

Fuel Trends Report: Gasoline 1995 - 2005

Appendices

Compliance and Innovative Strategies Division
Office of Transportation and Air Quality
U.S. Environmental Protection Agency

Appendix to Sulfur Chapter

RFG Sulfur by Gasoline Volume

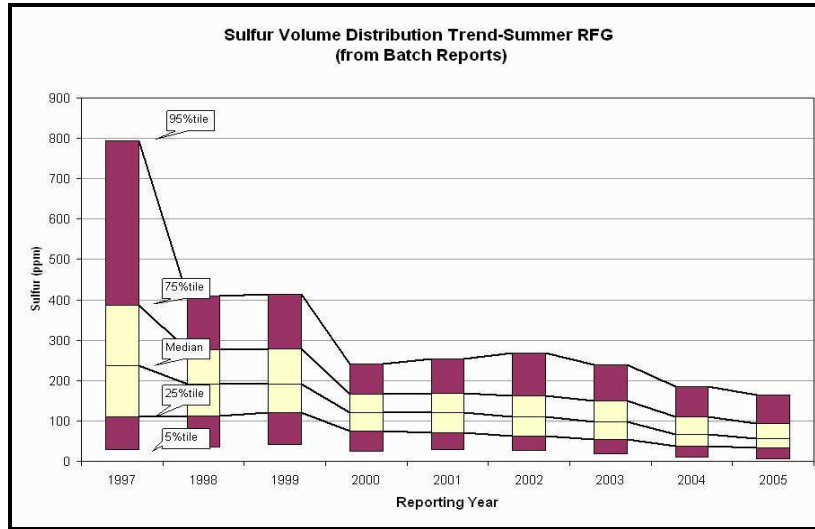


Figure 1

		Summer RFG Sulfur Content (ppm) by Volume (from Batch Reports)								
		Reporting Year								
Volume		1997	1998	1999	2000	2001	2002	2003	2004	2005
%tile	minimum	0	1	4	1	1	0	1	0	0
	5%	29	35	42	25	30	26	18	10	6
	10%	52	61	64	39	42	37	27	17	16
	15%	74	79	82	51	51	45	37	24	22
	20%	94	96	103	64	61	54	47	30	28
	25%	111	113	121	74	71	62	55	37	33
	30%	131	128	139	84	82	72	62	43	39
	35%	150	145	153	94	90	80	71	48	44
	40%	178	162	167	102	99	90	79	54	49
	45%	204	176	180	112	109	99	89	60	52
	50%	237	192	192	121	120	110	98	67	57
	55%	265	206	207	130	129	119	107	74	62
	60%	288	222	220	141	140	130	116	83	68
	65%	313	237	237	149	149	140	127	91	75
	70%	343	255	257	158	158	151	139	100	84
	75%	387	277	278	167	169	163	150	110	93
	80%	446	297	300	179	179	178	163	121	105
	85%	541	321	328	191	195	197	179	132	120
	90%	641	359	360	211	218	224	201	153	136
	95%	793	410	413	242	253	268	239	184	164
	100%	1204	499	500	479	488	472	469	331	313
Volume (gal):		12,436,241,790	12,832,805,667	12,998,841,841	12,983,127,318	13,196,166,160	13,835,809,610	13,583,183,155	14,232,658,149	14,083,260,572

RFG Sulfur by Gasoline Volume (continued):

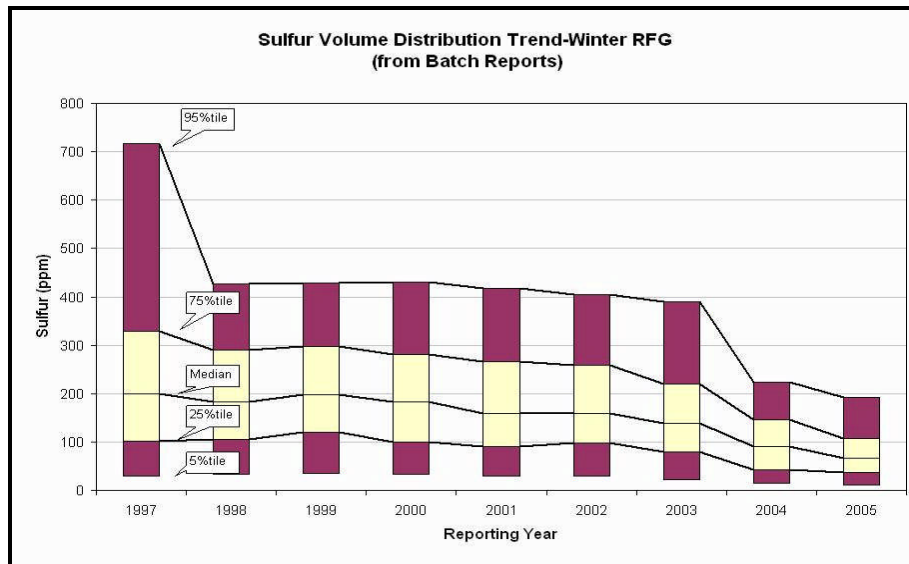


Figure 2

Winter RFG Sulfur Content (ppm) by Volume (from Batch Reports)

	Reporting Year								
	1997	1998	1999	2000	2001	2002	2003	2004	2005
Volume %tile minimum	0	1	1	1	1	0	1	0	0
5%	29	33	36	33	29	29	23	14	11
10%	51	53	58	52	45	44	40	22	19
15%	69	72	81	69	61	59	54	29	25
20%	86	89	104	84	78	77	65	36	31
25%	101	106	121	99	91	97	79	43	37
30%	119	122	139	112	105	111	94	51	43
35%	137	139	155	129	117	123	108	60	49
40%	160	153	169	145	131	133	119	69	54
45%	179	168	183	163	144	145	127	79	60
50%	199	183	197	182	159	159	138	90	66
55%	219	197	214	201	174	174	150	101	72
60%	240	218	232	220	192	187	163	111	79
65%	267	239	249	240	213	209	179	125	88
70%	294	262	273	259	240	233	197	136	96
75%	328	290	297	281	266	259	220	146	107
80%	373	321	328	310	290	290	249	159	119
85%	440	353	358	343	323	321	287	173	134
90%	548	381	395	384	361	359	334	193	155
95%	717	426	429	430	417	404	390	223	192
100%	2912	499	511	496	500	499	500	337	371
Volume (gal):	14,905,356,077	15,062,572,102	15,079,905,134	15,829,077,693	15,727,561,297	16,429,804,256	16,669,506,697	17,188,867,639	18,044,832,058

**RFG Sulfur by Gasoline Volume (continued):
(Cumulative Distributions for Latest Year Data)**

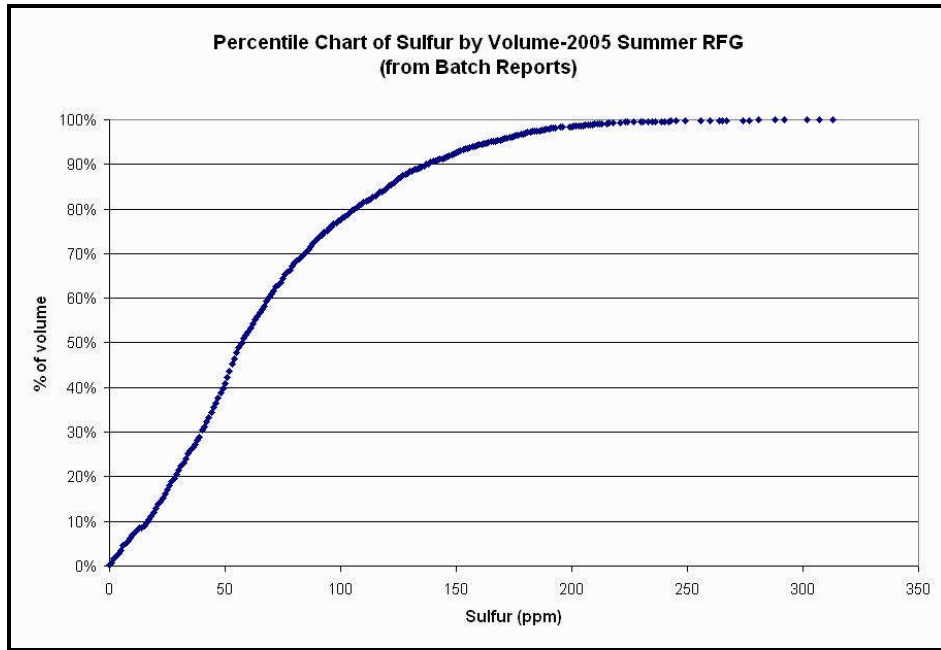


Figure 3

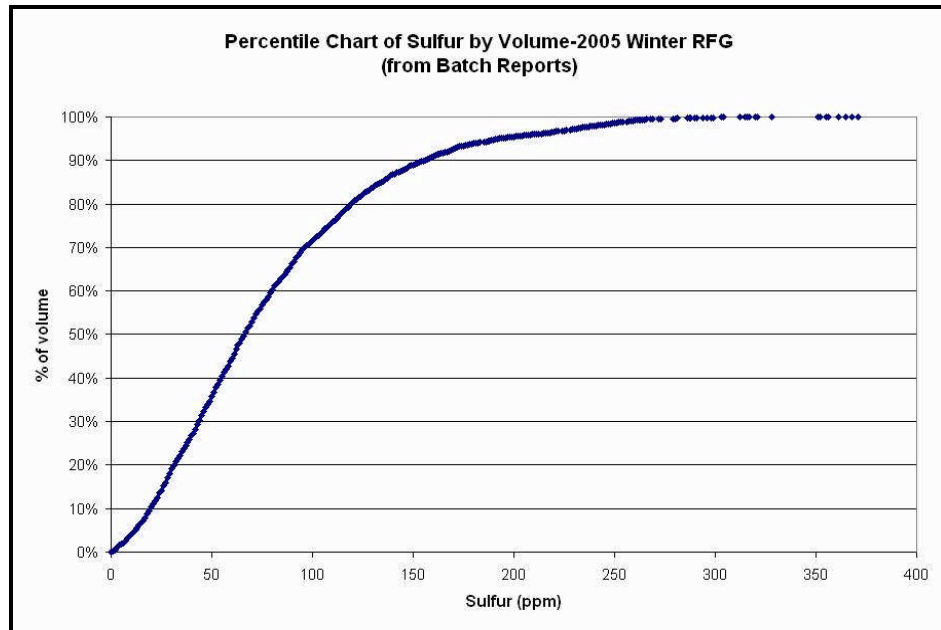


Figure 4

RFG Sulfur by Grade

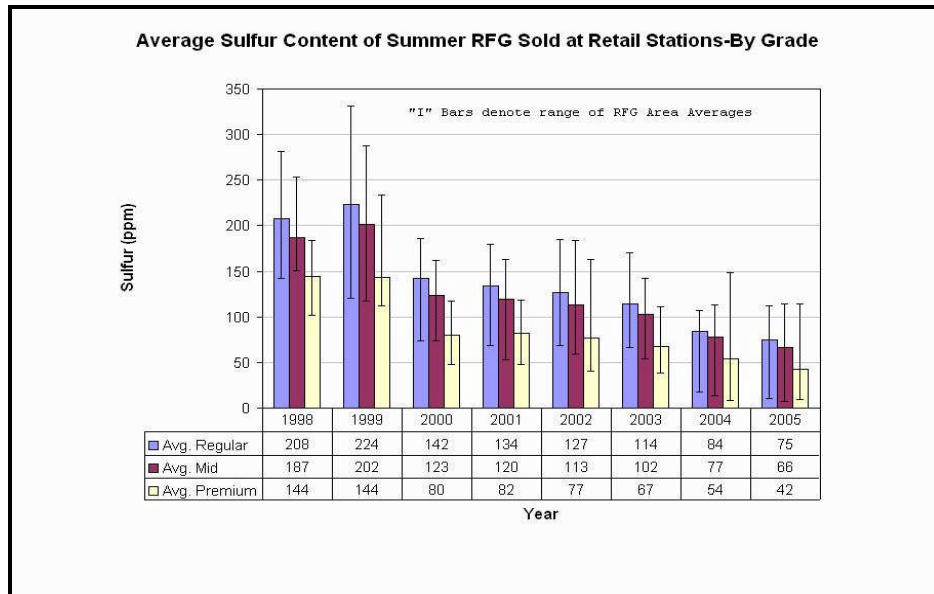


Figure 5

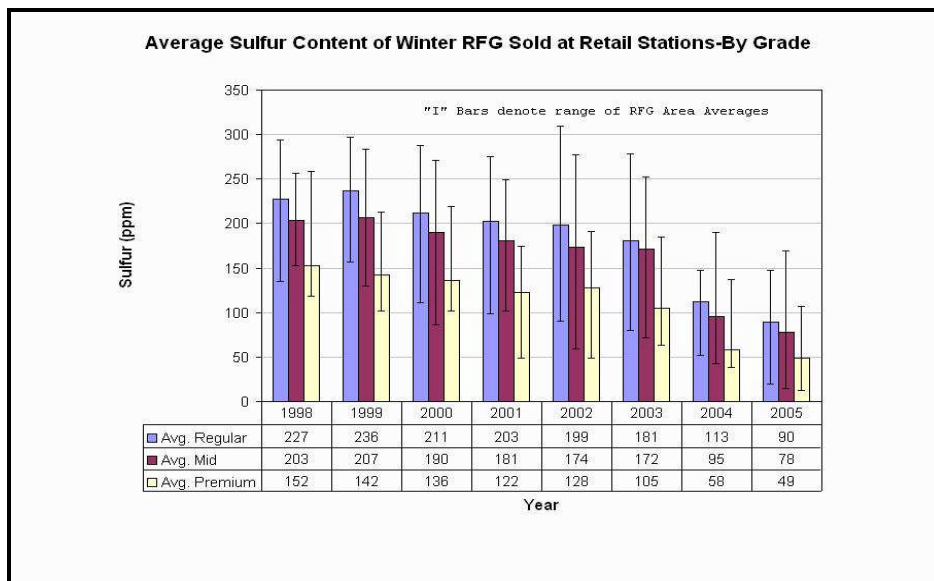


Figure 6

RFG Sulfur By Grade (continued):

RFG Average Sulfur Content (ppm) and Volume (gal) by Year, Grade, and Season-from Reporting Data												
Grade	Season	Data	Reporting Year									
			1997	1998	1999	2000	2001	2002	2003	2004	2005	
PRM	s	Average	196	151	149	78	85	84	66	55	43	
		Volume	3,437,323,049	3,651,099,126	3,537,723,033	2,788,523,817	2,765,064,985	2,919,724,883	2,735,295,696	2,385,535,898	2,143,973,091	
	w	Average	163	148	150	139	122	114	94	57	44	
		Volume	3,875,280,201	4,137,427,813	3,836,358,338	3,419,995,241	3,299,267,883	3,387,457,520	3,103,333,727	2,945,338,123	2,583,694,635	
REG	s	Average	323	222	226	140	138	134	121	85	74	
		Volume	8,933,744,061	9,007,552,063	9,320,974,363	10,122,448,765	10,373,861,808	10,879,031,865	10,824,904,975	11,783,350,501	11,881,795,879	
	w	Average	278	224	237	217	202	219	180	110	86	
		Volume	10,810,119,364	10,661,459,665	10,902,774,956	12,246,078,983	12,361,561,882	13,031,122,001	13,476,711,626	14,159,160,294	15,422,172,055	

Users of these grade-specific property estimates calculated from RFG and Anti-Dumping data should be aware that grade-specific estimates based on reporting data may differ from actual retail property values by grade. Although aggregate estimates from the reporting system may also differ from actual retail property values, there are several additional reasons why these grade-specific estimates may differ. Mid-grade gasoline is often blended from regular and premium gasoline at some point downstream of the refinery. Thus, some of the gasoline volume reported and included in these tables as regular or premium would be marketed as mid-grade. Additionally, EPA's grade-specific average analysis excludes some gasoline and blendstock that was included in aggregate average estimates. EPA has presented averages for batches labeled as regular and premium gasoline only; excluding batches labeled as mid-grade (since these batches may not be a representative sample of gasoline marketed as mid-grade), mix of grades, or without a grade label. EPA also excluded CG blendstock batches from grade-specific analyses even if they had a grade designation.

The table shows the total volume, in gallons, for the batches used to calculate each grade average. In part, because of factors discussed above these volumes are not expected to represent the actual volumes by grade of retail gasoline.

RFG Sulfur-Geographic

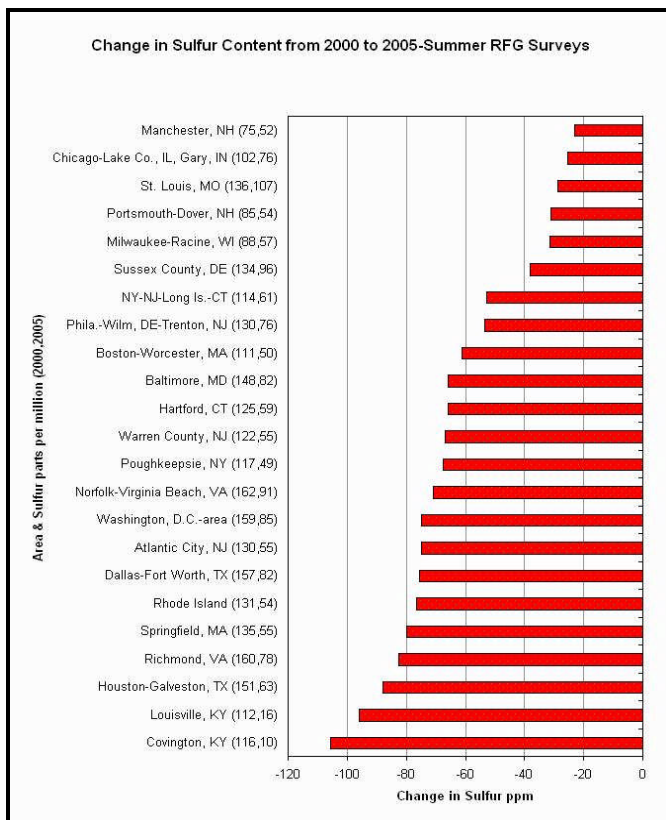


Figure 7

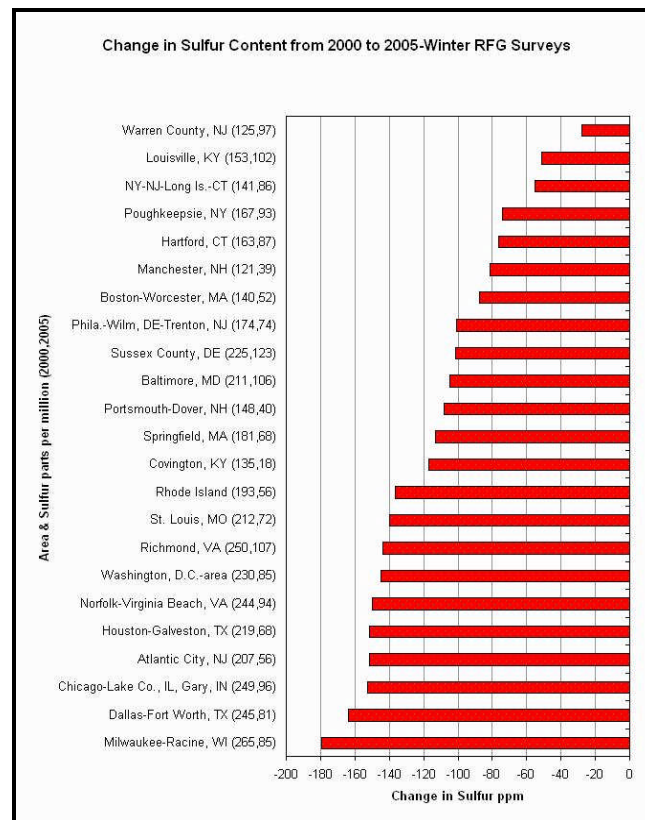


Figure 8

Conventional Gasoline

CG Sulfur by Gasoline Volume

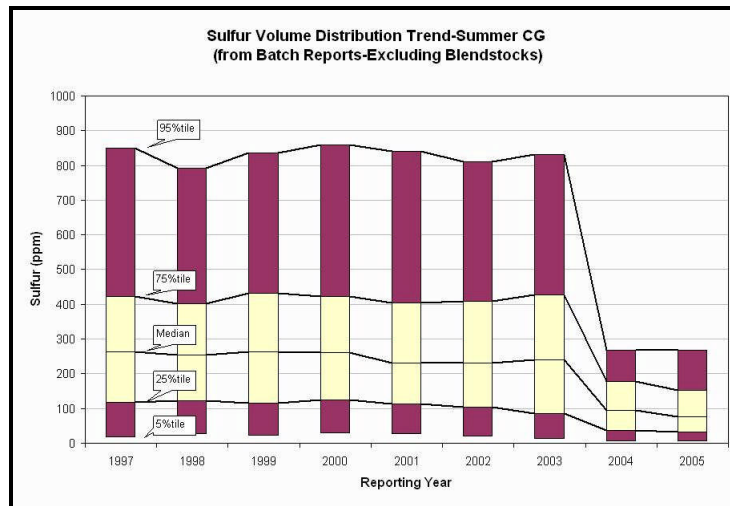


Figure 9

Summer CG Sulfur Content (ppm) by Volume (from Batch Reports excluding Blendstocks)

Reporting Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
Volume									
%tile									
minimum	0	0	0	0	0	0	0	0	0
5%	19	27	23	30	27	21	15	8	8
10%	41	49	44	54	47	43	30	15	17
15%	64	72	66	75	69	64	47	21	22
20%	89	100	92	97	92	85	63	27	26
25%	118	122	116	124	113	105	85	36	32
30%	150	145	146	149	135	130	117	46	38
35%	178	172	179	177	156	156	150	57	48
40%	203	204	211	203	178	182	179	68	57
45%	233	231	237	232	204	207	210	80	66
50%	264	254	264	261	232	232	240	94	76
55%	290	279	289	284	260	261	276	113	88
60%	318	308	319	311	289	294	306	129	100
65%	349	335	358	341	318	326	344	146	113
70%	385	368	393	379	353	367	379	161	132
75%	423	402	433	422	405	408	427	178	153
80%	487	449	476	490	463	466	484	198	176
85%	590	527	552	604	545	529	565	219	204
90%	725	631	669	724	680	637	678	239	233
95%	849	791	836	859	840	810	832	269	269
100%	1081	1084	1060	1081	1045	1089	1096	449	478
Volume (gal):	39,315,348,774	39,013,838,890	37,130,899,033	36,366,550,602	38,566,421,725	40,811,809,360	43,223,878,447	43,512,526,323	42,196,228,805

CG Sulfur by Gasoline Volume (continued):

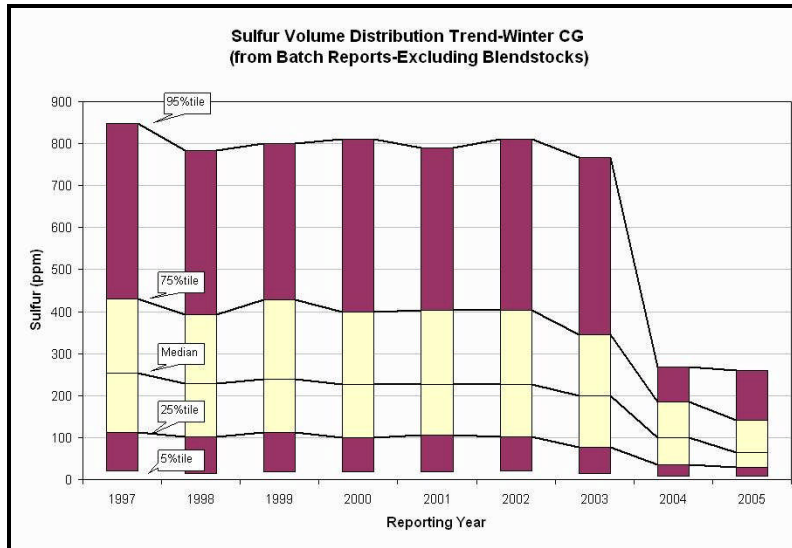


Figure 10

Winter CG Sulfur Content by Volume (from Batch Reports excluding Blendstocks)

Reporting Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
Volume %tile									
minimum	0	0	0	0	0	0	0	0	0
5%	20	14	19	19	18	20	15	9	8
10%	42	38	43	40	39	40	26	17	15
15%	65	60	66	60	59	60	40	24	20
20%	89	80	87	80	80	79	57	30	25
25%	112	102	113	100	105	101	77	36	29
30%	136	123	138	123	134	128	98	46	34
35%	164	148	163	149	158	156	123	58	41
40%	194	172	187	176	178	182	146	72	49
45%	222	200	214	202	202	205	172	86	56
50%	253	229	238	226	227	227	199	100	64
55%	281	258	270	253	254	255	221	115	75
60%	311	289	302	284	286	279	246	133	87
65%	349	316	339	311	323	313	275	150	101
70%	388	353	381	353	364	350	309	168	118
75%	431	392	429	399	404	403	345	185	141
80%	489	438	485	449	457	458	395	204	168
85%	579	511	565	515	524	537	465	222	199
90%	704	617	660	644	617	650	586	244	232
95%	849	784	800	811	789	811	767	269	259
100%	1071	1083	1057	1086	1083	1079	1010	449	478
Volume (gal):	44,568,243,930	46,189,100,491	47,577,145,369	47,958,091,470	48,807,540,198	49,661,093,570	47,455,096,094	47,651,820,292	48,700,780,453

CG Sulfur by Gasoline Volume
(Cumulative Distributions for Latest Year Data)

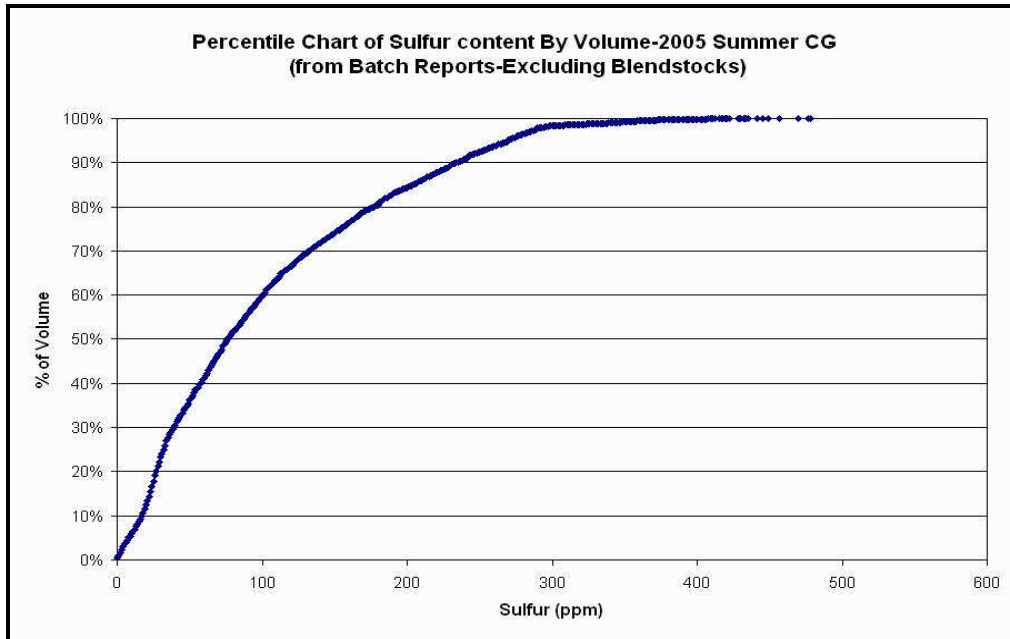


Figure 11

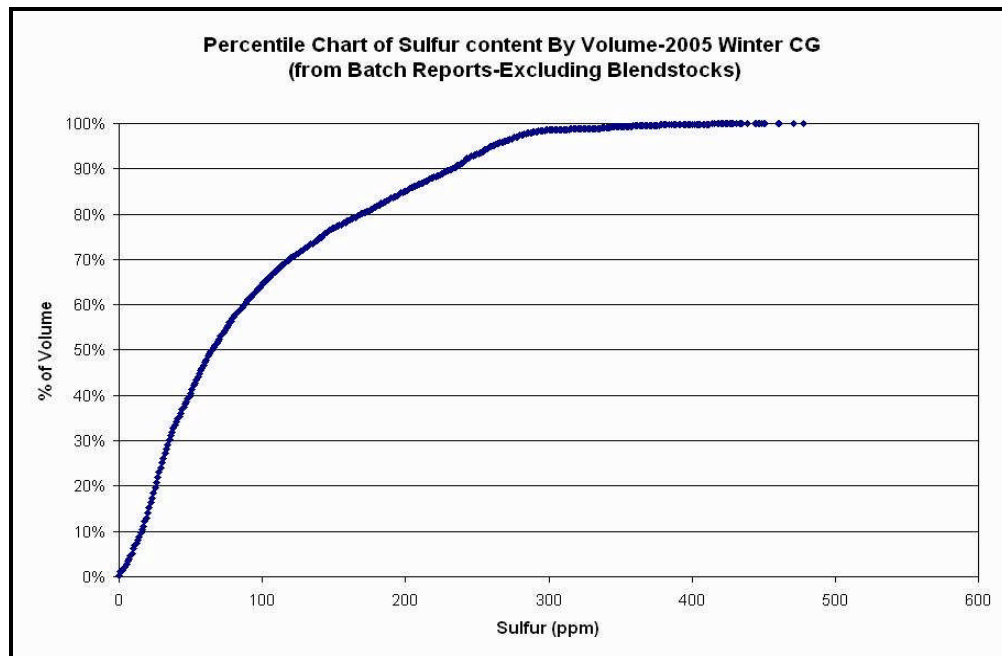


Figure 12

CG Sulfur-by Grade

CG Average Sulfur Content (ppm) and Volume (gal)by Year, Grade and Season-From Reporting Data												
			Reporting Year									
Grade	Season	Data	1997	1998	1999	2000	2001	2002	2003	2004	2005	
PRM	s	Average	134	120	118	114	100	85	97	51	51	
		Volume	6,908,485,473	6,600,159,963	6,231,165,137	4,955,635,124	4,996,778,324	5,177,600,571	5,143,196,797	4,635,507,910	4,138,979,931	
	w	Average	117	103	110	108	101	98	81	50	44	
		Volume	8,304,496,529	8,193,379,471	7,668,490,252	6,627,924,003	6,554,918,975	6,568,341,755	5,507,050,392	5,077,869,493	4,508,926,779	
REG	s	Average	368	345	361	357	337	332	334	119	107	
		Volume	28,005,415,849	28,380,712,680	26,617,451,271	27,335,453,049	28,964,605,205	30,992,801,780	33,051,938,207	34,605,072,844	33,851,903,439	
	w	Average	367	330	346	329	330	330	283	123	100	
		Volume	32,127,505,321	32,117,523,489	33,273,916,900	35,151,238,087	35,939,854,456	36,931,713,041	35,948,070,047	37,501,622,970	39,121,167,000	

Users of these grade-specific property estimates calculated from RFG and Anti-Dumping data should be aware that grade-specific estimates based on reporting data may differ from actual retail property values by grade. Although aggregate estimates from the reporting system may also differ from actual retail property values, there are several additional reasons why these grade-specific estimates may differ. Mid-grade gasoline is often blended from regular and premium gasoline at some point downstream of the refinery. Thus, some of the gasoline volume reported and included in these tables as regular or premium would be marketed as mid-grade. Additionally, EPA's grade-specific average analysis excludes some gasoline and blendstock that was included in aggregate average estimates. EPA has presented averages for batches labeled as regular and premium gasoline only; excluding batches labeled as mid-grade (since these batches may not be a representative sample of gasoline marketed as mid-grade), mix of grades, or without a grade label. EPA also excluded CG blendstock batches from grade-specific analyses even if they had a grade designation.

The table shows the total volume, in gallons, for the batches used to calculate each grade average. In part, because of factors discussed above these volumes are not expected to represent the actual volumes by grade of retail gasoline.

Appendix to RVP Chapter

RFG RVP by Gasoline Volume

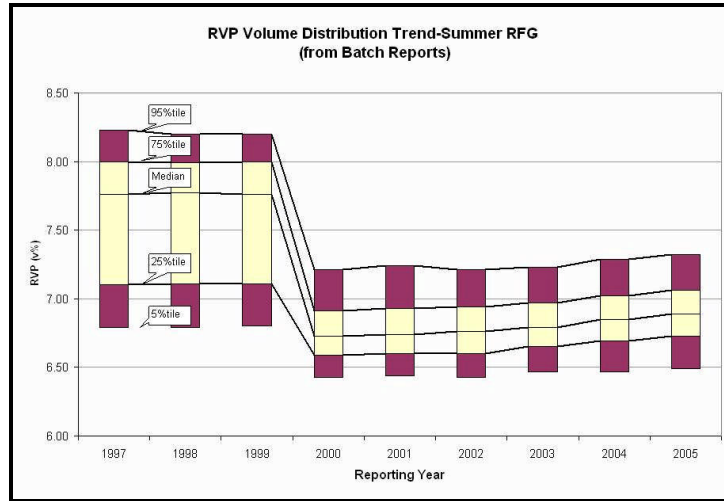


Figure 1

Summer RFG RVP Content by Volume (from Batch Reports)

Reporting Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
Volume %tile									
minimum	6.03	5.95	6.18	6.34	6.19	6.19	6.35	6.34	6.33
5%	6.79	6.79	6.80	6.43	6.44	6.43	6.47	6.47	6.49
10%	6.90	6.90	6.94	6.48	6.49	6.49	6.53	6.53	6.57
15%	6.99	6.99	7.00	6.53	6.53	6.53	6.57	6.59	6.63
20%	7.05	7.05	7.05	6.56	6.57	6.57	6.62	6.65	6.69
25%	7.10	7.11	7.11	6.59	6.60	6.60	6.65	6.69	6.73
30%	7.18	7.19	7.18	6.63	6.64	6.65	6.68	6.72	6.76
35%	7.31	7.31	7.26	6.66	6.66	6.68	6.71	6.75	6.79
40%	7.49	7.57	7.45	6.69	6.70	6.72	6.73	6.78	6.83
45%	7.68	7.69	7.66	6.72	6.72	6.73	6.76	6.82	6.86
50%	7.76	7.77	7.76	6.73	6.74	6.76	6.79	6.85	6.89
55%	7.82	7.82	7.84	6.76	6.77	6.79	6.84	6.88	6.92
60%	7.88	7.87	7.89	6.79	6.81	6.82	6.86	6.91	6.96
65%	7.92	7.91	7.94	6.83	6.84	6.85	6.89	6.94	6.99
70%	7.96	7.95	7.98	6.86	6.88	6.89	6.92	6.98	7.02
75%	8.00	7.99	8.00	6.91	6.93	6.94	6.97	7.02	7.06
80%	8.04	8.03	8.04	6.94	6.98	6.99	7.02	7.06	7.11
85%	8.10	8.08	8.08	7.00	7.05	7.05	7.07	7.11	7.17
90%	8.16	8.13	8.14	7.07	7.11	7.11	7.13	7.18	7.24
95%	8.23	8.20	8.20	7.21	7.24	7.21	7.23	7.29	7.32
100%	9.22	8.41	8.65	7.75	7.75	7.76	7.69	8.96	9.95
Volume (gal):	12,448,415,575	12,832,964,637	12,998,841,841	12,983,168,478	13,222,633,468	13,847,971,634	13,584,860,845	14,232,658,149	14,083,382,582

**RFG RVP by Gasoline Volume (continued):
(Cumulative Distribution for Latest Year Data)**

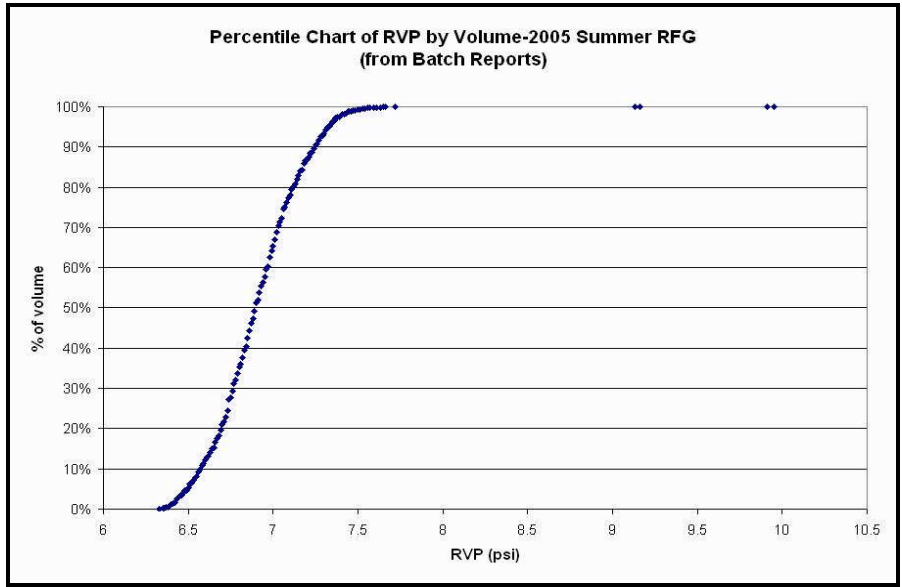


Figure 2

RFG RVP by Grade

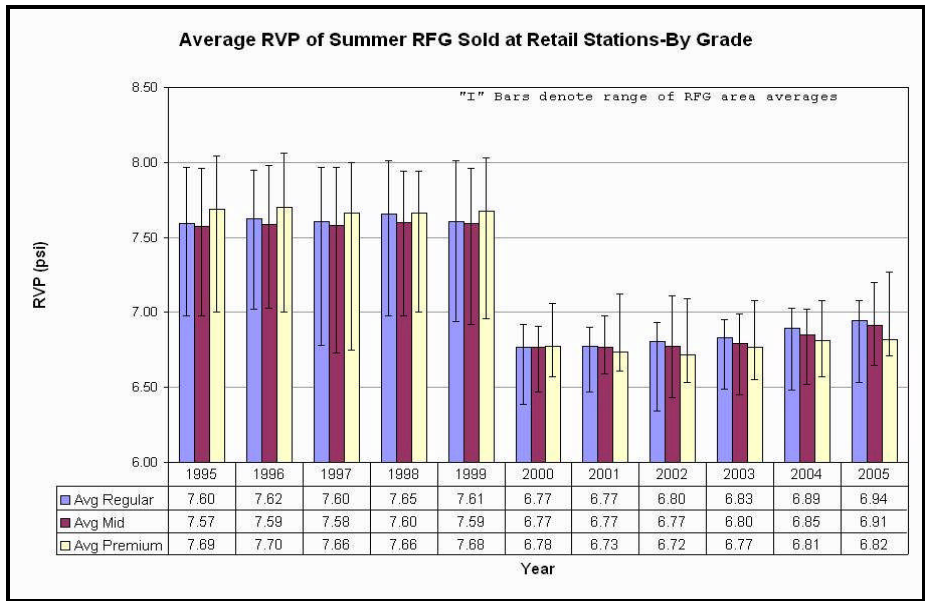


Figure 3

RFG RVP by Grade

RFG Average RVP (psi) and Volume (gal) by Year, Grade – Summer only-From Reporting Data

Grade	Season	Data	Reporting Year								
			1997	1998	1999	2000	2001	2002	2003	2004	2005
PRM	s	Average	7.59	7.56	7.60	6.73	6.73	6.71	6.74	6.77	6.77
		Volume	3,416,852,331	3,651,258,096	3,537,723,033	2,788,564,977	2,772,816,841	2,931,886,907	2,736,973,386	2,385,535,898	2,144,095,101
REG	s	Average	7.61	7.61	7.59	6.79	6.81	6.82	6.85	6.88	6.94
		Volume	8,915,975,289	9,007,552,063	9,320,974,363	10,122,448,765	10,392,283,260	10,879,031,865	10,824,904,975	11,783,350,501	11,881,795,879

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The table shows the total volume, in gallons, for the batches used to calculate each grade average. In part, because of factors discussed above these volumes are not expected to represent the actual volumes by grade of retail gasoline.

RFG RVP-Geographic

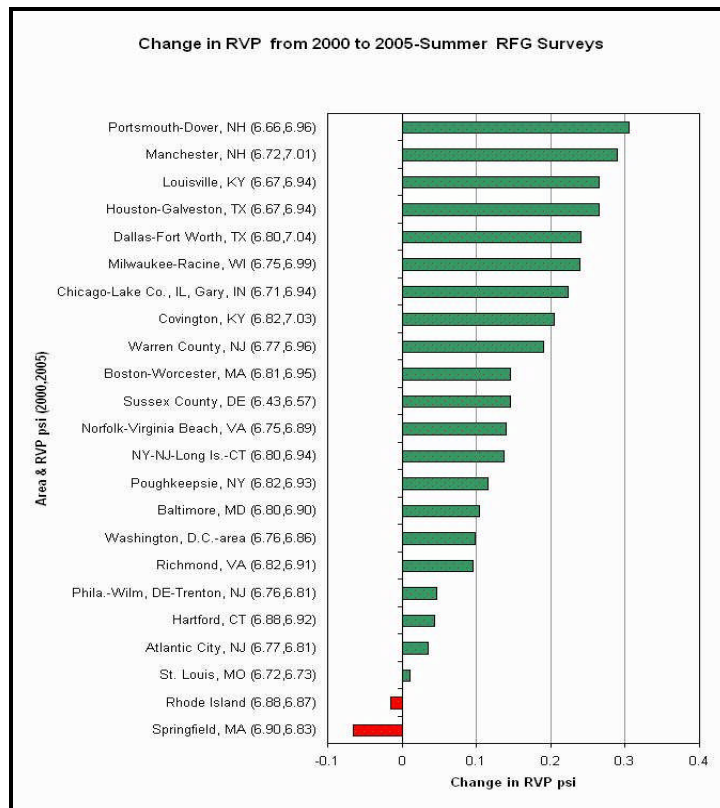


Figure 4

Conventional Gasoline

CG RVP by Gasoline Volume

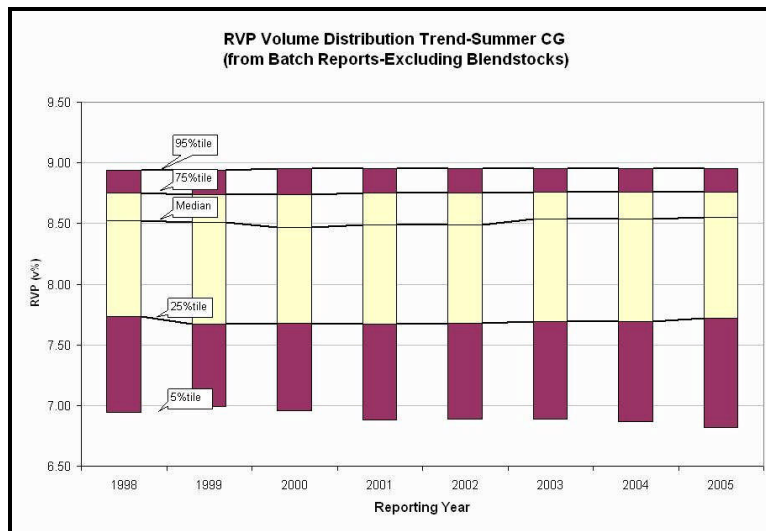


Figure 5

		Summer CG RVP (psi) by Volume (from Batch Reports excluding Blendstocks)						
		Reporting Year						
Volume %tile	1998	1999	2000	2001	2002	2003	2004	2005
minimum	5.89	5.83	5.85	5.80	5.96	5.83	5.80	5.80
5%	6.94	6.99	6.96	6.88	6.89	6.89	6.87	6.82
10%	7.39	7.39	7.39	7.36	7.37	7.39	7.36	7.37
15%	7.52	7.50	7.52	7.51	7.52	7.52	7.51	7.53
20%	7.62	7.59	7.60	7.59	7.60	7.62	7.61	7.63
25%	7.73	7.67	7.68	7.67	7.68	7.69	7.69	7.72
30%	8.04	7.76	7.76	7.76	7.79	7.83	7.87	7.92
35%	8.27	8.12	8.05	8.05	8.07	8.17	8.19	8.21
40%	8.38	8.34	8.25	8.24	8.29	8.37	8.36	8.36
45%	8.46	8.44	8.39	8.37	8.40	8.47	8.46	8.46
50%	8.52	8.51	8.47	8.49	8.49	8.54	8.54	8.55
55%	8.58	8.58	8.54	8.55	8.57	8.61	8.60	8.59
60%	8.62	8.62	8.61	8.61	8.62	8.64	8.64	8.63
65%	8.66	8.66	8.65	8.65	8.67	8.69	8.68	8.68
70%	8.71	8.71	8.69	8.70	8.71	8.73	8.72	8.72
75%	8.75	8.74	8.74	8.75	8.75	8.76	8.76	8.76
80%	8.79	8.79	8.79	8.79	8.79	8.81	8.80	8.81
85%	8.84	8.83	8.82	8.84	8.85	8.85	8.85	8.85
90%	8.89	8.88	8.88	8.89	8.90	8.90	8.89	8.90
95%	8.94	8.94	8.95	8.95	8.95	8.95	8.95	8.95
100%	12.10	11.95	12.09	12.06	12.10	12.08	12.07	12.10
Volume (gal):	39,091,550,524	37,194,647,473	36,395,981,388	38,566,835,643	40,819,234,602	43,243,575,045	43,509,104,037	42,196,228,805

CG RVP by Gasoline Volume (continued):

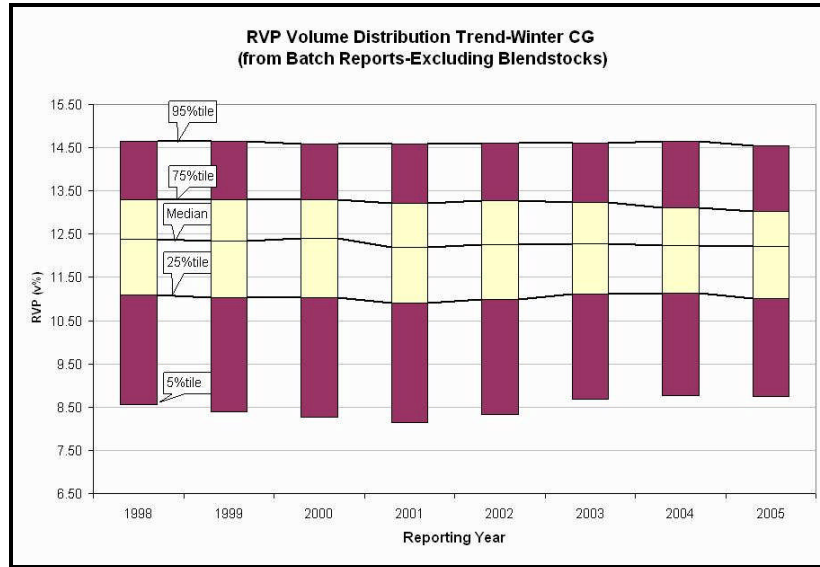


Figure 6

Winter CG RVP (psi) by Volume (from Batch Reports excluding Blendstocks)								
Reporting Year	1998	1999	2000	2001	2002	2003	2004	2005
Volume %tile								
minimum	5.54	5.57	5.40	5.48	5.39	5.35	5.32	5.40
5%	8.56	8.39	8.26	8.14	8.33	8.69	8.76	8.75
10%	9.49	8.89	8.81	8.74	8.82	9.81	10.07	9.81
15%	10.30	10.13	9.91	9.86	9.97	10.51	10.63	10.43
20%	10.82	10.71	10.71	10.52	10.66	10.88	10.93	10.79
25%	11.10	11.04	11.04	10.90	11.00	11.12	11.14	11.01
30%	11.32	11.26	11.23	11.14	11.21	11.29	11.31	11.23
35%	11.59	11.46	11.45	11.35	11.42	11.49	11.53	11.47
40%	11.96	11.87	11.89	11.61	11.76	11.87	11.88	11.79
45%	12.20	12.14	12.19	11.94	12.05	12.09	12.08	12.04
50%	12.39	12.35	12.40	12.20	12.26	12.27	12.23	12.21
55%	12.55	12.51	12.55	12.41	12.44	12.41	12.39	12.36
60%	12.71	12.69	12.71	12.58	12.62	12.58	12.53	12.50
65%	12.89	12.87	12.89	12.77	12.83	12.76	12.69	12.66
70%	13.10	13.07	13.09	12.99	13.04	12.99	12.89	12.83
75%	13.29	13.29	13.29	13.22	13.28	13.23	13.10	13.02
80%	13.46	13.44	13.45	13.41	13.44	13.40	13.30	13.24
85%	13.94	13.93	13.79	13.70	13.76	13.78	13.62	13.48
90%	14.29	14.31	14.25	14.24	14.26	14.26	14.25	14.07
95%	14.64	14.65	14.59	14.59	14.61	14.61	14.64	14.55
100%	16.30	16.00	15.94	16.20	15.78	16.00	15.50	15.35
Volume (gal):	46,061,502,458	45,842,624,362	41,249,911,572	48,563,137,130	48,898,338,201	41,635,803,399	39,996,766,942	38,557,421,343

**CG RVP by Gasoline Volume (continued):
(Cumulative Distributions for Latest Year Data)**

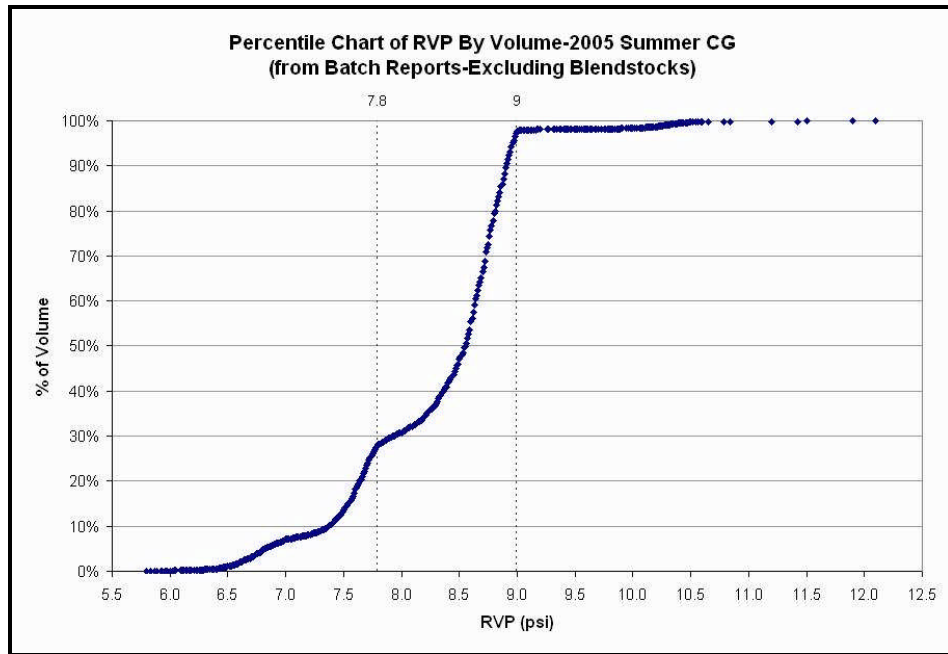


Figure 7

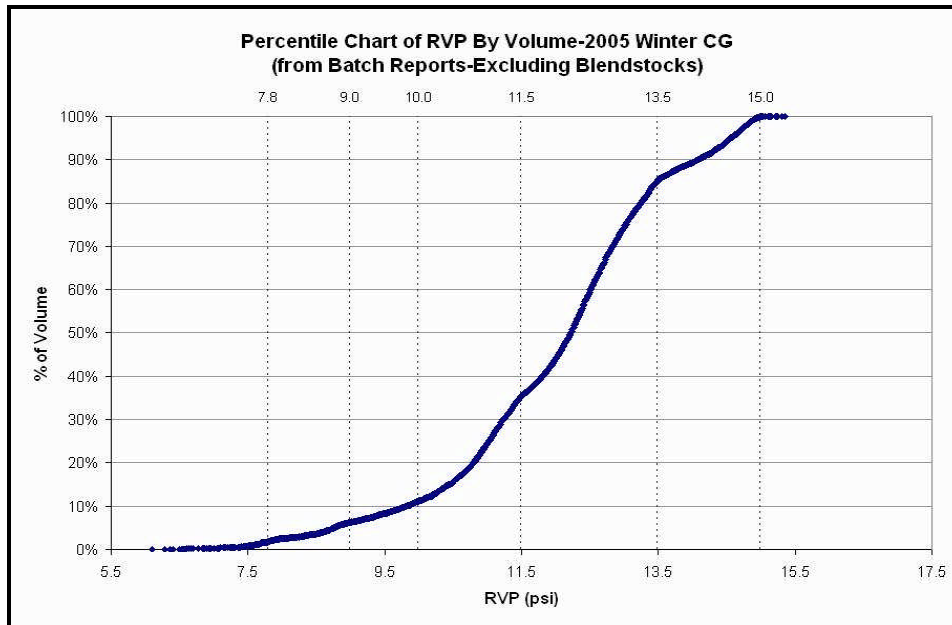


Figure 8

CG RVP by Grade

CG Average RVP (psi) and Volume (gal) by Year, Grade and Season-from Reporting Data										
Grade	Season	Data	Reporting Year							
			1998	1999	2000	2001	2002	2003	2004	2005
PRM	s	Average	8.17	8.16	8.07	8.08	8.10	8.17	8.15	8.14
		Volume	6,635,803,305	6,252,416,423	4,957,386,104	4,996,778,324	5,181,939,065	5,149,486,549	4,635,507,910	4,138,979,931
	w	Average	12.11	11.98	11.94	11.82	11.93	12.01	11.94	12.00
		Volume	8,209,902,634	7,399,170,984	5,413,808,077	6,555,892,276	6,542,422,368	5,021,592,048	4,297,707,397	3,716,904,849
REG	s	Average	8.33	8.29	8.25	8.25	8.27	8.30	8.30	8.30
		Volume	28,418,412,132	26,656,367,421	27,360,707,607	28,965,019,123	30,995,888,528	33,053,399,345	34,601,650,558	33,851,903,439
	w	Average	12.06	11.97	11.89	11.80	11.87	11.97	12.02	11.94
		Volume	31,980,799,123	31,791,685,337	29,648,094,807	35,690,792,290	36,194,877,059	31,768,671,300	31,555,556,718	32,128,135,107

Users of these grade-specific property estimates calculated from RFG and Anti-Dumping data should be aware that grade-specific estimates based on reporting data may differ from actual retail property values by grade. Although aggregate estimates from the reporting system may also differ from actual retail property values, there are several additional reasons why these grade-specific estimates may differ. Mid-grade gasoline is often blended from regular and premium gasoline at some point downstream of the refinery. Thus, some of the gasoline volume reported and included in these tables as regular or premium would be marketed as mid-grade. Additionally, EPA's grade-specific average analysis excludes some gasoline and blendstock that was included in aggregate average estimates. EPA has presented averages for batches labeled as regular and premium gasoline only; excluding batches labeled as mid-grade (since these batches may not be a representative sample of gasoline marketed as mid-grade), mix of grades, or without a grade label. EPA also excluded CG blendstock batches from grade-specific analyses even if they had a grade designation.

The table shows the total volume, in gallons, for the batches used to calculate each grade average. In part, because of factors discussed above these volumes are not expected to represent the actual volumes by grade of retail gasoline.

Appendix to Oxygenates and Oxygen Chapter

RFG Oxygen Weight Percent by Gasoline Volume (Excluding California)

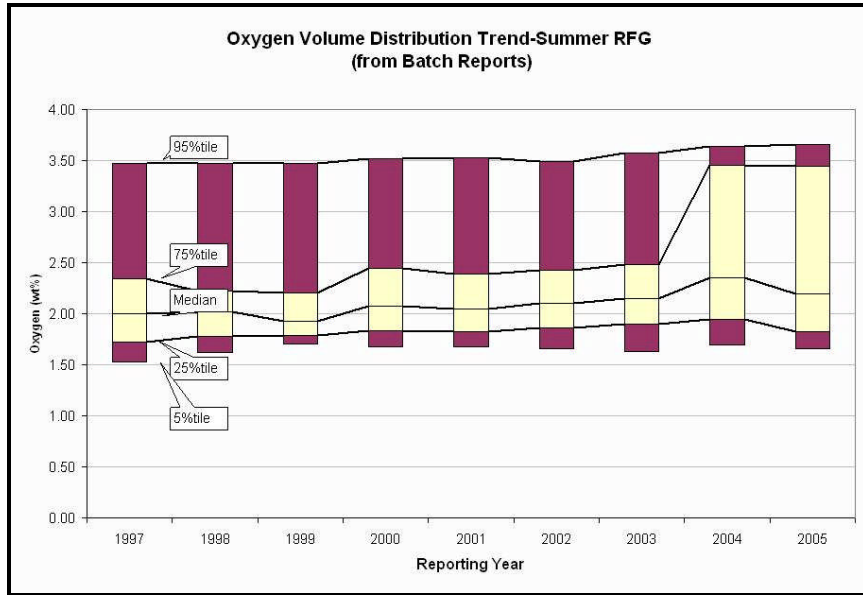


Figure 1

Summer RFG Oxygen Content (wt%) by Volume (from Batch Reports)

	Reporting Year								
	1997	1998	1999	2000	2001	2002	2003	2004	2005
Volume									
%tile									
minimum	1.20	1.50	1.50	1.50	1.51	1.43	1.44	1.45	1.44
5%	1.53	1.62	1.70	1.68	1.68	1.66	1.63	1.69	1.66
10%	1.58	1.67	1.72	1.73	1.72	1.74	1.71	1.76	1.72
15%	1.62	1.70	1.75	1.76	1.76	1.78	1.78	1.82	1.75
20%	1.68	1.74	1.77	1.80	1.79	1.82	1.84	1.88	1.78
25%	1.72	1.78	1.79	1.83	1.82	1.86	1.90	1.94	1.82
30%	1.78	1.82	1.81	1.88	1.85	1.89	1.94	2.00	1.87
35%	1.83	1.87	1.84	1.91	1.88	1.94	1.99	2.08	1.91
40%	1.90	1.91	1.87	1.95	1.93	2.00	2.05	2.17	1.98
45%	1.96	1.98	1.90	2.01	1.99	2.05	2.10	2.25	2.07
50%	2.00	2.02	1.93	2.07	2.05	2.10	2.15	2.35	2.19
55%	2.06	2.06	1.97	2.13	2.11	2.16	2.23	2.43	2.33
60%	2.10	2.09	2.01	2.20	2.17	2.21	2.29	2.50	2.43
65%	2.16	2.13	2.07	2.29	2.23	2.27	2.36	2.58	2.51
70%	2.25	2.17	2.13	2.37	2.31	2.35	2.42	3.31	2.67
75%	2.34	2.22	2.20	2.44	2.39	2.43	2.48	3.45	3.44
80%	2.44	2.32	2.30	2.52	2.47	2.51	2.54	3.49	3.51
85%	2.52	2.46	2.45	2.60	2.55	2.58	2.65	3.53	3.54
90%	2.65	2.64	2.62	3.42	3.31	3.40	3.48	3.57	3.59
95%	3.47	3.47	3.47	3.52	3.53	3.49	3.57	3.64	3.66
100%	3.91	3.96	3.82	3.78	4.10	4.00	4.02	3.91	3.95
Volume (gal):	12,212,323,923	12,566,698,539	12,660,919,964	12,569,342,940	12,783,848,128	13,409,581,178	13,185,376,501	13,746,792,069	13,464,126,854

RFG Oxygen Weight Percent by Gasoline Volume (Continued):

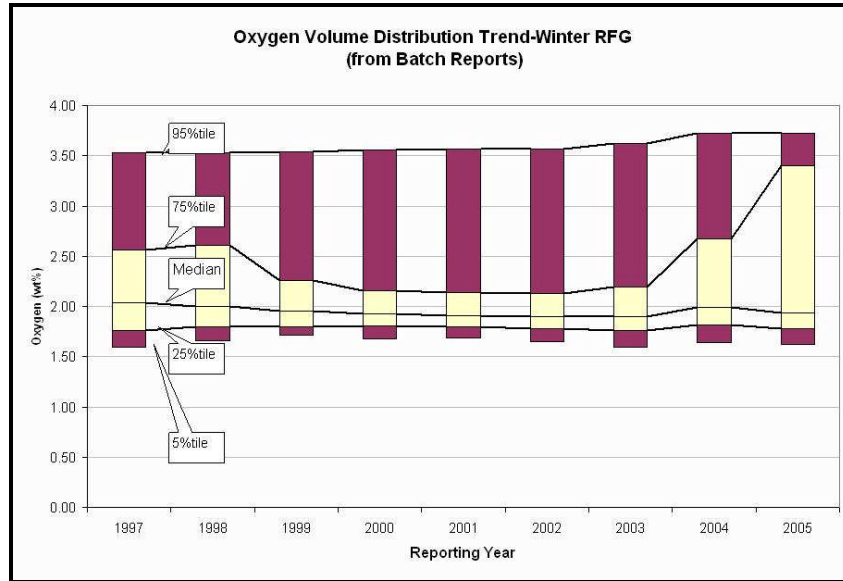


Figure 2

Winter RFG Oxygen Content (wt%) by Volume (from Batch Reports)

Volume %tile	Reporting Year									
	1997	1998	1999	2000	2001	2002	2003	2004	2005	
minimum	1.44	1.36	1.50	1.50	1.43	1.45	1.25	1.37	1.46	
5%	1.59	1.66	1.71	1.68	1.69	1.65	1.59	1.64	1.62	
10%	1.64	1.70	1.74	1.73	1.72	1.70	1.64	1.70	1.68	
15%	1.68	1.74	1.76	1.76	1.75	1.73	1.69	1.75	1.72	
20%	1.72	1.77	1.78	1.79	1.78	1.76	1.73	1.78	1.75	
25%	1.76	1.80	1.80	1.81	1.80	1.78	1.76	1.82	1.78	
30%	1.80	1.83	1.82	1.83	1.82	1.80	1.79	1.85	1.81	
35%	1.86	1.86	1.85	1.85	1.85	1.83	1.81	1.88	1.84	
40%	1.93	1.90	1.88	1.88	1.87	1.85	1.84	1.91	1.88	
45%	1.99	1.94	1.91	1.90	1.89	1.87	1.86	1.94	1.90	
50%	2.04	2.00	1.95	1.93	1.91	1.90	1.90	1.99	1.94	
55%	2.09	2.05	1.99	1.97	1.94	1.93	1.93	2.07	1.98	
60%	2.14	2.13	2.03	2.00	1.98	1.97	1.97	2.16	2.06	
65%	2.21	2.21	2.09	2.05	2.02	2.01	2.02	2.29	2.21	
70%	2.31	2.32	2.16	2.10	2.08	2.07	2.09	2.44	2.39	
75%	2.56	2.61	2.26	2.16	2.14	2.13	2.19	2.67	3.40	
80%	2.70	2.72	2.40	2.26	2.23	2.21	2.35	3.53	3.53	
85%	2.77	2.78	2.62	2.43	2.39	2.36	2.57	3.58	3.58	
90%	2.87	2.89	2.82	2.64	2.58	2.66	3.53	3.64	3.65	
95%	3.53	3.53	3.54	3.56	3.57	3.57	3.62	3.72	3.72	
100%	3.99	4.02	3.85	3.81	4.02	3.94	4.00	4.04	3.97	
Volume (gal):	14,520,852,742	14,621,530,037	14,604,242,854	15,291,171,680	15,116,796,877	15,826,024,638	15,771,471,139	15,875,951,167	16,565,687,773	

**RFG Oxygen Weight Percent by Gasoline Volume (Continued):
Cumulative Distributions for Latest Year Data**

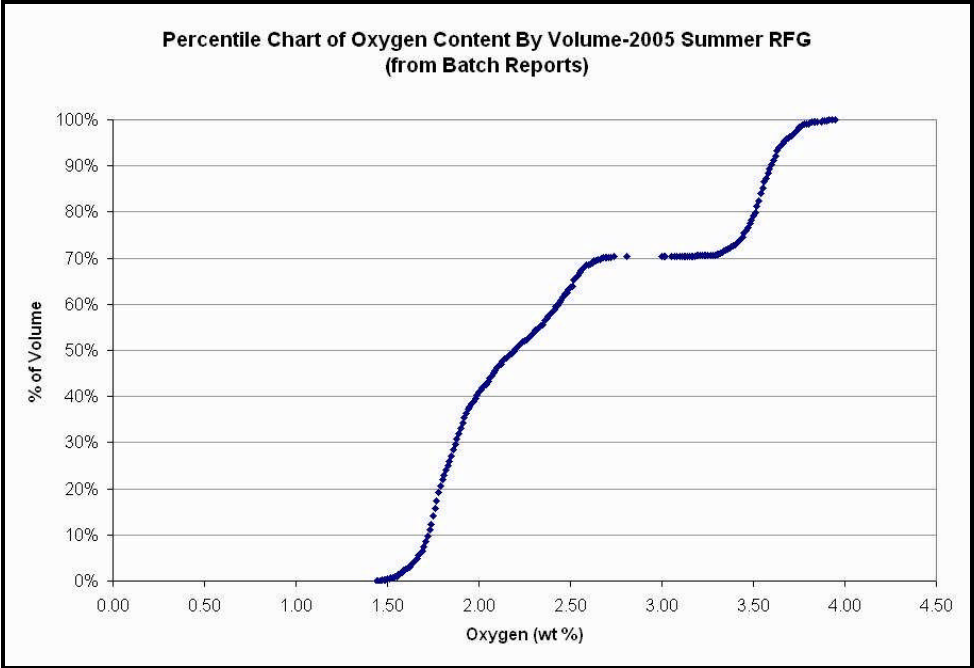


Figure 3

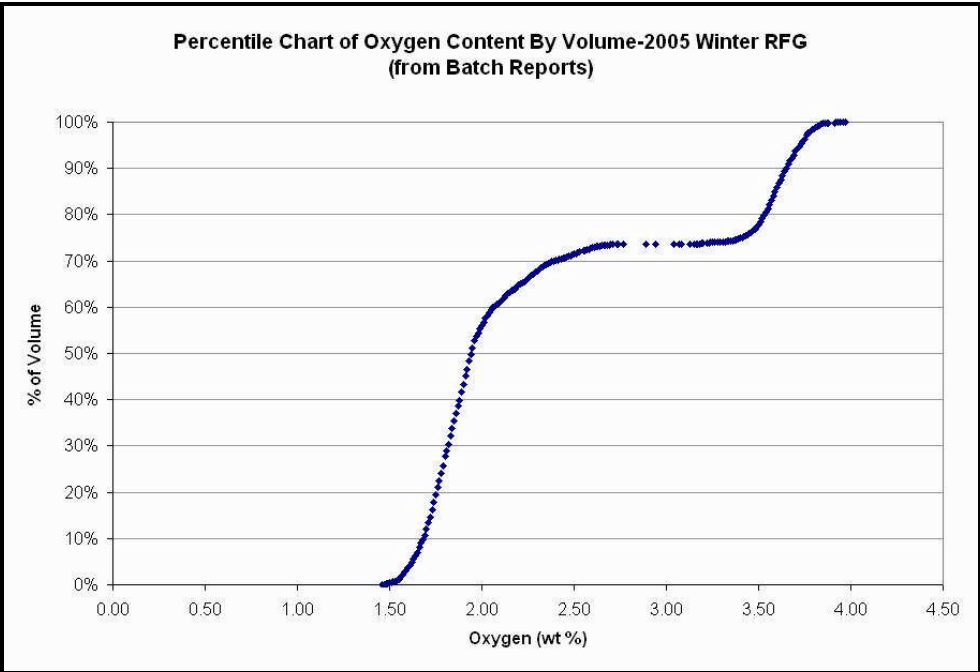


Figure 4

RFG MTBE Content (Volume Percent) by Gasoline Volume

Summer RFG MTBE Content (Vol%) by Volume (from Batch Reports)

		Reporting Year								
		1997	1998	1999	2000	2001	2002	2003	2004	2005
Volume	%tile									
	5%									
	10%									
	15%	4.95	5.11	4.42	5.66	5.18	0.20	0.06		
	20%	6.78	6.23	5.86	6.72	7.36	6.55	5.97		
	25%	8.21	8.05	7.30	8.17	8.41	8.34	7.91	0.05	0.04
	30%	8.52	8.95	8.87	8.73	8.80	8.88	8.69	0.10	0.19
	35%	8.72	9.13	9.36	9.05	9.11	9.17	9.01	6.30	7.68
	40%	8.99	9.39	9.57	9.36	9.34	9.51	9.37	8.52	8.65
	45%	9.27	9.67	9.70	9.60	9.58	9.77	9.79	9.13	9.03
	50%	9.58	9.99	9.83	9.82	9.80	10.04	10.16	9.53	9.40
	55%	9.94	10.35	9.99	10.10	10.09	10.34	10.55	9.92	9.62
	60%	10.44	10.78	10.17	10.40	10.35	10.65	10.95	10.26	9.78
	65%	10.90	11.11	10.39	10.68	10.74	11.08	11.39	10.77	10.03
	70%	11.30	11.35	10.59	11.11	11.20	11.47	11.74	11.25	10.30
	75%	11.59	11.57	10.89	11.56	11.64	11.83	12.19	11.81	10.65
	80%	11.95	11.83	11.29	12.08	12.11	12.24	12.64	12.45	11.35
	85%	12.57	12.08	11.75	12.92	12.68	12.76	13.04	13.05	12.20
	90%	13.18	12.64	12.36	13.44	13.25	13.35	13.52	13.55	13.07
	95%	13.81	13.75	13.52	14.02	13.74	13.91	13.98	14.00	13.72
	100%	15.71	16.00	16.21	15.17	15.86	15.79	15.62	15.12	15.24
Volume (gal):		11,977,238,567	12,553,324,899	12,608,377,199	12,574,035,936	12,783,848,128	13,409,581,178	13,168,085,773	13,749,448,485	13,464,757,064

Winter RFG MTBE Content (Vol%) by Volume (from Batch Reports)

		Reporting Year								
		1997	1998	1999	2000	2001	2002	2003	2004	2005
Volume	%tile									
	5%									
	10%									
	15%	0.21	0.18	0.47	0.42	0.65	0.07			
	20%	5.06	5.24	5.42	5.55	5.59	5.23	0.14		
	25%	7.18	6.94	6.89	7.22	7.99	7.67	7.36	0.05	0.04
	30%	8.34	8.68	8.72	8.40	8.59	8.56	8.36	0.28	0.20
	35%	8.64	9.04	9.18	8.88	8.98	8.84	8.66	7.95	7.85
	40%	8.89	9.30	9.38	9.20	9.24	9.10	8.89	8.56	8.45
	45%	9.09	9.52	9.53	9.40	9.44	9.26	9.15	8.87	8.78
	50%	9.33	9.74	9.67	9.60	9.60	9.41	9.37	9.15	9.03
	55%	9.63	9.98	9.80	9.77	9.76	9.61	9.53	9.39	9.23
	60%	10.14	10.24	9.97	9.91	9.92	9.77	9.70	9.62	9.44
	65%	10.73	10.58	10.18	10.07	10.06	9.95	9.87	9.84	9.63
	70%	11.21	11.09	10.42	10.24	10.24	10.15	10.04	10.06	9.85
	75%	11.63	11.70	10.75	10.49	10.44	10.36	10.28	10.29	10.09
	80%	12.22	12.16	11.16	10.83	10.74	10.67	10.56	10.79	10.29
	85%	13.71	13.49	11.69	11.31	11.18	11.09	11.00	11.39	10.55
	90%	14.52	14.58	12.66	11.89	11.63	11.55	11.52	12.12	11.09
	95%	14.94	14.98	14.34	12.92	12.44	12.30	12.41	13.01	12.19
	100%	16.93	16.86	16.10	15.63	15.30	15.62	15.02	15.13	15.79
Volume (gal):		14,400,124,642	14,621,530,037	14,594,054,317	15,275,786,534	15,122,255,995	15,825,705,992	15,771,471,139	15,875,951,167	16,559,495,884

**RFG MTBE Content (Volume Percent) by Gasoline Volume (Continued):
Cumulative Distribution for Latest Year Data**

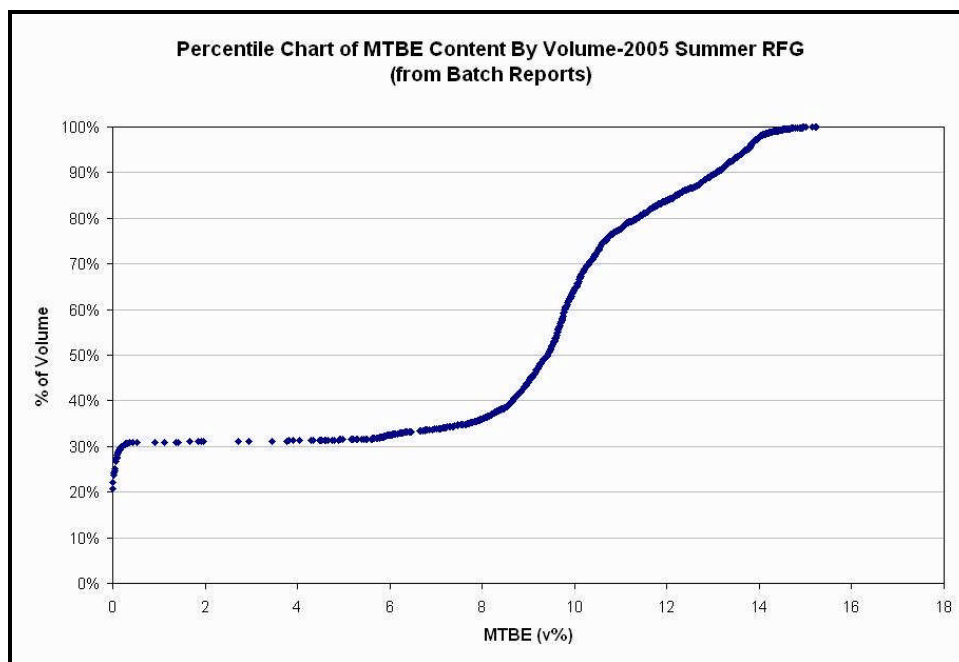


Figure 5

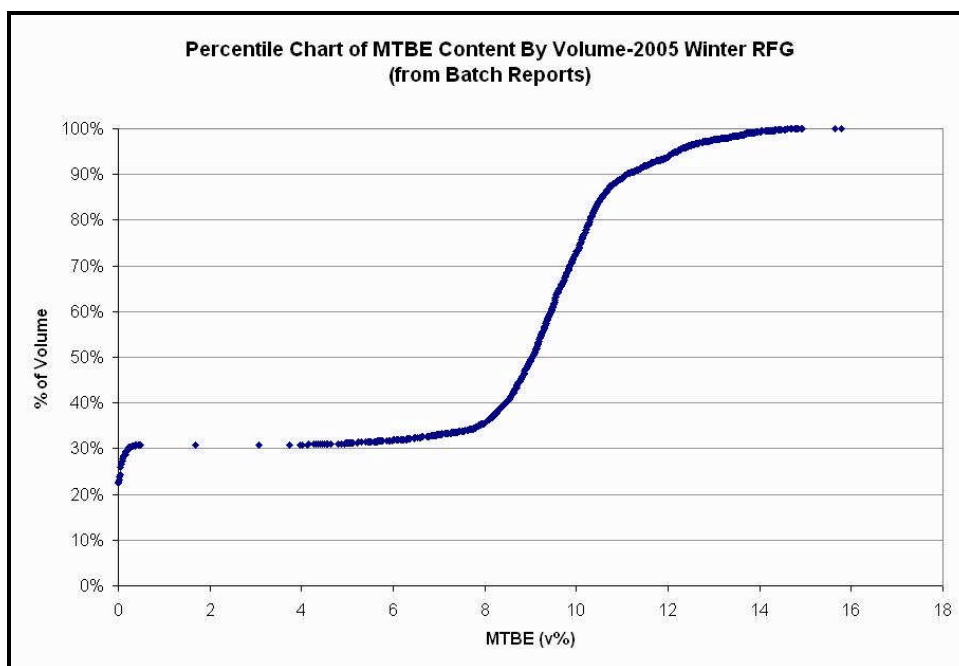


Figure 6

RFG Ethanol Content (Volume Percent) by Gasoline Volume

Summer RFG Ethanol Content (vol%) by Volume (from Batch Reports)

Volume %tile	Reporting Year								
	1997	1998	1999	2000	2001	2002	2003	2004	2005
67%									
68%								5.28	
69%								5.56	
70%								9.03	5.38
75%								9.34	9.32
80%								9.44	9.48
81%								9.45	9.50
82%								9.48	9.54
83%							0.01	9.49	9.56
84%						0.03	4.70	9.51	9.58
85%						5.09	5.23	9.54	9.60
86%						5.33	5.35	9.56	9.61
87%			4.81			5.50	9.10	9.59	9.63
88%		4.66	4.96	7.44	0.09	5.76	9.31	9.62	9.67
89%	5.18	4.87	5.15	8.95	8.59	9.07	9.37	9.64	9.70
90%	5.36	5.15	5.26	9.23	9.11	9.23	9.42	9.67	9.72
95%	9.40	9.45	9.47	9.51	9.56	9.45	9.65	9.88	9.92
100%	10.51	10.69	10.42	10.10	10.85	10.31	10.40	11.00	10.60
Volume (gal):	11,977,238,567	12,553,324,899	12,608,377,199	12,574,035,936	12,783,848,128	13,409,581,178	13,168,085,773	13,749,448,485	13,464,757,064

Winter RFG Ethanol Content (vol%) by Volume (from Batch Reports)

Volume %tile	Reporting Year								
	1997	1998	1999	2000	2001	2002	2003	2004	2005
66%									0.02
67%								0.02	0.02
68%								0.02	0.02
69%								0.02	0.08
70%								4.85	4.80
75%								5.65	9.13
76%								9.15	9.23
77%								9.26	9.31
78%								9.34	9.36
79%							0.08	9.40	9.40
80%							4.82	9.43	9.44
81%							4.90	9.46	9.47
82%							4.98	9.49	9.50
83%						4.52	5.03	9.51	9.53
84%	5.02	4.69		0.02		4.81	5.11	9.54	9.56
85%	5.21	4.86	4.60	4.92	4.53	4.90	5.29	9.56	9.59
90%	5.57	5.74	5.47	5.55	5.39	5.75	9.44	9.70	9.73
95%	9.38	9.42	9.45	9.48	9.53	9.50	9.67	9.90	9.93
100%	10.49	10.71	10.39	10.24	10.52	10.46	10.70	10.82	10.73
Volume (gal):	14,400,124,642	14,621,530,037	14,594,054,317	15,275,786,534	15,122,255,995	15,825,705,992	15,771,471,139	15,875,951,167	16,559,495,884

**RFG Ethanol Content (Volume Percent) by Gasoline Volume (Continued):
Cumulative Distribution for Latest Year Data**

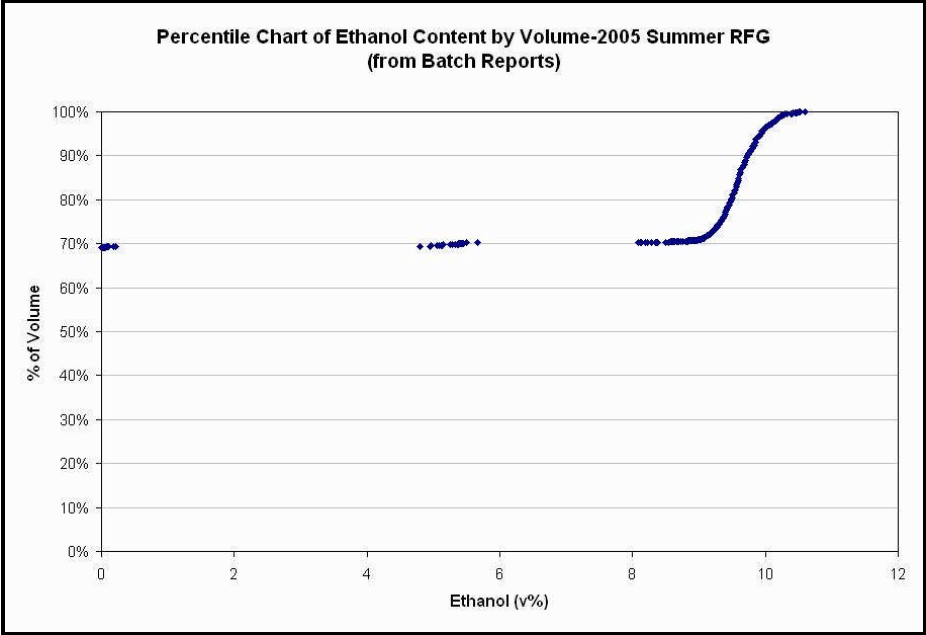


Figure 7

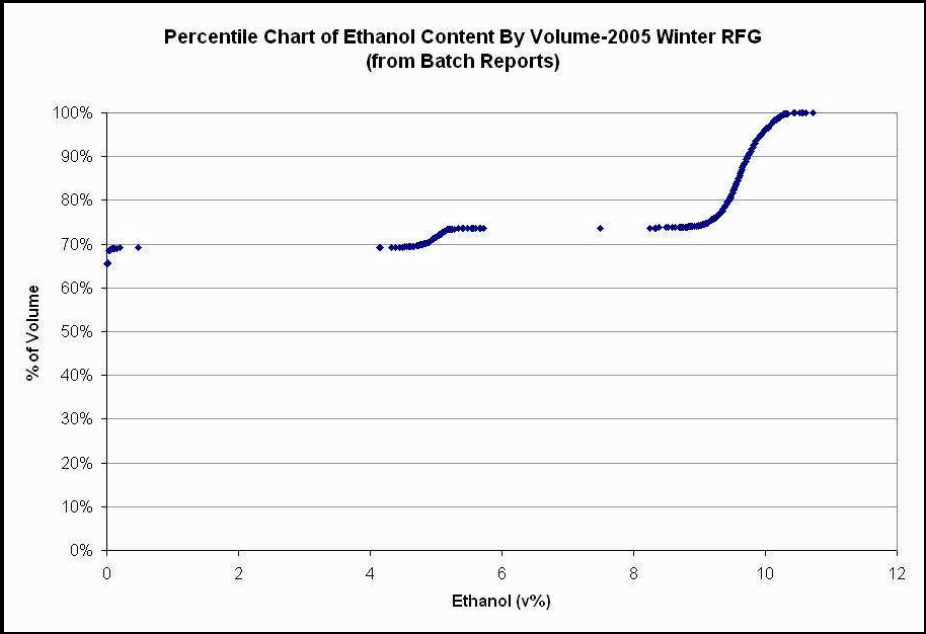


Figure 8

RFG Oxygen Content by Grade

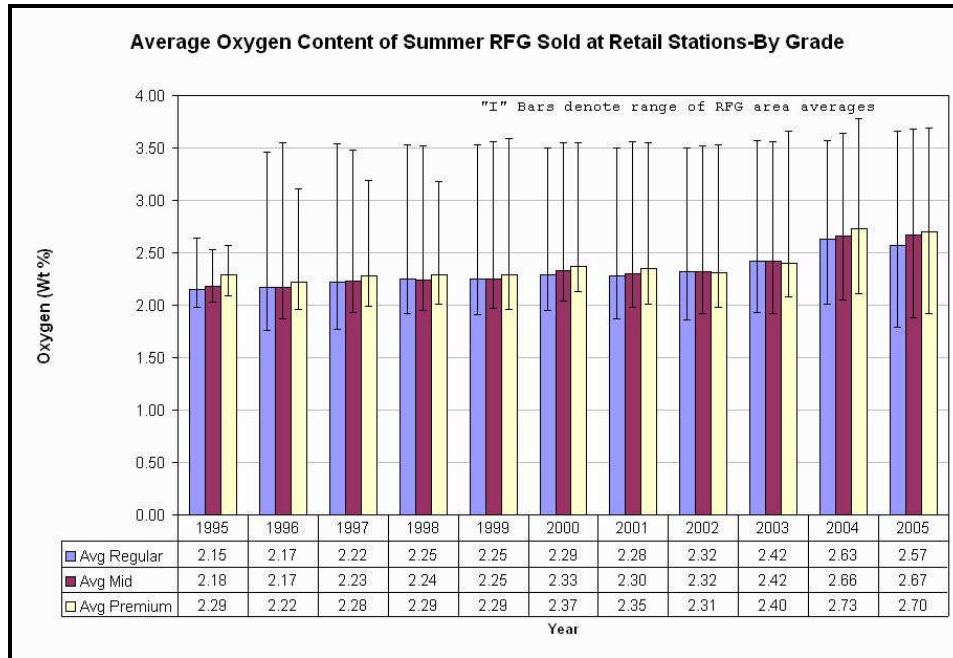


Figure 9

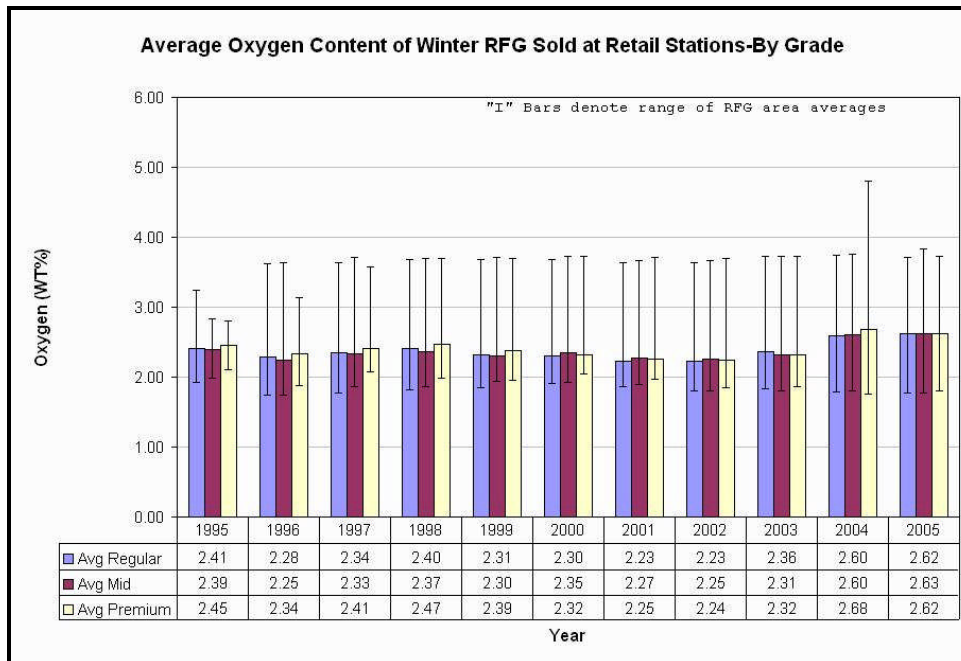


Figure 10

RFG MTBE Content by Grade

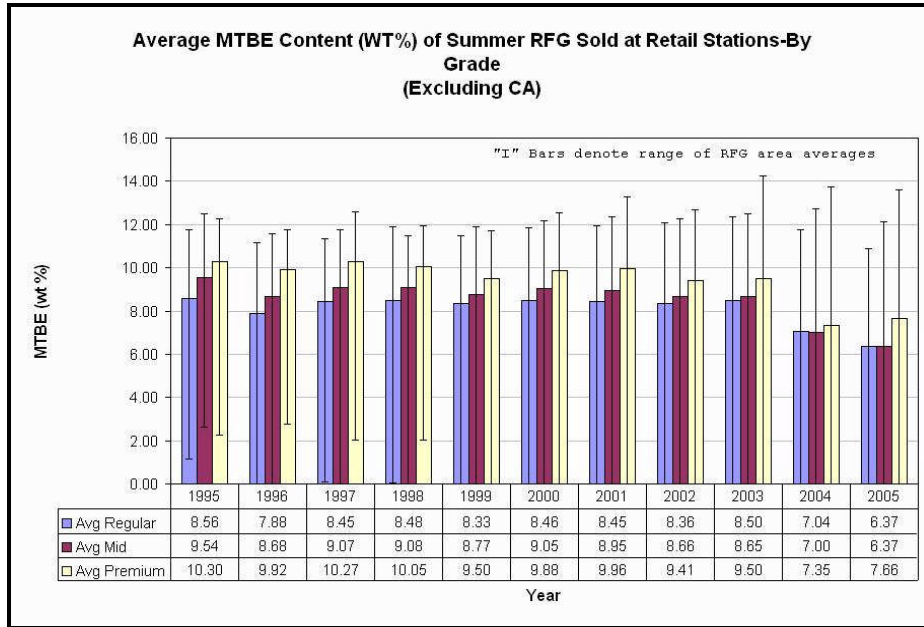


Figure 11

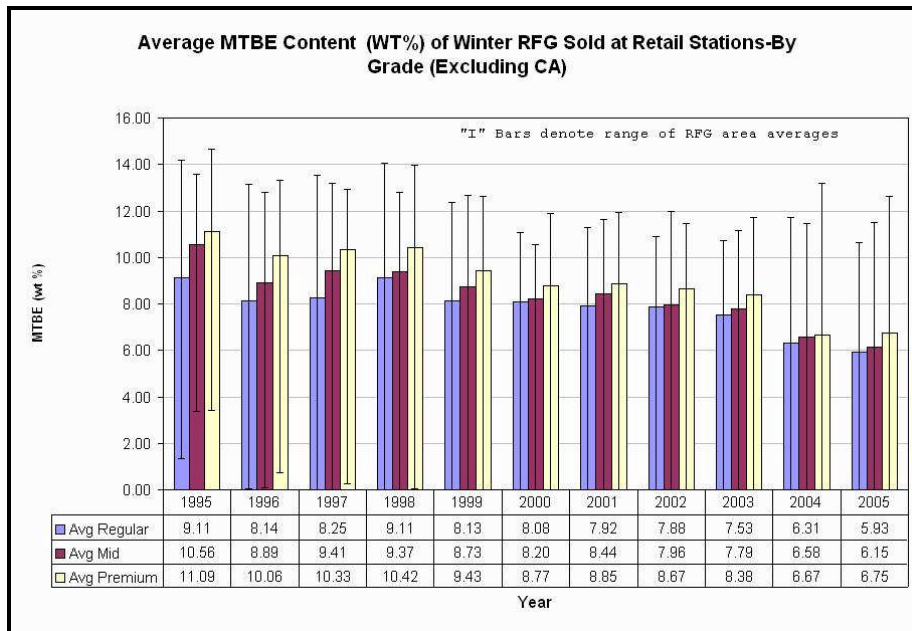


Figure 12

These averages include RFG which did not contain MTBE.

RFG Ethanol Content by Grade

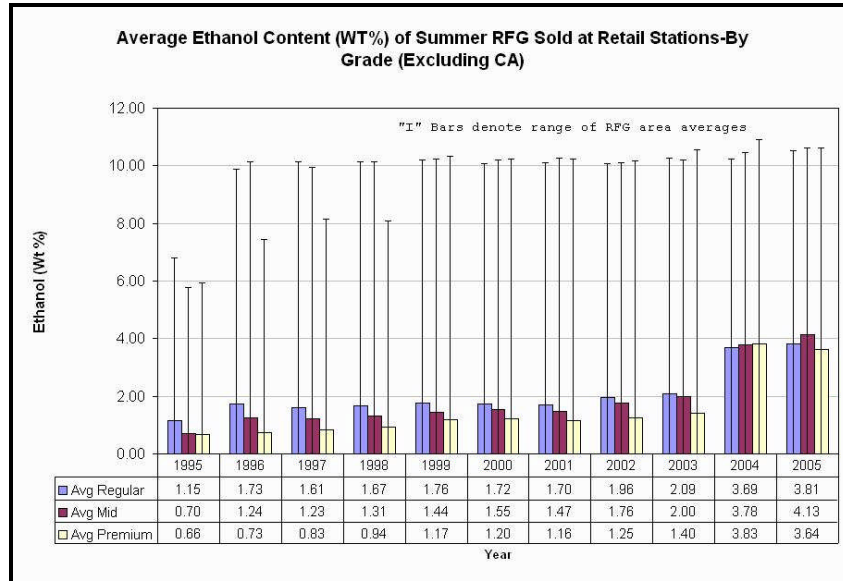


Figure 13

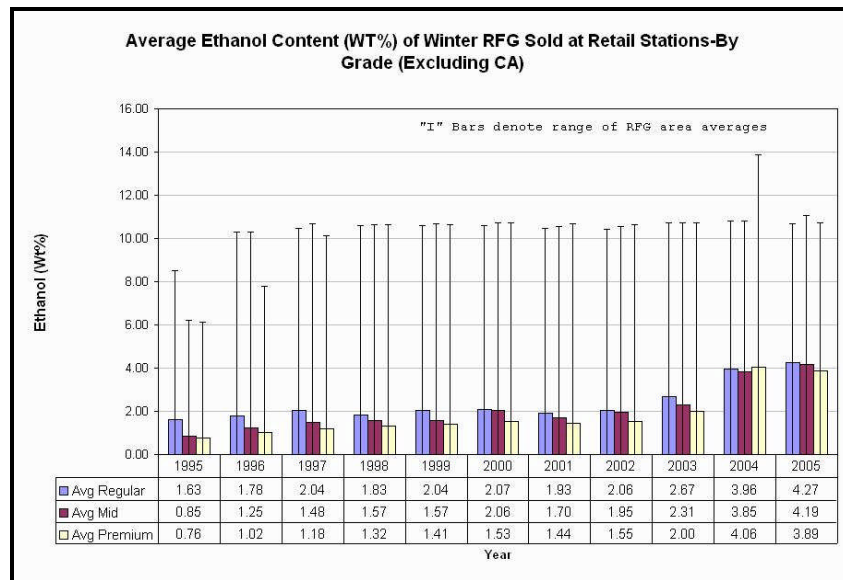


Figure 14

These averages include RFG which did not contain ethanol.

RFG Oxygen Content by Season and Survey Area (Except CA)

Average of oxygen (weight %)		Year											
Season	Area	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	
Summer	Atlantic City, NJ (1)	2.17	1.98	2.16		2.14	2.23	2.32	2.29	2.31	2.20	2.02	
	Baltimore, MD	2.07	1.87	1.94	1.96	1.99	2.06	2.01	2.06	2.07	2.12	2.03	
	Boston-Worcester, MA	2.18	2.12	2.15	2.08	2.01	2.17	2.10	2.09	2.08	2.14	2.07	
	Chicago-Lake Co., IL, Gary, IN	2.59	3.36	3.44	3.46	3.54	3.51	3.52	3.50	3.51	3.53	3.61	
	Covington, KY (3)	1.98			2.70	3.05	3.06	2.99	2.91	3.57	3.59	3.64	
	CT - remainder (3)		2.02		2.01				2.10	2.08	3.53	3.57	
	Dallas-Fort Worth, TX	2.09	1.91	2.01	2.07	2.01	2.03	2.07	2.08	2.21	2.21	2.01	
	Hartford, CT	2.13	2.03	2.02	2.04	2.02	2.13	2.10	2.12	2.13	3.54	3.59	
	Houston-Galveston, TX	2.17	1.87	1.95	2.04	2.00	2.11	2.08	2.15	2.20	2.13	2.05	
	Knox Co. and Lincoln Co., ME (2,3)	2.11											
	Lewiston-Auburn, ME (2,3)				2.22								
	Louisville, KY	2.05	1.98	2.30	2.36	2.27	2.27	2.25	2.05	3.50	3.56	3.60	
	Manchester, NH	2.08		2.08	2.11	1.96	2.18	2.17	2.18	2.13	2.06	1.96	
	Milwaukee-Racine, WI	2.61	3.42	3.42	3.45	3.51	3.49	3.44	3.49	3.50	3.51	3.58	
	Norfolk-Virginia Beach, VA	2.10	1.88	1.92	1.97	2.03	2.07	1.98	2.04	2.12	2.24	2.07	
	NY-NJ-Long Is.-CT	2.08	1.99	2.11	2.03	2.02	2.03	2.06	1.99	2.11	2.91	2.87	
	Phila.-Wilm, DE-Trenton, NJ	2.09	2.00	2.09	2.13	2.12	2.20	2.29	2.26	2.31	2.21	2.07	
	Phoenix, AZ (1,2)			1.89									
	Portland, ME (2)	2.23	2.07	2.10	2.18								
	Portsmouth-Dover, NH (3)	2.11	2.08		2.15	1.98	2.21	2.27	2.18	2.12	2.15	1.98	
	Poughkeepsie, NY (3)	2.10		2.08	2.02	2.03	2.04	2.06	1.99	2.01	3.56	3.58	
	Queen Anne Co.-Kent Co., MD (3)	2.06						2.10	2.20		2.10	1.93	
	Rhode Island	2.26	2.06	1.95	2.08	2.07	2.07	1.99	1.93	2.02	2.09	2.10	
	Richmond, VA	2.08	1.85	1.95	1.95	2.00	2.13	1.96	1.98	2.12	2.12	2.05	
	Springfield, MA	2.17	2.12	2.12	2.08	2.08	2.12	2.07	2.01	2.11	2.16	2.40	
	St. Louis, MO (1)					2.22	2.20	2.26	3.05	3.54	3.56	3.66	
	Sussex County, DE (1)	2.09				1.98	2.01	2.14	2.29	2.25	2.09	1.82	
	Warren County, NJ (1)					2.04	2.17			2.18	2.15	1.94	
	Washington, DC area	2.13	1.92	1.97	1.99	2.03	2.11	1.96	1.99	2.09	2.08	2.00	
	Winter	Atlantic City, NJ	2.65	1.81	2.04		2.14	2.08	1.94	1.96	2.05	1.94	1.89
		Baltimore, MD	2.30	1.83	1.93	1.90	1.95	1.98	1.98	1.92	1.96	1.98	1.88
		Boston-Worcester, MA	2.10	1.98	1.96	2.06	2.10	2.14	2.11	2.05	2.05	2.04	2.03
Chicago-Lake Co., IL, Gary, IN		3.13	3.53	3.56	3.68	3.69	3.70	3.65	3.64	3.66	3.67	3.69	
Covington, KY		2.03			3.32	3.14	3.02	2.99	3.34	3.72	3.90	3.70	
CT - remainder			2.04		2.03				2.05	2.76	3.59	3.64	
Dallas-Fort Worth, TX		1.97	1.87	1.91	1.97	1.94	1.99	1.99	1.93	1.97	1.95	1.99	
Hartford, CT		2.20	2.06	2.17	2.06	2.10	2.12	2.06	2.01	2.37	3.60	3.66	
Houston-Galveston, TX		2.00	1.83	1.92	1.97	1.99	2.04	2.06	2.04	2.08	2.03	2.06	
Knox Co. and Lincoln Co., ME		2.25											
Lewiston-Auburn, ME					2.26								
Louisville, KY		1.98	2.04	2.19	2.16	2.40	2.24	2.25	2.90	3.71	3.72	3.68	
Manchester, NH		2.11		1.95	2.10	2.10	2.04	2.15	2.06	2.08	2.01	1.92	
Milwaukee-Racine, WI		2.95	2.91	2.52	3.53	3.55	3.65	3.51	3.61	3.69	3.65	3.69	
Norfolk-Virginia Beach, VA		2.01	1.85	1.91	1.87	1.96	2.00	1.98	1.98	2.01	2.08	1.93	
NY-NJ-Long Is.-CT		2.61	2.53	2.64	2.70	2.19	1.99	1.91	1.87	2.08	2.96	3.09	
Phila.-Wilm, DE-Trenton, NJ		2.26	1.85	2.01	2.04	1.95	2.06	1.94	1.90	1.94	1.93	1.88	
Phoenix, AZ				3.56									
Portland, ME		2.20	2.12	2.11	2.26								
Portsmouth-Dover, NH		2.11	1.91		2.15	2.12	2.24	2.12	2.05	2.04	2.15	1.92	
Poughkeepsie, NY		2.45		2.41	2.52	2.25	2.12	1.91	1.90	2.74	3.68	3.65	
Queen Anne Co.-Kent Co., MD		2.28						2.00	1.83		1.87	1.84	
Rhode Island		2.25	1.95	1.96	2.05	2.08	2.20	2.04	1.86	1.93	2.03	1.89	
Richmond, VA		2.20	1.86	1.88	1.91	1.98	1.94	1.94	1.95	1.95	1.99	1.88	
Springfield, MA		2.13	1.94	2.00	2.09	2.18	2.22	2.03	2.11	1.97	2.20	2.38	
St. Louis, MO						2.69	2.71	2.54	2.84	3.46	3.61	3.58	
Sussex County, DE		2.11				1.89	2.00	1.98	1.96	1.87	1.80	1.77	
Warren County, NJ						2.36	1.98			1.90	1.91	2.07	
Washington, DC area		2.71	1.87	1.96	1.91	2.01	1.98	1.94	1.98	2.01	2.05	1.94	
Reasons for no data in certain years:													
1 No data prior to opt-in to RFG													
2 No data subsequent to opt-out of RFG													
3 Not sampled in certain years (smaller area)													

RFG Oxygen Content by Season and Area (Federal RFG Areas in California)

Average of Oxygen (Wt%)		Year									
Season	Area	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Summer	Los Angeles, CA	2.05	2.05	2.04	2.20	2.01	2.07	2.11	2.02	2.08	2.12
	Sacramento Metro, CA	2.12	2.04	2.11	2.13	2.18	1.99	2.13	2.05	2.05	2.14
	San Diego, CA	2.03	2.09	2.06	2.19	2.09	2.17	2.07	2.09	2.08	2.11
	San Joaquin, CA								2.11	2.13	2.19
Winter	Los Angeles, CA		2.03	2.15	2.16	2.23	2.12	2.05	2.01	2.13	2.01
	Sacramento Metro, CA		2.03	2.13	2.09	2.14	2.13	2.05	2.03	2.17	2.13
	San Diego, CA		2.09	2.14	2.17	2.20	2.21	2.12	2.02	2.09	2.08
	San Joaquin, CA								2.08	2.23	2.13

RFG MTBE Content (WT%) by Season and Survey Area (Except CA)

Average of MTBE (wt%)		Year											
Season	Area	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	
Summer	Atlantic City, NJ	11.12	10.67	11.49		11.44	11.47	12.31	12.27	12.31	11.77	10.80	
	Baltimore, MD	10.43	9.02	9.31	9.55	9.51	10.12	9.73	10.30	10.33	10.76	10.46	
	Boston-Worcester, MA	10.14	10.37	10.70	10.23	9.52	10.59	9.96	10.36	10.12	10.88	10.03	
	Chicago-Lake Co., IL, Gary, IN	1.89	0.60	0.65	0.43	0.00	0.01	0.00	0.01	0.02	0.03	0.00	
	Covington, KY	7.67			5.63	2.52	3.49	3.44	3.29	0.00	0.00	0.00	
	CT - remainder		10.14		10.14				9.22	9.78	0.06	0.04	
	Dallas-Fort Worth, TX	9.23	8.93	9.93	9.87	10.31	10.16	10.38	10.48	11.26	11.12	9.89	
	Hartford, CT	10.40	10.29	10.39	10.38	9.08	9.21	9.60	9.27	9.24	0.06	0.03	
	Houston-Galveston, TX	10.79	8.84	9.27	10.45	10.26	11.01	10.42	10.95	11.39	11.13	10.57	
	Knox Co. and Lincoln Co., ME	11.42											
	Lewiston-Auburn, ME				11.70								
	Louisville, KY	4.80	7.87	8.12	7.19	7.81	8.16	7.40	7.65	0.00	0.00	0.00	
	Manchester, NH	10.37		10.52	11.03	10.24	11.11	11.11	11.23	11.17	10.47	10.18	
	Milwaukee-Racine, WI	1.49	0.38	0.45	0.34	0.00	0.00	0.00	0.00	0.01	0.01	0.02	
	Norfolk-Virginia Beach, VA	10.07	8.99	9.51	9.68	9.96	10.33	9.62	10.33	10.47	11.74	10.69	
	NY-NJ-Long Is.-CT	10.70	10.43	11.19	10.65	10.67	10.26	10.54	10.26	10.46	4.89	4.54	
	Phila.-Wilm, DE-Trenton, NJ	10.68	10.42	10.78	11.15	11.28	11.50	12.03	12.06	12.34	11.85	11.04	
	Phoenix, AZ			9.99									
	Portland, ME	11.84	11.28	11.23	11.58								
	Portsmouth-Dover, NH	11.06	11.21		11.27	10.57	11.82	11.75	11.40	11.14	11.36	10.67	
	Poughkeepsie, NY	10.90		10.98	10.76	10.43	10.21	10.54	10.13	9.59	0.20	0.05	
	Queen Anne Co.-Kent Co., MD	10.04						9.51	10.54		11.19	10.41	
	Rhode Island	11.37	10.22	10.04	10.32	9.96	9.53	9.65	9.93	9.99	11.44	10.29	
	Richmond, VA	10.25	8.94	9.21	9.68	9.72	10.53	9.93	10.12	10.74	10.99	10.54	
	Springfield, MA	10.61	10.82	11.03	10.62	9.68	9.90	9.80	9.34	9.74	11.07	7.82	
	St. Louis, MO					7.91	9.07	8.85	0.22	0.27	0.08	0.02	
	Sussex County, DE	9.63				8.05	9.11	9.74	10.19	11.51	11.46	9.99	
	Warren County, NJ					10.67	10.94			10.73	11.61	10.32	
	Washington, DC area	10.47	9.17	9.67	9.85	9.59	10.43	9.84	10.13	10.35	10.43	10.17	
	Winter	Atlantic City, NJ	14.06	8.99	10.56		10.87	9.87	10.07	10.23	10.88	10.48	10.29
		Baltimore, MD	11.72	8.21	9.51	9.71	9.50	9.58	9.39	9.61	9.84	10.15	9.70
		Boston-Worcester, MA	9.60	9.13	9.20	9.57	8.96	9.80	9.54	9.98	10.40	10.07	9.98
		Chicago-Lake Co., IL, Gary, IN	2.22	0.60	0.48	0.07	0.00	0.00	0.00	0.01	0.01	0.00	0.00
		Covington, KY	7.45			3.29	2.91	3.67	3.63	1.81	0.01	0.00	0.00
		CT - remainder		9.98		9.68				8.85	5.21	0.11	0.07
		Dallas-Fort Worth, TX	9.10	8.89	9.89	9.61	9.43	9.89	9.89	9.83	10.11	9.60	9.62
Hartford, CT		10.58	9.82	10.20	9.79	8.85	9.01	9.36	8.85	7.33	0.09	0.09	
Houston-Galveston, TX		9.94	8.56	9.37	10.02	10.33	10.52	10.21	10.39	10.62	10.20	10.80	
Knox Co. and Lincoln Co., ME		12.13											
Lewiston-Auburn, ME					11.76								
Louisville, KY		6.34	7.69	7.55	7.93	7.83	7.26	7.29	4.10	0.01	0.00	0.00	
Manchester, NH		10.24		10.22	10.07	10.28	10.05	11.17	10.68	10.77	10.62	10.32	
Milwaukee-Racine, WI		2.46	0.23	0.49	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00	
Norfolk-Virginia Beach, VA		9.78	8.69	9.42	9.47	9.92	9.91	9.91	9.97	10.19	10.88	9.54	
NY-NJ-Long Is.-CT		12.88	12.95	13.32	13.93	11.23	9.87	9.85	9.68	8.55	3.99	3.24	
Phila.-Wilm, DE-Trenton, NJ		11.16	9.01	9.99	10.68	10.24	10.34	9.87	9.87	10.18	10.57	10.25	
Phoenix, AZ				0.17									
Portland, ME		12.00	11.07	11.51	11.73								
Portsmouth-Dover, NH		10.79	9.54		11.29	9.98	10.96	11.21	10.98	10.67	11.79	10.51	
Poughkeepsie, NY		12.89		12.05	12.50	11.01	9.78	9.54	9.20	5.14	0.11	0.10	
Queen Anne Co. Kent Co., MD		11.49						9.48	8.91		9.93	9.99	
Rhode Island		10.30	9.09	9.39	10.12	9.25	9.81	9.62	9.31	9.53	10.59	9.45	
Richmond, VA		10.74	8.42	9.12	9.81	9.53	9.43	9.61	9.83	9.70	10.29	9.62	
Springfield, MA		9.52	9.08	9.77	9.95	9.02	9.39	9.59	9.27	8.93	8.91	7.25	
St. Louis, MO						5.46	5.59	4.90	2.91	0.46	0.16	0.03	
Sussex County, DE		9.78				8.90	8.12	8.04	8.80	10.05	9.87	9.76	
Warren County, NJ						12.48	10.32			9.95	10.25	8.09	
Washington, DC area		13.18	8.86	9.63	9.58	9.87	9.71	9.73	9.96	10.12	10.42	9.94	

RFG MTBE Content (WT%) by Season and Area (Federal RFG Areas in California)

Average of MTBE (wt%)		Year									
Season	Area	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Summer	Los Angeles, CA	10.85	10.96	11.14	11.94	10.94	9.76	9.56	0.42	0.00	0.00
	Sacramento Metro, CA	11.56	10.85	10.99	11.54	11.47	9.37	9.86	4.83	0.00	0.00
	San Diego, CA	10.55	10.98	11.00	11.89	11.32	10.92	10.39	2.50	0.01	0.01
	San Joaquin, CA								6.08	0.00	0.00
Winter	Los Angeles, CA		10.63	11.37	11.82	12.12	9.66	9.86	0.79	0.00	0.00
	Sacramento Metro, CA		10.85	11.25	11.12	11.34	10.04	9.59	2.73	0.00	0.00
	San Diego, CA		10.78	11.51	11.71	11.96	11.21	10.54	1.68	0.00	0.00
	San Joaquin, CA								5.28	0.00	0.00

RFG Ethanol Content (WT%) by Season and Survey Area (Except CA)

Average of Ethanol (wt%)		Year										
Season	Area	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Summer	Atlantic City, NJ	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Baltimore, MD	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	Boston-Worcester, MA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33
	Chicago-Lake Co., IL, Gary, IN	6.33	9.29	9.57	9.74	10.21	10.12	10.14	10.09	10.10	10.15	10.39
	Covington, KY	1.45			4.83	7.46	6.95	6.78	6.64	10.29	10.34	10.49
	CT - remainder		0.00		0.00				0.00	0.00	10.13	10.27
	Dallas-Fort Worth, TX	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Hartford, CT	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	10.16	10.33
	Houston-Galveston, TX	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Knox Co. and Lincoln Co., ME	0.00										
	Lewiston-Auburn, ME				0.00							
	Louisville, KY	1.36	1.45	2.32	3.01	2.40	2.21	2.54	1.78	10.05	10.25	10.36
	Manchester, NH	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	Milwaukee-Racine, WI	6.56	9.58	9.61	9.76	10.10	10.05	9.91	10.05	10.07	10.12	10.29
	Norfolk-Virginia Beach, VA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NY-NJ-Long Is.-CT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.78	5.76
	Phila.-Wilm, DE-Trenton, NJ	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
	Phoenix, AZ			0.00								
	Portland, ME	0.00	0.00	0.00	0.00							
	Portsmouth-Dover, NH	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Poughkeepsie, NY	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.14	10.29
	Queen Anne Co.-Kent Co., MD	0.00						0.00	0.00		0.00	0.00
	Rhode Island	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32
	Richmond, VA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Springfield, MA	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.36	2.47
	St. Louis, MO					2.00	1.35	1.52	8.65	10.04	10.20	10.53
	Sussex County, DE	0.00				0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Warren County, NJ					0.00	0.00			0.01	0.00	0.01
	Washington, DC area	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Winter	Atlantic City, NJ	0.15	0.00	0.15		0.16	0.54	0.07	0.17	0.00	0.00
Baltimore, MD		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boston-Worcester, MA		0.07	0.22	0.10	0.18	0.33	0.30	0.36	0.18	0.30	0.22	0.38
Chicago-Lake Co., IL, Gary, IN		7.69	9.75	10.00	10.56	10.61	10.66	10.50	10.48	10.55	10.57	10.64
Covington, KY		1.72			7.85	7.49	6.76	6.69	8.65	10.71	11.22	10.63
CT - remainder			0.17		0.23				0.41	5.15	10.28	10.45
Dallas-Fort Worth, TX		0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00

Hartford, CT	0.22	0.35	0.51	0.35	0.41	0.43	0.27	0.45	2.72	10.33	10.48
Houston-Galveston, TX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Knox Co. and Lincoln Co., ME	0.00										
Lewiston-Auburn, ME				0.00							
Louisville, KY	1.61	1.64	2.34	2.01	2.69	2.55	2.58	6.13	10.69	10.72	10.61
Manchester, NH	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00
Milwaukee-Racine, WI	6.72	8.13	6.99	10.16	10.23	10.51	10.10	10.40	10.63	10.49	10.62
Norfolk-Virginia Beach, VA	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
NY-NJ-Long Is.-CT	0.41	0.11	0.35	0.30	0.18	0.36	0.16	0.13	1.33	6.37	7.20
Phila.-Wilm, DE-Trenton, NJ	0.44	0.09	0.14	0.05	0.16	0.18	0.10	0.12	0.14	0.00	0.04
Phoenix, AZ			10.17								
Portland, ME	0.00	0.00	0.00	0.00							
Portsmouth-Dover, NH	0.00	0.16		0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Poughkeepsie, NY	0.13		0.33	0.32	0.38	0.71	0.30	0.32	5.05	10.51	10.45
Queen Anne Co.-Kent Co., MD	0.00						0.00	0.00		0.00	0.01
Rhode Island	0.24	0.30	0.14	0.25	0.25	0.48	0.34	0.35	0.38	0.26	0.44
Richmond, VA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Springfield, MA	0.37	0.35	0.21	0.22	0.36	0.72	0.27	0.50	0.59	1.44	2.99
St. Louis, MO					4.74	4.73	4.52	6.54	9.72	10.32	10.30
Sussex County, DE	0.00				0.00	0.00	0.00	0.00	0.00	0.00	0.00
Warren County, NJ					0.00	0.01			0.00	0.00	1.67
Washington, DC area	0.09	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00

RFG Ethanol Content (WT%) by Season and Area (Federal RFG Areas in California)

Average of Ethanol (wt%)		Year									
Season	Area	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Summer	Los Angeles, CA	0.01	0.00	0.00	0.00	0.00	0.77	1.00	5.59	5.96	6.09
	Sacramento Metro, CA	0.00	0.00	0.00	0.00	0.00	0.61	0.77	3.38	5.90	6.12
	San Diego, CA	0.00	0.00	0.00	0.00	0.00	0.49	0.52	4.71	5.94	6.02
	San Joaquin, CA								2.90	6.10	6.25
	Los Angeles, CA		0.00	0.00	0.00	0.00	1.00	0.75	5.36	6.08	5.77
Winter	Sacramento Metro, CA		0.00	0.00	0.00	0.00	0.63	0.65	4.24	6.08	5.97
	San Diego, CA		0.00	0.00	0.00	0.00	0.48	0.57	4.94	5.99	5.92
	San Joaquin, CA								3.21	6.25	6.07

Appendix to Benzene Chapter

RFG Benzene by Gasoline Volume

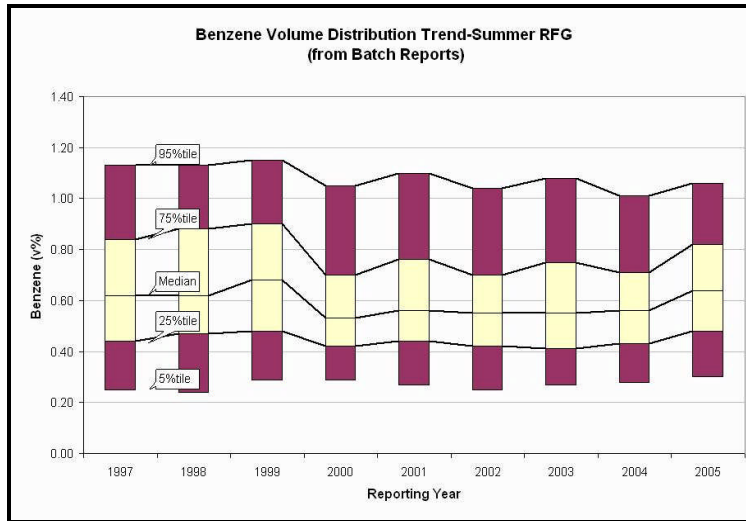


Figure 1

Summer RFG Benzene Content by Volume (from Batch Reports)

Reporting Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
Volume									
%tile									
minimum	0.07	0.05	0.06	0.00	0.01	0.00	0.06	0.00	0.01
5%	0.25	0.24	0.29	0.29	0.27	0.25	0.27	0.28	0.30
10%	0.32	0.32	0.36	0.34	0.34	0.32	0.33	0.33	0.37
15%	0.37	0.38	0.40	0.37	0.38	0.36	0.36	0.37	0.41
20%	0.41	0.42	0.43	0.39	0.41	0.39	0.38	0.40	0.45
25%	0.44	0.47	0.48	0.42	0.44	0.42	0.41	0.43	0.48
30%	0.48	0.50	0.52	0.44	0.46	0.44	0.43	0.45	0.51
35%	0.51	0.53	0.57	0.47	0.48	0.47	0.46	0.48	0.54
40%	0.55	0.55	0.61	0.49	0.51	0.50	0.49	0.51	0.57
45%	0.58	0.59	0.65	0.51	0.53	0.52	0.52	0.54	0.60
50%	0.62	0.62	0.68	0.53	0.56	0.55	0.55	0.56	0.64
55%	0.67	0.65	0.71	0.55	0.59	0.57	0.59	0.59	0.67
60%	0.71	0.70	0.75	0.58	0.62	0.60	0.63	0.61	0.71
65%	0.75	0.76	0.80	0.61	0.66	0.63	0.66	0.64	0.74
70%	0.80	0.82	0.85	0.66	0.70	0.66	0.71	0.67	0.78
75%	0.84	0.88	0.90	0.70	0.76	0.70	0.75	0.71	0.82
80%	0.89	0.95	0.97	0.76	0.82	0.75	0.80	0.75	0.86
85%	0.95	1.01	1.02	0.83	0.89	0.81	0.86	0.80	0.90
90%	1.02	1.06	1.08	0.95	0.98	0.91	0.94	0.88	0.96
95%	1.13	1.13	1.15	1.05	1.10	1.04	1.08	1.01	1.06
100%	1.30	1.33	1.42	1.28	1.30	1.29	1.30	1.51	1.34
Volume (gal):	12,435,941,155	12,831,030,495	12,996,112,177	12,982,665,444	13,222,175,920	13,847,238,818	13,584,238,237	14,227,790,769	14,082,668,582

RFG Benzene by Gasoline Volume (continued):

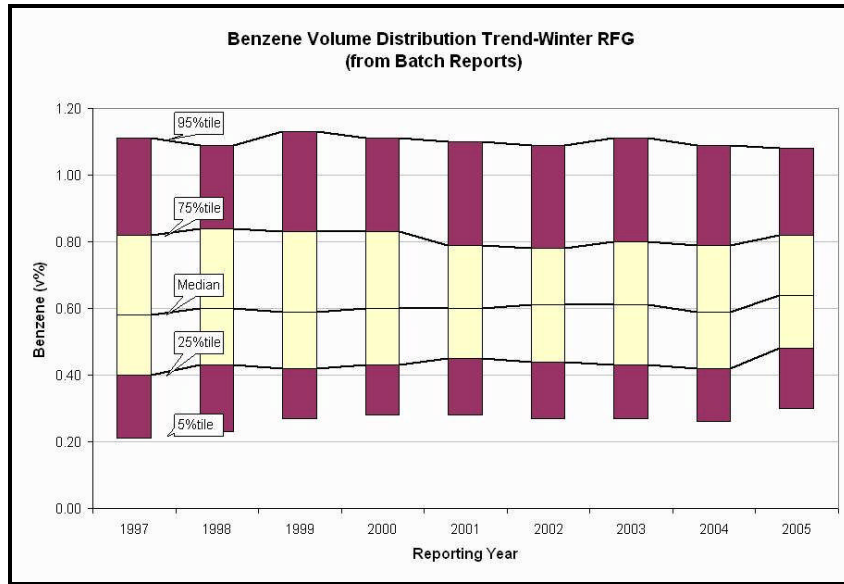


Figure 2

Winter RFG Benzene Content by Volume (from Batch Reports)

Reporting Year		1997	1998	1999	2000	2001	2002	2003	2004	2005
Volume %tile	minimum	0.00	0.02	0.01	0.03	0.01	0.01	0.00	0.01	0.01
	5%	0.21	0.23	0.27	0.28	0.28	0.27	0.27	0.26	0.30
	10%	0.28	0.31	0.32	0.33	0.34	0.33	0.33	0.31	0.36
	15%	0.33	0.36	0.36	0.37	0.38	0.37	0.36	0.35	0.40
	20%	0.36	0.40	0.39	0.40	0.42	0.40	0.39	0.38	0.45
	25%	0.40	0.43	0.42	0.43	0.45	0.44	0.43	0.42	0.48
	30%	0.44	0.47	0.45	0.47	0.48	0.48	0.46	0.45	0.51
	35%	0.47	0.50	0.48	0.50	0.51	0.51	0.50	0.49	0.55
	40%	0.50	0.53	0.52	0.53	0.54	0.55	0.53	0.52	0.58
	45%	0.54	0.56	0.56	0.56	0.57	0.58	0.57	0.56	0.61
	50%	0.58	0.60	0.59	0.60	0.60	0.61	0.61	0.59	0.64
	55%	0.63	0.65	0.63	0.64	0.63	0.65	0.64	0.62	0.67
	60%	0.67	0.69	0.67	0.68	0.66	0.68	0.68	0.66	0.70
	65%	0.72	0.74	0.72	0.72	0.70	0.71	0.72	0.71	0.74
	70%	0.77	0.79	0.78	0.78	0.74	0.74	0.76	0.75	0.78
	75%	0.82	0.84	0.83	0.83	0.79	0.78	0.80	0.79	0.82
	80%	0.87	0.89	0.89	0.89	0.85	0.83	0.87	0.85	0.87
	85%	0.93	0.95	0.96	0.95	0.93	0.89	0.93	0.91	0.92
	90%	1.01	1.01	1.04	1.02	1.01	0.98	1.01	0.99	0.98
	95%	1.11	1.09	1.13	1.11	1.10	1.09	1.11	1.09	1.08
	100%	2.65	1.32	1.30	1.33	1.30	1.30	1.30	1.31	1.68
Volume (gal):		14,914,492,944	15,066,250,612	15,082,593,974	15,826,525,899	15,733,483,045	16,429,447,508	16,675,657,569	17,189,415,193	18,049,752,652

***RFG Benzene by Gasoline Volume (continued):
(Cumulative Distributions for Latest Year Data)***

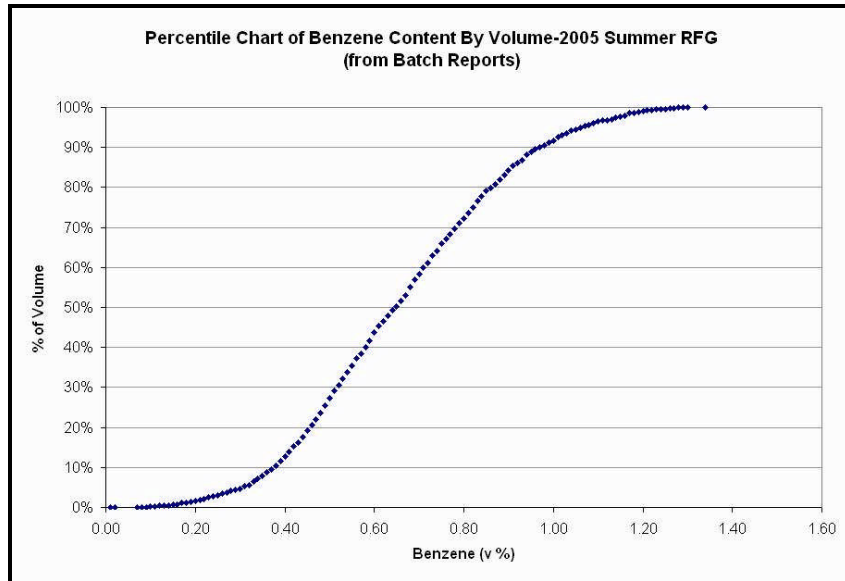


Figure 3

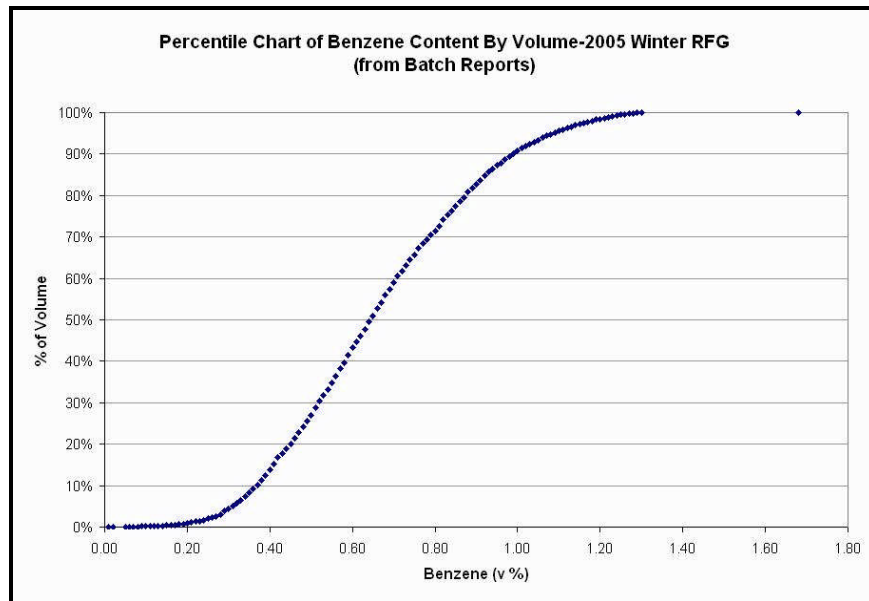


Figure 4

RFG Benzene by Grade

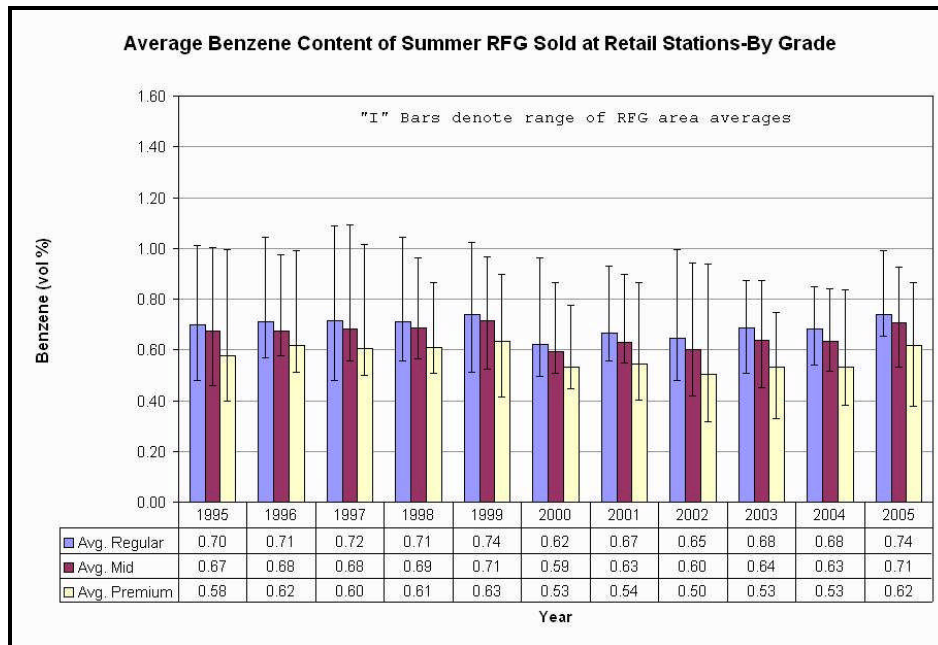


Figure 5

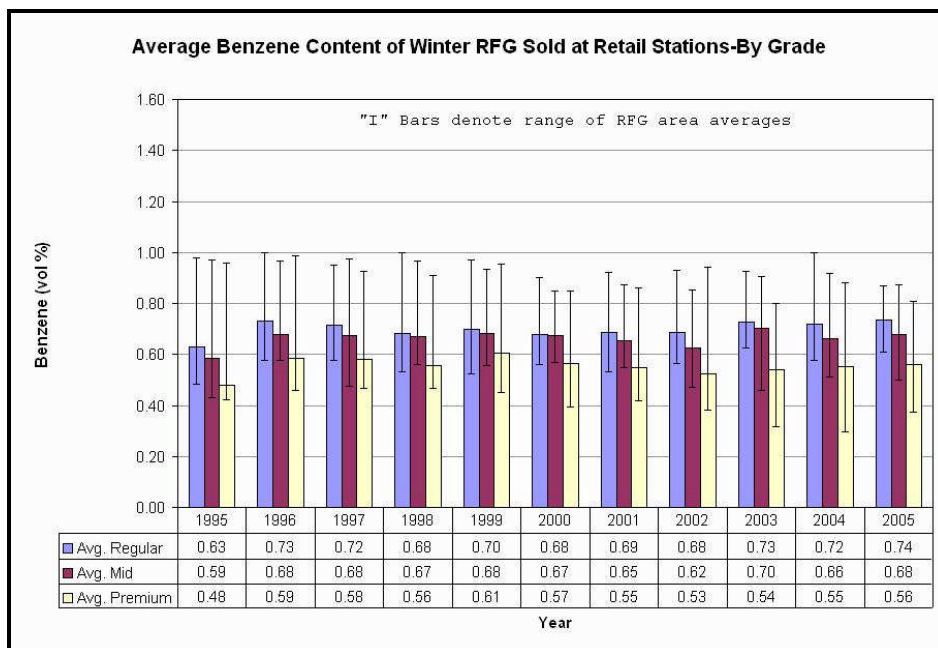


Figure 6

RFG Benzene by Grade (continued):

RFG Average Benzene Content (v%) and Volume (gal) by Year, Grade and Season – From Reporting Data											
Grade	Season	Data	Reporting Year								
			1997	1998	1999	2000	2001	2002	2003	2004	2005
PRM	s	Average	0.60	0.60	0.63	0.53	0.52	0.48	0.50	0.50	0.58
		Volume	3,433,830,960	3,649,323,954	3,537,270,189	2,788,061,943	2,772,653,293	2,931,154,091	2,736,350,778	2,384,807,492	2,143,381,101
	w	Average	0.57	0.59	0.61	0.54	0.55	0.52	0.50	0.52	0.56
		Volume	3,876,199,245	4,139,145,511	3,839,047,178	3,419,795,153	3,305,189,631	3,387,100,772	3,102,938,885	2,944,118,191	2,583,362,289
REG	s	Average	0.68	0.70	0.73	0.61	0.65	0.62	0.63	0.62	0.68
		Volume	8,933,744,061	9,007,552,063	9,318,697,543	10,122,448,765	10,392,283,260	10,879,031,865	10,824,904,975	11,779,211,527	11,881,795,879
	w	Average	0.64	0.67	0.66	0.68	0.67	0.67	0.68	0.65	0.69
		Volume	10,818,337,187	10,663,420,477	10,902,774,956	12,243,727,277	12,361,561,882	13,031,122,001	13,483,257,340	14,160,927,780	15,427,424,995

Users of these grade-specific property estimates calculated from RFG and Anti-Dumping data should be aware that grade-specific estimates based on reporting data may differ from actual retail property values by grade. Although aggregate estimates from the reporting system may also differ from actual retail property values, there are several additional reasons why these grade-specific estimates may differ. Mid-grade gasoline is often blended from regular and premium gasoline at some point downstream of the refinery. Thus, some of the gasoline volume reported and included in these tables as regular or premium would be marketed as mid-grade. Additionally, EPA's grade-specific average analysis excludes some gasoline and blendstock that was included in aggregate average estimates. EPA has presented averages for batches labeled as regular and premium gasoline only; excluding batches labeled as mid-grade (since these batches may not be a representative sample of gasoline marketed as mid-grade), mix of grades, or without a grade label. EPA also excluded CG blendstock batches from grade-specific analyses even if they had a grade designation.

The table shows the total volume, in gallons, for the batches used to calculate each grade average. In part, because of factors discussed above these volumes are not expected to represent the actual volumes by grade of retail gasoline.

RFG Benzene-Geographic

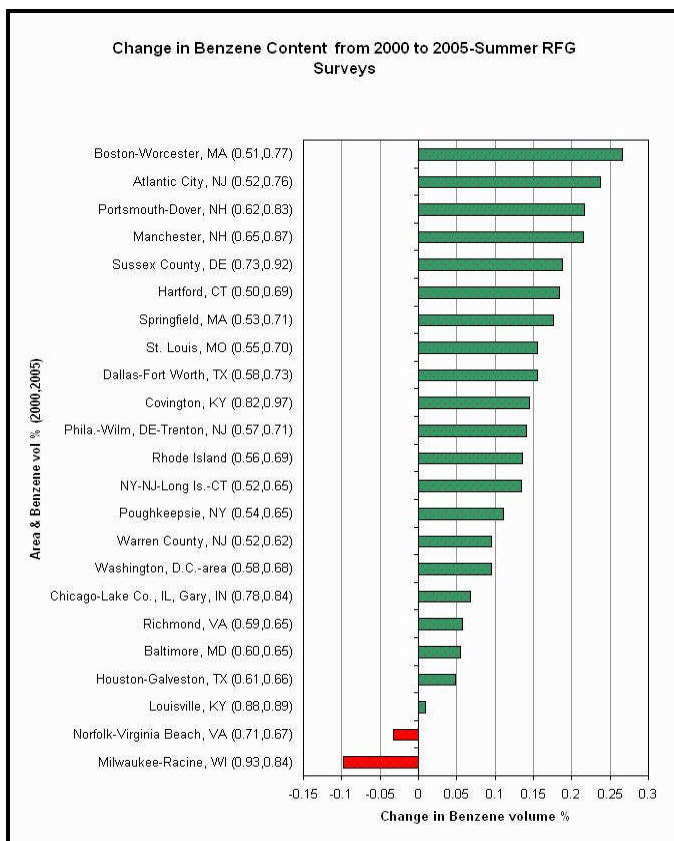


Figure 7

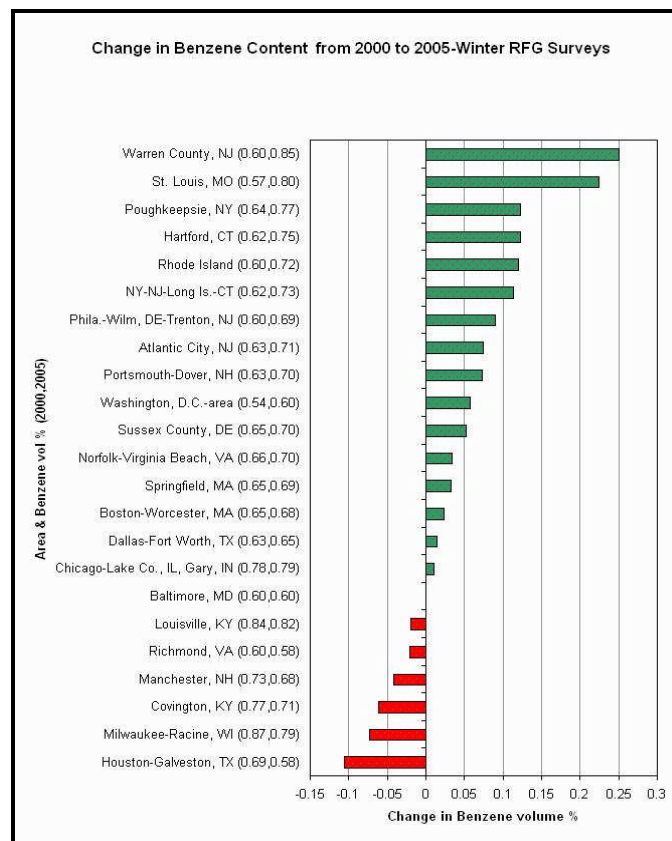


Figure 8

Conventional Gasoline

CG Benzene by Gasoline Volume

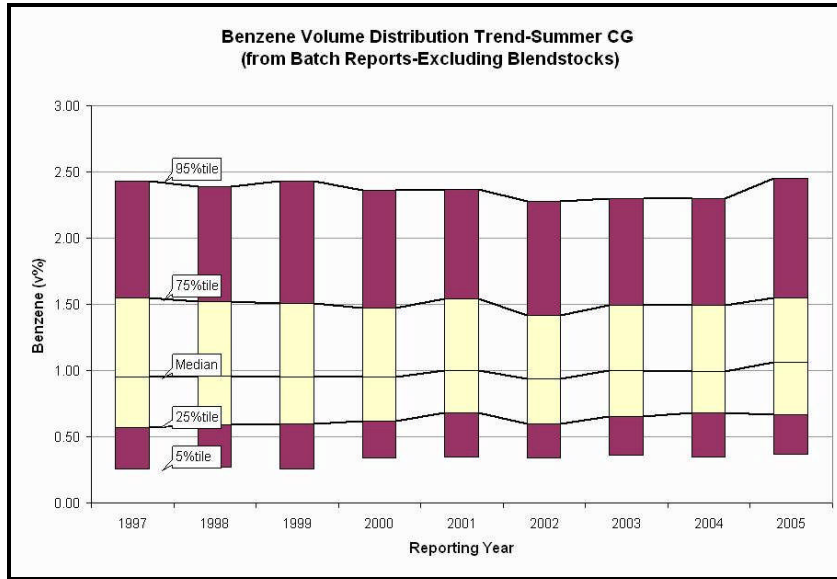


Figure 9

Summer CG Benzene Content by Volume (from Batch Reports excluding Blendstocks)

Reporting Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
Volume									
%tile									
minimum	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00
5%	0.26	0.27	0.26	0.34	0.35	0.34	0.36	0.35	0.37
10%	0.37	0.39	0.38	0.44	0.47	0.45	0.46	0.47	0.47
15%	0.44	0.46	0.47	0.51	0.55	0.50	0.53	0.55	0.54
20%	0.50	0.53	0.54	0.57	0.62	0.54	0.59	0.62	0.60
25%	0.57	0.59	0.60	0.62	0.68	0.60	0.65	0.68	0.67
30%	0.65	0.66	0.66	0.67	0.73	0.69	0.72	0.73	0.74
35%	0.73	0.73	0.73	0.74	0.79	0.76	0.78	0.79	0.80
40%	0.79	0.80	0.81	0.81	0.85	0.83	0.85	0.86	0.88
45%	0.87	0.88	0.87	0.87	0.92	0.88	0.92	0.93	0.98
50%	0.95	0.96	0.95	0.95	1.00	0.94	1.00	0.99	1.06
55%	1.05	1.06	1.03	1.03	1.08	1.01	1.08	1.08	1.15
60%	1.17	1.15	1.13	1.12	1.17	1.10	1.18	1.15	1.26
65%	1.29	1.26	1.24	1.22	1.27	1.19	1.27	1.24	1.37
70%	1.42	1.38	1.37	1.34	1.40	1.30	1.37	1.35	1.45
75%	1.55	1.52	1.51	1.47	1.54	1.42	1.49	1.49	1.55
80%	1.69	1.67	1.65	1.58	1.68	1.57	1.61	1.62	1.66
85%	1.85	1.85	1.84	1.74	1.83	1.76	1.77	1.72	1.85
90%	2.06	2.09	2.09	1.98	2.07	1.95	1.95	1.94	2.09
95%	2.43	2.39	2.43	2.36	2.37	2.28	2.30	2.30	2.45
100%	5.33	5.29	5.00	5.25	5.00	5.00	5.00	5.14	5.08
Volume (gal):	39,313,521,046	39,075,503,909	37,192,482,168	36,393,283,808	38,566,604,576	40,819,234,602	43,235,647,755	43,503,138,987	42,188,895,941

CG Benzene by Gasoline Volume (continued):

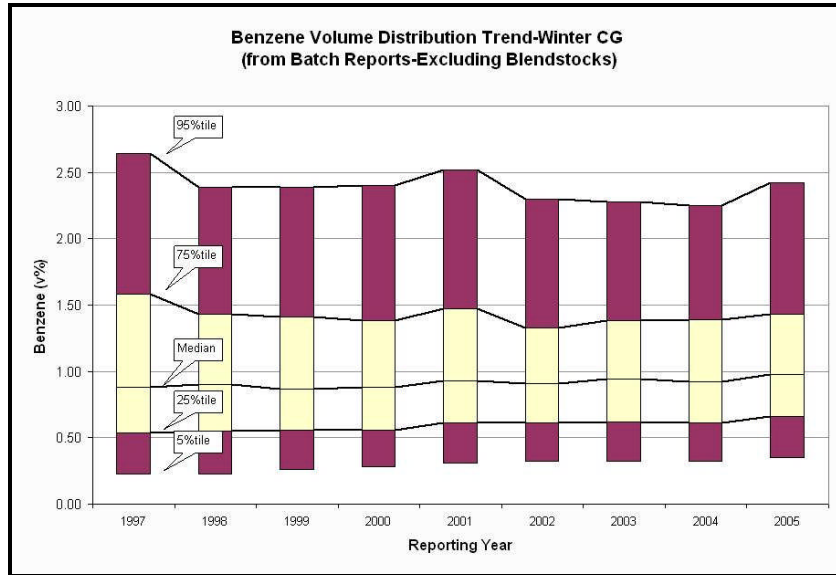


Figure 10

Winter CG Benzene Content by Volume (from Batch Reports excluding Blendstocks)

Reporting Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
Volume %tile									
minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5%	0.23	0.23	0.26	0.28	0.31	0.32	0.32	0.32	0.35
10%	0.34	0.35	0.39	0.39	0.42	0.43	0.44	0.42	0.46
15%	0.43	0.43	0.46	0.46	0.50	0.49	0.51	0.49	0.53
20%	0.49	0.48	0.52	0.52	0.56	0.55	0.57	0.55	0.60
25%	0.54	0.55	0.56	0.56	0.61	0.61	0.62	0.61	0.66
30%	0.60	0.60	0.61	0.61	0.67	0.66	0.68	0.67	0.72
35%	0.66	0.67	0.67	0.66	0.72	0.72	0.74	0.73	0.79
40%	0.74	0.72	0.73	0.73	0.79	0.78	0.81	0.79	0.85
45%	0.81	0.79	0.79	0.80	0.86	0.84	0.87	0.85	0.92
50%	0.88	0.90	0.87	0.88	0.93	0.91	0.94	0.92	0.98
55%	0.99	1.00	0.97	0.96	1.01	0.98	1.02	0.99	1.06
60%	1.10	1.10	1.07	1.05	1.10	1.06	1.10	1.08	1.15
65%	1.25	1.21	1.18	1.15	1.22	1.15	1.19	1.17	1.25
70%	1.40	1.33	1.30	1.25	1.34	1.23	1.28	1.27	1.34
75%	1.58	1.43	1.41	1.38	1.47	1.33	1.38	1.39	1.43
80%	1.74	1.56	1.56	1.53	1.60	1.45	1.52	1.51	1.54
85%	1.93	1.77	1.74	1.72	1.78	1.64	1.67	1.67	1.69
90%	2.19	2.01	2.02	1.98	2.09	1.91	1.89	1.92	1.94
95%	2.64	2.39	2.39	2.40	2.52	2.30	2.28	2.25	2.42
100%	5.23	5.00	5.34	5.28	5.00	4.88	5.22	5.00	5.20
Volume (gal):	44,616,143,682	46,277,269,226	47,691,599,779	48,005,753,994	48,802,911,584	49,671,321,830	47,446,594,748	47,637,145,526	48,683,162,256

CG Benzene by Gasoline Volume

(Cumulative Distributions for Latest Year Data)

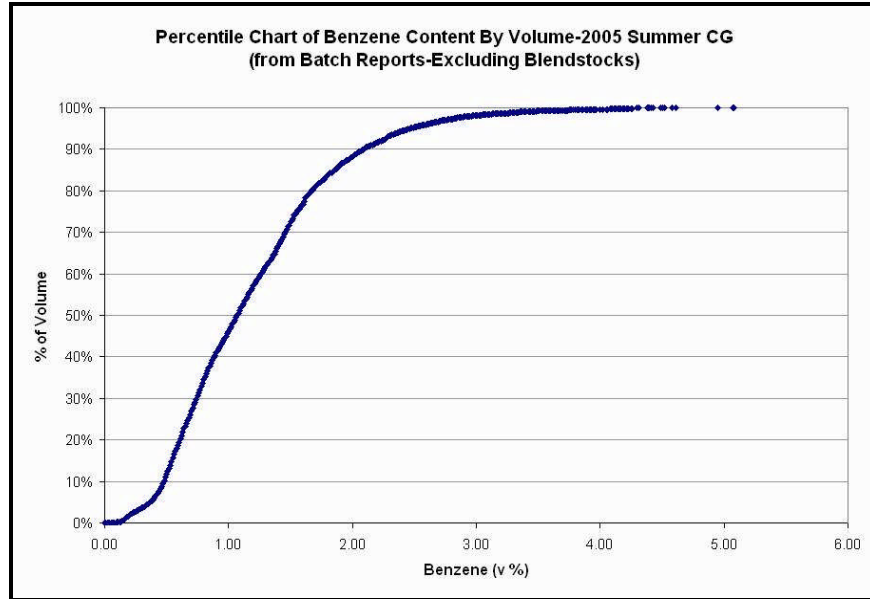


Figure 11

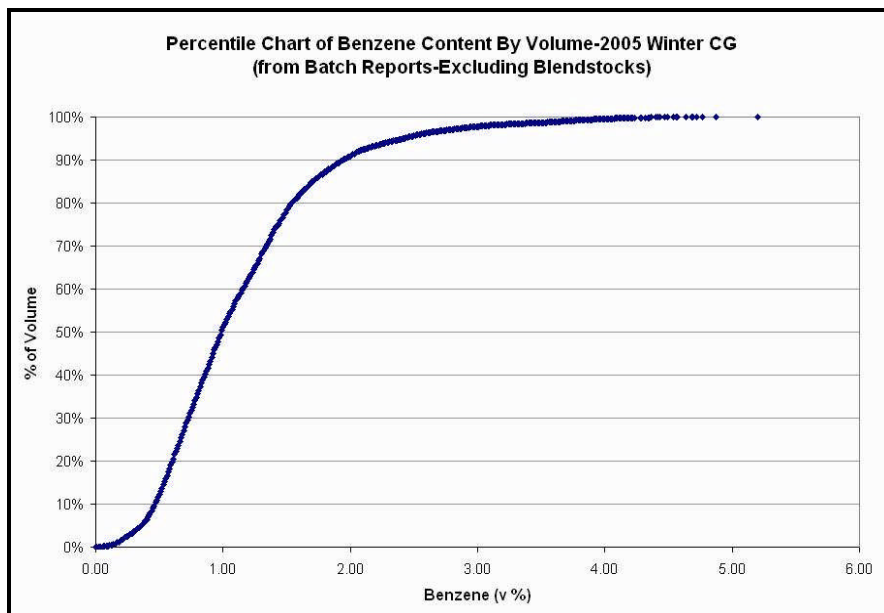


Figure 12

CG Benzene by Grade

CG Average Benzene Content (v%) and Volume (gal) by Year, Grade and Season-From Reporting Data

Grade	Season	Data	Reporting Year								
			1997	1998	1999	2000	2001	2002	2003	2004	2005
PRM	s	Average	0.95	0.95	0.92	0.83	0.94	0.85	0.87	0.85	0.89
		Volume	6,847,436,919	6,631,452,976	6,252,416,423	4,957,386,104	4,996,778,324	5,181,939,065	5,144,650,585	4,629,542,860	4,132,713,279
	w	Average	0.83	0.86	0.89	0.86	0.96	0.86	0.87	0.84	0.94
		Volume	8,297,352,383	8,231,582,167	7,674,529,390	6,623,696,787	6,552,510,604	6,571,003,043	5,505,637,848	5,063,677,945	4,498,577,769
REG	s	Average	1.12	1.13	1.14	1.10	1.15	1.08	1.13	1.11	1.18
		Volume	28,060,742,477	28,406,715,846	26,654,202,116	27,358,010,027	28,964,788,056	30,995,888,528	33,050,308,019	34,601,650,558	33,850,837,227
	w	Average	1.15	1.09	1.09	1.05	1.11	1.06	1.08	1.05	1.12
		Volume	32,178,466,105	32,165,391,015	33,356,627,836	35,197,390,669	35,933,948,416	36,930,102,215	35,937,081,377	37,501,139,752	39,113,050,332

Users of these grade-specific property estimates calculated from RFG and Anti-Dumping data should be aware that grade-specific estimates based on reporting data may differ from actual retail property values by grade. Although aggregate estimates from the reporting system may also differ from actual retail property values, there are several additional reasons why these grade-specific estimates may differ. Mid-grade gasoline is often blended from regular and premium gasoline at some point downstream of the refinery. Thus, some of the gasoline volume reported and included in these tables as regular or premium would be marketed as mid-grade. Additionally, EPA's grade-specific average analysis excludes some gasoline and blendstock that was included in aggregate average estimates. EPA has presented averages for batches labeled as regular and premium gasoline only; excluding batches labeled as mid-grade (since these batches may not be a representative sample of gasoline marketed as mid-grade), mix of grades, or without a grade label. EPA also excluded CG blendstock batches from grade-specific analyses even if they had a grade designation.

The table shows the total volume, in gallons, for the batches used to calculate each grade average. In part, because of factors discussed above these volumes are not expected to represent the actual volumes by grade of retail gasoline.

Appendix to Aromatics Chapter

RFG Aromatics by Gasoline Volume

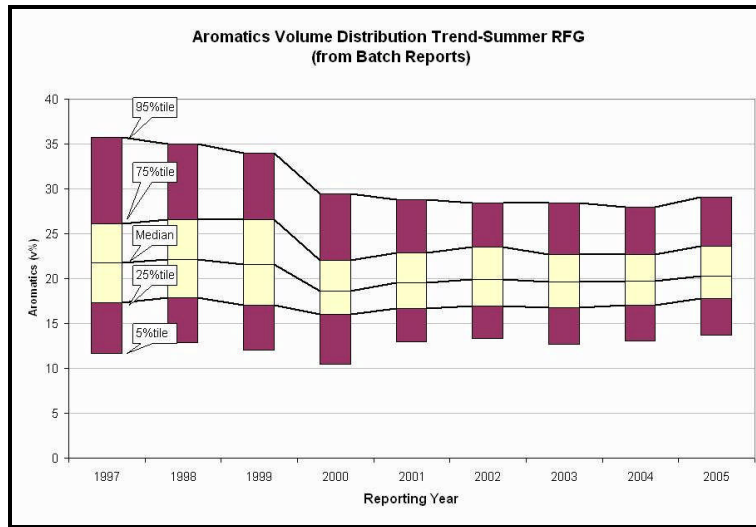


Figure 1

Summer RFG Aromatics Content (Vol%) by Volume (from Batch Reports)

Reporting Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
Volume %tile minimum	0.2	2.6	0.4	1.9	3.1	0.0	1.9	0.4	2.0
5%	11.7	12.9	12.0	10.5	13.0	13.3	12.7	13.1	13.7
10%	13.9	14.7	13.8	13.2	14.4	14.6	14.1	14.5	15.0
15%	15.3	15.8	15.2	14.6	15.2	15.5	15.2	15.5	16.0
20%	16.4	16.9	16.1	15.3	16.0	16.2	16.1	16.3	17.0
25%	17.3	17.9	17.0	16.0	16.7	16.9	16.8	17.0	17.8
30%	18.1	19.2	18.0	16.5	17.4	17.6	17.4	17.7	18.6
35%	19.0	20.0	18.8	17.0	17.9	18.2	18.0	18.2	19.1
40%	20.0	20.8	19.9	17.5	18.5	18.7	18.5	18.7	19.5
45%	20.9	21.4	20.8	18.0	19.0	19.3	19.0	19.2	19.9
50%	21.8	22.1	21.6	18.6	19.5	19.9	19.6	19.7	20.3
55%	22.6	22.8	22.5	19.2	20.1	20.5	20.1	20.2	20.7
60%	23.5	23.5	23.4	19.8	20.7	21.2	20.7	20.8	21.3
65%	24.3	24.3	24.2	20.5	21.4	21.9	21.3	21.3	21.9
70%	25.1	25.3	25.3	21.2	22.1	22.6	21.9	21.9	22.7
75%	26.1	26.6	26.6	22.0	22.9	23.5	22.7	22.7	23.6
80%	27.3	28.1	27.8	23.0	23.8	24.3	23.7	23.5	24.7
85%	29.1	30.0	29.5	24.5	24.8	25.3	24.9	24.7	25.7
90%	32.1	32.4	31.3	26.5	26.3	26.4	26.3	25.9	27.0
95%	35.7	35.0	34.0	29.4	28.8	28.4	28.4	28.0	29.1
100%	52.4	50.6	48.4	47.8	42.3	48.9	46.4	40.1	41.8
Volume (gal):	12,446,593,615	12,832,964,637	12,998,841,841	12,983,168,478	13,222,633,468	13,847,971,634	13,584,860,845	14,232,658,149	14,083,382,582

RFG Aromatics by Gasoline Volume (continued):

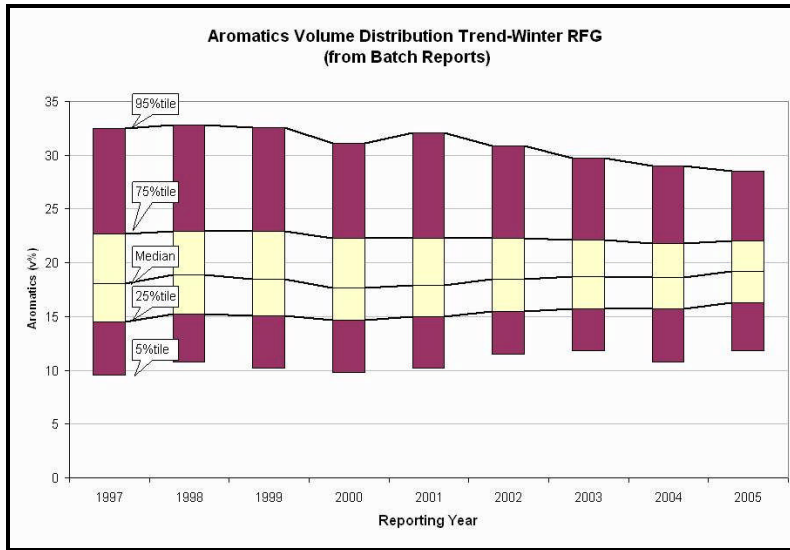


Figure 2

Winter RFG Aromatics Content by Volume (from Batch Reports)

	Reporting Year								
	1997	1998	1999	2000	2001	2002	2003	2004	2005
Volume %tile minimum	0.0	1.0	0.6	0.9	0.9	1.4	0.6	0.7	0.2
5%	9.6	10.8	10.2	9.8	10.2	11.5	11.8	10.8	11.8
10%	11.6	12.5	12.1	12.0	12.2	13.1	13.3	12.7	13.7
15%	12.7	13.7	13.4	13.2	13.3	14.0	14.3	13.9	14.8
20%	13.7	14.5	14.3	13.9	14.2	14.8	15.0	15.0	15.6
25%	14.5	15.2	15.1	14.7	15.0	15.5	15.7	15.7	16.3
30%	15.3	16.1	15.8	15.3	15.6	16.1	16.4	16.4	16.9
35%	16.0	16.8	16.4	15.9	16.2	16.7	17.0	17.0	17.5
40%	16.7	17.6	17.1	16.5	16.9	17.2	17.6	17.5	18.1
45%	17.4	18.3	17.7	17.1	17.4	17.8	18.2	18.1	18.7
50%	18.1	18.9	18.5	17.7	17.9	18.5	18.7	18.6	19.2
55%	18.9	19.6	19.2	18.5	18.7	19.1	19.3	19.2	19.7
60%	19.7	20.4	19.9	19.3	19.4	19.9	19.9	19.7	20.2
65%	20.5	21.1	20.8	20.2	20.2	20.6	20.5	20.3	20.7
70%	21.5	22.0	21.8	21.2	21.1	21.3	21.2	21.1	21.3
75%	22.7	22.9	22.9	22.3	22.3	22.3	22.1	21.8	22.0
80%	24.0	24.5	24.3	23.7	23.6	23.3	23.1	22.8	22.9
85%	26.0	26.3	25.9	25.3	25.1	24.7	24.5	24.0	24.2
90%	28.8	29.1	28.5	27.5	27.8	26.7	26.3	25.7	25.8
95%	32.5	32.8	32.6	31.1	32.1	30.9	29.7	29.0	28.5
100%	50.0	50.0	48.7	46.9	49.1	45.8	46.6	47.6	49.1
Volume (gal):	14,914,411,907	15,059,853,293	15,079,861,417	15,829,263,333	15,724,574,173	16,433,999,720	16,679,773,135	17,190,635,125	18,044,832,058

RFG Aromatics by Gasoline Volume (continued)
(Cumulative Distributions for Latest Year Data)

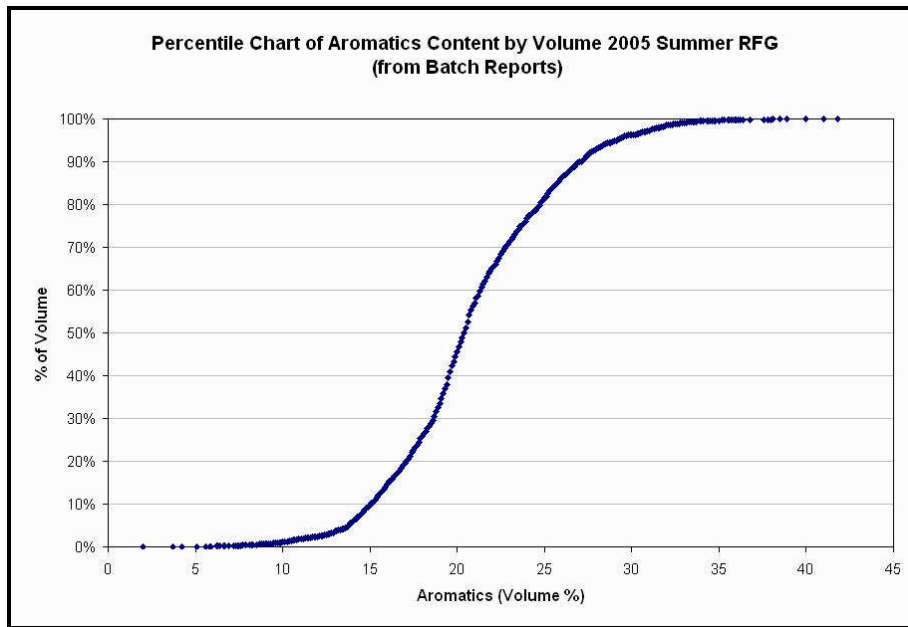


Figure 3

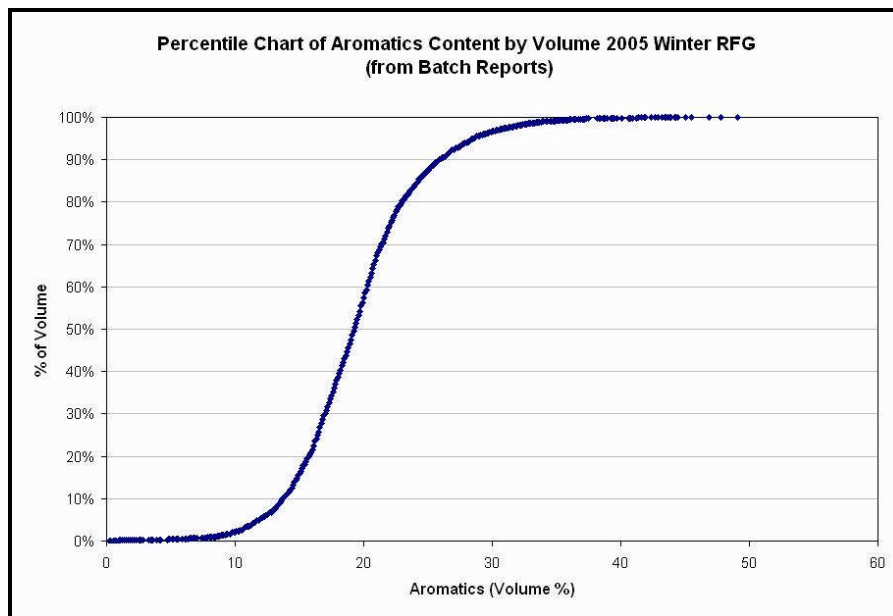


Figure 4

RFG Aromatics by Grade

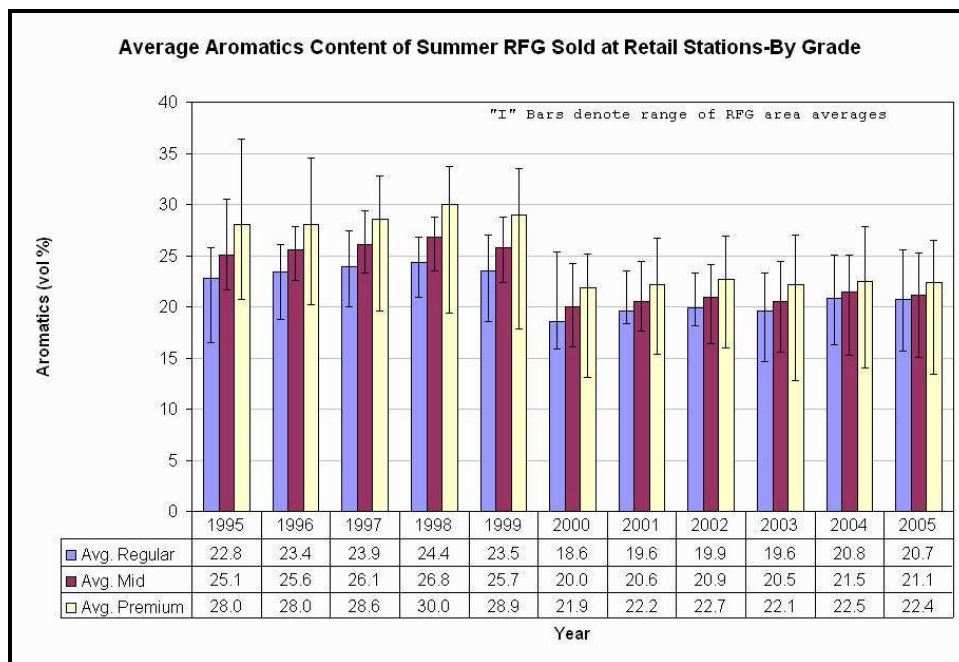


Figure 5

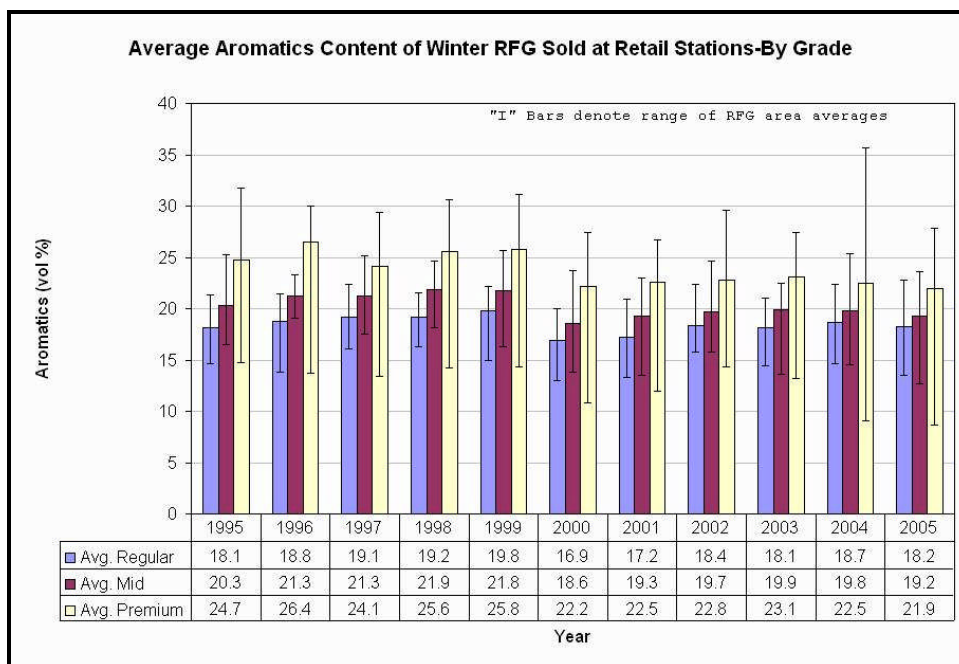


Figure 6

RFG Aromatics By Grade (continued):

RFG Average Aromatics Content (v%) and Volume (gal) by Year, Grade, and Season-From Reporting Data											
Grade	Season	Data	Reporting Year								
			1997	1998	1999	2000	2001	2002	2003	2004	2005
PRM	s	Average	27.0	27.4	26.5	22.5	23.2	22.4	22.6	22.4	22.8
		Volume	3,449,496,834	3,651,258,096	3,537,723,033	2,788,564,977	2,773,110,841	2,931,886,907	2,736,973,386	2,385,535,898	2,144,095,101
	w	Average	23.3	25.0	24.4	23.5	24.6	23.3	23.1	22.7	23.3
		Volume	3,889,379,685	4,139,316,745	3,839,207,618	3,420,180,881	3,305,514,921	3,387,457,520	3,103,333,727	2,945,338,123	2,583,694,635
REG	s	Average	20.6	20.9	20.5	18.4	19.3	19.8	19.4	19.7	20.6
		Volume	8,931,922,101	9,007,552,063	9,320,974,363	10,122,448,765	10,392,283,260	10,879,031,865	10,824,904,975	11,783,350,501	11,881,795,879
	w	Average	17.8	17.9	17.9	17.7	17.7	18.4	18.6	18.4	19.0
		Volume	10,816,109,633	10,663,420,477	10,900,737,704	12,246,078,983	12,361,561,882	13,031,122,001	13,486,978,064	14,160,927,780	15,422,172,055

Users of these grade-specific property estimates calculated from RFG and Anti-Dumping data should be aware that grade-specific estimates based on reporting data may differ from actual retail property values by grade. Although aggregate estimates from the reporting system may also differ from actual retail property values, there are several additional reasons why these grade-specific estimates may differ. Mid-grade gasoline is often blended from regular and premium gasoline at some point downstream of the refinery. Thus, some of the gasoline volume reported and included in these tables as regular or premium would be marketed as mid-grade. Additionally, EPA's grade-specific average analysis excludes some gasoline and blendstock that was included in aggregate average estimates. EPA has presented averages for batches labeled as regular and premium gasoline only; excluding batches labeled as mid-grade (since these batches may not be a representative sample of gasoline marketed as mid-grade), mix of grades, or without a grade label. EPA also excluded CG blendstock batches from grade-specific analyses even if they had a grade designation.

The table shows the total volume, in gallons, for the batches used to calculate each grade average. In part, because of factors discussed above these volumes are not expected to represent the actual volumes by grade of retail gasoline.

RFG Aromatics-Geographic

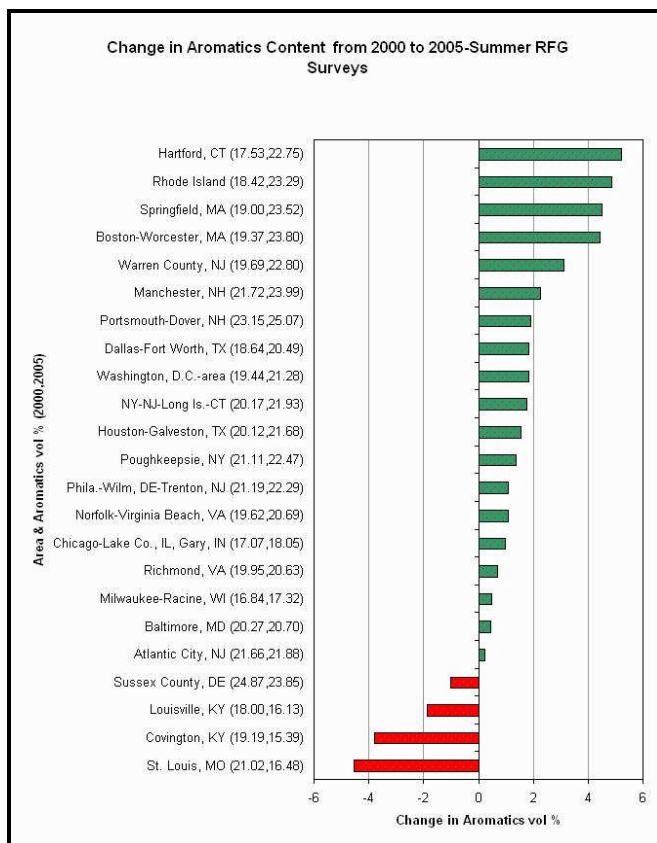


Figure 7

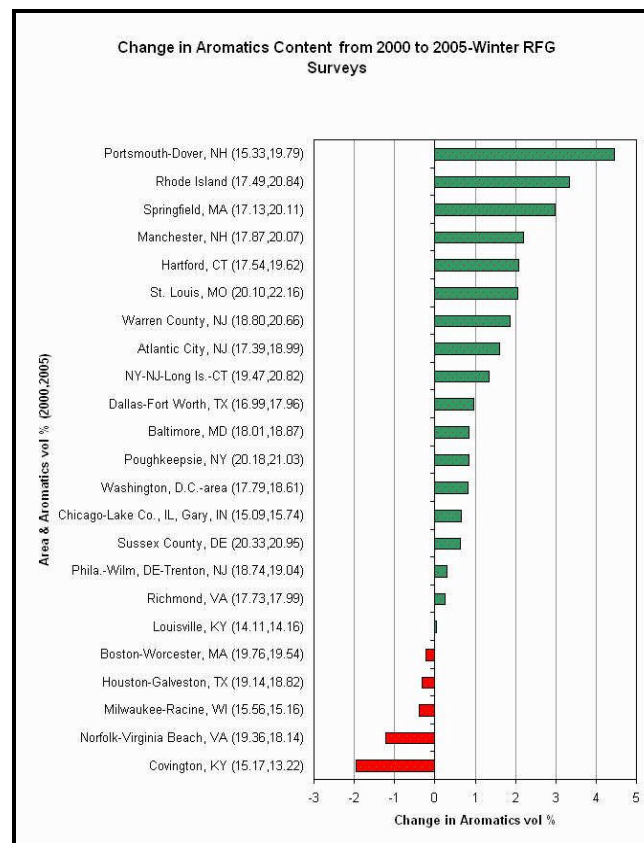


Figure 8

Conventional Gasoline

CG Aromatics by Gasoline Volume

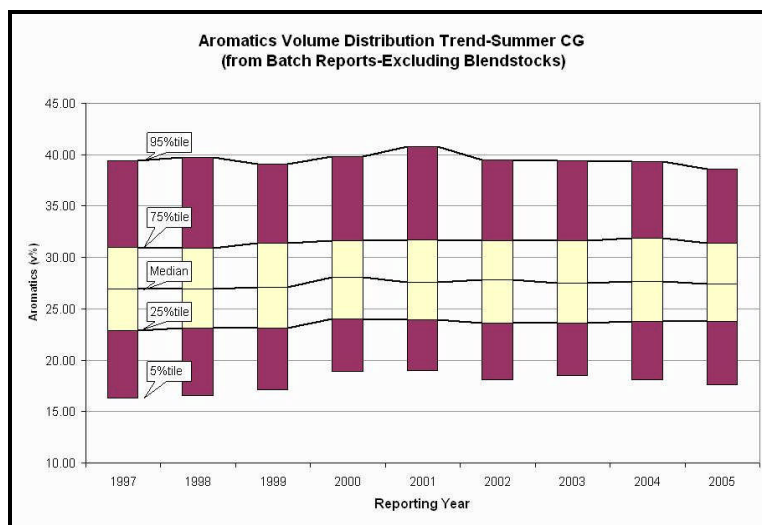


Figure 9

Summer CG Aromatics Content (Vol %) by Volume (from Batch Reports excluding Blendstocks)

Reporting Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
Volume %tile minimum	0.0	0.0	0.9	0.0	0.0	0.0	1.0	0.0	0.0
5%	16.30	16.60	17.10	18.90	19.00	18.10	18.50	18.10	17.60
10%	19.00	19.30	19.40	20.60	20.80	20.40	20.30	20.20	20.00
15%	20.60	20.80	20.80	21.90	22.10	21.70	21.70	21.70	21.70
20%	21.90	22.10	22.00	23.00	23.00	22.70	22.70	22.80	22.90
25%	22.90	23.10	23.10	24.00	23.90	23.60	23.60	23.80	23.80
30%	23.80	24.10	24.00	24.90	24.60	24.40	24.40	24.60	24.70
35%	24.70	24.90	24.90	25.80	25.40	25.30	25.10	25.40	25.40
40%	25.50	25.50	25.80	26.50	26.10	26.10	25.90	26.20	26.10
45%	26.20	26.30	26.40	27.40	26.80	26.90	26.80	26.90	26.70
50%	26.90	26.90	27.10	28.10	27.60	27.80	27.50	27.70	27.40
55%	27.70	27.60	27.90	28.80	28.40	28.70	28.30	28.40	28.10
60%	28.50	28.30	28.80	29.50	29.20	29.40	29.00	29.10	28.80
65%	29.20	29.10	29.50	30.10	30.00	30.20	29.80	30.00	29.60
70%	30.10	29.90	30.40	30.80	30.80	30.90	30.70	30.90	30.50
75%	31.00	30.90	31.40	31.60	31.70	31.60	31.60	31.90	31.40
80%	32.40	32.10	32.20	32.70	32.60	32.50	32.60	32.80	32.40
85%	34.00	33.60	33.50	34.10	34.10	33.80	33.70	34.00	33.50
90%	36.10	35.90	35.60	36.20	36.30	35.60	35.60	35.80	35.30
95%	39.40	39.70	39.10	39.80	40.80	39.50	39.40	39.30	38.60
100%	60.20	59.50	60.50	60.00	59.80	59.30	58.30	60.50	59.90
Volume(gal):	39,380,364,542	39,078,941,326	37,192,967,557	36,387,851,238	38,542,042,404	40,818,795,156	43,243,575,045	43,509,104,037	42,196,228,805

CG Aromatics by Gasoline Volume (continued):

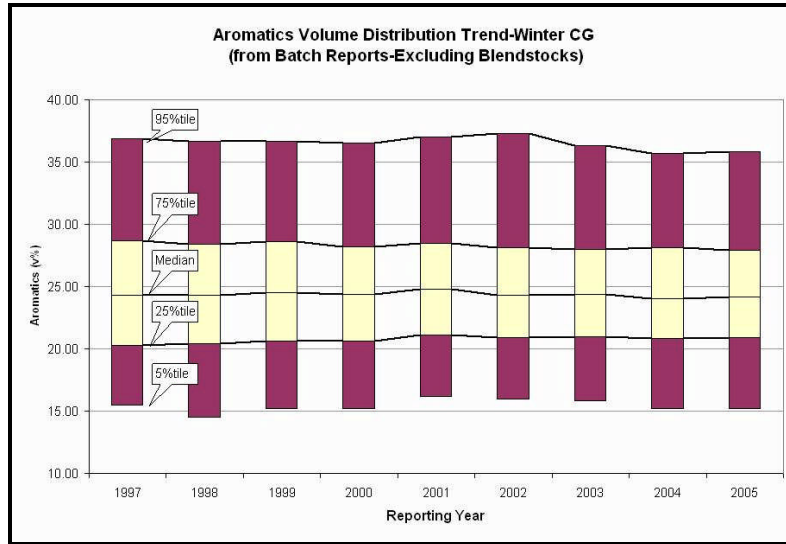


Figure 10

Winter CG Aromatics Content (Vol %) by Volume (from Batch Reports excluding Blendstocks)

Reporting Year

Volume %tile	1997	1998	1999	2000	2001	2002	2003	2004	2005
minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5%	15.5	14.5	15.2	15.2	16.2	16.0	15.8	15.2	15.2
10%	17.3	16.8	17.1	17.2	18.0	18.0	17.9	17.2	17.8
15%	18.5	18.3	18.6	18.6	19.2	19.2	19.2	18.6	19.1
20%	19.5	19.5	19.7	19.6	20.2	20.1	20.2	19.8	20.1
25%	20.3	20.4	20.6	20.6	21.1	20.9	21.0	20.8	20.9
30%	21.1	21.3	21.4	21.5	21.9	21.7	21.8	21.5	21.6
35%	21.9	22.1	22.1	22.3	22.7	22.2	22.4	22.1	22.3
40%	22.5	22.9	23.0	23.1	23.5	22.9	23.1	22.7	23.0
45%	23.4	23.6	23.7	23.8	24.2	23.6	23.8	23.4	23.6
50%	24.3	24.3	24.5	24.4	24.8	24.3	24.4	24.0	24.2
55%	25.1	24.9	25.2	25.1	25.5	24.9	25.0	24.9	24.8
60%	26.0	25.7	26.0	25.7	26.2	25.7	25.7	25.7	25.6
65%	26.8	26.6	26.8	26.5	26.9	26.4	26.3	26.4	26.3
70%	27.8	27.4	27.7	27.2	27.7	27.2	27.2	27.2	27.1
75%	28.7	28.4	28.6	28.2	28.5	28.1	28.0	28.1	27.9
80%	30.0	29.5	29.7	29.2	29.7	29.2	29.2	29.1	28.8
85%	31.6	31.1	31.2	30.6	31.1	30.7	30.5	30.4	30.1
90%	33.5	33.4	33.2	32.8	33.4	32.7	32.6	32.4	32.3
95%	36.9	36.7	36.7	36.5	37.0	37.3	36.3	35.7	35.8
100%	60.3	60.5	58.0	60.4	58.9	58.8	59.0	58.5	59.2
Volume (gal):	44,627,982,120	46,293,631,981	47,701,715,605	48,024,395,442	48,797,132,426	49,655,135,030	47,469,723,098	47,654,786,710	48,705,329,856

CG Aromatics by Gasoline Volume
(Cumulative Distributions for Latest Year Data)

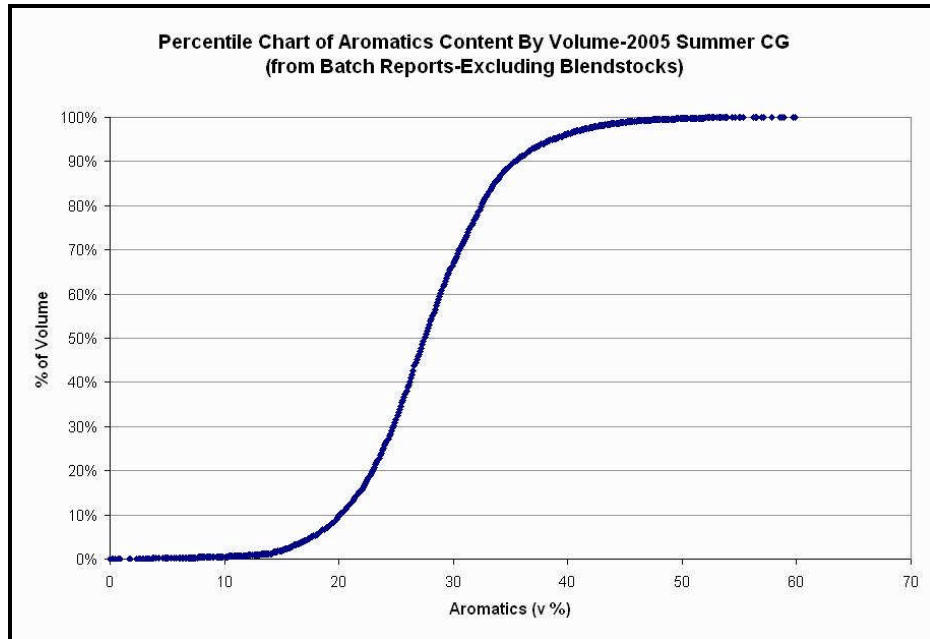


Figure 11

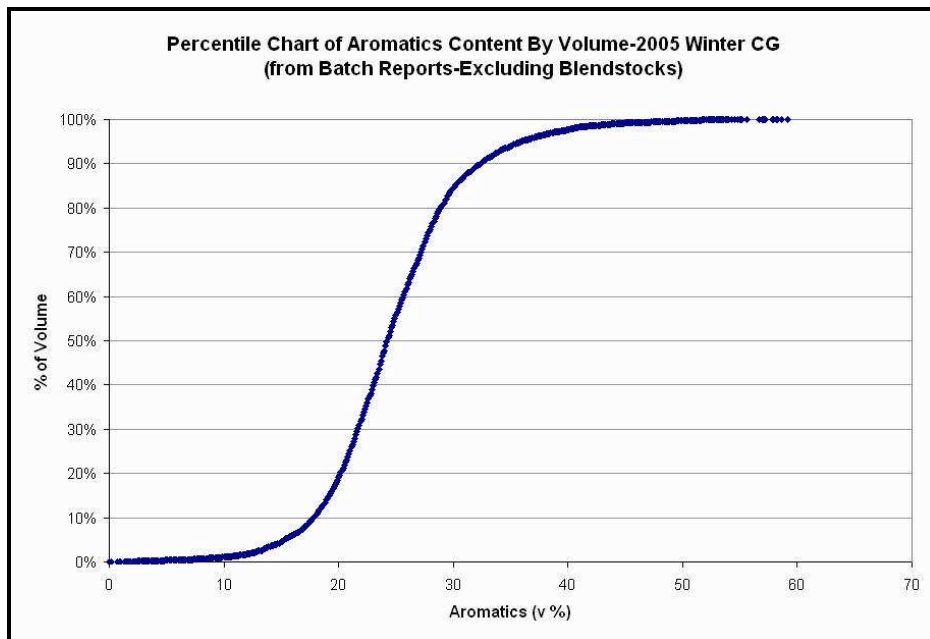


Figure 12

CG Aromatics by Grade

CG Average Aromatics Content (Vol %) and Volume (gal) by Year, Grade, and Season – from Reporting Data

Grade	Season	Data	Reporting Year								
			1997	1998	1999	2000	2001	2002	2003	2004	2005
PRM	s	Average	31.8	32.6	31.6	33.1	34.7	32.4	32.2	31.2	31.3
		Volume	6,910,973,553	6,635,803,305	6,252,416,423	4,957,386,104	4,996,778,324	5,181,939,065	5,149,486,549	4,635,507,910	4,138,979,931
	w	Average	28.2	29.7	29.6	29.1	30.3	29.8	29.5	28.3	29.5
		Volume	8,310,678,815	8,233,384,513	7,690,219,372	6,648,441,003	6,548,540,176	6,571,003,043	5,517,761,736	5,077,869,493	4,510,104,837
REG	s	Average	26.3	26.4	26.6	27.6	27.4	27.4	27.4	27.5	27.3
		Volume	28,062,618,693	28,410,709,416	26,656,367,421	27,358,607,481	28,964,604,238	30,995,449,082	33,053,399,345	34,601,650,558	33,851,903,439
	w	Average	24.3	23.8	24.1	24.0	24.6	24.3	24.4	24.1	24.3
		Volume	32,175,385,639	32,177,203,389	33,356,627,836	35,199,495,331	35,935,271,164	36,931,713,041	35,949,009,293	37,504,589,388	39,123,690,864

Users of these grade-specific property estimates calculated from RFG and Anti-Dumping data should be aware that grade-specific estimates based on reporting data may differ from actual retail property values by grade. Although aggregate estimates from the reporting system may also differ from actual retail property values, there are several additional reasons why these grade-specific estimates may differ. Mid-grade gasoline is often blended from regular and premium gasoline at some point downstream of the refinery. Thus, some of the gasoline volume reported and included in these tables as regular or premium would be marketed as mid-grade. Additionally, EPA's grade-specific average analysis excludes some gasoline and blendstock that was included in aggregate average estimates. EPA has presented averages for batches labeled as regular and premium gasoline only; excluding batches labeled as mid-grade (since these batches may not be a representative sample of gasoline marketed as mid-grade), mix of grades, or without a grade label. EPA also excluded CG blendstock batches from grade-specific analyses even if they had a grade designation.

The table shows the total volume, in gallons, for the batches used to calculate each grade average. In part, because of factors discussed above these volumes are not expected to represent the actual volumes by grade of retail gasoline.

Appendix to Olefins Chapter

RFG Olefins Content by Gasoline Volume

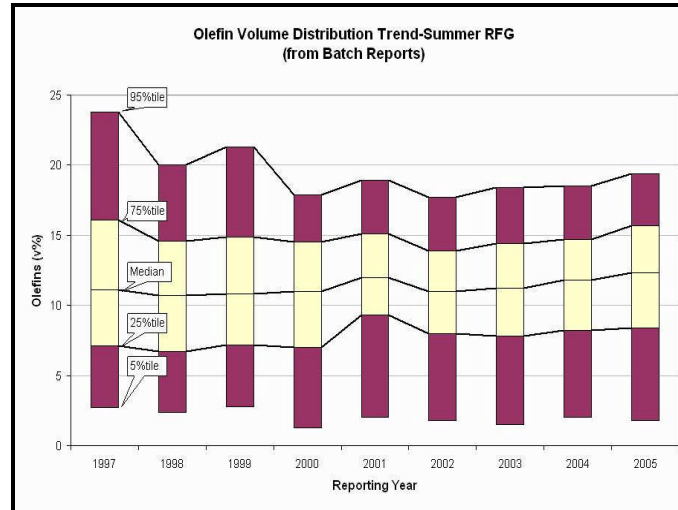


Figure 1

Summer RFG Olefins Content (Vol %) by Volume (from Batch Reports)

Reporting Year

Volume %tile	1997	1998	1999	2000	2001	2002	2003	2004	2005
minimum	0.0	0.3	0.3	0.3	0.3	0.0	0.3	0.0	0.0
5%	2.7	2.4	2.8	1.3	2.0	1.8	1.5	2.0	1.8
10%	4.4	3.9	4.4	2.4	3.9	3.5	3.2	4.1	4.1
15%	5.6	4.8	5.3	4.4	6.4	5.4	5.4	6.0	5.9
20%	6.5	5.8	6.2	5.8	8.1	6.8	6.8	7.1	7.1
25%	7.1	6.7	7.2	7.0	9.3	8.0	7.8	8.2	8.4
30%	7.9	7.4	8.1	8.1	10.0	8.9	8.9	9.1	9.4
35%	8.6	8.3	8.9	9.0	10.6	9.5	9.5	9.9	10.1
40%	9.5	9.2	9.5	9.9	11.2	10.0	10.1	10.5	10.8
45%	10.3	9.9	10.1	10.5	11.6	10.5	10.6	11.1	11.6
50%	11.1	10.7	10.8	11.0	12.0	11.0	11.2	11.8	12.3
55%	11.9	11.5	11.4	11.6	12.6	11.6	11.8	12.3	13.0
60%	12.7	12.1	12.1	12.2	13.2	12.1	12.5	12.9	13.7
65%	13.7	12.9	13.0	12.8	13.7	12.6	13.1	13.4	14.4
70%	14.8	13.7	13.9	13.6	14.4	13.2	13.8	14.1	15.1
75%	16.1	14.6	14.9	14.5	15.1	13.9	14.4	14.7	15.7
80%	17.5	15.4	16.1	15.1	15.7	14.6	15.1	15.3	16.5
85%	19.0	16.5	17.5	15.9	16.5	15.5	15.9	16.0	17.2
90%	20.9	18.1	19.2	16.6	17.5	16.3	16.8	16.9	18.1
95%	23.8	20.0	21.3	17.9	18.9	17.7	18.4	18.5	19.4
100%	39.7	28.0	28.6	24.8	24.7	25.0	24.9	24.7	24.4
Volume (gal):	12,424,923,379	12,832,964,637	12,996,111,169	12,983,168,478	13,222,633,468	13,847,178,590	13,584,860,845	14,232,658,149	14,083,382,582

RFG Olefins Content by Gasoline Volume (continued):

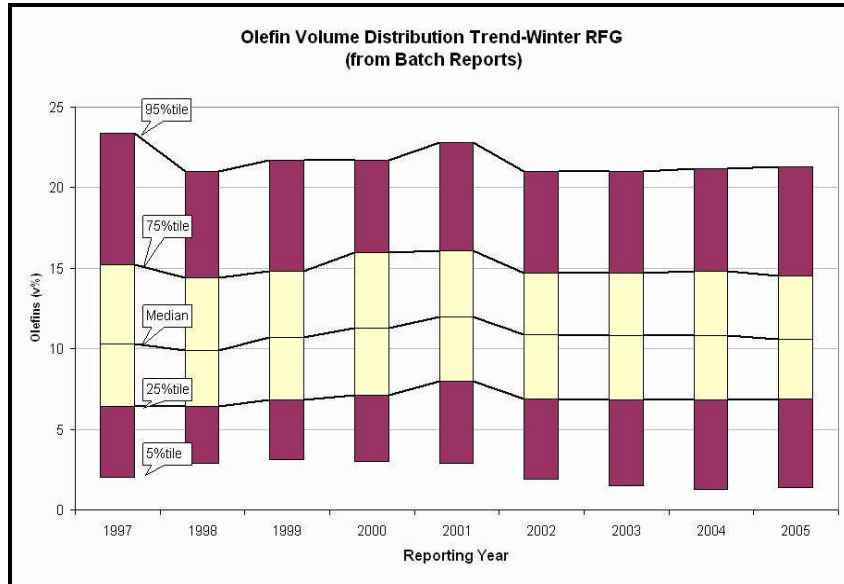


Figure 2

Winter RFG Olefins Content (Vol %) by Volume (from Batch Reports)

	Reporting Year								
Volume %tile	1997	1998	1999	2000	2001	2002	2003	2004	2005
5%	2.00	2.90	3.10	3.00	2.90	1.90	1.50	1.30	1.40
10%	3.60	3.90	4.30	4.20	4.40	3.60	3.30	3.60	3.40
15%	4.70	4.70	5.10	5.20	5.70	4.90	4.50	4.80	4.70
20%	5.60	5.60	6.10	6.20	6.90	6.00	5.80	5.90	5.90
25%	6.40	6.40	6.80	7.10	8.00	6.90	6.80	6.80	6.90
30%	7.00	7.10	7.60	8.00	8.90	7.80	7.70	7.50	7.80
35%	7.70	7.90	8.40	8.90	9.70	8.60	8.60	8.30	8.60
40%	8.50	8.60	9.30	9.70	10.50	9.50	9.40	9.20	9.40
45%	9.40	9.20	9.90	10.60	11.30	10.20	10.10	10.10	10.00
50%	10.30	9.90	10.70	11.30	12.00	10.90	10.80	10.80	10.60
55%	11.20	10.60	11.40	12.10	12.70	11.60	11.50	11.60	11.30
60%	12.00	11.50	12.10	13.10	13.40	12.30	12.20	12.30	12.00
65%	13.10	12.40	12.90	13.90	14.20	13.20	13.00	13.10	12.70
70%	14.00	13.30	13.90	14.90	15.10	13.90	13.90	14.00	13.60
75%	15.20	14.40	14.80	16.00	16.10	14.70	14.70	14.80	14.50
80%	16.50	15.80	16.10	17.20	17.30	15.60	15.80	15.80	15.50
85%	18.30	17.40	17.40	18.50	18.90	16.70	17.10	17.10	17.10
90%	20.30	18.90	19.50	19.90	20.80	18.30	18.90	18.80	19.10
95%	23.40	21.00	21.70	21.70	22.80	21.00	21.00	21.20	21.30
100%	44.10	25.00	25.40	25.00	26.90	25.00	27.00	24.80	25.00
Volume (gal):	14,918,897,927	15,059,853,293	15,081,898,669	15,829,263,333	15,724,574,173	16,433,999,720	16,679,773,135	17,194,948,147	18,044,832,058

**RFG Olefins Content by Gasoline Volume (continued):
(Cumulative Distributions for Latest Year Data)**

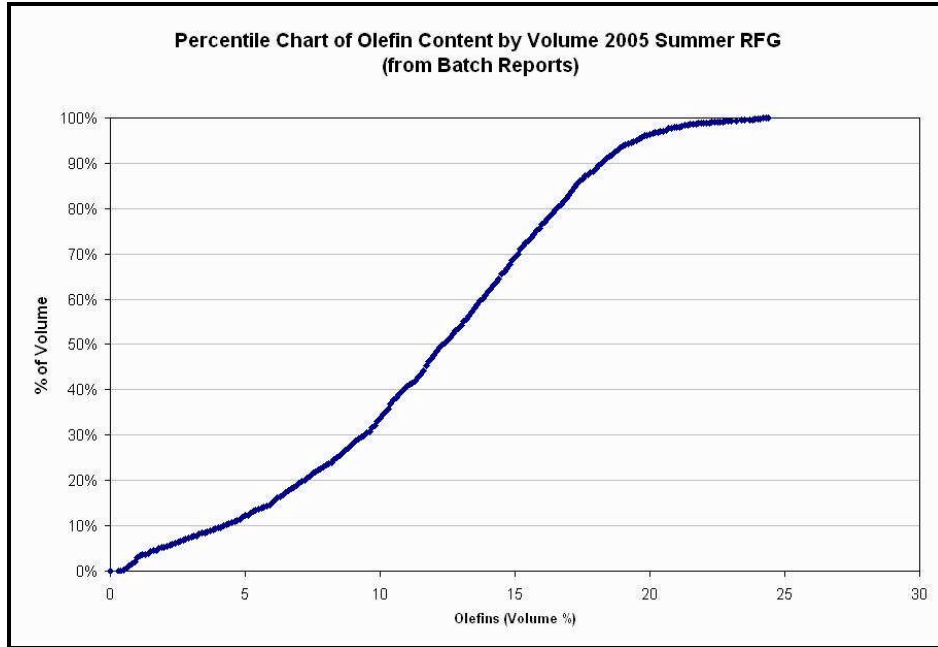


Figure 3

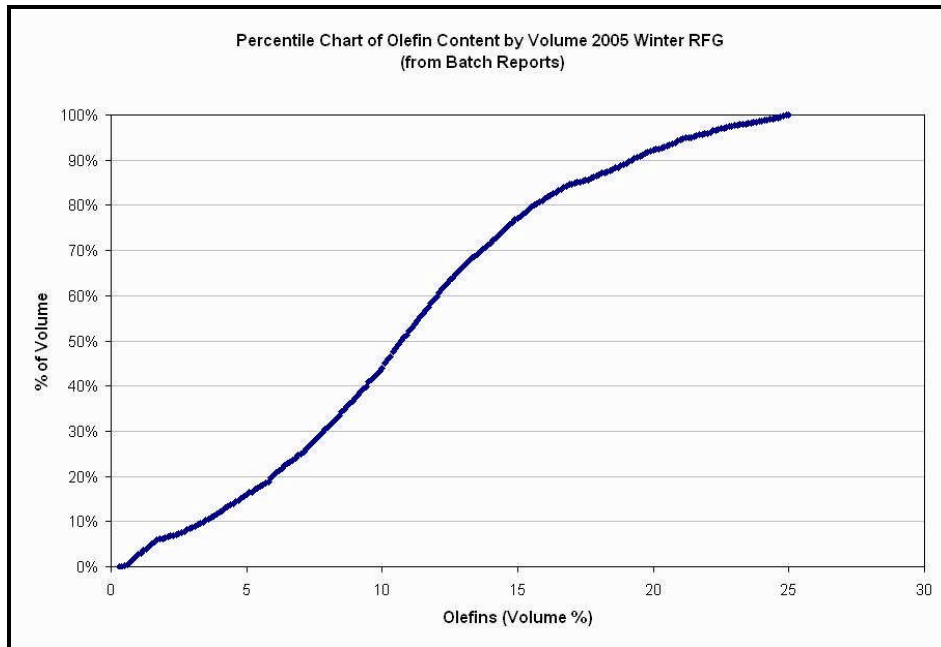


Figure 4

RFG Olefins by Grade

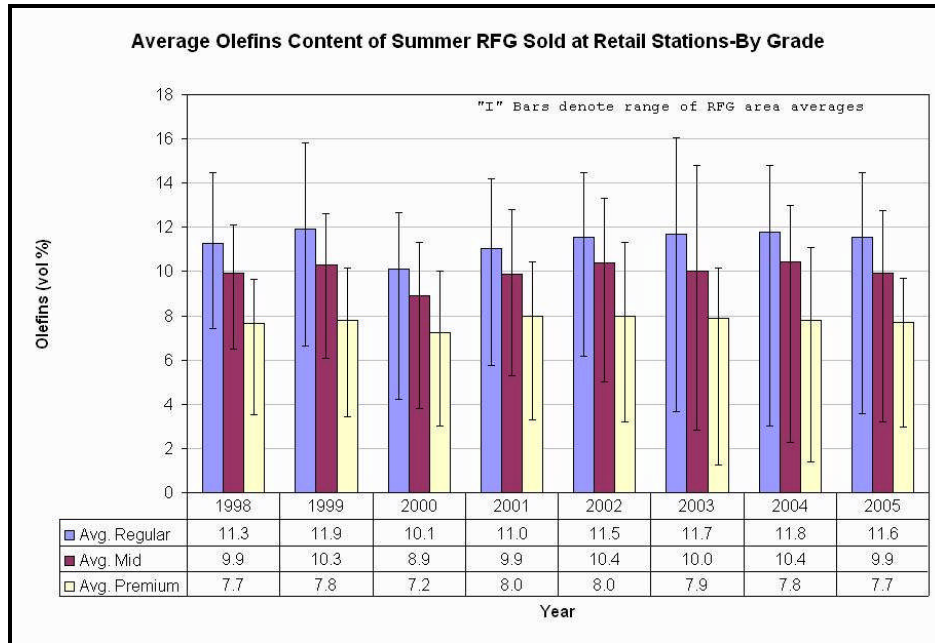


Figure 5

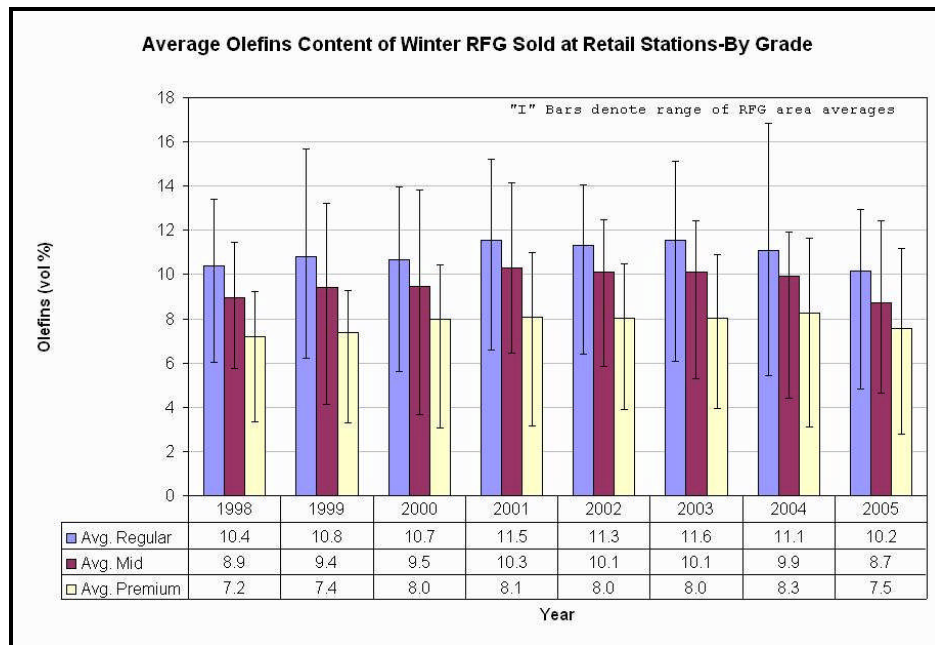


Figure 6

RFG Olefins by Grade

			RFG Average Olefins Content (v%) and Volume (gal) by Year, Grade, and Season-From Reporting Data								
			Reporting Year								
Grade	Season	Data	1997	1998	1999	2000	2001	2002	2003	2004	2005
PRM	s	Average	8.4	7.8	8.1	8.1	9.2	7.8	7.6	8.3	8.6
		Volume	3,449,496,834	3,651,258,096	3,537,723,033	2,788,564,977	2,773,110,841	2,931,886,907	2,736,973,386	2,385,535,898	2,144,095,101
	w	Average	8.7	8.2	8.4	9.0	9.5	8.1	8.0	8.6	8.8
		Volume	3,891,638,151	4,139,316,745	3,839,207,618	3,420,180,881	3,305,514,921	3,387,457,520	3,103,333,727	2,945,338,123	2,583,694,635
REG	s	Average	13.4	12.2	12.6	11.3	12.5	11.6	11.8	12.0	12.5
		Volume	8,933,744,061	9,007,552,063	9,320,974,363	10,122,448,765	10,392,283,260	10,878,238,821	10,824,904,975	11,783,350,501	11,881,795,879
	w	Average	12.3	11.8	12.4	12.6	13.1	12.0	11.7	11.6	11.4
		Volume	10,818,337,187	10,663,420,477	10,902,774,956	12,246,078,983	12,361,561,882	13,031,122,001	13,486,978,064	14,160,927,780	15,422,172,055

Users of these grade-specific property estimates calculated from RFG and Anti-Dumping data should be aware that grade-specific estimates based on reporting data may differ from actual retail property values by grade. Although aggregate estimates from the reporting system may also differ from actual retail property values, there are several additional reasons why these grade-specific estimates may differ. Mid-grade gasoline is often blended from regular and premium gasoline at some point downstream of the refinery. Thus, some of the gasoline volume reported, and included in these tables, as regular or premium would be marketed as mid-grade. Additionally, EPA's grade-specific average analysis excludes some gasoline and blendstock that was included in aggregate average estimates. EPA has presented averages for batches labeled as regular and premium gasoline only; excluding batches labeled as mid-grade (since these batches may not be a representative sample of gasoline marketed as mid-grade), mix of grades, or without a grade label. EPA also excluded CG blendstock batches from grade-specific analyses even if they had a grade designation.

The table shows the total volume, in gallons, for the batches used to calculate each grade average. In part, because of factors discussed above these volumes are not expected to represent the actual volumes by grade of retail gasoline.

RFG Olefins-Geographic

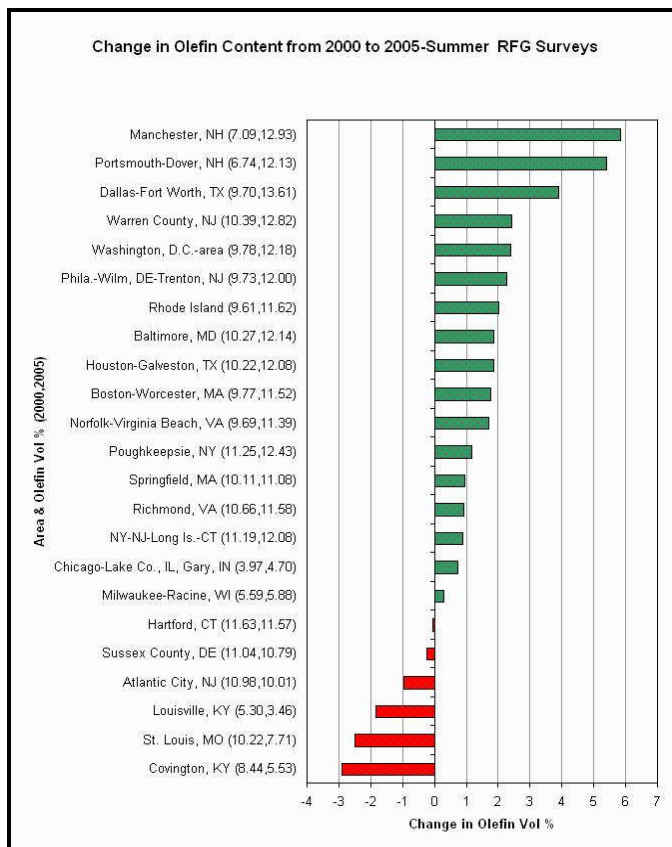


Figure 7

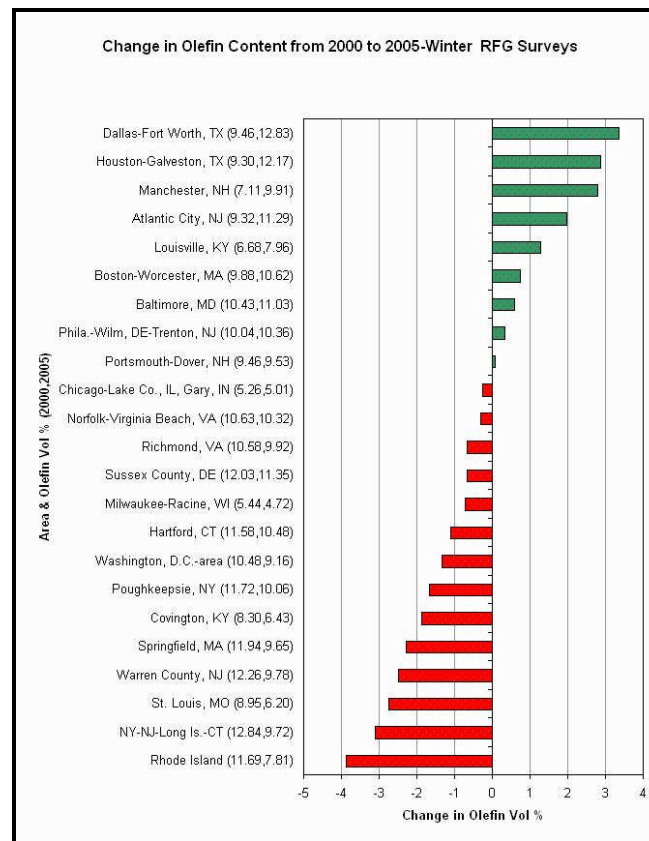


Figure 8

Conventional Gasoline

CG Olefins Content by Gasoline Volume

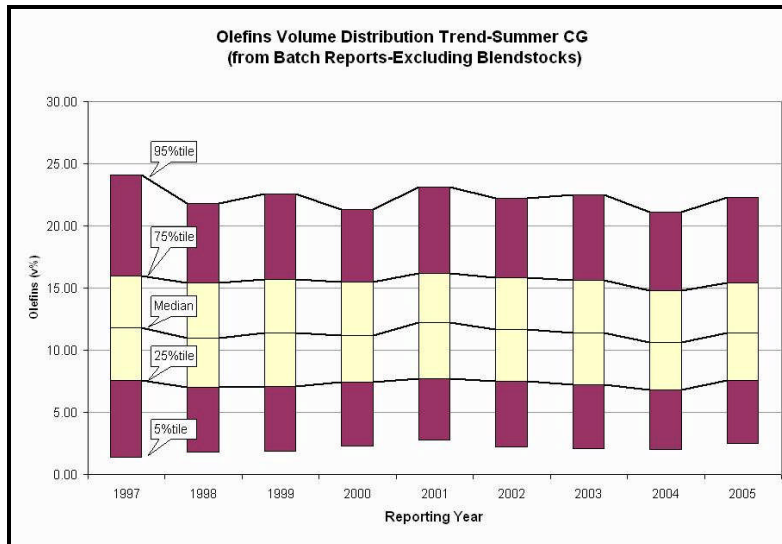


Figure 9

Summer CG Olefins Content (Vol %) by Volume (from Batch Reports excluding Blendstocks)

Reporting Year

Volume %tile	1997	1998	1999	2000	2001	2002	2003	2004	2005
minimum	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.1	0.0
5%	1.4	1.8	1.9	2.3	2.8	2.2	2.1	2.0	2.5
10%	3.1	3.6	3.7	4.3	4.5	3.9	3.9	3.8	4.4
15%	5.0	5.2	5.1	5.5	5.9	5.4	5.1	5.0	5.7
20%	6.7	6.4	6.3	6.6	6.8	6.6	6.4	6.0	6.7
25%	7.6	7.0	7.1	7.4	7.7	7.5	7.2	6.8	7.6
30%	8.5	7.9	7.9	8.3	8.7	8.4	8.0	7.6	8.4
35%	9.4	8.7	8.9	9.1	9.5	9.2	8.9	8.4	9.2
40%	10.3	9.5	9.7	9.7	10.5	10.1	9.8	9.1	10.0
45%	11.0	10.3	10.6	10.5	11.3	11.0	10.6	9.8	10.7
50%	11.8	11.0	11.4	11.2	12.2	11.7	11.4	10.6	11.4
55%	12.6	11.7	12.2	12.1	13.0	12.4	12.2	11.4	12.0
60%	13.4	12.5	13.0	12.9	13.8	13.3	12.9	12.1	12.7
65%	14.2	13.3	13.9	13.8	14.6	14.1	13.8	12.9	13.6
70%	15.1	14.3	14.7	14.7	15.4	14.9	14.7	13.7	14.4
75%	16.0	15.4	15.7	15.5	16.2	15.8	15.6	14.8	15.4
80%	17.4	16.4	16.7	16.4	17.2	16.9	16.6	15.8	16.5
85%	18.6	17.7	18.1	17.5	18.4	18.2	17.8	17.2	17.9
90%	20.6	19.3	19.9	19.0	20.0	19.7	19.4	18.7	19.5
95%	24.1	21.8	22.6	21.3	23.1	22.2	22.5	21.1	22.3
100%	32.9	32.8	32.9	33.0	33.0	32.9	33.0	32.8	33.0
Volume (gal):	39,012,171,998	39,086,529,466	37,192,967,557	36,389,951,364	38,541,577,884	40,819,234,602	43,243,575,045	43,497,571,635	42,178,688,849

CG Olefins Content by Gasoline Volume (continued):

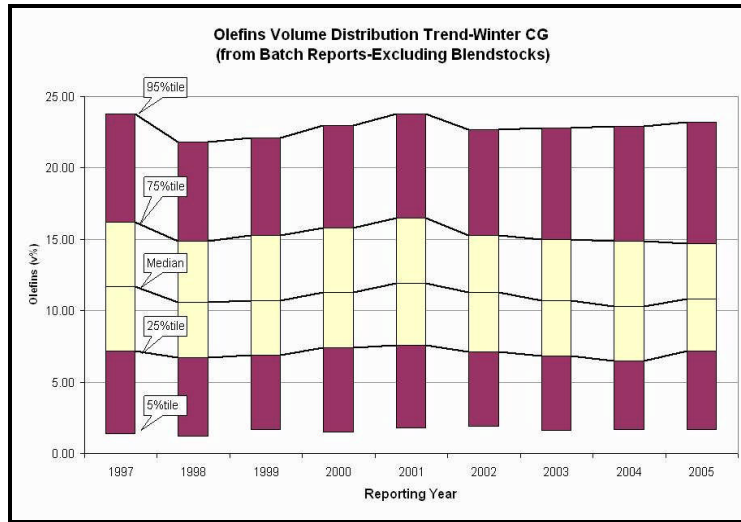


Figure 10

Winter CG Olefins Content (Vol %) by Volume (from Batch Reports excluding Blendstocks)

Reporting Year

Volume %tile	1997	1998	1999	2000	2001	2002	2003	2004	2005
minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5%	1.4	1.2	1.7	1.5	1.8	1.9	1.6	1.7	1.7
10%	3.1	2.8	3.4	3.7	3.9	3.5	3.3	3.7	4.1
15%	4.8	4.5	4.7	5.1	5.3	4.8	4.7	4.8	5.3
20%	6.2	5.7	5.9	6.3	6.5	6.1	5.8	5.6	6.3
25%	7.2	6.7	6.9	7.4	7.6	7.1	6.8	6.5	7.2
30%	8.2	7.5	7.7	8.2	8.6	8.2	7.6	7.4	7.9
35%	9.1	8.3	8.6	8.9	9.5	9.0	8.4	8.2	8.7
40%	9.9	9.1	9.3	9.6	10.3	9.8	9.1	8.9	9.4
45%	10.8	9.8	10.0	10.4	11.1	10.6	9.9	9.5	10.0
50%	11.7	10.6	10.7	11.3	11.9	11.3	10.7	10.3	10.8
55%	12.7	11.5	11.5	12.2	12.8	12.0	11.4	11.1	11.4
60%	13.5	12.3	12.4	13.0	13.6	12.7	12.2	11.9	12.2
65%	14.4	13.1	13.3	13.8	14.5	13.5	13.2	12.8	12.9
70%	15.3	14.0	14.2	14.8	15.4	14.3	14.1	13.8	13.7
75%	16.2	14.9	15.3	15.8	16.5	15.3	15.0	14.9	14.7
80%	17.2	16.1	16.3	16.9	17.5	16.4	16.2	16.2	15.9
85%	18.6	17.4	17.7	18.3	18.7	17.8	17.7	17.8	17.3
90%	20.4	19.0	19.4	20.0	20.7	19.8	19.6	19.5	19.4
95%	23.8	21.8	22.1	23.0	23.8	22.7	22.8	22.9	23.2
100%	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
Volume (gal):	44,301,841,176	46,293,525,301	47,701,715,605	48,024,395,442	48,786,984,011	49,644,581,942	47,465,390,042	47,636,716,042	48,690,992,232

CG Olefins by Grade

			CG Average Olefins Content (v%) and Volume (gal) by Year, Grade, and Season-from Reporting Data								
			Reporting Year								
Grade	Season	Data	1997	1998	1999	2000	2001	2002	2003	2004	2005
PRM	s	Average	6.65	5.91	6.33	6.41	6.74	5.80	6.65	6.33	6.86
		Volume	6,846,643,119	6,635,688,729	6,252,416,423	4,957,386,104	4,996,778,324	5,181,939,065	5,149,486,549	4,623,975,508	4,123,526,493
	w	Average	6.97	6.00	6.22	6.99	7.13	6.63	5.86	6.20	6.42
		Volume	8,265,699,839	8,233,277,833	7,690,219,372	6,648,441,003	6,551,541,289	6,569,323,421	5,517,761,736	5,069,256,175	4,498,707,927
REG	s	Average	14.03	13.13	13.35	13.10	13.83	13.38	12.95	12.11	12.80
		Volume	27,758,756,583	28,418,412,132	26,656,367,421	27,360,707,607	28,964,139,718	30,995,888,528	33,053,399,345	34,601,650,558	33,849,816,921
	w	Average	13.85	12.81	12.80	13.39	13.89	12.98	12.65	12.38	12.44
		Volume	31,894,223,671	32,177,203,389	33,356,627,836	35,199,495,331	35,928,338,728	36,922,839,575	35,944,676,237	37,495,132,038	39,120,750,150

Users of these grade-specific property estimates calculated from RFG and Anti-Dumping data should be aware that grade-specific estimates based on reporting data may differ from actual retail property values by grade. Although aggregate estimates from the reporting system may also differ from actual retail property values, there are several additional reasons why these grade-specific estimates may differ. Mid-grade gasoline is often blended from regular and premium gasoline at some point downstream of the refinery. Thus, some of the gasoline volume reported, and included in these tables, as regular or premium would be marketed as mid-grade. Additionally, EPA's grade-specific average analysis excludes some gasoline and blendstock that was included in aggregate average estimates. EPA has presented averages for batches labeled as regular and premium gasoline only; excluding batches labeled as mid-grade (since these batches may not be a representative sample of gasoline marketed as mid-grade), mix of grades, or without a grade label. EPA also excluded CG blendstock batches from grade-specific analyses even if they had a grade designation.

The table shows the total volume, in gallons, for the batches used to calculate each grade average. In part, because of factors discussed above these volumes are not expected to represent the actual volumes by grade of retail gasoline.

Appendix to Distillation Parameters Chapter

RFG E200 by Gasoline Volume

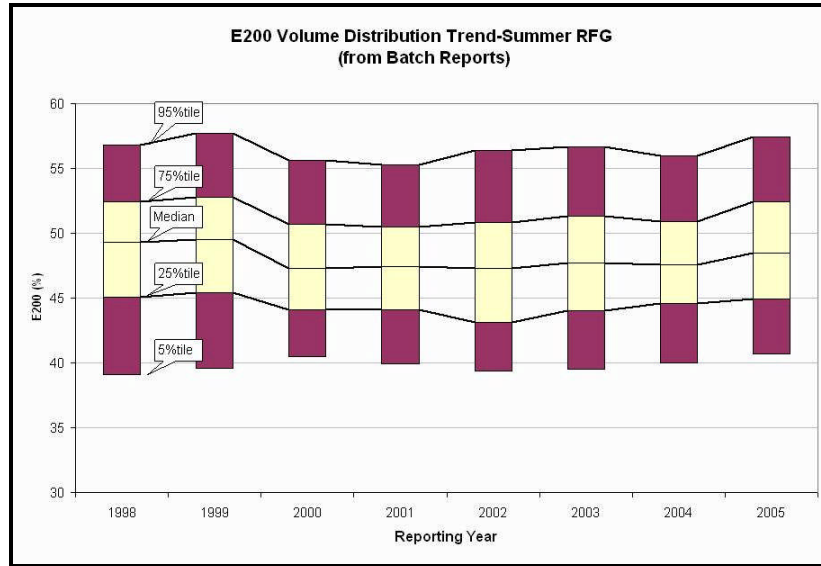


Figure 1

Summer RFG E200 (%) by Volume (from Batch Reports)

Reporting Year

Volume %tile	1998	1999	2000	2001	2002	2003	2004	2005
minimum	30.6	29.9	31.3	32.4	29.0	30.1	31.4	30.4
5%	39.1	39.6	40.5	39.9	39.4	39.5	40.0	40.7
10%	41.2	41.9	41.9	41.4	40.9	41.0	41.8	42.1
15%	42.8	43.2	42.7	42.5	41.7	42.1	42.8	43.4
20%	44.0	44.5	43.4	43.4	42.5	43.1	43.7	44.2
25%	45.1	45.4	44.1	44.1	43.1	44.0	44.6	44.9
30%	46.0	46.4	44.7	44.7	44.0	44.8	45.2	45.6
35%	47.1	47.5	45.4	45.3	45.0	45.6	45.8	46.4
40%	47.9	48.3	46.0	46.1	46.0	46.3	46.4	47.2
45%	48.7	48.9	46.6	46.7	46.6	47.0	47.0	47.8
50%	49.3	49.5	47.3	47.4	47.3	47.7	47.6	48.5
55%	49.9	50.1	47.9	48.0	47.9	48.4	48.2	49.2
60%	50.7	50.8	48.5	48.6	48.6	49.2	48.8	50.0
65%	51.2	51.3	49.1	49.2	49.3	49.8	49.4	50.8
70%	51.8	51.9	49.8	49.8	50.0	50.6	50.1	51.7
75%	52.4	52.8	50.7	50.5	50.8	51.3	50.9	52.4
80%	53.2	53.6	51.7	51.2	51.9	52.1	51.8	53.2
85%	54.3	54.7	52.8	52.1	53.2	53.2	52.9	54.3
90%	55.3	56.1	54.1	53.2	54.7	54.8	54.2	55.7
95%	56.8	57.7	55.6	55.3	56.4	56.7	56.0	57.4
100%	64.9	73.7	65.9	63.3	63.1	63.5	63.0	67.9
Volume (gal):	12,832,964,637	12,996,111,169	12,983,168,478	13,222,633,468	13,847,971,634	13,584,860,845	14,232,658,149	14,083,382,582

RFG E200 by Gasoline Volume (continued):

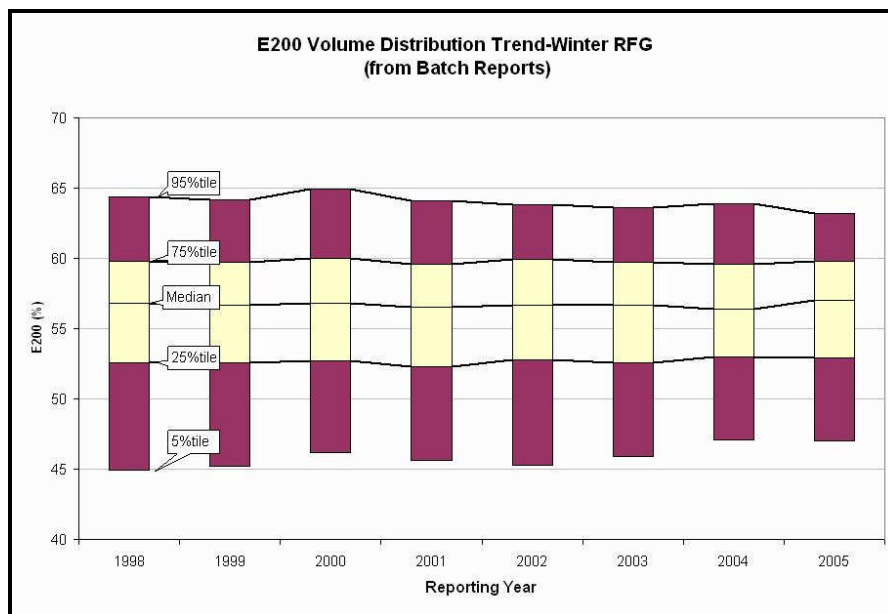


Figure 2

Winter RFG E200 (%) by Volume (from Batch Reports)

Reporting Year

Volume %tile	1998	1999	2000	2001	2002	2003	2004	2005
minimum	30.3	31.5	32.1	30.9	31.4	30.4	30.5	31.3
5%	44.9	45.2	46.2	45.6	45.3	45.9	47.1	47.0
10%	47.6	48.0	48.7	47.9	48.5	48.6	49.2	49.3
15%	49.6	49.9	50.4	49.6	50.3	50.4	50.8	50.8
20%	51.2	51.3	51.5	51.1	51.7	51.6	51.9	52.0
25%	52.6	52.6	52.7	52.3	52.8	52.6	53.0	52.9
30%	53.7	53.7	53.7	53.4	53.8	53.6	53.8	53.8
35%	54.6	54.5	54.5	54.2	54.6	54.5	54.5	54.7
40%	55.4	55.3	55.3	55.0	55.3	55.3	55.3	55.5
45%	56.1	56.1	56.0	55.8	56.1	56.0	55.9	56.3
50%	56.8	56.7	56.8	56.5	56.7	56.7	56.4	57.0
55%	57.3	57.4	57.5	57.0	57.3	57.3	57.0	57.6
60%	57.9	58.0	58.0	57.6	57.9	57.9	57.7	58.3
65%	58.5	58.5	58.7	58.2	58.5	58.5	58.4	58.7
70%	59.1	59.1	59.3	58.9	59.1	59.1	59.0	59.2
75%	59.8	59.7	60.0	59.6	59.9	59.7	59.6	59.8
80%	60.4	60.4	60.7	60.3	60.6	60.3	60.4	60.4
85%	61.3	61.2	61.5	61.2	61.2	61.0	61.1	61.1
90%	62.4	62.3	62.7	62.4	62.0	62.0	62.2	62.0
95%	64.4	64.2	64.9	64.1	63.8	63.6	63.9	63.2
100%	70.0	73.6	70.0	71.8	69.5	70.0	69.9	69.1
Volume (gal):	15,059,853,293	15,081,898,669	15,829,263,333	15,724,574,173	16,433,999,720	16,679,773,135	17,190,635,125	18,044,832,058

**RFG E200 by Gasoline Volume (continued):
(Cumulative Distributions for Latest Year Data)**

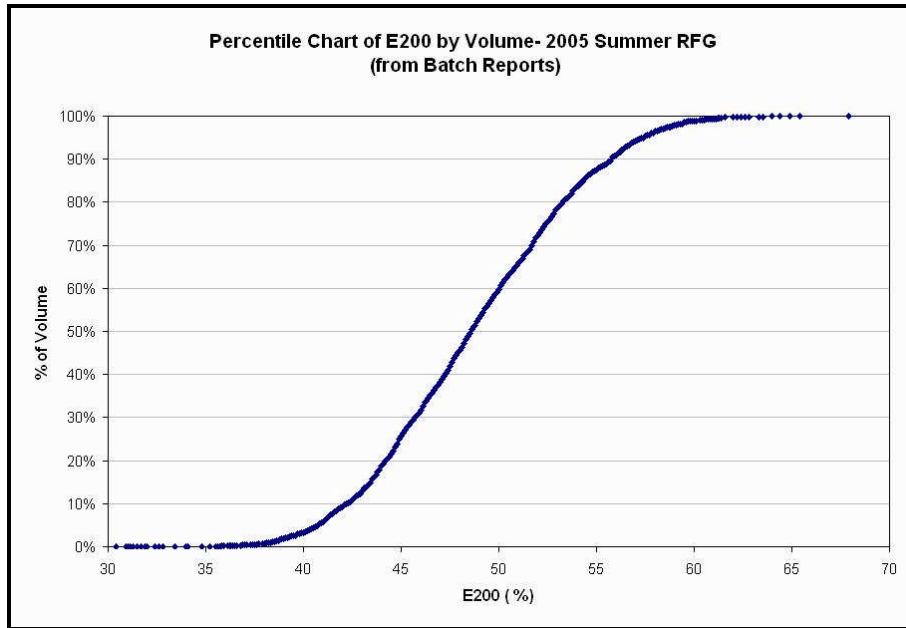


Figure 3

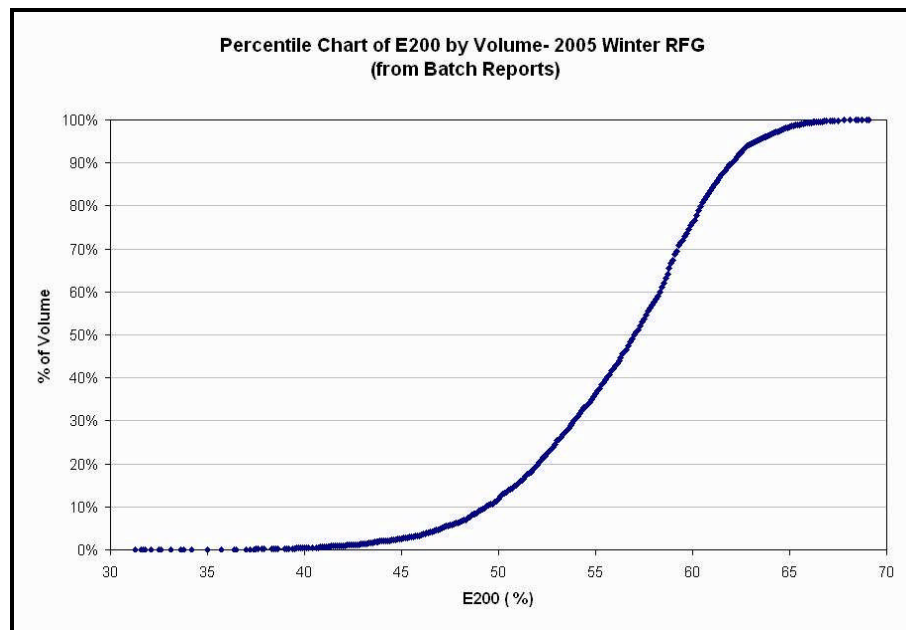


Figure 4

RFG E200 by Grade

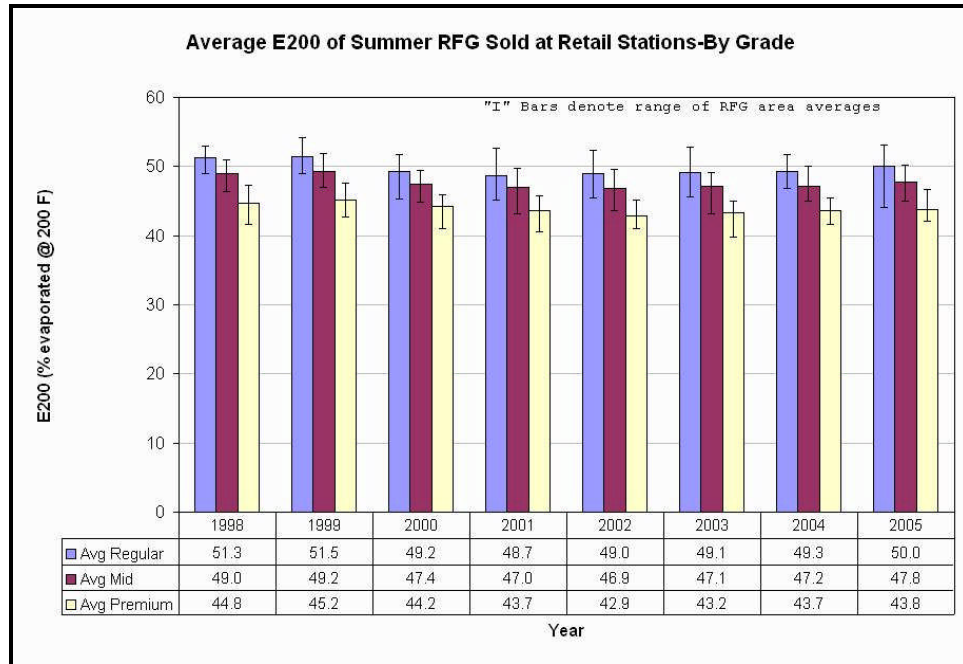


Figure 5

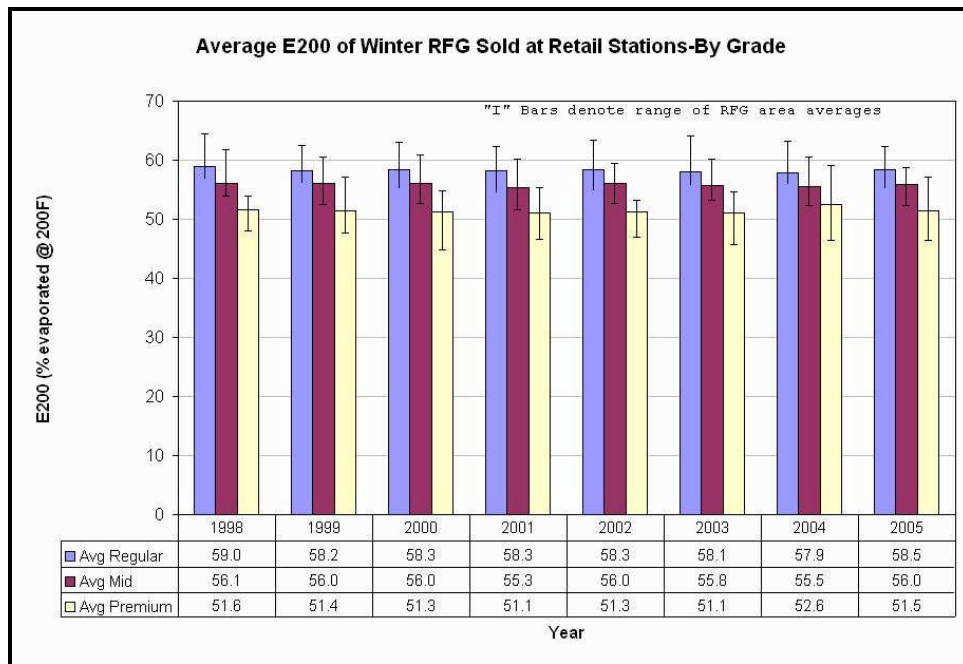


Figure 6

RFG E200 by Grade (continued):

RFG Average E200 (%) and Volume (gal) by Year, Grade, and Season-From Reporting Data										
Grade	Season	Data	Reporting Year							
			1998	1999	2000	2001	2002	2003	2004	2005
PRM	s	Average	43.95	44.24	43.75	43.20	42.44	42.97	43.09	43.08
		Volume	3,649,195,434	3,537,723,033	2,788,564,977	2,773,110,841	2,931,886,907	2,736,973,386	2,385,535,898	2,144,095,101
	w	Average	50.76	50.73	51.14	50.47	50.58	50.64	51.29	50.91
		Volume	4,139,316,745	3,839,207,618	3,418,369,505	3,301,129,239	3,387,457,520	3,103,333,727	2,943,555,811	2,583,694,635
REG	s	Average	50.73	51.09	48.76	48.60	48.88	49.13	48.86	49.90
		Volume	9,007,552,063	9,320,974,363	10,122,448,765	10,389,949,614	10,879,031,865	10,824,904,975	11,783,350,501	11,881,795,879
	w	Average	57.95	57.83	57.72	57.31	57.22	57.27	57.21	57.18
		Volume	10,638,539,349	10,902,774,956	12,246,078,983	12,307,517,794	13,031,122,001	13,486,978,064	14,160,927,780	15,422,172,055

Users of these grade-specific property estimates calculated from RFG and Anti-Dumping data should be aware that grade-specific estimates based on reporting data may differ from actual retail property values by grade. Although aggregate estimates from the reporting system may also differ from actual retail property values, there are several additional reasons why these grade-specific estimates may differ. Mid-grade gasoline is often blended from regular and premium gasoline at some point downstream of the refinery. Thus, some of the gasoline volume reported and included in these tables as regular or premium would be marketed as mid-grade. Additionally, EPA's grade-specific average analysis excludes some gasoline and blendstock that was included in aggregate average estimates. EPA has presented averages for batches labeled as regular and premium gasoline only; excluding batches labeled as mid-grade (since these batches may not be a representative sample of gasoline marketed as mid-grade), mix of grades, or without a grade label. EPA also excluded CG blendstock batches from grade-specific analyses even if they had a grade designation.

The table shows the total volume, in gallons, for the batches used to calculate each grade average. In part, because of factors discussed above these volumes are not expected to represent the actual volumes by grade of retail gasoline.

RFG E200-Geographic

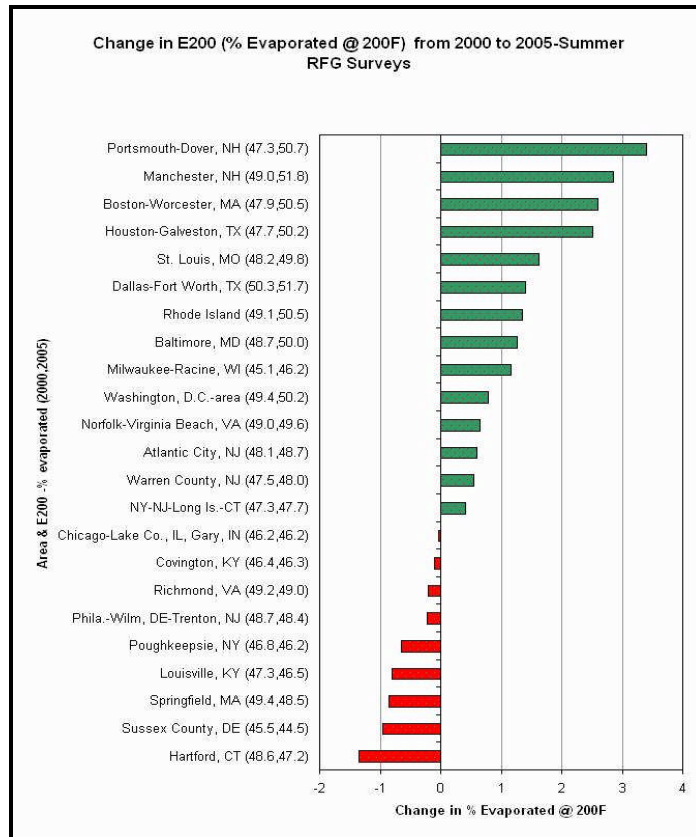


Figure 7

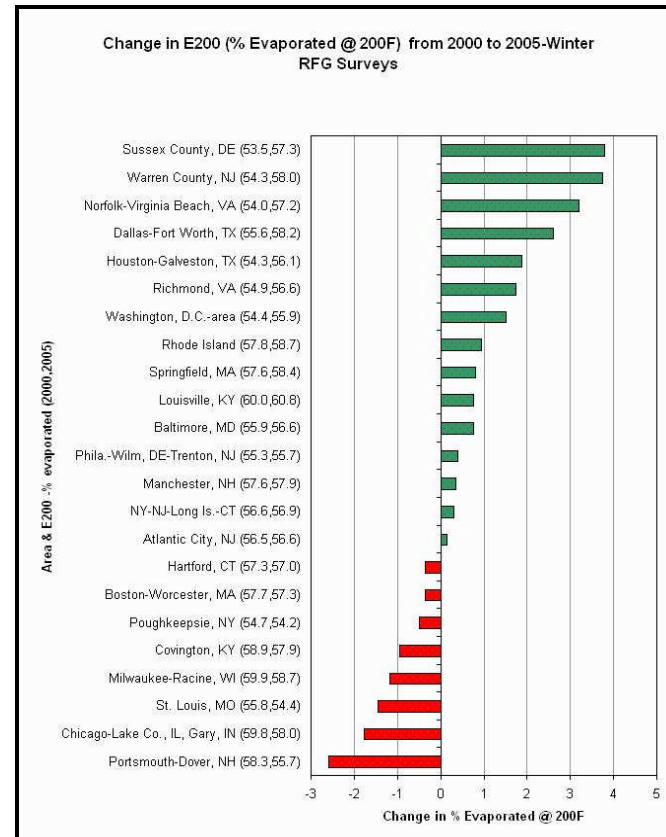


Figure 8

RFG E300 by Gasoline Volume

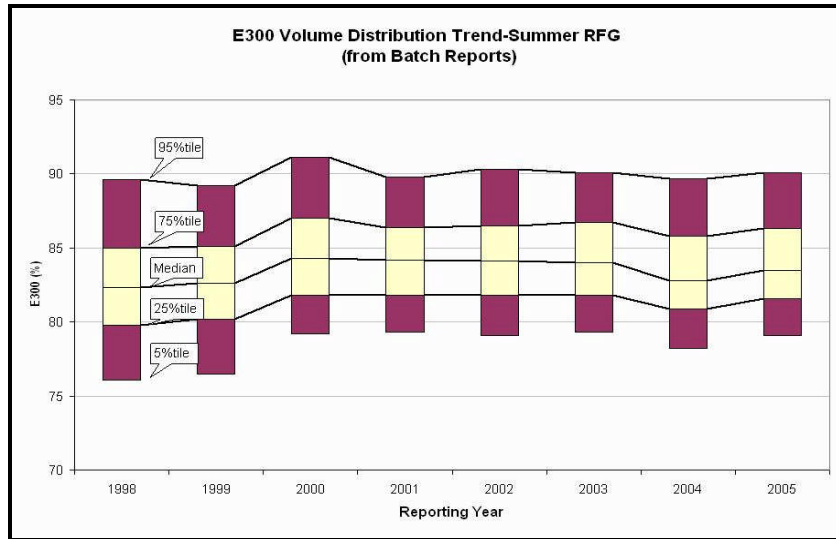


Figure 9

Summer RFG E300 (%) by Volume (from Batch Reports)

Volume %tile	Reporting Year							
	1998	1999	2000	2001	2002	2003	2004	2005
minimum	63.9	70.2	74.5	74.7	72.4	74.8	74.4	73.8
5%	76.1	76.5	79.2	79.3	79.1	79.3	78.2	79.1
10%	77.7	78.1	80.1	80.1	80.2	80.1	79.2	79.9
15%	78.6	79.0	80.8	80.7	80.8	80.7	79.8	80.5
20%	79.3	79.7	81.3	81.2	81.3	81.3	80.4	81.1
25%	79.8	80.2	81.8	81.8	81.8	81.8	80.9	81.6
30%	80.3	80.7	82.3	82.3	82.3	82.1	81.2	82.0
35%	80.8	81.2	82.8	82.8	82.7	82.5	81.6	82.4
40%	81.3	81.7	83.3	83.3	83.1	83.0	82.0	82.7
45%	81.8	82.2	83.8	83.8	83.6	83.5	82.4	83.1
50%	82.3	82.6	84.3	84.2	84.1	84.0	82.8	83.5
55%	82.7	83.1	84.9	84.7	84.6	84.5	83.3	83.9
60%	83.2	83.5	85.3	85.1	85.1	85.0	83.9	84.4
65%	83.8	84.0	85.8	85.5	85.5	85.6	84.5	85.0
70%	84.4	84.6	86.4	86.0	86.0	86.1	85.1	85.6
75%	85.0	85.1	87.0	86.4	86.5	86.7	85.8	86.3
80%	85.9	85.9	87.8	86.9	86.9	87.2	86.4	87.0
85%	86.7	86.7	88.6	87.6	87.7	88.0	87.3	87.9
90%	87.9	87.7	89.7	88.5	88.7	88.9	88.2	88.9
95%	89.6	89.2	91.1	89.8	90.3	90.1	89.7	90.1
100%	100.0	100.0	99.0	99.9	99.7	100.0	100.0	100.0
Volume (gal):	12,832,964,637	12,996,111,169	12,983,168,478	13,222,633,468	13,847,971,634	13,584,860,845	14,232,658,149	14,083,382,582

RFG E300 by Gasoline Volume (continued):

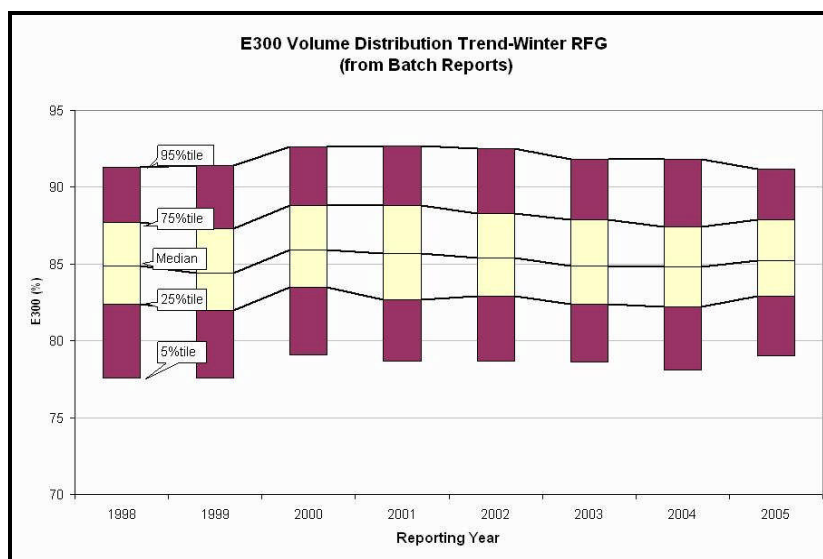


Figure 10

Winter RFG E300 (%) by Volume (from Batch Reports)

Reporting Year

Volume %tile	1998	1999	2000	2001	2002	2003	2004	2005
minimum	64.4	70.5	71.0	67.5	71.0	64.1	69.6	70.3
5%	77.6	77.6	79.1	78.7	78.7	78.6	78.1	79.0
10%	79.5	79.2	80.8	80.0	80.3	80.0	79.8	80.5
15%	80.8	80.4	81.9	81.2	81.4	81.0	80.8	81.5
20%	81.7	81.2	82.8	82.0	82.2	81.7	81.5	82.2
25%	82.4	82.0	83.5	82.7	82.9	82.4	82.2	82.9
30%	82.9	82.6	84.0	83.5	83.5	82.9	82.8	83.4
35%	83.3	83.1	84.5	84.0	84.0	83.5	83.3	83.8
40%	83.8	83.6	84.9	84.6	84.5	84.0	83.8	84.3
45%	84.3	84.0	85.4	85.1	85.0	84.5	84.3	84.7
50%	84.9	84.4	85.9	85.7	85.4	84.9	84.8	85.2
55%	85.4	84.9	86.5	86.2	85.8	85.4	85.3	85.7
60%	85.9	85.5	87.0	86.8	86.4	85.9	85.7	86.2
65%	86.5	86.0	87.5	87.5	87.0	86.6	86.2	86.7
70%	87.1	86.6	88.1	88.1	87.6	87.2	86.8	87.2
75%	87.7	87.3	88.8	88.8	88.3	87.9	87.4	87.9
80%	88.2	88.0	89.4	89.5	89.0	88.5	88.3	88.4
85%	88.9	88.8	90.2	90.3	90.1	89.3	89.1	89.2
90%	89.9	89.9	91.2	91.2	91.1	90.3	90.2	90.0
95%	91.3	91.4	92.6	92.7	92.5	91.8	91.8	91.2
100%	99.5	100.0	99.1	99.4	100.0	100.0	100.0	100.0
Volume (gal):	15,059,853,293	15,081,898,669	15,829,263,333	15,724,574,173	16,433,999,720	16,679,773,135	17,190,635,125	18,044,832,058

**RFG E300 by Gasoline Volume (continued):
(Cumulative Distributions for Latest Year Data)**

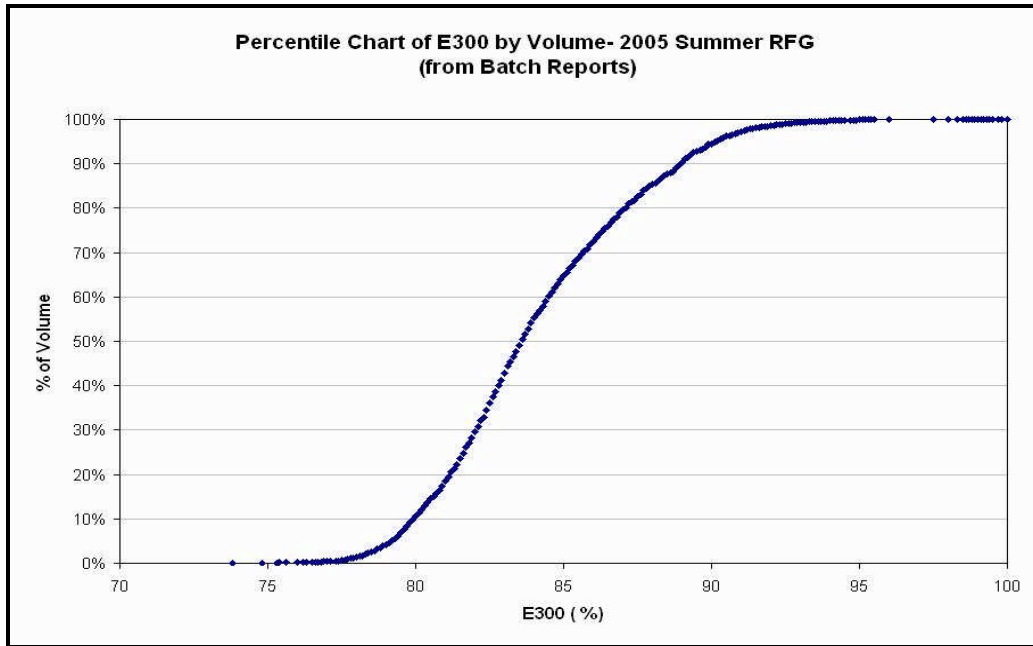


Figure 11

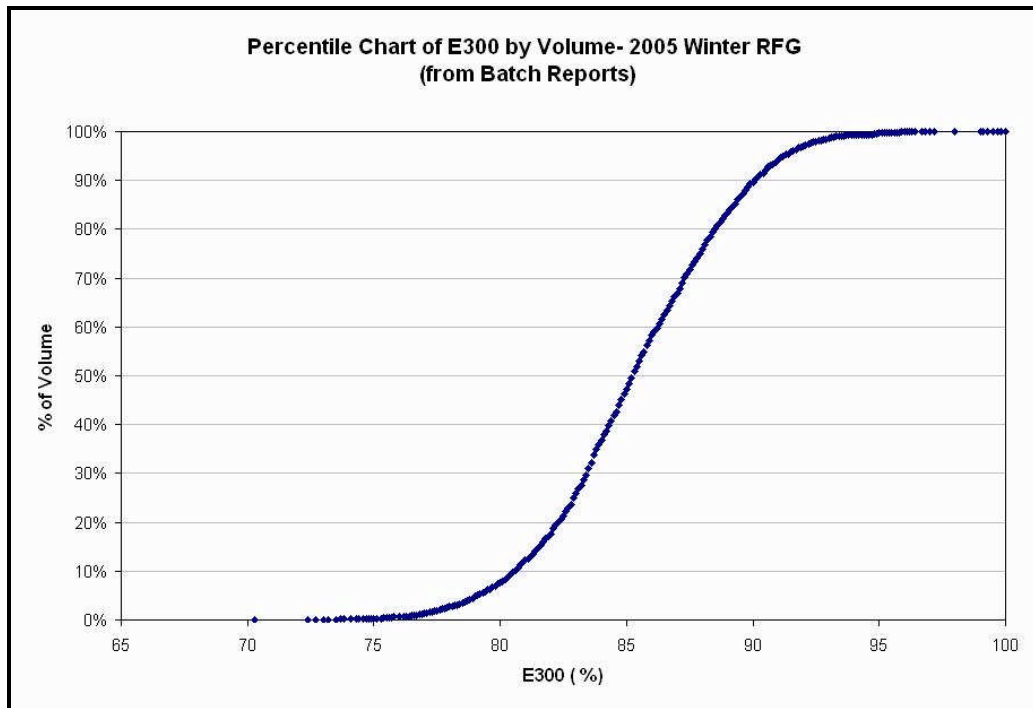


Figure 12

RFG E300 by Grade

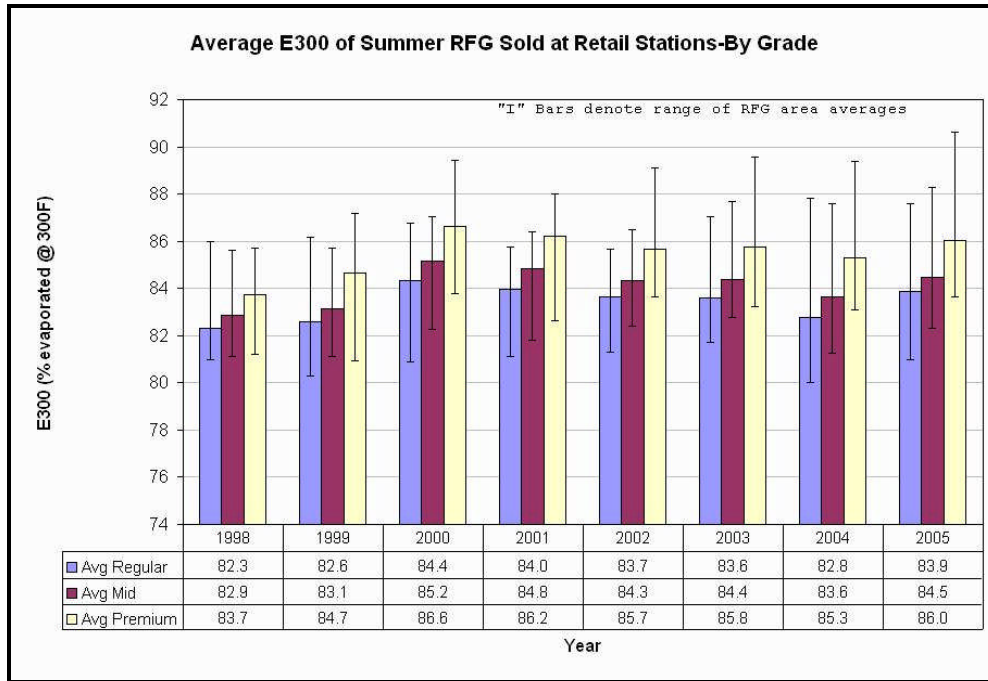


Figure 13

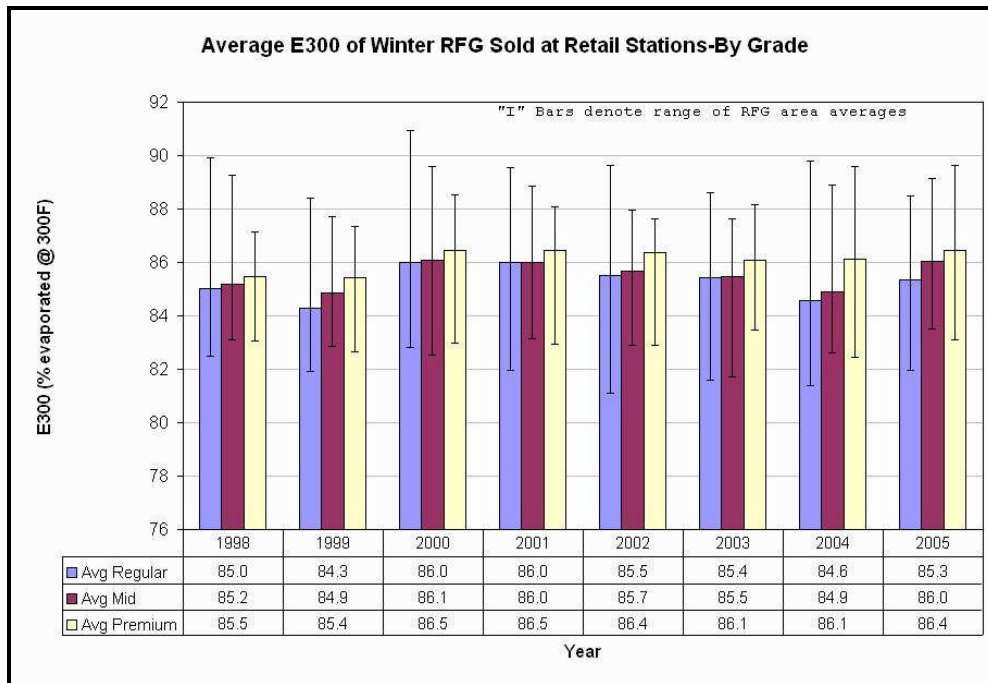


Figure 14

RFG E300 by Grade (continued):

			RFG Average E300 (%) and Volume (gal) by Year, Grade, and Season-From Reporting Data							
			Reporting Year							
Grade	Season	Data	1998	1999	2000	2001	2002	2003	2004	2005
PRM	s	Average	83.70	84.14	86.85	86.27	85.86	86.42	85.62	86.05
		Volume	3,649,195,434	3,537,723,033	2,788,564,977	2,773,110,841	2,931,886,907	2,736,973,386	2,385,535,898	2,144,095,101
	w	Average	85.23	85.72	86.96	86.22	86.99	86.15	86.31	86.68
		Volume	4,139,316,745	3,839,207,618	3,420,180,881	3,301,129,239	3,387,457,520	3,103,333,727	2,943,555,811	2,583,694,635
REG	s	Average	82.16	82.38	84.09	83.85	83.98	83.87	82.97	83.72
		Volume	9,007,552,063	9,320,974,363	10,122,448,765	10,389,949,614	10,879,031,865	10,824,904,975	11,783,350,501	11,881,795,879
	w	Average	84.79	84.24	85.85	85.65	85.11	84.91	84.67	85.12
		Volume	10,638,539,349	10,902,774,956	12,246,078,983	12,307,517,794	13,031,122,001	13,486,978,064	14,160,927,780	15,422,172,055

Users of these grade-specific property estimates calculated from RFG and Anti-Dumping data should be aware that grade-specific estimates based on reporting data may differ from actual retail property values by grade. Although aggregate estimates from the reporting system may also differ from actual retail property values, there are several additional reasons why these grade-specific estimates may differ. Mid-grade gasoline is often blended from regular and premium gasoline at some point downstream of the refinery. Thus, some of the gasoline volume reported and included in these tables as regular or premium would be marketed as mid-grade. Additionally, EPA's grade-specific average analysis excludes some gasoline and blendstock that was included in aggregate average estimates. EPA has presented averages for batches labeled as regular and premium gasoline only; excluding batches labeled as mid-grade (since these batches may not be a representative sample of gasoline marketed as mid-grade), mix of grades, or without a grade label. EPA also excluded CG blendstock batches from grade-specific analyses even if they had a grade designation.

The table shows the total volume, in gallons, for the batches used to calculate each grade average. In part, because of factors discussed above these volumes are not expected to represent the actual volumes by grade of retail gasoline.

RFG E300 Geographic

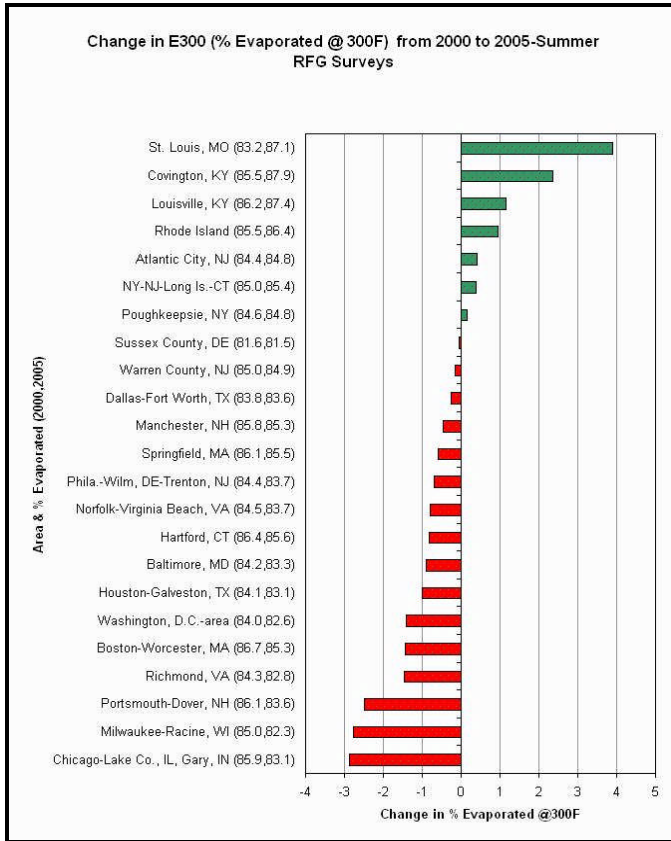


Figure 17

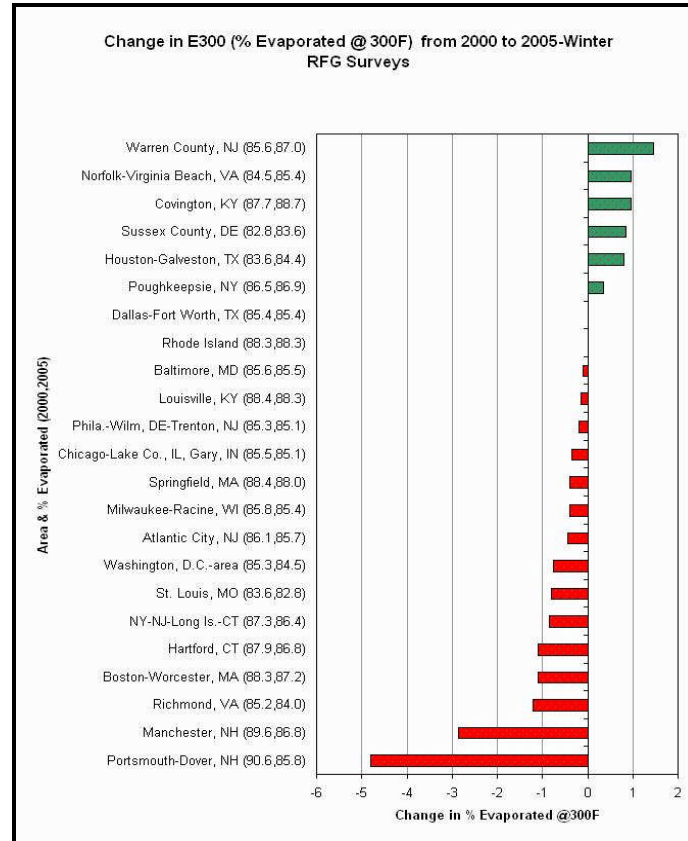


Figure 18

RFG T50 Geographic

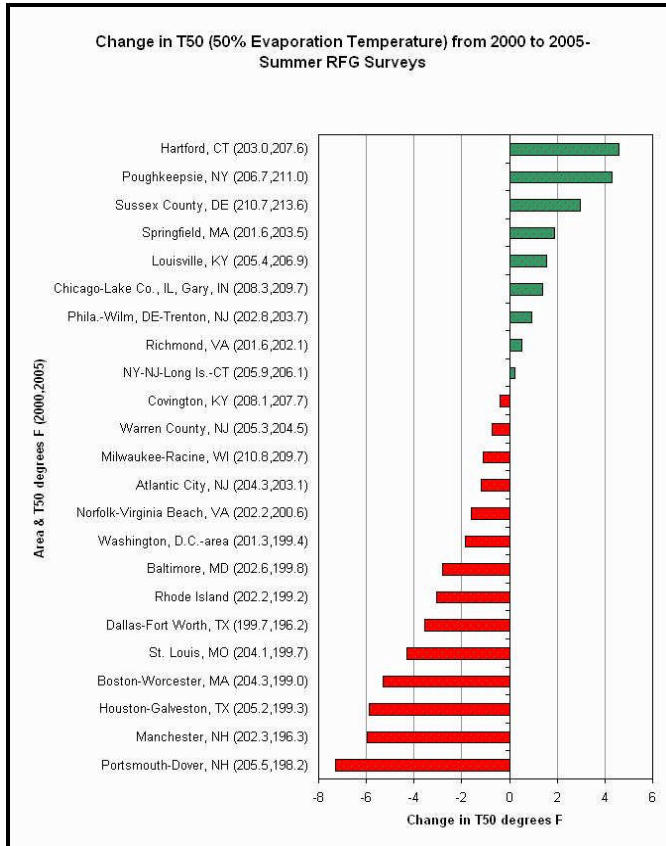


Figure 19

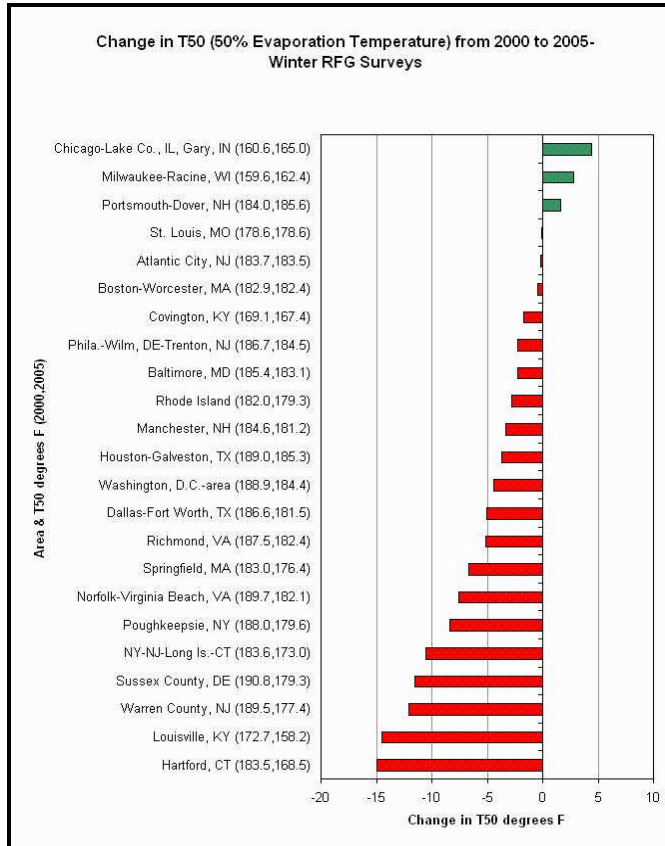


Figure 20

RFG T90 Geographic

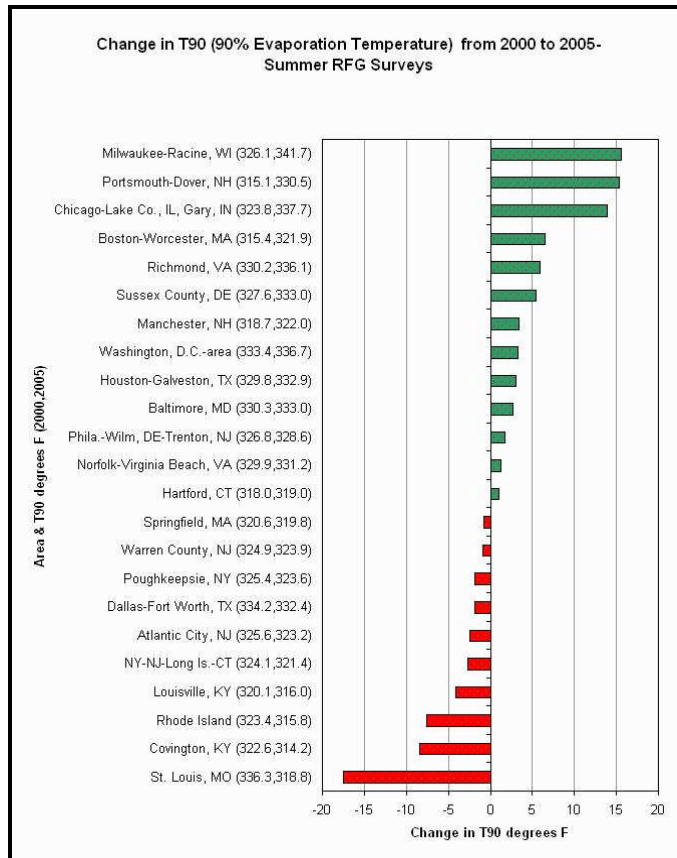


Figure 21

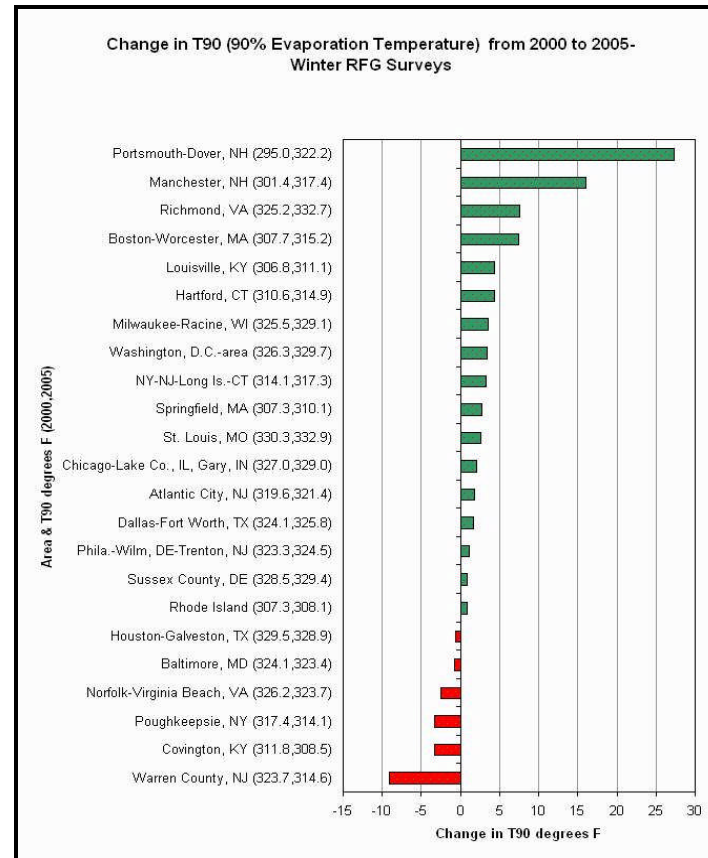


Figure 22

Conventional Gasoline

CG E200 by Gasoline Volume

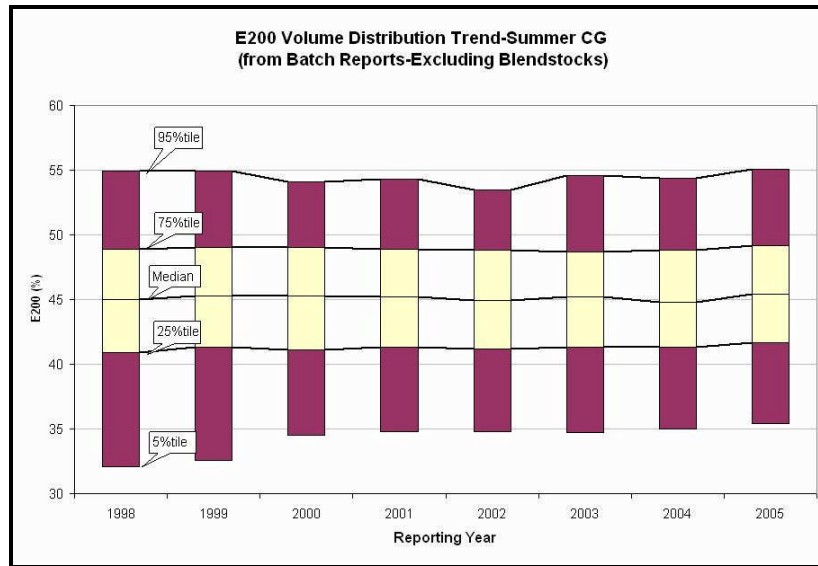


Figure 23

Summer CG E200 (%) by Volume (from Batch Reports excluding Blendstocks)

Reporting Year

Volume %tile	1998	1999	2000	2001	2002	2003	2004	2005
minimum	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0
5%	32.1	32.6	34.5	34.8	34.8	34.7	35.0	35.4
10%	35.4	36.0	37.3	37.7	37.6	37.4	37.7	38.1
15%	37.8	38.5	38.9	39.3	39.1	39.0	39.2	39.6
20%	39.6	40.0	40.0	40.4	40.3	40.3	40.3	40.7
25%	40.9	41.3	41.1	41.3	41.2	41.3	41.3	41.7
30%	41.9	42.2	42.2	42.1	42.1	42.2	42.1	42.5
35%	42.9	43.1	43.1	42.9	42.8	43.0	42.8	43.3
40%	43.5	43.9	43.8	43.7	43.5	43.8	43.5	44.0
45%	44.3	44.6	44.6	44.4	44.2	44.5	44.2	44.7
50%	45.0	45.3	45.3	45.2	44.9	45.2	44.8	45.4
55%	45.8	46.0	45.9	45.9	45.6	45.9	45.5	46.1
60%	46.4	46.6	46.7	46.5	46.2	46.5	46.3	46.9
65%	47.2	47.3	47.4	47.2	47.0	47.2	46.9	47.6
70%	47.9	48.2	48.1	47.9	47.9	47.9	47.8	48.4
75%	48.9	49.0	49.0	48.9	48.8	48.7	48.8	49.2
80%	50.0	50.0	49.8	49.9	49.7	49.6	49.8	50.2
85%	51.3	51.4	50.9	50.9	50.5	50.9	50.9	51.5
90%	52.9	52.7	52.1	52.4	51.6	52.3	52.5	53.1
95%	54.9	54.9	54.1	54.3	53.5	54.6	54.4	55.1
100%	68.9	76.0	64.6	69.8	76.4	76.8	73.5	67.0
Volume (gal):	39,086,644,042	37,192,967,557	36,389,951,364	38,542,457,289	40,819,234,602	43,243,575,045	43,509,104,037	42,196,228,805

CG E200 by Gasoline Volume (continued):

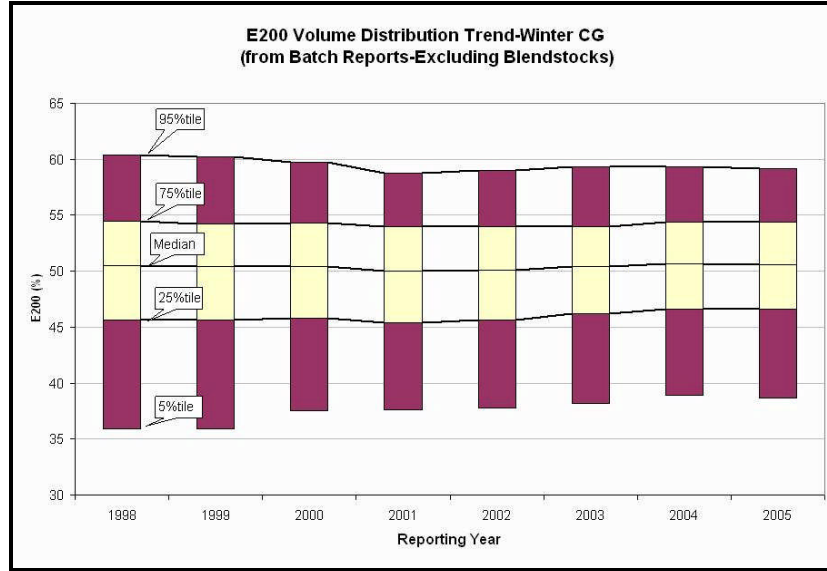


Figure 24

Winter CG E200 (%) by Volume (from Batch Reports Excluding Blendstocks)

Volume %tile	Reporting Year							
	1998	1999	2000	2001	2002	2003	2004	2005
minimum	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0
5%	35.90	35.90	37.50	37.60	37.80	38.20	38.90	38.70
10%	39.10	39.40	40.90	40.50	41.30	41.50	42.10	41.90
15%	41.70	42.10	43.10	42.70	43.00	43.60	43.90	43.90
20%	44.00	44.20	44.70	44.20	44.50	45.00	45.40	45.40
25%	45.60	45.60	45.80	45.40	45.60	46.20	46.60	46.60
30%	46.90	46.80	47.00	46.50	46.60	47.10	47.50	47.50
35%	47.90	47.90	48.00	47.50	47.60	48.10	48.40	48.40
40%	48.90	48.80	48.90	48.40	48.50	48.80	49.20	49.10
45%	49.70	49.60	49.70	49.20	49.30	49.70	49.90	49.90
50%	50.50	50.40	50.40	50.00	50.10	50.40	50.70	50.60
55%	51.20	51.30	51.20	50.80	50.90	51.10	51.40	51.40
60%	51.90	51.90	51.90	51.60	51.60	51.80	52.00	52.10
65%	52.60	52.60	52.70	52.30	52.30	52.40	52.70	52.90
70%	53.50	53.40	53.50	53.10	53.20	53.20	53.50	53.60
75%	54.50	54.20	54.30	54.00	54.00	54.00	54.40	54.40
80%	55.60	55.30	55.20	54.80	55.00	55.10	55.30	55.40
85%	56.70	56.50	56.40	55.90	56.00	56.00	56.30	56.30
90%	58.10	57.90	57.80	57.20	57.40	57.30	57.50	57.40
95%	60.40	60.20	59.70	58.80	59.00	59.30	59.30	59.20
100%	75.50	75.50	76.30	76.90	75.90	75.40	76.80	73.60
Volume (gal):	46,293,637,987	47,701,715,605	48,030,024,114	48,810,395,817	49,655,135,030	47,469,723,098	47,654,973,148	48,705,329,856

**CG E200 by Gasoline Volume (continued):
(Cumulative Distributions for Latest Year Data)**

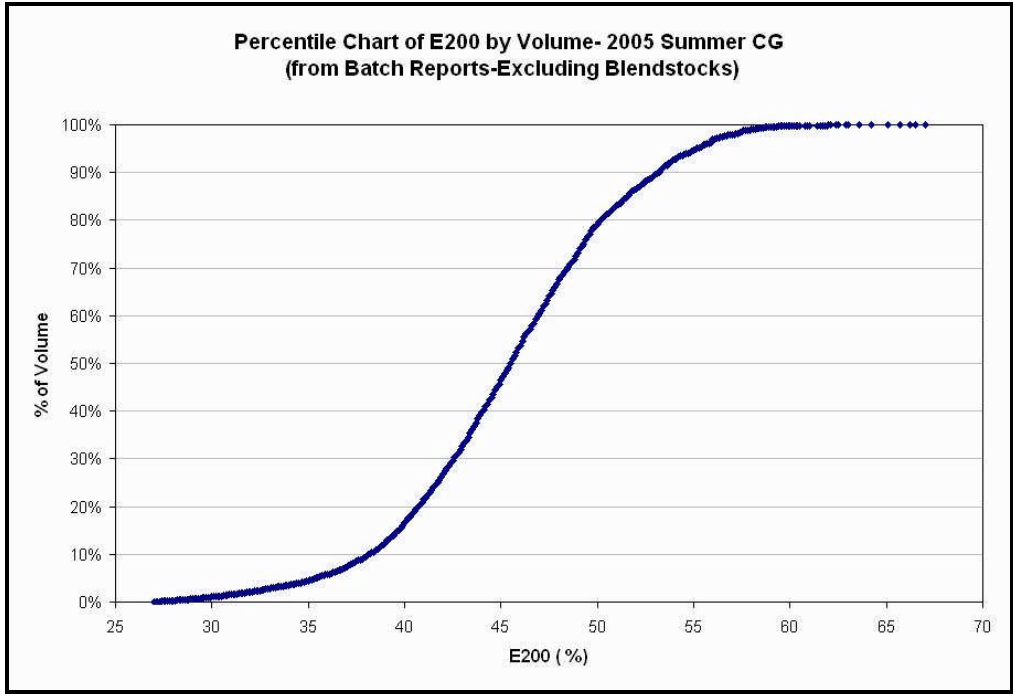


Figure 25

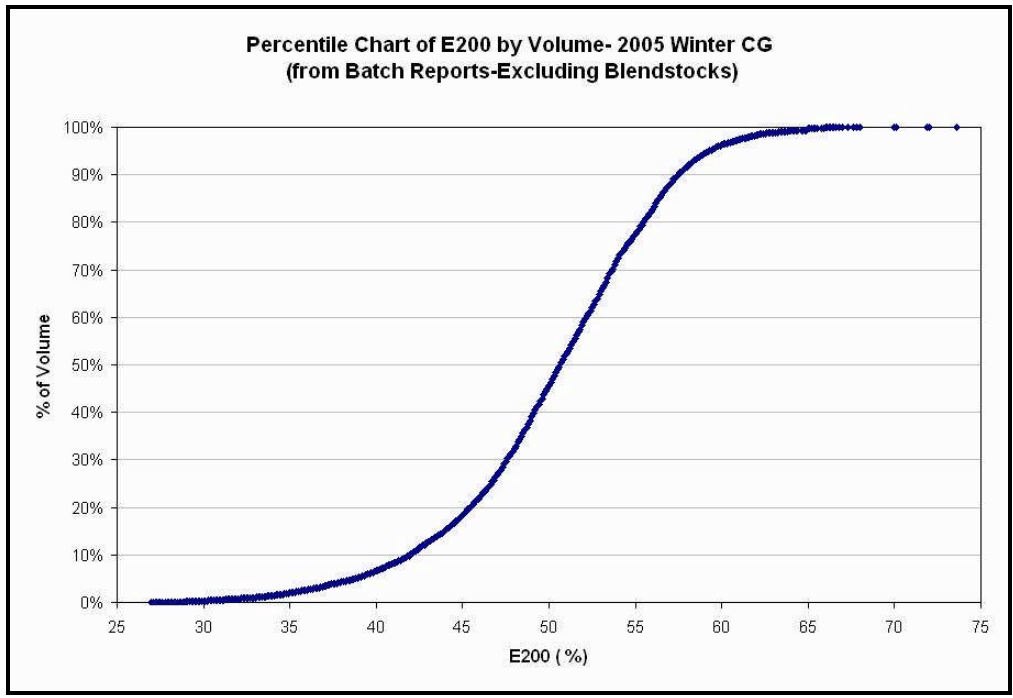


Figure 26

CG E200 (by Grade)

CG Average E200 (%) and Volume (gal) by Year, Grade and Season –From Reporting Data										
Grade	Season	Data	Reporting Year							
			1998	1999	2000	2001	2002	2003	2004	2005
PRM	s	Average	36.7	37.9	37.8	38.1	37.4	37.8	37.8	37.2
		Volume	6,635,803,305	6,252,416,423	4,957,386,104	4,996,778,324	5,181,939,065	5,149,486,549	4,635,507,910	4,138,979,931
	w	Average	40.5	40.7	41.2	41.2	41.1	41.4	42.1	41.1
		Volume	8,233,390,519	7,690,219,372	6,648,441,003	6,555,892,276	6,571,003,043	5,517,761,736	5,077,869,493	4,510,104,837
REG	s	Average	46.3	46.6	46.0	46.1	45.9	46.1	45.8	46.3
		Volume	28,418,412,132	26,656,367,421	27,360,707,607	28,965,019,123	30,995,888,528	33,053,399,345	34,601,650,558	33,851,903,439
	w	Average	51.9	51.6	51.4	50.7	51.0	51.0	51.1	50.9
		Volume	32,177,203,389	33,356,627,836	35,199,495,331	35,941,182,455	36,931,713,041	35,949,009,293	37,504,775,826	39,123,690,864

Users of these grade-specific property estimates calculated from RFG and Anti-Dumping data should be aware that grade-specific estimates based on reporting data may differ from actual retail property values by grade. Although aggregate estimates from the reporting system may also differ from actual retail property values, there are several additional reasons why these grade-specific estimates may differ. Mid-grade gasoline is often blended from regular and premium gasoline at some point downstream of the refinery. Thus, some of the gasoline volume reported and included in these tables as regular or premium would be marketed as mid-grade. Additionally, EPA's grade-specific average analysis excludes some gasoline and blendstock that was included in aggregate average estimates. EPA has presented averages for batches labeled as regular and premium gasoline only; excluding batches labeled as mid-grade (since these batches may not be a representative sample of gasoline marketed as mid-grade), mix of grades, or without a grade label. EPA also excluded CG blendstock batches from grade-specific analyses even if they had a grade designation.

The table shows the total volume, in gallons, for the batches used to calculate each grade average. In part, because of factors discussed above these volumes are not expected to represent the actual volumes by grade of retail gasoline.

CG E300 by Gasoline Volume

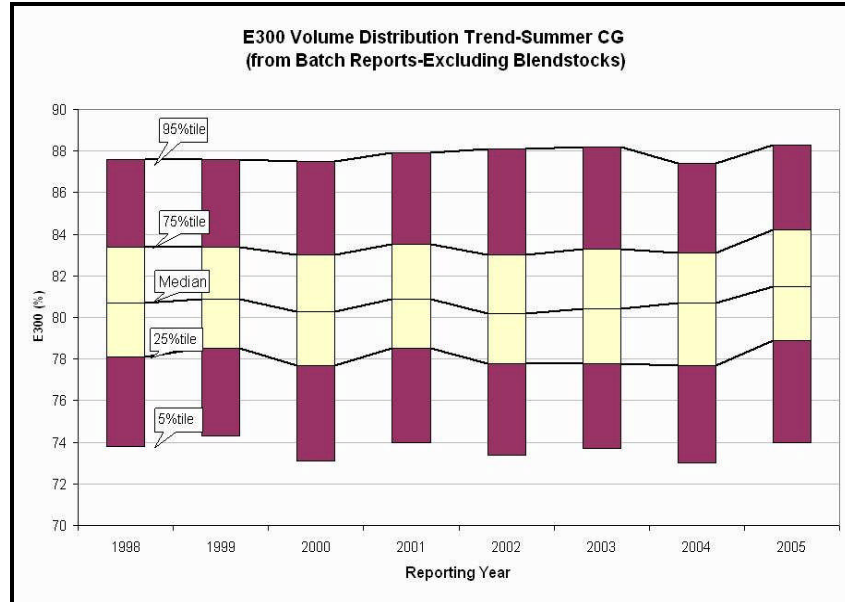


Figure 27

Summer CG E300 (%) by Volume (from Batch Reports Excluding Blendstocks)

Reporting Year	1998	1999	2000	2001	2002	2003	2004	2005
Volume %tile								
minimum	63.2	63.0	63.1	63.0	63.1	64.4	64.5	63.6
5%	73.8	74.3	73.1	74.0	73.4	73.7	73.0	74.0
10%	75.4	75.9	74.9	75.8	75.0	75.3	74.8	75.7
15%	76.5	77.1	76.1	77.0	76.2	76.3	76.1	77.0
20%	77.4	77.9	77.0	77.9	77.1	77.1	77.0	78.1
25%	78.1	78.5	77.7	78.5	77.8	77.8	77.7	78.9
30%	78.6	78.9	78.4	79.0	78.3	78.4	78.4	79.5
35%	79.2	79.4	78.9	79.5	78.8	78.9	79.0	80.0
40%	79.7	79.9	79.4	79.9	79.3	79.5	79.6	80.5
45%	80.2	80.4	79.8	80.4	79.8	80.0	80.1	81.0
50%	80.7	80.9	80.3	80.9	80.2	80.4	80.7	81.5
55%	81.1	81.4	80.8	81.2	80.8	80.8	81.2	82.0
60%	81.6	81.8	81.3	81.7	81.3	81.4	81.7	82.5
65%	82.1	82.3	81.9	82.3	81.8	82.1	82.1	83.1
70%	82.8	82.8	82.4	82.9	82.3	82.7	82.6	83.6
75%	83.4	83.4	83.0	83.5	83.0	83.3	83.1	84.2
80%	84.0	84.0	83.7	84.2	83.8	84.0	83.8	84.9
85%	84.9	84.8	84.6	84.9	84.8	84.9	84.7	85.6
90%	85.9	85.9	85.7	85.9	85.9	86.1	85.8	86.8
95%	87.6	87.6	87.5	87.9	88.1	88.2	87.4	88.3
100%	100.0	98.6	98.2	100.0	99.4	98.3	98.2	100.0

Volume (gal): 39,086,644,042 37,192,967,557 36,389,951,364 38,542,457,289 40,819,234,602 43,243,575,045 43,509,104,037 42,196,228,805

CG E300 by Gasoline Volume (continued):

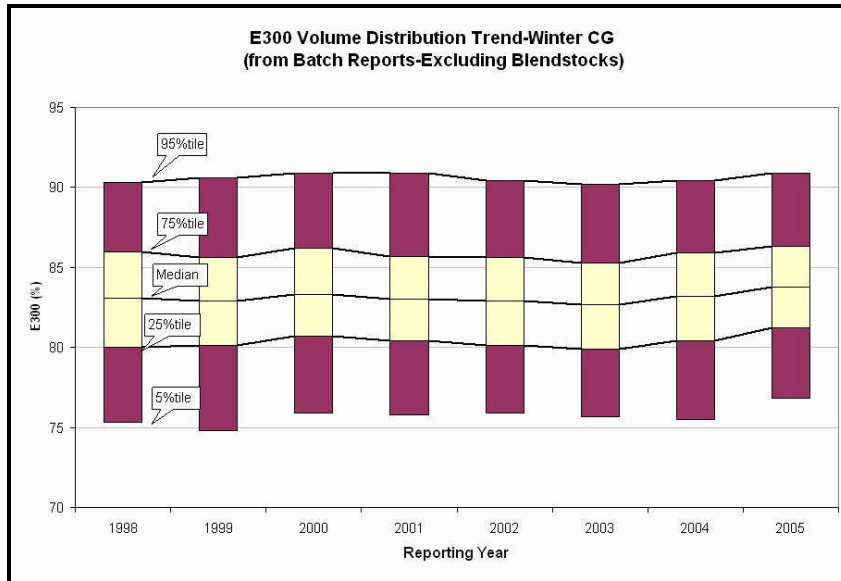


Figure 28

Winter CG E300(%) by Volume (from Batch Reports Excluding Blendstocks)

Reporting Year

Volume %tile	1998	1999	2000	2001	2002	2003	2004	2005
minimum	63.4	63.4	63.4	63.4	63.4	63.4	63.4	63.4
5%	75.3	74.8	75.9	75.8	75.9	75.7	75.5	76.8
10%	77.0	77.0	77.8	77.6	77.6	77.3	77.2	78.5
15%	78.3	78.4	79.2	78.9	78.6	78.3	78.6	79.7
20%	79.2	79.3	80.0	79.7	79.4	79.2	79.6	80.5
25%	80.0	80.1	80.7	80.4	80.1	79.9	80.4	81.2
30%	80.7	80.7	81.3	81.0	80.8	80.5	81.1	81.8
35%	81.4	81.3	81.8	81.5	81.4	81.1	81.7	82.4
40%	82.0	81.8	82.4	82.0	81.9	81.7	82.2	82.9
45%	82.6	82.3	82.8	82.5	82.4	82.1	82.8	83.3
50%	83.1	82.9	83.3	83.0	82.9	82.7	83.2	83.8
55%	83.7	83.3	83.8	83.5	83.5	83.2	83.7	84.2
60%	84.2	83.9	84.4	83.9	84.0	83.7	84.2	84.7
65%	84.8	84.4	84.9	84.5	84.5	84.1	84.7	85.2
70%	85.4	85.0	85.5	85.1	85.1	84.7	85.3	85.7
75%	86.0	85.6	86.2	85.7	85.6	85.3	85.9	86.3
80%	86.8	86.4	86.9	86.4	86.4	86.0	86.6	87.1
85%	87.7	87.4	87.9	87.4	87.2	87.0	87.6	88.1
90%	88.7	88.6	89.0	88.7	88.5	88.2	88.8	89.2
95%	90.3	90.6	90.9	90.9	90.4	90.2	90.4	90.9
100%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Volume (gal): 46,293,637,987 47,701,715,605 48,030,024,114 48,810,395,817 49,655,135,030 47,469,723,098 47,654,973,148 48,705,329,856

**CG E300 by Gasoline Volume (continued):
(Cumulative Distributions for Latest Year Data)**

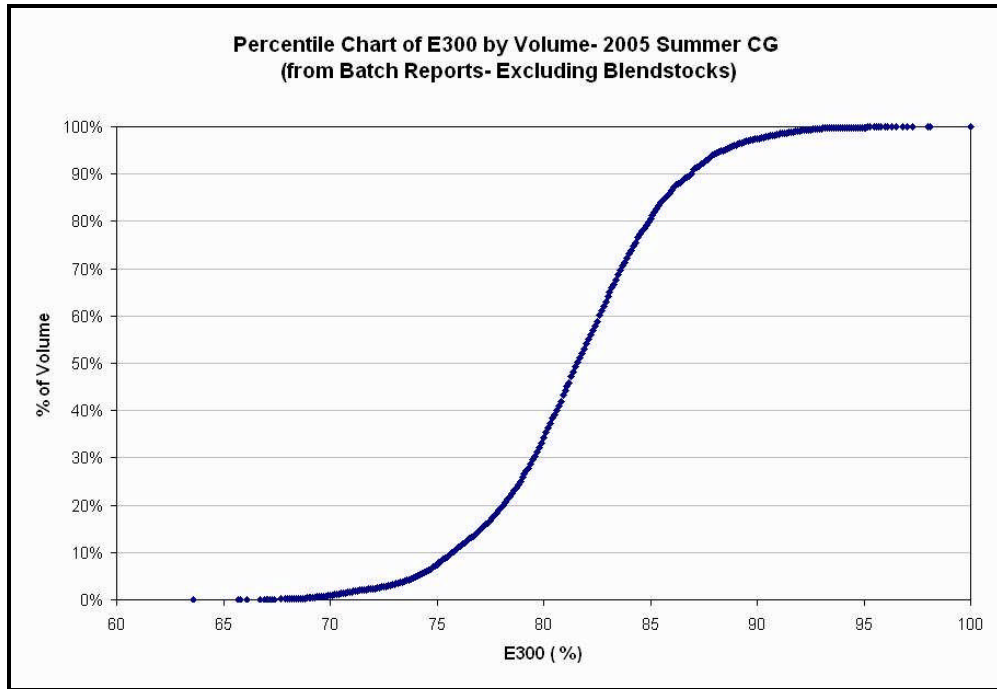


Figure 29

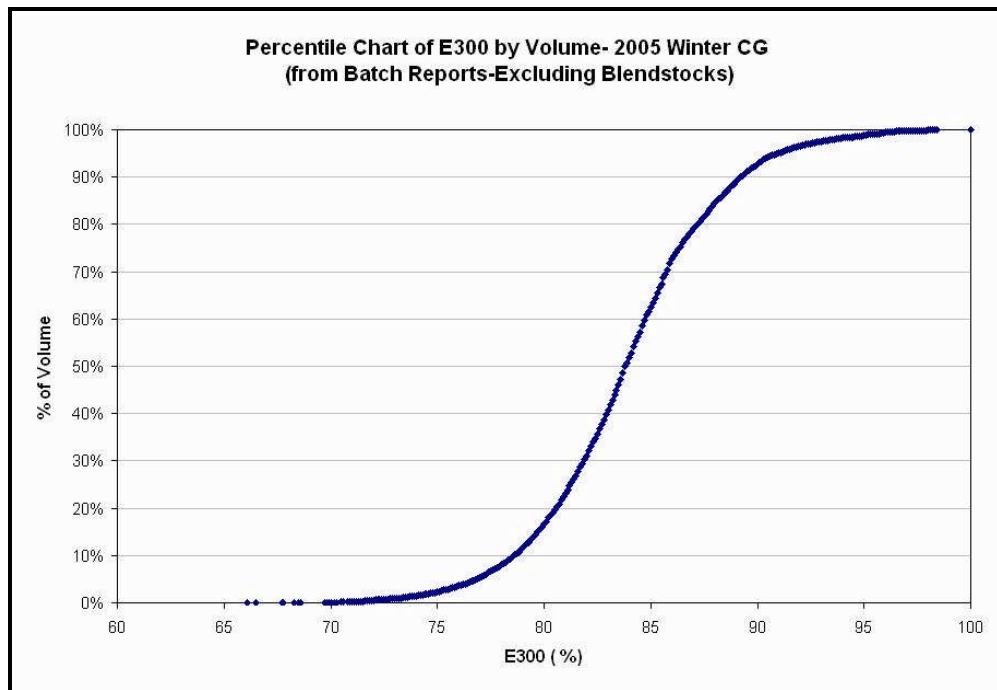


Figure 30

CG E300 by Grade

CG Average E300 (%) and Volume (gal) by Year, Grade and Season-From Reporting Data											
Grade	Season	Data	Reporting Year								
			1998	1999	2000	2001	2002	2003	2004	2005	
PRM	s	Average	81.9	82.4	81.6	83.2	82.1	82.8	82.4	83.2	
		Volume	6,635,803,305	6,252,416,423	4,957,386,104	4,996,778,324	5,181,939,065	5,149,486,549	4,635,507,910	4,138,979,931	
	w	Average	83.6	83.6	84.2	83.7	84.0	83.7	83.5	85.2	
		Volume	8,233,390,519	7,690,219,372	6,648,441,003	6,555,892,276	6,571,003,043	5,517,761,736	5,077,869,493	4,510,104,837	
REG	s	Average	80.5	80.7	80.0	80.5	80.1	80.2	80.2	81.2	
		Volume	28,418,412,132	26,656,367,421	27,360,707,607	28,965,019,123	30,995,888,528	33,053,399,345	34,601,650,558	33,851,903,439	
	w	Average	82.9	82.8	83.2	82.9	82.8	82.5	82.9	83.6	
		Volume	32,177,203,389	33,356,627,836	35,199,495,331	35,941,182,455	36,931,713,041	35,949,009,293	37,504,775,826	39,123,690,864	

Users of these grade-specific property estimates calculated from RFG and Anti-Dumping data should be aware that grade-specific estimates based on reporting data may differ from actual retail property values by grade. Although aggregate estimates from the reporting system may also differ from actual retail property values, there are several additional reasons why these grade-specific estimates may differ. Mid-grade gasoline is often blended from regular and premium gasoline at some point downstream of the refinery. Thus, some of the gasoline volume reported and included in these tables as regular or premium would be marketed as mid-grade. Additionally, EPA's grade-specific average analysis excludes some gasoline and blendstock that was included in aggregate average estimates. EPA has presented averages for batches labeled as regular and premium gasoline only; excluding batches labeled as mid-grade (since these batches may not be a representative sample of gasoline marketed as mid-grade), mix of grades, or without a grade label. EPA also excluded CG blendstock batches from grade-specific analyses even if they had a grade designation.

The table shows the total volume, in gallons, for the batches used to calculate each grade average. In part, because of factors discussed above these volumes are not expected to represent the actual volumes by grade of retail gasoline.

Appendix to Emissions and Emissions Performance Chapter

RFG VOC Performance by Gasoline Volume

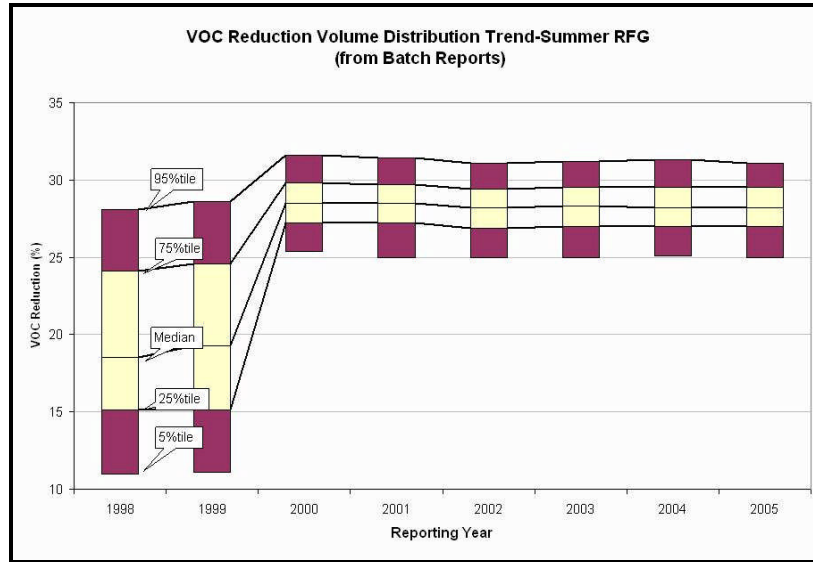


Figure 1

Summer RFG VOC Reduction (%) by Volume (from Batch Reports)

Reporting Year

Volume %tile	1998	1999	2000	2001	2002	2003	2004	2005
minimum	-5.7	-2.7	21.9	21.4	20.2	21.7	21.5	22.2
5%	11.0	11.1	25.4	25.0	25.0	25.0	25.1	25.0
10%	12.5	12.6	26.1	25.8	25.7	25.8	25.7	25.7
15%	13.6	13.6	26.6	26.4	26.2	26.2	26.2	26.2
20%	14.4	14.4	27.0	26.8	26.6	26.6	26.6	26.5
25%	15.1	15.1	27.2	27.2	26.9	27.0	27.0	27.0
30%	15.7	16.0	27.5	27.5	27.2	27.3	27.3	27.3
35%	16.4	16.8	27.8	27.8	27.5	27.5	27.5	27.6
40%	17.1	17.5	28.0	28.0	27.7	27.8	27.8	27.8
45%	17.7	18.4	28.2	28.3	28.0	28.1	28.0	28.0
50%	18.5	19.3	28.5	28.5	28.2	28.3	28.2	28.2
55%	19.4	20.4	28.7	28.8	28.5	28.5	28.5	28.5
60%	20.4	21.4	29.0	29.0	28.7	28.8	28.7	28.7
65%	21.5	22.5	29.3	29.2	28.9	29.0	29.0	29.0
70%	22.8	23.4	29.5	29.5	29.1	29.3	29.2	29.2
75%	24.1	24.6	29.8	29.7	29.4	29.5	29.5	29.5
80%	25.0	25.6	30.1	30.0	29.7	29.8	29.8	29.8
85%	26.0	26.5	30.5	30.4	30.1	30.1	30.1	30.1
90%	27.0	27.4	30.9	30.8	30.5	30.5	30.6	30.5
95%	28.1	28.6	31.6	31.4	31.1	31.2	31.3	31.1
100%	35.2	33.3	33.9	33.6	33.6	34.8	34.4	33.6
Volume (gal):	12,551,351,739	12,605,647,535	12,924,625,994	13,215,304,396	13,838,063,327	13,583,809,485	14,230,001,733	14,070,501,006

**RFG VOC Performance by Gasoline Volume (continued):
(Cumulative Distribution for Latest Year Data)**

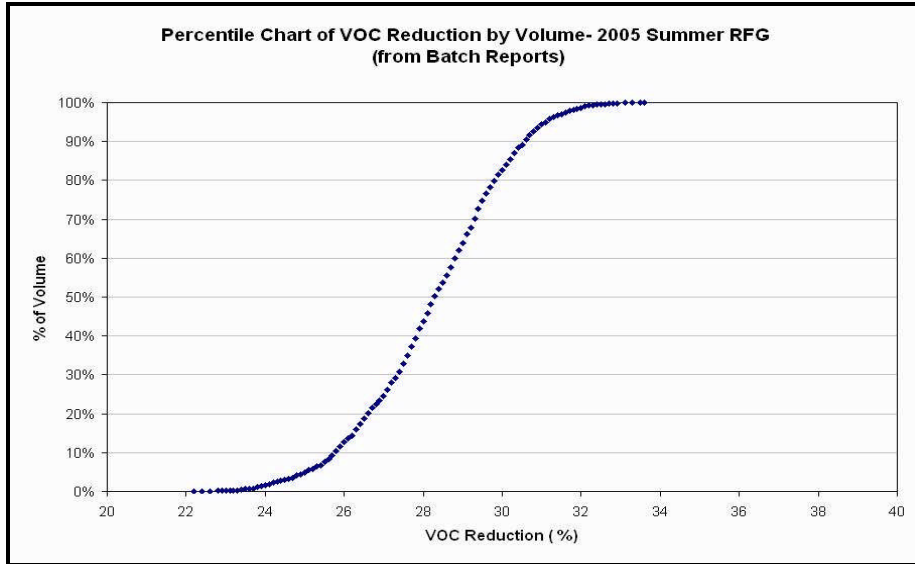


Figure 2

**RFG VOC Performance by Gasoline Volume (continued):
(Batches separated by VOC control region designation)**

Region 1 Summer RFG VOC Reduction (%) by Volume (from Batch Reports)						
	Reporting Year					
Volume %tile	2000	2001	2002	2003	2004	2005
minimum	24.3	24.0	24.6	23.6	25.0	25.1
5%	27.0	26.9	27.0	26.9	26.9	27.2
10%	27.5	27.5	27.3	27.4	27.3	27.6
15%	27.9	27.8	27.6	27.8	27.6	27.9
20%	28.1	28.1	27.9	28.1	27.9	28.1
25%	28.4	28.4	28.2	28.4	28.1	28.4
30%	28.7	28.6	28.5	28.6	28.3	28.6
35%	29.0	28.8	28.6	28.8	28.6	28.8
40%	29.1	29.0	28.8	29.0	28.8	29.0
45%	29.3	29.1	29.0	29.2	29.0	29.2
50%	29.5	29.3	29.2	29.4	29.2	29.3
55%	29.7	29.5	29.4	29.5	29.4	29.5
60%	29.9	29.7	29.6	29.7	29.6	29.6
65%	30.1	29.9	29.8	29.9	29.8	29.8
70%	30.3	30.2	30.0	30.1	30.0	30.1
75%	30.6	30.4	30.2	30.3	30.3	30.2
80%	30.8	30.7	30.5	30.5	30.5	30.5
85%	31.1	31.0	30.7	30.8	30.8	30.7
90%	31.5	31.3	31.1	31.1	31.3	31.0
95%	32.1	31.8	31.6	31.6	31.9	31.6
100%	33.9	33.6	33.6	34.8	34.4	33.6
Volume (gal):	5,710,929,463	5,909,480,958	6,017,416,713	6,095,268,147	6,329,701,695	5,983,085,189

Region 2 "Unadjusted Standard" Summer RFG VOC Reduction (%) by Volume (from Batch Reports)

Volume %tile	Reporting Year					
	2000	2001	2002	2003	2004	2005
minimum	21.9	22.2	23.4	23.4	23.4	23.3
5%	24.8	25.2	25.3	25.5	25.3	25.0
10%	25.6	25.9	25.9	26.0	25.8	25.8
15%	26.0	26.3	26.2	26.3	26.2	26.2
20%	26.4	26.7	26.5	26.5	26.4	26.4
25%	26.6	27.0	26.7	26.8	26.7	26.8
30%	26.9	27.3	26.9	27.0	27.0	27.0
35%	27.1	27.5	27.2	27.2	27.3	27.2
40%	27.3	27.7	27.3	27.4	27.4	27.4
45%	27.5	27.9	27.5	27.6	27.6	27.6
50%	27.7	28.1	27.7	27.8	27.8	27.7
55%	27.9	28.3	27.9	27.9	28.0	27.8
60%	28.1	28.6	28.1	28.1	28.2	28.1
65%	28.3	28.7	28.3	28.3	28.4	28.2
70%	28.5	29.0	28.5	28.5	28.6	28.5
75%	28.7	29.3	28.8	28.7	28.8	28.7
80%	29.0	29.5	29.0	29.0	29.0	29.0
85%	29.4	29.8	29.3	29.2	29.3	29.3
90%	29.9	30.1	29.6	29.6	29.7	29.7
95%	30.7	30.6	30.1	30.0	30.2	30.2
100%	33.9	32.8	32.6	33.6	33.1	32.6
Volume(gal):	7,213,696,531	5,680,076,425	6,070,322,689	5,978,921,094	6,160,483,137	6,247,759,799

Region 2-"Adjusted VOC" Summer RFG VOC Reduction (%) by Volume (from Batch Reports)

Volume %tile	Reporting Year					
	2000	2001	2002	2003	2004	2005
minimum	N/A	21.4	20.2	21.7	21.5	22.2
5%	N/A	23.1	23.0	23.5	24.2	23.8
10%	N/A	23.9	23.7	24.1	24.4	24.3
15%	N/A	24.2	24.0	24.4	24.6	24.7
20%	N/A	24.6	24.4	24.6	24.7	24.9
25%	N/A	24.9	24.8	24.8	24.9	25.1
30%	N/A	25.1	25.0	25.0	25.1	25.2
35%	N/A	25.4	25.1	25.1	25.3	25.5
40%	N/A	25.6	25.4	25.3	25.4	25.6
45%	N/A	25.8	25.6	25.4	25.5	25.7
50%	N/A	26.0	25.7	25.6	25.6	25.9
55%	N/A	26.3	25.9	25.7	25.8	26.0
60%	N/A	26.5	26.1	25.9	26.0	26.2
65%	N/A	26.7	26.4	26.1	26.2	26.3
70%	N/A	26.8	26.6	26.2	26.4	26.5
75%	N/A	27.0	26.8	26.5	26.8	26.6
80%	N/A	27.3	27.1	26.7	26.9	26.9
85%	N/A	27.6	27.5	27.0	27.4	27.7
90%	N/A	27.9	27.9	27.2	27.9	28.4
95%	N/A	28.4	28.6	27.7	28.7	29.3
100%	N/A	31.1	29.8	30.7	32.2	30.9
Volume (gal):		1,625,747,013	1,639,100,323	1,509,620,244	1,739,816,901	1,839,656,018

RFG VOC Performance by Grade

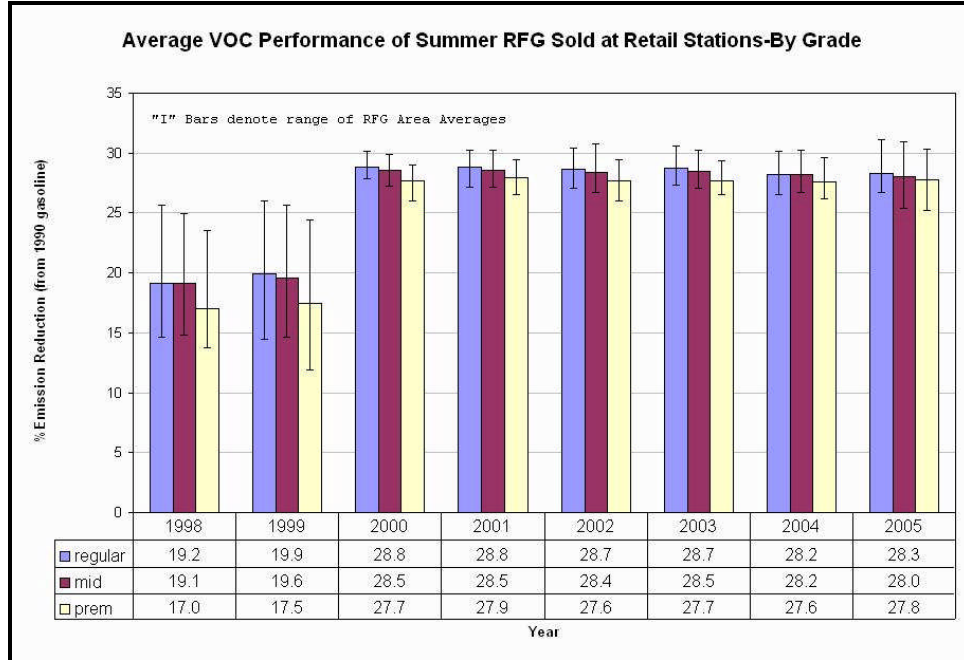


Figure 3

RFG VOC Emissions Performance (% reduction) by Year and Grade-From Reporting Data

Grade	Season	Data	Reporting Year					
			2000	2001	2002	2003	2004	2005
PRM	s	Average	28.0	28.0	27.7	27.7	27.9	27.9
		Volume	2,775,514,551	2,772,816,841	2,930,007,747	2,735,922,026	2,385,535,898	2,141,224,947
REG	s	Average	28.8	28.6	28.4	28.5	28.4	28.3
		Volume	10,076,956,707	10,377,246,679	10,871,002,718	10,822,132,177	11,770,292,617	11,862,678,003

Users of these grade-specific property estimates calculated from RFG and Anti-Dumping data should be aware that grade-specific estimates based on reporting data may differ from actual retail property values by grade. Although aggregate estimates from the reporting system may also differ from actual retail property values, there are several additional reasons why these grade-specific estimates may differ. Mid-grade gasoline is often blended from regular and premium gasoline at some point downstream of the refinery. Thus, some of the gasoline volume reported and included in these tables as regular or premium would be marketed as mid-grade. Additionally, EPA's grade-specific average analysis excludes some gasoline and blendstock that was included in aggregate average estimates. EPA has presented averages for batches labeled as regular and premium gasoline only; excluding batches labeled as mid-grade (since these batches may not be a representative sample of gasoline marketed as mid-grade), mix of grades, or without a grade label. EPA also excluded CG blendstock batches from grade-specific analyses even if they had a grade designation.

The table shows the total volume, in gallons, for the batches used to calculate each grade average. In part, because of factors discussed above these volumes are not expected to represent the actual volumes by grade of retail gasoline.

RFG VOC Performance (Geographic)

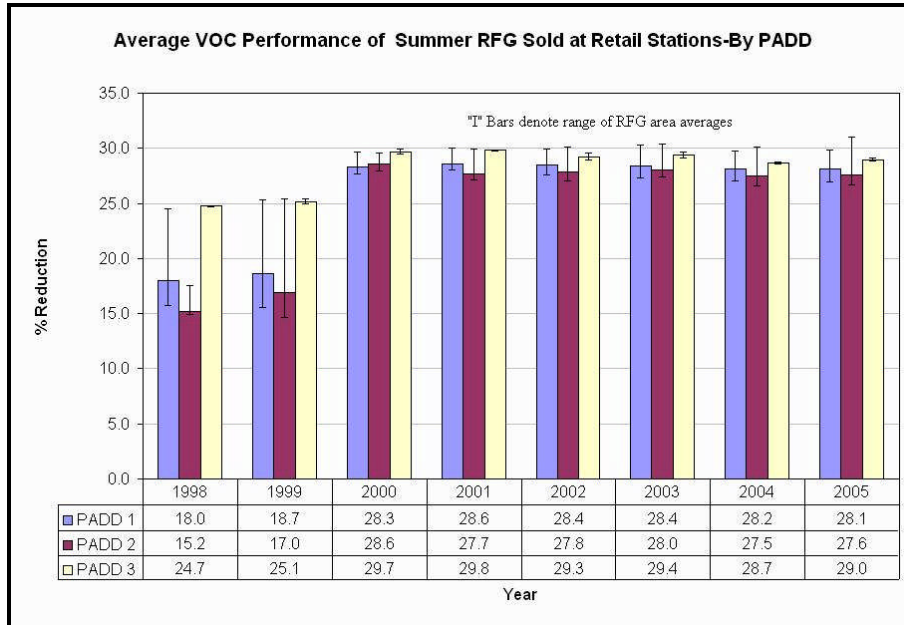


Figure 4

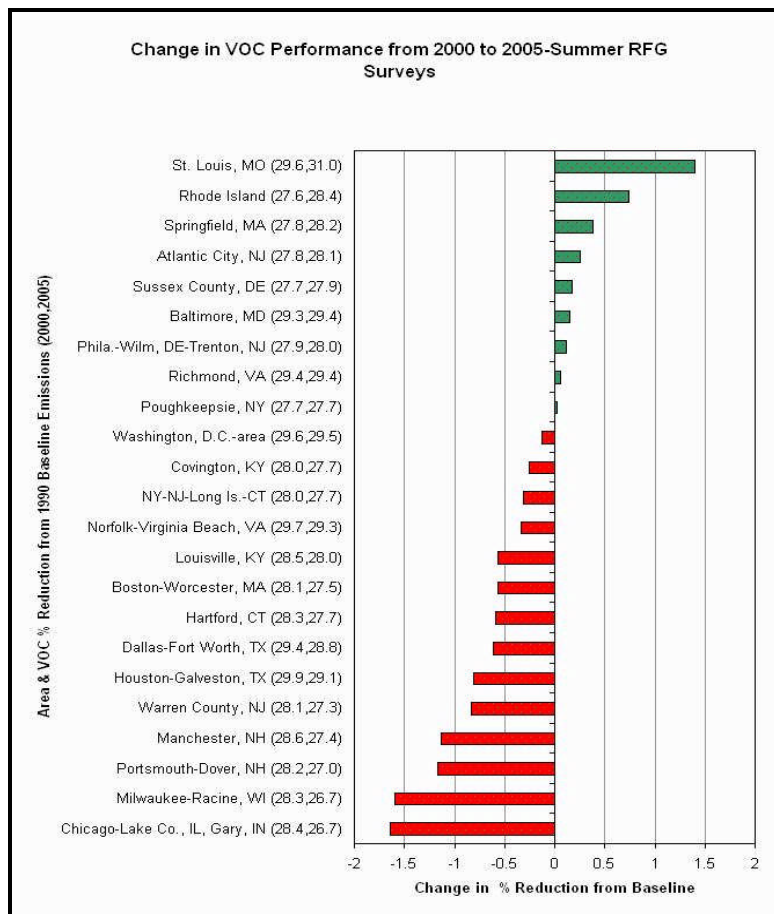


Figure 5

RFG Toxics Performance by Gasoline Volume

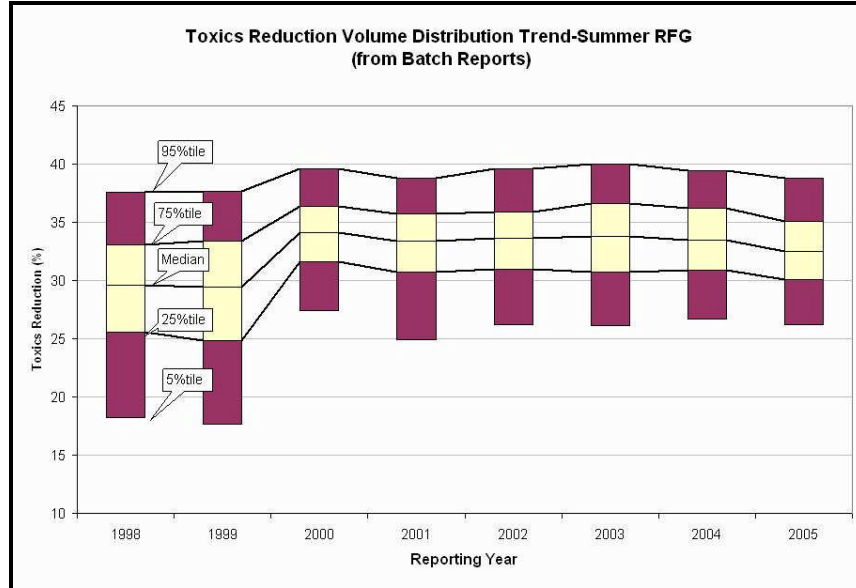


Figure 6

Summer RFG Toxics Reduction (%) by Volume (from Batch Reports)

Reporting Year

Volume %tile	1998	1999	2000	2001	2002	2003	2004	2005
minimum	1.3	0.3	20.1	16.8	6.0	19.0	16.9	16.2
5%	18.2	17.7	27.4	24.9	26.2	26.1	26.7	26.2
10%	20.9	20.5	28.9	27.4	28.4	28.0	28.3	27.7
15%	22.8	22.1	30.1	28.8	29.5	29.2	29.5	28.7
20%	24.3	23.6	30.9	29.9	30.5	30.1	30.3	29.4
25%	25.6	24.8	31.6	30.7	31.0	30.7	30.9	30.1
30%	26.6	25.8	32.1	31.4	31.6	31.3	31.6	30.7
35%	27.4	26.7	32.6	32.0	32.1	32.0	32.0	31.1
40%	28.2	27.7	33.2	32.5	32.7	32.6	32.5	31.5
45%	29.0	28.7	33.6	33.0	33.1	33.2	33.1	32.0
50%	29.6	29.4	34.1	33.4	33.6	33.8	33.5	32.5
55%	30.4	30.3	34.6	33.9	34.0	34.4	34.1	32.9
60%	31.2	31.1	35.0	34.4	34.4	34.9	34.6	33.4
65%	31.8	31.8	35.4	34.8	34.8	35.4	35.1	33.9
70%	32.6	32.6	35.8	35.2	35.3	36.0	35.7	34.5
75%	33.1	33.4	36.4	35.7	35.9	36.6	36.2	35.1
80%	33.9	34.2	37.0	36.1	36.6	37.1	36.7	35.8
85%	34.7	34.9	37.6	36.8	37.2	37.8	37.3	36.6
90%	35.8	36.0	38.4	37.5	38.2	38.7	38.1	37.4
95%	37.6	37.7	39.6	38.8	39.6	40.0	39.4	38.8
100%	45.6	45.7	45.0	44.2	43.8	44.9	45.5	45.1
Volume (gal):	12,551,351,739	12,605,647,535	12,924,625,994	13,215,304,396	13,838,063,327	13,583,809,485	14,230,001,733	14,070,501,006

RFG Toxics Performance by Gasoline Volume (continued):

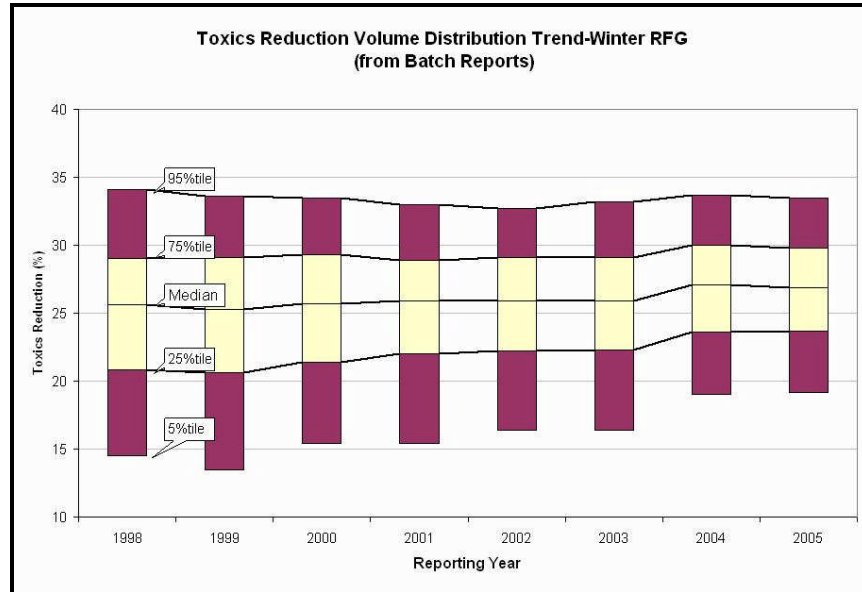


Figure 7

Winter RFG Toxics Reduction (%) Volume (from Batch Reports)

Reporting Year

Volume %tile	1998	1999	2000	2001	2002	2003	2004	2005
minimum	-6.9	-8.7	2.8	-2.3	0.6	-3.2	-5.0	-1.0
5%	14.5	13.5	15.4	15.4	16.4	16.4	19.0	19.2
10%	17.0	15.9	17.6	17.7	18.5	18.9	20.5	20.7
15%	18.3	17.6	19.1	19.4	20.0	20.4	21.7	21.9
20%	19.6	19.1	20.3	20.8	21.1	21.4	22.7	22.9
25%	20.8	20.6	21.4	22.0	22.2	22.3	23.6	23.7
30%	21.9	21.9	22.4	23.0	22.9	23.0	24.4	24.4
35%	22.9	22.8	23.1	23.8	23.7	23.8	25.1	25.1
40%	23.9	23.7	24.0	24.5	24.4	24.5	25.8	25.7
45%	24.8	24.5	24.9	25.3	25.1	25.2	26.5	26.3
50%	25.6	25.3	25.7	25.9	25.9	25.9	27.1	26.9
55%	26.2	26.0	26.5	26.5	26.6	26.5	27.7	27.5
60%	26.8	26.9	27.2	27.0	27.2	27.2	28.2	28.0
65%	27.5	27.6	27.9	27.7	27.8	27.8	28.8	28.6
70%	28.3	28.3	28.6	28.3	28.5	28.5	29.4	29.1
75%	29.0	29.1	29.3	28.9	29.1	29.1	30.0	29.8
80%	29.9	29.9	30.1	29.5	29.7	29.9	30.7	30.5
85%	30.8	30.7	31.0	30.4	30.4	30.6	31.4	31.2
90%	32.1	31.8	32.0	31.4	31.3	31.6	32.3	32.4
95%	34.1	33.6	33.5	33.0	32.7	33.2	33.7	33.5
100%	41.1	39.6	39.3	39.9	38.7	38.5	39.9	39.0
Volume (gal):	14,617,590,035	14,589,007,345	15,829,263,333	15,703,151,227	16,429,670,147	16,679,773,135	17,190,635,125	18,044,155,549

**RFG Toxics Performance by Gasoline Volume (continued):
(Cumulative Distributions for Latest Year Data)**

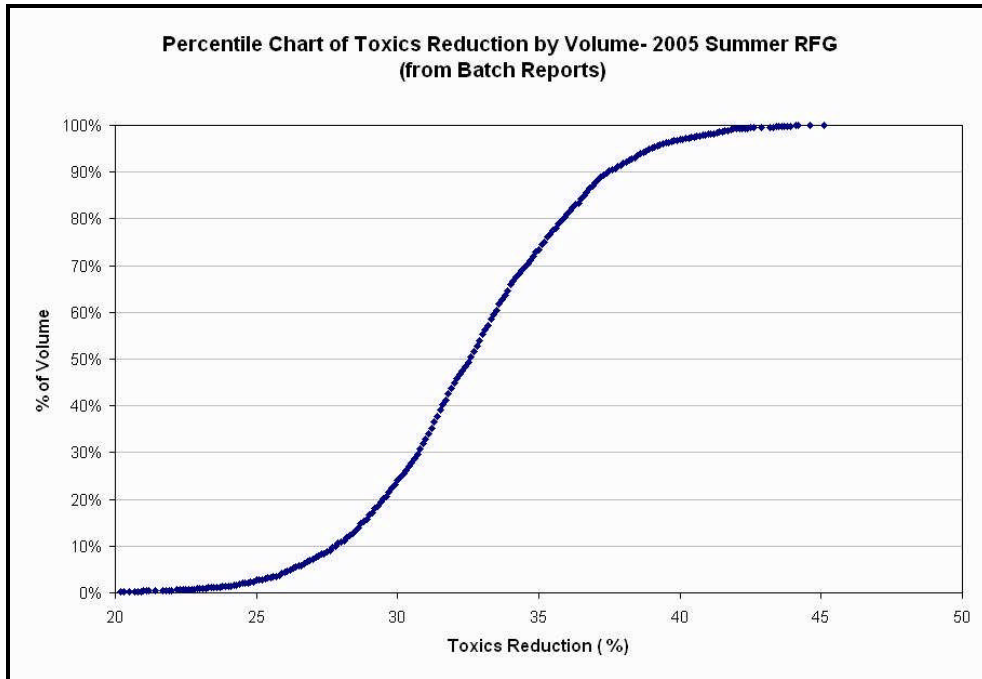


Figure 8

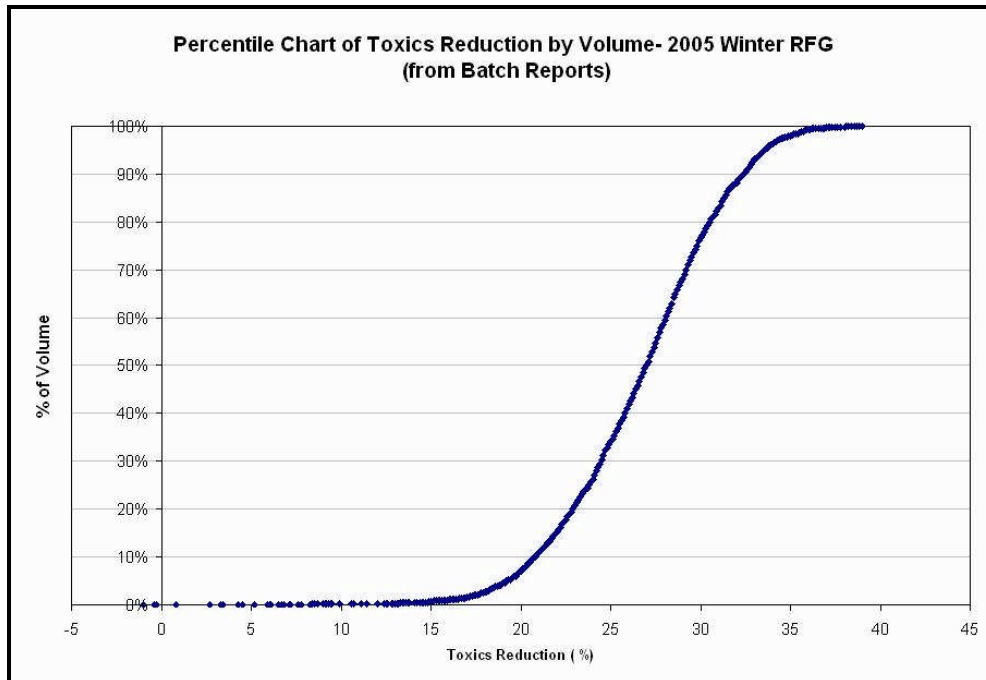


Figure 9

RFG Toxics Performance by Grade

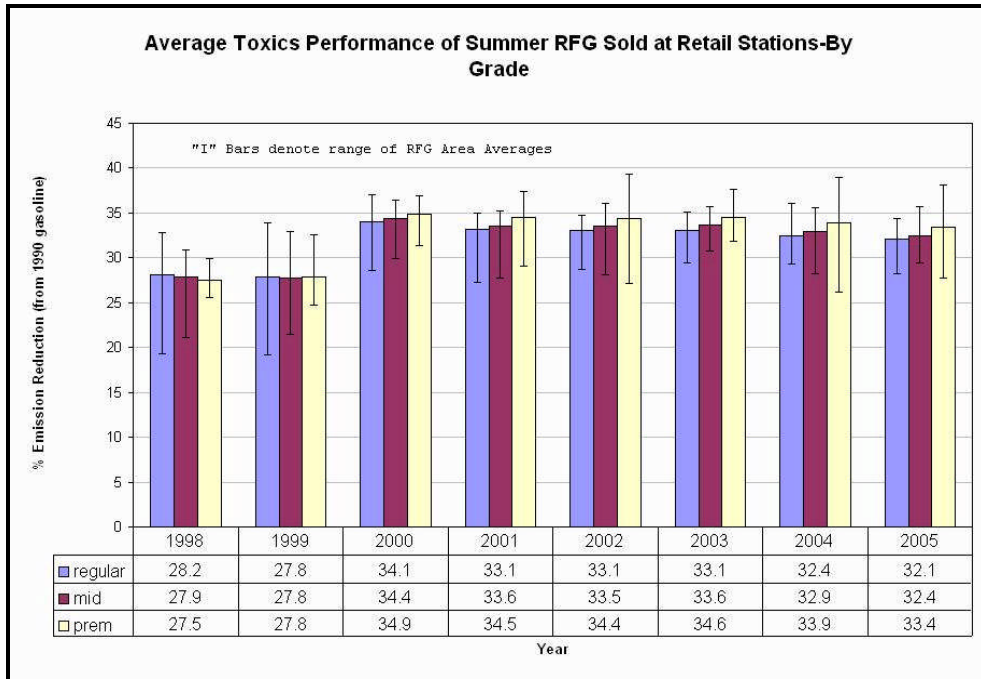


Figure 10

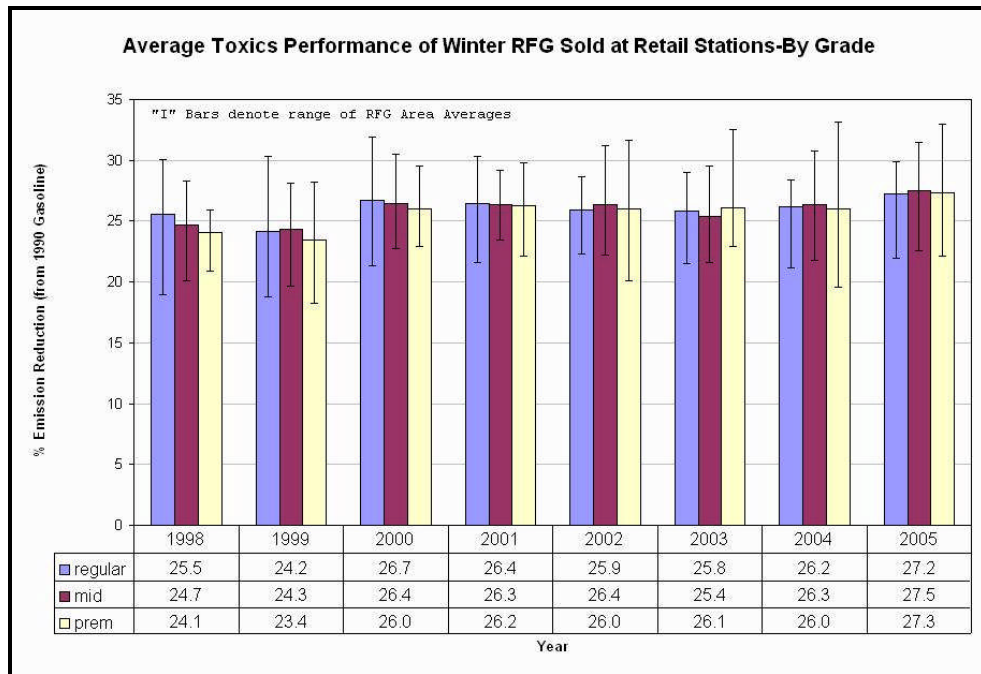


Figure 11

RFG Toxics Performance by Grade (continued):

RFG Toxics Emissions Performance (% reduction) and Volume (gal) by Year, Grade, and Season-From Reporting Data

Grade	Season	Data	Reporting Year					
			2000	2001	2002	2003	2004	2005
PRM	s	Average	34.4	33.8	34.5	34.5	34.1	33.4
		Volume	2,775,514,551	2,772,816,841	2,930,007,747	2,735,922,026	2,385,535,898	2,141,224,947
	w	Average	24.7	24.0	25.3	25.9	26.5	26.0
		Volume	3,418,369,505	3,288,964,179	3,387,457,520	3,103,333,727	2,943,555,811	2,581,178,988
REG	s	Average	33.9	32.8	33.2	33.4	33.4	32.5
		Volume	10,076,956,707	10,377,246,679	10,871,002,718	10,822,132,177	11,770,292,617	11,862,678,003
	w	Average	25.5	25.6	25.5	25.5	26.9	26.9
		Volume	12,246,078,983	12,289,025,746	12,966,338,451	13,486,978,064	14,158,974,318	15,422,172,055

Users of these grade-specific property estimates calculated from RFG and Anti-Dumping data should be aware that grade-specific estimates based on reporting data may differ from actual retail property values by grade. Although aggregate estimates from the reporting system may also differ from actual retail property values, there are several additional reasons why these grade-specific estimates may differ. Mid-grade gasoline is often blended from regular and premium gasoline at some point downstream of the refinery. Thus, some of the gasoline volume reported and included in these tables as regular or premium would be marketed as mid-grade. Additionally, EPA's grade-specific average analysis excludes some gasoline and blendstock that was included in aggregate average estimates. EPA has presented averages for batches labeled as regular and premium gasoline only; excluding batches labeled as mid-grade (since these batches may not be a representative sample of gasoline marketed as mid-grade), mix of grades, or without a grade label. EPA also excluded CG blendstock batches from grade-specific analyses even if they had a grade designation.

The table shows the total volume, in gallons, for the batches used to calculate each grade average. In part, because of factors discussed above these volumes are not expected to represent the actual volumes by grade of retail gasoline.

RFG Toxics Performance (Geographic)

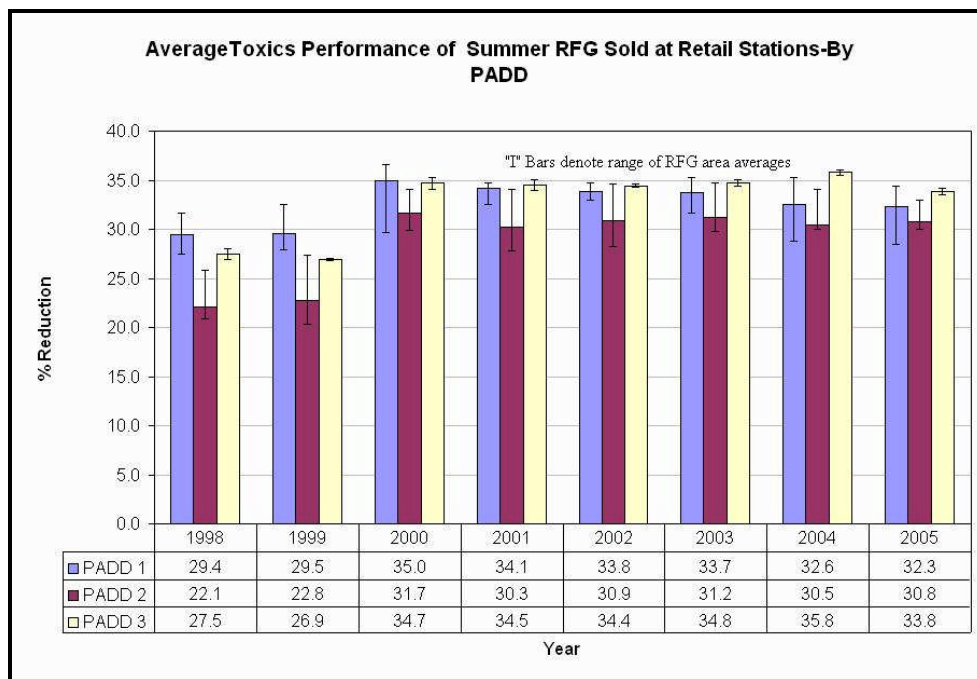


Figure 12

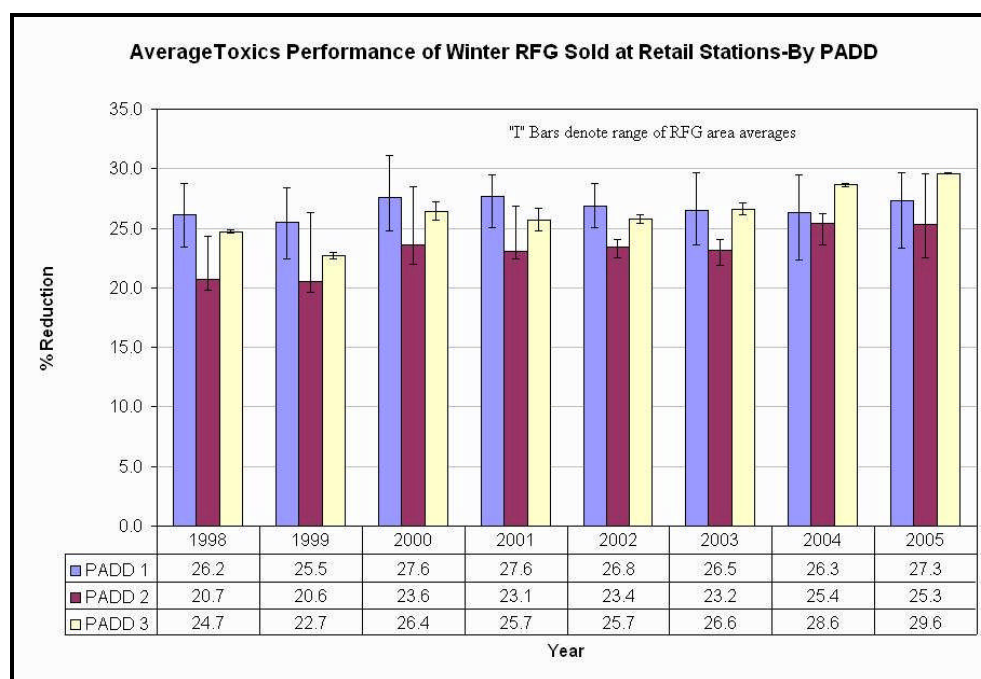


Figure 13

RFG Toxics Performance Geographic (continued):

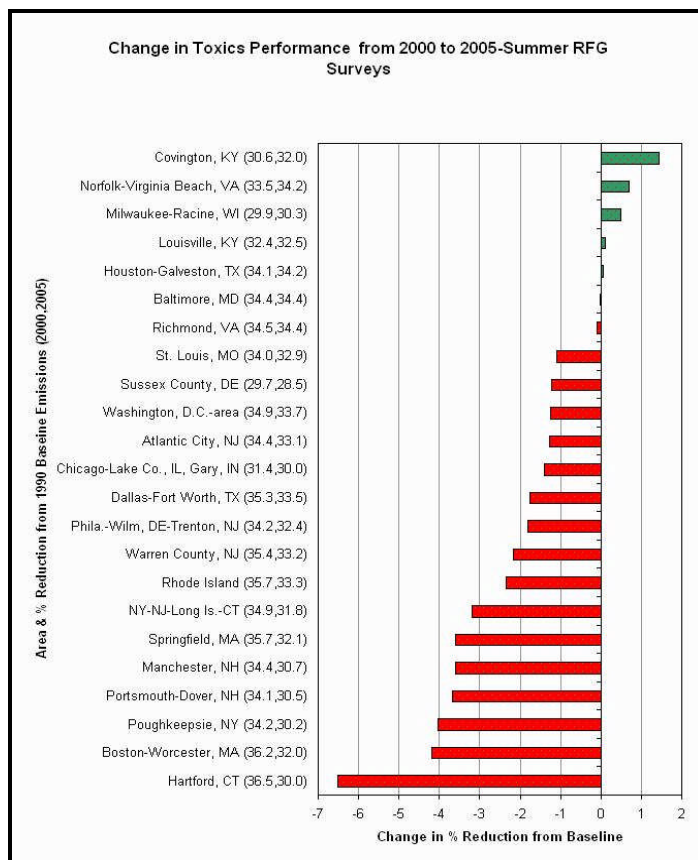


Figure 14

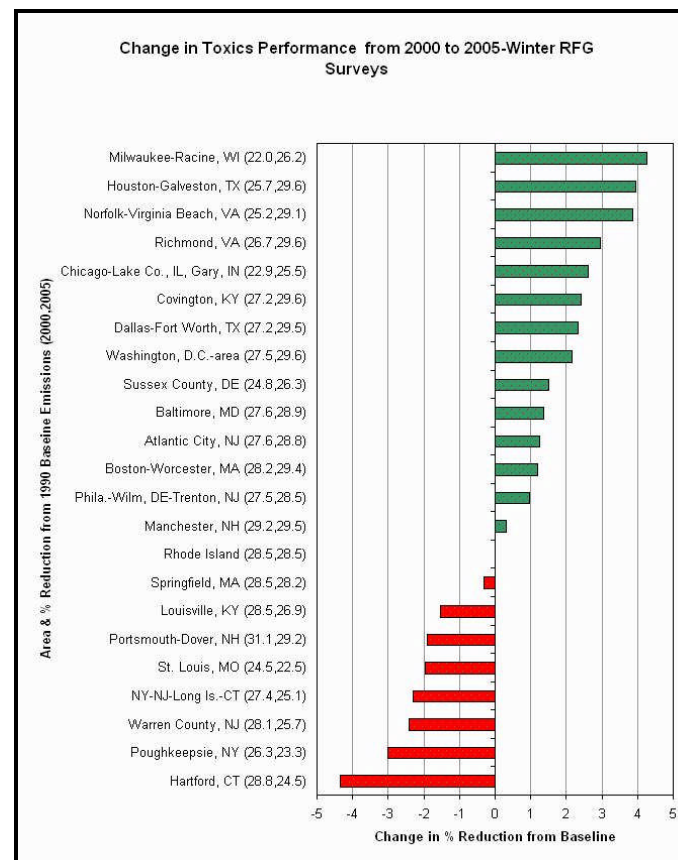


Figure 15

RFG NOx Performance by Gasoline Volume

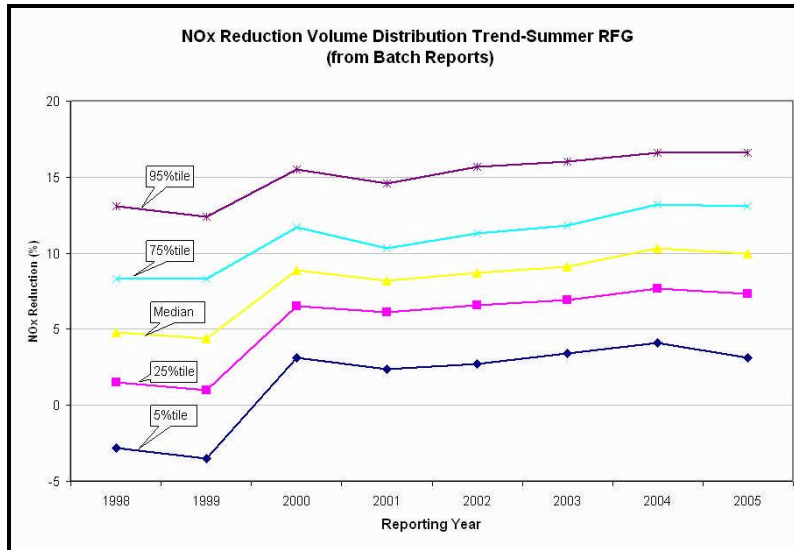


Figure 16

Summer RFG NOx Reduction (%) by Volume (from Batch Reports)

Volume %tile	Reporting Year							
	1998	1999	2000	2001	2002	2003	2004	2005
minimum	-15.2	-16.1	-5.5	-11.1	-5.9	-8.1	-6.2	-4.4
5%	-2.8	-3.5	3.1	2.4	2.7	3.4	4.1	3.1
10%	-1.1	-1.8	4.3	3.9	4.6	4.8	5.5	4.7
15%	0.1	-0.5	5.1	5.0	5.5	5.7	6.3	5.8
20%	0.8	0.3	5.8	5.6	6.1	6.3	7.1	6.6
25%	1.5	1.0	6.5	6.1	6.6	6.9	7.7	7.3
30%	2.2	1.6	7.0	6.6	7.0	7.3	8.3	7.9
35%	2.9	2.3	7.6	7.0	7.5	7.7	8.9	8.4
40%	3.5	3.0	8.0	7.4	7.9	8.2	9.3	9.0
45%	4.1	3.8	8.4	7.8	8.2	8.6	9.8	9.5
50%	4.8	4.4	8.9	8.2	8.7	9.1	10.3	10.0
55%	5.4	5.2	9.4	8.6	9.1	9.5	10.8	10.7
60%	6.1	6.0	9.9	8.9	9.6	10.0	11.4	11.3
65%	6.8	6.8	10.5	9.3	10.1	10.5	12.0	11.9
70%	7.5	7.6	11.1	9.7	10.7	11.2	12.5	12.5
75%	8.3	8.3	11.7	10.3	11.3	11.8	13.2	13.1
80%	9.3	9.0	12.3	11.0	12.1	12.6	13.8	13.8
85%	10.2	10.0	13.1	11.9	12.8	13.4	14.5	14.4
90%	11.4	11.1	14.0	13.1	14.0	14.4	15.4	15.3
95%	13.1	12.4	15.5	14.6	15.7	16.0	16.6	16.6
100%	20.4	19.2	19.6	19.2	21.5	21.0	21.1	21.0
Volume (gal):	12,551,351,739	12,605,647,535	12,924,625,994	13,215,304,396	13,838,063,327	13,583,809,485	14,230,001,733	14,070,501,006

RFG NOx Performance by Gasoline Volume (continued):

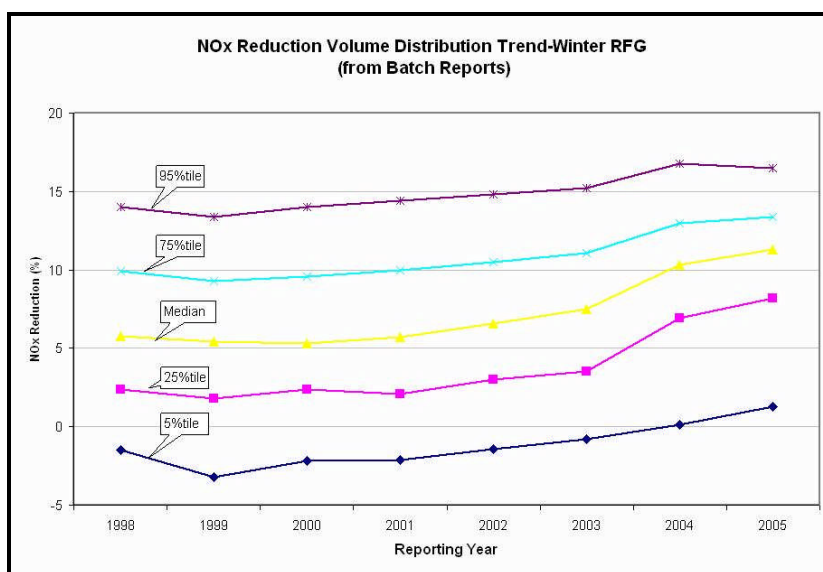


Figure 17

Winter RFG NOx Reduction (%) by Volume (from Batch Reports)

Reporting Year

Volume %tile	1998	1999	2000	2001	2002	2003	2004	2005
minimum	-12.2	-14.6	-13.2	-13.4	-10.4	-16.0	-8.6	-11.0
5%	-1.5	-3.2	-2.2	-2.1	-1.4	-0.8	0.1	1.3
10%	0.2	-1.0	-0.3	-0.3	0.2	0.6	2.6	3.6
15%	1.2	0.1	1.0	0.6	1.2	1.7	4.4	5.5
20%	1.8	1.0	1.8	1.5	2.1	2.7	5.7	7.0
25%	2.4	1.8	2.4	2.1	3.0	3.5	6.9	8.2
30%	3.1	2.4	2.9	2.8	3.7	4.3	7.7	9.1
35%	3.7	3.2	3.5	3.4	4.4	5.2	8.4	9.8
40%	4.4	3.9	4.0	4.0	5.1	6.0	9.1	10.3
45%	5.1	4.6	4.7	4.8	5.7	6.8	9.7	10.8
50%	5.8	5.4	5.3	5.7	6.6	7.5	10.3	11.3
55%	6.6	6.2	6.1	6.6	7.3	8.3	10.9	11.7
60%	7.3	6.9	7.0	7.5	8.2	9.0	11.5	12.2
65%	8.1	7.7	7.8	8.3	8.9	9.7	11.9	12.5
70%	9.0	8.4	8.8	9.2	9.6	10.3	12.4	12.9
75%	9.9	9.3	9.6	10.0	10.5	11.1	13.0	13.4
80%	10.7	10.1	10.6	10.8	11.3	11.8	13.6	13.8
85%	11.6	11.1	11.6	11.7	12.2	12.7	14.2	14.3
90%	12.6	12.1	12.7	12.7	13.2	13.8	15.1	15.0
95%	14.0	13.4	14.0	14.4	14.8	15.2	16.8	16.5
100%	19.8	20.2	20.0	20.6	19.3	20.4	21.5	21.1
Volume (gal):	14,617,590,035	14,589,007,345	15,829,263,333	15,703,151,227	16,429,670,147	16,679,773,135	17,190,635,125	18,044,155,549

**RFG NOx Performance by Gasoline Volume (continued):
(Cumulative Distributions for Latest Year Data)**

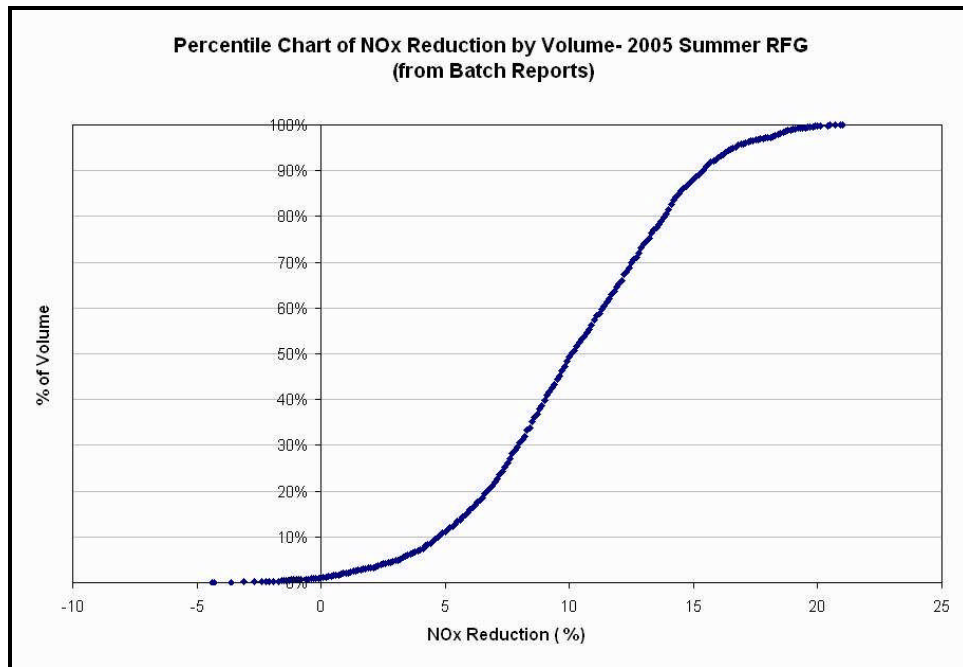


Figure 18

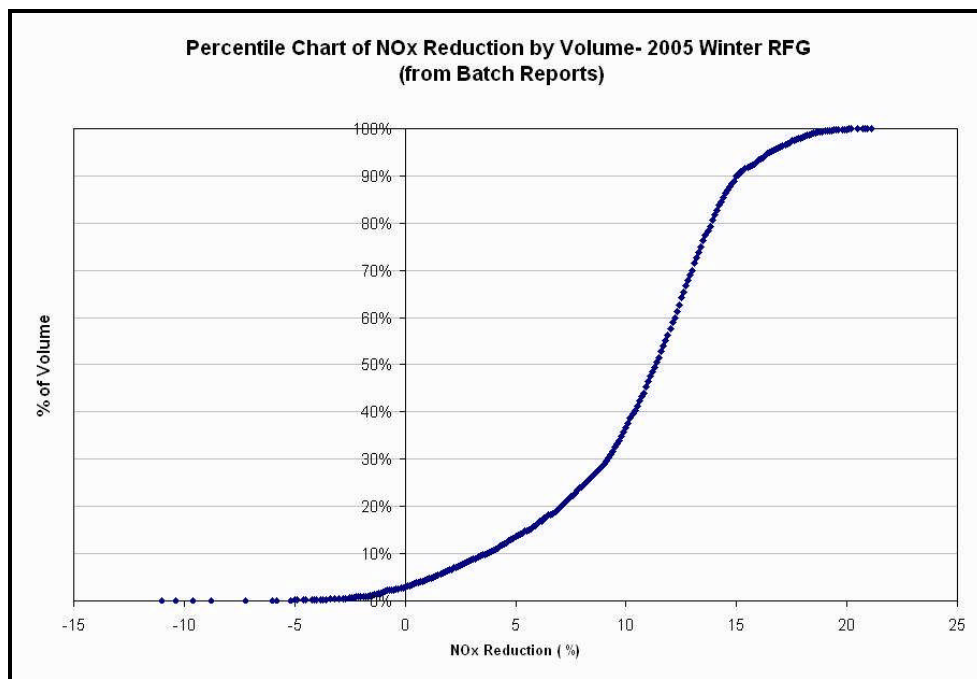


Figure 19

RFG NOx Performance by Grade

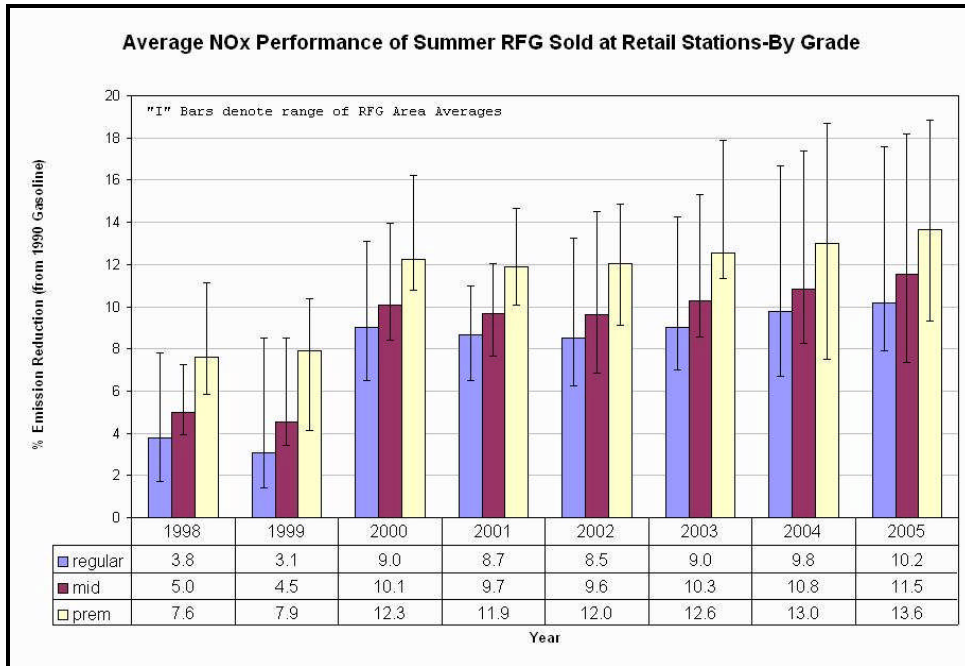


Figure 20

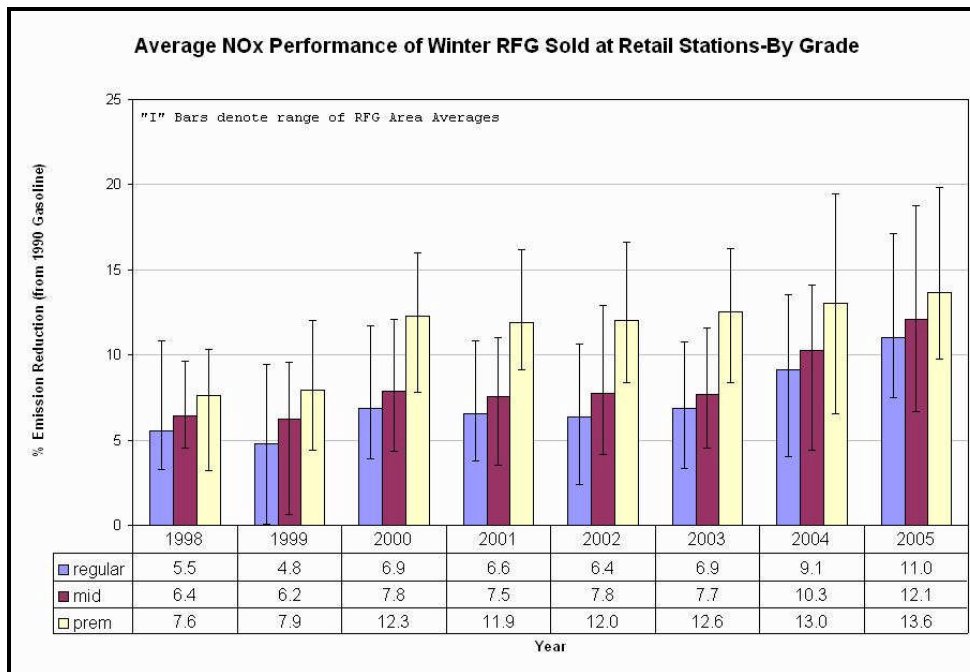


Figure 21

RFG NOx Performance by Grade (continued):

RFG NOx Emission Performance (% reduction) by Year, Grade, and Season-From Reporting Data								
Grade	Season	Data	Reporting Year					
			2000	2001	2002	2003	2004	2005
PRM	s	Average	11.8	11.0	12.0	12.5	12.8	13.0
		Volume	2,775,514,551	2,772,816,841	2,930,007,747	2,735,922,026	2,385,535,898	2,141,224,947
	w	Average	8.9	9.2	10.4	11.0	12.4	12.6
		Volume	3,418,369,505	3,288,964,179	3,387,457,520	3,103,333,727	2,943,555,811	2,581,178,988
REG	s	Average	8.4	7.7	8.2	8.7	9.9	9.6
		Volume	10,076,956,707	10,377,246,679	10,871,002,718	10,822,132,177	11,770,292,617	11,862,678,003
	w	Average	5.1	5.3	5.8	6.6	9.1	10.1
		Volume	12,246,078,983	12,289,025,746	12,966,338,451	13,486,978,064	14,158,974,318	15,422,172,055

Users of these grade-specific property estimates calculated from RFG and Anti-Dumping data should be aware that grade-specific estimates based on reporting data may differ from actual retail property values by grade. Although aggregate estimates from the reporting system may also differ from actual retail property values, there are several additional reasons why these grade-specific estimates may differ. Mid-grade gasoline is often blended from regular and premium gasoline at some point downstream of the refinery. Thus, some of the gasoline volume reported and included in these tables as regular or premium would be marketed as mid-grade. Additionally, EPA's grade-specific average analysis excludes some gasoline and blendstock that was included in aggregate average estimates. EPA has presented averages for batches labeled as regular and premium gasoline only; excluding batches labeled as mid-grade (since these batches may not be a representative sample of gasoline marketed as mid-grade), mix of grades, or without a grade label. EPA also excluded CG blendstock batches from grade-specific analyses even if they had a grade designation.

The table shows the total volume, in gallons, for the batches used to calculate each grade average. In part, because of factors discussed above these volumes are not expected to represent the actual volumes by grade of retail gasoline.

RFG NOx Performance (Geographic)

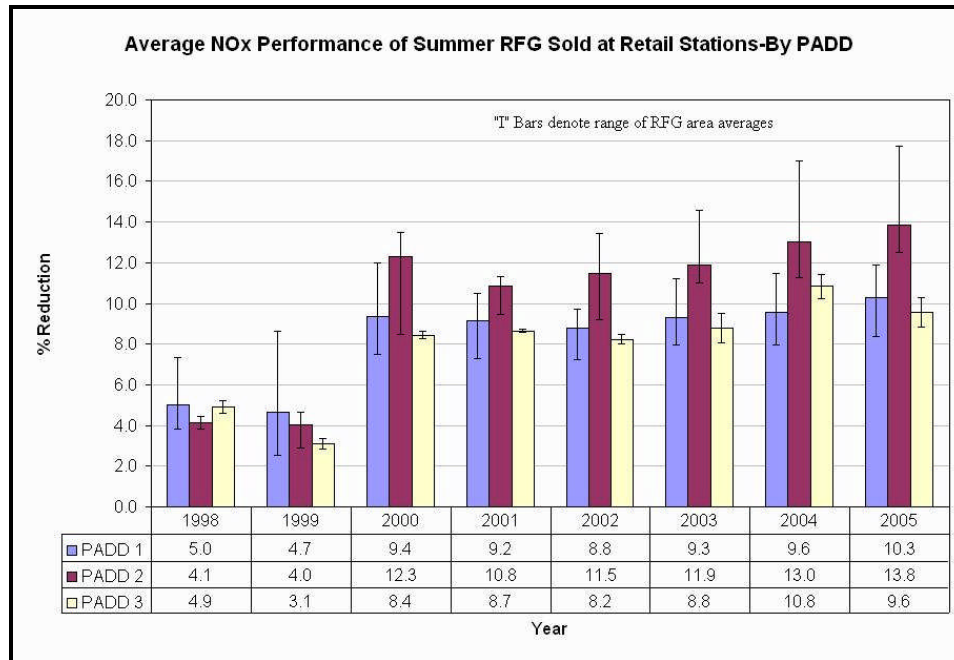


Figure 22

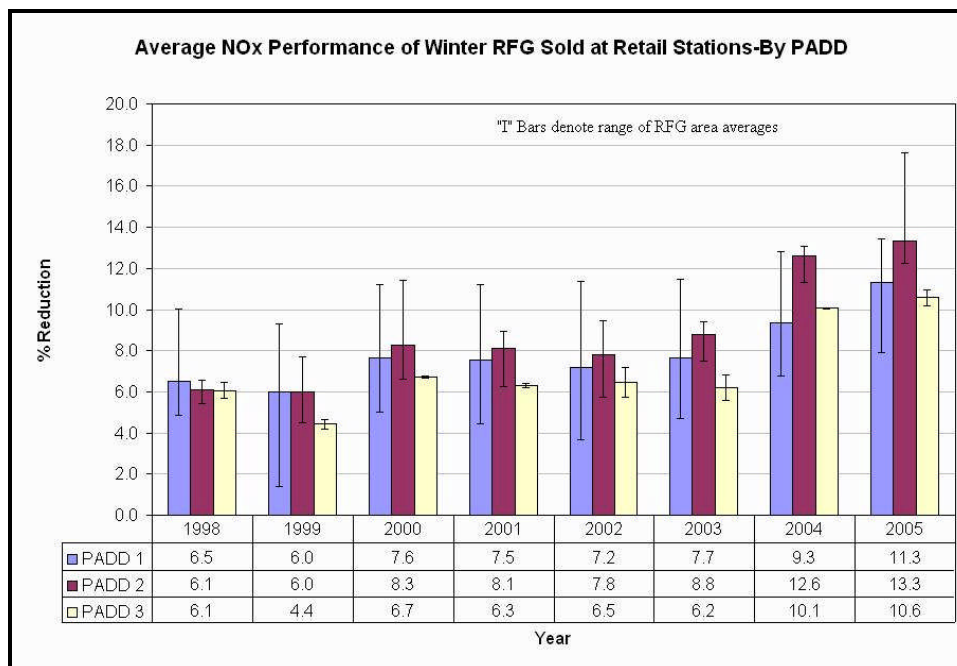


Figure 23

RFG NOx Performance-Geographic (continued):

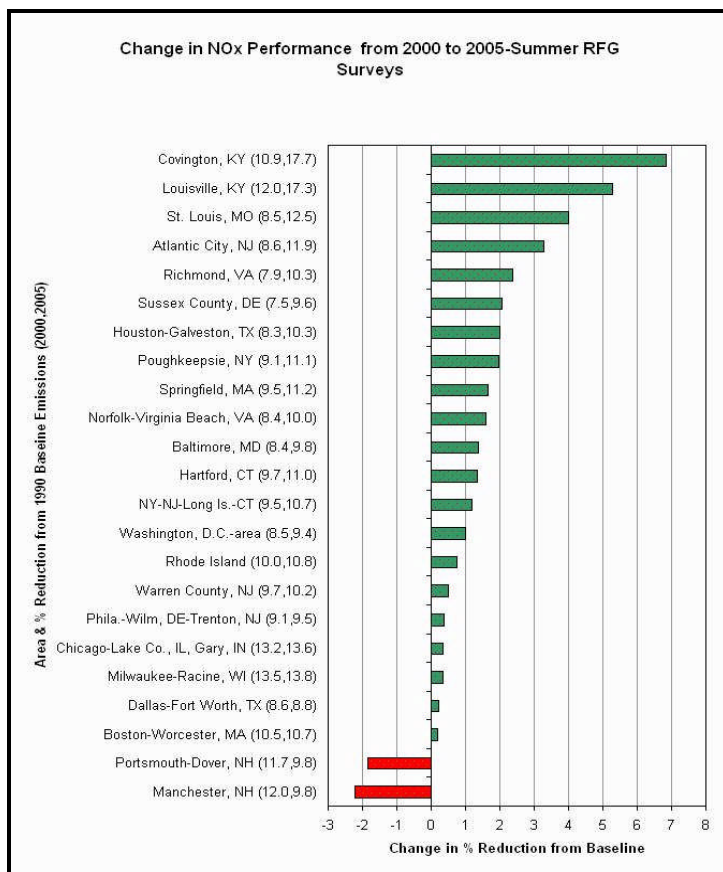


Figure 24

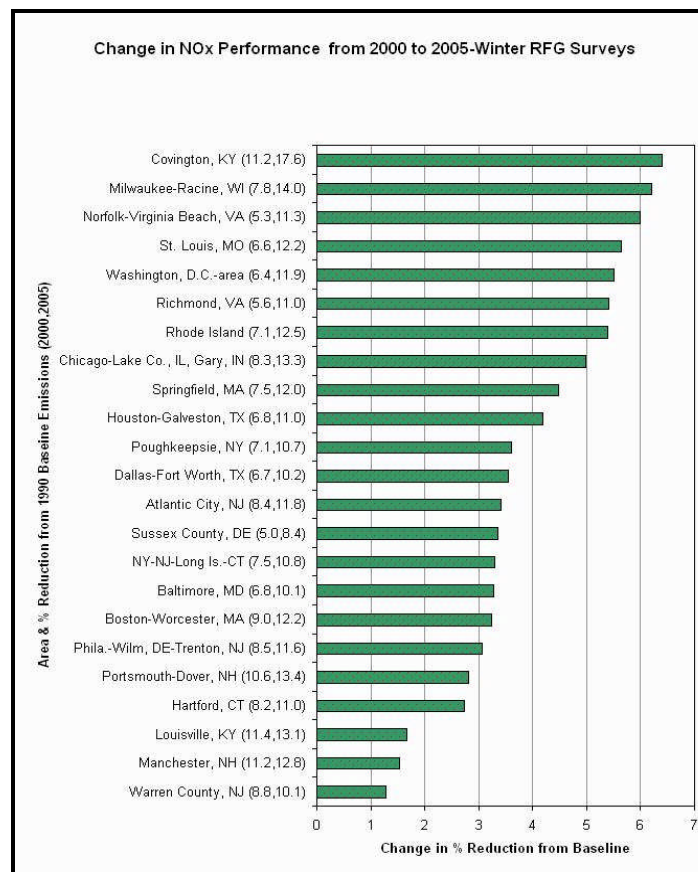


Figure 25

Conventional Gasoline

CG Exhaust Toxics Emissions by Gasoline Volume

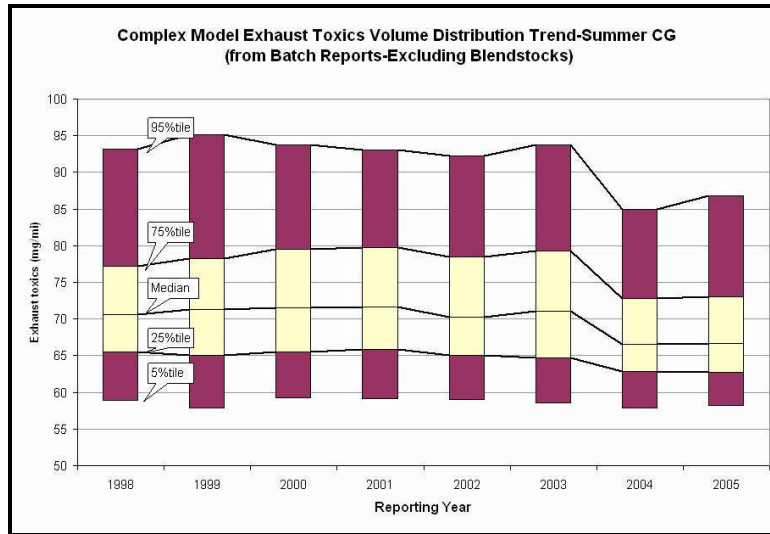


Figure 26

Summer CG Exhaust Toxics Emissions (mg/mi) by Volume (Calculated from Batch Data)

Volume %tile	Reporting Year							
	1998	1999	2000	2001	2002	2003	2004	2005
minimum	49.9	48.6	49.6	47.0	47.0	47.0	46.4	48.4
5%	58.9	57.9	59.3	59.1	59.0	58.6	57.9	58.2
10%	60.9	60.7	61.5	61.5	61.2	60.7	59.8	59.8
15%	62.8	62.4	62.9	63.3	62.8	62.3	61.1	61.0
20%	64.2	63.9	64.3	64.6	64.0	63.5	62.0	61.9
25%	65.5	65.1	65.5	65.8	65.0	64.7	62.8	62.7
30%	66.5	66.4	66.5	66.9	66.0	65.8	63.5	63.5
35%	67.5	67.5	67.6	67.9	67.0	66.9	64.3	64.3
40%	68.5	68.8	68.8	69.1	68.1	68.1	65.0	65.0
45%	69.5	70.1	70.1	70.4	69.2	69.6	65.8	65.8
50%	70.6	71.3	71.5	71.7	70.3	71.1	66.6	66.7
55%	71.7	72.7	73.0	72.9	71.7	72.6	67.6	67.8
60%	72.9	74.0	74.5	74.4	73.1	74.4	68.6	69.0
65%	74.0	75.4	76.1	76.0	74.7	76.0	69.7	70.2
70%	75.4	76.7	77.8	77.8	76.4	77.6	71.1	71.5
75%	77.2	78.2	79.5	79.7	78.5	79.3	72.8	73.0
80%	79.5	80.1	81.4	81.9	80.6	81.1	74.7	75.0
85%	82.1	82.7	83.7	84.2	82.9	83.3	76.8	77.4
90%	86.1	86.7	87.2	87.5	86.3	87.0	79.7	80.9
95%	93.2	95.1	93.7	93.1	92.2	93.7	85.0	86.8
100%	155.2	252.3	255.2	258.0	245.8	159.3	154.0	175.8
Volume (gal):	38,992,885,793	37,127,053,812	36,355,722,872	38,541,026,687	40,811,369,914	43,215,951,157	43,495,028,871	42,171,355,985

CG Exhaust Toxics by Gasoline Volume (continued):

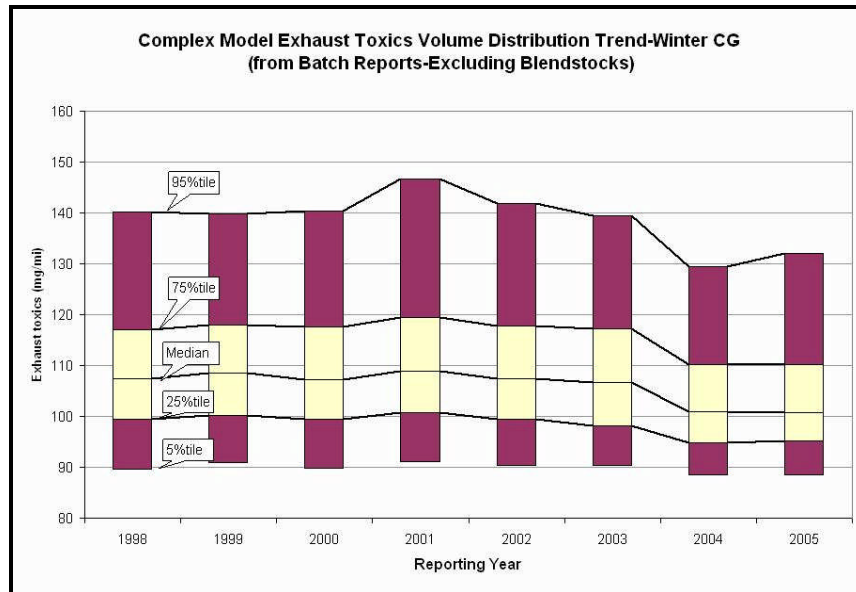


Figure 27

Winter CG Exhaust Toxics Emissions (mg/mi) by Volume (Calculated from Batch Data)

Reporting Year

Volume %tile	1998	1999	2000	2001	2002	2003	2004	2005
minimum	76.4	73.8	76.2	75.5	75.4	74.4	72.9	73.9
5%	89.7	90.9	89.8	91.2	90.4	90.3	88.6	88.5
10%	93.1	94.0	93.3	94.2	93.5	93.1	91.0	91.3
15%	95.6	96.4	95.8	96.5	95.8	94.9	92.7	92.8
20%	97.6	98.4	97.6	99.0	97.8	96.4	93.9	94.0
25%	99.4	100.1	99.4	100.8	99.4	98.1	94.9	95.1
30%	101.0	101.8	101.2	102.4	101.0	99.5	96.0	96.3
35%	102.7	103.2	102.6	104.0	102.6	101.2	97.2	97.4
40%	104.3	105.0	104.1	105.6	104.3	102.9	98.4	98.5
45%	105.7	106.7	105.6	107.2	105.9	104.7	99.7	99.7
50%	107.5	108.5	107.2	108.9	107.5	106.6	101.0	100.8
55%	109.3	110.3	108.7	110.5	109.2	108.4	102.7	102.4
60%	110.9	111.9	110.5	112.1	111.1	110.4	104.4	104.1
65%	112.8	113.7	112.5	114.0	113.1	112.5	106.3	105.8
70%	114.8	115.9	114.7	116.5	115.4	114.7	108.3	108.0
75%	117.1	118.0	117.6	119.4	117.8	117.2	110.2	110.1
80%	119.6	120.8	121.0	122.6	121.1	120.4	113.1	112.7
85%	123.5	124.7	125.4	127.0	124.7	124.0	116.1	116.5
90%	128.7	129.9	131.1	134.7	130.9	129.3	120.9	121.9
95%	140.1	139.9	140.4	146.7	141.9	139.4	129.5	132.0
100%	408.8	395.2	419.4	414.9	239.8	399.7	276.7	260.6
Volume (gal):	46,167,047,173	47,555,086,633	47,925,321,684	48,770,268,393	49,640,309,828	47,426,711,234	47,615,735,564	48,664,360,993

**CG Exhaust Toxics by Gasoline Volume (continued):
(Cumulative Distributions for Latest Year Data)**

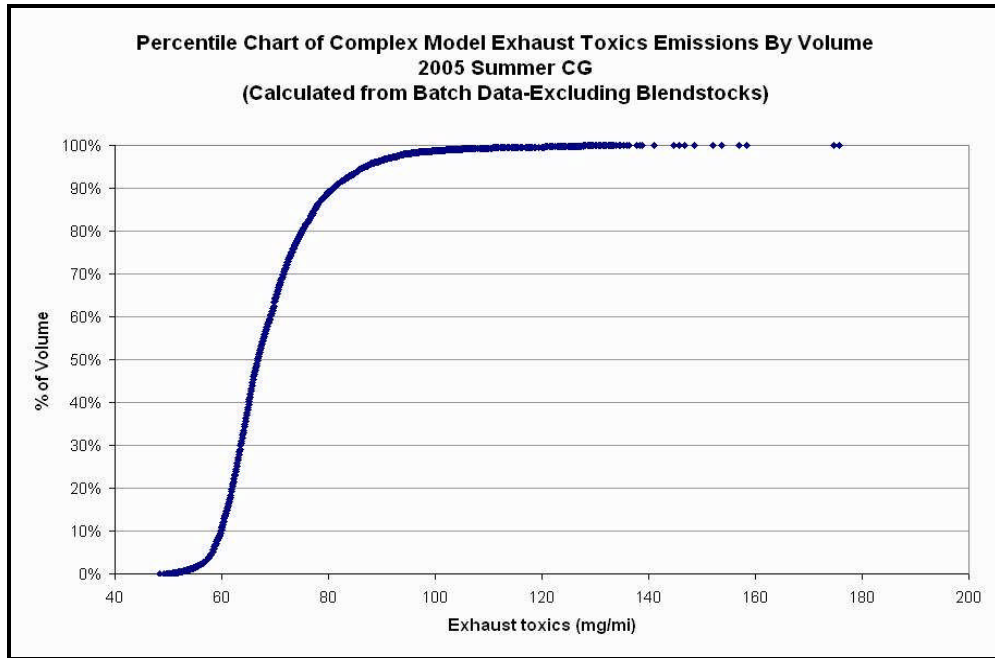


Figure 28

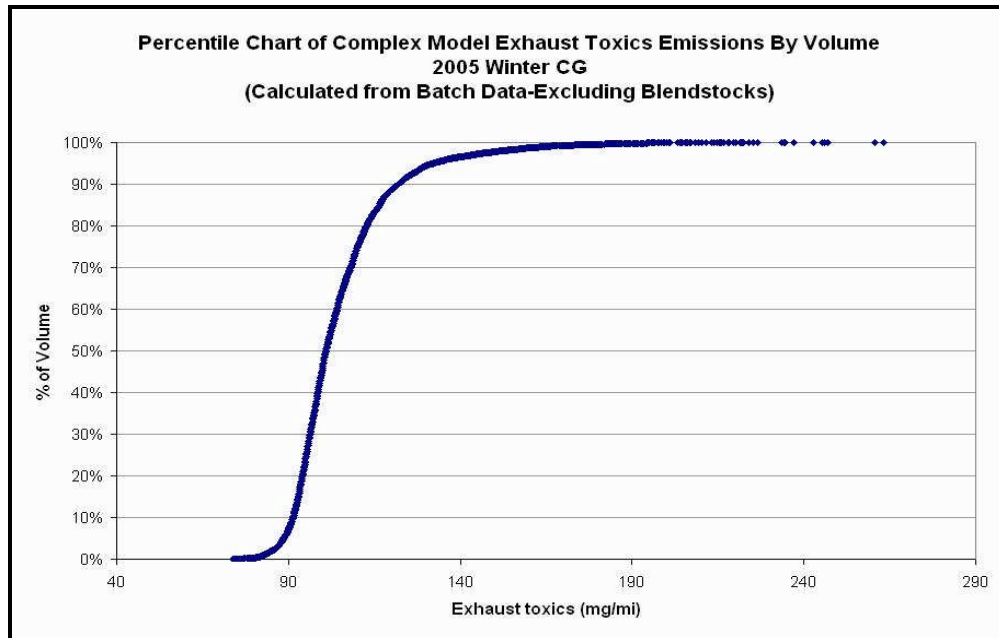


Figure 29

CG NOx Emissions by Gasoline Volume

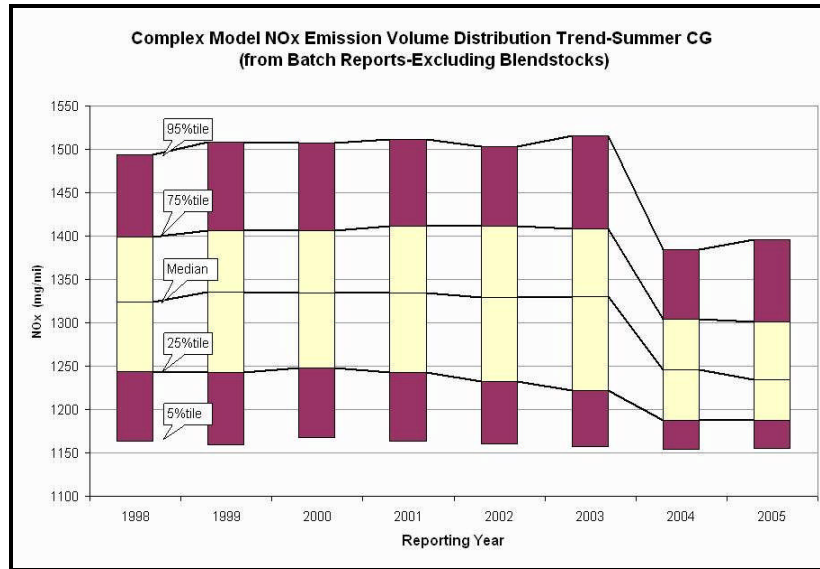


Figure 30

Summer CG NOx Emissions (mg/mi) by Volume (Calculated from Batch Data)

	Reporting Year							
Volume %tile	1998	1999	2000	2001	2002	2003	2004	2005
minimum	1069.8	1053.6	1071.4	1072.8	1064.4	1072.6	1058.0	1052.1
5%	1163.8	1159.2	1168.0	1163.5	1160.5	1157.1	1154.1	1154.9
10%	1182.3	1178.2	1191.5	1184.0	1179.9	1172.4	1163.6	1166.4
15%	1201.4	1199.5	1206.9	1202.0	1196.7	1186.8	1171.7	1175.7
20%	1224.7	1220.2	1225.9	1221.2	1214.9	1201.1	1180.3	1182.4
25%	1244.0	1243.2	1248.0	1242.2	1232.3	1221.7	1187.6	1187.9
30%	1262.8	1265.4	1271.2	1263.5	1254.1	1247.7	1194.8	1195.8
35%	1280.4	1288.0	1291.9	1283.4	1275.1	1273.0	1204.5	1204.0
40%	1298.3	1306.5	1308.9	1302.4	1295.1	1295.3	1217.6	1213.6
45%	1311.3	1320.6	1320.9	1319.5	1313.5	1314.9	1231.3	1223.9
50%	1323.5	1335.2	1334.2	1334.6	1329.1	1330.1	1245.8	1234.0
55%	1335.4	1351.7	1345.5	1348.1	1344.3	1343.6	1259.9	1246.2
60%	1349.3	1364.7	1358.5	1362.3	1357.2	1357.4	1270.4	1259.1
65%	1365.6	1377.0	1371.6	1379.6	1373.1	1373.1	1283.3	1272.6
70%	1382.0	1391.7	1389.3	1394.0	1392.6	1388.9	1293.4	1287.2
75%	1399.4	1406.6	1405.9	1411.5	1411.0	1408.5	1304.5	1301.4
80%	1418.1	1425.2	1427.8	1432.2	1430.6	1428.3	1316.0	1314.8
85%	1440.3	1446.8	1449.5	1453.7	1450.5	1450.6	1330.3	1331.0
90%	1463.3	1470.9	1472.6	1477.3	1472.9	1477.0	1349.6	1353.4
95%	1494.0	1508.3	1507.4	1511.2	1503.3	1515.9	1384.7	1395.6
100%	1790.5	1799.1	1765.5	1813.7	1769.8	1782.6	1629.2	1662.1

Volume (gal): 38,992,885,793 37,127,053,812 36,355,722,872 38,541,026,687 40,811,369,914 43,215,951,157 43,495,028,871 42,171,355,985

CG NOx Emissions by Gasoline Volume (continued):

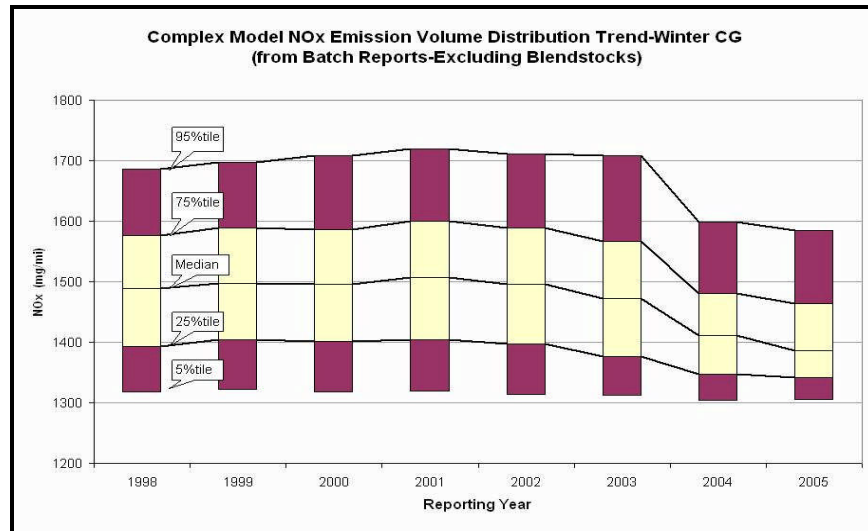


Figure 31

Winter CG NOX Emissions (mg/mi) by Volume (Calculated from Batch Data)

	Reporting Year							
Volume %tile	1998	1999	2000	2001	2002	2003	2004	2003
minimum	1207.9	1214.1	1210.4	1202.6	1217.4	1201.5	1204.1	1205.4
5%	1318.6	1321.9	1317.5	1320.1	1314.0	1313.1	1304.8	1305.4
10%	1335.1	1339.9	1337.8	1339.0	1334.7	1328.0	1320.6	1319.9
15%	1352.9	1361.7	1358.7	1358.6	1355.1	1341.8	1329.4	1327.8
20%	1372.9	1382.2	1378.0	1379.8	1374.4	1356.9	1337.7	1335.1
25%	1393.0	1403.5	1400.9	1403.7	1397.8	1376.0	1346.9	1342.3
30%	1413.8	1426.1	1420.7	1428.5	1421.3	1397.4	1356.5	1349.5
35%	1434.3	1446.9	1444.2	1451.4	1444.7	1421.6	1369.8	1357.2
40%	1454.4	1464.0	1464.0	1471.9	1462.3	1441.0	1383.6	1365.7
45%	1473.4	1481.8	1480.9	1487.8	1479.3	1456.8	1397.0	1376.0
50%	1489.4	1497.5	1496.4	1507.4	1496.1	1472.9	1411.4	1386.2
55%	1506.0	1514.0	1512.5	1524.4	1511.9	1489.8	1425.5	1398.4
60%	1524.0	1531.8	1530.2	1542.5	1527.7	1507.8	1440.1	1412.1
65%	1540.8	1549.8	1551.1	1561.3	1544.0	1524.4	1454.4	1428.7
70%	1558.3	1568.4	1567.4	1579.7	1564.7	1544.3	1466.2	1444.8
75%	1576.2	1588.4	1586.2	1599.5	1589.0	1567.0	1480.8	1463.6
80%	1596.7	1611.5	1607.7	1619.6	1613.9	1592.8	1495.0	1481.2
85%	1618.6	1633.6	1632.4	1644.1	1637.3	1624.1	1516.3	1503.7
90%	1645.9	1660.2	1661.5	1672.2	1666.4	1659.0	1543.6	1531.9
95%	1686.6	1696.9	1709.0	1719.0	1710.6	1708.8	1599.2	1584.2
100%	2033.8	2048.4	2019.9	2010.7	2005.6	2017.4	1886.7	1897.0
Volume (gal):	46,167,047,173	47,555,086,633	47,925,321,684	48,770,268,393	49,640,309,828	47,426,711,234	47,615,735,564	48,664,360,993

**CG NOx Emissions by Gasoline Volume (continued):
(Cumulative Distributions for Latest Year Data)**

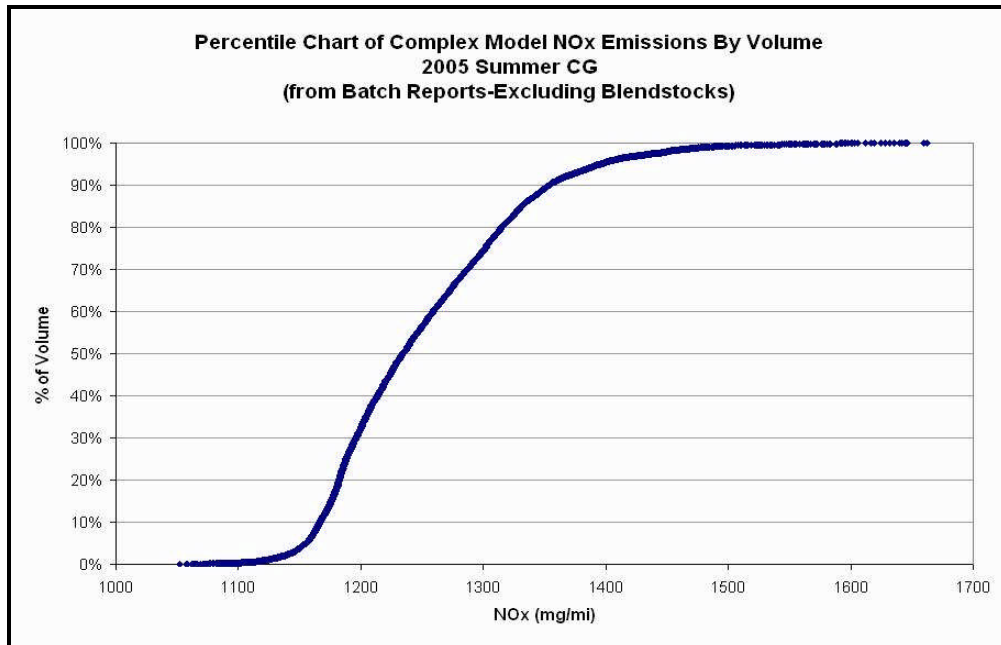


Figure 32

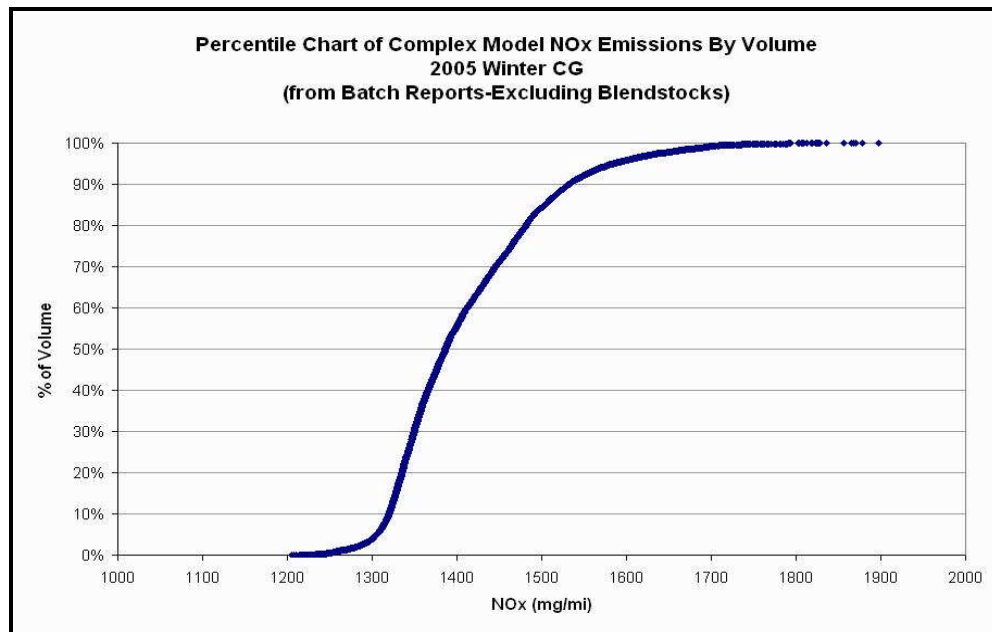


Figure 33

Regression Analysis

This report has largely focused on how gasoline has changed in response to EPA's regulatory requirements. In order to supplement more subjective evidence that gasoline composition has or has not changed concurrent with regulatory changes, EPA has made limited use of regression analysis.

RFG composition was expected to change when the Phase II standards were implemented. Many of the descriptive analyses presented in this report show property changes between 1999 and 2000. However it is not always clear that these changes are distinguishable from year-to-year fluctuations and any overall linear time trend that may be present. EPA fit each set of average estimates to the model:

$$Y=b_0+b_1*YEAR+b_2*Phs2$$

where Y is EPA's estimate of the property average. YEAR is the reporting or survey year and Phs2 is a categorical variable set to 0 for 1998 and 1999 and 1 for 2000 through 2004. (Although EPA's data for some properties included years prior to 1998, and the report examines trends through 2005, these regression analyses were limited to years 1998 through 2004.)⁴²A statistically significant Phs2 term would provide objective evidence that a sustained shift in a property value occurred concurrent with the transition from Phase I to Phase II RFG standards. Table 1 shows an estimate of the Phs2 coefficient and its p-value for each data set. The value of the Phs2 coefficient is an estimate of the magnitude of the parameter shift and a p-value of 0.050 or less indicates a Phs2 coefficient that can be considered statistically significant.

⁴² These regression analyses were done before the 2005 averages were calculated. They were not updated since the primary intent of this analysis was to provide a more objective basis for evaluating changes between 1999 and 2000.

P-Value and Coefficient for Phs2 Term				RFG	
Season	Parameter	Term	Data	1998-2004 Surveys	1998-2004 RFG Reporting
Summer	Benzene	Phs2	P-value	0.006	0.019
			Coefficients	-0.112	-0.092
	Aromatics	Phs2	P-value	0.002	0.008
			Coefficients	-6.109	-2.904
	RVP	Phs2	P-value	0.000	0.000
			Coefficients	-0.913	-0.859
	E200	Phs2	P-value	0.003	0.003
			Coefficients	-2.124	-1.710
	E300	Phs2	P-value	0.004	0.006
			Coefficients	2.451	2.311
	T50	Phs2	P-value	0.003	
			Coefficients	4.892	
	T90	Phs2	P-value	0.004	
			Coefficients	-9.039	
	Sulfur	Phs2	P-value	0.030	0.024
			Coefficients	-51.320	-53.790
	Oxygen	Phs2	P-value	0.340	0.700
			Coefficients	-0.125	-0.050
	Olefins	Phs2	P-value	0.028	0.652
			Coefficients	-1.436	-0.320
	NOx reduction	Phs2	P-value	0.002	0.012
			Coefficients	4.717	3.267
	Toxics reduction	Phs2	P-value	0.000	0.001
			Coefficients	6.617	4.811
VOC reduction	Phs2	P-value	0.000	0.000	
		Coefficients	9.674	9.168	
Winter	Benzene	Phs2	P-value	0.072	0.288
			Coefficients	-0.037	0.008
	Aromatics	Phs2	P-value	0.001	0.132
			Coefficients	-3.295	-0.611
	E200	Phs2	P-value	0.245	0.872
			Coefficients	-0.275	0.044
	E300	Phs2	P-value	0.002	0.000
			Coefficients	1.928	1.726
	T50	Phs2	P-value	0.099	
			Coefficients	2.826	
	T90	Phs2	P-value	0.003	
			Coefficients	-9.838	
	Sulfur	Phs2	P-value	0.365	0.367
			Coefficients	29.467	29.143
	Oxygen	Phs2	P-value	0.206	0.191
			Coefficients	-0.242	-0.192
	Olefins	Phs2	P-value	0.512	0.104
			Coefficients	0.315	1.290
	NOx reduction	Phs2	P-value	0.812	0.228
			Coefficients	0.330	-1.515
	Toxics reduction	Phs2	P-value	0.026	0.867
			Coefficients	2.087	-0.101

Table 1

For Summer RFG, both survey (retail) and reporting (production)-based data analyses indicated that statistically significant shifts occurred in all Complex Model input properties except oxygen and olefins. Neither analysis indicated a statistically significant shift in oxygen content and only the survey-based analysis indicated a shift in olefins content. The survey analysis indicated statistically significant shift in T50 and T90. (These parameters are not reported for all production data, so these trends were analyzed for surveys only.) Both analyses found that emissions performance for VOCs, NOx and toxics changed significantly concurrent with the transition.

For Winter RFG, the survey data analysis detected statistically significant shifts in aromatics, E300, T90 and toxics performance. Reporting data analysis detected a shift in E300 only.

In general, these regression results are consistent with subjective interpretation of the data and consideration of the underlying cause-effect relationships. This analysis, in some cases, may have failed to detect shifts that occurred between 1999 and 2000 because important variables or terms were omitted from the regression model. For example, the Winter NOx emission performance graph based on survey data gives a distinct impression of a shift (see the RFG Trends and Emissions Chapters). However the regression analysis did not conclude significance quite possibly because an even larger change occurred between 2003 and 2004. This latter change occurred as a result of Tier 2 sulfur reductions, and there is no term in the regression model to account for anything but a linear change over time.

Table 2 shows an estimate of the YEAR coefficient and its p-value for each data set. A statistically significant ($P \leq 0.050$) YEAR coefficient indicates that an upward (positive coefficient) or downward (negative) linear trend was detected between 1998 and 2004 after correcting for any upward or downward Phase I to Phase II shift.

P-Value and Coefficient for Year Term				RFG	
Season	Parameter	Term	Data	1998-2004 Surveys	1998-2004 RFG Reporting
Summer	Benzene	YEAR	P-value	0.051	0.894
			Coefficients	0.013	0.001
	Aromatics	YEAR	P-value	0.232	0.421
			Coefficients	0.257	0.121
	RVP	YEAR	P-value	0.047	0.008
			Coefficients	0.023	0.020
	E200	YEAR	P-value	0.280	0.162
			Coefficients	0.091	0.100
	E300	YEAR	P-value	0.022	0.085
			Coefficients	-0.340	-0.223
	T50	YEAR	P-value	0.480	
			Coefficients	-0.128	
	T90	YEAR	P-value	0.013	
			Coefficients	1.433	
	Sulfur	YEAR	P-value	0.043	0.038
			Coefficients	-10.287	-10.430
	Oxygen	YEAR	P-value	0.044	0.068
			Coefficients	0.076	0.068
	Olefins	YEAR	P-value	0.015	0.593
			Coefficients	0.389	0.086
NOx reduction	YEAR	P-value	0.434	0.116	
		Coefficients	0.126	0.337	
Toxics reduction	YEAR	P-value	0.017	0.731	
		Coefficients	-0.306	-0.040	
VOC reduction	YEAR	P-value	0.559	0.379	
		Coefficients	-0.060	-0.065	
Winter	Benzene	YEAR	P-value	0.027	0.074
			Coefficients	0.012	-0.003
	Aromatics	YEAR	P-value	0.015	0.686
			Coefficients	0.301	0.032
	E200	YEAR	P-value	0.286	0.989
			Coefficients	0.056	-0.001
	E300	YEAR	P-value	0.007	0.000
			Coefficients	-0.318	-0.288
	T50	YEAR	P-value	0.038	
			Coefficients	-0.910	
	T90	YEAR	P-value	0.009	
			Coefficients	1.611	
	Sulfur	YEAR	P-value	0.036	0.035
			Coefficients	-20.333	-20.325
	Oxygen	YEAR	P-value	0.152	0.151
			Coefficients	0.064	0.049
	Olefins	YEAR	P-value	0.230	0.157
			Coefficients	0.140	-0.242
	NOx reduction	YEAR	P-value	0.192	0.027
			Coefficients	0.460	0.816
Toxics reduction	YEAR	P-value	0.472	0.071	
		Coefficients	-0.109	0.311	

Table 2

For Summer RFG, the analysis detected a statistically significant upward linear trend in RVP and a downward linear trend in sulfur in both data sets. The analysis found statistically significant downward E300 and sulfur trends in both Winter RFG data sets. For several other properties only one of the two data sets indicated a statistically significant trend. Again, this analysis may have failed to detect systematic increases or decreases between 1998 and 2004 because the regression model chosen does not adequately describe the trend. For instance, although only the reporting data indicated statistical significance, there is little doubt (because of required sulfur reductions) that the NOx performance of both retail and production Winter RFG improved between 1998 and 2004.

Since substantial changes in some RFG properties occurred with Phase II, it is possible that the transition to Phase II RFG standards also affected CG composition. (EPA's Anti-Dumping regulations were designed to limit RFG's adverse impact on CG's emission-related qualities.) EPA applied the same regression model to its reporting data-based CG average estimates in order to detect possible property value shifts between 1999 and 2000.

Table 3 shows estimates of the Phs2 coefficients and p-values. For Summer CG, aromatics and RVP indicated statistically significant values. The shift in aromatics was positive, opposite in direction to the statistically significant negative change in RFG aromatics. While this may indicate that some aromatics were shifted from RFG to CG production to achieve RFG aromatics reductions, this is uncertain (see the *Aromatics Chapter*.) The RVP shifts for CG and RFG were in the same direction. For Winter CG, only olefins showed a statistically significant value, and the RFG regression analysis did not indicate a change in Winter olefin content.

Season	Parameter	Term	Data	1998-2004 CG Anti-Dumping
Summer	Aromatics	Phs2	P-value	0.004
			Coefficient	0.960
	Benzene	Phs2	P-value	0.955
			Coefficient	0.002
	E200	Phs2	P-value	0.853
			Coefficient	0.043
	E300	Phs2	P-value	0.447
			Coefficient	-0.274
	Olefins	Phs2	P-value	0.234
			Coefficient	0.903
	RVP	Phs2	P-value	0.027
			Coefficient	-0.063
	Sulfur	Phs2	P-value	0.309
			Coefficient	89.591
Winter	Aromatics	Phs2	P-value	0.433
			Coefficient	0.299
	Benzene	Phs2	P-value	0.572
			Coefficient	0.020
	E200	Phs2	P-value	0.556
			Coefficient	-0.233
	E300	Phs2	P-value	0.388
			Coefficient	0.301
	Olefins	Phs2	P-value	0.038
			Coefficient	1.281
	RVP	Phs2	P-value	0.120
			Coefficient	-0.208
	Sulfur	Phs2	P-value	0.308
			Coefficient	75.818

Table 3

Table 4 shows estimates of the YEAR coefficients and p-values. None of these are statistically significant. As previously stated, this regression analysis may not have detected systematic changes between 1998 and 2004 because the model does not adequately describe the trend. For example, there is no question that Summer and Winter CG sulfur decreased between 1998 and 2004, but the decreases were very non-linear.

Season	Parameter	Term	Data	1998-2004 CG Anti-Dumping
Summer	Aromatics	Year	P-value	0.059
			Coefficient	-0.099
	Benzene	Year	P-value	0.874
			Coefficient	-0.001
	E200	Year	P-value	0.344
			Coefficient	0.053
	E300	Year	P-value	0.959
			Coefficient	0.004
	Olefins	Year	P-value	0.283
			Coefficient	-0.180
	RVP	Year	P-value	0.086
			Coefficient	0.009
	Sulfur	Year	P-value	0.102
			Coefficient	-36.705
Winter	Aromatics	Year	P-value	0.396
			Coefficient	-0.074
	Benzene	Year	P-value	0.750
			Coefficient	-0.003
	E200	Year	P-value	0.170
			Coefficient	0.137
	E300	Year	P-value	0.431
			Coefficient	-0.062
	Olefins	Year	P-value	0.073
			Coefficient	-0.229
	RVP	Year	P-value	0.128
			Coefficient	0.046
	Sulfur	Year	P-value	0.079
			Coefficient	-34.410

Table 4

PADD Level Analysis of Reporting Data

United States gasoline production and supply data are often aggregated into geographic regions referred to as Petroleum Administration for Defense Districts (PADDs). The US is divided into five PADDs (PADD I-East Coast, PADD II-Midwest, PADD III-Gulf Coast, PADD IV-Rocky Mountain, PADD V-West Coast).

In the various individual parameter appendices, EPA presented estimates of RFG property averages in each year and season, aggregated at the PADD level. These estimates were based on the retail data collected in RFG Surveys. EPA did not have comparable geographic data for CG, and did not include any "geographic" CG trend analysis in those appendices. This appendix includes a limited PADD-specific analysis of RFG and CG batch reporting data. It does not examine trends, but separately summarizes 2004 and 2005 reporting data.⁴³ These PADD averages also appear in the individual parameter chapters.

Batch records do not explicitly identify a PADD, but each batch record contains a "facility" identifier, so that a refiner's batch data can be related to a refinery, and the refinery related to a PADD, based on its location. This PADD-specific analysis excluded those batches where the "facility" was an importer. Importer batches were included in the aggregate trend analyses presented in the body of the report.

In order to provide the additional geographic information contained in this PADD-level analysis, while still maintaining a sufficient degree of aggregation to prevent gasoline properties or volumes from being strongly associated with individual companies or facilities, EPA has reported gasoline property averages for PADDs I, II and III only. (The parties that submit these data to EPA have claimed that the data are confidential business information (CBI), and these data may be protected by CBI regulations.)

Users of these PADD-specific averages should be aware that while these estimates are likely to provide better information about the properties and emissions qualities of gasoline sold or used within a PADD than national averages, the properties of gasoline produced in a PADD are likely to differ somewhat from the properties of gasoline consumed in a PADD. Significant PADD to PADD movement of gasoline (e.g. via the Colonial Pipeline which transports gasoline from PADD III to PADD I) as well as importation of finished gasoline account for this difference. PADD-specific retail property averages estimated from RFG Survey data are included in the parameter chapters.

Tables 1 and 4 show the volumes, in gallons, for the batches allocated to the various PADDs in each of the two years. The gasoline volume in the column labeled "Other" includes total volume from batches associated with PADD IV or V refineries and refineries in US territories. The column labeled "Grand total" is the sum of the volumes in the PADD I through III and "Other" columns. The column labeled "Aggregate Total" represents the volume of the batches considered in the aggregate analyses reported in the body of this report and in the individual parameter appendices. The "Aggregate Totals" are higher because the aggregate analyses included importer as well as refiner batches. The volume totals in Tables 1 and 4 are totals prior to any data screening done in conjunction with computation of the averages presented in this report. (The PADD-average tables in the parameter chapters give the post-screening volumes for each parameter average calculation). PADD I, II and III volume totals are expected to be approximately the total gasoline production in each of those PADDs, excluding any gasoline volume that is exported.

⁴³ Resources did not permit PADD-specific analysis of each year's batch data. EPA felt that analysis of more recent data may be of greater use to a wider audience than analysis of older data.

EPA reporting data "Grand Totals" by PADD in Table 1 compare reasonably well to estimates of finished gasoline production volume minus exports based on data published in the Energy Information Administration's "Petroleum Supply Annual 2004" (EIA,2005).⁴⁴ Using the EIA data, EPA calculated that these volumes were, for PADDs I, II and III, respectively, 18,926,166,000 gallons, 31,976,994,000 gallons and 54,012,336,000 gallons. The purpose of these volume comparisons was not to question EIA's volume data, but to provide some independent verification of the completeness of EPA's data, and to detect any gross inconsistencies, possibly indicating a problem with EPA's data or analysis. Although there were some differences (see footnote), EPA does not believe that they are "gross inconsistencies", and has not investigated them. EPA did not do a similar comparison of 2005 volumes. The volumes in the "Grand total" column do not represent total PADD I through V gasoline production because they exclude PADD V "California" gasoline, and include some volume from refineries outside of the 50 states.

2004 Gasoline Production Volumes (gallons) by PADD-Calculated from Refiner Batch Reports							
Gas type	Season	PADD				Grand total	Aggregate total
		I	II	III	Other		
CG	Summer	3,752,272,894	11,456,437,187	21,722,608,623	6,400,078,025	43,331,396,729	44,009,126,002
	Winter	3,484,116,076	13,323,944,095	23,628,091,025	6,809,448,022	47,245,599,218	48,333,969,089
CG Total		7,236,388,970	24,780,381,282	45,350,699,648	13,209,526,047	90,576,995,947	92,343,095,091
RFG	Summer	4,792,114,891	1,740,499,436	5,890,920,167	624,073,296	13,047,607,790	14,243,059,617
	Winter	6,489,530,475	2,438,403,544	6,059,647,031	461,826,582	15,449,407,632	17,194,370,899
RFG Total		11,281,645,366	4,178,902,980	11,950,567,198	1,085,899,878	28,497,015,422	31,437,430,516
Grand Total		18,518,034,336	28,959,284,262	57,301,266,846	14,295,425,925	119,074,011,369	123,780,525,607

Table 1

Tables 2, 3, 5, and 6 show the volume-weighted parameter averages calculated for PADDs I, II, and III RFG and CG. In both cases, the data were screened as for the aggregate average computations; i.e. for estimation of most seasonal average parameter values, data were screened on a parameter-specific basis primarily to exclude missing data. Additionally, for Complex Model emission average calculations, batches with "outlier" property values and CG blendstock batches were excluded. Although EPA's aggregate CG emissions rate averages were based on EPA's recalculated Complex Model emissions values for each batch, these PADD-level analyses used reported emission values. Further information relating to data screening, as well as information relating to each parameter can be found in the body of this report. The negative value for the volume-weighted average TAME content that appears in the CG average table warrants further explanation. This arises because certain batches, for compliance calculations, are reported with negative volumes. When a refiner uses previously certified gasoline (PCG) as a blending component to make other gasoline the PCG batch properties are reported with a negative volume in order to avoid double-counting this gasoline in calculations. When a batch of certified gasoline is exported, it is also reported with a negative volume. Consequently, although a negative property average may be physically impossible, it could occur in volume-weighted average calculations

⁴⁴EPA used supply and disposition data for Finished Motor Gasoline for PADD I (Table 4 page 34), PADD II (Table 6, page 36) and PADD III (Table 8, page 38) summing field production and refinery production and subtracting exports. Volumes were reported in thousand barrels. These tables also subdivided Finished Gasoline into "Reformulated", "Oxygenated" and "Other" categories. EPA compared the EIA "Reformulated" volumes with its RFG volumes and the sum of the "Oxygenated" and "Other" volumes with its CG volumes. EIA's PADD II "Reformulated" volume was about 32% higher than EPA's and its PADD III "Reformulated" volume about 13% lower. The remaining differences ranged from about 0.4% to under 7 percent. The sum of the compared gasoline category volumes over the three PADDs as well as the sum of gasoline volume over these PADDs each differed by less than 1 percent.

2004 RFG Parameter Averages by PADD-Volume Weighted Averages Calculated from Batch Reports

		Gasoline Properties													Complex Model Performance		
	PADD	Aromatics (v%)	Benzene (v%)	Olefins (v%)	Oxygen (wt%)	E200 (%)	E300 (%)	RVP (psi)	Sulfur (ppm)	Ethanol (v%)	MTBE (v%)	ETBE (v%)	TAME (v%)	T_butanol (v%)	NOx (%)	Toxics (%)	VOC (%)
Summer	I	21.2	0.55	12.97	2.59	47.3	83.6	6.83	91	3.01	8.02	0.00	0.14	0.01	8.8	32.8	28.0
	II	18.9	0.84	5.29	3.48	46.6	84.7	6.98	78	9.39	0.00	0.00	0.00	0.00	13.3	29.9	26.6
	III	18.7	0.54	11.24	2.36	48.7	82.5	6.88	73	1.75	8.74	0.00	0.55	0.05	11.3	35.6	29.1
Winter	I	20.4	0.65	12.92	2.45	55.4	85.1		118	3.00	7.11	0.00	0.05	0.01	7.6	25.0	
	II	17.3	0.79	4.86	3.26	58.4	85.7		93	8.61	0.00	0.00	0.00	0.00	12.9	25.2	
	III	17.9	0.54	11.40	2.09	55.8	83.7		101	0.98	8.52	0.00	0.68	0.04	10.3	29.0	

Table 2

2004 Conventional Gasoline Parameter Averages by PADD-Volume Weighted Averages Calculated from Batch Reports

		Gasoline Properties													Complex Model Emission Rates (mg/mi)		
	PADD	Aromatics (v%)	Benzene (v%)	Olefins (v%)	Oxygen (wt%)	E200 (%)	E300 (%)	RVP (psi)	Sulfur (ppm)	Ethanol (v%)	MTBE (v%)	ETBE (v%)	TAME (v%)	T_butanol (v%)	Exhaust toxics	NOx	
Summer	I	28.4	0.96	12.8	0.44	45.5	82.7	8.40	125	0.82	0.70	0.09	-0.17	0.00	67.7	1275.8	
	II	28.7	1.38	8.8	0.34	46.6	81.4	8.46	140	0.97	0.00	0.00	0.00	0.00	71.2	1249.9	
	III	27.3	0.98	12.2	0.17	44.6	79.4	8.19	108	0.06	0.76	0.00	0.04	0.00	67.1	1254.5	
Winter	I	24.0	0.93	15.7	0.37	51.5	84.4	12.66	138	0.83	0.35	0.01	0.03	0.00	103.7	1477.5	
	II	25.1	1.32	8.6	0.40	52.6	84.1	13.31	135	1.16	0.00	0.00	0.00	0.00	107.6	1413.5	
	III	24.1	0.89	12.2	0.14	49.7	81.8	11.77	115	0.05	0.65	0.00	0.02	0.00	101.1	1424.9	

Table 3

2005 Gasoline Production Volumes (gallons) by PADD-Calculated from Refiner Batch Reports

Gas type	Season	PADD				Grand total	Aggregate total
		I	II	III	Other		
CG	Summer	3,547,001,722	10,568,941,899	20,889,546,279	6,061,232,118	41,066,722,018	42,849,893,176
	Winter	4,064,064,814	13,589,333,929	22,444,880,341	6,725,201,537	46,823,480,621	49,467,392,607
CG Total		7,611,066,536	24,158,275,828	43,334,426,620	12,786,433,655	87,890,202,639	92,317,285,783
RFG	Summer	4,431,080,230	1,844,913,833	5,690,766,967	546,882,756	12,513,643,786	14,092,489,036
	Winter	7,081,940,665	2,718,751,541	5,766,524,033	388,731,882	15,955,948,121	18,046,671,196
RFG Total		11,513,020,895	4,563,665,374	11,457,291,000	935,614,638	28,469,591,907	32,139,160,232
Grand Total		19,124,087,431	28,721,941,202	54,791,717,620	13,722,048,293	116,359,794,546	124,456,446,015

Table 4

2005 RFG Parameter Averages by PADD-Volume Weighted Averages Calculated from Refiner Batch Reports

	PADD	Gasoline Properties										Complex Model Performance					
		Aromatics (v%)	Benzene (v%)	Olefins (v%)	Oxygen (wt%)	E200 (%)	E300 (%)	RVP (psi)	Sulfur (ppm)	Ethanol (v%)	MTBE (v%)	ETBE (v%)	TAME (v%)	T_butanol (v%)	NOx (%)	Toxics (%)	VOC (%)
Summer	I	21.9	0.62	13.3	2.50	47.6	84.1	6.88	73	3.14	7.13	0.01	0.28	0.01	9.0	31.9	27.9
	II	19.1	0.86	4.7	3.50	46.3	84.3	6.95	64	9.46	0.00	0.00	0.00	0.00	13.8	29.9	26.5
	III	19.2	0.60	12.5	2.25	49.9	83.2	6.93	78	1.31	8.96	0.01	0.59	0.04	10.0	34.7	29.2
Winter	I	20.7	0.69	13.0	2.41	55.6	85.7		90	3.02	6.82	0.04	0.09	0.01	8.6	25.1	
	II	18.4	0.81	5.3	3.24	56.5	84.7		78	8.63	0.00	0.00	0.00	0.00	13.2	24.5	
	III	18.0	0.57	11.0	2.05	56.7	84.5		83	0.91	8.53	0.02	0.53	0.03	11.3	29.4	

Table 5

2005 Conventional Gasoline Parameter Averages by PADD-Volume Weighted Averages Calculated from Batch Reports

	PADD	Gasoline Properties										Complex Model Emission Rates (mg/mi)				
		Aromatics (v%)	Benzene (v%)	Olefins (v%)	Oxygen (wt%)	E200 (%)	E300 (%)	RVP (psi)	Sulfur (ppm)	Ethanol (v%)	MTBE (v%)	ETBE (v%)	TAME (v%)	T_butanol (v%)	Exhaust toxics	NOx
Summer	I	28.9	1.12	12.7	0.34	45.1	82.8	8.31	108	0.74	0.39	0.00	0.07	0.00	69.5	1264.9
	II	28.6	1.41	9.6	0.34	47.5	81.9	8.46	121	0.97	0.00	0.00	0.00	0.00	71.2	1244.9
	III	27.0	1.07	12.8	0.13	44.8	80.5	8.22	98	0.05	0.60	0.01	0.02	0.00	68.0	1253.9
Winter	I	24.6	1.18	14.8	0.30	51.0	84.4	12.31	110	0.68	0.30	0.00	0.05	0.00	107.7	1453.4
	II	24.5	1.25	9.4	0.33	52.7	84.6	13.25	117	0.92	0.00	0.00	0.00	0.00	105.6	1405.3
	III	24.5	1.01	12.1	0.11	49.3	82.6	11.73	86	0.07	0.41	0.01	0.02	0.00	102.6	1405.2

Table 6