	0.28	0.35	0.24	0.34	0.18	0.36	0.29	25%
9	indan	0.18	0.27	0.13	0.26	0.23	0.15	0.20	29%
9	isopropylbenzene (cumene)	0.14	0.17	0.12	0.11	0.13	0.02	0.12	44%
9	n-nonane	0.13	0.15	0.26	0.27	0.15	0.16	0.19	34%
9	n-propylbenzene	0.38	0.49	0.39	0.61	0.46	0.39	0.46	19%
9	o-ethyltoluene	0.42	0.67	0.61	0.48	0.57	0.13	0.48	40%

10	1,2,3,4-tetramethylbenzene	0.06	0.06	0.03	0.08	0.08	0.04	0.06	33%
10	1,2,3,5-tetramethylbenzene	0.09	0.24	0.09	0.22	0.21	0.13	0.16	42%
10	1,2,4,5-tetramethylbenzene	0.01	0.19	0.07	0.17	0.16	0.09	0.11	61%
10	1,2-diethylbenzene (ortho)	0.02	0.04	0.03	0.00	0.03	0.02	0.02	59%
10	1,2-dimethyl-3-ethylbenzene	0.06	0.03	0.05	0.09	0.08	0.07	0.06	34%
10	1,2-dimethyl-4-ethylbenzene	0.19	0.35	0.16	0.37	0.34	0.20	0.27	35%
10	1,3-diethylbenzene (meta)	0.09	0.15	0.14	0.11	0.13	0.04	0.11	37%
10	1,3-dimethyl-2-ethylbenzene	0.04	0.03	0.06	0.06	0.07	0.08	0.06	37%
10	1,3-dimethyl-4-ethylbenzene	0.13	0.23	0.10	0.20	0.04	0.14	0.14	49%
10	1,3-dimethyl-5-ethylbenzene	0.29	0.54	0.21	0.43	0.41	0.31	0.37	32%
10	1,4-diethylbenzene (para)	0.13	0.26	0.20	0.13	0.18	0.06	0.16	43%
10	1,4-dimethyl-2-ethylbenzene	0.15	0.27	0.12	0.24	0.20	0.16	0.19	30%
10	1-methyl-2-isopropylbenzene	0.04	0.08	0.06	0.10	0.04	0.11	0.07	42%
10	1-methyl-2n-propylbenzene	0.07	0.15	0.08	0.13	0.11	0.09	0.11	29%
10	1-methyl-3-isopropylbenzene	0.05	0.06	0.06	0.07	0.05	0.06	0.06	15%
10	1-methyl-3n-propylbenzene	0.29	0.46	0.24	0.44	0.39	0.26	0.35	28%
10	1-methyl-4-isopropylbenzene	0.03	0.05	0.04	0.06	0.04	0.03	0.04	28%
10	2,2,4-trimethylheptane	0.04	0.00	0.07	0.06	0.04	0.04	0.04	56%
10	2,2-dimethyloctane	0.04	0.03	0.14	0.13	0.08	0.06	0.08	62%
10	2,3-dimethyloctane	0.02	0.05	0.00	0.00	0.00	0.02	0.01	129%
10	2,4-dimethyloctane	0.18	0.00	0.10	0.13	0.05	0.00	0.08	93%
10	2,5-dimethyloctane	0.04	0.04	0.11	0.10	0.06	0.05	0.07	47%
10	2,6-dimethyloctane	0.05	0.05	0.12	0.14	0.04	0.07	0.08	55%
10	2-methylindan	0.01	0.13	0.04	0.09	0.09	0.06	0.07	60%
10	2-methylnonane	0.13	0.26	0.38	0.50	0.25	0.26	0.30	43%
10	3,3-dimethyloctane	0.05	0.06	0.10	0.09	0.06	0.06	0.07	29%
10	4-methylindan	0.05	0.04	0.02	0.04	0.04	0.00	0.03	63%
10	5-methylindan	0.02	0.11	0.03	0.08	0.07	0.06	0.06	55%
10	isobutylbenzene	0.02	0.03	0.04	0.05	0.00	0.06	0.03	63%
10	n-decane	0.03	0.11	0.11	0.13	0.11	0.06	0.09	43%
10	naphthalene	0.01	0.11	0.03	0.03	0.02	0.05	0.04	86%
10	sec-butylbenzene	0.00	0.00	0.00	0.00	0.00	0.04	0.01	245%
11	1-ethyl-2n-propylbenzene	0.03	0.00	0.02	0.04	0.03	0.00	0.02	89%
11	1-methyl-2-n-butylbenzene	0.03	0.02	0.01	0.01	0.05	0.00	0.02	90%
11	1-methyl-2-tert-butylbenzene	0.11	0.04	0.00	0.00	0.00	0.00	0.03	176%
11	n-pentylbenzene	0.02	0.06	0.01	0.00	0.00	0.00	0.02	146%
11	n-undecane	0.01	0.09	0.02	0.02	0.02	0.00	0.03	121%
12	1,3-dipropylbenzene	0.02	0.04	0.01	0.04	0.03	0.00	0.02	68%
12	1-(1,1-dme)-3,5-dmbenzene	0.04	0.02	0.00	0.00	0.00	0.06	0.02	122%
12	n-dodecane	0.01	0.00	0.00	0.02	0.02	0.00	0.01	112%
13	2,2,5-triethylheptane	0.05	0.08	0.20	0.19	0.12	0.10	0.13	48%
	sum	100.13	99.91	100.23	99.36	100.04	100.01	99.94	
	Mass (mg/mi)	788	19	461	498	22	1415	533.83	98%
	MIR	3.57	3.86	3.97	3.45	3.72	3.72	3.72	5%

Note: COV (Coefficient of Variation) = (Standard Deviation)/(Mean)x100 (in percent).
The COVs were calculated before the mean and standard deviation were rounded.
MIR means Maximum Incremental Reactivity (g ozone/g NMOG).
Start emissions are represented by Bag 1 minus Bag 3 of Unified Cycle.