

1745
3/1/79

HR 2295



BETC/PPS-79/1

MOTOR GASOLINES, SUMMER 1978

By

Ella Mae Shelton

Date Published—February 1979

Bartlesville Energy Technology Center
U.S. Department of Energy
Bartlesville, Oklahoma

MASTER

UNLIMITED

TECHNICAL INFORMATION CENTER
UNITED STATES DEPARTMENT OF ENERGY

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.

NOTICE

This report was prepared as an account of work sponsored by the United States Government. Neither the United States nor the United States Department of Energy, nor any of their employees, nor any of their contractors, subcontractors, or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness or usefulness of any information, apparatus, product or process disclosed, or represents that its use would not infringe privately owned rights.

Available from the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161.

Price: Paper Copy \$6.00
Microfiche \$3.00

This Petroleum Products Survey, BETC/PPS-79/1, is one of a series of surveys published by the United States Department of Energy (DOE) at the Bartlesville Energy Technology Center (BETC). These survey reports represent a cooperative effort supported in part by the American Petroleum Institute.

MOTOR GASOLINES, SUMMER 1978

By

Ella Mae Shelton


NOTICE

This report was prepared as an account of work sponsored by the United States Government. Neither the United States nor the United States Department of Energy, nor any of their employees, nor any of their contractors, subcontractors, or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness or usefulness of any information, apparatus, product or process disclosed, or represents that its use would not infringe privately owned rights.

Bartlesville Energy Technology Center
Bartlesville, Oklahoma

Date Published—February 1979

UNITED STATES DEPARTMENT OF ENERGY
TECHNICAL INFORMATION CENTER


DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

CONTENTS

	<u>Page</u>
Abstract.....	1
Introduction	1
Summary	2
Discussion of data	3
List of motor-gasoline survey reports, 1967-78	6

ILLUSTRATIONS

<u>Fig.</u>		
1.	Trends of certain characteristics of regular grade gasolines.....	7
2.	Trends of certain characteristics of premium grade gasolines.....	8
3.	Area 1: Unleaded motor gasoline octane number distributions	9
4.	Area 1: Regular motor gasoline octane number distributions.....	10
5.	Area 1: Premium motor gasoline octane number distributions	11
6.	Area 2: Unleaded motor gasoline octane number distributions	12
7.	Area 2: Regular motor gasoline octane number distributions.....	13
8.	Area 2: Premium motor gasoline octane number distributions	14
9.	Area 3: Unleaded motor gasoline octane number distributions	15
10.	Area 3: Regular motor gasoline octane number distributions.....	16
11.	Area 3: Premium motor gasoline octane number distributions	17
12.	Area 4: Unleaded motor gasoline octane number distributions	18
13.	Area 4: Regular motor gasoline octane number distributions.....	19
14.	Area 4: Premium motor gasoline octane number distributions	20
15.	Map showing locations and numbers of samples by districts and areas for the national motor gasoline survey, summer 1978	77

TABLES

1.	Summary of values, motor gasoline survey, summer 1978.....	21
2.	Summary of values, motor gasoline survey, summer 1977.....	21
3.	Average data for different brands, summer 1978	22
4.	Average data for brands in each district.....	72
5.	Cumulative percents of lead content for unleaded gasoline samples by districts, motor gasoline survey, summer 1978	75
6.	Locations and numbers of samples by districts and areas for motor gasoline survey, summer 1978.....	76

MOTOR GASOLINES, SUMMER 1978

By

Ella Mae Shelton¹

ABSTRACT

Analytical data for 2,433 samples of motor gasoline, from service stations throughout the country, were collected and analyzed under agreement between the Bartlesville Energy Technology Center and the American Petroleum Institute. The samples represent the products of 50 companies, large and small, which manufacture and supply gasoline. These data are tabulated by groups according to brands (unlabeled) and grades for 17 marketing areas and districts into which the country is divided. A map included in this report, shows marketing areas, districts and sampling locations. The report also includes charts indicating the trends of selected properties of motor fuels since 1946. Twelve octane distribution percent charts for areas 1, 2, 3, and 4 for unleaded, regular, and premium grades of gasoline are presented in this report. The antiknock (octane) index $[(R + M)/2]$ averages of gasolines sold in this country were 88.5, 89.5 and 94.3 for unleaded, regular, and premium grades of gasolines, respectively.

INTRODUCTION

The properties of motor fuels sold through service stations in the United States are reported in accordance with a cooperative agreement between the American Petroleum Institute and the Bartlesville Energy Technology Center of the United States Department of Energy. By agreement with the American Petroleum Institute, identification of the data is confidential.

This report presents analytical data for 2,433 samples that represent the products of 50 companies. Company representatives collected the samples during June, July, and August 1978. As in previous surveys, the gasolines covered by this survey include those from both large and small suppliers. Laboratories of various refiners, motor manufacturers,

¹ Statistical Assistant.

and chemical companies obtained and submitted the data to the Bartlesville Energy Technology Center for analysis and compilation. Motor-gasoline survey reports published since 1967 are listed on page 6.

Analytical data required for a complete gasoline analysis were not available for many of the samples. Test in this category, the number of test results available and used in this report, and the percent of the total samples represented for that test include the following:

<u>Test</u>	<u>Number of samples used</u>	<u>Percent of total samples</u>
Gravity	2,292	94.2
Sulfur content	479	19.7
Lead content	1,479	60.8
Vapor pressure	1,761	72.4
Distillation	1,802	74.1
Manganese (unleaded)	153	6.3
Benzene	394	16.2

SUMMARY

The characteristics of motor gasoline for summer 1978 are summarized in table 1, and those for summer 1977 are shown in table 2 for comparison. Figures 1 and 2 show trends for several years of some of the more important characteristics.

The following data show trends of national average octane numbers for the last four gasoline surveys:

<u>Octane number</u>	<u>Grades of motor gasoline</u>								
	<u>Unleaded</u>			<u>Regular</u>			<u>Premium</u>		
	<u>Res.</u>	<u>Motor</u>	<u>(R+M)/2</u>	<u>Res.</u>	<u>Motor</u>	<u>(R+M)/2</u>	<u>Res.</u>	<u>Motor</u>	<u>(R+M)/2</u>
Semi-annual reports:									
Winter 1976-77	92.6	84.1	88.4	93.2	86.1	89.7	98.8	91.4	95.1
Summer 1977	92.9	83.9	88.5	93.2	85.9	89.6	98.7	91.2	95.0
Winter 1977-78	92.9	83.9	88.4	93.2	85.7	89.5	98.8	91.0	94.9
Summer 1978	93.0	83.9	88.5	93.2	85.7	89.5	98.2	90.4	94.3

Table 3 shows properties of unleaded, regular, and premium grades of gasolines sold during the summer of 1978 in each of the 17 marketing districts. Table 4 shows average data from each district and gives the national average for all properties for the three grades of gasoline, unleaded, regular, and premium.

Cumulative percents of lead content for unleaded grade gasolines for the 17 districts are presented in table 5. Table 6 lists locations and numbers of samples represented in each area and district for all samples in this report.

DISCUSSION OF DATA

Terms used in the surveys have the following meanings:

Area: Selected by elevation and location in the United States. The areas are divided as: Area 1 - Eastern and Gulf Coast states, Area 2 - Central states, Area 3 - Mountain states, including elevations above 3,000 feet, and Area 4 - Western states. The areas are given in table 6 and indicated by a broken line in figure 15.

District: The designation of a marketing area for collecting samples and data. The present arrangement of 17 districts, developed by the CFR Committee², was selected with reference to the specifications on motor gasolines, refinery locations, population centers, and arteries of commerce such as navigable rivers. The states or parts of states in each district are indicated in the headings of table 3 and are shown in figure 15.

Brand: The gasoline sold within a given price group and by a given trade name.

Item: The index number assigned to a given brand in a given district. The data for each item represent the average of those submitted for that brand in that district. The number of samples represented follows the item number.

Sample: The supply of gasoline obtained at the service station and analyzed in the laboratory.

Table 3 presents the following data by districts: gravity in degrees API, sulfur, gum, lead (for premium and regular grades), research- and motor-method octane numbers, the calculated property of the sum of research and motor octane numbers divided by two [anti-knock (octane) index], Reid vapor pressure, calculated data for vapor-liquid ratio of 20, distillation characteristics, benzene, and manganese (for unleaded grade) of the motor

² Coordinating Fuel and Equipment Research Committee (formerly the Coordinating Fuel Research Committee) of the Coordinating Research Council, Inc. From 1935 to 1948 the motor-gasoline surveys were conducted under a cooperative agreement between the Coordinating Research Council and the Bureau of Mines.

fuels collected. The tests were made according to American Society for Testing and Materials standards.³

Corrosion tests results are not included in the district tables as all the reported numbers are "1", according to the corrosion scale given in table 1 of ASTM D130.⁴

Gum test data are reported to the nearest whole number. The distillation temperatures, corrected to barometric pressure at 760 mm Hg, are those for percent evaporated.

Average values follow the tabulated data in table 3 for the respective grades of fuel shown in each district. The averages of the various properties were computed without reference to the total number of samples represented by each item.

The district averages from table 3 are shown in table 4 with the number of brands and number of samples for unleaded, regular, and premium grades of gasoline in each district. The national averages for each of the properties of fuels sold in each of the 17 districts are given at the end of the table.

Figures 1 and 2 illustrate trends in the national averages of certain properties of regular and premium grades of gasoline, respectively, since the summer of 1946. This report presents trend data of the calculated antiknock index $[(R + M)/2]$ since 1970. Averages for the winter surveys are plotted on the lines that represent the years and the averages for the summer survey data are plotted between the lines. Octane-number data points for successive surveys are connected, but the data for Reid vapor pressure and distillation temperatures are plotted separately for summer and winter surveys. Charts that show plots of these properties from 1935 (except winter 1941-42 and summer 1942) are presented in the survey report on motor gasolines for winter 1964-65 and preceding reports.⁵

Figures 3 through 14 show the research-method, motor-method, and antiknock $[(R + M)/2]$ octane distribution percent curves for areas 1, 2, 3, and 4 for unleaded, regular, and premium grades of gasoline.

³ American Society for Testing and Materials, 1977 Annual Book of ASTM Standards, Part 23, Petroleum Products and Lubricants (1), Philadelphia, Pa., 936 pp.

⁴ American Society for Testing and Materials, Standard Method for Detection of Copper Corrosion From Petroleum Products by the Copper Strip Tarnish Test (D130): 1977 Annual Book of ASTM Standards, Part 23, pp. 97-103.

⁵ Blade, O. C., Motor Gasolines, Winter 1964-65. Bureau of Mines Petroleum Products Survey No. 40, 38 pp. (In cooperation with the American Petroleum Institute.)

Table 5 lists cumulative percents of lead content for unleaded grade gasolines from 0.00 to >0.10 percent for the data submitted for the 17 districts using ASTM D3237.⁶

The city locations, areas, districts, and numbers of samples of gasoline represented are listed in table 6 and shown on the map in figure 15. The locations are named for the principal cities in the respective vicinities, and include suburbs and adjacent communities. The area of the circle at each location is proportional to the number of samples obtained. The summary at the end of table 6 lists by district, the number of locations, samples, and the percentages of the latter based on the total reported.

This report does not discuss the significance of the data presented. Reference may be made to the ASTM specification⁷ for motor gasoline and its appendixes, "Significance of ASTM Specifications for Motor Gasoline," at a technical library.

⁶ American Society for Testing and Materials, Standard Method of Test for Lead in Gasoline by Atomic Absorption Spectrometry (D3237): 1977 Annual Book of ASTM Standards, Part 25, pp. 109-110.

⁷ American Society for Testing and Materials, Standard Specifications for Gasoline (D439): 1977 Annual Book of ASTM Standards, Part 23 (see footnote 3), pp. 219-231.

LIST OF MOTOR-GASOLINE SURVEY REPORTS, 1967-1978

<u>Author</u>	<u>Season and Year</u>	<u>PPS Report No.</u>	<u>Published</u>	<u>No. of Pages</u>
In cooperation with the American Petroleum Institute				
Blade, O. C.	Summer 1967	53	Dec. 1967	38
Do.	Winter 1967-68	55	June 1968	39
Do.	Summer 1968	58	Jan. 1969	38
Do.	Winter 1968-69	60	July 1969	38
Blade, O. C. and Ella Mae Shelton	Summer 1969	63	Jan. 1970	38
Shelton, Ella Mae and C. M. McKinney	Winter 1969-70	66	Aug. 1970	47
Do.	Summer 1970	68	Jan. 1971	49
Do.	Winter 1970-71	70	June 1971	54
Shelton, Ella Mae	Summer 1971	73	Jan. 1972	59
Do.	Winter 1971-72	75	June 1972	53
Do.	Summer 1972	78	Jan. 1973	53
Do.	Winter 1972-73	80	June 1973	60
Do.	Summer 1973	83	Jan. 1974	59
Do.	Winter 1973-74	85	June 1974	59
Do.	Summer 1974	88	Jan. 1975	62
Do.	Winter 1974-75	75/1	June 1975	71
Do.	Summer 1975	76/1	Jan. 1976	72
Do.	Winter 1975-76	76/3	June 1976	72
Do.	Summer 1976	77/1	Jan. 1977	78
Do.	Winter 1976-77	77/3	June 1977	89
Do.	Summer 1977	78/1	Jan. 1978	89
Do.	Winter 1977-78	78/3	July 1978	78
Do.	Summer 1978	This report		

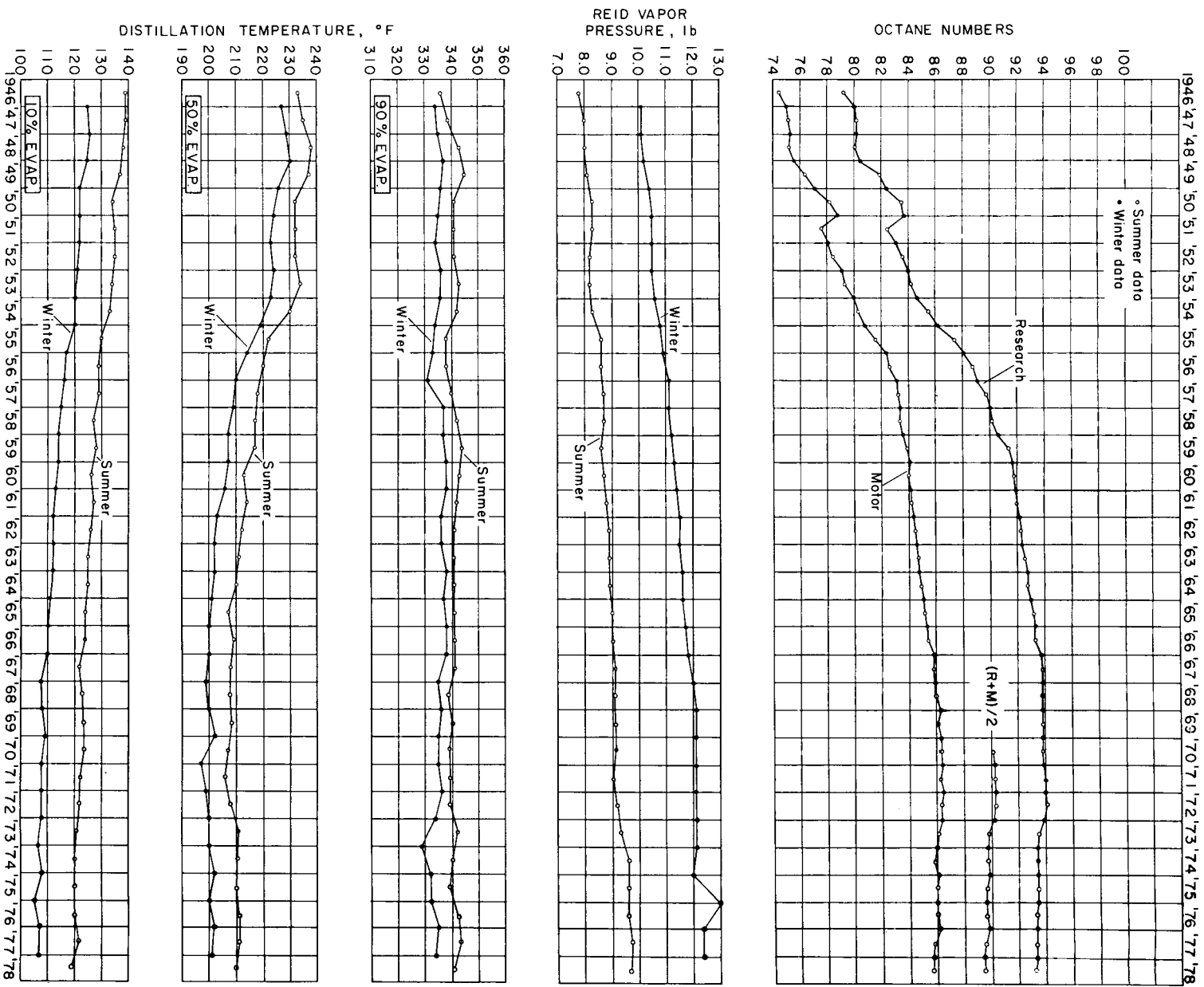


FIGURE 1. - Trends of certain characteristics of regular grade gasolines.

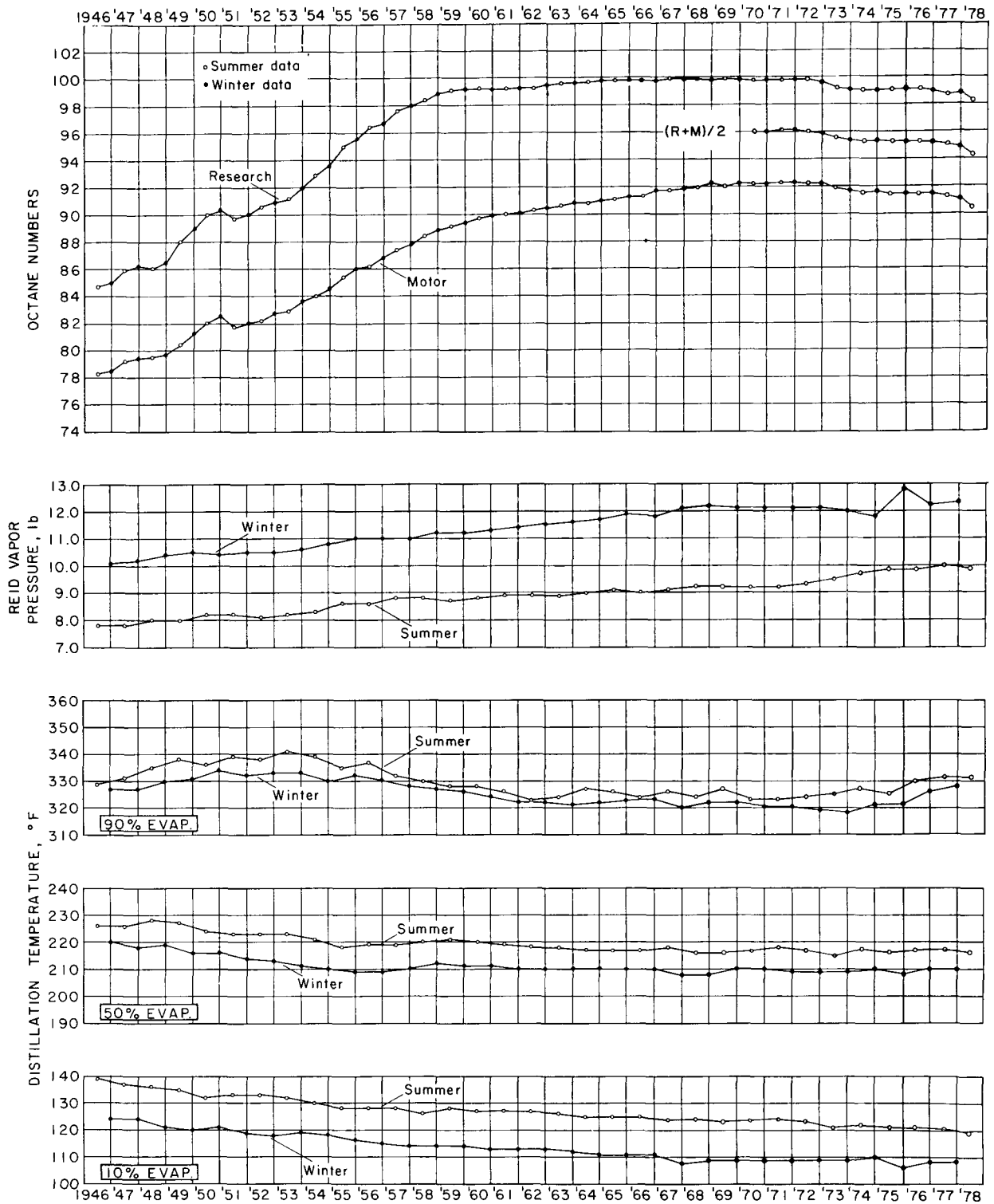


FIGURE 2.-Trends of certain characteristics of premium grade gasolines.

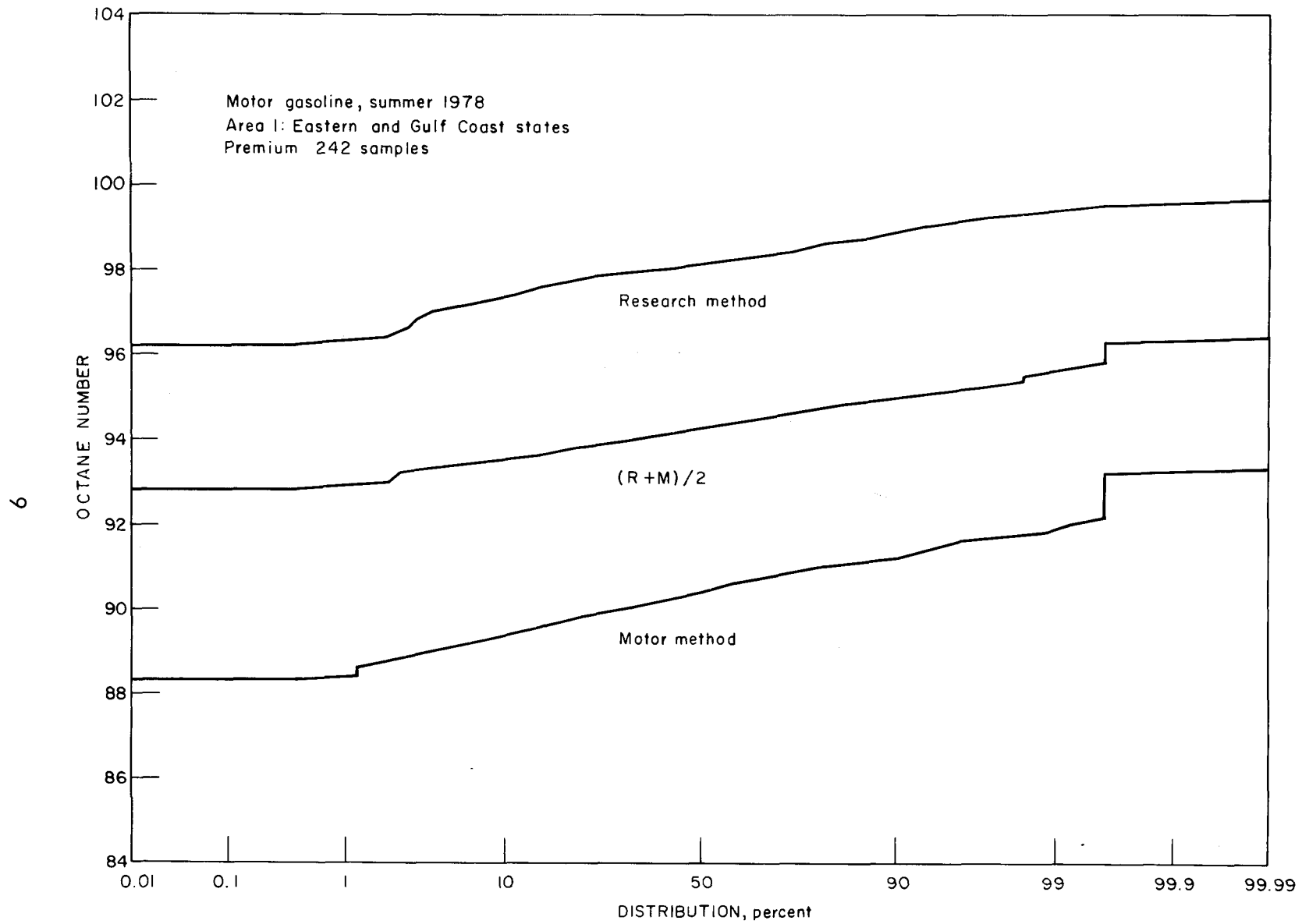


FIGURE 5.—Area I: Premium motor gasoline octane number distributions.

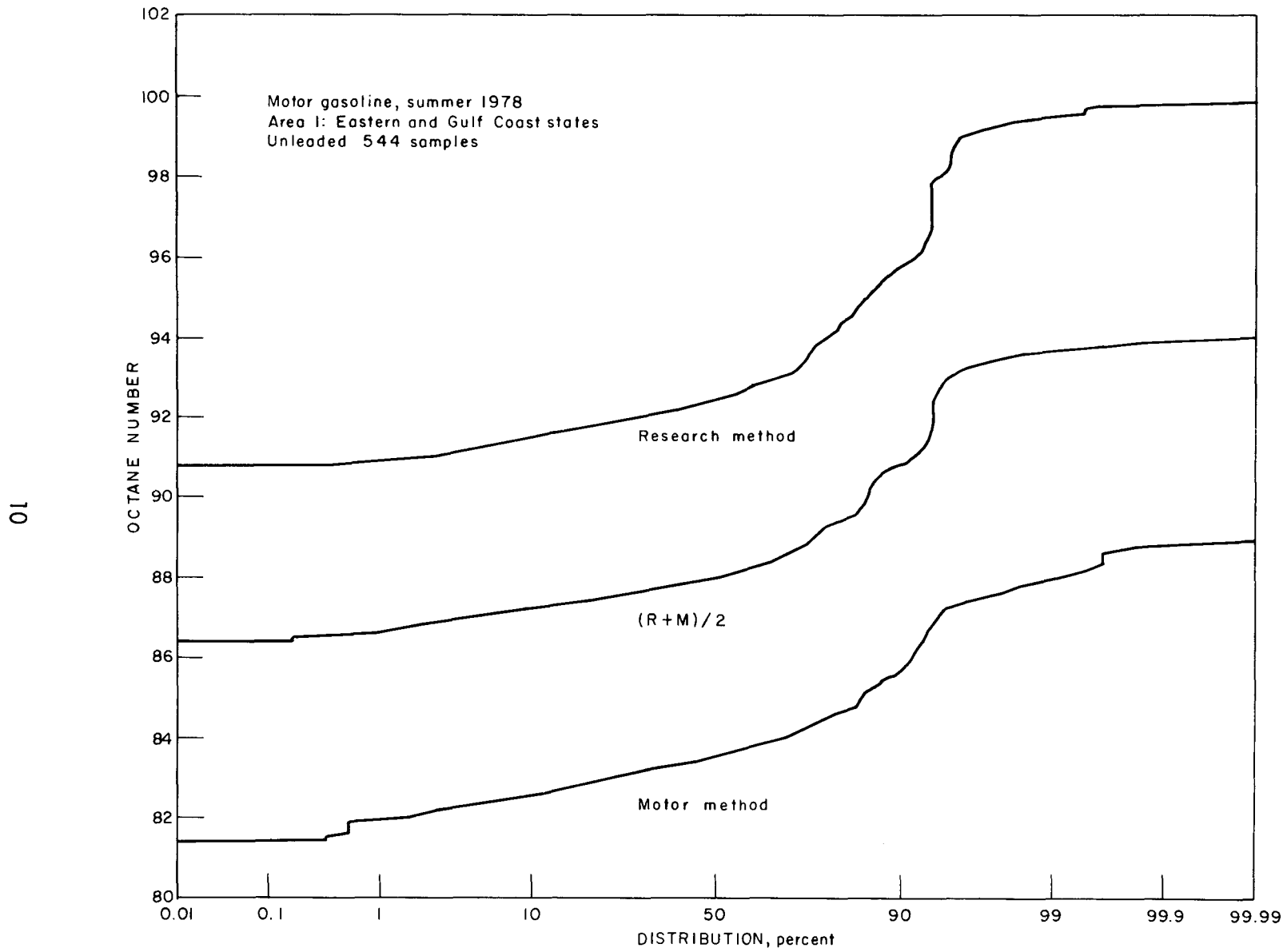


FIGURE 3.- Area I: Unleaded motor gasoline octane number distributions.

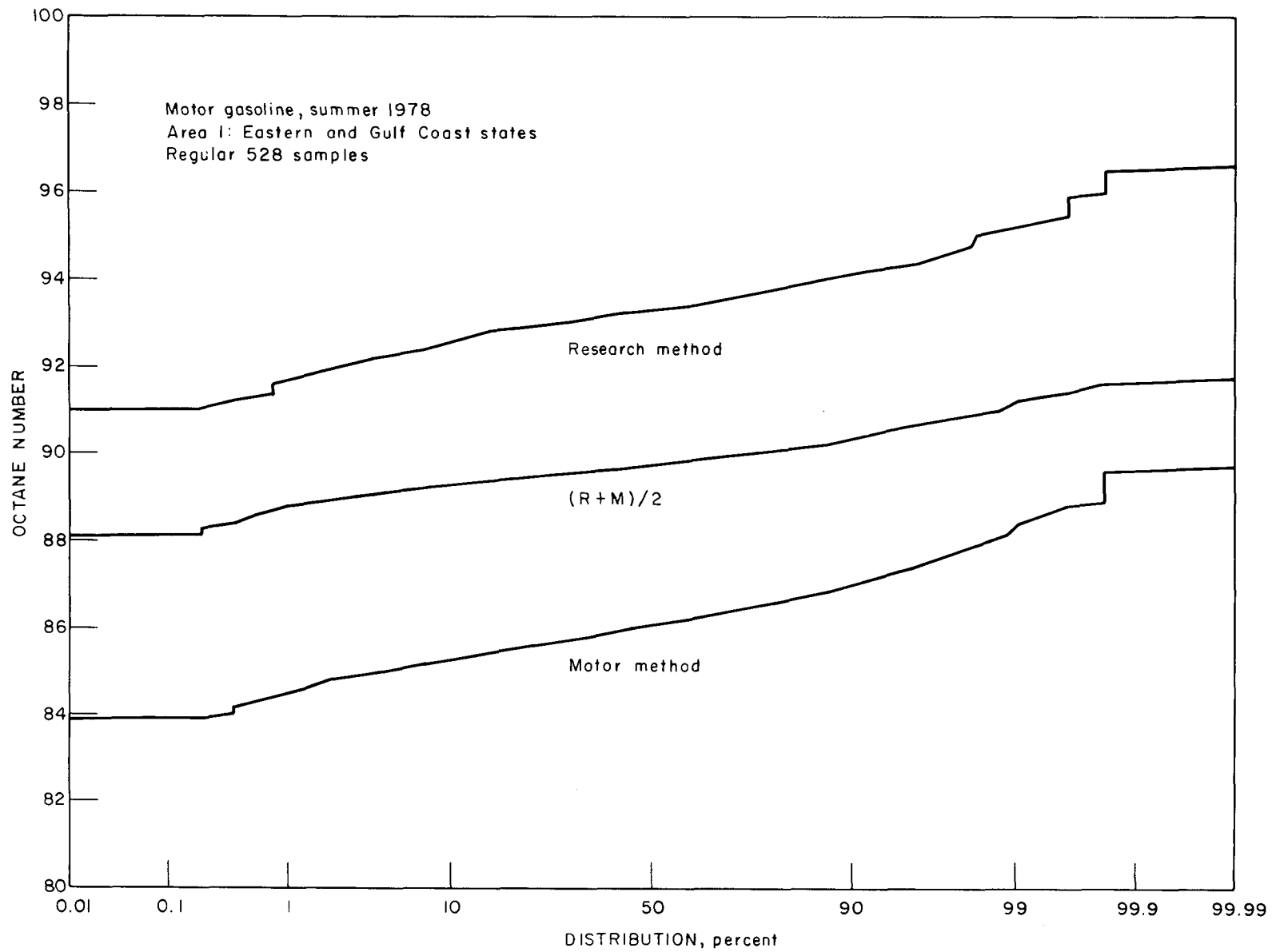


FIGURE 4.- Area I: Regular motor gasoline octane number distributions.

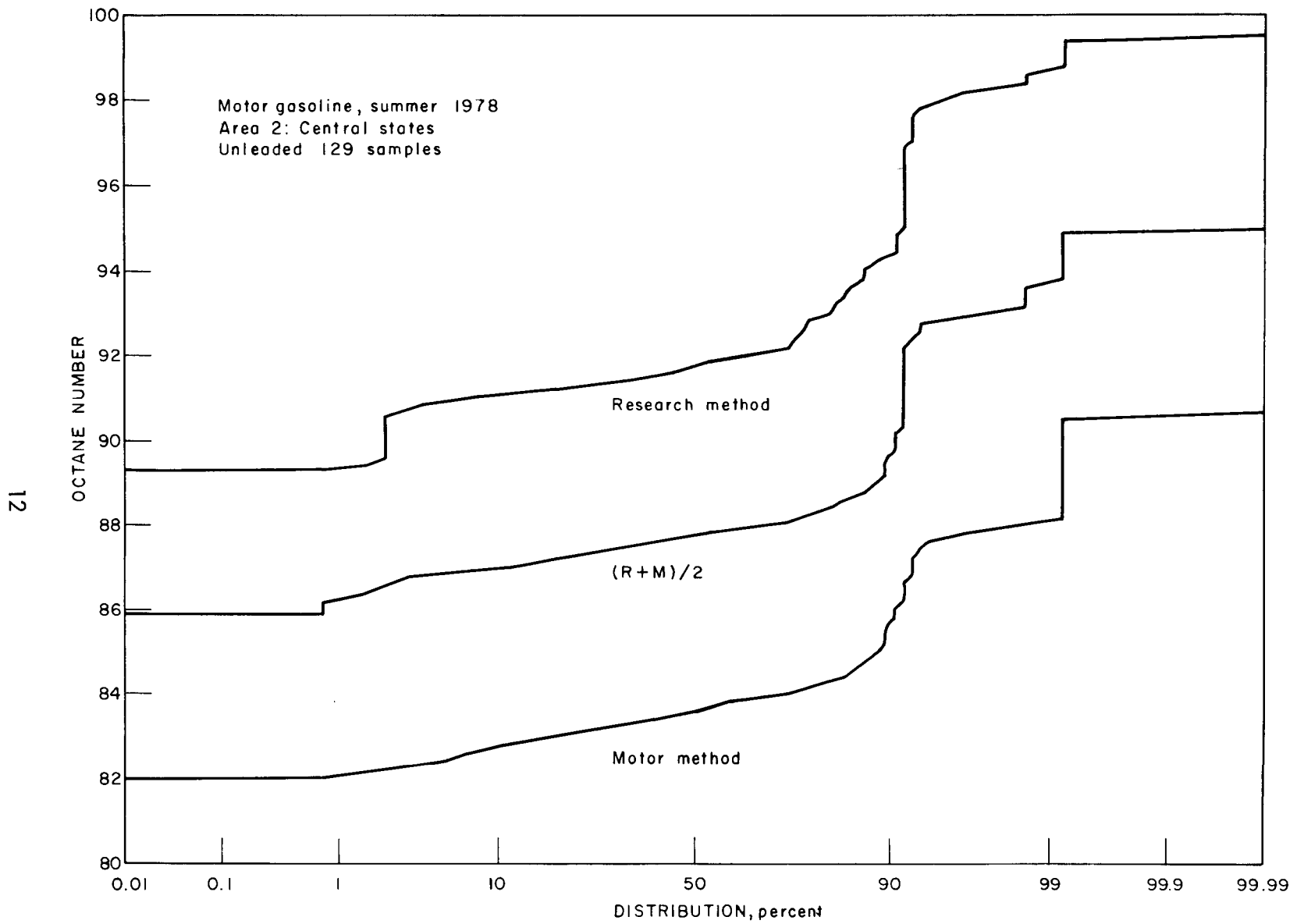


FIGURE 6.-Area 2:Unleaded motor gasoline octane number distributions.

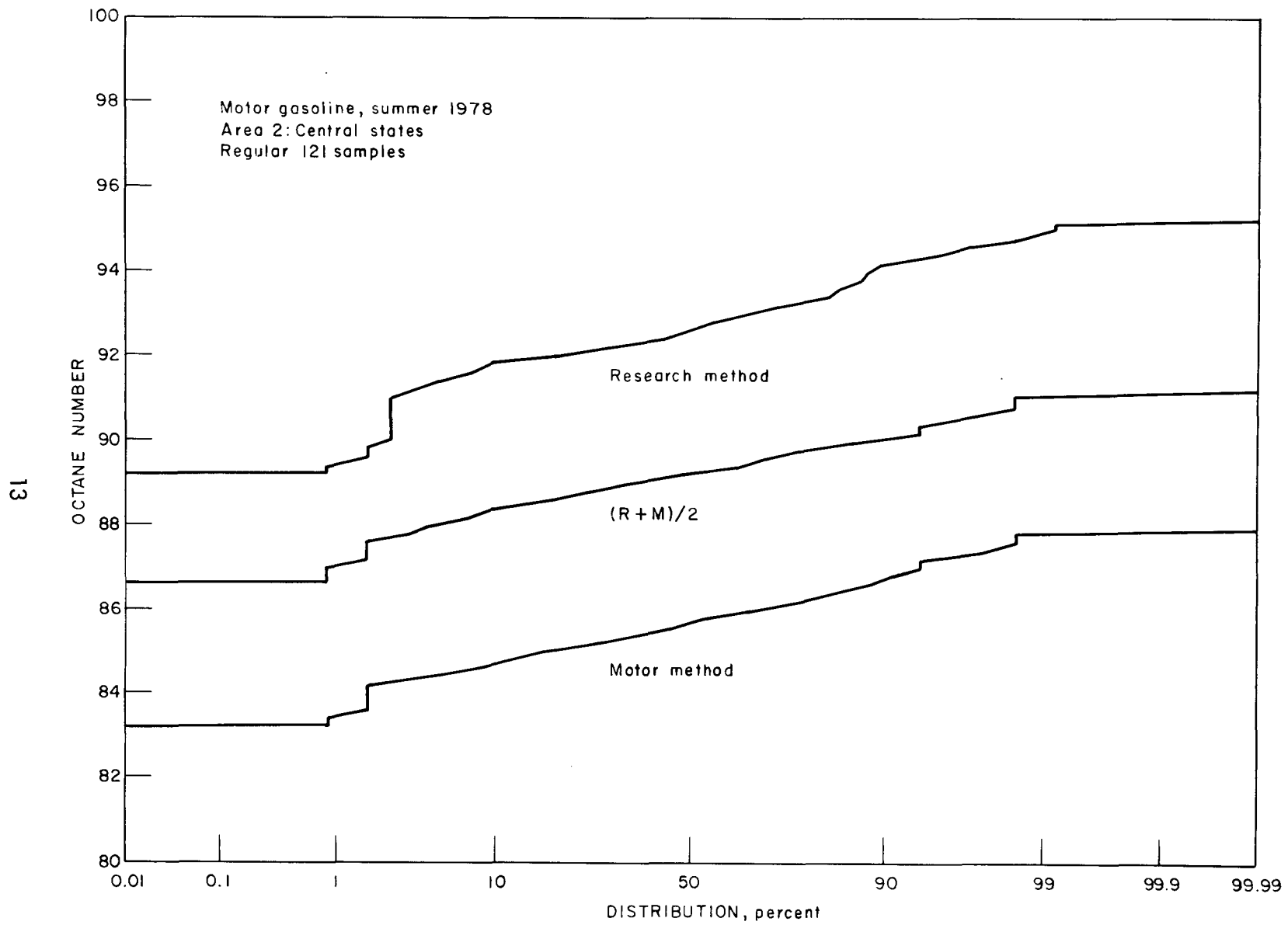


FIGURE 7.—Area 2: Regular motor gasoline octane number distributions.

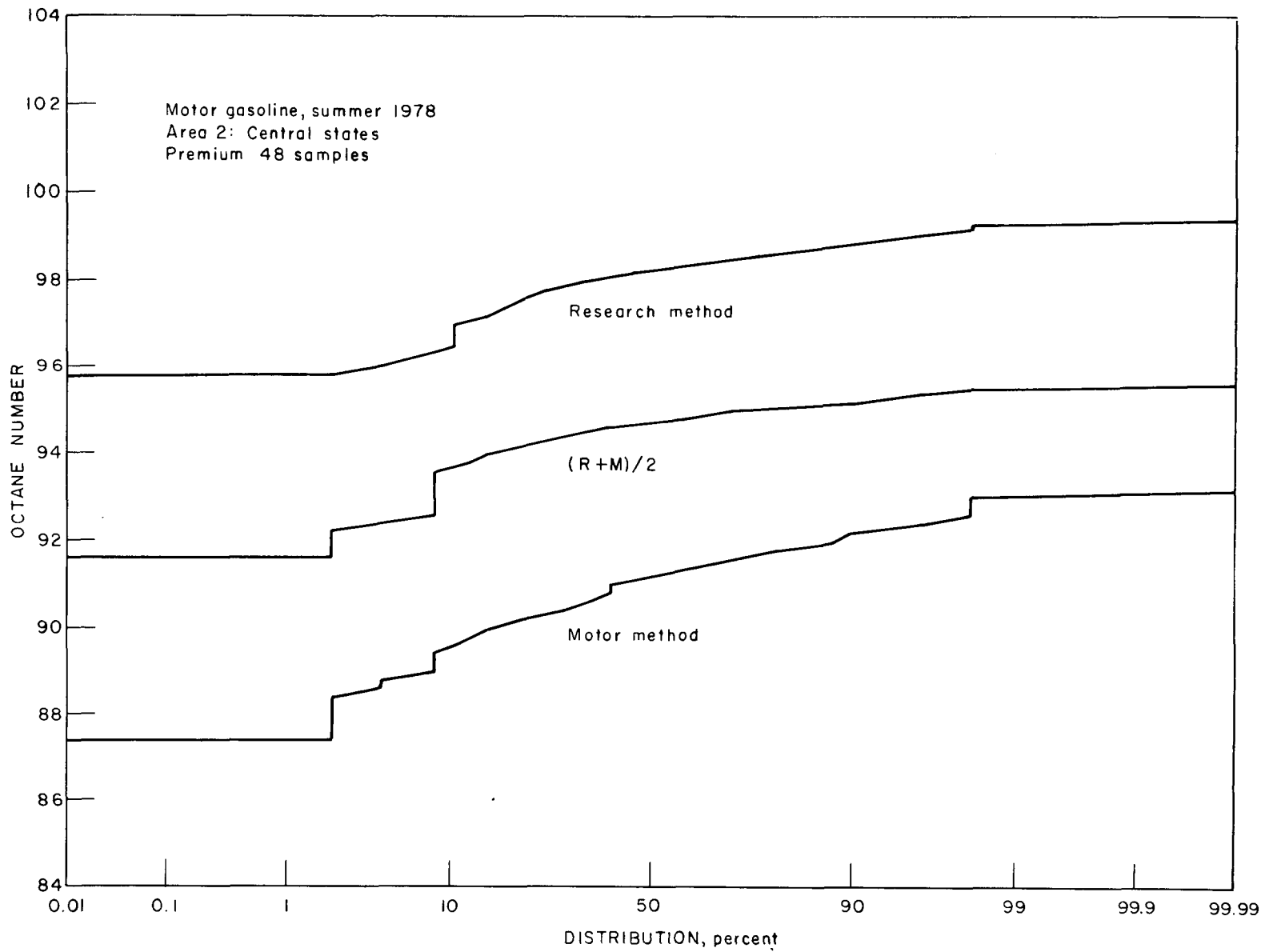


FIGURE 8.-Area 2: Premium motor gasoline octane number distributions.

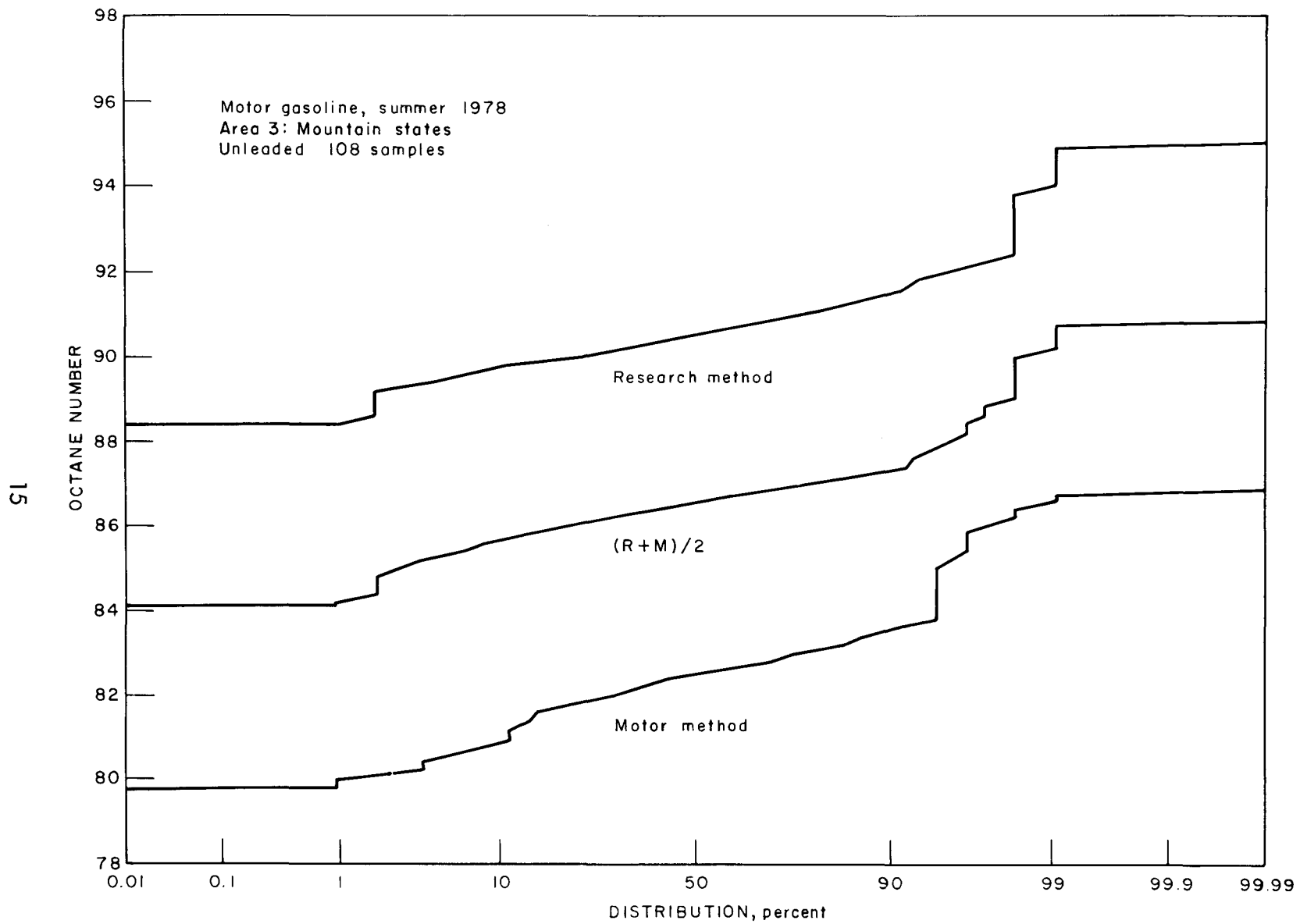


FIGURE 9.-Area 3: Unleaded motor gasoline octane number distributions.

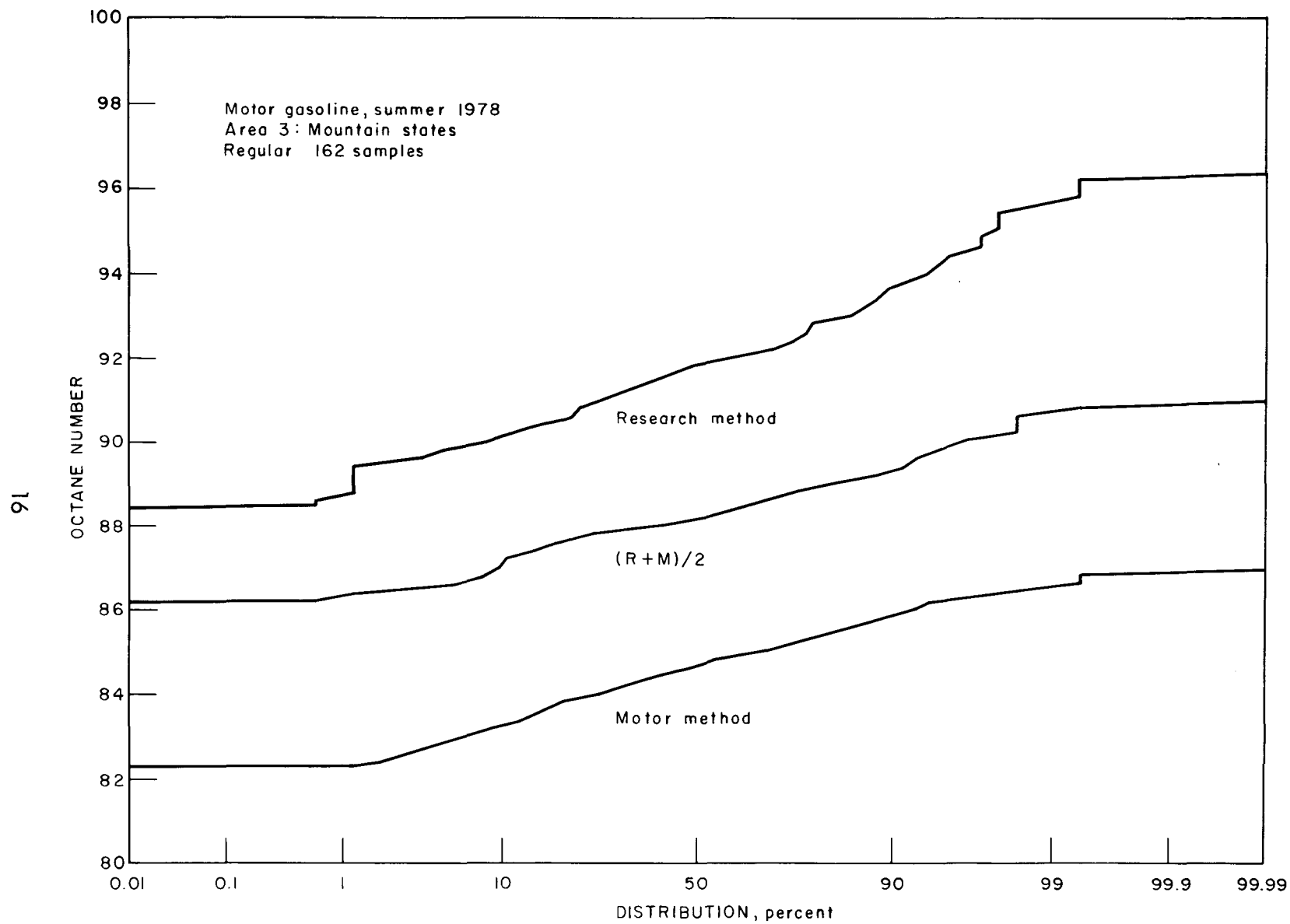


FIGURE 10.—Area 3: Regular motor gasoline octane number distributions.

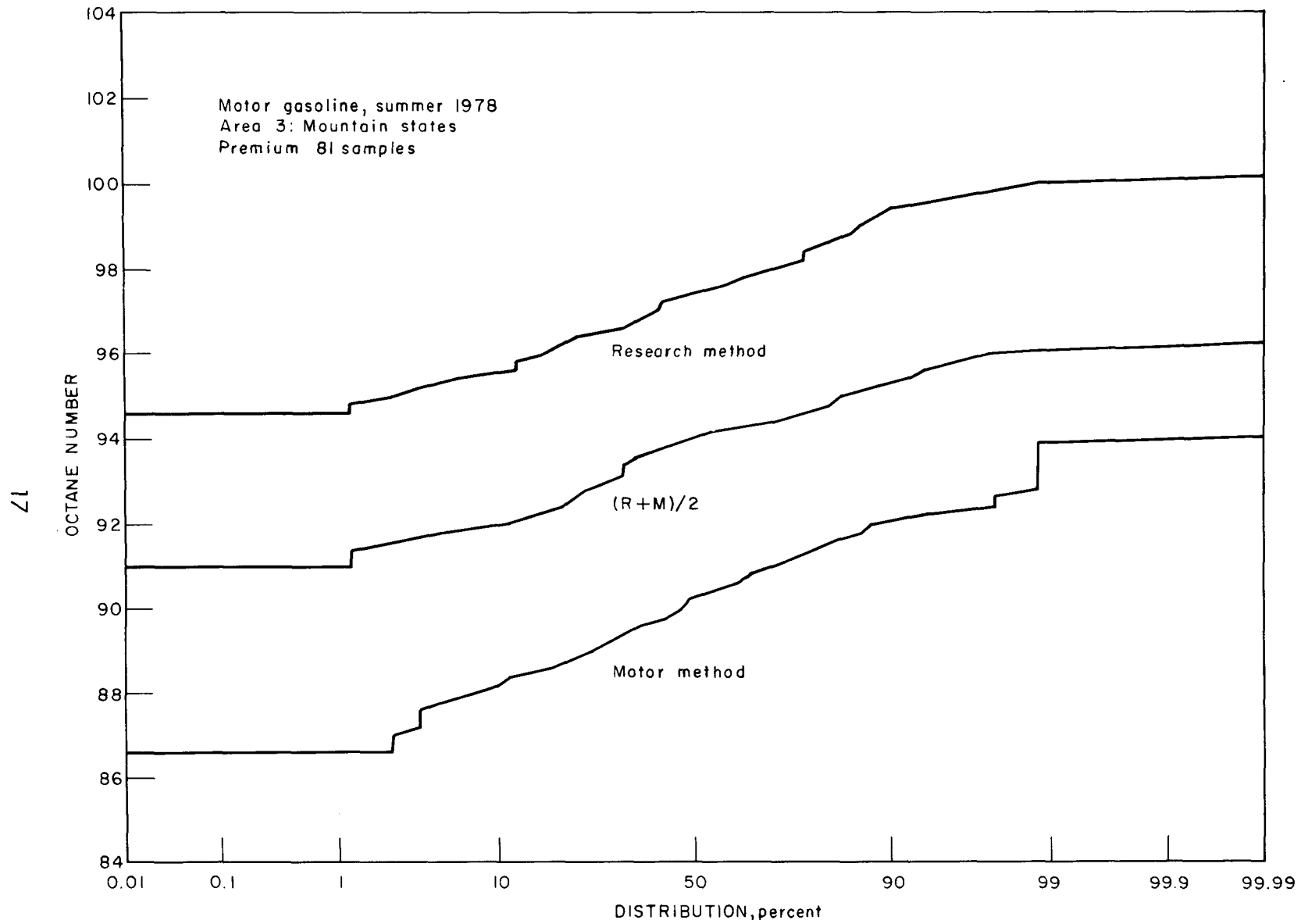


FIGURE II.- Area 3: Premium motor gasoline octane number distributions.

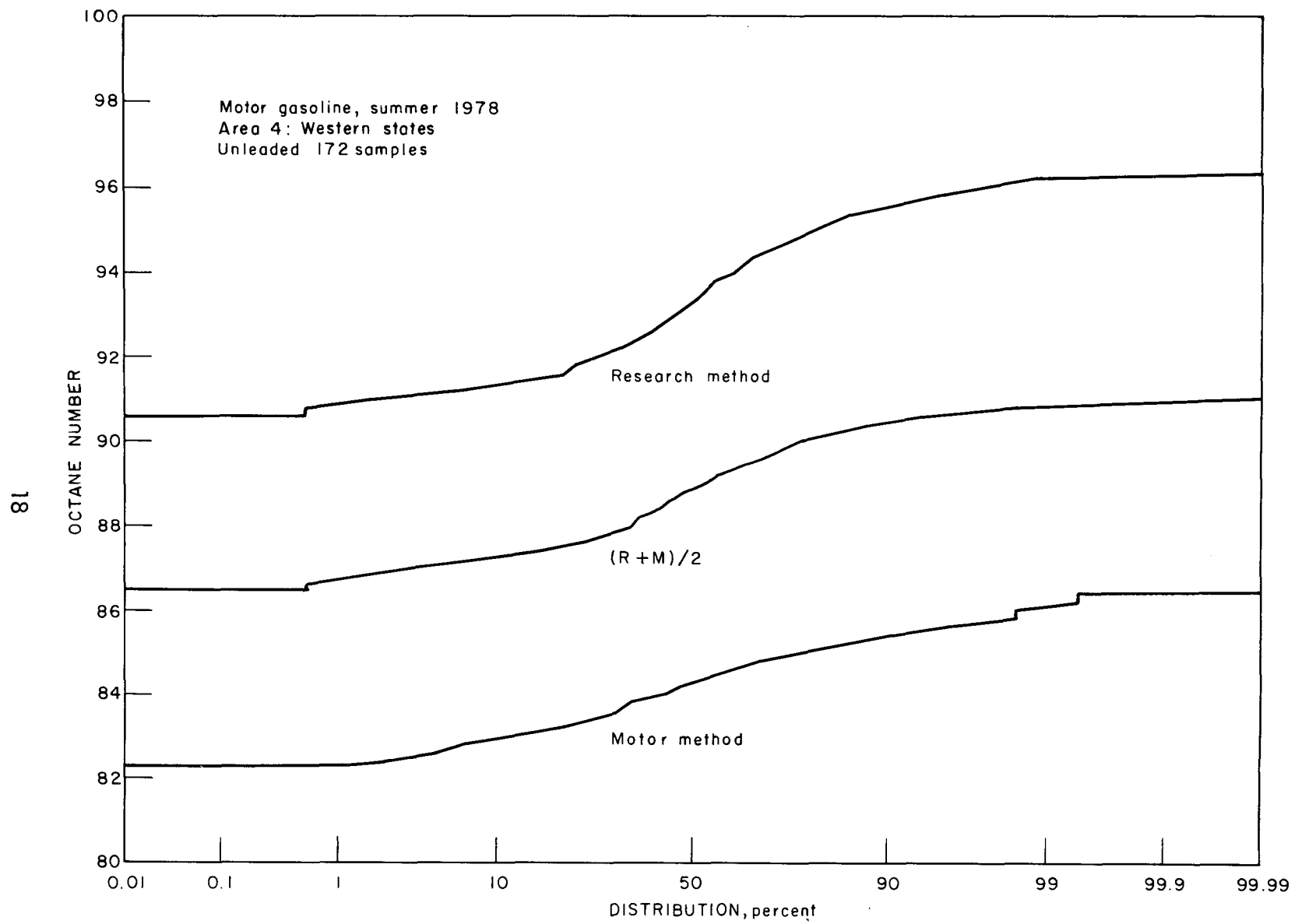


FIGURE 12.—Area 4: Unleaded motor gasoline octane number distributions.

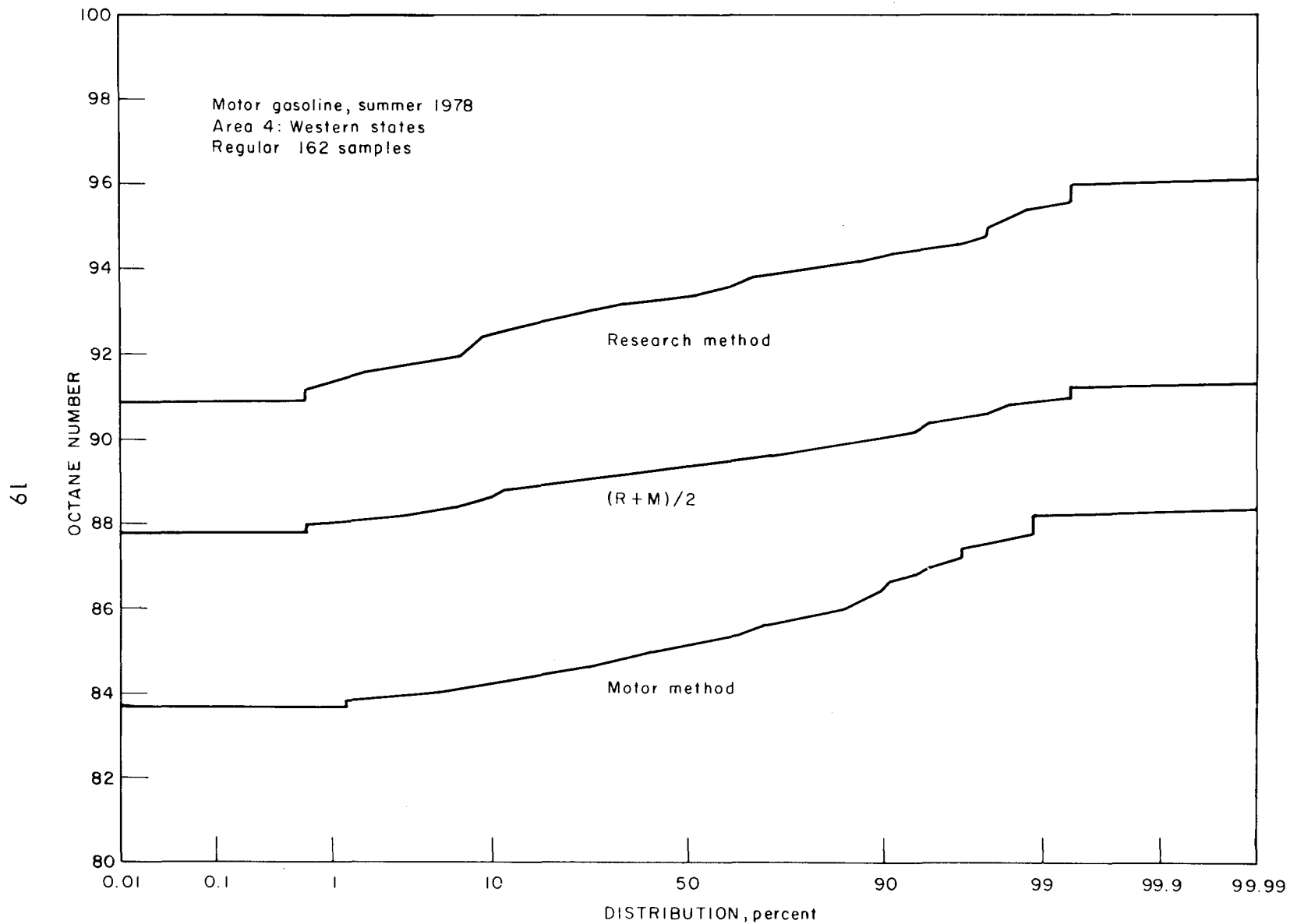


FIGURE 13.—Area 4: Regular motor gasoline octane number distributions.

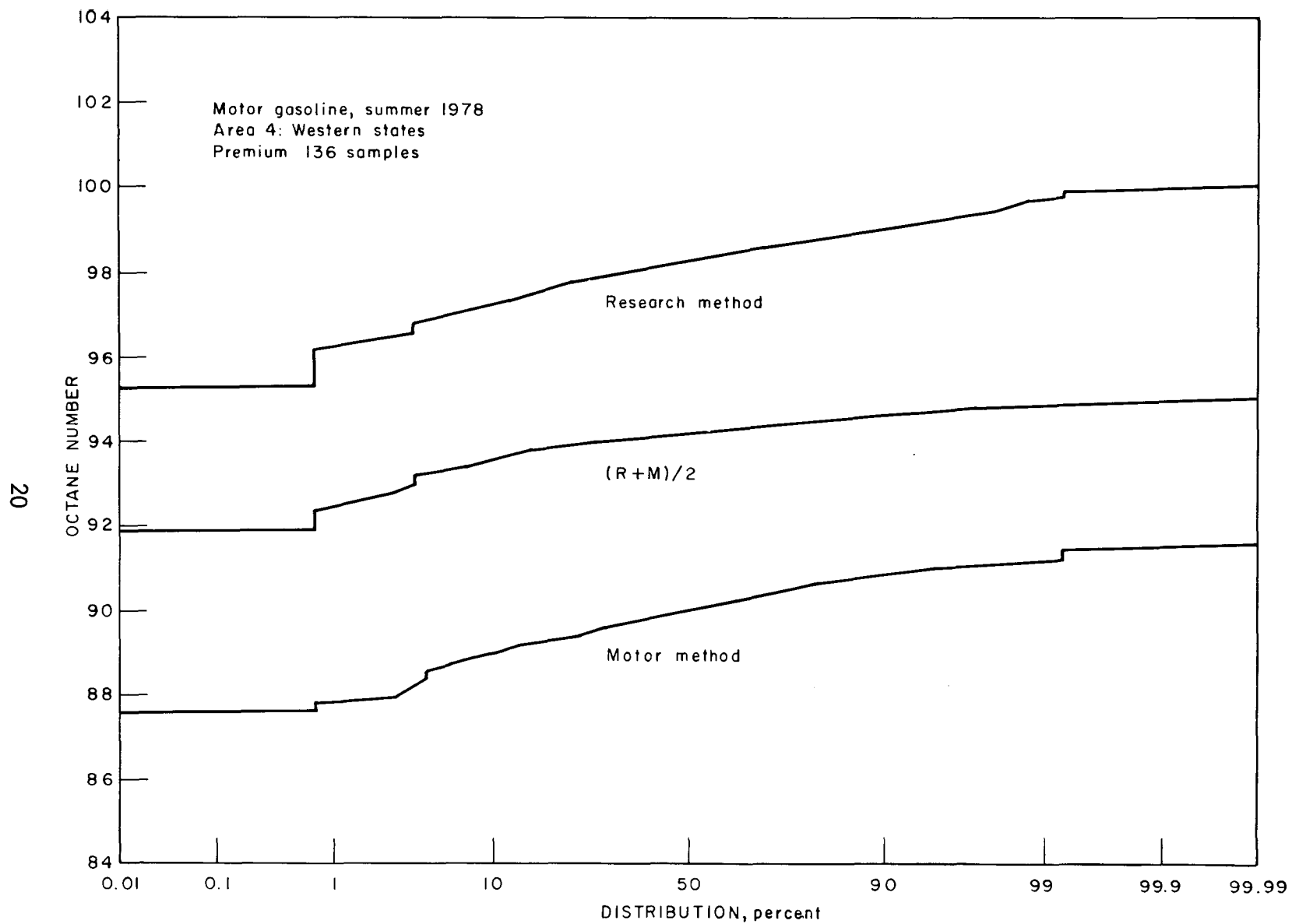


FIGURE 14.-Area 4: Premium motor gasoline octane number distributions.

TABLE 1. - Summary of values, motor gasoline survey, summer 1978

Test	ASTM method	Grades of motor gasolines		
		Unleaded Average	Regular Average	Premium Average
Gravity, °API	D287	58.8	60.0	60.7
Corrosion, No.	D130	1	1	1
Sulfur content, wt %	D1266	0.026	0.040	0.032
Gum, mg/100 ml	D381	1	1	1
Benzene, vol. %	D3606	1.20	1.19	1.10
Manganese, g/gal		0.03	-	-
Lead, g/gal	D526	-	1.71	2.00
Octane number, Research	D2699	93.0	93.2	98.2
Octane number, Motor	D2700	83.9	85.7	90.4
Antiknock index [(R+M)/2]		88.5	89.5	94.3
Reid vapor pressure, lb	D323	9.7	9.7	9.9
Vapor-liquid ratio of 20, °F	D439	136	134	134
Distillation	D86			
Temp, °F				
IBP		89	90	90
5% evaporated		106	106	105
10% Do.		120	119	119
20% Do.		144	140	142
30% Do.		170	161	167
50% Do.		220	210	216
70% Do.		266	265	259
90% Do.		333	341	331
95% Do.		366	375	366
End point		409	416	409
Residue, vol %		0.8	0.8	0.8
Loss, vol %		1.6	1.5	1.7

TABLE 2. - Summary of values, motor gasoline survey, summer 1977

Test	ASTM method	Grades of motor gasolines		
		Unleaded Average	Regular Average	Premium Average
Gravity, °API	D287	59.3	60.5	61.0
Corrosion, No.	D130	1	1	1
Sulfur content, wt %	D1266	0.029	0.043	0.028
Gum, mg/100 ml	D381	1	1	1
Benzene, vol %	D3606	-	-	-
Manganese, g/gal		0.03	-	-
Lead, g/gal	D526	-	2.00	2.50
Octane number, Research	D2699	92.9	93.2	98.7
Octane number, Motor	D2700	83.9	85.9	91.2
Antiknock index [(R+M)/2]		88.5	89.6	95.0
Reid vapor pressure, lb	D323	9.8	9.7	10.0
Vapor-liquid ratio of 20, °F	D439	136	135	135
Distillation	D86			
Temp, °F				
IBP		89	91	89
5% evaporated		107	108	106
10% Do.		121	121	120
20% Do.		146	142	144
30% Do.		171	164	170
50% Do.		221	211	217
70% Do.		266	267	261
90% Do.		333	343	331
95% Do.		367	378	366
End point		410	417	410
Residue, vol %		1.0	1.0	1.0
Loss, vol %		1.7	1.5	1.7

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS

DIST. 1 NORTHEAST
 MAINE, MASS., N.H., VT., AND NORTHERN N.Y.

UNLEADED GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	BENZENE ASTM D3606 VOL. %	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											MANGA- NESE AA G/GAL		
						RES, ASTM D2699	MGT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)									RES LOSS				
											PERCENT EVAPORATED									EP	%		%	
											IBP	5	10	20	30	50	70	90	95					
1	1	54.0	-	-	-	93.8	84.3	89.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	2	59.0	-	-	-	93.1	83.8	88.5	10.3	130	83	103	113	131	149	214	263	335	368	424	0.5	0.5	-	
3	1	61.2	-	-	-	92.3	83.0	87.7	12.2	120	83	91	104	127	150	203	258	321	346	382	1.0	3.0	-	
4	3	60.8	0.020	2	1.00	92.2	83.7	88.0	11.1	127	88	96	113	134	156	207	258	321	348	384	1.0	.8	0.05	
5	2	58.1	-	-	-	93.1	82.7	87.9	10.0	133	88	107	118	139	163	217	258	327	352	382	.7	1.8	-	
6	1	54.9	.020	3	.80	98.1	87.9	93.0	11.1	131	88	-	114	138	172	238	-	310	-	379	1.0	1.0	.06	
7	3	58.6	.040	1	.93	92.1	83.0	87.6	10.2	134	89	94	121	144	166	217	269	341	353	416	.9	1.6	.04	
8	1	56.1	-	-	-	95.6	85.1	90.4	10.0	138	91	110	120	158	184	224	256	307	335	371	1.3	.7	-	
9	2	55.0	-	-	-	99.3	87.5	93.4	10.5	131	86	102	113	137	160	219	249	318	345	380	.4	1.6	-	
10	2	58.7	-	-	-	92.5	83.5	88.0	10.6	128	82	96	109	131	154	214	270	342	375	406	1.1	1.4	-	
11	2	54.0	-	-	-	94.1	84.1	89.1	10.2	138	86	102	115	146	177	257	310	347	369	416	.5	2.0	-	
12	1	59.9	-	-	-	94.3	83.7	89.0	9.2	136	86	104	115	136	164	218	261	327	344	382	1.0	1.5	-	
13	2	57.4	-	-	-	95.0	84.1	89.6	10.6	129	82	98	108	133	157	217	273	342	370	408	1.0	1.0	-	
AVERAGE		57.5	.027	2	.91	94.3	84.3	89.3	10.5	131	86	100	114	138	163	220	266	328	355	394	.9	1.4	.05	
MINIMUM		54.0	.020	1	.80	92.1	82.7	87.6	9.2	120												.04		
MAXIMUM		61.2	.040	3	1.00	99.3	87.9	93.4	12.2	138												.06		

SAMPLES 23

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 1 NORTHEAST--CONTINUED
 MAINE, MASS., N.H., VT., AND NORTHERN N.Y.

REGULAR GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										RES %	LOSS %
							RES, ASTM D2699	MDT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)											
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
14	3	59.7	0.050	1	0.75	1.86	93.7	85.9	89.8	10.4	133	89	103	121	142	163	215	277	359	396	420	1.2	1.6
15	1	56.8	-	-	-	1.54	94.0	85.7	89.9	10.4	131	86	99	111	135	162	223	260	332	360	426	.9	2.1
16	2	59.0	-	-	-	.91	93.5	85.8	89.7	10.6	129	87	101	114	133	151	211	273	357	397	427	1.1	1.4
17	2	63.1	-	-	-	1.69	94.2	85.3	89.8	9.5	129	94	111	119	133	146	180	239	322	359	392	.3	1.7
18	2	61.6	-	-	-	2.36	93.8	86.4	90.1	10.2	131	86	102	113	136	158	213	281	344	376	412	.4	1.6
19	2	60.9	-	-	-	2.58	94.4	86.3	90.4	11.8	124	82	91	106	130	158	217	280	357	392	412	1.0	2.5
20	2	61.9	-	-	-	2.13	93.6	87.5	90.6	11.5	121	84	96	107	124	143	190	255	339	377	415	1.2	2.8
21	1	58.7	-	-	-	1.99	92.9	86.1	89.5	9.8	134	88	105	114	137	161	221	279	360	391	414	.8	1.2
22	2	63.4	-	-	-	2.83	94.3	88.8	91.6	11.4	124	86	103	112	128	151	202	267	333	372	406	.5	1.5
23	3	61.5	.040	3	.90	1.83	93.0	85.8	89.4	10.9	127	85	100	109	128	153	214	276	356	393	417	.8	1.3
24	2	61.1	-	-	-	1.69	93.2	86.6	89.9	10.7	128	88	102	113	132	159	207	269	342	378	414	.5	1.5
AVERAGE		60.7	.045	2	.83	1.95	93.7	86.4	90.1	10.7	128	87	101	113	133	155	208	269	346	381	414	.8	1.7
MINIMUM		56.8	.040	1	.75	.91	92.9	85.3	89.4	9.5	121												
MAXIMUM		63.4	.050	3	.90	2.83	94.4	88.8	91.6	11.8	134												

SAMPLES 22

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 1 NORTHEAST--CONTINUED
 MAINE, MASS., N.H., VT., AND NORTHERN N.Y.

PREMIUM GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)										RES LOSS % %	
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
25	1	60.7	-	-	-	1.22	98.8	88.3	93.6	10.8	128	86	99	111	130	156	217	261	331	355	386	1.0	2.0
26	1	60.1	-	-	-	2.71	98.0	91.2	94.6	10.3	130	86	102	113	134	154	210	262	332	371	400	.4	1.6
27	1	61.6	-	-	-	1.23	98.1	89.0	93.6	11.6	124	86	103	111	133	153	203	244	315	368	386	.5	1.5
28	1	62.1	-	-	-	1.33	98.6	89.6	94.1	10.5	129	85	102	113	134	152	208	248	319	355	386	.4	1.6
29	1	61.1	-	-	-	2.86	98.8	91.8	95.3	11.5	127	86	105	113	134	160	219	272	342	378	415	.5	1.5
30	2	59.7	0.020	1	1.00	1.97	98.0	90.4	94.2	10.7	130	85	100	112	133	159	221	260	327	355	399	1.0	1.3
AVERAGE		60.9	.020	1	1.00	1.89	98.4	90.1	94.2	10.9	128	86	102	112	133	156	213	258	328	364	395	.6	1.6
MINIMUM		59.7	.020	1	1.00	1.22	98.0	88.3	93.6	10.3	124												
MAXIMUM		62.1	.020	1	1.00	2.86	98.8	91.8	95.3	11.6	130												
SAMPLES	7																						

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 2 MID-ATLANTIC COAST
 R.I., CONN., N.J., DEL., MD., VA., CENTRAL AND SOUTHERN N.Y., AND EASTERN PA.

UNLEADED GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	BENZENE ASTM D3606 VOL. %	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										MANGA- NESE AA G/GAL		
						RES, ASTM D2699	MDT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)											ReS %	LOSS %
											PERCENT EVAPORATED												
											IBP	5	10	20	30	50	70	90	95	EF			
31	3	59.3	-	-	-	92.5	83.9	88.2	10.4	130	84	103	113	135	156	215	266	341	372	409	0.9	1.5	-
32	11	58.6	0.022	1	1.61	92.4	83.1	87.8	9.9	134	88	103	117	140	165	218	270	342	374	415	.9	1.6	0.05
33	1	54.6	-	2	-	92.8	83.0	87.9	10.8	133	94	101	116	145	177	236	290	355	390	437	1.0	3.0	-
34	11	55.8	.036	1	.96	99.3	87.4	93.4	9.6	133	90	105	116	135	155	209	241	307	340	378	.8	1.4	.05
35	10	59.7	.035	1	1.17	92.1	82.9	87.5	10.2	132	86	101	115	137	164	216	272	341	372	417	.8	1.6	.04
36	10	59.2	.020	2	.50	92.8	84.0	88.4	9.7	134	88	102	115	136	163	223	270	340	375	417	.8	1.3	.04
37	12	58.8	.013	1	.72	92.3	83.3	87.8	10.4	130	84	104	112	134	161	218	269	334	369	414	.9	1.5	.05
38	2	55.7	.008	1	1.03	95.8	85.1	90.5	9.4	137	92	109	120	143	166	220	256	319	349	396	.8	1.3	.05
39	9	56.2	.010	1	1.80	93.1	84.2	88.7	10.2	133	87	101	113	139	166	226	280	341	373	417	.6	1.8	.06
40	5	58.8	-	-	-	92.2	83.1	87.7	9.4	137	90	104	117	140	165	217	276	337	370	414	.8	1.5	-
41	2	59.4	-	-	-	92.2	82.5	87.4	10.2	131	86	102	115	133	162	212	265	341	376	423	.5	1.5	-
42	10	60.8	.032	1	.82	92.0	83.6	87.8	10.8	128	84	99	111	131	156	213	265	344	382	422	1.0	1.5	.07
43	11	59.8	.047	1	.65	92.9	83.3	88.1	9.7	135	88	106	120	144	168	215	259	323	353	392	.8	1.6	.01
44	10	57.3	.013	1	1.37	93.0	83.6	88.3	10.2	132	88	104	115	135	160	223	284	344	375	420	1.0	1.6	.04
45	3	58.7	.020	1	1.70	92.0	82.6	87.3	11.1	129	84	101	114	137	162	222	276	350	389	425	1.0	2.3	.04
46	1	56.2	.011	0	.87	98.0	87.0	92.5	10.2	133	86	106	115	136	162	232	291	358	376	429	1.9	1.6	-
47	7	58.0	.030	1	1.00	92.5	83.4	88.0	10.8	129	85	99	111	133	159	220	271	343	379	417	.7	2.1	.07
48	12	58.9	.033	1	.68	94.4	84.4	89.4	10.0	133	87	103	115	138	161	220	269	338	372	413	.9	1.5	.03
49	8	59.2	.020	1	1.05	94.4	84.6	89.5	9.6	135	88	104	116	139	165	221	272	329	353	383	.8	1.5	.02
50	5	59.1	.010	2	1.40	92.7	83.4	88.1	10.2	133	85	103	115	141	165	218	270	338	375	418	.8	1.7	.06
51	7	56.5	.010	1	.90	96.1	85.7	90.9	10.0	132	88	104	115	135	158	209	258	317	343	382	.8	1.5	.05
AVERAGE		58.1	.022	1	1.07	93.6	84.0	88.8	10.1	133	87	103	115	137	163	219	270	337	369	411	.9	1.7	.05
MINIMUM		54.6	.008	0	.50	92.0	82.5	87.3	9.4	128													.01
MAXIMUM		60.8	.047	2	1.80	99.3	87.4	93.4	11.1	137													.07

SAMPLES 150

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 2 MID-ATLANTIC COAST--CONTINUED
 R.I., CONN., N.J., DEL., MD., VA., CENTRAL AND SOUTHERN N.Y., AND EASTERN PA.

REGULAR GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										RES LOSS % %	
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)											
												PERCENT EVAPORATED											
							IBP	5	10			20	30	50	70	90	95	EP					
52	9	61.5	0.040	0	0.90	2.55	93.6	86.6	90.1	10.5	129	88	102	114	134	155	211	276	337	367	409	0.7	1.9
53	10	59.6	.028	1	.89	2.20	92.9	86.2	89.6	9.7	133	88	104	116	138	159	210	268	351	385	418	1.0	1.5
54	1	60.2	-	-	-	2.39	93.4	85.5	89.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
55	10	60.3	.040	1	.82	1.90	93.3	85.8	89.6	9.9	133	89	103	117	138	160	210	271	349	381	422	.7	1.8
56	5	60.5	.040	1	1.00	1.93	93.7	86.1	89.9	10.4	130	84	96	110	134	159	219	279	353	389	423	.9	2.0
57	10	61.4	.073	1	1.20	1.99	92.5	86.3	89.4	10.4	130	87	104	119	138	160	206	262	340	373	416	1.0	1.6
58	7	59.9	.030	2	.70	1.50	93.4	86.0	89.7	10.6	129	87	103	115	134	156	208	272	345	381	414	.8	1.7
59	1	58.8	-	1	-	.72	93.7	85.8	89.8	11.2	126	86	100	112	133	157	210	273	351	387	439	1.0	1.0
60	12	60.0	.033	1	.39	1.48	93.4	86.1	89.8	9.9	135	89	106	119	142	167	221	280	353	387	425	1.0	1.1
61	12	60.9	.045	1	1.45	2.30	93.5	86.3	89.9	10.4	128	85	99	113	133	154	204	261	341	378	420	1.0	1.6
62	13	60.5	.024	1	.85	1.59	93.2	86.4	89.8	10.9	126	85	99	110	130	151	205	272	355	390	427	.9	1.7
63	12	61.5	.020	1	.81	1.87	93.8	86.1	90.0	9.4	134	90	105	119	137	157	202	257	332	356	397	.9	1.1
64	3	61.0	-	-	-	2.19	93.3	86.3	89.8	10.3	128	83	101	111	129	150	198	254	343	376	412	.8	1.1
65	5	60.8	-	-	-	1.98	93.3	85.7	89.5	10.3	128	86	103	113	131	152	202	258	344	381	415	.4	1.8
66	11	62.2	.090	1	.85	2.37	93.8	86.6	90.2	9.8	131	88	103	115	134	152	200	258	340	371	408	.7	1.9
67	11	61.2	.061	1	1.60	2.33	93.6	85.8	89.7	10.4	130	88	102	115	135	156	207	270	348	380	413	.8	1.3
68	2	60.9	-	-	-	1.94	93.3	85.6	89.5	10.2	128	84	100	111	131	154	202	261	342	387	409	.5	1.5
AVERAGE		60.7	.044	1	.96	1.95	93.4	86.1	89.8	10.3	130	87	102	114	134	156	207	267	345	379	417	.8	1.5
MINIMUM		58.8	.020	0	.39	.72	92.5	85.5	89.4	9.4	126												
MAXIMUM		62.2	.090	2	1.60	2.55	93.8	86.6	90.2	11.2	135												

SAMPLES 134

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED
 DIST. 2 MID-ATLANTIC COAST--CONTINUED
 R.I., CONN., N.J., DEL., MD., VA., CENTRAL AND SOUTHERN N.Y., AND EASTERN PA.

PREMIUM GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)										RES LOSS % %	
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
69	3	60.3	-	2	-	2.49	98.0	90.2	94.1	11.4	128	84	100	113	138	162	216	272	345	375	420	1.0	1.2
70	5	59.6	0.030	0	0.80	2.35	97.8	90.3	94.1	10.2	131	88	102	113	137	159	214	268	342	378	412	.9	2.0
71	6	61.4	.055	1	.95	2.03	98.6	90.6	94.6	10.3	132	88	101	115	139	164	214	254	321	351	400	.9	1.6
72	3	58.6	.020	1	.80	2.30	98.3	90.4	94.4	10.5	131	83	99	112	138	167	222	273	344	378	418	.9	2.1
73	2	60.6	-	-	-	2.34	98.5	91.0	94.8	10.3	130	84	94	112	134	160	214	258	330	370	403	.8	1.5
74	6	59.1	.025	2	1.70	2.10	97.8	89.0	93.4	9.5	136	88	106	118	140	165	218	275	339	364	397	.8	1.3
75	7	60.1	.054	1	1.10	2.27	97.4	90.1	93.8	10.3	131	87	101	114	137	163	216	268	338	371	416	1.0	1.4
76	7	59.0	.027	1	1.30	2.47	98.0	90.0	94.0	10.5	129	85	101	111	135	158	213	263	335	367	416	.8	1.9
77	8	61.5	.110	1	.80	2.48	97.8	89.7	93.8	10.0	131	88	103	114	134	155	205	256	327	358	402	.8	1.8
78	7	60.3	.030	1	.25	1.25	98.2	89.8	94.0	10.1	132	86	102	115	139	164	215	254	319	355	407	.8	1.7
79	4	57.3	.040	0	1.70	2.97	98.5	90.0	94.3	11.1	130	87	102	115	140	168	225	278	344	377	418	.8	1.9
80	6	60.9	.030	1	.70	2.45	97.8	90.5	94.2	10.9	127	83	97	109	130	153	214	270	346	379	421	.8	1.3
81	2	60.8	-	-	-	2.18	98.5	90.1	94.3	10.7	128	83	100	110	132	159	213	261	339	372	410	.6	1.8
82	1	61.0	-	-	-	2.10	98.7	90.8	94.8	10.5	130	88	105	113	133	149	215	262	335	370	414	.4	1.6
83	1	61.4	-	1	-	2.03	98.3	91.7	95.0	11.6	127	87	98	112	141	173	220	266	351	392	437	1.0	2.0
84	1	60.9	-	-	-	2.09	97.8	89.8	93.8	10.4	129	86	104	113	132	154	206	258	338	371	406	.2	1.8
AVERAGE		60.2	.042	1	1.01	2.24	98.1	90.3	94.2	10.5	130	86	101	113	136	161	215	265	337	371	412	.8	1.7
MINIMUM		57.3	.020	0	.25	1.25	97.4	89.0	93.4	9.5	127												
MAXIMUM		61.5	.110	2	1.70	2.97	98.7	91.7	95.0	11.6	136												

27

SAMPLES 69

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 3 SOUTHEAST
 N.C., S.C., GA., FLA., ALA., AND EASTERN TENN.

UNLEADED GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	BENZENE ASTM D3606 VOL. %	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										RES LOSS % %		MANGA- NESE AA G/GAL
						RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)												
											PERCENT EVAPORATED										EP		
						IbP	5	10			20	30	50	70	90	95							
85	4	58.9	-	-	-	94.4	84.6	89.5	9.9	132	88	105	114	139	163	211	258	328	360	403	0.8	2.0	-
86	1	56.6	-	-	-	92.0	83.2	87.6	9.5	137	92	110	121	142	168	222	285	346	383	414	.5	1.5	-
87	7	56.0	-	1	-	99.5	87.6	93.6	9.7	133	90	106	117	136	158	210	241	317	345	375	.6	1.4	-
88	1	57.3	-	-	-	95.7	85.6	90.7	8.8	140	92	111	121	142	163	221	271	336	367	405	.8	1.2	-
89	1	55.0	0.040	3	1.10	98.4	87.6	93.0	10.0	134	95	-	121	136	156	235	-	311	-	379	1.0	1.0	0.05
90	6	56.6	-	0	-	96.2	85.3	90.8	9.6	135	90	103	116	138	160	218	268	324	354	397	.7	1.1	-
91	7	59.4	-	1	-	92.0	83.1	87.6	9.0	135	89	105	115	135	157	212	272	342	365	408	.7	1.0	-
92	3	58.8	-	-	-	91.9	82.7	87.3	10.4	131	85	101	111	135	159	222	274	334	364	404	.9	1.9	-
93	3	61.6	-	1	-	91.3	83.5	87.4	9.9	133	89	105	116	135	156	217	274	356	390	425	1.0	1.1	-
94	2	58.8	-	-	-	92.3	83.7	88.0	8.6	141	92	106	119	142	173	225	269	339	369	386	.5	1.5	-
95	4	57.8	-	0	-	92.4	83.5	88.0	9.3	138	90	106	118	142	168	223	270	336	369	407	.8	1.2	-
96	2	57.8	-	-	-	92.4	83.1	87.8	8.0	144	94	112	124	148	168	216	264	339	376	396	.2	.8	-
97	8	55.6	-	2	-	92.8	83.9	88.4	9.6	136	89	106	118	142	166	220	274	336	364	400	.9	1.6	-
98	6	58.1	-	-	-	92.7	83.7	88.2	8.9	139	89	103	119	142	167	221	265	333	363	400	.7	1.8	-
99	7	57.9	.040	1	1.17	91.8	82.6	87.2	10.0	134	90	107	118	142	168	220	274	344	375	414	.7	1.2	.05
100	3	60.1	-	-	-	91.9	82.6	87.3	9.6	133	90	103	114	136	157	210	259	337	374	412	.5	1.3	-
101	4	54.3	-	1	-	93.5	83.9	88.7	9.7	136	90	107	118	140	166	228	281	339	366	412	.9	1.4	-
102	5	58.9	-	-	-	92.7	83.8	88.3	9.2	138	87	105	117	141	171	226	269	334	364	409	.6	1.6	-
103	2	52.5	-	-	-	93.0	83.8	88.4	8.1	147	90	110	124	150	180	238	290	347	376	413	.4	.6	-
104	6	57.3	-	1	-	92.1	83.2	87.7	9.6	136	89	106	117	139	164	222	288	343	373	411	.7	1.3	-
105	3	58.9	-	-	-	92.0	83.0	87.5	8.8	139	91	107	118	140	165	216	266	335	369	414	.4	1.7	-
106	3	58.2	-	-	-	91.7	83.6	87.7	10.3	132	86	100	113	137	162	217	272	333	362	399	.5	1.6	-
AVERAGE		57.6	.040	1	1.14	93.3	84.0	88.7	9.4	137	90	106	118	140	164	220	271	336	368	404	.7	1.4	.05
MINIMUM		52.5	.040	0	1.10	91.3	82.6	87.2	8.0	131													.05
MAXIMUM		61.6	.040	3	1.17	99.5	87.6	93.6	10.4	147													.05
SAMPLES	88																						

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 3 SOUTHEAST--CONTINUED
 N.C., S.C., GA., FLA., ALA., AND EASTERN TENN.

REGULAR GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)										RES %	LOSS %
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
107	4	60.5	-	1	-	2.79	93.7	87.3	90.5	9.7	132	87	102	114	133	154	205	273	337	365	406	0.7	1.8
106	3	59.7	-	-	-	1.62	93.4	86.0	89.7	10.0	130	86	102	111	130	155	208	270	350	387	423	.4	1.9
109	4	60.8	-	-	-	2.37	93.1	86.7	89.9	9.8	134	88	103	114	137	158	217	285	345	376	402	.4	1.4
110	7	60.1	0.050	1	1.76	2.14	93.3	86.0	89.7	10.0	133	88	104	118	139	160	210	267	352	383	420	.9	1.4
111	8	60.1	-	2	-	2.56	93.7	85.9	89.8	9.7	134	88	104	118	140	162	213	272	347	378	412	.9	1.6
112	2	60.5	-	-	-	2.62	93.5	87.4	90.5	9.0	135	88	105	116	136	154	203	264	335	362	400	.9	1.1
113	1	60.6	-	-	-	2.10	93.3	86.7	90.0	9.4	135	92	106	118	139	157	208	260	333	363	415	.3	1.7
114	3	60.1	-	-	-	2.25	93.8	86.3	90.1	9.6	133	88	104	116	135	155	209	274	348	391	414	.7	1.3
115	3	59.5	-	-	-	1.56	93.7	86.5	90.1	9.4	134	87	99	111	133	157	217	273	341	374	421	1.1	1.2
116	7	61.3	-	1	-	2.13	93.1	86.2	89.7	9.5	134	89	104	116	137	158	205	258	345	384	418	.7	1.3
117	2	60.6	-	-	-	2.35	92.7	85.7	89.2	9.5	133	90	107	118	134	162	207	263	349	375	420	.5	1.0
118	7	60.0	-	-	-	2.01	93.4	85.8	89.6	9.1	137	90	103	118	141	164	212	270	349	387	423	.7	1.9
119	3	60.7	-	-	-	2.07	93.4	86.3	89.9	9.1	137	91	108	121	141	158	208	264	339	376	417	.5	1.3
120	5	61.9	-	-	-	2.31	93.2	86.7	90.0	9.9	130	89	103	115	133	151	196	250	330	367	400	.8	1.5
121	9	59.7	-	0	-	1.63	93.5	86.9	90.2	9.6	133	87	104	115	135	153	206	267	334	362	401	.9	1.4
122	2	60.3	-	-	-	2.52	92.6	85.4	89.0	9.7	134	90	106	117	141	165	212	271	349	385	418	.5	1.5
123	7	62.7	-	-	-	2.83	93.8	86.4	90.1	9.8	132	88	103	115	135	155	206	265	345	373	414	.9	1.6
124	4	60.4	-	2	-	1.99	93.0	86.6	89.8	9.9	131	86	101	114	133	153	207	273	347	382	420	1.0	1.3
125	9	59.3	-	1	-	2.39	93.1	86.2	89.7	9.5	135	89	102	117	139	161	214	271	353	383	409	.7	1.5
AVERAGE		60.5	.050	1	1.76	2.22	93.3	86.4	89.9	9.6	133	88	104	116	136	157	209	268	344	376	413	.7	1.5
MINIMUM		59.3	.050	0	1.76	1.56	92.6	85.4	89.0	9.0	130												
MAXIMUM		62.7	.050	2	1.76	2.83	93.8	87.4	90.5	10.0	137												
SAMPLES	90																						

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978

AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 3 SOUTHEAST--CONTINUED
N.C., S.C., GA., FLA., ALA., AND EASTERN TENN.

PREMIUM GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)										RES LOSS	
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP	%	%
126	4	61.4	-	-	-	3.02	98.4	90.6	94.5	9.5	133	89	104	117	134	157	204	257	334	368	400	0.9	1.6
127	1	58.9	-	-	-	3.16	98.5	91.8	95.2	9.5	135	86	102	117	139	169	214	257	334	375	416	.8	1.2
128	2	60.2	-	-	-	2.13	98.3	90.4	94.4	10.4	130	90	102	114	135	159	214	265	333	367	414	1.0	2.3
129	6	61.2	-	0	-	2.28	98.3	91.0	94.7	9.6	135	90	104	119	142	166	215	262	348	380	413	.9	1.9
130	2	61.9	-	-	-	1.80	98.4	91.3	94.9	9.8	133	88	102	113	137	162	215	260	337	371	410	.7	1.6
131	1	60.6	-	-	-	1.56	97.2	90.1	93.7	10.2	135	86	103	125	154	172	211	251	325	360	398	1.0	2.0
132	2	60.4	-	-	-	2.06	98.7	90.8	94.8	9.8	132	91	102	112	133	156	213	259	333	365	406	.5	1.6
133	2	59.9	-	-	-	2.37	98.2	90.7	94.5	10.2	132	90	104	116	137	161	214	263	338	369	411	.7	1.9
134	1	60.2	-	-	-	2.42	98.2	90.3	94.3	9.8	131	83	90	101	134	161	212	262	335	360	408	.7	1.3
135	4	60.2	-	1	-	2.62	98.1	91.4	94.8	10.3	129	87	100	112	134	159	206	247	325	375	411	.9	2.2
136	4	59.9	-	-	-	2.39	99.0	90.8	94.9	10.2	131	87	103	114	135	159	215	265	338	373	413	.9	1.6
137	5	58.1	-	-	-	2.14	98.6	90.5	94.6	9.3	136	89	104	117	140	166	220	267	330	370	407	1.0	1.6
138	2	62.9	-	1	-	2.97	99.3	92.0	95.7	10.3	129	88	102	113	131	155	207	261	349	386	422	1.0	1.5
139	7	60.5	-	2	-	1.69	98.3	90.6	94.5	9.8	131	83	99	109	129	152	212	265	330	362	401	1.0	1.7
AVERAGE		60.5	-	1	-	2.33	98.4	90.9	94.7	9.9	132	88	102	114	137	161	212	260	335	370	409	.9	1.7
MINIMUM		58.1	-	0	-	1.56	97.2	90.1	93.7	9.3	129												
MAXIMUM		62.9	-	2	-	3.16	99.3	92.0	95.7	10.4	136												

SAMPLES 43

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 4 APPALACHIAN OHIO, W. VA., WESTERN N.Y., WESTERN PA., EASTERN KY., AND PART OF MD.

UNLEADED GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	BENZENE ASTM D3606 VOL. %	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											MANGA- NESE AA G/GAL	
						RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)												RES LOSS % %
											PERCENT EVAPORATED										EP		
											IBP	5	10	20	30	50	70	90	95				
140	2	62.2	-	-	-	91.4	83.6	87.5	9.9	132	88	104	115	137	158	207	257	343	376	426	0.4	2.6	-
141	1	58.0	-	-	-	91.9	83.5	87.7	10.7	129	82	99	111	137	166	217	274	337	367	412	.9	2.4	-
142	2	60.5	-	-	-	92.3	83.7	88.0	11.3	125	86	97	107	131	161	214	265	343	393	416	.7	2.3	-
143	15	58.3	0.012	1	0.89	91.6	83.6	87.6	10.7	131	87	100	113	138	166	222	278	344	374	427	1.0	2.6	0.02
144	4	61.8	.019	0	1.11	91.6	84.2	87.9	10.1	133	88	103	115	138	163	216	269	343	373	413	.8	2.0	.06
145	2	58.3	-	-	-	95.5	85.5	90.5	9.5	134	86	103	116	138	165	214	252	312	351	400	.9	1.1	-
146	4	62.6	-	-	-	92.7	84.0	88.4	8.3	141	91	106	118	140	162	214	258	326	355	406	.6	1.4	-
147	6	59.0	-	-	-	92.9	83.5	88.2	9.1	136	90	106	121	142	164	205	247	311	340	376	.5	1.6	-
148	1	56.3	-	-	-	99.9	87.6	93.8	9.4	134	90	105	115	135	160	212	240	298	334	367	.7	1.3	-
149	2	62.0	-	-	-	92.7	84.7	88.7	9.9	130	90	107	118	136	154	195	245	328	367	400	.3	1.2	-
150	6	58.8	-	-	-	93.9	83.8	88.9	11.1	127	84	100	110	133	159	214	268	340	377	413	.8	1.7	-
151	7	59.1	-	1	3.63	92.2	83.6	87.9	11.1	129	85	99	115	140	166	219	268	333	375	404	.8	2.4	.03
152	6	60.4	-	-	-	92.1	83.4	87.8	10.1	130	86	101	112	131	155	209	267	348	389	424	.6	1.4	-
153	3	60.9	-	-	-	92.1	83.7	87.9	9.8	132	88	100	113	133	158	216	267	349	383	428	.5	1.5	-
154	4	57.4	-	-	-	93.0	84.3	88.7	10.1	131	86	100	112	134	160	219	279	337	367	418	.8	1.5	-
AVERAGE		59.7	.016	1	1.88	93.1	84.2	88.6	10.1	132	87	102	114	136	161	213	262	333	368	409	.7	1.8	.04
MINIMUM		56.3	.012	0	.89	91.4	83.4	87.5	8.3	125													.02
MAXIMUM		62.6	.019	1	3.63	99.9	87.6	93.8	11.3	141													.06
SAMPLES		65																					

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978

AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 4 APPALACHIAN--CONTINUED
OHIO, W. VA., WESTERN N.Y., WESTERN PA., EASTERN KY., AND PART OF MD.

REGULAR GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											
							RES, ASTM D2699	MOT, ASTM D2700	K+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)										RES LOSS % %	
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
155	4	58.7	-	-	-	1.05	93.0	85.7	89.4	10.5	131	86	100	116	140	166	218	273	351	390	429	1.0	1.8
156	3	60.3	-	-	-	-	93.1	86.1	89.6	11.0	125	84	98	109	130	151	200	258	339	371	412	1.2	2.2
157	7	60.6	0.090	1	0.90	1.29	93.1	85.9	89.5	10.6	128	85	102	114	132	153	207	277	361	393	429	.7	1.5
158	2	62.1	-	-	-	2.29	93.8	87.8	90.8	9.1	135	91	106	121	138	153	203	263	350	382	428	.9	1.6
159	2	60.0	-	-	-	1.05	93.5	85.6	89.6	10.4	128	90	103	114	134	154	199	254	342	379	420	.8	1.2
160	6	63.0	-	-	-	1.62	92.8	86.3	89.6	9.0	134	91	107	118	134	150	193	246	323	354	404	.8	1.0
161	3	58.3	-	-	-	1.30	93.1	86.2	89.7	10.0	131	88	105	113	133	153	214	279	355	393	428	1.0	1.5
162	6	60.7	-	-	-	1.85	93.8	86.2	90.0	10.4	129	88	104	115	133	154	204	266	350	385	418	.7	1.1
163	4	61.9	-	-	-	2.24	93.4	86.8	90.1	9.2	131	90	106	114	129	147	189	253	342	383	442	.7	1.3
164	5	61.0	-	-	-	1.35	92.4	85.9	89.2	10.4	126	87	100	110	130	149	194	250	329	368	410	.7	2.2
165	15	60.3	.016	2	1.20	1.25	92.7	86.3	89.5	10.7	128	87	101	114	135	157	204	259	337	373	424	1.0	2.5
166	3	60.1	.013	0	1.29	1.19	92.7	86.2	89.5	11.0	127	86	105	115	135	156	203	256	335	373	406	1.4	3.5
167	6	60.1	-	-	-	1.31	94.0	86.2	90.1	8.8	137	88	102	113	133	157	213	280	352	394	428	.7	1.7
168	1	62.2	-	-	-	1.15	93.3	86.2	89.8	10.6	127	86	99	109	131	152	203	250	329	370	417	.7	2.3
AVERAGE		60.7	.040	1	1.13	1.46	93.2	86.2	89.7	10.1	130	88	103	114	133	154	203	262	343	379	421	.9	1.8
MINIMUM		58.3	.013	0	.90	1.05	92.4	85.6	89.2	8.8	125												
MAXIMUM		63.0	.090	2	1.29	2.29	94.0	87.8	90.8	11.0	137												
SAMPLES	67																						

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 4 APPALACHIAN--CONTINUED
 OHIO, W. VA., WESTERN N.Y., WESTERN PA., EASTERN KY., AND PART OF MD.

PREMIUM GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											
							RES, ASTM D2699	MDT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)										RES LOSS % %	
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
169	3	61.1	-	-	-	1.66	97.8	90.5	94.2	11.4	124	84	98	108	128	153	209	260	328	363	411	0.7	2.3
170	3	62.3	-	-	-	1.90	98.6	90.6	94.6	11.0	129	85	98	111	139	172	219	259	343	372	405	.7	2.6
171	1	63.2	0.007	0	0.96	1.67	99.4	93.3	96.4	13.7	115	78	86	99	119	144	205	260	322	346	411	1.2	3.8
172	1	56.5	-	-	-	2.78	98.0	90.4	94.2	9.5	138	90	110	124	145	172	224	278	348	384	422	.8	.7
173	3	60.2	-	-	-	1.76	97.9	90.3	94.1	10.7	129	86	99	110	134	161	220	270	338	377	416	.5	1.9
174	3	55.8	.050	2	3.24	1.77	98.3	90.4	94.4	10.8	133	86	103	122	148	173	226	277	331	364	404	.7	2.3
175	13	58.8	.006	2	1.09	2.16	97.0	90.0	93.5	10.7	130	86	99	113	136	160	215	270	335	364	422	.9	2.6
176	1	61.7	-	-	-	1.20	98.7	91.1	94.9	10.9	130	92	106	117	142	173	220	253	318	350	410	.6	2.4
177	2	63.9	-	-	-	2.26	98.6	91.4	95.0	11.3	125	86	96	107	131	157	207	250	326	364	407	.5	2.1
178	1	61.6	-	-	-	-	97.1	90.7	93.9	11.9	120	76	88	100	123	148	203	251	321	350	404	.9	2.6
AVERAGE		60.5	.021	1	1.76	1.91	98.1	90.9	94.5	11.2	127	85	98	111	135	161	215	263	331	363	411	.8	2.3
MINIMUM		55.8	.006	0	.96	1.20	97.0	90.0	93.5	9.5	115												
MAXIMUM		63.9	.050	2	3.24	2.78	99.4	93.3	96.4	13.7	138												

SAMPLES 31

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 5 MICHIGAN

UNLEADED GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	BENZENE ASTM D3606 VOL. %	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											MANGA- NESE AA G/GAL	
						RES, ASTM D2699	MDT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)										RES LOSS % %		
											PERCENT EVAPORATED												
											IBP	5	10	20	30	50	70	90	95	EP			
179	2	57.9	0.020	2	1.40	95.1	85.5	90.3	10.2	133	90	106	121	144	169	217	254	316	355	412	0.8	1.4	0.00
180	2	60.9	.080	2	.80	91.7	82.7	87.2	11.3	128	84	96	114	138	167	218	267	346	382	419	.8	2.4	.00
181	4	66.8	.022	0	.51	92.8	84.1	88.5	10.8	128	87	104	118	139	161	202	237	316	356	400	1.1	1.8	.00
182	3	56.9	.005	1	1.20	95.5	86.1	90.8	11.4	129	85	97	116	143	172	223	267	332	367	411	1.1	2.5	.05
183	4	61.5	.039	2	.80	91.6	83.6	87.6	11.5	130	83	100	120	150	179	225	267	347	392	426	1.1	2.8	.04
184	3	61.4	.080	1	.90	91.5	82.5	87.0	11.7	126	85	97	114	137	162	215	270	344	380	424	1.2	2.3	.00
185	3	61.4	.040	1	.70	91.7	82.7	87.2	11.5	125	85	96	110	131	157	213	271	357	391	423	1.1	2.1	.06
186	3	58.9	.020	3	.50	98.5	87.7	93.1	11.6	127	83	97	112	136	166	225	275	328	356	401	1.2	1.8	.05
187	3	57.9	.030	2	1.70	92.9	83.1	88.0	11.3	130	86	95	116	143	172	225	271	332	363	405	1.2	3.1	.06
188	3	60.3	.010	1	3.80	92.1	84.3	88.2	10.4	131	88	101	119	141	165	207	247	323	364	414	1.2	2.1	.00
189	5	60.5	.060	1	1.40	92.5	85.0	88.8	11.4	128	85	93	113	145	176	219	267	333	386	420	1.1	3.2	.06
190	3	61.7	.010	1	.80	91.4	83.4	87.4	11.0	129	87	101	116	137	161	216	274	349	386	419	1.2	1.6	.01
191	4	59.9	.020	1	.80	91.5	83.1	87.3	10.8	128	86	98	113	132	161	217	276	348	384	424	1.1	2.4	.02
192	1	61.4	-	1	-	90.9	83.1	87.0	11.8	127	82	94	114	141	170	220	268	347	390	432	1.5	2.5	-
AVERAGE		60.5	.034	1	1.18	92.8	84.1	88.5	11.2	129	85	98	115	140	167	217	265	337	375	416	1.1	2.3	.03
MINIMUM		56.9	.005	0	.50	90.9	82.5	87.0	10.2	125													.00
MAXIMUM		66.8	.080	3	3.80	98.5	87.7	93.1	11.8	133													.06
SAMPLES	43																						

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED
 DIST. 5 MICHIGAN--CONTINUED

REGULAR GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											
							RES, ASTM D2699	MOT, ASTM D2700	K+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)										RES LOSS % %	
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
193	2	58.7	0.050	1	1.00	1.39	93.4	85.6	89.5	11.0	130	89	107	119	139	161	218	285	358	398	434	0.8	1.2
194	3	60.8	.070	1	1.60	2.67	94.0	85.7	89.9	10.9	129	87	102	117	140	163	209	260	341	378	420	1.1	1.7
195	4	61.5	.035	2	1.10	1.49	93.5	85.7	89.6	11.2	126	85	101	115	135	156	206	269	354	393	435	.9	1.8
196	3	62.0	.030	1	1.00	1.24	93.7	85.8	89.8	11.1	125	85	99	113	131	153	201	258	343	381	425	1.2	1.7
197	1	61.1	-	1	-	1.37	92.4	85.4	88.9	10.7	131	85	103	120	144	169	217	266	358	408	446	1.5	1.5
198	2	58.9	.010	1	1.20	1.17	93.5	85.7	89.6	10.5	132	87	104	118	141	165	219	273	335	367	410	1.2	1.3
199	4	59.1	.019	0	1.28	1.11	93.5	86.2	89.9	11.6	127	83	96	112	137	165	223	279	350	382	425	1.1	2.5
200	3	59.1	.020	2	.80	.85	93.3	85.0	89.2	11.2	128	85	101	115	136	159	218	290	365	398	433	1.2	1.5
201	5	59.2	.155	1	1.50	1.21	93.5	84.9	89.2	10.9	128	86	100	113	137	162	213	272	354	392	430	1.4	2.3
202	4	57.9	.024	1	1.30	1.06	93.3	85.6	89.5	10.3	135	89	104	121	148	176	227	280	347	382	428	1.1	2.1
203	4	60.1	.019	2	1.20	1.16	92.8	85.8	89.3	10.4	130	88	104	118	139	161	207	262	341	376	424	1.1	1.8
204	2	60.5	-	0	-	.95	94.2	85.8	90.0	11.6	126	81	96	110	136	166	220	274	357	396	430	1.5	1.5
205	2	59.4	.070	1	.90	1.00	93.9	84.9	89.4	11.8	124	85	98	112	132	155	211	281	362	394	433	.9	1.8
AVERAGE		59.9	.046	1	1.17	1.28	93.5	85.5	89.5	11.0	129	86	101	116	138	162	215	273	351	388	429	1.2	1.7
MINIMUM		57.9	.010	0	.80	.85	92.4	84.9	88.9	10.3	124												
MAXIMUM		62.0	.155	2	1.60	2.67	94.2	86.2	90.0	11.8	135												

SAMPLES 39

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 5 MICHIGAN--CONTINUED

PREMIUM GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)										RES LOSS % %	
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
206	1	60.3	-	0	-	1.58	98.7	91.3	95.0	11.2	125	84	98	114	136	158	201	240	298	328	363	1.5	2.0
207	1	61.0	-	1	-	1.10	98.0	90.8	94.4	11.4	127	80	95	111	135	162	223	276	341	378	418	1.5	1.5
208	2	61.1	0.150	2	-	2.05	98.5	90.9	94.7	12.0	125	85	81	109	140	169	211	251	346	399	431	1.5	4.0
209	1	62.1	-	1	-	1.52	98.1	90.7	94.4	12.0	127	83	91	116	147	180	224	264	347	385	429	1.5	3.5
210	2	58.9	.010	2	0.80	2.01	97.6	90.2	93.9	10.7	129	83	95	111	135	161	219	276	344	379	429	1.3	3.0
211	2	65.5	.024	1	.50	1.76	98.6	90.1	94.4	11.7	124	88	99	112	134	158	204	243	327	364	418	1.2	2.8
212	1	59.1	-	1	-	2.10	98.5	90.6	94.6	12.8	122	80	85	107	135	164	225	280	348	379	426	1.5	4.0
213	2	62.7	.040	1	-	2.88	97.5	91.2	94.4	11.9	129	80	100	120	146	182	225	266	344	386	425	1.3	3.3
214	2	66.9	.029	0	.28	1.23	98.4	91.2	94.8	11.5	127	83	98	114	140	171	218	262	340	381	418	1.4	2.2
AVERAGE		62.0	.051	1	.53	1.80	98.2	90.8	94.5	11.7	126	83	94	113	139	167	217	262	337	375	417	1.4	2.9
MINIMUM		58.9	.010	0	.28	1.10	97.5	90.1	93.9	10.7	122												
MAXIMUM		66.9	.150	2	.80	2.88	98.7	91.3	95.0	12.8	129												

SAMPLES 14

96

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 6 NORTH ILLINOIS
 NORTHERN IND., NORTHERN ILL., EASTERN IOWA, AND WIS.

UNLEADED GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	BENZENE ASTM D3606 VOL. %	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											MANGA- NESE AA G/GAL		
						RES, ASTM D2699	MGT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)												RES LOSS % %	
											PERCENT EVAPORATED													
											IBP	5	10	20	30	50	70	90	95	EP				
215	3	60.2	-	0	-	91.9	83.2	87.6	10.8	132	86	98	116	144	175	222	265	344	384	426	0.9	2.9	-	
216	4	57.9	0.034	5	1.80	93.2	83.5	88.4	11.0	129	87	100	113	138	168	222	267	328	363	410	.8	2.1	0.06	
217	3	61.2	-	0	-	91.9	82.6	87.3	11.2	128	87	101	113	135	163	218	267	345	385	418	.9	2.2	-	
218	4	58.2	.019	1	.90	95.4	86.1	90.8	10.2	133	87	103	118	141	167	218	253	321	357	409	1.0	1.7	.01	
219	2	56.1	-	1	-	95.5	86.0	90.8	10.3	136	84	100	120	152	184	231	273	337	370	407	1.5	2.0	-	
220	4	58.2	.049	3	.40	92.2	82.6	87.4	11.3	129	84	97	113	139	168	226	279	346	388	416	1.1	2.3	.03	
221	3	60.4	.008	0	3.20	91.9	84.2	88.1	9.7	134	92	109	123	143	166	204	239	309	348	400	.6	1.9	.00	
222	2	59.7	-	1	-	92.1	82.8	87.5	11.1	128	84	100	113	137	165	218	262	334	372	412	1.0	1.5	-	
223	2	61.6	-	-	-	92.1	82.7	87.4	11.7	125	86	100	111	135	162	214	263	339	381	418	.6	2.4	-	
224	1	56.9	-	-	-	96.0	87.0	91.5	9.8	136	86	99	119	145	176	222	262	329	358	412	.8	2.2	-	
225	4	59.1	.017	3	.30	98.9	88.5	93.7	11.0	130	84	99	113	138	169	226	264	325	359	401	1.0	2.2	.06	
226	2	61.8	-	-	-	91.8	83.2	87.5	11.4	128	86	100	113	138	163	221	263	343	385	414	.4	2.1	-	
227	3	59.9	.087	6	1.30	91.8	83.7	87.8	10.9	131	88	102	117	146	176	224	271	343	384	425	.9	2.4	.05	
AVERAGE		59.3	.036	2	1.32	93.4	84.3	88.9	10.8	131	86	101	116	141	169	220	264	334	372	413	.9	2.1	.04	
MINIMUM		56.1	.008	0	.30	91.8	82.6	87.3	9.7	125													.00	
MAXIMUM		61.8	.087	6	3.20	98.9	88.5	93.7	11.7	136													.06	

SAMPLES 37

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 6 NORTH ILLINOIS--CONTINUED
 NORTHERN IND., NORTHERN ILL., EASTERN IOWA, AND WIS.

REGULAR GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)										RES %	LOSS %
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
228	1	61.0	-	-	-	1.58	93.4	85.6	89.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
229	4	61.1	0.071	1	1.90	2.89	93.9	86.5	90.2	10.9	127	85	99	112	136	159	205	257	338	376	405	1.1	2.1
230	4	57.6	.039	1	.90	1.36	93.2	86.1	89.7	9.4	138	92	108	121	144	168	224	285	359	397	424	.9	1.1
231	3	60.2	.012	1	1.00	1.69	93.3	86.1	89.7	9.7	136	93	107	123	143	165	218	273	342	380	412	.9	1.1
232	3	60.0	-	1	-	2.66	93.5	85.7	89.6	10.3	131	87	105	118	140	163	208	260	333	367	404	1.1	1.5
233	3	60.6	-	0	-	1.49	93.3	85.3	89.3	10.5	128	85	99	112	132	153	201	254	347	391	418	1.0	1.8
234	3	61.7	-	0	-	1.39	93.1	85.9	89.5	10.6	127	86	101	113	132	153	198	257	367	387	414	1.3	1.8
235	4	59.0	.045	1	.50	1.75	94.4	85.8	90.1	11.1	129	85	100	115	139	167	220	274	350	393	420	.9	1.9
236	3	60.8	-	-	-	.93	93.6	85.5	89.6	10.6	127	83	97	108	129	150	203	258	337	372	414	1.1	2.1
237	2	60.3	-	-	-	1.54	93.3	85.6	89.5	9.9	130	90	101	111	132	151	201	253	335	370	422	.4	2.6
238	3	58.7	-	0	-	1.24	94.6	85.7	90.2	10.6	131	84	96	111	138	168	225	279	352	387	424	1.1	2.5
AVERAGE		60.1	.042	1	1.08	1.68	93.6	85.8	89.7	10.4	130	87	101	114	137	160	210	265	346	382	416	1.0	1.9
MINIMUM		57.6	.012	0	.50	.93	93.1	85.3	89.3	9.4	127												
MAXIMUM		61.7	.071	1	1.90	2.89	94.6	86.5	90.2	11.1	138												
SAMPLES	33																						

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 6 NORTH ILLINOIS--CONTINUED
 NORTHERN IND., NORTHERN ILL., EASTERN IOWA, AND WIS.

PREMIUM GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM C439 F	DISTILLATION, ASTM D86										RES LOSS % %	
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)											
												PERCENT EVAPORATED										EP	
							5	10	20			30	50	70	90	95							
239	3	60.7	0.017	1	1.00	2.26	98.2	91.0	94.6	9.7	134	90	105	119	139	163	210	259	331	368	409	1.0	1.7
240	1	62.5	-	0	-	1.11	98.4	90.1	94.3	10.1	134	84	98	118	148	176	210	252	338	384	425	1.5	2.5
241	1	62.9	-	-	-	-	98.1	89.7	93.9	10.2	130	80	97	109	134	162	209	254	345	385	422	1.0	1.8
242	2	64.6	.128	3	.50	2.04	98.6	91.1	94.9	11.7	126	84	98	111	141	174	214	250	350	385	415	.9	3.1
243	1	60.0	.004	0	1.00	1.37	98.5	91.3	94.9	9.6	134	98	111	126	146	166	200	239	299	332	378	.5	2.0
244	2	59.4	.037	3	.60	1.63	98.0	89.6	93.8	10.5	135	86	104	120	146	175	232	280	355	388	419	1.5	1.3
245	1	62.2	-	-	-	1.76	98.3	90.2	94.3	11.9	122	86	94	104	127	154	213	255	347	383	420	.8	2.2
AVERAGE		61.8	.047	1	.78	1.70	98.3	90.4	94.4	10.5	131	87	101	115	140	167	213	256	338	375	413	1.0	2.1
MINIMUM		59.4	.004	0	.50	1.11	98.0	89.6	93.8	9.6	122												
MAXIMUM		64.6	.128	3	1.00	2.26	98.6	91.3	94.9	11.9	135												
SAMPLES	11																						

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 7 CENTRAL MISSISSIPPI
 WESTERN KY., SOUTHERN IND., SOUTHERN ILL., AND EASTERN MD.

UNLEADED GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	BENZENE ASTM D3606 VOL. %	OCTANE NUMBER			RVP, ASTM D323 Lb	20V/L ASTM D439 F	DISTILLATION, ASTM D86											MANGA- NESE AA G/GAL	
						RES, ASTM D2699	M/LT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)										RES %		LOSS %
											PERCENT EVAPORATED												
											IBP	5	10	20	30	50	70	90	95	EP			
246	2	59.8	-	-	-	92.1	83.1	87.6	11.4	126	85	100	111	132	162	215	258	344	396	420	1.5	1.5	-
247	5	58.1	0.028	-	-	95.1	85.5	90.3	9.7	136	91	110	121	142	168	219	254	317	352	398	.8	1.3	0.00
248	1	60.2	-	-	-	92.2	83.2	87.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
249	3	62.2	-	-	-	91.3	82.5	86.9	11.1	128	86	103	115	138	163	216	256	351	395	426	.6	1.9	-
250	1	65.1	-	-	-	91.2	82.6	86.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
251	1	58.2	-	-	-	92.0	82.4	87.2	10.0	129	86	99	107	129	154	203	251	337	371	406	.5	1.5	-
252	1	63.2	-	-	-	92.5	83.5	88.0	10.1	130	88	103	115	134	161	203	252	328	375	412	.7	1.8	-
253	1	66.7	-	-	-	92.6	83.2	87.9	10.5	131	90	104	115	135	162	220	276	337	361	408	.4	2.6	-
254	1	63.4	-	-	-	91.2	82.3	86.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
255	5	58.2	.016	-	-	92.5	83.5	88.0	9.6	136	88	104	116	143	171	222	260	310	335	371	1.1	1.6	.01
256	4	58.6	-	-	-	92.1	83.2	87.7	8.8	142	95	112	126	147	172	227	277	348	376	424	1.1	.9	-
257	6	58.9	.026	-	0.91	92.2	82.6	87.4	10.0	134	87	106	119	143	169	221	267	340	376	415	.9	1.7	.05
258	4	58.8	.020	-	.41	97.8	87.2	92.5	10.8	130	86	104	116	139	167	218	255	321	352	392	.8	1.7	-
259	1	64.9	-	-	-	91.4	82.3	86.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
260	1	59.1	-	-	-	92.2	83.2	87.7	9.8	134	91	103	113	144	173	217	264	339	377	418	.8	1.2	-
261	1	55.3	-	-	-	94.8	83.8	89.3	9.8	137	92	107	117	148	179	228	260	328	366	400	.5	2.0	-
262	1	61.9	-	-	-	91.8	83.3	87.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
263	2	60.5	-	-	-	91.9	83.1	87.5	9.8	135	92	106	119	139	178	221	257	322	369	406	.9	2.1	-
264	3	59.1	.040	-	1.41	93.0	83.4	88.2	11.1	131	86	103	117	143	170	225	269	330	362	399	1.0	2.0	.04
265	2	64.6	-	-	-	93.2	85.2	89.2	8.1	147	90	115	134	160	183	215	247	334	373	411	.4	.6	-
266	3	61.0	-	-	-	91.7	82.8	87.3	10.8	128	83	99	111	135	160	209	261	346	384	421	1.0	2.5	-
AVERAGE		60.8	.026	-	.91	92.6	83.4	88.0	10.1	133	89	105	117	141	168	217	260	333	370	408	.8	1.7	.03
MINIMUM		55.3	.016	-	.41	91.2	82.3	86.8	8.1	126													.00
MAXIMUM		66.7	.040	-	1.41	97.8	87.2	92.5	11.4	147													.05

SAMPLES 49

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED
 DIST. 7 CENTRAL MISSISSIPPI--CONTINUED
 WESTERN KY., SOUTHERN IND., SOUTHERN ILL., AND EASTERN MD.

REGULAR GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 NT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										RES LOSS % %	
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)											
												PERCENT EVAPORATED										EP	
							IBP	5	10			20	30	50	70	90	95						
267	2	60.9	-	-	-	1.62	93.4	85.8	89.6	9.2	137	90	112	121	146	170	211	259	333	376	412	0.3	1.7
268	4	60.2	-	-	-	1.73	94.0	86.8	90.4	10.1	132	92	108	120	140	160	207	260	324	362	408	.8	1.5
269	3	61.4	-	-	-	2.36	93.1	86.3	89.7	12.0	121	81	93	103	123	149	209	268	339	392	438	.5	2.5
270	1	59.1	-	-	-	1.97	93.4	86.2	89.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
271	1	60.5	-	-	-	2.07	92.9	86.0	89.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
272	1	62.5	-	-	-	2.30	93.0	86.7	89.9	10.0	133	88	105	115	141	165	213	264	355	387	400	.8	1.2
273	2	55.9	-	-	-	1.59	93.7	85.4	89.6	10.0	130	86	99	110	132	157	206	272	354	389	429	.8	2.2
274	1	61.5	-	-	-	2.36	93.5	86.9	90.2	9.6	134	88	104	119	139	161	208	265	344	382	412	.6	1.4
275	3	59.8	-	-	-	1.28	93.4	85.9	89.7	10.5	130	87	103	115	137	159	208	262	335	368	411	.9	1.6
276	1	57.2	-	-	-	2.75	92.7	85.3	89.0	10.9	132	87	102	118	146	176	227	285	354	400	426	.7	2.3
277	1	58.9	-	-	-	1.81	93.4	85.7	89.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
278	4	59.7	0.050	-	1.05	2.33	93.4	85.7	89.6	9.9	133	90	108	118	140	163	209	257	340	375	420	.9	1.9
279	5	62.2	.009	-	-	2.47	92.6	86.6	89.6	9.3	134	93	108	118	137	161	203	251	322	350	387	1.0	1.5
280	1	59.5	-	-	-	1.92	93.1	86.1	89.6	9.7	134	92	108	118	140	160	210	257	331	362	391	.7	1.8
281	2	57.1	-	-	-	1.86	94.2	86.0	90.1	11.2	129	86	104	115	138	167	221	285	367	404	438	.7	2.3
282	1	61.1	-	-	-	2.08	93.2	86.3	89.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
283	5	58.0	.059	-	-	1.35	93.4	85.7	89.6	9.4	134	86	105	116	137	159	214	280	347	381	421	.9	.9
284	6	60.4	.028	-	1.21	1.94	93.1	86.1	89.6	10.2	131	89	108	119	137	158	204	261	338	374	416	1.0	1.5
285	1	58.8	-	-	-	1.28	93.1	85.4	89.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
286	1	57.6	-	-	-	.94	93.5	85.1	89.3	10.0	131	88	104	115	138	161	206	252	327	362	396	.4	1.6
AVERAGE		59.6	.037	-	1.13	1.90	93.3	86.0	89.7	10.1	132	88	105	116	138	162	210	265	341	378	414	.7	1.7
MINIMUM		55.9	.009	-	1.05	.94	92.6	85.1	89.0	9.2	121												
MAXIMUM		62.5	.059	-	1.21	2.75	94.2	86.9	90.4	12.0	137												

SAMPLES 46

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED
 DIST. 7 CENTRAL MISSISSIPPI--CONTINUED
 WESTERN KY., SOUTHERN IND., SOUTHERN ILL., AND EASTERN MO.

PREMIUM GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											
							RES, ASTM D2699	MOT, ASTM D2700	R+M --- 2			TEMPERATURE, F (CORRECTED TO 760 MM HG)										RES LOSS % %	
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
287	3	60.9	0.027	-	-	2.12	98.3	90.8	94.6	9.7	133	87	107	119	139	160	208	253	325	364	405	0.7	1.3
288	2	61.7	-	-	-	1.70	98.3	90.8	94.6	9.7	136	90	107	120	146	173	216	252	334	370	421	.6	1.9
289	1	61.0	-	-	-	2.29	98.0	91.2	94.6	10.1	126	87	95	106	121	142	194	237	308	339	390	.6	2.3
290	1	62.0	-	-	-	1.27	98.4	90.0	94.2	10.7	133	86	104	119	151	182	220	259	328	364	402	.2	2.5
291	1	56.6	-	-	-	2.25	98.9	91.4	95.2	10.2	130	88	99	113	135	160	210	247	300	335	384	.9	2.1
292	1	60.4	-	-	-	1.33	98.0	90.0	94.0	9.7	135	88	105	117	144	171	218	262	339	394	416	.6	1.9
293	4	62.4	.020	-	0.55	1.25	98.0	89.9	94.0	10.3	135	87	109	123	153	179	219	255	337	384	421	1.1	1.8
294	3	60.6	.006	-	-	2.29	98.6	91.1	94.9	10.0	133	90	107	120	140	164	211	248	309	341	376	.7	1.3
295	1	62.1	-	-	-	2.94	98.8	91.0	94.9	10.1	131	92	108	119	139	160	206	253	339	363	408	.8	1.7
296	2	62.1	-	-	-	-	98.6	90.3	94.5	10.5	130	83	100	112	137	163	208	246	333	371	421	.7	1.1
AVERAGE		61.0	.018	-	.55	1.94	98.4	90.7	94.6	10.1	132	88	104	117	141	165	211	251	325	363	404	.7	1.8
MINIMUM		56.6	.006	-	.55	1.25	98.0	89.9	94.0	9.7	126												
MAXIMUM		62.4	.027	-	.55	2.94	98.9	91.4	95.2	10.7	136												
SAMPLES	19																						

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 8 LOWER MISSISSIPPI
 MISS., LA., EASTERN AND SOUTHERN ARK., AND WESTERN TENN.

UNLEADED GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	BENZENE ASTM D3606 VOL. %	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										MANGA- NESE AA G/GAL		
						RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)											RES LOSS % %	
											PERCENT EVAPORATED												
											IBP	5	10	20	30	50	70	90	95	EP			
297	4	55.7	-	-	-	99.5	87.6	93.6	9.6	134	90	105	116	135	151	214	240	320	341	371	0.9	1.7	-
298	2	56.5	-	-	-	96.7	85.8	91.3	9.4	134	88	104	115	135	158	214	270	330	356	406	.6	1.4	-
299	2	56.1	-	-	-	94.1	83.3	88.7	10.6	129	84	99	110	133	160	215	259	330	368	392	.5	2.0	-
300	2	60.3	-	-	-	91.6	83.6	87.6	10.2	133	84	102	115	142	172	221	267	341	374	426	.7	2.1	-
301	1	60.6	-	-	-	92.1	83.3	87.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
302	5	57.0	-	1	-	93.0	83.7	88.4	9.3	137	91	108	121	141	167	219	265	332	362	402	.8	1.2	-
303	4	55.1	-	0	-	92.0	83.0	87.5	10.0	135	88	104	117	145	175	228	275	332	360	405	.8	1.3	-
304	4	57.7	0.030	1	1.00	92.3	83.1	87.7	10.2	133	88	104	117	140	167	217	268	345	371	417	.6	1.7	0.05
305	3	57.6	-	-	-	92.8	83.5	88.2	9.3	136	92	107	119	141	163	217	263	332	362	405	.5	1.3	-
306	3	61.7	.100	1	.50	92.2	83.4	87.8	9.4	137	89	109	122	144	167	219	269	339	370	419	1.0	1.0	.06
307	3	59.7	-	-	-	92.6	83.6	88.1	9.2	141	88	104	118	157	188	224	263	341	379	421	.5	2.5	-
308	3	61.3	-	-	-	92.7	83.1	87.9	11.0	127	85	102	113	138	163	205	253	340	376	406	.6	1.4	-
309	3	62.3	-	-	-	91.3	83.2	87.3	9.9	135	85	103	116	145	174	220	261	338	379	409	.5	1.1	-
310	1	61.7	-	-	-	92.0	83.5	87.8	9.9	137	96	113	125	152	179	222	257	338	372	416	.8	1.2	-
311	3	58.4	-	-	-	92.8	83.2	88.0	9.3	135	90	103	116	136	162	210	257	334	365	404	.5	1.0	-
312	1	56.9	-	-	-	95.6	86.5	91.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
313	4	58.3	-	-	-	94.6	84.5	89.6	9.9	131	87	102	112	131	155	211	261	325	358	403	.6	1.5	-
AVERAGE		58.6	.065	1	.75	93.4	84.0	88.7	9.8	134	88	105	117	141	167	217	262	334	366	407	.7	1.5	.06
MINIMUM		55.1	.030	0	.50	91.3	83.0	87.3	9.2	127													.05
MAXIMUM		62.3	.100	1	1.00	99.5	87.6	93.6	11.0	141													.06
SAMPLES	48																						

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978

AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 8 LOWER MISSISSIPPI--CONTINUED
MISS., LA., EASTERN AND SOUTHERN ARK., AND WESTERN TENN.

REGULAR GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											RES LOSS % %	
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)												
												PERCENT EVAPORATED												
							1BP	5	10			20	30	50	70	90	95	EP						
314	5	60.9	-	1	-	1.66	93.5	86.8	90.2	9.3	133	91	107	118	135	154	197	250	326	358	396	0.7	1.3	
315	3	59.0	-	-	-	2.32	93.1	86.5	89.8	9.1	140	93	112	126	151	175	215	267	359	389	410	.6	1.4	
316	4	60.7	0.050	1	1.34	2.21	93.2	86.3	89.8	10.0	133	91	107	120	140	159	206	261	345	373	412	.6	1.5	
317	1	62.0	-	-	-	2.80	94.0	87.0	90.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
318	4	62.4	-	-	-	2.25	93.0	86.4	89.7	9.8	131	89	108	119	139	153	190	233	314	346	385	.6	1.2	
319	3	62.9	.100	0	.50	3.26	93.5	87.3	90.4	9.6	136	92	113	126	147	168	208	261	337	370	416	1.0	1.0	
320	4	62.1	-	-	-	2.72	93.4	87.1	90.3	9.4	134	92	107	119	139	159	204	255	331	365	408	.5	1.5	
321	2	62.0	-	-	-	-	93.3	86.1	89.7	11.0	125	83	97	109	131	153	201	256	338	374	416	.9	1.5	
322	2	60.8	-	-	-	2.97	93.9	86.6	90.3	10.1	132	87	104	117	139	163	209	268	337	368	418	.7	1.3	
323	4	62.7	-	-	-	2.67	93.5	86.8	90.2	9.8	130	90	107	116	132	149	193	251	333	365	401	.4	1.4	
324	4	60.8	-	-	-	2.47	93.8	86.2	90.0	10.1	130	86	102	115	135	154	201	255	327	366	410	.7	1.6	
325	5	59.2	-	0	-	1.78	93.2	86.2	89.7	9.0	138	91	111	123	144	165	212	264	331	362	401	.6	1.0	
326	1	62.4	-	-	-	2.64	94.6	87.3	91.0	9.9	128	86	103	114	131	141	189	253	336	368	393	1.0	1.0	
327	2	63.9	-	-	-	2.69	93.5	87.4	90.5	9.7	131	88	104	115	135	155	198	248	340	382	420	.6	1.4	
328	1	61.0	-	-	-	3.00	93.0	86.6	89.8	9.7	135	94	111	121	143	163	211	260	331	369	414	.7	1.3	
AVERAGE		61.5	.075	1	.92	2.53	93.5	86.7	90.1	9.8	133	90	107	118	139	158	202	256	335	368	407	.7	1.3	
MINIMUM		59.0	.050	0	.50	1.66	93.0	86.1	89.7	9.0	125													
MAXIMUM		63.9	.100	1	1.34	3.26	94.6	87.4	91.0	11.0	140													

SAMPLES 45

44

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED
 DIST. 8 LOWER MISSISSIPPI--CONTINUED
 MISS., LA., EASTERN AND SOUTHERN ARK., AND WESTERN TENN.

PREMIUM GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										RES LOSS % %	
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)											
												PERCENT EVAPORATED										EP	
							IBP	5	10			20	30	50	70	90	95						
329	1	60.4	-	-	-	2.85	95.8	87.4	91.6	9.3	136	90	106	118	142	166	215	262	330	367	408	0.5	1.5
330	2	61.3	-	-	-	1.41	98.5	90.5	94.5	10.0	133	85	103	117	139	165	211	250	313	354	401	.6	1.5
331	3	58.8	-	2	-	2.06	98.1	90.5	94.3	9.9	132	86	100	111	132	161	211	257	328	358	400	.8	1.8
332	1	61.0	-	-	-	2.42	98.0	91.0	94.5	9.2	139	90	112	122	145	170	222	270	360	390	421	.3	.7
333	3	59.4	-	1	-	2.21	98.5	90.4	94.5	9.6	134	89	105	117	138	164	214	265	328	359	405	.6	1.9
334	1	61.8	-	-	-	2.80	98.8	91.4	95.1	10.1	129	86	97	107	127	155	208	258	325	362	400	.9	1.6
335	2	62.7	-	-	-	-	99.2	91.2	95.2	11.0	128	83	101	112	137	164	214	253	327	361	404	.7	2.3
336	2	59.9	-	-	-	2.83	99.0	90.8	94.9	10.4	130	86	100	111	133	160	216	261	327	357	396	.4	1.7
337	2	61.7	-	-	-	2.38	98.8	91.0	94.9	10.7	128	85	100	110	131	152	213	256	329	359	405	.7	1.8
338	2	62.4	0.100	0	0.50	3.27	98.7	90.8	94.8	9.7	135	89	111	123	143	164	210	260	337	367	410	1.0	1.0
339	2	62.2	-	-	-	2.32	98.9	91.3	95.1	10.6	127	86	100	111	129	156	205	244	322	362	394	.4	1.4
AVERAGE		61.1	.100	1	.50	2.46	98.4	90.6	94.5	10.0	132	87	103	114	136	162	213	258	330	363	404	.6	1.6
MINIMUM		58.8	.100	0	.50	1.41	95.8	87.4	91.6	9.2	127												
MAXIMUM		62.7	.100	2	.50	3.27	99.2	91.4	95.2	11.0	139												

SAMPLES 21

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 9 NORTH PLAINS
 MINN., N. DAK., AND S. DAK.

UNLEADED GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	BENZENE ASTM D3606 VOL. %	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										MANGA- NESE AA G/GAL			
						RES, ASTM D2699	MOT, ASTM D2700	R+M --- 2			TEMPERATURE, F (CORRECTED TO 760 MM HG)											RES %	LOSS %	
											PERCENT EVAPORATED								EP	%				%
											IBP	5	10	20	30	50	70	90						
340	1	61.5	-	-	-	92.0	84.0	88.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
341	1	60.5	-	-	-	91.2	83.2	87.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
342	1	62.0	-	-	-	91.9	83.9	87.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
343	1	62.0	-	-	-	91.7	83.8	87.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
344	1	56.8	-	-	-	92.1	83.7	87.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
345	1	58.2	-	-	-	97.9	86.7	92.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
346	1	62.6	-	-	-	91.6	83.9	87.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
347	1	56.7	-	-	-	91.1	82.9	87.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
348	1	56.7	-	-	-	93.8	84.1	89.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
349	1	62.1	-	-	-	91.6	84.0	87.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
350	1	61.1	-	-	-	91.7	83.5	87.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
351	1	62.2	-	-	-	91.3	83.6	87.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
352	1	61.8	-	-	-	91.2	82.8	87.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
AVERAGE		60.3	-	-	-	92.2	83.9	88.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MINIMUM		56.7	-	-	-	91.1	82.8	87.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MAXIMUM		62.6	-	-	-	97.9	86.7	92.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

SAMPLES 13

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978

AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 9 NORTH PLAINS--CONTINUED
MINN., N. DAK., AND S. DAK.

REGULAR GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											
							RES, ASTM D2699	MOT, ASTM D2700	K+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)										RES LOSS % %	
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
353	1	60.6	-	-	-	1.52	92.2	84.4	88.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
354	1	63.1	-	-	-	1.70	91.9	85.4	88.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
355	1	62.0	-	-	-	2.00	92.2	85.1	88.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
356	1	56.7	-	-	-	3.06	94.5	85.7	90.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
357	1	59.7	-	-	-	1.35	92.2	84.6	88.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
358	1	61.5	-	-	-	1.13	92.1	84.3	88.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
359	1	61.4	-	-	-	1.73	92.3	85.6	89.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
360	1	61.0	-	-	-	1.67	92.3	85.2	88.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
361	1	62.1	-	-	-	2.21	92.2	85.4	88.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
362	1	61.2	-	-	-	1.50	91.9	85.6	88.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
363	1	61.6	-	-	-	2.00	92.0	84.4	88.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
364	1	59.9	-	-	-	1.85	93.4	85.0	89.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AVERAGE		60.9	-	-	-	1.81	92.4	85.1	88.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MINIMUM		56.7	-	-	-	1.13	91.9	84.3	88.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM		63.1	-	-	-	3.06	94.5	85.7	90.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SAMPLES	12																						

47

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 10 CENTRAL PLAINS
 NEBR., CENTRAL AND WESTERN IOWA, NW MO., AND NORTHERN KANS.

UNLEADED GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	BENZENE ASTM D3606 VOL. %	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										MANGA- NESE AA G/GAL		
						RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)											RES LOSS % %	
											PERCENT EVAPORATED												
											IBP	5	10	20	30	50	70	90	95	EP			
365	2	57.5	-	-	-	91.7	82.7	87.2	7.8	150	92	110	126	158	187	232	269	342	372	406	0.3	1.2	-
366	1	64.2	0.004	1	0.40	89.6	84.8	87.2	6.3	161	109	132	144	170	191	218	249	337	400	424	1.1	2.5	-
367	3	62.9	-	-	-	92.0	83.5	87.8	9.4	136	91	107	118	138	162	213	251	331	371	414	.4	1.4	-
368	4	57.3	-	-	-	91.8	83.1	87.5	9.3	143	90	106	124	162	190	230	271	332	365	404	.6	2.7	-
369	5	61.4	-	-	-	92.0	83.3	87.7	8.4	141	92	109	121	144	167	217	253	335	371	410	.5	1.2	-
370	5	62.2	-	-	-	91.8	83.5	87.7	9.0	136	94	109	121	138	159	210	254	334	372	413	.6	1.6	-
371	7	59.7	.001	1	.80	98.0	88.4	93.2	8.5	142	91	109	124	148	179	216	236	278	316	372	.7	1.6	-
372	4	61.1	-	-	-	91.8	83.4	87.6	9.3	140	88	108	123	151	179	226	256	337	371	410	.8	1.5	-
373	9	57.2	.005	1	1.03	93.4	83.7	88.6	9.1	141	93	110	124	151	177	226	265	324	356	398	.7	1.5	-
374	1	64.1	-	-	-	92.5	84.0	88.3	9.5	133	92	108	118	136	160	206	251	331	371	414	.5	1.0	-
375	7	63.3	.007	2	.40	91.9	83.2	87.6	8.8	139	92	109	122	141	162	214	257	346	385	420	.7	1.3	-
376	2	65.2	.002	1	.45	90.3	84.5	87.4	10.0	135	88	108	124	149	175	210	248	333	378	417	1.0	2.0	-
377	2	62.4	-	-	-	91.6	83.4	87.5	9.2	135	94	113	122	138	153	202	252	330	371	400	.5	1.5	-
AVERAGE		61.4	.004	1	.62	92.2	84.0	88.1	8.8	141	93	111	124	148	172	217	255	330	369	408	.6	1.6	-
MINIMUM		57.2	.001	1	.40	89.6	82.7	87.2	6.3	133													-
MAXIMUM		65.2	.007	2	1.03	98.0	88.4	93.2	10.0	161													-

SAMPLES 52

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED
 DIST. 10 CENTRAL PLAINS--CONTINUED
 NEBR., CENTRAL AND WESTERN IOWA, NW MO., AND NORTHERN KANS.

PREMIUM GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	LOV/L ASTM D439 F	DISTILLATION, ASTM D86											
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)										RES %	LOSS %
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
390	1	60.0	0.005	1	0.70	2.10	96.0	88.6	92.3	6.5	158	105	133	141	163	186	224	255	336	388	424	0.9	1.8
391	2	62.8	-	-	-	2.09	98.0	91.5	94.8	9.9	134	88	105	119	144	173	216	247	326	370	395	.5	1.5
392	1	63.0	-	-	-	1.89	96.2	88.9	92.6	8.9	137	94	111	124	140	163	207	249	332	374	413	.3	1.2
393	2	63.6	-	-	-	2.19	98.3	91.3	94.8	9.7	136	94	111	122	143	175	217	251	332	375	414	.8	1.3
394	5	64.7	.012	1	.40	1.69	98.0	90.4	94.2	9.7	136	90	106	121	144	171	216	251	335	375	414	.6	1.6
395	2	61.7	-	-	-	2.35	97.6	91.0	94.3	9.9	137	93	109	125	153	168	224	257	332	366	406	.5	1.5
396	2	62.9	-	-	-	2.51	98.5	91.5	95.0	9.8	141	95	111	129	160	191	232	267	325	360	401	.6	1.4
397	3	65.6	.003	1	.55	1.84	97.3	90.8	94.1	9.8	135	91	110	126	148	170	206	249	332	378	415	.9	1.5
398	1	56.8	-	-	-	2.59	99.1	91.3	95.2	10.5	140	96	111	129	167	194	243	277	337	363	406	.5	1.5
AVERAGE		62.3	.007	1	.55	2.14	97.7	90.6	94.1	9.4	139	94	112	126	151	177	221	256	332	372	410	.6	1.5
MINIMUM		56.8	.003	1	.40	1.69	96.0	88.6	92.3	6.5	134												
MAXIMUM		65.6	.012	1	.70	2.59	99.1	91.5	95.2	10.5	158												

SAMPLES 19

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 11 SOUTH PLAINS
SOUTHERN KANS., SW MO., WESTERN ARK., OKLA., AND NORTHERN TEX.

UNLEADED GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	BENZENE ASTM D3606 VOL. %	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										MANGA- NESE AA G/GAL		
						RES, ASTM D2699	MUT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)											RES %	LOSS %
											PERCENT EVAPORATED												
											IbP	5	10	20	30	50	70	90	95	EP			
399	1	60.5	-	-	-	98.0	87.9	93.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
400	1	57.9	-	-	-	92.3	82.8	87.6	9.1	138	92	110	120	142	166	222	274	345	379	422	0.7	0.8	-
401	1	63.5	-	0	-	91.2	85.0	88.1	9.0	138	89	104	117	140	165	218	252	317	354	410	1.0	1.0	-
402	5	57.9	0.000	2	2.80	91.9	83.9	87.9	9.0	143	95	112	128	156	180	226	271	329	361	403	.6	1.2	-
403	4	62.7	-	1	-	92.3	84.0	88.2	9.3	134	90	105	116	136	157	208	255	332	371	419	.9	1.1	-
404	4	59.4	-	-	-	92.6	83.9	88.3	8.7	142	91	110	124	148	174	226	272	337	368	407	1.0	1.3	-
405	2	58.3	-	-	-	91.7	82.9	87.3	9.0	138	88	105	119	143	171	217	262	338	366	416	.8	1.2	-
406	4	63.5	-	1	-	91.3	84.0	87.7	9.2	139	94	108	121	144	172	222	263	349	380	423	.8	1.5	-
407	2	63.3	-	3	-	91.1	84.2	87.7	9.2	144	89	109	127	164	195	231	268	344	382	415	1.0	1.0	-
408	3	63.5	-	-	-	91.1	83.0	87.1	9.3	132	88	105	112	133	155	197	234	305	349	396	.3	1.7	-
409	4	61.8	-	1	-	91.8	82.9	87.4	8.5	140	90	106	118	141	163	212	257	333	370	413	.8	1.4	-
410	6	61.6	-	-	-	91.7	83.9	87.8	9.3	137	87	105	117	141	168	220	262	336	367	414	.7	1.3	-
411	4	66.1	.0005	1	.50	91.0	83.6	87.3	9.6	136	89	103	121	147	173	210	240	323	363	417	.7	1.8	-
412	1	58.5	-	-	-	94.1	84.2	89.2	9.3	136	90	107	118	136	154	225	279	345	379	430	.5	1.0	-
413	2	57.9	-	1	-	91.7	83.2	87.5	9.0	142	88	108	125	153	177	226	271	341	374	408	.8	1.2	-
414	6	58.7	.0003	0	.70	92.9	83.6	88.3	9.2	140	91	109	124	152	181	224	260	322	353	398	.6	1.4	-
415	1	52.9	-	-	-	95.8	85.3	90.6	9.2	140	88	110	123	150	181	227	255	319	354	386	.5	.5	-
416	1	59.9	-	1	-	90.9	83.7	87.3	9.2	143	96	117	136	163	190	226	262	333	371	424	1.0	1.0	-
417	2	60.9	-	-	-	92.1	84.2	88.2	8.8	139	89	107	118	140	165	220	260	331	355	392	1.0	1.0	-
418	1	52.5	-	-	-	92.0	83.6	87.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
419	1	55.1	-	-	-	91.6	83.0	87.3	9.3	136	90	106	117	137	155	221	291	359	389	406	.5	1.5	-
420	3	62.3	-	0	-	91.4	84.2	87.8	10.0	136	92	106	120	146	173	226	268	342	379	422	.8	1.7	-
421	1	63.9	-	-	-	92.1	85.2	88.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
422	1	58.5	-	0	-	91.5	84.7	88.1	8.9	141	89	110	122	154	180	218	253	319	349	401	1.0	1.0	-
AVERAGE		60.0	.0003	1	1.33	92.3	84.0	88.2	9.1	139	90	108	121	146	171	220	262	333	367	411	.8	1.2	-
MINIMUM		52.5	.000	0	.50	90.9	82.8	87.1	8.5	132													
MAXIMUM		66.1	.0005	3	2.80	98.0	87.9	93.0	10.0	144													

SAMPLES 61

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED
 DIST. 11 SOUTH PLAINS--CONTINUED
 SOUTHERN KANS., SW MO., WESTERN ARK., OKLA., AND NORTHERN TEX.

REGULAR GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86												
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)										RES %	LOSS %	
												PERCENT EVAPORATED												
												IBP	5	10	20	30	50	70	90	95	EP			
423	5	58.5	0.030	1	0.60	1.81	92.3	85.5	88.9	8.9	136	92	104	118	136	156	208	281	348	378	418	0.4	1.6	
424	5	58.9	.005	2	1.90	2.18	93.5	85.5	89.5	8.9	137	90	105	119	140	160	205	261	335	370	410	.6	1.4	
425	3	61.7	-	-	-	1.86	93.3	86.0	89.7	8.8	137	91	108	119	138	158	204	261	333	362	407	.8	1.3	
426	4	60.8	-	2	-	2.22	92.6	86.1	89.4	9.3	134	93	107	119	136	154	198	255	332	367	417	.8	.8	
427	1	61.5	-	1	-	2.38	93.3	86.4	89.9	9.0	134	90	106	118	134	152	194	255	340	370	417	1.0	1.0	
428	4	58.7	-	1	-	1.72	93.2	85.6	89.4	9.3	139	92	108	121	148	176	224	273	339	382	417	.7	1.5	
429	4	61.7	.006	2	.70	2.51	92.2	85.1	88.7	9.3	138	92	106	121	145	170	217	271	344	378	415	.9	1.7	
430	3	59.6	-	-	-	1.33	92.5	84.9	88.7	8.3	143	92	108	120	148	172	218	267	334	367	411	.9	1.6	
431	2	62.0	-	-	-	2.85	92.9	86.6	89.8	9.3	140	88	108	121	143	165	245	294	348	385	424	.7	1.3	
432	2	63.3	-	-	-	2.42	93.1	87.0	90.1	8.4	138	94	110	121	139	159	199	249	342	383	419	.4	1.6	
433	1	59.3	-	-	-	1.57	91.2	84.8	88.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
434	1	57.0	-	-	-	2.77	93.3	85.3	89.3	8.5	145	94	110	126	155	167	232	285	355	382	424	.7	1.8	
435	3	61.8	-	1	-	2.10	92.4	86.5	89.5	9.2	136	91	109	121	141	164	209	266	332	366	410	.9	1.4	
436	1	57.1	-	-	-	2.44	92.4	86.0	89.2	8.7	138	93	109	120	138	157	209	262	356	391	426	.6	1.4	
437	2	62.7	-	1	-	2.26	93.1	85.6	89.4	9.3	134	90	107	118	137	156	200	254	338	373	409	.9	1.2	
438	1	56.5	-	-	-	2.72	92.7	86.4	89.6	8.6	143	91	105	121	146	173	239	300	367	395	422	.6	.9	
439	1	62.8	-	0	-	2.46	93.0	85.0	89.0	9.3	134	94	104	117	135	154	205	261	333	363	400	1.0	1.0	
440	1	59.3	-	1	-	2.22	92.0	86.1	89.1	8.3	143	92	110	125	146	171	218	271	342	368	410	1.0	1.0	
441	7	61.3	-	-	-	1.71	92.6	85.7	89.2	9.8	132	85	102	114	136	157	205	261	337	371	402	.9	1.3	
442	3	62.5	-	0	-	2.17	94.3	87.7	91.0	9.1	137	89	105	118	139	161	215	268	337	371	414	.7	1.3	
443	1	62.4	-	-	-	2.90	93.6	86.2	89.9	9.0	130	90	97	111	126	134	180	244	340	374	406	.6	1.4	
444	3	62.5	-	2	-	2.94	92.5	86.2	89.4	8.9	135	93	108	119	136	153	194	254	336	364	411	.8	1.0	
445	4	59.1	-	-	-	2.50	93.7	85.6	89.7	9.1	137	89	104	118	140	162	216	272	342	372	416	.9	1.6	
AVERAGE		60.5	.014	1	1.07	2.26	92.9	85.9	89.4	9.0	137	91	106	119	140	161	211	267	341	374	414	.8	1.3	
MINIMUM		56.5	.005	0	.60	1.33	91.2	84.8	88.0	8.3	130													
MAXIMUM		63.3	.030	2	1.90	2.94	94.3	87.7	91.0	9.8	145													

52

SAMPLES 62

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 11 SOUTH PLAINS--CONTINUED
 SOUTHERN KANS., SW MO., WESTERN ARK., OKLA., AND NORTHERN TEX.

PREMIUM GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											RES LOSS % %	
							RES, ASTM D2699	MDT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)												
												PERCENT EVAPORATED												
							IBP	5	10			20	30	50	70	90	95	EP						
446	1	58.7	-	-	-	2.37	98.0	89.2	93.6	9.0	133	90	98	107	127	148	208	256	323	357	402	0.5	2.5	
447	1	58.9	-	-	-	1.80	99.1	90.2	94.7	9.0	136	86	106	115	134	154	213	260	345	380	410	.5	1.0	
448	1	57.8	-	2	-	2.33	98.3	90.2	94.3	8.9	146	91	110	129	164	195	235	275	343	371	411	1.0	1.0	
449	1	57.3	-	-	-	2.69	98.4	90.6	94.5	9.0	140	92	110	122	143	164	226	274	339	368	390	.8	.7	
450	2	66.5	0.005	1	0.50	2.53	98.3	92.1	95.2	9.8	138	91	107	128	153	180	216	247	319	362	410	.8	1.5	
451	3	60.3	-	1	-	1.83	97.4	91.5	94.5	8.9	143	92	107	124	157	188	227	262	337	370	418	.8	1.7	
452	5	63.8	-	-	-	2.45	98.3	91.5	94.9	9.9	134	86	105	118	144	172	214	252	329	365	406	.5	2.0	
453	1	68.4	-	0	-	2.47	97.4	93.1	95.3	10.2	128	94	105	114	132	152	196	241	320	361	410	1.0	1.0	
454	2	61.7	-	0	-	2.61	98.2	92.2	95.2	8.8	142	96	111	126	151	179	226	265	335	367	409	.9	1.4	
455	3	56.9	.003	1	2.70	2.42	98.5	90.3	94.4	9.3	142	89	112	129	158	186	231	277	338	374	409	.5	1.3	
456	1	59.5	-	-	-	2.78	98.7	91.6	95.2	10.1	133	92	101	113	143	173	223	269	339	365	408	.6	2.4	
457	1	61.1	-	-	-	3.21	98.0	89.9	94.0	9.0	137	92	108	120	137	151	216	266	343	368	420	.5	1.5	
458	2	57.7	-	-	-	-	98.5	90.8	94.7	8.9	142	85	105	122	147	173	227	269	330	356	406	1.0	2.5	
459	1	60.1	-	1	-	2.46	98.1	91.4	94.8	8.6	144	90	109	126	155	182	221	258	331	361	402	1.0	1.0	
460	2	58.2	-	-	-	2.17	98.5	90.9	94.7	8.9	140	93	106	119	143	169	225	267	330	362	404	.3	1.7	
461	4	59.5	.001	2	1.20	2.19	99.2	90.5	94.9	9.4	139	90	106	122	153	171	221	254	313	344	380	.5	1.3	
AVERAGE		60.4	.003	1	1.47	2.42	98.3	91.0	94.7	9.2	139	91	107	121	146	171	220	262	332	364	406	.7	1.5	
MINIMUM		56.9	.001	0	.50	1.80	97.4	89.2	93.6	8.6	128													
MAXIMUM		68.4	.005	2	2.70	3.21	99.2	93.1	95.3	10.2	146													

53

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 12 SOUTH TEXAS

UNLEADED GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	BENZENE ASTM D3606 VOL. %	OCTANE NUMBER			RVP, ASTM D323 Lb	20V/L ASTM D439 F	DISTILLATION, ASTM D86											MANGA- NESE AA G/GAL		
						RES, ASTM D2699	MUT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)												RES LOSS % %	
											PERCENT EVAPORATED													
											IBP	5	10	20	30	50	70	90	95	EP				
462	5	59.6	0.020	1	1.00	92.5	83.4	88.0	9.1	139	93	107	121	141	161	229	261	320	342	385	0.9	1.2	.05	
463	1	59.4	-	-	-	91.8	83.4	87.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
464	3	53.5	-	1	-	96.2	85.4	90.8	9.0	141	90	109	122	150	180	228	255	321	353	385	.8	1.0	-	
465	4	56.8	-	2	-	91.7	82.3	87.0	8.6	143	95	111	123	145	166	234	290	353	380	418	.9	.9	-	
466	3	55.6	.020	2	-	92.5	82.5	87.5	9.3	141	95	111	122	151	164	228	290	350	381	417	.7	1.1	.06	
467	2	60.7	-	-	-	91.7	82.9	87.3	11.0	131	90	106	118	143	179	227	277	343	383	418	.4	1.6	-	
468	2	60.3	-	-	-	92.1	82.2	87.2	9.9	130	88	106	113	127	142	213	265	339	375	400	.6	.9	-	
469	2	59.8	-	-	-	91.3	82.5	86.9	10.3	133	92	108	119	142	174	220	271	344	379	410	.5	1.5	-	
470	3	58.9	-	-	-	91.9	82.9	87.4	9.5	135	88	107	118	140	161	217	267	330	357	380	.5	.5	-	
471	1	52.9	.007	4	-	95.2	84.8	90.0	9.3	140	86	106	124	150	179	227	256	316	350	391	1.0	1.0	.05	
472	2	60.8	-	-	-	91.7	82.7	87.2	10.5	132	88	103	116	145	171	220	270	342	379	406	.6	1.9	-	
473	1	54.5	.040	3	1.00	98.7	87.3	93.0	9.3	132	88	-	112	126	156	221	-	311	-	390	1.0	1.0	.05	
474	5	59.3	.022	4	-	93.2	83.5	86.4	9.9	137	89	106	123	151	175	225	269	324	353	396	.8	1.6	.03	
475	5	59.1	.025	2	-	94.1	84.6	89.4	9.1	136	93	106	120	138	160	217	267	341	367	414	.8	1.2	.03	
476	5	57.7	.044	2	-	92.8	83.6	88.2	8.5	141	89	107	117	142	169	221	264	323	349	402	.8	1.2	.06	
AVERAGE		57.9	.025	2	1.00	93.2	83.6	88.4	9.5	137	90	107	119	142	167	223	269	333	365	401	.7	1.2	.05	
MINIMUM		52.9	.007	1	1.00	91.3	82.2	86.9	8.5	130													.03	
MAXIMUM		60.8	.044	4	1.00	98.7	87.3	93.0	11.0	143													.06	
SAMPLES	44																							

54

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED
 DIST. 12 SOUTH TEXAS--CONTINUED

REGULAR GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											RES LOSS % %	
							RES, ASTM D2699	MON, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)												
												PERCENT EVAPORATED										EP		
							18P	5	10			20	30	50	70	90	95							
477	8	57.2	0.034	1	-	2.52	93.5	86.4	90.0	8.7	142	95	111	126	150	175	227	276	345	376	412	0.9	1.4	
478	4	60.9	-	3	-	2.01	93.2	86.1	89.7	9.2	133	88	103	114	132	152	195	258	345	376	412	.7	1.0	
479	2	59.8	-	-	-	2.12	93.2	85.7	89.5	9.7	135	92	108	120	142	167	219	261	334	374	408	.5	1.5	
480	5	60.8	-	-	-	1.72	93.1	86.8	90.0	9.0	137	93	113	126	142	160	205	258	330	364	403	1.1	1.2	
481	2	67.7	-	-	-	2.29	92.8	88.3	90.6	9.3	128	96	113	122	130	142	168	207	300	335	394	.5	1.5	
482	7	61.5	.054	1	-	2.69	93.7	86.5	90.1	8.5	140	96	113	127	145	164	206	263	343	372	417	1.0	1.0	
483	2	61.4	-	-	-	1.43	93.4	85.6	89.5	10.2	127	88	105	114	126	147	207	241	302	340	382	.7	1.3	
484	5	59.6	.040	2	0.90	1.80	93.4	85.7	89.6	10.0	132	89	105	114	135	159	217	283	362	394	421	.8	1.2	
485	7	60.6	.073	2	-	2.22	93.6	86.3	90.0	8.5	142	95	113	128	149	169	211	260	333	367	421	.9	1.6	
486	7	62.8	.037	3	-	3.05	93.0	86.6	89.8	8.8	138	93	111	125	145	165	203	246	318	351	410	.9	1.1	
487	2	60.3	-	-	-	1.97	93.6	85.6	89.6	10.4	130	88	104	116	138	162	210	262	335	372	400	.5	1.5	
488	3	61.4	.050	1	-	2.53	93.4	86.1	89.8	9.1	135	93	106	120	140	156	199	258	349	383	417	.7	1.4	
489	2	59.4	-	-	-	2.05	93.5	86.3	89.9	10.0	134	86	103	118	141	164	218	273	349	388	414	.5	1.5	
AVERAGE		61.0	.048	2	.90	2.18	93.3	86.3	89.9	9.3	135	92	108	121	140	160	207	258	334	369	409	.7	1.3	
MINIMUM		57.2	.034	1	.90	1.43	92.8	85.6	89.5	8.5	127													
MAXIMUM		67.7	.073	3	.90	3.05	93.7	88.3	90.6	10.4	142													

55

SAMPLES 56

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 12 SOUTH TEXAS--CONTINUED

PREMIUM GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										RES LOSS % %	
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)											
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
490	4	57.9	0.041	3	-	2.52	98.4	89.9	94.2	9.3	137	90	103	118	141	165	223	271	337	367	403	0.8	1.4
491	1	61.0	-	-	-	2.51	97.8	90.4	94.1	10.5	130	88	103	114	139	166	214	254	344	381	408	.5	2.0
492	1	59.9	-	-	-	2.13	98.2	90.0	94.1	10.2	131	86	102	115	136	160	212	262	326	353	406	.4	1.6
493	1	61.7	-	-	-	2.23	98.0	91.1	94.6	9.0	136	90	106	117	138	158	208	250	311	350	381	.4	1.6
494	1	58.6	.025	1	-	2.11	98.0	90.0	94.0	8.6	138	93	110	122	138	154	209	275	343	365	416	1.0	1.0
495	4	61.9	.041	1	-	2.66	98.1	90.1	94.1	8.7	139	93	111	123	142	161	209	268	346	376	419	.8	1.4
496	4	58.1	.027	1	-	2.26	98.5	90.3	94.4	9.0	138	91	107	121	140	162	214	261	327	354	402	.9	1.4
497	4	58.8	.013	1	-	2.94	98.0	90.6	94.3	9.4	136	93	104	116	137	158	218	271	348	378	414	.9	2.0
498	3	57.8	.020	1	0.90	1.82	98.1	90.2	94.2	8.8	141	89	107	123	146	171	223	265	325	349	398	.8	1.2
499	2	59.9	-	0	-	2.30	97.7	89.9	93.8	9.5	136	89	103	117	140	164	222	273	347	377	420	.7	1.8
AVERAGE		59.6	.028	1	.90	2.35	98.1	90.3	94.2	9.3	136	90	106	119	140	162	215	265	335	365	407	.7	1.5
MINIMUM		57.8	.013	0	.90	1.82	97.7	89.9	93.8	8.6	130												
MAXIMUM		61.9	.041	3	.90	2.94	98.5	91.1	94.6	10.5	141												

SAMPLES 25

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978

AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 13 SOUTH MOUNTAIN STATES

SW KANS., OKLA. AND TEX. PANHANDLES, W. TEX., N. MEX., COLO., UTAH, ARIZ., NEV., AND E. CALIF.

UNLEADED GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	BENZENE ASTM D3606 VOL. %	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										MANGA- NESE AA G/GAL		
						RES, ASTM D2699	MDT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)											RES LOSS % %	
											PERCENT EVAPORATED												
											1BP	5	10	20	30	50	70	90	95	EP			
500	5	59.6	-	-	-	92.2	83.7	88.0	9.1	137	92	106	118	141	163	212	250	323	356	397	0.6	1.7	-
501	7	59.9	-	-	-	90.9	82.2	86.6	8.9	140	93	110	123	146	169	220	263	343	377	423	.6	1.9	-
502	3	61.1	-	1	-	90.8	82.2	86.5	9.4	136	90	105	116	138	165	220	268	332	365	401	1.0	1.6	-
503	1	52.9	-	-	-	96.3	85.6	91.0	8.5	146	94	112	124	156	189	241	283	335	361	414	.9	2.1	-
504	13	62.1	-	1	-	90.4	82.6	86.5	9.2	138	85	105	121	147	169	217	256	343	382	421	.9	1.6	0.05
505	7	60.0	0.025	-	1.24	91.4	83.7	87.6	9.3	140	91	112	127	151	177	225	263	336	376	414	1.0	1.2	.04
506	6	57.5	.025	-	1.25	92.6	84.0	88.3	8.9	142	96	113	127	150	174	222	269	335	369	417	1.0	1.4	.02
507	8	61.3	-	1	-	90.2	82.6	86.4	8.7	140	90	110	123	146	169	215	254	336	375	414	.7	1.4	-
508	5	59.0	-	-	-	91.1	82.8	87.0	9.3	139	90	106	122	148	180	228	271	345	380	412	.8	1.5	-
509	13	59.2	.018	5	1.40	91.8	83.5	87.7	9.1	140	92	112	125	149	173	223	263	339	369	420	.8	1.4	.02
510	4	61.0	-	-	-	90.4	82.4	86.4	9.1	137	92	108	120	139	158	215	256	325	363	403	.7	.9	-
511	5	62.0	-	1	-	90.1	82.5	86.3	8.5	142	94	113	126	148	174	220	264	347	385	432	.8	1.2	-
512	6	57.8	.018	-	1.24	94.8	85.2	90.0	8.2	145	95	115	129	152	176	219	259	322	349	409	.9	1.1	.00
513	11	58.5	.022	-	1.03	91.0	82.1	86.6	8.7	143	94	113	128	153	181	228	277	340	369	410	.8	1.4	.00
514	3	58.3	-	-	-	92.1	83.6	87.9	8.1	148	94	112	128	157	186	232	274	336	369	416	.8	1.2	-
515	2	60.3	-	-	-	90.5	83.0	86.8	10.1	133	89	104	115	136	165	224	268	324	356	405	.4	1.6	-
516	4	59.8	-	-	-	90.9	83.4	87.2	8.9	146	93	113	132	164	192	228	266	331	362	407	.6	2.2	-
517	10	56.9	.011	-	1.17	92.3	83.2	87.8	8.8	145	94	113	131	159	184	232	276	333	363	406	.9	1.5	.02
518	6	56.7	.019	-	.88	92.6	84.1	88.4	8.6	145	94	114	132	158	185	229	271	341	379	419	1.0	1.0	.02
519	1	52.5	-	-	-	96.3	85.4	90.9	8.3	149	97	117	132	161	193	245	283	336	365	411	.6	2.4	-
AVERAGE		58.8	.020	2	1.17	91.9	83.4	87.7	8.9	142	92	111	125	150	176	225	267	335	369	413	.8	1.5	.02
MINIMUM		52.5	.011	1	.88	90.1	82.1	86.3	8.1	133													.00
MAXIMUM		62.1	.025	5	1.40	96.3	85.6	91.0	10.1	149													.05

SAMPLES 120

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 13 SOUTH MOUNTAIN STATES--CONTINUED
 SW KANS., OKLA. AND TEX. PANHANDLES, W. TEX., N. MEX., COLO., UTAH, ARIZ., NEV., AND E. CALIF.

REGULAR GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											
							RES, ASTM D2699	MDT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)										RES LOSS % %	
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
520	4	60.2	-	-	-	1.05	93.7	84.9	89.3	8.6	147	99	119	137	160	184	230	274	338	368	409	0.9	1.7
521	11	61.4	0.038	-	1.29	1.95	92.1	85.2	88.7	8.5	140	95	113	126	144	162	204	257	337	372	417	.7	.9
522	7	59.1	-	-	-	1.09	92.6	84.9	88.8	8.5	141	95	114	126	145	165	212	268	350	383	420	.7	1.1
523	4	60.6	-	-	-	1.72	91.4	84.9	88.2	9.3	139	92	109	122	148	174	220	264	344	385	422	.7	2.1
524	1	56.7	.030	3	-	3.85	88.5	84.5	86.5	7.2	153	120	140	150	166	180	212	250	324	360	400	1.0	1.0
525	3	62.2	-	0	-	2.07	90.7	84.8	87.8	9.4	136	91	107	120	141	162	214	264	332	358	409	.9	1.4
526	22	59.6	.067	-	1.20	2.00	92.6	84.6	88.6	8.3	145	96	114	129	152	175	219	267	337	372	410	.9	1.5
527	3	59.2	-	-	-	1.51	92.1	85.0	88.6	8.4	144	95	118	130	153	174	220	266	338	365	418	.5	1.0
528	8	61.9	-	0	-	1.11	91.3	84.6	88.0	8.6	137	94	112	121	138	156	197	249	338	378	418	.8	1.5
529	12	59.1	.028	-	1.61	2.23	93.5	85.6	89.6	8.3	146	97	113	131	155	176	223	270	338	373	412	1.1	1.8
530	12	63.0	-	1	-	2.57	91.4	85.9	88.7	8.5	138	88	108	122	140	156	196	247	326	365	411	.9	1.5
531	5	59.7	-	-	-	1.68	91.9	84.5	88.2	9.2	138	92	112	124	146	166	213	263	336	371	416	.6	1.6
532	5	61.5	-	1	-	2.08	91.2	84.6	87.9	8.8	139	93	114	125	146	165	210	260	335	372	419	.8	1.5
533	21	58.6	.014	-	1.28	1.06	93.0	84.8	88.9	8.4	145	96	114	131	154	176	222	271	338	372	416	1.0	1.4
534	4	61.6	-	-	-	2.18	90.6	84.9	87.8	9.0	143	92	119	131	155	180	224	269	328	357	396	.5	1.6
535	12	59.2	.063	3	1.44	1.68	92.4	85.0	88.7	8.5	140	94	111	123	143	164	211	265	334	370	411	.8	1.1
536	14	56.8	.066	-	1.22	.95	93.1	85.0	89.1	7.9	146	95	114	129	150	171	216	265	334	365	415	.9	1.3
537	4	61.6	-	-	-	1.26	92.0	84.5	88.3	9.1	132	91	108	119	132	150	192	249	329	369	420	.4	1.6
538	2	64.1	-	-	-	1.79	91.3	85.5	88.4	10.3	123	88	95	104	124	137	181	243	330	366	424	.6	1.9
AVERAGE		60.3	.044	1	1.34	1.78	91.9	84.9	88.4	8.7	141	95	113	126	147	167	211	261	335	370	414	.8	1.4
MINIMUM		56.7	.014	0	1.20	.95	88.5	84.5	86.5	7.2	123												
MAXIMUM		64.1	.067	3	1.61	3.85	93.7	85.9	89.6	10.3	153												

SAMPLES 154

58

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED
 DIST. 13 SOUTH MOUNTAIN STATES--CONTINUED
 SW KANS., OKLA. AND TEX. PANHANDLES, W. TEX., N. MEX., COLO., UTAH, ARIZ., NEV., AND E. CALIF.

PREMIUM GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										RES LOSS % %	
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)											
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
539	1	61.3	-	-	-	2.86	94.6	88.5	91.6	9.4	140	93	115	130	154	178	225	270	345	387	421	1.0	1.5
540	10	58.0	0.030	-	1.03	1.61	98.0	89.8	93.6	8.6	144	96	114	130	155	180	223	267	332	361	409	.9	1.3
541	6	58.3	.040	-	1.19	1.86	97.5	90.0	93.8	8.5	144	96	115	130	153	175	217	270	343	380	421	1.1	1.5
542	4	61.4	-	-	-	2.15	97.9	91.0	94.5	8.9	140	94	113	126	148	169	215	256	342	385	415	.7	1.2
543	3	60.4	-	0	-	2.44	95.8	87.9	91.9	8.9	139	91	109	121	144	168	219	266	348	385	430	.9	1.3
544	2	62.9	-	-	-	2.16	96.8	89.2	93.0	9.1	136	90	110	123	145	168	215	255	344	387	421	.8	1.3
545	7	61.8	.025	-	1.95	2.16	97.7	90.7	94.2	8.6	142	94	113	126	151	172	217	259	339	374	416	.9	1.0
546	1	66.5	-	-	-	2.13	98.1	90.6	94.4	9.3	135	92	110	120	138	160	206	250	339	381	414	.6	.9
547	1	63.1	-	-	-	1.30	96.7	89.2	93.0	8.6	145	92	116	131	160	189	226	258	335	377	436	.4	2.1
548	5	66.3	-	0	-	1.78	96.2	90.5	93.4	9.1	136	89	109	122	142	162	205	244	327	369	411	.8	1.1
549	8	56.3	.072	-	1.93	2.59	98.4	90.1	94.3	8.3	145	95	113	129	155	178	221	266	336	370	415	1.0	1.1
550	9	56.6	.022	-	1.84	2.52	98.0	90.4	94.2	8.7	143	95	111	129	152	176	223	270	339	373	413	.9	1.8
551	6	57.0	.040	3	1.43	1.96	98.2	89.4	93.8	8.5	145	95	115	129	156	182	225	272	335	368	416	1.0	1.3
552	1	58.7	-	-	-	2.16	97.7	90.0	93.9	9.0	139	93	114	126	147	166	210	262	344	365	423	.8	1.7
553	13	60.5	.047	-	1.36	2.18	97.6	89.8	93.7	8.5	143	95	113	129	152	174	215	252	318	352	398	.9	1.3
554	4	66.5	-	1	-	2.35	97.7	92.0	94.9	9.6	134	87	103	118	142	167	208	243	314	355	404	.9	1.3
AVERAGE		61.0	.039	1	1.53	2.14	97.3	89.9	93.7	8.9	141	93	112	126	150	173	217	260	336	373	416	.9	1.4
MINIMUM		56.3	.022	0	1.03	1.30	94.6	87.9	91.6	8.3	134												
MAXIMUM		66.5	.072	3	1.95	2.86	98.4	92.0	94.9	9.6	145												

SAMPLES 81

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 14 NORTH MOUNTAIN STATES
 WYD., MONT., IDAHO, EASTERN WASH., AND EASTERN OREG.

UNLEADED GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	BENZENE ASTM D3606 VOL. %	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										MANGA- NESE AA G/GAL		
						RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)											RES LOSS	
											PERCENT EVAPORATED											EP	% %
											I8P	5	10	20	30	50	70	90	95				
555	4	61.8	0.030	-	-	90.8	83.0	86.9	9.3	136	91	107	120	145	169	208	249	322	364	417	0.7	1.4	-
556	2	61.6	-	-	-	91.3	83.5	87.4	9.6	138	89	110	125	150	177	223	261	332	371	419	.6	.9	-
557	3	61.6	-	-	-	91.1	83.5	87.3	10.2	137	88	108	124	154	181	223	272	341	380	434	.9	1.6	-
558	2	62.5	-	-	-	91.5	83.5	87.5	10.1	135	88	108	122	148	176	221	257	335	379	416	.4	1.1	-
559	6	62.1	.050	0	-	90.6	83.5	87.1	9.6	137	90	110	123	148	176	214	251	336	375	413	.9	1.5	-
560	3	60.5	.052	-	-	90.7	81.9	86.3	10.0	130	87	101	111	133	157	203	253	330	368	408	1.1	1.9	-
561	4	61.5	.050	-	-	90.8	82.7	86.8	9.9	132	84	100	113	136	163	211	254	330	367	408	1.0	2.0	-
562	5	60.1	.034	-	-	91.5	82.4	87.0	10.0	133	87	102	116	141	167	216	257	325	358	405	1.0	1.5	-
563	2	62.8	-	-	-	91.4	83.3	87.4	10.2	129	87	99	111	133	160	205	264	321	372	410	.8	1.2	-
564	6	60.9	.029	-	-	91.9	83.5	87.7	9.7	136	91	107	120	145	172	216	262	322	354	404	.9	1.7	-
565	4	60.4	.043	-	-	90.9	83.0	87.0	9.5	135	82	105	116	140	166	213	258	335	379	419	.8	1.7	-
566	3	61.1	-	-	-	91.4	82.6	87.0	9.9	133	88	100	115	138	164	213	254	317	352	396	.7	1.2	-
567	4	60.4	.032	-	-	91.3	82.4	86.9	10.2	132	85	102	114	139	166	213	255	326	365	405	.9	1.6	-
568	3	63.9	.020	-	-	91.7	83.3	87.5	10.2	131	88	105	117	139	161	204	236	318	348	390	.9	1.9	-
AVERAGE		61.5	.038	0	-	91.2	83.0	87.1	9.9	134	88	105	118	142	168	213	256	328	367	410	.8	1.5	-
MINIMUM		60.1	.020	0	-	90.6	81.9	86.3	9.3	129													
MAXIMUM		63.9	.052	0	-	91.9	83.5	87.7	10.2	138													

SAMPLES 51

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED
 DIST. 14 NORTH MOUNTAIN STATES--CONTINUED
 WYO., MONT., IDAHO, EASTERN WASH., AND EASTERN OREG.

REGULAR GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										RES LGSS % %		
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)												
												PERCENT EVAPORATED										EP		
							IBP	5	10			20	30	50	70	90	95							
569	2	-	0.040	-	-	1.57	91.9	84.9	88.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
570	4	61.0	.032	-	-	1.03	93.6	84.6	89.1	10.7	127	88	100	109	132	156	205	253	332	374	407	1.0	2.1	
571	7	60.2	.030	-	-	1.01	91.9	84.2	88.1	9.3	137	91	110	122	145	167	212	265	330	368	418	.9	1.4	
572	2	62.0	-	-	-	1.14	92.0	85.0	88.5	11.3	125	86	95	110	131	155	206	256	330	368	418	.5	2.5	
573	8	60.7	.035	-	-	1.21	91.4	83.9	87.7	9.6	133	90	108	121	141	161	203	251	334	376	411	.9	1.2	
574	3	59.7	-	-	-	.83	93.4	84.2	88.8	9.9	132	89	104	115	137	160	211	266	338	373	411	.8	1.5	
575	3	59.5	-	-	-	1.26	92.5	84.1	88.3	8.8	139	92	112	123	142	163	210	265	340	376	430	1.0	.8	
576	2	60.1	-	-	-	1.01	93.1	84.8	89.0	9.5	133	89	106	119	140	161	197	255	338	374	420	.4	.6	
577	8	61.1	.039	-	-	1.52	91.1	84.6	87.9	9.3	135	87	105	119	140	161	205	256	333	371	417	1.0	1.8	
578	7	60.6	.041	-	-	1.17	92.6	84.6	88.6	9.5	134	88	101	116	139	163	211	263	336	367	407	1.0	2.0	
579	9	60.9	.037	-	-	1.00	92.4	84.3	88.4	9.9	133	90	105	117	140	163	210	259	333	368	401	.8	2.0	
580	10	59.8	.050	-	-	1.35	91.8	84.3	88.1	9.5	135	92	109	122	144	165	207	258	336	379	419	.9	1.8	
581	2	61.6	-	-	-	1.12	92.1	84.6	88.4	11.3	125	85	100	111	133	158	204	256	331	364	408	.4	1.6	
582	6	59.7	.072	0	-	1.22	92.7	84.4	88.6	9.4	135	91	110	121	141	160	207	261	335	372	408	.8	1.4	
AVERAGE		60.5	.042	0	-	1.17	92.3	84.5	88.4	9.8	133	89	105	117	139	161	207	259	335	372	413	.8	1.6	
MINIMUM		59.5	.030	0	-	.83	91.1	83.9	87.7	8.8	125													
MAXIMUM		62.0	.072	0	-	1.57	93.6	85.0	89.1	11.3	139													

SAMPLES 73

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED
 DIST. 14 NORTH MOUNTAIN STATES--CONTINUED
 WYO., MONT., IDAHO, EASTERN WASH., AND EASTERN OREG.

PREMIUM GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										RES LOSS % %	
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)											
												PERCENT EVAPORATED										EP	
							IBP	5	10			20	30	50	70	90	95						
583	1	63.3	-	-	-	0.87	98.9	89.4	94.2	9.4	138	89	110	123	151	175	212	242	325	359	417	0.7	1.3
584	1	65.9	-	-	-	1.20	97.6	90.2	93.9	10.9	130	86	99	114	145	180	215	244	328	371	413	.6	2.4
585	3	67.5	0.033	-	-	1.54	98.5	90.7	94.6	10.1	131	86	105	115	138	164	205	236	307	360	396	.9	2.1
586	5	64.7	.071	0	-	1.49	97.9	90.5	94.2	9.2	139	90	109	125	151	177	211	252	324	364	417	.8	1.6
587	7	68.1	.031	-	-	1.26	97.6	90.1	93.9	9.6	137	90	108	124	148	174	216	249	318	358	407	.8	1.7
588	3	65.4	.029	-	-	1.67	98.7	90.9	94.8	9.0	139	345	106	119	144	172	209	240	326	365	402	.9	1.6
589	1	65.5	-	-	-	1.53	99.0	90.4	94.7	12.0	125	84	99	112	141	178	213	245	339	378	404	.9	2.1
590	1	65.0	-	-	-	.96	97.5	90.0	93.8	9.4	141	89	114	131	162	188	213	242	321	362	421	.8	1.2
591	6	64.3	.083	-	-	1.38	96.8	89.7	93.3	9.7	137	90	106	124	151	178	217	255	340	374	421	.8	1.9
592	5	62.9	.074	-	-	1.73	96.8	89.0	92.9	9.3	137	90	106	120	145	172	212	255	338	379	413	1.0	1.9
593	2	68.2	-	-	-	.78	96.7	88.8	92.8	10.5	130	87	105	117	141	167	208	234	281	328	392	.7	1.9
594	5	63.1	.064	-	-	1.74	97.2	90.2	93.7	10.0	134	87	100	118	144	172	213	247	328	374	424	.9	2.2
595	3	65.9	.028	-	-	1.78	98.0	91.1	94.6	8.9	140	92	103	120	145	170	210	244	313	351	385	.9	2.6
596	1	65.2	-	-	-	2.07	98.7	91.0	94.9	10.9	126	85	97	110	134	163	202	228	281	342	392	.9	2.1
597	1	69.4	-	-	-	.65	97.4	91.8	94.6	9.1	143	90	113	132	164	188	217	251	313	345	416	.8	2.2
AVERAGE		65.6	.052	0	-	1.38	97.8	90.3	94.1	9.9	135	105	105	120	147	175	212	244	319	361	408	.8	1.9
MINIMUM		62.9	.028	0	-	.65	96.7	88.8	92.8	8.9	125												
MAXIMUM		69.4	.083	0	-	2.07	99.0	91.8	94.9	12.0	143												
SAMPLES		45																					

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 15 PACIFIC NORTHWEST
 WESTERN WASH. AND WESTERN OREG.

UNLEADED GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	BENZENE ASTM D3606 VOL. %	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											MANGA- NESE AA G/GAL	
						RES, ASTM D2699	MUT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)												RES LOSS % %
											PERCENT EVAPORATED												
											IOP	5	10	20	30	50	70	90	95	EP			
598	4	55.7	0.034	2	1.25	91.8	83.2	87.5	10.2	136	83	92	113	149	188	235	279	345	375	434	1.2	3.8	0.05
599	4	58.6	.003	1	1.48	92.5	83.8	88.2	9.2	137	89	106	121	143	166	212	258	314	334	386	.9	1.9	.00
600	4	59.3	.009	1	1.76	95.6	85.8	90.7	8.8	141	89	107	124	150	179	217	253	312	337	387	.9	1.6	.00
601	5	56.2	.063	5	1.38	92.5	83.9	88.2	9.8	137	86	99	117	147	180	229	277	339	378	430	1.0	2.4	.04
602	1	59.0	-	-	-	92.7	83.9	88.3	9.6	134	87	105	117	139	163	209	254	313	337	388	.8	1.2	-
603	4	55.8	.005	1	1.23	93.1	84.1	88.6	10.8	133	87	103	115	143	174	236	289	340	362	405	1.0	2.2	.04
604	3	54.5	.016	-	2.00	95.4	85.0	90.2	10.8	132	87	102	115	142	175	233	279	337	370	420	.9	1.6	.01
605	1	54.8	-	-	-	92.7	84.0	88.4	10.7	133	88	99	115	149	185	232	278	334	356	424	.9	3.1	-
AVERAGE		56.7	.022	2	1.52	93.3	84.2	88.8	10.0	135	87	102	117	145	176	225	271	329	356	409	1.0	2.2	.02
MINIMUM		54.5	.003	1	1.23	91.8	83.2	87.5	8.8	132													.00
MAXIMUM		59.3	.063	5	2.00	95.6	85.8	90.7	10.8	141													.05

SAMPLES 26

63

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 15 PACIFIC NORTHWEST--CONTINUED
 WESTERN WASH. AND WESTERN OREG.

REGULAR GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)										RES LOSS % %	
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
606	1	56.9	-	-	-	0.55	94.4	85.0	89.7	9.7	135	88	105	116	142	167	222	281	348	376	424	0.9	2.1
607	5	58.2	0.081	3	1.48	1.32	92.3	85.4	88.9	9.5	138	89	103	119	146	171	219	274	352	386	428	1.3	1.5
608	4	59.4	.043	1	1.50	1.69	92.5	86.3	89.4	9.9	135	90	104	120	145	170	218	269	340	370	412	1.1	2.4
609	4	56.9	.044	1	1.43	.69	94.0	84.7	89.4	8.7	136	92	106	117	136	156	210	281	365	393	424	.9	1.3
610	1	58.9	-	-	-	.96	93.8	85.8	89.8	10.1	132	88	100	114	139	164	214	268	335	364	418	.8	2.2
611	4	60.6	.026	1	1.21	1.27	93.2	85.2	89.2	9.0	138	91	104	119	141	169	217	271	336	362	402	.8	2.4
612	4	58.5	.019	0	1.51	.99	93.3	85.7	89.5	9.5	136	90	106	121	145	170	217	272	337	371	420	1.1	1.5
AVERAGE		56.5	.043	1	1.43	1.07	93.4	85.4	89.4	9.5	136	90	104	118	142	167	217	274	345	375	418	1.0	1.9
MINIMUM		56.9	.019	0	1.21	.55	92.3	84.7	88.9	8.7	132												
MAXIMUM		60.6	.081	3	1.51	1.69	94.4	86.3	89.8	10.1	138												

SAMPLES 23

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED
 DIST. 15 PACIFIC NORTHWEST--CONTINUED
 WESTERN WASH. AND WESTERN OREG.

PREMIUM GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF., ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										RES LOSS % %	
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)											
												PERCENT EVAPORATED										EP	
							IBP	5	10			20	30	50	70	90	95						
613	1	61.0	-	-	-	1.20	98.9	90.4	94.7	10.1	130	88	100	113	134	160	206	248	311	333	396	0.7	2.3
614	5	57.6	0.037	5	1.42	1.64	98.3	90.4	94.4	10.5	134	86	104	118	149	179	224	266	333	367	418	1.1	1.9
615	1	56.1	-	-	-	2.33	98.8	91.2	95.0	10.4	136	90	102	118	155	194	237	276	329	351	412	.8	3.2
616	4	60.6	.013	1	1.34	1.22	98.9	89.5	94.2	10.0	134	89	105	119	144	168	213	254	313	338	386	1.0	1.7
617	4	59.3	.014	2	1.38	1.26	98.6	89.9	94.3	10.1	134	89	104	120	143	170	217	261	321	341	395	.9	1.4
618	4	59.1	.004	1	1.65	2.17	98.1	90.2	94.2	10.4	132	89	102	118	141	165	214	264	325	361	397	1.1	1.9
619	3	60.2	.007	-	2.49	2.30	98.1	90.4	94.3	10.4	130	89	103	117	140	161	204	254	321	357	401	1.0	2.1
620	4	60.8	.003	1	.73	.89	99.1	89.9	94.5	8.7	139	92	107	119	140	164	212	253	309	338	381	.9	1.9
AVERAGE		59.3	.013	2	1.50	1.63	98.6	90.2	94.5	10.1	134	89	103	118	143	170	216	260	320	348	398	.9	2.1
MINIMUM		56.1	.003	1	.73	.89	98.1	89.5	94.2	8.7	130												
MAXIMUM		61.0	.037	5	2.49	2.33	99.1	91.2	95.0	10.5	139												

SAMPLES 26

65

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 16 NORTH CALIFORNIA

UNLEADED GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	BENZENE ASTM D3606 VOL. %	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											MANGA- NESE AA G/GAL	
						RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)												RES LOSS % %
											PERCENT EVAPORATED												
											I&P	5	10	20	30	50	70	90	95	EP			
621	4	55.8	0.018	1	2.73	95.4	85.0	90.2	8.3	143	98	113	129	150	171	216	263	325	350	405	1.0	1.3	0.00
622	3	57.5	.012	0	1.80	95.7	85.1	90.4	8.1	145	94	115	129	151	172	216	254	314	334	400	.9	1.1	.00
623	3	58.0	.024	1	.94	92.0	83.4	87.7	8.2	148	98	119	133	160	184	225	268	340	371	423	.9	1.4	.00
624	2	56.3	-	-	-	92.1	83.7	87.9	8.4	155	96	110	138	177	203	264	317	354	367	412	.8	2.2	-
625	2	57.3	-	0	-	96.1	85.4	90.8	-	-	97	119	133	152	171	211	251	321	354	398	1.0	1.0	-
626	1	55.4	-	-	-	95.0	84.8	89.9	8.8	142	92	109	124	149	174	228	280	342	373	411	.4	2.6	-
627	4	52.8	.001	1	1.23	94.5	85.1	89.8	8.8	144	92	111	126	153	181	235	287	336	363	412	1.0	1.5	.00
628	1	55.5	.013	-	1.40	96.1	84.9	90.5	9.1	142	103	123	136	156	175	219	267	327	352	414	1.0	1.0	.00
629	2	54.2	-	-	-	94.2	85.0	89.6	8.9	145	90	111	132	162	192	234	273	324	341	410	.8	2.2	-
630	4	55.1	.008	0	1.83	93.6	84.6	89.1	8.4	146	97	117	133	158	182	228	272	327	355	413	1.0	1.3	.00
631	5	54.5	.006	1	2.17	93.9	84.8	89.4	8.5	148	95	119	136	162	188	234	278	336	364	428	1.0	1.4	.00
632	3	56.8	.006	0	2.79	92.9	83.9	88.4	9.3	140	97	117	133	158	182	224	270	333	363	410	1.0	1.0	.00
AVERAGE		55.8	.011	1	1.86	94.3	84.6	89.5	8.6	145	96	115	132	157	181	228	273	332	357	411	.9	1.5	.00
MINIMUM		52.8	.001	0	.94	92.0	83.4	87.7	8.1	140													.00
MAXIMUM		58.0	.024	1	2.79	96.1	85.4	90.8	9.3	155													.00

SAMPLES 34

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED
 DIST. 16 NORTH CALIFORNIA--CONTINUED

REGULAR GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										RES %	LOSS %
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)											
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
633	3	58.3	0.046	0	0.98	1.23	94.3	85.2	89.8	8.6	145	95	114	130	153	177	223	274	343	374	426	1.0	1.0
634	4	56.7	.036	4	1.06	.82	94.1	85.2	89.7	8.7	144	95	117	132	156	179	225	277	344	368	423	.9	1.1
635	2	57.5	-	-	-	1.03	94.3	85.3	89.8	8.3	143	95	112	121	148	171	219	278	340	366	400	.6	1.4
636	3	58.1	.033	-	1.56	.92	94.3	85.5	89.9	8.5	143	97	117	131	150	172	214	266	340	373	423	.8	1.2
637	5	58.1	.026	1	1.54	.61	94.9	85.7	90.3	8.6	142	95	114	128	148	170	217	268	335	363	411	1.0	1.3
638	5	58.0	.025	1	1.12	.96	93.5	85.4	89.5	8.5	142	95	115	127	146	165	213	272	347	377	420	1.0	1.0
639	2	56.7	-	-	-	.81	94.4	85.4	89.9	8.8	143	91	115	132	154	177	223	272	337	374	410	.7	1.3
640	5	57.1	.007	2	1.54	1.17	94.1	86.8	90.5	8.6	143	94	115	131	153	175	219	271	334	364	425	1.0	1.1
641	4	57.5	.007	0	1.55	.95	94.0	86.5	90.3	8.6	142	93	112	128	150	172	216	268	330	359	423	.9	1.4
AVERAGE		57.6	.026	1	1.34	.94	94.2	85.7	90.0	8.6	143	94	115	129	151	173	219	272	339	369	418	.9	1.2
MINIMUM		56.7	.007	0	.98	.61	93.5	85.2	89.5	8.3	142												
MAXIMUM		58.3	.046	4	1.56	1.23	94.9	86.8	90.5	8.8	145												

SAMPLES 33

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED

DIST. 17 SOUTH CALIFORNIA

UNLEADED GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	BENZENE ASTM D3606 VOL. %	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											MANGA- NESE AA G/GAL	
						RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)												
											PERCENT EVAPORATED									RES LOSS % %			
											18P	5	10	20	30	50	70	90	95		EP		
652	7	52.8	0.019	3	2.04	94.4	84.5	89.5	8.6	145	94	117	129	155	181	233	280	340	369	429	1.0	0.9	0.00
653	6	57.9	.007	1	1.03	94.3	84.9	89.6	8.8	144	93	115	130	153	179	222	259	315	335	395	1.0	.9	.00
654	2	53.4	-	1	-	92.5	83.0	87.8	-	-	92	119	142	175	202	246	291	343	368	416	1.0	1.0	-
655	1	51.1	-	-	-	91.2	82.3	86.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
656	2	54.9	.025	-	.81	92.2	83.3	87.8	7.9	156	101	126	145	178	206	245	286	341	364	416	1.0	.5	.00
657	6	57.7	.012	1	1.25	95.2	85.5	90.4	8.0	148	95	121	135	158	180	218	255	317	342	405	.9	.8	.00
658	4	52.9	.019	1	2.18	92.5	83.2	87.9	7.9	150	94	114	131	158	184	233	281	336	364	420	1.0	.8	.00
659	5	51.9	.006	1	1.15	95.5	85.2	90.4	8.5	148	95	117	133	163	193	240	281	334	366	413	1.0	1.1	.00
660	1	51.1	-	-	-	96.2	85.3	90.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
661	4	56.1	.039	3	1.24	92.0	83.2	87.6	8.3	144	91	110	125	150	178	227	274	334	363	415	1.0	1.0	.00
662	6	55.0	.022	1	1.27	94.2	84.3	89.3	8.3	146	95	114	129	153	177	227	273	327	350	411	1.0	.9	.00
663	5	56.7	.024	1	1.62	92.6	83.7	88.2	8.4	144	93	113	128	153	178	225	272	332	357	396	1.0	.8	.00
AVERAGE		54.3	.019	1	1.40	93.6	84.0	88.8	8.3	147	94	117	133	160	186	232	275	332	358	412	1.0	.9	.00
MINIMUM		51.1	.006	1	.81	91.2	82.3	86.8	7.9	144													.00
MAXIMUM		57.9	.039	3	2.18	96.2	85.5	90.8	8.8	156													.00

SAMPLES 49

69

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED
DIST. 17 SOUTH CALIFORNIA--CONTINUED

REGULAR GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86										RES LOSS % %	
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)											
												PERCENT EVAPORATED										EP	
							IBP	5	10			20	30	50	70	90	95						
664	4	58.8	0.012	3	2.47	1.42	93.5	86.3	89.9	8.7	139	95	114	127	146	165	204	260	332	362	410	1.0	0.8
665	4	55.4	.051	1	3.88	.60	93.7	85.2	89.5	8.3	143	96	115	129	148	166	213	274	343	372	423	.8	1.0
666	6	60.9	.018	1	1.03	1.08	93.7	85.8	89.8	8.6	138	96	115	125	141	158	200	254	311	336	390	1.0	.9
667	5	57.8	.045	2	1.06	1.47	93.3	85.4	89.4	8.3	145	96	116	130	153	176	223	275	335	361	406	1.0	.8
668	6	57.4	.055	3	.95	1.04	93.6	84.8	89.2	8.7	141	97	114	125	147	168	218	277	350	379	429	.9	.9
669	5	56.3	.007	1	.78	.99	92.7	86.1	89.4	7.9	150	101	121	138	161	183	226	275	345	375	428	.9	.9
670	1	56.9	-	-	-	.43	91.9	83.7	87.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
671	2	56.2	.029	-	.82	1.37	93.8	85.1	89.5	8.1	147	98	116	135	159	181	220	265	333	357	409	.5	1.0
672	7	54.9	.059	2	1.24	.78	94.0	84.4	89.2	8.5	144	96	117	129	151	174	226	287	353	383	425	1.0	.9
673	1	55.5	-	-	-	1.82	92.9	84.8	88.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AVERAGE		57.0	.035	2	1.53	1.10	93.3	85.2	89.3	8.4	143	97	116	130	151	171	216	271	338	366	415	.9	.9
MINIMUM		54.9	.007	1	.78	.43	91.9	83.7	87.8	7.9	138												
MAXIMUM		60.9	.059	3	3.88	1.82	94.0	86.3	89.9	8.7	150												
SAMPLES	41																						

70

TABLE 3. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR DIFFERENT BRANDS--CONTINUED
 DIST. 17 SOUTH CALIFORNIA--CONTINUED

PREMIUM GASOLINE

ITEM	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)										RES %	LOSS %
												PERCENT EVAPORATED											
												IBP	5	10	20	30	50	70	90	95	EP		
674	5	58.9	0.005	0	1.42	2.77	97.4	90.9	94.2	8.3	141	98	118	128	145	162	200	258	342	376	425	1.0	1.0
675	5	58.9	.011	1	1.03	1.11	98.4	90.2	94.3	8.1	147	96	120	135	159	181	219	258	326	358	414	.9	.9
676	5	59.4	.006	1	1.03	2.24	98.4	90.6	94.5	8.6	139	95	114	125	143	161	206	256	320	348	398	1.0	.9
677	6	59.1	.054	2	1.21	1.49	98.9	89.5	94.2	8.6	142	93	117	129	151	174	216	254	326	362	417	.9	.9
678	3	60.0	.029	1	1.08	1.80	98.0	89.8	93.9	8.4	143	98	117	129	151	172	215	254	323	357	406	1.0	.8
679	3	56.9	.024	0	1.35	1.03	97.9	89.5	93.7	8.2	148	96	120	136	161	188	227	268	331	364	426	.8	1.0
680	4	59.3	.020	1	1.15	1.87	98.6	89.9	94.3	8.4	143	95	113	128	150	174	218	262	329	359	399	1.0	1.2
681	1	55.9	.031	-	.77	2.70	98.7	90.2	94.5	8.4	149	100	124	138	168	194	233	268	333	355	411	1.0	.5
682	5	56.2	.040	1	1.11	1.80	98.7	89.6	94.2	8.5	146	94	120	132	158	182	230	273	337	370	419	1.0	1.0
AVERAGE		58.3	.024	1	1.13	1.87	98.3	90.0	94.2	8.4	144	96	118	131	154	176	218	261	330	361	413	1.0	.9
MINIMUM		55.9	.005	0	.77	1.03	97.4	89.5	93.7	8.1	139												
MAXIMUM		60.0	.054	2	1.42	2.77	98.9	90.9	94.5	8.6	149												

SAMPLES 37

TABLE 4. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR BRANDS IN EACH DISTRICT

UNLEADED GASOLINE

DISTRICT NO. AND NAME	NO. OF BRANDS	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM, ASTM D381 MG	BENZENE ASTM D3606 VOL. %	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											MANGA- NESE AA G/GAL			
							RES, ASTM D2699	MOT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)														
												PERCENT EVAPORATED												RES LOSS 4 %		
1	NORTHEAST	13	23	57.5	0.027	2	0.91	94.3	84.3	89.3	10.5	131	86	100	114	138	163	220	266	328	355	394	0.9		1.4	0.05
2	MID-ATLANTIC COAST	21	150	58.1	.022	1	1.07	93.6	84.0	88.8	10.1	133	87	103	115	137	163	219	270	337	369	411	.9	1.7	.05	
3	SOUTHEAST	22	88	57.6	.040	1	1.14	93.3	84.0	88.7	9.4	137	90	106	118	140	164	220	271	336	368	404	.7	1.4	.05	
4	APPALACHIAN	15	65	59.7	.016	1	1.88	93.1	84.2	88.6	10.1	132	87	102	114	136	161	213	262	333	368	409	.7	1.8	.04	
5	MICHIGAN	14	43	60.5	.034	1	1.18	92.8	84.1	88.5	11.2	129	85	98	115	140	167	217	265	337	375	416	1.1	2.3	.03	
6	NORTH ILLINOIS	13	37	59.3	.036	2	1.52	93.4	84.3	88.9	10.8	131	86	101	116	141	169	220	264	334	372	413	.9	2.1	.04	
7	CENTRAL MISSISSIPPI	21	49	60.8	.026	-	.91	92.6	83.4	88.0	10.1	133	89	105	117	141	168	217	260	333	370	408	.8	1.7	.03	
8	LOWER MISSISSIPPI	17	48	58.6	.065	1	.75	93.4	84.0	88.7	9.8	134	88	105	117	141	167	217	262	334	366	407	.7	1.5	.06	
9	NORTH PLAINS	13	13	60.3	-	-	-	92.2	83.9	88.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	CENTRAL PLAINS	13	52	61.4	.004	1	.62	92.2	84.0	88.1	8.8	141	93	111	124	148	172	217	255	330	369	406	.6	1.6	-	
11	SOUTH PLAINS	24	61	60.0	.003	1	1.33	92.3	84.0	88.2	9.1	139	90	108	121	146	171	220	262	333	367	411	.8	1.2	-	
12	SOUTH TEXAS	15	44	57.9	.025	2	1.00	93.2	83.6	88.4	9.5	137	90	107	119	142	167	223	269	333	365	401	.7	1.2	.05	
13	SOUTH MOUNTAIN STATES	20	120	58.8	.020	2	1.17	91.9	83.4	87.7	8.9	142	92	111	125	150	176	225	267	335	369	413	.8	1.5	.02	
14	NORTH MOUNTAIN STATES	14	51	61.5	.038	0	-	91.2	83.0	87.1	9.9	134	88	105	118	142	168	213	236	328	367	410	.8	1.5	-	
15	PACIFIC NORTHWEST	3	26	56.7	.022	2	1.52	93.3	84.2	88.8	10.0	135	87	102	117	145	176	225	271	329	356	409	1.0	2.2	.02	
16	NORTH CALIFORNIA	12	34	55.8	.011	1	1.86	94.3	84.6	89.5	8.6	145	96	115	132	157	181	228	273	332	357	411	.9	1.5	.00	
17	SOUTH CALIFORNIA	12	49	54.3	.019	1	1.40	93.6	84.0	88.8	8.3	147	94	117	133	160	186	232	275	332	358	412	1.0	.9	.00	
AVERAGE			58.8	.026	1	1.20	93.0	83.9	88.5	9.7	136	89	106	120	144	170	220	266	333	366	409	.8	1.6	.03		
MINIMUM			54.3	.003	0	.62	91.2	83.0	87.1	8.3	129	-	-	-	-	-	-	-	-	-	-	-	-	-	.00	
MAXIMUM			61.5	.065	2	1.88	94.3	84.6	89.5	11.2	147	-	-	-	-	-	-	-	-	-	-	-	-	-	.06	
SAMPLES			953																							

TABLE 4. - MOTOR GASOLINE SURVEY, SUMMER 1978
 AVERAGE DATA FOR BRANDS IN EACH DISTRICT--CONTINUED

REGULAR GASOLINE

DISTRICT NO. AND NAME	NO. OF BRANDS	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D2606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	ZOV/L ASTM D439 F	DISTILLATION, ASTM D86												
								RES, ASTM D2699	MGT, ASTM D2700	R+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)												
													PERCENT EVAPORATED											RES LOSS % %	
													1BP	5	10	20	30	50	70	90	95	EP			
1	NORTHEAST	11	22	60.7	0.045	2	0.83	1.95	93.7	86.4	90.1	10.7	128	87	101	113	133	153	208	267	346	381	414	0.8	1.7
2	MID-ATLANTIC COAST	17	134	60.7	.044	1	.96	1.95	93.4	86.1	89.8	10.3	130	87	102	114	134	156	207	267	345	379	417	.8	1.5
3	SOUTHEAST	19	90	60.5	.050	1	1.76	2.22	93.3	86.4	89.9	9.6	133	88	104	116	136	157	209	268	344	376	413	.7	1.5
4	APPALACHIAN	14	67	60.7	.040	1	1.13	1.46	93.2	86.2	89.7	10.1	130	88	103	114	133	154	203	262	343	379	421	.9	1.8
5	MICHIGAN	13	39	59.9	.046	1	1.17	1.28	93.5	85.5	89.5	11.0	129	86	101	116	138	162	215	275	351	388	429	1.2	1.7
6	NORTH ILLINOIS	11	33	60.1	.042	1	1.08	1.68	93.6	85.8	89.7	10.4	130	87	101	114	137	160	210	265	346	382	416	1.0	1.9
7	CENTRAL MISSISSIPPI	20	46	59.6	.037	-	1.13	1.90	93.3	86.0	89.7	10.1	132	88	105	116	138	162	210	265	341	378	414	.7	1.7
8	LOWER MISSISSIPPI	13	45	61.5	.075	1	.92	2.53	93.5	86.7	90.1	9.8	133	90	107	118	139	158	202	256	335	368	407	.7	1.3
9	NORTH PLAINS	12	12	60.9	-	-	-	1.81	92.4	85.1	88.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	CENTRAL PLAINS	12	43	60.8	.007	2	1.19	1.77	92.4	85.5	89.0	9.1	136	93	110	121	141	159	203	258	336	374	416	.7	1.4
11	SOUTH PLAINS	23	62	60.5	.014	1	1.07	2.26	92.9	85.9	89.4	9.0	137	91	106	119	140	161	211	267	341	374	414	.8	1.3
12	SOUTH TEXAS	13	56	61.0	.048	2	.90	2.18	93.7	86.3	89.9	9.3	135	92	108	121	140	160	207	258	334	369	409	.7	1.3
13	SOUTH MOUNTAIN STATES	19	154	60.3	.044	1	1.34	1.78	91.9	84.9	88.4	8.7	141	95	113	126	147	167	211	261	335	370	414	.8	1.4
14	NORTH MOUNTAIN STATES	14	73	60.5	.042	0	-	1.17	92.3	84.5	88.4	9.8	133	89	105	117	139	161	207	259	335	372	413	.8	1.6
15	PACIFIC NORTHWEST	7	23	58.5	.043	1	1.43	1.07	93.4	85.4	89.4	9.5	136	90	104	118	142	167	217	274	345	375	418	1.0	1.9
16	NORTH CALIFORNIA	9	33	57.6	.026	1	1.34	.94	94.2	85.7	90.0	8.6	143	94	115	129	151	173	219	272	339	369	418	.9	1.2
17	SOUTH CALIFORNIA	10	41	57.0	.035	2	1.53	1.10	93.3	85.2	89.3	8.4	143	97	116	130	151	171	216	271	338	366	413	.9	.9
AVERAGE				60.0	.040	1	1.19	1.71	93.2	85.7	89.5	9.7	134	90	106	119	140	161	210	265	341	375	416	.8	1.5
MINIMUM				57.0	.007	0	.83	.94	91.9	84.5	88.4	8.4	128												
MAXIMUM				61.5	.075	2	1.76	2.53	94.2	86.7	90.1	11.0	143												
SAMPLES																									973

73

TABLE 4. - MOTOR GASOLINE SURVEY, SUMMER 1978
AVERAGE DATA FOR BRANDS IN EACH DISTRICT--CONTINUED

PREMIUM GASOLINE

DISTRICT NO. AND NAME	NL. OF BRANDS	SAM- PLES	GR., ASTM D287 API	SULF, ASTM D1266 WT %	GUM ASTM D381 MG	BENZENE ASTM D3606 VOL. %	LEAD ASTM D526 G/GAL	OCTANE NUMBER			RVP, ASTM D323 LB	20V/L ASTM D439 F	DISTILLATION, ASTM D86											RES LOSS % %	
								RES, ASTM D2699	MOT, ASTM D2700	K+M ---			TEMPERATURE, F (CORRECTED TO 760 MM HG)												
													PERCENT EVAPORATED												
													IBP	5	10	20	30	50	70	90	95	EP			
1	NORTHEAST	6	7	60.9	0.020	1	1.00	1.89	98.4	90.1	94.2	10.9	128	86	102	112	133	156	213	258	328	364	395	0.6	1.6
2	MID-ATLANTIC COAST	16	69	60.2	.042	1	1.01	2.24	98.1	90.3	94.2	10.5	130	86	101	113	136	161	215	265	337	371	412	.8	1.7
3	SOUTHEAST	14	43	60.5	-	1	-	2.33	98.4	90.9	94.7	9.9	132	88	102	114	137	161	212	260	335	370	409	.9	1.7
4	APPALACHIAN	10	31	60.5	.021	1	1.76	1.91	98.1	90.9	94.5	11.2	127	85	98	111	135	161	215	263	331	363	411	.6	2.3
5	MICHIGAN	9	14	62.0	.051	1	.53	1.80	98.2	90.8	94.5	11.7	126	83	94	113	139	167	217	262	337	375	417	1.4	2.9
6	NORTH ILLINOIS	7	11	61.8	.047	1	.78	1.70	98.3	90.4	94.4	10.5	131	87	101	115	140	167	213	256	338	375	413	1.0	2.1
7	CENTRAL MISSISSIPPI	10	19	61.0	.018	-	.55	1.94	98.4	90.7	94.6	10.1	132	88	104	117	141	165	211	251	325	363	404	.7	1.6
8	LOWER MISSISSIPPI	11	21	61.1	.100	1	.50	2.46	98.4	90.6	94.5	10.0	132	87	103	114	136	162	213	258	330	363	404	.6	1.6
9	NORTH PLAINS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	CENTRAL PLAINS	9	19	62.3	.007	1	.55	2.14	97.7	90.6	94.1	9.4	139	94	112	126	151	177	221	256	332	372	410	.6	1.5
11	SOUTH PLAINS	16	31	60.4	.003	1	1.47	2.42	98.3	91.0	94.7	9.2	139	91	107	121	146	171	220	262	332	364	406	.7	1.5
12	SOUTH TEXAS	10	25	59.6	.028	1	.90	2.35	98.1	90.3	94.2	9.3	136	90	106	119	140	162	215	265	335	365	407	.7	1.5
13	SOUTH MOUNTAIN STATES	16	81	61.0	.039	1	1.53	2.14	97.3	89.9	93.7	8.9	141	93	112	126	150	173	217	260	336	373	416	.9	1.4
14	NORTH MOUNTAIN STATES	15	45	65.6	.052	0	-	1.38	97.8	90.3	94.1	9.9	135	105	105	120	147	175	212	244	319	361	408	.8	1.9
15	PACIFIC NORTHWEST	6	26	59.3	.013	2	1.50	1.63	98.6	90.2	94.5	10.1	134	89	103	118	143	170	216	260	320	348	398	.9	2.1
16	NORTH CALIFORNIA	10	28	56.5	.010	1	2.16	1.87	98.6	90.1	94.4	8.8	142	93	113	128	151	174	220	268	331	360	413	1.0	1.3
17	SOUTH CALIFORNIA	9	37	58.3	.024	1	1.13	1.87	98.3	90.0	94.2	8.4	144	96	118	131	154	176	218	261	330	361	413	1.0	.9
AVERAGE				60.7	.032	1	1.10	2.00	98.2	90.4	94.3	9.9	134	90	105	119	142	167	216	259	331	366	409	.8	1.7
MINIMUM				56.5	.003	0	.50	1.38	97.3	89.9	93.7	8.4	126												
MAXIMUM				65.6	.100	2	2.16	2.46	98.6	91.0	94.7	11.7	144												

SAMPLES 507

TABLE 5. - Cumulative percents of lead content for unleaded gasoline samples by districts, motor gasoline survey, summer 1978

District	Lead content, grams/gallon												
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	>0.10	
1	66.7	100.0											
2	50.0	90.6	93.8	93.8	96.9	96.9	96.9	96.9	96.9	96.9	96.9	100.0	
3	50.0	100.0											
4	58.3	91.7	100.0										
5	68.4	89.5	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	94.7	100.0	
6		83.3	100.0										
7	42.9	85.7	85.7	100.0									
8	50.0	100.0											
9													
10	100.0												
11	100.0												
12	57.1	100.0											
13	78.6	100.0											
14	12.5	62.5	75.0	75.0	75.0	75.0	75.0	87.5	87.5	87.5	87.5	100.0	
15	58.3	100.0											
16	46.2	84.6	84.6	92.3	100.0								
17	39.1	78.3	78.3	82.6	82.6	100.0							
Cumulative total samples	91	152	157	160	162	166	166	167	167	167	167	170	

75

TABLE 6. - Locations and numbers of samples by districts and areas for motor gasoline survey, summer 1978

State	Location	Area	Samples	State	Location	Area	Samples
<u>District 1 (Northeast)</u>				<u>District 11 (South Plains)</u>			
Massachusetts	Boston area	1	52	Kansas	Coffeyville	2	6
	1 location		52		Wichita	2	37
<u>District 2 (Mid-Atlantic Coast)</u>				Oklahoma	Bartlesville	2	8
D.C., Maryland and Virginia	Washington area	1	18		Oklahoma City	2	10
Maryland	Baltimore	1	29	Texas	Tulsa	2	50
New Jersey and New York	New York City area	1	83		Dallas-Fort Worth	1	43
Pennsylvania and New Jersey	Philadelphia area	1	150		6 locations		154
Virginia	Richmond	1	73	<u>District 12 (Southern Texas)</u>			
	5 locations		353	Texas	Beaumont	1	4
<u>District 3 (Southeast)</u>					Corpus Christi	1	16
Alabama	Birmingham	1	58		Houston area	1	93
Florida	Jacksonville	1	7		San Antonio	1	12
	Miami area	1	76		4 locations		125
	Tampa	1	18	<u>District 13 (South Mountain States)</u>			
Georgia	Atlanta	1	45	Arizona	Phoenix	4	45
South Carolina	Charleston	1	17		Tucson	4	20
	6 locations		221	California	Bakersfield	4	17
<u>District 4 (Appalachian)</u>					Fresno area	4	14
New York	Buffalo	1	34	Colorado	Denver	3	73
Ohio	Cincinnati	1	24		Las Vegas	4	15
	Cleveland	1	63		Reno	3	23
	Columbus	1	9	New Mexico	Albuquerque	3	28
	Lima	1	6		Hobbs	3	1
	Toledo	1	3	Texas	Amarillo	3	44
Pennsylvania	Pittsburgh	1	24		El Paso	3	21
	7 locations		163		Lubbock	3	11
<u>District 5 (Michigan)</u>					Salt Lake City	3	43
	Central Michigan	1	3		13 locations		355
	Detroit	1	93	<u>District 14 (North Mountain States)</u>			
	2 locations		96	Idaho	Boise	3	67
<u>District 6 (North Illinois)</u>				Montana	Billings	3	18
Illinois and Indiana	Chicago area	1	85		Great Falls	3	3
Iowa	Davenport	2	2	Washington	Spokane	4	62
	2 locations		87	Wyoming	Casper	3	16
<u>District 7 (Central Mississippi)</u>					Cody	3	3
Indiana	Indianapolis	1	55		6 locations		169
Kentucky	Louisville	1	31	<u>District 15 (Pacific Northwest)</u>			
Missouri and Illinois	St. Louis area	2	22	Oregon	Portland	4	34
	3 locations		108		Bellingham	4	18
<u>District 8 (Lower Mississippi)</u>					Seattle	4	23
Arkansas	Little Rock	2	24		3 locations		75
Louisiana	Lake Charles	1	2	<u>District 16 (Northern California)</u>			
	New Orleans	1	31	California	San Francisco Bay area	4	95
Tennessee	Memphis	1	57		1 location		95
	4 locations		114	<u>District 17 (Southern California)</u>			
<u>District 9 (North Plains)</u>				California	Los Angeles area	4	110
Minnesota	Minneapolis-St. Paul	2	25		San Diego	4	17
	1 location		25		2 locations		127
<u>District 10 (Central Plains)</u>				<u>Total</u>			
Iowa	Des Moines	2	28	Total	71 locations		2,433
Kansas and Missouri	Kansas City area	2	56	<u>District</u>	<u>Locations</u>	<u>Samples</u>	<u>Percent</u>
Kansas	Phillipsburg	2	3	1	1	52	2.1
Nebraska	Omaha	2	18	2	5	353	14.5
	Scottsbluff	3	9	3	6	221	9.1
	5 locations		114	4	7	163	6.7
				5	2	96	4.0
				6	2	87	3.6
				7	3	108	4.4
				8	4	114	4.7
				9	1	25	1.0
				10	5	114	4.7
				11	6	154	6.3
				12	4	125	5.1
				13	13	355	14.6
				14	6	169	7.0
				15	3	75	3.1
				16	1	95	3.9
				17	2	127	5.2
				Total	71	2,433	100.0

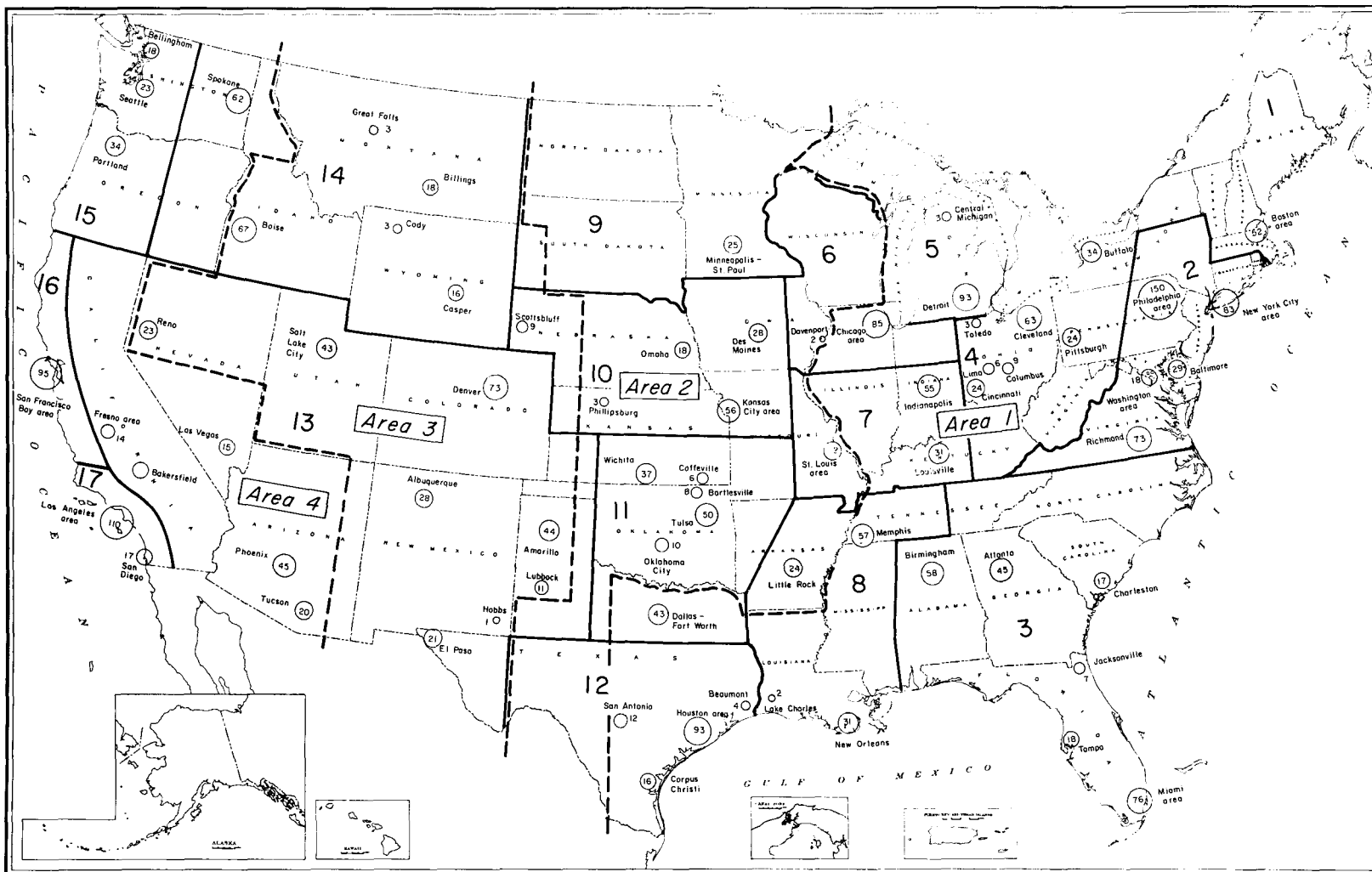


FIGURE 15.-Map showing locations and numbers of samples by districts and areas for the national motor gasoline survey, summer 1978