Bureau of Mines
Report of Investigations 4809

NATIONAL MOTOR-GASOLINE SURVEY
WINTER 1950-51

BY O. C. BLADE

United States Department of the Interior— July 1951

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UNITED STATES DEPARTMENT OF THE INTERIOR
Oscar L. Chapman, Secretary
BUREAU OF MINES
James Boyd, Director

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July 1951

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by

O. C. Blade [1]

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1/ Petroleum chemist.

Report of Investigations 4809

INTRODUCTION

This report on the properties of motor fuels sold through service stations in the United States was made in accordance with a cooperative agreement between the American Petroleum Institute and the Bureau of Mines of the United States Department of the Interior. This paper is a continuation of a series made in cooperation with the Coordinating Fuel Research (CFR) Committee of the Coordinating Research Council (CRC), Inc. The first of this series of reports presented data on motor gasolines sold during the winter of 1935-36, and succeeding reports described motor gasolines sold during the summers and winters to and including the summer of 1941 2/. No reports were made on motor gasolines sold during the winter of 1941-42 and during the summer of 1942. However, starting with the winter of 1942-43, the semiannual reports were resumed 2/.

SUMMARY

Motor-gasolines sold in the United States during the winter of 1950-51 had slightly higher octane numbers than fuels marketed during the preceding summer when then record levels were attained. The average octane values of premium-price gasolines are, on a national basis, 90.3 by the research method and 82.5 by the motor method. Corresponding octane numbers of regular-price gasolines are 83.7 by the research method and 78.8 by the motor method. Increases ranging from two-tenths to six-tenths of an octane number are represented by the above figures over the values secured from the summer 1950 survey. However, these increases in octane ratings are less than for any recent survey.

Average octane numbers and tetraethyllead contents determined during the present survey are compared below with similar data from the surveys of two preceding years:

Premium-price gasoline	Research O.N.	Motor O.N.	ml. TEL
Winter 1950-51	90.3	82.5	2.29
Summer 1950	90.0	82.0	2.36
Winter 1949-50	89.0	81.2	2.02
Summer 1949	88.0	80.4	2.15
Winter 1948-49	86.5	79.7	1.88
Regular-price gasoline			
Winter 1950-51	83.7	78.8	1.91
Summer 1950	83.5	78.2	2.04
Winter 1949-50	82.4	77.1	1.53
Summer 1949	81.9	76.4	1.70
Winter 1948-49	80.5	75.6	1.35

2/ See list of National Motor-Gasoline Surveys, p. 5.

An interesting observation may be made that the winter gasolines have lower contents of tetraethyllead than the summer gasolines. It is generally agreed that the lighter (lower-boiling) components required to "tailor" a motor fuel to winter specifications are in themselves relatively higher in knock value and therefore cause the finished motor fuel to require less TEL.

Study of the volatility results of the survey compared with those of several preceding winters indicates a leveling off of the trend toward more volatile motor fuels. Comparative figures on average Reid vapor pressures and certain distillation temperatures are shown by the following data:

	R.V.P.,	Distillation points, °F.		
Premium-price gasoline	lb.	10% evap.	50% evap.	90% evap.
Winter 1950-51	10.4	121	216	334
Winter 1949-50	10.5	120	216	331
Winter 1948-49	10.4	121	219	330
Winter 1947-48	10.2	124	218	327
Regular-price gasoline				
Winter 1950-51	10.5	122	224	335
Winter 1949-50	10.4	122	226	336
Winter 1948-49	10.2	125	230	337
Winter 1947-48	10.1	126	229	335

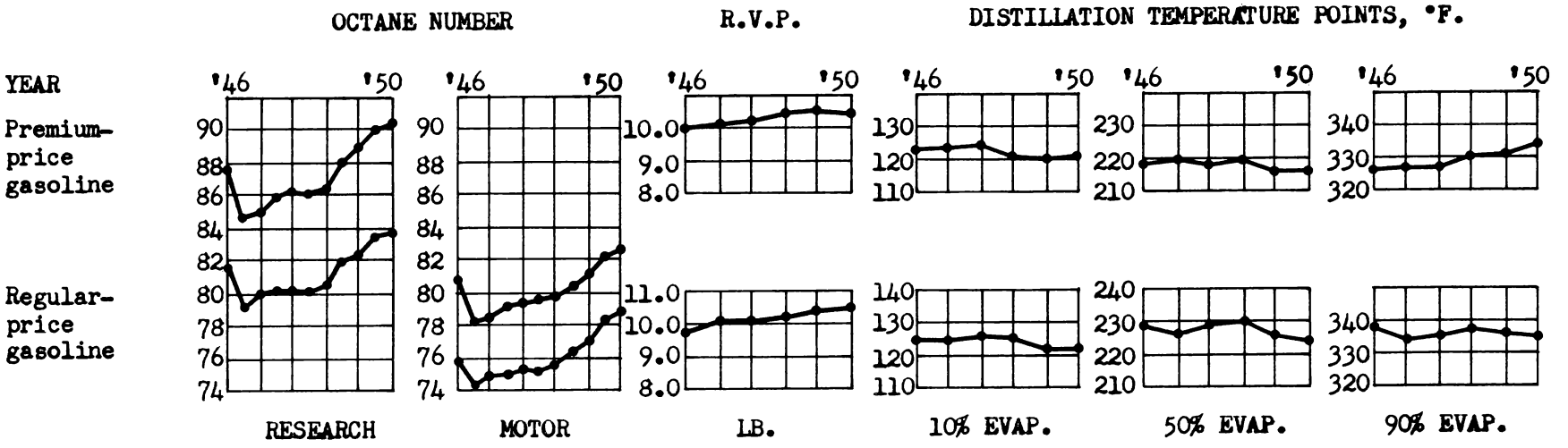
The above properties and the average octane ratings for motor gasolines surveyed during the past five years are illustrated in the table and charts following page 2.

In addition to the figures given, data were compiled on tests of five other properties of motor fuels. National average values are: Gravity, 62.1° A.P.I. for premium-price and 62.5° A.P.I. for regular-price gasolines; corrosion, negative for all but one of the samples tested; sulfur content, 0.079 percent for the premium- and 0.092 for the regular-price fuels; gum-test results, 2.5 mg. per 100 ml. for premium- and 2.0 mg. per 100 ml. for regular-grade gasolines.

The present report presents analytical data for 4,029 samples, representing the products of 135 companies. The samples represented in this report were obtained during December 1950, and January and February 1951. As in previous surveys, the gasolines covered by this survey include those from both large and small suppliers. The data have been obtained by laboratories of various refiners, motor manufacturers, and chemical companies in cooperation with the American Petroleum Institute and submitted to the Bureau of Mines for compilation.

		Octane Number				Volatility characteristics, winter surveys			
		Research		Motor		R.V.P.,	Distillation temperatures, °F.		
	Winter[1]	Winter	Summer[2]	Winter	Summer[2]	lb.	10%	50%	90%
Premium-price gasoline	1945-46	87.7	84.7	80.9	78.3	10.0	123	218	326
	1946-47	85.0	85.9	78.5	79.2	10.1	124	220	327
	1947-48	86.2	86.1	79.4	79.5	10.2	124	218	327
	1948-49	86.5	88.0	79.7	80.4	10.4	121	219	330
	1949-50	89.0	90.0	81.2	82.0	10.5	120	216	331
	1950-51	90.3		82.5		10.4	121	216	334
Regular-price gasoline	1945-46	81.7	79.3	75.9	74.4	9.8	125	229	338
	1946-47	80.1	80.2	75.0	75.1	10.1	125	227	334
	1947-48	80.2	80.1	75.3	75.2	10.1	126	229	335
	1948-49	80.5	81.9	75.6	76.4	10.2	125	230	337
	1949-50	82.4	83.5	77.1	78.2	10.4	122	226	336
	1950-51	83.7		78.8		10.5	122	224	335

1/ The winter survey data as listed are plotted below on the vertical lines separating the year intervals.
2/ Octane values from the succeeding summer surveys follow the respective winter figures and are plotted in the centers of the intervals.



The number of samples, items, and brands comprising each group is as follows: Regular-price, 2,075 samples, 298 items, and 130 brands; premium-price, 1,954 samples, 284 items, and 120 brands. The meanings of these terms as used in the surveys are as follow:

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

Brand: The gasoline sold in a given price group under a given trade name. The figure representing the total number of brands sometimes is only approximate, because in some cases the name of the marketer is not reported.

Item: The index number assigned to a given brand in a given marketing area or district. The data for each item represent the average of those submitted for that brand in any one particular area. There is no relationship between the same item numbers of different districts in table 1.

The arrangement of marketing districts used in the seven preceding reports has been continued (see fig. 3). This arrangement of districts was developed by the CFR Committee and now comprises 17 districts (as compared with 21 in previous reports) which have been selected with reference to the specifications on motor gasolines, petroleum-refinery locations, population centers, and arteries of commerce such as navigable rivers. One minor change recently has been made - the border between districts 3 and 8 in Tennessee has been moved eastward to a position near the center of the State. The States or parts of States in each district are indicated in the headings of table 1.

EXPLANATION OF TABLES AND FIGURES

In table 1 are shown data for gravity, corrosion, sulfur, gum, T.E.L. (tetraethyllead), research and motor method octane numbers, Reid vapor pressure, and distillation characteristics for motor fuels sold in 17 marketing districts in the United States during the winter 1950-51. Preceding those values in table 1 are given, in the second column, the number of samples of gasoline represented for each item. The data for a given item are the average values of results submitted on that brand from the district designated. The tests were made according to procedures standardized by the American Society for Testing Materials, and the A.S.T.M. method designations 3/ are shown in the column headings. The data reported for

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3/ American Society for Testing Materials, A.S.T.M. Standards, 1949, Part 5; and A.S.T.M. Standards on Petroleum Products and Lubricants (with Related Information); prepared by A.S.T.M. Committee D-2 on Petroleum Products and Lubricants, November 1950, 1916 Race Street, Philadelphia 3, Pa.

the gum tests fall into two classes--those that represent true gum and data on "gums" that are oily in character and therefore abnormally high. In the tables only those values that appear to represent true gum content are reported; all other results are reported as "oily." Octane numbers included in this report have been determined by both the A.S.T.M. Research and Motor Method. The distillation temperatures have been corrected to a common pressure, that of sea level, and are on the "percent evaporated" basis; as was done for the winter of 1942-43 and subsequent reports, rather than on the "percent recovered" basis, as in reports previous to that date. Averages for regular- and premium-price gasolines are given at the foot of each column of table 1. On the two lines following the averages are shown the minimum and maximum values of each grade of gasoline in that district.

The averages of table 1 have been assembled in table 2. The fourth column in table 2, headed "Items (Brands)," indicates the numbers of brands in the districts whose averages are here summarized. Thus, the data listed for a given district are averages of the number of items and not of the number of samples shown in the third column, although that many samples are represented. The figures at the foot of each column of data are national averages based on 17 districts. Table 3 gives the minimum, maximum, and average figures for each characteristic of the regular- and premium-price gasolines. Table 4 shows similar figures for the winter survey of 1949-50.

Figure 1 indicates the trends of certain properties of regular-price gasolines for the series of surveys. The average values are plotted such that solid dots representing winter survey figures appear on the vertical lines which separate the intervals headed by year dates, and open dots representing summer survey figures appear in the centers of the intervals. Octane number plots are connected for every survey, those by the motor method from the survey of winter 1935-36 and those by the research method from the survey of winter 1942-43. The plots of the other tests--Reid vapor pressure and certain distillation points--are connected by season and appear as two lines in each chart, one for winter and one for summer fuels. The breaks in the lines are due to the absence of data for the surveys discontinued during the winter of 1941-42 and the summer of 1942. Figure 2 is a similar set of charts showing trends for premium-price gasolines.

Detailed information regarding the geographical sources of the samples is given in table 5. The system used in identifying sample sources is as follows: The entire country is divided into 17 districts, as shown on the map (fig. 3), and as listed in table 6; within each district are one or more "locations," named for the principal city in that immediate vicinity;

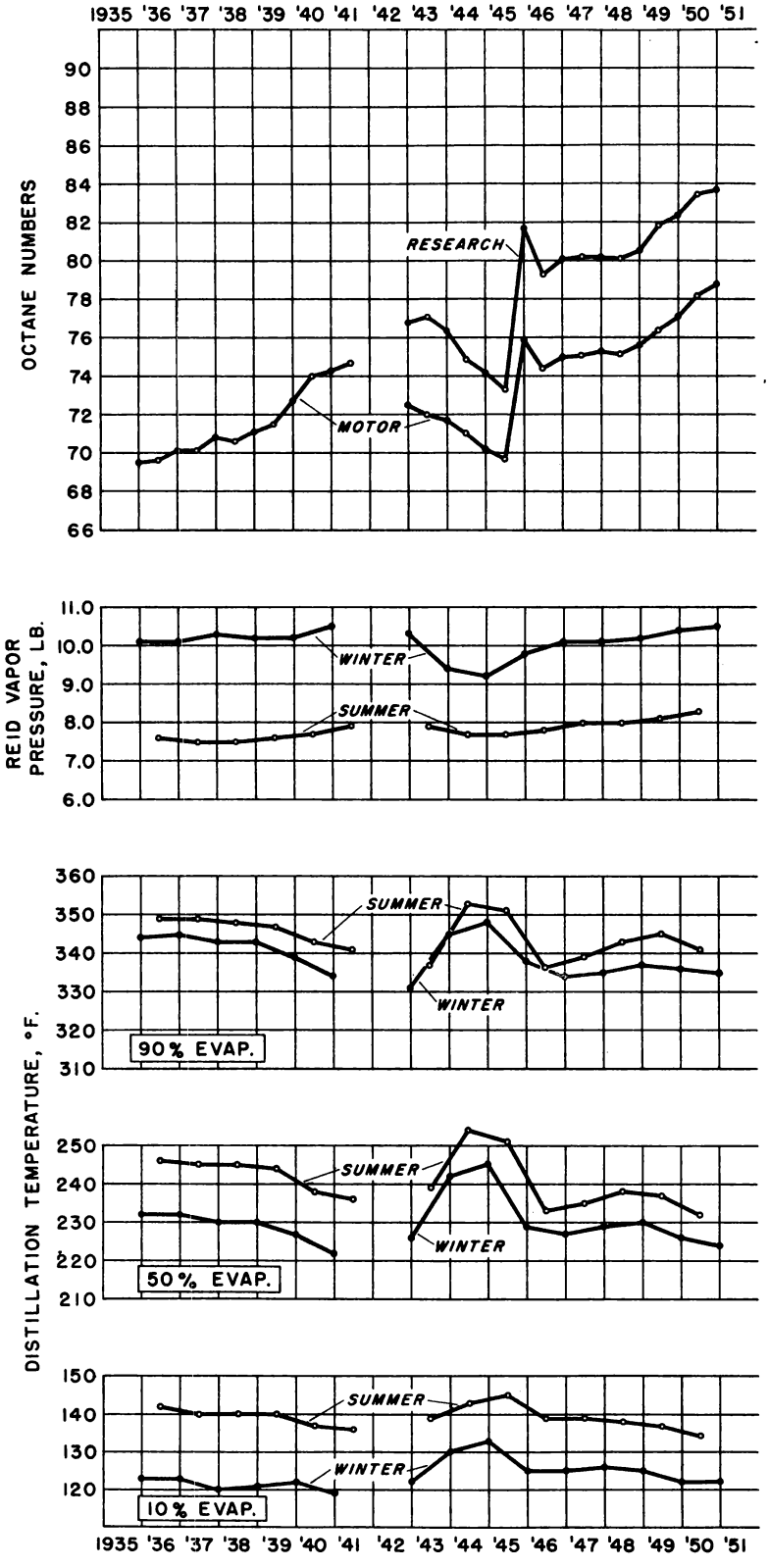

Figure 1.– Trends of certain characteristics of regular-price gasolines

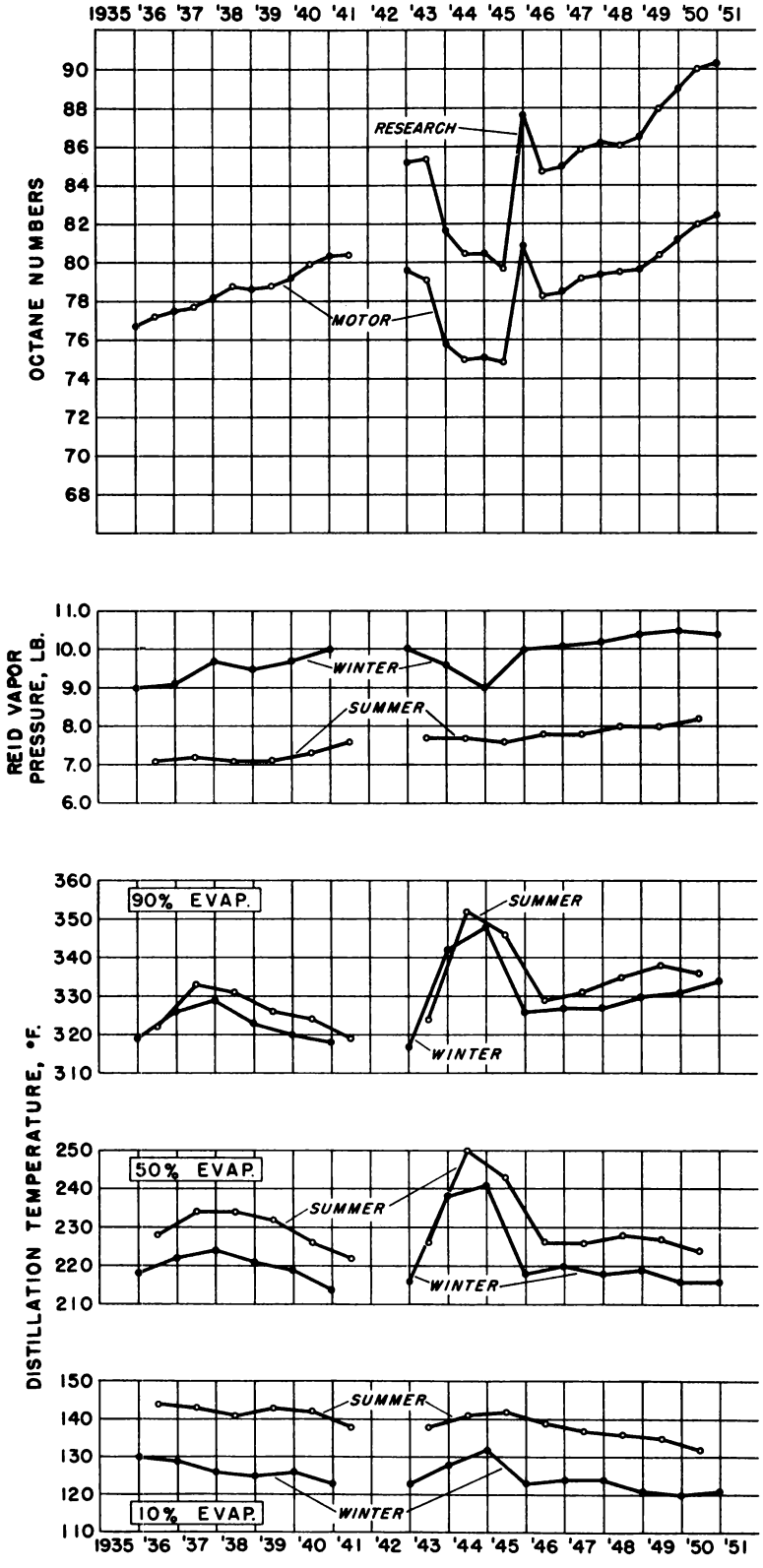

Figure 2.-Trends of certain characteristics of premium-price gasolines.

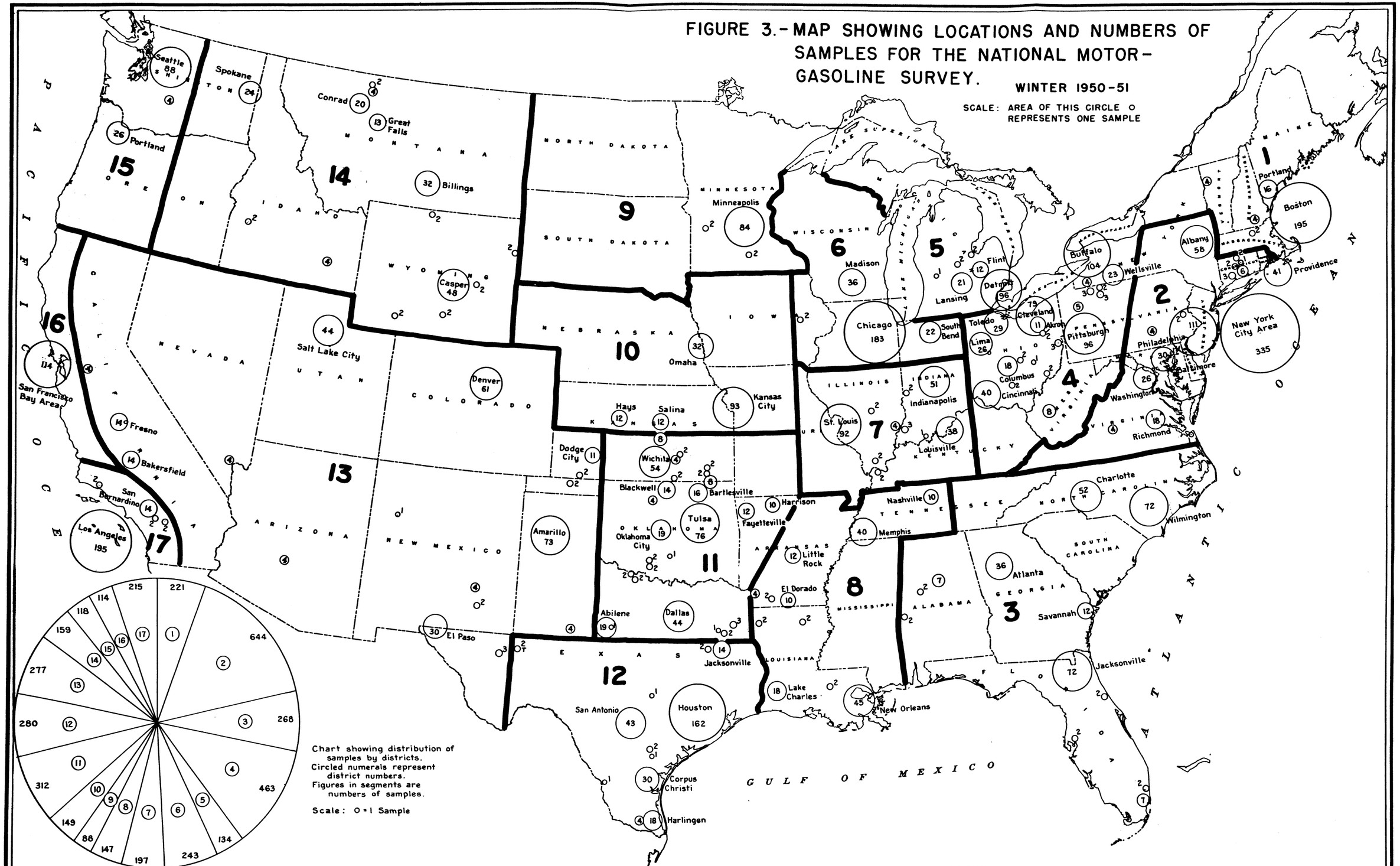
FIGURE 3.- MAP SHOWING LOCATIONS AND NUMBERS OF SAMPLES FOR THE NATIONAL MOTOR-GASOLINE SURVEY.
WINTER 1950-51
SCALE: AREA OF THIS CIRCLE O REPRESENTS ONE SAMPLE
Chart showing distribution of samples by districts.
Circled numerals represent district numbers.
Figures in segments are numbers of samples.
Scale: O = 1 Sample
PACIFIC OCEAN
ATLANTIC OCEAN
GULF OF MEXICO
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
LAKE ONTARIO
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
Seattle 88
Spokane 24
Portland 26
Conrad 20
Great Falls 13
Billings 32
Casper 48
Salt Lake City 44
Denver 61
Minneapolis 84
Omaha 32
Kansas City 93
Hays 12
Salina 12
Dodge City 11
Wichita 54
Blackwell 14
Bartlesville 16
Tulsa 76
Oklahoma City 19
Fayetteville 12
Harrison 10
Amarillo 73
Abilene 19
Dallas 44
Jacksonville 14
El Paso 30
San Francisco Bay Area 114
Fresno 149
Bakersfield 14
San Bernardino 14
Los Angeles 195
Madison 36
Chicago 183
South Bend 22
Lansing 21
Flint 12
Detroit 96
Toledo 29
Lima 26
Columbus 18
Cincinnati 40
Cleveland 79
Akron 11
Buffalo 104
Wellsville 23
Pittsburgh 96
Albany 58
Portland 16
Boston 195
Providence 41
New York City Area 335
Philadelphia 111
Baltimore 30
Washington 26
Richmond 18
St. Louis 92
Indianapolis 51
Louisville 38
Nashville 10
Memphis 40
Little Rock 12
El Dorado 10
Lake Charles 18
New Orleans 45
Houston 162
San Antonio 43
Corpus Christi 30
Harlingen 18
Charlotte 52
Wilmington 72
Atlanta 36
Savannah 12
Jacksonville 72
644
268
463
134
243
197
147
88
149
312
280
277
159
118
114
215
221
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

many locations include neighboring cities and towns in addition to the principal city. The complete listing of districts, locations, and cities, together with the respective number of samples for each, are presented in table 5. Table 6 is a recapitulation of table 5 and shows for each district the total number of locations, cities, and samples and the relative percentages of the latter based on the total of 4,029 samples reported.

The information in tables 5 and 6 is shown graphically in figure 3. On this map the 17 marketing districts, with designating numbers, have been outlined by wide border lines. Circles centered on or near the locations show both by relative size and inserted figures the numbers of samples represented by those locations. Under the title of figure 3 is a small circle whose area represents one sample as the scale unit. In the lower left corner is a large circle, drawn to this scale, whose segments represent the relative proportions of the samples from the different districts.

LIST OF NATIONAL MOTOR-GASOLINE SURVEYS

Bureau of Mines reports of investigation on survey of motor-gasoline: Published in cooperation with the Coordinating Research Council:

Lane, E. C., and Kraemer, A. J., Cooperative Fuel-Research Motor-Gasoline Survey,

Winter 1935-36: R. I. 3311, September 1936, 63 pp.

Lane, E. C., Cooperative Fuel-Research Motor-Gasoline Survey,

Summer 1936: R.I. 3335, January 1937, 61 pp.
Winter 1936-37: R.I. 3348, May 1937, 56 pp.
Summer 1937: R.I. 3374, December 1937, 57 pp.
Winter 1937-38: R.I. 3408, June 1938, 31 pp.
Summer 1938: R.I. 3429, December 1938, 31 pp.
Winter 1938-39: R.I. 3455, June 1939, 30 pp., 1 fig.
Summer 1939: R.I. 3492, February 1940, 30 pp., 2 figs.
Winter 1939-40: R.I. 3524, June 1940, 29 pp., 2 figs.
Summer 1940: R.I. 3550, January 1941, 29 pp., 2 figs.
Winter 1940-41: R.I. 3576, June 1941, 29 pp., 2 figs.
Summer 1941: R.Il 3611, January 1942, 31 pp., 2 figs.

Kraemer, A. J., and Blade, O. C., Cooperative Fuel-Research Motor-Gasoline Survey,

Winter 1942-43: R.I. 3716, June 1943, 28 pp.

Kraemer, A. J., and Blade, O. C., National Motor-Gasoline Survey,

Summer 1943: R.I. 3735, December 1943, 28 pp.

Blade, O. C., National Motor-Gasoline Survey,

Winter 1943-44: R.I. 3758, May 1944, 28 pp., 1 fig.
Summer 1944: R.I. 3796, January 1945, 28 pp., 2 figs.
Winter 1944-45: R.I. 3820, June 1945, 27 pp., 2 figs.
Summer 1945: R.I. 3883, January 1946, 34 pp., 3 figs.

Blade, O. C., and Sponsler, C. R., National Motor-Gasoline Survey,

Winter 1945-46: R.I. 3959, July 1946, 39 pp., 3 figs.

Blade, O. C., National Motor-Gasoline Survey,

Summer 1946: R.I. 4063, December 1946, 37 pp., 3 figs.
Winter 1946-47: R.I. 4146, August 1947, 38 pp., 3 figs.
Summer 1947: R.I. 4248, January 1948, 31 pp., 3 figs.

Published in cooperation with the American Petroleum Institute:

Blade, O. C., National Motor-Gasoline Survey,

Winter 1947-48: R.I. 4354, July 1948, 31 pp., 3 figs.
Summer 1948: R.I. 4444, December 1948, 33 pp., 3 figs.
Winter 1948-49: R.I. 4567, July 1948, 33 pp., 3 figs.
Summer 1949: R.I. 4644, December 1949, 32 pp., 3 figs.
Winter 1949-50: R.I. 4702, June 1950, 32 pp., 3 figs.
Summer 1950: R.I. 4765, December 1950, 33 pp., 3 figs.
Winter 1950-51: This report.

District 1

TABLE 1.- Motor-gasoline survey, winter 1950-51
(Average values of different brands)

Northeast area: Maine, Massachusetts, New Hampshire, Vermont, and northern New York

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
1	4	62.6	Neg.	0.072	1.9	1.66	86.9	80.1	11.8	87	99	115	142	170	218	261	329	358	403	1.0	2.7
2	15	62.9	do	.082	(Oily)	1.45	86.8	79.7	11.8	87	101	116	140	164	209	252	311	339	383	1.1	2.1
3	8	62.2	do	.045	1.8	2.57	86.0	80.4	10.6	92	106	120	144	168	220	268	335	365	412	1.1	1.6
4	12	59.4	do	.035	1.8	.81	88.2	81.8	11.8	85	96	112	137	165	220	277	365	394	425	1.0	2.6
5	5	61.9	do	.067	1.8	2.24	88.7	82.4	10.8	89	107	124	151	176	220	262	325	353	395	1.1	2.3
6	10	61.4	do	.050	1.9	1.89	86.5	81.5	10.9	84	100	119	150	178	227	274	348	383	417	1.0	2.1
7	1	64.5	do	.080	3.4	1.10	87.0	79.5	12.6	84	84	107	136	163	215	262	333	360	390	1.0	5.0
8	1	62.3	do	.080	1.0	1.74	86.8	80.8	9.8	87	108	125	152	176	222	274	344	378	424	1.0	1.0
9	12	60.5	do	.116	1.9	2.40	85.3	80.0	10.6	89	103	122	151	178	224	274	349	381	417	1.0	2.1
10	9	63.8	do	.070	2.2	2.49	86.7	81.1	12.0	85	97	115	141	164	215	264	333	364	406	1.1	3.1
11	10	62.5	do	.068	1.5	1.95	86.8	80.1	10.8	88	102	118	143	168	218	268	332	360	392	1.1	2.1
12	10	61.8	do	.041	2.1	1.69	88.5	82.5	11.6	85	99	116	145	173	221	266	344	379	416	1.1	2.5
13	12	62.5	do	.038	1.6	2.40	86.0	82.3	11.8	84	97	116	145	173	222	268	329	355	388	1.1	3.1
14	2	60.5	do	.110	2.2	2.21	86.2	79.9	9.3	91	106	124	153	178	226	272	343	377	418	1.0	2.0
15	8	62.2	do	.036	1.4	2.15	85.5	80.0	12.0	83	94	109	138	167	224	278	348	374	408	1.1	2.5
Average	-	62.1	Neg.	0.066	1.9	1.92	86.8	80.8	11.2	87	100	117	145	171	220	268	338	368	406	1.1	2.5
Minimum	-	59.4	-	0.035	1.0	0.81	85.3	79.5	9.3	83	84	107	136	163	209	252	311	339	383	1.0	1.0
Maximum	-	64.5	-	.116	3.4	2.57	88.7	82.5	12.6	92	108	125	153	178	227	278	365	394	425	1.1	5.0
Samples	119																				

Premium-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
16	7	62.6	Neg.	0.053	1.0	0.00	91.8	80.4	11.9	82	94	110	131	153	205	258	327	355	388	1.1	1.9
17	2	60.3	do	.115	2.7	2.28	91.3	81.5	9.1	92	105	123	147	171	219	270	340	370	413	1.0	2.0
18	11	61.3	do	.036	1.9	2.37	91.9	84.3	11.7	85	99	114	140	168	221	276	347	372	407	1.0	2.4
19	10	63.2	do	.048	(Oily)	1.67	91.9	83.7	11.9	86	98	114	137	161	206	253	326	360	412	1.0	2.5
20	10	63.1	do	.074	1.5	2.36	92.0	82.8	10.5	91	106	119	139	159	203	252	319	348	382	1.0	1.5
21	9	60.5	do	.072	2.4	2.55	92.5	83.7	11.9	86	97	111	135	162	221	281	357	386	420	1.0	2.7
22	11	62.1	do	.099	1.5	2.62	92.4	83.2	11.0	89	105	118	139	158	199	253	332	362	395	1.0	1.6
23	1	61.4	do	.100	1.0	2.08	92.0	82.0	10.0	85	102	118	145	170	220	275	350	378	408	1.0	1.0
24	10	63.5	do	.043	1.6	1.57	91.7	84.0	11.5	85	101	115	139	162	208	255	325	360	406	1.0	1.9
25	5	61.1	do	.089	1.9	2.28	92.5	83.3	10.6	88	105	122	148	173	223	273	346	376	410	1.0	2.1
26	8	61.9	do	.047	1.4	2.64	91.9	83.0	9.9	89	106	121	143	163	207	254	323	360	414	1.0	1.5
27	15	65.1	do	.054	(Oily)	1.99	92.4	83.5	11.6	87	101	114	135	153	195	239	301	333	388	1.1	1.5
28	3	62.0	do	.057	.8	1.64	91.9	82.2	12.1	83	98	112	138	165	218	270	340	369	405	1.0	1.9
Average	-	62.2	Neg.	0.068	1.6	2.00	92.0	82.9	11.1	87	101	116	140	163	211	262	333	364	404	1.0	1.9
Minimum	-	60.3	-	0.036	0.8	0.00	91.3	80.4	9.1	82	94	110	131	153	195	239	301	333	382	1.0	1.0
Maximum	-	65.1	-	.115	2.7	2.64	92.5	84.3	12.1	92	106	123	148	173	223	281	357	386	420	1.1	2.7
Samples	102																				

District 2

TABLE 1.- Motor-gasoline survey, winter 1950-51
(Average values of different brands)

Mid-Atlantic Coast States: Rhode Island, Connecticut, New Jersey, Delaware, Maryland, Virginia, central and southern New York, and eastern Pennsylvania

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
										Percent evaporated											
1	20	61.6	Neg.	0.122	1.3	2.10	86.5	80.2	10.4	88	106	124	151	176	221	265	331	361	402	1.0	2.2
2	22	62.3	do	.059	1.6	2.06	85.7	80.1	10.1	90	106	122	149	175	223	270	330	358	397	1.0	2.2
3	2	61.2	do	.080	.8	-	85.0	79.3	10.2	88	99	120	146	172	225	272	336	363	403	1.0	3.0
4	31	61.5	do	.068	2.0	1.70	87.6	80.1	10.3	89	105	124	152	179	229	274	333	357	393	.9	1.9
5	4	64.0	do	.071	1.5	1.80	86.7	79.2	11.6	87	97	117	144	170	215	258	323	355	396	1.0	3.3
6	30	61.7	do	.074	2.4	2.52	85.1	80.2	10.7	87	103	121	150	177	225	272	344	376	409	1.0	2.3
7	1	61.2	-	.029	.8	1.97	86.8	81.4	11.1	90	100	121	151	176	221	265	336	369	419	.6	3.9
8	2	62.9	Neg.	.049	.5	2.22	86.7	80.9	11.6	84	99	118	147	173	218	263	332	358	397	1.0	3.1
9	34	60.9	do	.082	(Oily)	1.01	87.0	79.0	11.0	88	102	119	146	173	221	270	336	365	411	.9	2.4
10	34	61.9	do	.066	1.5	1.93	88.7	81.8	10.9	87	102	120	146	172	218	261	325	356	395	1.0	2.2
11	1	59.8	do	.100	1.0	.37	84.0	79.0	11.0	90	107	125	158	188	236	276	336	360	390	1.0	1.2
12	35	59.4	do	.034	1.6	.83	88.2	81.4	11.9	86	98	113	139	166	220	279	365	395	426	1.0	2.6
13	1	61.0	do	.051	1.0	1.66	87.0	81.2	11.1	88	103	120	148	176	226	271	358	394	436	1.0	2.0
14	30	62.3	do	.044	1.6	2.32	85.9	81.2	11.2	87	100	115	140	168	220	271	345	373	406	1.0	2.2
15	1	62.3	do	.062	2.0	2.80	85.7	80.8	10.3	90	104	120	147	173	222	272	346	376	410	1.0	1.0
16	29	62.6	do	.042	2.1	2.28	86.0	81.6	11.3	86	99	117	144	170	218	264	330	358	395	1.0	2.5
17	1	62.6	do	.030	1.0	2.70	86.0	83.0	10.1	94	104	124	154	180	224	262	314	336	366	.8	3.2
18	24	60.8	do	.049	2.1	1.94	87.1	81.6	10.7	87	103	120	150	179	228	273	347	378	414	1.0	2.2
19	15	62.5	do	.072	1.8	2.57	86.7	80.8	11.4	87	99	116	145	173	221	266	330	360	399	1.0	2.3
20	16	63.5	do	.076	2.5	1.25	87.1	79.6	11.8	87	98	114	140	168	218	265	331	364	400	.9	2.8
21	12	62.7	do	.069	2.4	1.51	86.9	79.5	11.0	88	101	117	143	169	217	264	335	365	399	1.0	2.4
Average	-	61.8	Neg.	0.063	1.6	1.88	86.5	80.6	10.9	88	102	119	147	174	222	268	336	366	403	1.0	2.4
Minimum	-	59.4	-	0.029	0.5	0.37	84.0	79.0	10.1	84	97	113	139	166	215	258	314	336	366	0.6	1.0
Maximum	-	64.0	-	.122	2.5	2.80	88.7	83.0	11.9	94	107	125	158	188	236	279	365	395	436	1.0	3.9
Samples	345																				

Premium-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
										Percent evaporated											
22	1	59.1	Neg.	0.103	1.0	0.82	88.4	81.6	11.2	88	104	122	154	186	240	286	342	366	392	1.0	1.2
23	33	61.1	do	.078	1.8	2.22	92.5	83.3	10.7	89	103	119	143	167	217	265	337	368	407	1.0	2.0
24	35	63.7	do	.067	(Oily)	1.56	91.9	82.3	11.1	90	103	117	137	157	199	242	301	331	382	1.0	1.8
25	2	62.6	do	.072	.9	2.07	90.9	81.8	11.2	86	101	114	138	161	207	266	333	362	398	1.0	2.1
26	1	62.6	-	.048	2.2	2.71	92.0	81.6	10.1	92	109	123	143	167	211	258	317	349	414	1.1	1.4
27	30	62.1	Neg.	.083	2.4	2.65	92.1	83.3	11.0	88	102	115	135	156	203	256	332	360	393	1.0	1.8
28	1	62.1	-	.106	1.4	2.63	91.1	80.2	10.7	91	103	117	138	160	209	266	335	362	392	1.1	1.9
29	30	61.9	Neg.	.074	2.4	1.84	92.0	82.2	9.8	91	107	122	147	170	216	264	325	351	386	.9	1.5
30	22	62.2	do	.072	1.6	2.50	91.8	82.3	10.1	91	106	120	142	165	213	258	319	350	390	1.0	1.6
31	19	61.0	do	.125	2.6	2.29	92.2	81.6	10.5	89	102	117	140	164	216	277	345	371	405	1.0	1.9
32	12	60.8	do	.075	3.8	1.78	92.1	81.5	10.8	88	102	116	140	167	222	277	346	375	403	.9	1.9
33	15	61.1	do	.088	3.4	1.56	92.5	81.3	11.9	85	95	112	138	166	225	279	348	373	403	1.0	2.7
34	1	61.0	do	.092	3.0	2.12	93.1	82.0	13.4	84	95	110	138	170	236	288	354	378	400	.9	2.7
35	15	60.4	do	.088	2.1	2.38	92.5	83.4	12.0	83	93	107	130	156	221	283	359	389	418	.9	2.4
36	1	58.8	do	.032	(Oily)	3.00	92.2	85.3	9.9	92	105	124	152	182	234	282	362	390	410	.7	2.5
37	23	63.3	do	.042	2.0	1.90	91.9	83.8	11.2	87	102	116	138	161	206	254	320	351	400	.9	2.0
38	1	57.6	do	.040	1.0	2.97	93.4	85.1	10.0	96	108	126	154	184	240	284	344	370	396	.7	2.3
39	25	61.6	do	.053	2.4	2.42	91.7	83.7	11.4	86	98	113	138	164	216	268	334	362	399	1.0	2.3
40	1	60.7	do	.050	3.0	2.67	91.6	83.5	10.0	94	110	122	146	172	224	278	354	380	398	.8	1.2
41	30	61.9	do	.050	1.2	.05	91.7	80.6	11.3	85	97	110	131	153	204	258	329	358	392	.9	1.8
42	1	62.9	do	.039	1.0	1.84	91.3	84.0	11.0	88	99	114	136	158	206	254	324	358	420	.9	2.1
Average	-	61.4	Neg.	0.070	2.1	2.09	91.9	82.6	10.9	89	102	117	141	166	217	269	336	364	400	0.9	2.0
Minimum	-	57.6	-	0.032	0.9	0.05	88.4	80.2	9.8	83	93	107	130	153	199	242	301	331	382	0.7	1.2
Maximum	-	63.7	-	.125	3.8	3.00	93.4	85.3	13.4	96	110	126	154	186	240	288	362	390	420	1.1	2.7
Samples	299																				

District 3

TABLE 1.- Motor-gasoline survey, winter 1950-51
(Average values of different brands)

Southeast area: North Carolina, South Carolina, Georgia, Florida, Alabama, and eastern Tennessee

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	Percent evaporated 5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
1	11	61.4	Neg.	0.073	3.9	1.89	85.1	78.8	9.5	89	108	125	153	178	223	271	338	369	418	1.0	1.8
2	16	62.7	do	.062	4.1	2.14	86.1	79.8	9.7	91	107	123	149	172	217	263	329	359	395	1.0	1.7
3	16	62.7	do	.086	1.9	2.18	85.7	80.1	10.6	89	104	119	147	172	220	264	329	364	413	1.0	1.9
4	12	62.0	do	.046	3.3	2.74	85.7	81.4	10.2	92	108	124	150	177	226	274	337	365	410	1.0	2.0
5	9	62.0	do	.056	1.0	2.33	86.7	81.0	9.6	94	112	130	159	183	222	260	313	341	389	1.1	1.3
6	5	57.2	do	.040	2.6	-	87.5	81.3	9.0	91	109	126	151	174	225	282	363	393	421	1.0	2.0
7	11	61.8	do	.055	(Oily)	1.80	86.4	80.4	9.9	92	110	127	154	178	226	276	345	378	428	1.1	1.4
8	1	62.5	-	.060	2.8	2.24	85.8	79.7	11.1	88	105	121	146	171	220	265	332	365	408	1.5	1.5
9	10	58.4	Neg.	.049	1.7	1.59	86.1	80.0	8.5	94	114	135	168	195	241	288	360	390	422	1.0	1.4
10	1	61.9	do	.061	1.0	2.28	85.3	79.5	9.8	92	104	120	144	171	220	266	314	335	392	.8	1.7
11	14	60.5	do	.049	1.7	2.39	85.4	79.5	9.6	90	108	126	155	181	229	280	349	375	407	1.0	1.7
12	1	62.1	do	.027	4.0	2.83	85.4	82.0	10.9	90	107	121	149	177	228	281	350	386	412	1.9	1.6
13	15	60.2	do	.068	2.3	2.22	86.0	79.5	8.5	94	113	132	161	187	233	277	335	359	392	1.1	1.3
14	1	62.1	do	.032	2.0	2.89	85.1	82.2	9.9	92	103	118	144	174	225	271	332	357	406	1.0	2.5
15	14	63.0	do	.056	3.0	2.43	86.2	80.4	10.5	89	105	121	148	172	218	266	338	370	407	1.0	1.5
Average	-	61.4	Neg.	0.055	2.5	2.28	85.9	80.4	9.8	91	108	125	152	177	225	272	338	367	408	1.1	1.7
Minimum	-	57.2	-	0.027	1.0	1.59	85.1	78.8	8.5	88	103	118	144	171	217	260	313	335	389	0.8	1.3
Maximum	-	63.0	-	.086	4.1	2.89	87.5	82.2	11.1	94	114	135	168	195	241	288	363	393	428	1.9	2.5

Samples 137

Premium-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	I.B.P.	5	10	20	30	50	70	90	95	End point	Resid.	Loss
16	9	60.2	Neg.	0.094	1.5	2.43	92.3	83.3	9.7	93	110	125	150	174	222	273	344	374	406	1.0	1.3
17	12	60.6	do	.044	3.1	2.59	92.3	83.4	10.2	91	106	120	144	167	219	272	344	377	418	1.0	1.6
18	16	59.9	do	.084	2.7	2.49	92.4	83.2	10.9	87	101	114	137	162	223	286	361	390	422	1.1	1.6
19	16	60.2	do	.051	2.9	2.18	92.1	83.6	9.6	92	107	122	148	172	223	278	348	375	404	1.0	1.5
20	11	62.0	do	.051	3.4	2.23	91.5	83.0	9.3	90	108	122	146	169	212	258	324	357	399	1.0	1.5
21	11	63.4	do	.040	(Oily)	2.39	92.1	83.9	9.3	94	112	127	149	169	209	253	315	344	389	1.0	1.0
22	1	58.4	-	.026	2.2	2.89	92.9	84.0	10.9	90	111	130	156	184	237	287	354	381	419	1.1	1.4
23	9	60.7	Neg.	.052	1.8	2.18	91.8	83.4	8.8	93	113	127	150	172	219	268	334	363	406	1.0	1.5
24	1	61.3	do	.057	2.0	2.42	91.5	82.8	9.2	94	110	125	148	168	210	260	330	360	390	1.0	1.0
25	13	60.4	do	.050	1.2	.07	91.7	80.4	9.6	90	107	121	145	167	216	267	333	359	390	1.0	1.2
26	1	60.8	do	.040	4.0	2.66	92.8	84.0	10.0	89	102	115	137	161	208	254	325	364	412	1.1	1.4
27	15	59.7	do	.068	2.4	2.44	92.1	82.4	7.4	101	123	138	161	182	224	270	329	355	387	1.0	1.0
28	1	60.6	do	.039	2.0	2.65	92.3	84.3	9.8	89	101	117	140	165	214	260	340	376	413	.8	2.2
29	14	60.0	do	.051	3.8	2.43	92.4	83.5	9.7	92	111	126	152	176	224	279	351	378	406	1.0	1.0
30	1	65.7	do	.030	2.0	2.91	88.6	82.8	11.2	88	100	114	133	154	217	273	340	363	402	.8	1.2
Average	-	60.9	Neg.	0.052	2.5	2.33	91.9	83.2	9.7	92	108	123	146	169	218	269	338	368	404	1.0	1.4
Minimum	-	58.4	-	0.026	1.2	0.07	88.6	80.4	7.4	87	100	114	133	154	208	253	315	344	387	0.8	1.0
Maximum	-	65.7	-	.094	4.0	2.91	92.9	84.3	11.2	101	123	138	161	184	237	287	361	390	422	1.1	2.2

Samples 131

District 4

TABLE 1.- Motor-gasoline survey, winter 1950-51
(Average values of different brands)

Appalachian area: Ohio, West Virginia, western New York, western Pennsylvania, eastern Kentucky, and a small portion of Maryland

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) Percent evaporated I.B.P.	5	10	20	30	50	70	90	95	End point	Residue	Loss
1	1	63.3	Neg.	0.090	0.8	-	87.0	79.0	11.6	86	95	112	134	160	213	265	327	358	400	1.0	3.0
2	10	64.5	do	.095	1.2	1.74	86.0	79.9	11.8	88	102	116	138	162	211	258	334	371	412	1.0	2.3
3	1	70.4	do	.042	3.8	2.33	82.8	82.4	10.6	87	105	112	128	143	182	228	304	338	385	1.0	1.0
4	21	63.1	do	.068	2.6	2.65	85.3	79.8	11.5	87	101	119	148	173	220	266	333	362	402	1.0	2.4
5	2	64.7	do	.065	.7	-	84.3	80.0	11.4	84	94	113	137	161	208	251	329	363	409	1.0	3.0
6	16	61.1	do	.080	(Oily)	1.82	87.6	80.3	11.4	86	98	115	143	171	222	277	348	376	428	1.0	2.4
7	1	62.7	do	.050	1.2	-	86.5	79.0	12.0	85	91	112	140	167	216	266	342	370	402	1.0	4.0
8	12	63.5	do	.064	3.2	1.40	86.4	79.0	11.3	87	99	117	145	170	216	262	330	359	398	1.0	2.7
9	1	61.3	do	.070	(Oily)	-	84.5	80.5	11.8	82	92	114	150	181	229	278	357	388	423	1.0	4.0
10	6	62.2	do	.069	3.4	1.85	85.9	78.9	11.1	88	102	119	145	172	222	270	342	372	404	1.1	2.5
11	2	61.9	do	.073	2.7	2.88	87.2	80.6	11.1	87	103	119	146	174	224	273	333	365	391	.9	1.9
12	9	62.3	do	.065	3.5	1.98	85.7	79.3	10.6	87	104	122	150	176	225	272	342	373	407	1.1	2.1
13	5	65.4	do	.049	2.3	2.92	84.0	79.0	10.2	88	105	122	148	171	213	253	309	331	363	1.0	1.6
14	3	62.8	do	.072	1.5	1.36	86.5	78.7	11.7	82	92	110	138	168	220	269	338	368	405	1.0	3.0
15	5	62.0	do	.049	2.6	2.88	85.2	80.8	11.2	87	103	124	155	183	231	278	355	390	429	1.0	1.8
16	3	62.3	do	.046	1.6	2.28	86.1	80.9	11.9	87	95	115	144	172	220	267	337	368	405	.9	3.2
17	1	60.8	do	.055	(Oily)	2.95	82.0	77.5	9.3	92	102	124	156	182	230	276	360	392	422	.9	3.1
18	3	65.1	do	.042	1.7	2.98	85.8	80.9	11.6	91	106	122	147	169	212	251	311	336	382	.9	2.1
19	2	62.8	do	.038	1.7	2.89	87.9	81.3	11.9	94	106	123	149	173	227	275	336	356	380	1.1	2.5
20	1	65.3	do	.048	1.0	2.93	88.1	82.4	12.4	86	98	116	146	171	217	258	320	348	386	.9	3.1
21	16	61.7	do	.065	1.5	1.87	87.8	80.6	10.9	87	99	117	145	173	221	270	340	371	417	1.0	2.5
22	1	63.6	do	.093	1.4	2.56	87.5	81.2	12.1	84	106	115	142	169	220	270	330	365	390	1.0	2.0
23	22	62.6	do	.056	1.4	1.77	85.8	79.2	10.5	88	105	122	149	174	221	268	338	365	399	1.0	2.1
24	5	61.8	do	.064	1.5	1.89	85.9	79.8	10.6	86	103	118	147	174	224	271	342	371	410	1.0	2.5
25	23	62.9	do	.067	2.1	2.08	87.4	79.7	11.6	86	99	116	142	169	219	270	339	369	405	1.0	2.9
26	1	62.7	do	.089	2.2	1.97	86.4	78.6	11.5	90	102	116	138	161	213	272	343	370	406	1.0	3.0
27	32	62.0	do	.065	3.8	2.58	86.4	80.1	10.2	89	104	120	148	175	225	273	337	362	394	1.0	1.8
28	1	60.5	do	.150	.8	-	87.0	80.5	9.2	90	104	122	149	173	216	263	331	362	404	1.0	2.0
29	12	62.0	do	.050	1.4	2.29	86.6	79.2	10.3	90	100	118	148	174	226	276	346	372	406	1.0	2.8
30	3	65.0	do	.040	1.2	2.46	87.3	82.0	11.4	83	100	119	144	166	203	236	285	309	335	1.0	2.2
31	31	61.6	do	.041	1.5	.85	88.3	81.5	12.0	85	95	110	135	160	211	266	349	384	417	1.0	3.1
Average	-	63.0	Neg.	0.065	1.9	2.24	86.2	80.1	11.2	87	100	117	144	170	218	265	334	364	401	1.0	2.5
Minimum	-	60.5	-	0.038	0.7	0.85	82.0	77.5	9.2	82	91	110	128	143	182	228	285	309	335	0.9	1.0
Maximum	-	70.4	-	.150	3.8	2.98	88.3	82.4	12.4	94	106	124	156	183	231	278	360	392	429	1.1	4.0
Samples	252																				

Premium-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	I.B.P.	5	10	20	30	50	70	90	95	End point	Residue	Loss
32	1	63.0	Neg.	0.034	2.0	2.85	90.0	82.4	11.4	88	104	120	144	170	222	266	328	352	378	0.8	2.2
33	2	62.8	do	.034	2.6	2.88	90.2	81.4	11.7	87	103	119	145	171	221	268	329	357	381	1.0	1.7
34	3	65.0	do	.043	1.7	2.97	89.9	82.6	11.8	89	103	119	147	172	217	257	318	344	391	1.0	2.4
35	1	61.1	do	.044	(Oily)	2.95	89.1	83.6	10.4	92	108	122	144	172	222	272	356	394	430	1.1	1.9
36	1	59.6	-	-	1.2	2.40	89.1	80.6	10.4	96	108	123	160	190	225	266	322	346	384	1.0	2.0
37	5	62.6	Neg.	.049	(Oily)	2.85	90.9	84.2	12.0	87	98	116	143	170	220	270	356	394	432	1.0	2.5
38	2	61.6	do	.053	2.7	1.42	91.4	80.4	12.2	82	91	108	137	166	222	274	343	372	405	1.0	3.1
39	4	62.2	do	.067	1.6	2.89	90.3	81.7	9.8	89	108	124	154	180	225	269	321	343	382	1.0	1.8
40	8	60.6	do	.068	3.7	2.59	91.2	82.3	10.2	88	106	124	154	181	230	280	349	378	411	1.0	1.7
41	1	62.4	do	.054	2.0	2.93	92.0	83.4	11.2	90	104	118	145	170	226	276	344	372	394	1.1	2.1
42	6	62.1	do	.051	3.2	1.88	90.7	81.7	10.8	91	104	119	146	170	214	262	332	360	397	1.1	2.4
43	12	62.6	do	.072	5.0	1.91	91.8	81.5	11.0	88	102	118	148	173	219	265	329	360	394	1.1	2.6
44	1	61.4	do	.080	3.6	-	91.0	82.5	11.4	84	90	115	144	172	220	269	348	377	406	1.0	4.0
45	16	64.0	do	.068	(Oily)	1.81	92.3	82.5	10.9	87	100	115	135	156	198	242	305	333	383	1.0	1.6
46	21	62.9	do	.066	2.9	2.61	92.0	82.6	10.8	88	103	118	142	165	212	262	333	364	401	1.0	1.9
47	1	71.9	do	.032	2.8	2.76	85.3	84.8	11.8	86	104	111	124	135	167	208	287	333	387	1.0	1.0
48	10	63.1	do	.086	2.4	2.02	90.8	82.7	11.7	88	104	117	141	165	212	265	349	381	413	1.0	2.6
49	1	63.6	do	.040	2.0	2.87	88.5	82.0	11.5	82	99	117	146	169	208	248	300	324	354	1.0	2.0
50	14	62.6	do	.060	1.5	.10	91.5	80.3	11.2	88	99	111	133	156	209	260	331	357	394	.9	2.2
51	1	60.7	do	.160	.4	-	92.5	81.5	10.2	86	100	117	136	156	208	274	338	364	398	1.0	2.0
52	32	61.1	do	.067	2.2	2.35	91.2	81.9	9.5	91	108	122	146	170	219	270	335	362	390	1.0	1.2
53	1	57.7	do	.063	2.6	2.68	91.7	82.9	10.2	95	116	128	160	186	228	277	345	370	400	1.0	2.0
54	23	63.0	do	.070	3.6	2.45	90.6	82.2	11.9	85	97	114	142	169	221	271	344	375	408	1.0	2.8
55	5	61.9	do	.059	3.2	2.26	91.3	82.4	10.4	89	106	121	146	171	219	266	341	370	407	1.0	2.0
56	21	62.0	do	.050	2.0	1.96	91.4	82.3	10.1	89	106	122	148	172	219	267	334	361	394	1.0	1.9
57	1	64.3	do	.096	2.4	2.88	90.3	83.4	12.8	80	102	112	136	165	219	267	335	382	406	1.0	2.0
58	17	61.6	do	.072	1.7	2.16	92.2	83.0	10.7	88	102	119	146	171	219	265	335	368	408	1.0	2.0
Average	-	62.5	Neg.	0.063	2.5	2.38	90.7	82.3	11.0	88	103	118	144	169	216	264	333	363	397	1.0	2.1
Minimum	-	57.7	-	0.032	0.4	0.10	85.3	80.3	9.5	80	90	108	124	135	167	208	287	324	354	0.8	1.0
Maximum	-	71.9	-	.160	5.0	2.97	92.5	84.8	12.8	96	116	128	160	190	230	280	356	394	432	1.1	4.0
Samples	211																				

District 5

Michigan

TABLE 1.- Motor-gasoline survey, winter 1950-51
(Average values of different brands

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
1	3	64.2	Neg.	0.066	2.1	1.87	85.5	79.6	11.3	89	104	116	139	162	210	259	334	366	408	1.0	1.3
2	12	64.9	do	.137	2.0	2.27	85.2	78.7	11.6	86	98	112	133	155	204	253	322	353	388	1.1	1.9
3	1	64.7	do	.100	2.0	2.38	86.0	80.0	12.8	81	86	111	140	165	211	258	326	357	408	1.0	4.0
4	11	64.5	do	.064	.9	1.95	86.0	80.3	11.5	92	105	119	143	167	209	249	323	360	394	1.0	2.2
5	1	68.3	do	.050	1.0	2.87	85.7	82.4	10.9	88	108	120	140	156	187	221	289	331	380	1.0	1.0
6	10	61.3	do	.073	2.4	2.31	85.7	79.9	9.9	96	110	125	153	180	230	280	347	367	397	1.0	2.1
7	1	63.3	do	.034	1.0	2.97	80.1	79.0	7.9	104	128	146	172	194	226	256	298	320	354	.7	1.1
8	3	64.5	do	.075	4.2	2.07	85.2	79.6	11.5	88	96	111	138	157	210	259	338	371	410	1.0	2.9
9	1	64.1	do	.054	4.0	1.82	86.6	80.5	13.3	86	100	118	142	164	212	258	326	358	394	.9	2.3
10	1	62.2	do	.080	1.8	1.60	86.0	78.5	12.0	84	90	114	140	166	219	276	332	357	399	1.0	4.0
11	1	65.0	do	.095	6.0	2.37	83.0	78.0	11.3	88	107	122	146	169	216	256	312	336	386	.9	2.1
12	7	63.5	do	.061	3.4	1.61	85.7	79.5	10.5	88	102	118	145	168	211	259	335	371	411	1.1	2.2
13	7	63.3	do	.071	3.9	1.69	85.8	79.3	11.0	88	106	121	148	173	217	262	337	371	413	1.0	2.0
14	6	63.8	do	.044	1.9	.87	88.4	80.8	13.2	85	92	105	128	150	198	246	327	370	412	1.0	3.1
15	5	63.0	do	.060	1.0	1.57	85.7	79.5	10.4	89	104	120	147	172	220	266	338	364	400	1.1	1.9
Average	-	64.0	Neg.	0.071	2.5	2.01	85.4	79.7	11.3	89	102	119	144	167	212	257	326	357	397	1.0	2.3
Minimum	-	61.3	-	0.034	0.9	0.87	80.1	78.0	7.9	81	86	105	128	150	187	221	289	320	354	0.7	1.0
Maximum	-	68.3	-	.137	6.0	2.97	88.4	82.4	13.3	104	128	146	172	194	230	280	347	371	413	1.1	4.0
Samples	70																				

Premium-price gasoline

16	3	63.8	Neg.	0.083	2.1	2.52	91.3	82.7	11.7	87	96	112	136	159	208	264	344	377	417	1.0	2.7
17	1	63.7	do	.049	4.0	1.01	88.7	81.2	13.5	84	94	110	136	166	222	274	358	386	420	.8	3.2
18	1	56.9	do	.080	1.2	2.82	91.0	83.5	10.0	90	95	119	151	182	224	266	324	367	397	1.0	4.0
19	1	66.5	do	.103	9.0	2.96	88.2	81.6	12.9	94	99	110	129	148	192	242	318	350	390	1.0	3.0
20	1	60.2	-	.018	3.0	2.29	90.9	81.9	10.3	93	109	124	153	178	223	262	333	365	394	1.1	1.5
21	6	65.7	Neg.	.061	3.5	1.75	92.5	82.5	10.4	94	105	120	139	157	192	231	309	349	405	1.0	2.0
22	8	63.1	do	.075	3.0	2.19	90.5	82.5	10.9	89	103	118	141	164	210	257	334	366	405	1.0	1.9
23	5	62.0	do	.042	2.2	2.05	91.4	81.9	9.9	92	103	118	143	167	215	258	321	349	381	1.1	2.6
24	10	61.6	do	.054	2.0	2.10	90.5	82.5	9.0	95	112	126	150	172	216	269	344	362	382	1.2	1.0
25	11	63.4	do	.066	.9	2.16	91.3	81.7	11.0	89	102	117	139	161	205	251	315	344	383	1.0	1.9
26	2	62.9	do	.095	3.9	2.88	91.1	81.9	13.6	82	89	104	133	159	214	271	351	378	409	1.1	4.2
27	12	64.6	do	.136	2.8	2.93	91.5	83.1	11.2	86	99	112	133	156	206	253	323	355	390	1.1	1.8
28	3	62.5	do	.064	2.5	2.23	90.6	81.9	10.9	91	104	120	147	170	215	257	330	361	398	1.2	1.8
Average	-	62.8	Neg.	0.071	3.1	2.30	90.7	82.2	11.2	90	101	116	141	165	211	258	331	362	398	1.0	2.4
Minimum	-	56.9	-	0.018	0.9	1.01	88.2	81.2	9.0	82	89	104	129	148	192	231	309	344	381	0.8	1.0
Maximum	-	66.5	-	.136	9.0	2.96	92.5	83.5	13.6	95	112	126	153	182	224	274	358	386	420	1.2	4.2
Samples	64																				

District 6

TABLE 1.- Motor-gasoline survey, winter 1950-51
(Average values of different brands)

North Illinois area: northern Indiana, northern Illinois, eastern Iowa, and Wisconsin

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	Percent evaporated 5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
1	1	70.1	Neg.	0.114	1.0	2.02	80.0	80.0	15.5	80	88	98	112	130	178	232	300	328	368	1.2	2.6
2	16	64.3	do	.062	1.3	2.11	83.5	79.0	12.0	87	97	112	141	167	214	258	331	363	409	1.1	3.5
3	2	62.7	do	.100	2.5	1.96	82.9	76.4	11.2	87	100	114	142	172	224	275	343	369	399	1.2	2.5
4	6	63.6	do	.065	2.8	1.73	83.4	78.1	11.8	87	100	114	139	164	216	265	337	367	406	1.3	2.2
5	2	64.0	do	.049	(oily)	1.26	82.7	78.3	11.5	90	102	115	138	164	216	265	347	378	420	1.5	2.1
6	1	65.3	do	.053	3.8	1.23	84.2	79.0	12.8	86	100	110	130	151	202	257	336	358	410	1.5	2.5
7	18	65.5	do	.078	1.3	1.68	83.3	78.4	12.4	84	93	107	132	158	208	251	317	349	396	1.0	3.1
8	1	66.0	do	.058	3.0	2.59	84.5	81.0	9.0	98	113	133	156	179	221	269	352	379	409	1.0	1.0
9	14	63.9	do	.056	2.3	1.43	83.8	78.7	10.7	87	103	119	145	171	216	259	330	363	401	1.0	2.2
10	20	66.1	do	.123	1.5	1.72	83.3	77.9	12.2	85	94	107	127	150	199	251	318	346	384	1.0	2.6
11	14	67.1	do	.048	2.2	1.40	83.3	78.6	13.6	81	89	99	115	135	190	253	331	365	417	1.2	2.9
12	18	62.7	do	.071	1.3	1.56	83.4	78.0	10.8	88	103	117	144	171	219	265	330	355	387	.9	2.3
13	4	63.7	do	.041	1.5	1.52	83.0	77.9	10.7	93	106	120	145	173	219	263	337	365	403	1.1	2.6
14	4	64.2	do	.049	2.0	1.28	83.2	78.6	11.2	86	100	112	134	159	208	255	333	367	412	1.1	2.3
15	1	65.3	do	.074	2.0	1.38	82.8	79.2	12.7	88	98	109	131	156	208	258	332	366	406	1.0	1.3
Average	-	65.0	Neg.	0.069	2.0	1.66	83.2	78.6	11.9	87	99	112	135	160	209	258	332	361	402	1.1	2.4
Minimum	-	62.7	-	0.041	1.0	1.23	80.0	76.4	9.0	80	88	98	112	130	178	232	300	328	368	0.9	1.0
Maximum	-	70.1	-	.123	3.8	2.59	84.5	81.0	15.5	98	113	133	156	179	224	275	352	379	420	1.5	3.5
Samples	122																				

Premium-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	I.B.P.	5	10	20	30	50	70	90	95	End point	Resid.	Loss
16	1	66.3	Neg.	0.048	3.1	2.05	89.5	82.4	12.5	91	100	109	126	145	191	244	330	366	431	1.5	2.0
17	18	64.2	do	.080	1.1	2.15	89.8	82.1	12.6	84	93	106	130	154	206	258	340	372	410	1.1	3.0
18	14	65.2	do	.061	2.9	1.73	90.5	82.1	10.4	90	106	120	140	159	198	238	315	354	405	1.0	1.8
19	20	64.6	do	.110	1.1	2.47	89.7	82.1	12.2	84	95	106	126	148	200	254	326	355	390	1.0	2.5
20	15	65.5	do	.038	1.8	1.80	90.3	83.0	13.8	82	90	100	118	138	191	255	343	378	424	1.1	2.7
21	18	63.0	do	.038	2.6	2.25	90.1	83.0	10.6	89	104	118	140	163	209	255	328	354	383	.9	1.9
22	4	64.5	do	.049	3.0	2.28	90.3	82.2	10.2	96	110	124	144	166	209	254	331	362	409	1.2	1.9
23	5	62.2	do	.054	1.2	1.99	89.9	82.6	12.1	87	99	110	126	146	189	239	322	360	410	1.0	2.1
24	1	66.5	do	.057	2.0	2.43	90.0	83.2	12.7	86	99	110	126	142	188	236	316	354	410	1.0	1.0
25	2	65.6	do	.051	(oily)	2.17	89.9	82.8	12.1	89	99	109	127	147	194	245	332	368	419	1.4	2.2
26	5	64.9	do	.051	3.0	2.04	89.8	82.3	11.9	88	99	111	131	153	199	247	328	369	406	1.2	1.8
27	2	63.9	do	.070	3.0	2.10	89.3	80.4	11.2	86	100	115	140	167	216	259	330	361	400	1.0	2.6
28	16	62.8	do	.058	2.4	2.38	89.8	82.6	11.7	87	98	111	133	157	208	268	347	376	406	1.0	2.8
Average	-	64.6	Neg.	0.059	2.3	2.14	89.9	82.4	11.8	88	99	111	131	153	200	250	330	364	408	1.1	2.2
Minimum	-	62.2	-	0.038	1.1	1.73	89.3	80.4	10.2	82	90	100	118	138	188	236	315	354	383	0.9	1.0
Maximum	-	66.5	-	.110	3.1	2.47	90.5	83.2	13.8	96	110	124	144	167	216	268	347	378	431	1.5	3.0
Samples	121																				

District 7

TABLE 1.- Motor-gasoline survey, winter 1950-51
(Average values of different brands)

Central Mississippi area: western Kentucky, southern Indiana, southern Illinois, and eastern Missouri

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
1	3	60.6	Neg.	0.084	2.0	2.96	82.8	79.0	11.3	90	104	124	158	192	243	296	366	410	440	0.9	2.7
2	15	61.8	do	.063	1.6	2.19	84.6	79.4	10.2	90	105	121	149	176	227	276	335	357	389	1.0	2.0
3	1	61.7	do	.064	1.0	1.68	84.6	80.5	11.0	90	104	126	160	188	240	288	362	392	424	1.0	3.0
4	16	65.7	do	.096	1.7	1.61	83.2	78.1	12.5	85	94	109	133	157	206	249	315	350	394	1.2	2.8
5	1	61.2	do	.070	(Oily)	2.36	82.0	79.0	9.6	90	108	126	158	184	232	278	352	380	436	1.2	1.8
6	1	62.4	do	.082	(Oily)	2.73	82.4	80.7	11.2	96	108	120	142	168	231	284	358	388	410	.9	1.3
7	10	63.0	do	.075	1.9	2.09	85.2	79.3	11.4	89	99	116	145	172	223	274	346	375	412	1.0	2.5
8	1	62.9	do	.066	1.0	1.93	84.3	80.7	12.0	90	102	122	156	184	234	282	356	386	424	1.1	2.7
9	15	65.1	do 1/	.078	2.0	1.69	83.1	78.3	12.2	86	95	110	135	161	213	263	331	360	393	1.0	2.8
10	4	64.1	do	.045	(Oily)	1.61	84.8	79.0	11.6	92	104	116	142	168	220	266	328	352	400	1.0	2.0
11	1	63.7	do	.055	.6	1.90	82.9	78.9	11.4	91	98	115	145	168	217	259	325	375	415	1.0	2.0
12	1	67.4	do	.030	1.0	2.94	82.4	81.0	13.1	88	98	112	132	152	202	250	316	340	368	.8	2.7
13	7	65.7	do	.051	2.2	1.55	83.2	79.0	11.9	86	96	112	135	158	209	260	330	364	415	1.1	2.6
14	1	63.3	do	.050	1.0	2.26	75.2	76.0	7.6	100	124	142	166	192	234	268	312	330	362	.7	1.3
15	3	64.0	do	.063	.2	1.95	86.9	79.2	10.5	95	105	120	147	171	219	263	340	375	407	1.0	2.0
16	1	64.0	do	.047	1.0	2.08	83.6	79.4	11.5	86	104	117	143	169	218	260	332	362	423	1.3	2.2
17	7	63.1	do	.059	2.7	1.81	83.8	79.2	10.7	88	102	121	150	176	224	270	336	366	407	1.0	2.5
18	1	69.0	do	.004	1.2	2.59	81.7	81.1	10.5	92	104	116	133	151	193	243	316	344	388	1.4	1.6
19	9	63.6	do	.058	1.5	1.95	83.9	79.2	11.5	88	100	115	142	168	216	261	332	368	422	1.1	2.6
20	2	64.6	do	.076	1.0	1.92	83.8	79.0	12.4	86	100	112	131	156	206	253	340	380	420	1.0	1.5
Average	-	63.8	Neg.	0.061	1.4	2.09	83.2	79.3	11.2	90	103	119	145	171	220	267	336	368	407	1.0	2.2
Minimum	-	60.6	-	0.004	0.2	1.55	75.2	76.0	7.6	85	94	109	131	151	193	243	312	330	362	0.7	1.3
Maximum	-	69.0	-	.096	2.7	2.96	86.9	81.1	13.1	100	124	142	166	192	243	296	366	410	440	1.4	3.0
Samples	100																				

Premium-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
21	1	61.5	Neg.	0.065	(Oily)	2.56	88.3	82.4	9.8	92	110	126	149	174	224	274	356	388	432	1.3	2.2
22	16	64.3	do	.096	1.3	2.23	90.0	82.1	12.3	85	94	108	131	154	202	251	335	371	412	1.0	2.9
23	1	60.4	do	.064	3.0	2.00	89.7	81.0	11.1	92	106	124	154	182	234	288	366	398	428	1.1	2.4
24	15	61.6	do	.051	2.7	2.47	90.2	82.7	9.6	92	110	124	146	169	217	268	336	361	389	1.0	1.3
25	3	59.3	do	.075	2.0	2.88	88.7	80.7	11.0	86	98	114	144	176	242	300	382	412	450	.9	2.6
26	2	62.6	do	.078	2.0	1.81	89.7	81.2	11.9	88	98	110	132	156	208	262	348	380	416	1.0	1.8
27	9	63.1	do	.067	2.9	1.93	89.8	82.4	11.5	87	100	113	136	160	210	264	348	384	423	1.1	2.1
28	1	67.4	do	.016	1.6	2.50	88.4	84.4	11.5	88	100	109	122	136	176	236	327	362	413	1.6	1.4
29	7	62.3	do	.063	3.1	1.17	90.0	81.6	10.7	87	101	115	140	167	220	271	344	374	414	1.2	2.5
30	1	61.6	do	.050	.8	2.07	90.5	82.6	11.4	86	102	116	139	163	212	268	355	384	421	1.4	1.6
31	3	63.5	do	.060	.8	1.69	88.6	82.7	11.2	93	98	112	135	157	208	256	344	380	422	1.0	3.0
32	7	64.7	do	.044	1.1	2.19	90.1	83.2	12.1	85	96	108	129	150	199	260	345	380	422	1.1	2.2
33	1	61.0	do	.047	2.0	2.64	91.6	83.4	12.9	88	102	114	135	162	220	280	354	382	404	1.0	2.0
34	1	63.0	do	.057	.4	1.78	89.8	82.6	11.3	93	97	110	133	157	207	260	345	380	430	1.0	2.0
35	4	65.4	do	.034	(Oily)	2.24	91.2	83.6	10.2	90	107	121	140	160	200	242	302	326	366	1.0	2.0
36	15	64.4	do	.095	1.8	2.72	90.1	82.2	12.1	86	97	109	131	156	207	256	325	354	390	.9	2.2
37	1	60.8	do	.047	2.0	2.18	90.6	82.5	11.0	88	97	114	142	170	230	288	366	396	426	1.0	3.0
38	9	61.2	do	.055	2.0	2.20	90.5	81.9	11.3	88	99	116	142	170	227	284	362	392	421	1.0	2.3
Average	-	62.7	Neg.	0.059	1.8	2.18	89.9	82.4	11.3	89	101	115	138	162	214	267	347	378	416	1.1	2.2
Minimum	-	59.3	-	0.016	0.4	1.17	88.3	80.7	9.6	85	94	108	122	136	176	236	302	326	366	0.9	1.3
Maximum	-	67.4	-	.096	3.1	2.88	91.6	84.4	12.9	93	110	126	154	182	242	300	382	412	450	1.6	3.0
Samples	97																				

1/ One sample positive to corrosion test.

District 8

TABLE 1.- Motor-gasoline survey, winter 1950-51
(Average values of different brands)

Lower Mississippi area: Mississippi, Louisiana, eastern and southern Arkansas, and western Tennessee

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	Percent evaporated 5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
1	1	59.8	Neg.	0.103	3.0	2.97	80.4	77.6	7.5	106	129	146	173	197	238	278	334	360	400	0.9	1.1
2	10	62.6	do	.043	3.3	2.06	85.9	80.4	9.6	95	108	124	148	170	214	258	330	363	399	1.0	2.0
3	1	64.0	do	.019	1.0	2.87	84.5	80.0	11.2	88	100	115	144	173	227	272	330	354	382	1.0	3.0
4	2	60.6	-	.102	1.6	2.12	85.4	79.4	10.4	97	108	125	152	175	226	269	349	379	410	1.0	2.5
5	1	68.3	Neg.	.014	(oily)	2.25	83.7	82.0	8.9	92	106	117	134	148	186	230	290	320	370	.8	1.2
6	18	62.9	do	.062	3.3	1.58	86.0	80.3	9.1	97	111	127	150	174	218	266	332	362	414	1.1	1.3
7	3	64.0	do	.077	4.0	1.38	84.5	79.6	8.9	95	111	123	143	165	209	257	336	377	422	1.0	1.0
8	13	59.5	do	.075	.3	2.08	85.8	79.4	9.0	94	116	136	164	190	235	276	336	366	399	1.1	1.9
9	10	63.8	do	.081	2.6	2.56	85.3	80.4	9.4	94	109	125	148	171	215	257	317	348	388	1.0	2.0
10	5	62.6	do	.044	2.0	2.76	85.7	82.0	9.4	98	122	134	156	176	218	262	318	346	390	.9	.8
11	7	65.0	do	.077	1.0	2.55	84.2	79.7	10.1	89	105	122	147	171	217	264	320	349	387	1.0	2.0
12	2	62.9	do	.080	1.1	2.34	86.9	80.4	11.1	90	108	125	152	177	224	265	329	359	394	1.1	2.0
13	1	63.7	do	.060	2.0	2.41	86.2	82.0	10.0	92	110	125	148	168	208	252	320	354	398	1.1	1.1
Average	-	63.1	Neg.	0.064	2.1	2.31	85.0	80.2	9.6	94	111	126	151	173	218	262	326	357	396	1.0	1.7
Minimum	-	59.5	-	0.014	0.3	1.38	80.4	77.6	7.5	88	100	115	134	148	186	230	290	320	370	0.8	0.8
Maximum	-	68.3	-	.103	4.0	2.97	86.9	82.0	11.2	106	129	146	173	197	238	278	349	379	422	1.1	3.0
Samples	74																				

Premium-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	I.B.P.	5	10	20	30	50	70	90	95	End point	Resid.	Loss
14	10	62.2	Neg.	0.064	2.8	2.40	91.1	83.3	10.0	91	107	119	140	161	210	264	331	359	395	1.0	1.7
15	5	60.9	do	.058	2.0	2.57	91.5	83.6	10.2	90	108	123	146	170	223	268	348	382	414	1.0	2.0
16	7	64.8	do	.073	.6	2.56	89.3	82.5	9.8	93	108	121	142	160	202	248	312	341	397	1.0	1.3
17	2	62.0	do	.083	1.7	2.40	91.4	81.6	11.3	93	106	122	140	167	215	265	349	381	412	1.0	2.2
18	1	61.9	do	.072	2.0	2.47	88.9	82.6	9.8	94	116	128	148	170	220	268	344	378	420	.9	1.1
19	13	60.2	do	.051	2.4	2.22	92.0	82.4	7.9	101	123	136	158	178	219	262	322	350	387	1.0	1.3
20	3	63.2	do	.092	4.0	1.95	89.5	83.0	9.8	91	111	123	144	165	213	264	341	379	422	1.0	1.1
21	17	64.8	do	.053	(oily)	1.95	91.5	83.0	9.0	95	115	128	146	164	201	244	308	337	390	1.1	1.2
22	1	65.3	do	.023	(oily)	1.96	89.0	83.3	9.6	93	103	117	134	150	189	234	300	343	407	1.0	2.0
23	2	60.1	-	.097	1.2	2.26	89.7	82.7	9.9	90	105	118	140	163	212	264	342	367	397	1.0	2.0
24	1	64.8	Neg.	.028	3.0	2.93	89.4	81.9	10.7	87	100	112	133	158	220	278	343	366	398	1.1	.9
25	10	61.5	do	.038	2.7	1.73	91.7	83.5	9.4	94	104	118	140	160	208	258	320	359	403	1.1	1.9
26	1	61.5	do	.039	1.0	2.97	86.5	82.0	10.0	92	104	118	144	172	220	268	338	368	410	.9	2.1
Average	-	62.6	Neg.	0.059	2.1	2.34	90.1	82.7	9.8	93	108	122	143	164	212	260	331	362	404	1.0	1.6
Minimum	-	60.1	-	0.023	0.6	1.73	86.5	81.6	7.9	87	100	112	133	150	189	234	300	337	387	0.9	0.9
Maximum	-	65.3	-	.097	4.0	2.97	92.0	83.6	11.3	101	123	136	158	178	223	278	349	382	422	1.1	2.2
Samples	73																				

District 9

TABLE 1.- Motor-gasoline survey, winter 1950-51
(Average values of different brands)

North Plains area: Minnesota, North Dakota, and South Dakota

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) Percent evaporated I.B.P.	5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
1	1	64.0	Neg.	0.041	1.3	1.29	82.0	77.6	10.8	88	104	120	144	170	221	269	339	368	413	1.4	2.1
2	6	64.6	do	.041	1.8	1.40	82.9	78.5	11.7	86	100	114	139	167	221	269	335	365	405	1.2	2.5
3	1	69.1	do	.064	2.0	2.96	81.6	80.8	14.4	86	93	102	118	140	198	266	334	360	392	.8	2.7
4	6	64.5	do	.044	2.4	1.42	82.2	78.1	10.9	90	102	118	144	171	221	268	334	363	402	.8	1.7
5	2	66.3	do	.044	2.1	1.55	82.5	78.3	11.7	88	103	113	131	151	199	260	336	367	411	1.2	1.9
6	5	63.7	do	.045	2.2	1.68	82.7	78.4	10.4	87	103	117	142	169	221	269	337	366	405	1.1	2.2
7	1	64.3	do	.031	(Oily)	1.53	82.1	78.7	11.4	94	108	121	144	172	226	274	337	364	410	.7	1.3
8	6	65.2	do	.039	2.0	1.60	82.7	78.5	11.5	85	99	111	131	154	205	260	330	367	406	1.1	2.1
9	6	66.5	do	.143	1.0	1.69	82.9	77.3	12.3	87	98	108	127	148	199	251	317	344	384	.9	2.2
10	6	66.1	do	.056	1.3	1.59	82.5	78.9	11.8	86	99	111	130	151	202	259	337	368	407	1.3	1.7
11	2	63.9	do	.059	1.6	1.32	82.6	78.2	10.8	91	105	119	142	168	219	268	336	365	402	1.0	1.8
12	1	63.8	do	.083	(Oily)	1.05	81.1	77.4	10.9	90	104	118	142	170	224	268	336	360	404	1.3	1.7
13	1	64.3	do	.031	1.7	1.46	81.5	78.1	11.1	92	108	119	142	167	220	269	331	362	409	1.5	2.0
Average	-	65.1	Neg.	0.055	1.8	1.58	82.3	78.4	11.5	88	102	115	137	161	214	265	334	363	404	1.1	2.0
Minimum	-	63.7	-	0.031	1.0	1.05	81.1	77.3	10.4	85	93	102	118	140	198	251	317	344	384	0.7	1.3
Maximum	-	69.1	-	.143	2.4	2.96	82.9	80.8	14.4	94	108	121	144	172	226	274	339	368	413	1.5	2.7
Samples	44																				

Premium-price gasoline

14	1	63.5	Neg.	0.031	2.5	2.60	90.0	83.4	10.0	94	108	121	143	167	219	271	346	374	419	1.5	1.5
15	1	60.5	do	.087	(Oily)	.75	89.2	81.4	11.1	86	100	113	137	164	225	286	351	376	410	1.4	2.1
16	2	62.3	do	.061	2.0	2.14	90.2	82.5	10.7	95	108	122	149	175	227	276	344	369	409	1.1	2.0
17	6	63.5	do	.050	5.3	2.40	89.3	82.7	11.1	86	100	114	137	164	220	274	344	373	412	1.1	1.9
18	6	64.8	do	.143	1.2	2.64	89.3	81.7	12.0	86	98	109	128	149	202	256	327	356	387	1.0	2.2
19	6	61.8	do	.039	2.9	1.90	89.2	82.2	9.6	93	110	123	146	171	220	270	333	360	386	.9	1.3
20	1	62.8	do	.030	(Oily)	2.63	89.4	83.5	11.1	91	106	119	144	173	226	277	348	376	419	1.8	2.2
21	5	62.8	do	.030	2.1	2.62	90.2	83.3	10.9	87	100	113	138	168	224	276	345	370	410	1.1	2.7
22	1	61.8	do	.040	1.1	2.43	90.3	82.7	10.3	95	110	123	150	179	230	276	337	364	408	1.4	2.1
23	6	63.1	do	.070	1.2	2.24	90.2	82.4	11.6	89	101	117	142	166	217	268	348	379	414	1.1	2.4
24	1	63.0	do	.041	1.0	2.36	89.2	83.4	11.5	92	104	118	146	172	224	272	335	366	404	.6	2.4
25	6	62.8	do	.041	2.9	2.72	89.9	83.7	10.3	92	109	120	143	168	219	270	343	373	409	1.1	1.4
26	2	63.7	do	.068	1.4	2.71	90.1	82.8	11.1	89	103	115	136	162	215	268	343	371	406	1.2	1.6
Average	-	62.8	Neg.	0.056	2.1	2.32	89.7	82.7	10.9	90	104	117	141	168	221	272	342	370	407	1.2	2.0
Minimum	-	60.5	-	0.030	1.0	0.75	89.2	81.4	9.6	86	98	109	128	149	202	256	327	356	386	0.6	1.3
Maximum	-	64.8	-	.143	5.3	2.72	90.3	83.7	12.0	95	110	123	150	179	230	286	351	379	419	1.8	2.7
Samples	44																				

District 10

TABLE 1.- Motor-gasoline survey, winter 1950-51
(Average values of different brands)

Central Plains area: Nebraska, central and western Iowa, northwestern Missouri, and northern Kansas

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	Percent evaporated 5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
1	1	66.0	Neg.	0.035	(Oily)	1.50	82.2	78.3	11.8	87	100	112	134	158	214	268	335	364	414	1.5	2.0
2	11	63.6	do	.055	2.1	2.00	83.0	78.9	10.6	89	107	123	148	173	219	265	333	360	410	.9	1.8
3	11	66.3	do	.038	1.7	2.46	82.2	79.5	11.8	87	98	113	135	162	216	261	328	358	400	1.1	3.1
4	6	67.0	do	.038	1.3	1.80	82.2	78.9	11.6	86	100	110	130	153	204	257	326	358	403	1.3	2.2
5	11	65.6	do	.038	.9	1.93	82.5	78.2	11.0	85	99	114	136	159	211	261	330	360	399	1.0	2.4
6	6	62.5	do	.063	3.0	2.02	82.9	78.3	10.2	94	112	128	153	177	221	265	334	367	422	1.0	1.3
7	12	69.5	do	.043	1.7	1.91	82.8	79.1	12.8	87	93	104	121	138	185	240	321	356	402	1.0	3.0
8	13	67.1	do	.048	1.2	1.39	82.8	78.1	12.3	86	95	108	129	152	198	245	311	339	381	1.0	2.9
9	2	65.0	do	.040	1.2	1.50	82.1	77.8	11.5	89	101	115	139	165	217	264	334	362	402	1.2	2.6
Average	-	65.8	Neg.	0.044	1.6	1.83	82.5	78.6	11.5	88	101	114	136	160	209	258	328	358	404	1.1	2.4
Minimum	-	62.5	-	0.035	0.9	1.39	82.1	77.8	10.2	85	93	104	121	138	185	240	311	339	381	0.9	1.3
Maximum	-	69.5	-	.063	3.0	2.46	83.0	79.5	12.8	94	112	128	153	177	221	268	335	367	422	1.5	3.1
Samples	73																				

Premium-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	Percent evaporated 5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
10	6	62.8	Neg.	0.037	2.1	2.84	89.9	83.7	10.3	86	102	117	142	171	220	271	349	376	413	1.4	2.1
11	1	69.6	do	.044	2.0	2.02	89.0	82.7	13.1	84	94	107	124	143	187	235	305	340	366	.4	1.6
12	11	63.2	do	.041	1.5	2.88	90.0	83.7	11.6	87	100	115	137	163	217	272	349	378	415	1.1	2.3
13	12	61.8	do	.042	3.1	1.99	90.4	83.1	9.8	91	105	119	142	164	217	274	344	372	411	.9	1.7
14	1	63.0	do	.038	(Oily)	2.56	90.8	83.4	11.6	85	102	116	140	168	220	267	347	378	419	1.6	2.4
15	2	62.9	do	.043	2.0	2.66	90.5	83.5	11.4	90	98	113	139	167	219	270	351	381	420	1.3	3.5
16	13	66.0	do	.054	1.6	2.83	89.9	83.1	12.3	87	96	110	132	154	202	250	322	350	385	.9	2.8
17	13	68.1	do	.046	1.4	2.10	89.1	83.1	12.9	85	93	104	121	140	186	242	324	356	397	1.0	2.9
18	6	60.8	do	.044	3.3	1.98	90.1	83.6	10.0	95	111	125	146	169	221	276	347	374	413	1.1	1.3
19	11	64.6	do	.040	1.5	1.58	89.9	82.2	11.6	87	98	113	135	158	202	247	319	349	391	.9	2.7
Average	-	64.3	Neg.	0.043	2.1	2.34	90.0	83.2	11.5	88	100	114	136	160	209	260	336	365	403	1.1	2.3
Minimum	-	60.8	-	0.037	1.4	1.58	89.0	82.2	9.8	84	93	104	121	140	186	235	305	340	366	0.4	1.3
Maximum	-	69.6	-	.054	3.3	2.88	90.8	83.7	13.1	95	111	125	146	171	221	276	351	381	420	1.6	3.5
Samples	76																				

District 11

TABLE 1.- Motor-gasoline survey, winter 1950-51
(Average values of different brands)

South Plains area: southern Kansas, southwestern Missouri, western Arkansas, Oklahoma, and northern Texas

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
										Percent evaporated											
1	1	61.5	Neg.	0.035	2.0	2.82	81.1	76.4	9.8	90	107	128	160	190	239	287	349	370	394	0.9	2.1
2	1	64.9	do	.037	2.0	2.94	82.4	79.4	10.8	92	107	121	146	172	218	256	316	345	389	.9	1.2
3	2	63.7	do	.050	2.5	1.51	83.2	77.6	11.2	90	100	113	139	165	218	272	345	379	421	.8	2.3
4	2	64.7	do	.029	2.5	2.64	82.7	78.5	10.4	92	103	120	148	172	215	264	311	332	368	.9	2.4
5	1	66.3	do	.032	3.0	2.03	82.4	78.4	11.1	90	105	120	143	166	212	251	303	323	358	.8	1.2
6	1	65.1	do	.031	2.0	2.84	80.0	77.2	10.4	93	106	123	151	175	219	258	308	323	354	.8	2.0
7	9	63.5	do	.045	2.0	1.78	82.1	77.6	11.0	89	100	118	149	181	230	274	337	365	394	.7	2.6
8	1	67.2	do	.019	5.0	2.21	79.5	78.8	11.0	91	102	114	135	154	197	249	337	365	398	.8	2.2
9	11	65.1	do	.034	(Oily)	1.54	82.8	78.5	10.9	90	102	117	140	165	211	258	330	365	414	1.0	2.6
10	1	62.4	do	.043	4.0	2.99	84.7	79.7	9.7	94	115	131	159	185	229	275	333	360	390	.8	1.2
11	2	62.5	do	.044	3.5	.96	80.7	76.8	10.2	88	103	121	149	173	218	264	342	358	403	1.0	2.0
12	17	64.5	do	.071	1.7	2.90	82.4	78.9	10.7	93	110	126	152	180	231	274	328	354	386	1.0	1.9
13	1	66.1	do	.056	8.0	2.32	78.3	77.2	11.5	93	105	120	145	170	216	256	306	330	366	1.0	2.0
14	17	61.8	do	.064	3.3	2.06	84.7	79.2	9.8	93	111	125	150	174	217	258	324	352	402	.9	1.6
15	2	63.4	do	.063	3.0	1.49	82.7	76.9	11.5	86	97	110	136	167	223	279	349	375	399	.9	1.4
16	14	63.9	do	.025	2.0	1.93	82.9	79.2	10.7	91	106	121	145	169	216	262	330	361	395	.9	1.9
17	2	67.0	do	.052	.5	2.80	80.6	78.1	12.3	91	100	112	135	160	213	265	327	358	385	.8	2.2
18	13	65.9	do	.025	2.0	2.01	82.3	78.7	11.2	91	105	120	141	164	208	258	323	352	387	1.0	2.0
19	1	63.8	do	.030	1.0	2.41	80.8	78.5	10.2	91	106	123	154	185	230	273	338	369	402	1.0	2.0
20	1	64.8	do	.030	3.0	1.86	80.0	77.2	10.7	90	109	125	149	174	228	276	337	356	385	.5	1.5
21	6	66.0	do	.080	1.0	2.20	81.8	77.1	11.1	82	101	113	132	152	197	243	299	329	370	.8	1.2
22	2	68.7	do	.053	1.0	2.37	81.2	78.3	11.5	88	99	113	132	154	196	241	301	327	376	.9	2.1
23	18	60.2	do	.064	3.0	2.09	83.6	78.7	9.6	91	110	128	157	186	235	278	339	364	394	.9	2.0
24	1	64.9	-	-	-	3.12	80.8	79.6	9.4	100	118	136	160	184	230	272	323	346	386	1.0	1.8
25	8	60.4	Neg.	.090	7.0	1.97	85.9	80.3	10.4	99	112	124	148	176	228	281	354	384	426	1.0	1.2
26	3	60.8	do	.087	2.0	2.47	83.5	79.3	9.5	95	116	131	158	184	236	284	350	375	405	1.0	1.2
27	5	62.7	do	.042	2.0	2.50	84.7	79.8	10.5	96	115	133	160	185	229	270	329	356	384	1.0	1.4
28	4	64.8	do	.063	1.0	2.24	82.4	78.2	11.3	93	100	116	146	172	217	264	320	351	380	.7	2.7
29	10	62.5	do	.030	4.0	2.38	82.3	77.6	10.5	98	113	131	158	184	233	278	334	358	390	1.0	1.3
Average	-	64.1	Neg.	0.047	2.7	2.25	82.2	78.3	10.7	92	106	122	147	173	220	266	328	355	390	0.9	1.8
Minimum	-	60.2	-	0.019	0.5	0.96	78.3	76.4	9.4	82	97	110	132	152	196	241	299	323	354	0.5	1.2
Maximum	-	68.7	-	.090	8.0	3.12	85.9	79.7	12.3	100	118	136	160	190	239	287	354	384	426	1.0	2.7
Samples	157																				

Premium-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	I.B.P.	5	10	20	30	50	70	90	95	End point	Resid.	Loss
30	2	63.6	Neg.	0.058	7.0	2.37	90.2	80.8	11.3	86	94	107	135	166	223	276	353	380	403	1.0	2.3
31	14	63.5	do	.041	4.0	2.48	89.8	84.7	10.6	88	102	116	138	163	215	266	338	367	401	1.0	1.9
32	2	64.6	do	.087	2.0	2.92	86.9	80.1	10.5	92	107	119	140	162	215	280	351	376	404	.7	1.3
33	13	65.6	do	.036	4.0	2.56	89.1	82.4	11.6	88	101	116	137	159	207	260	329	357	391	1.0	1.8
34	1	65.2	do	.043	1.0	1.61	87.8	83.1	9.9	87	107	122	149	177	225	284	334	369	410	.7	1.3
35	1	65.8	do	.069	1.0	2.11	86.4	79.1	10.1	88	105	118	140	159	206	254	325	347	382	.8	1.2
36	6	65.6	do	.080	1.0	2.92	88.2	79.8	11.5	82	93	103	123	145	201	262	326	348	386	.8	2.4
37	2	66.3	do	.087	2.0	2.87	87.6	80.5	12.1	85	98	110	130	151	207	264	328	355	397	.7	2.9
38	18	60.8	do	.049	3.5	2.49	91.0	82.8	8.9	97	115	130	153	173	219	268	334	358	389	.9	1.4
39	1	63.5	-	-	-	3.32	87.4	83.2	10.0	105	126	142	170	197	237	277	335	356	383	1.0	2.1
40	8	63.0	Neg.	.049	8.0	2.32	93.3	83.5	9.3	99	115	129	146	164	198	240	307	338	388	1.0	1.6
41	3	62.7	do	.088	2.0	2.16	92.3	84.2	10.6	91	106	117	135	154	206	269	346	375	407	1.1	1.5
42	5	61.2	do	.074	4.0	2.98	92.8	83.2	9.8	100	114	126	145	167	214	263	336	366	407	1.0	1.0
43	4	64.4	do	.057	1.5	2.87	88.7	81.5	11.3	87	99	113	138	162	216	260	324	354	390	.9	2.7
44	10	62.8	do	.035	2.0	2.72	89.9	82.2	10.5	95	111	125	149	175	223	264	331	356	391	1.0	1.4
45	17	60.7	do	.026	3.5	1.98	92.3	84.8	10.0	91	105	116	133	153	205	272	347	371	399	.9	1.2
46	17	63.1	do	.066	2.7	2.82	90.3	82.7	10.8	89	107	121	141	165	217	272	347	368	400	.9	1.5
47	2	60.2	do	.021	4.0	2.91	87.1	80.5	9.3	93	109	127	152	179	233	285	346	375	409	1.1	1.5
48	1	60.0	do	.032	3.0	2.68	92.7	82.7	9.7	91	110	122	146	170	223	281	353	380	415	1.1	1.1
49	11	62.3	do	.041	(Oily)	2.64	89.9	83.0	10.5	90	104	120	146	174	225	275	351	386	441	1.2	2.1
50	1	66.4	do	.058	5.0	3.00	88.0	81.1	10.9	91	103	116	133	149	194	247	336	366	397	1.0	1.2
51	8	65.4	do	.032	3.3	2.42	90.1	83.7	11.8	88	99	115	141	168	216	253	317	348	399	.8	2.7
52	1	64.2	do	.062	4.0	3.03	86.9	80.5	12.1	87	99	114	141	166	214	259	315	337	368	.9	2.1
53	1	66.0	do	.047	3.0	1.46	88.0	80.3	13.1	83	91	103	125	147	203	257	310	326	362	.8	1.8
54	1	63.2	do	.099	14.0	2.89	89.4	79.7	10.8	88	101	120	149	177	228	269	318	340	376	.9	1.9
55	2	63.7	do	.048	4.0	2.63	89.8	82.3	11.2	90	102	116	138	165	215	265	341	379	421	1.1	1.6
56	2	64.3	do	.054	1.5	2.98	86.9	80.5	11.4	87	96	109	131	156	210	264	340	367	407	1.1	2.0
57	1	64.5	do	.066	4.0	2.85	86.3	81.3	11.0	88	100	112	129	147	200	264	354	384	427	1.0	1.3
Average	-	63.7	Neg.	0.056	3.7	2.61	89.3	81.9	10.7	90	104	118	140	164	214	265	335	362	398	0.9	1.7
Minimum	-	60.0	-	0.021	1.0	1.46	86.3	79.1	8.9	82	91	103	123	145	194	240	307	326	362	0.7	1.0
Maximum	-	66.4	-	.099	14.0	3.32	93.3	84.8	13.1	105	126	142	170	197	237	285	354	386	441	1.2	2.9
Samples	155																				

District 12

TABLE 1.- Motor-gasoline survey, winter 1950-51
(Average values of different brands)

Southern Texas

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	Percent evaporated 5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
1	1	62.6	-	-	-	1.83	82.0	83.0	9.8	90	114	133	158	180	217	244	304	336	375	1.0	1.0
2	19	59.4	Neg.	0.077	1.0	2.19	85.1	80.7	9.5	95	116	134	163	192	238	283	349	375	407	1.0	1.6
3	1	65.1	do	.014	1.0	2.87	79.4	77.5	9.4	92	110	127	154	180	228	273	329	348	383	.9	1.7
4	9	60.2	do	.063	3.7	2.17	85.1	80.4	8.9	99	121	137	163	188	231	274	337	362	396	1.0	1.4
5	1	64.6	do	.013	3.0	2.46	85.9	84.0	10.1	92	105	117	138	160	205	250	310	334	372	.8	1.2
6	1	66.5	-	-	-	2.83	82.6	82.4	10.8	92	110	126	149	172	214	256	316	340	372	1.0	1.5
7	1	62.5	Neg.	.016	1.0	.80	78.0	77.5	9.3	89	104	117	138	158	198	240	315	350	382	.9	1.1
8	5	61.7	do	.083	4.0	2.44	85.2	80.7	8.9	100	120	136	160	184	225	268	333	359	394	1.0	1.3
9	1	63.8	do	.016	1.0	2.03	80.7	79.6	11.7	89	102	121	146	170	211	253	330	360	393	.9	3.1
10	1	59.3	do	.026	3.0	1.83	83.0	76.5	8.7	95	114	138	173	198	232	263	318	345	385	.8	2.2
11	19	60.1	do	.102	(Oily)	2.30	86.0	79.8	10.1	95	112	127	153	182	235	285	355	381	428	1.1	1.5
12	1	64.0	-	-	-	2.59	80.6	82.0	9.3	94	118	132	158	180	219	258	324	354	406	1.0	1.5
13	18	59.7	Neg.	.072	2.6	2.29	85.6	79.3	8.6	96	119	136	165	193	241	284	342	365	394	1.0	1.5
14	1	68.1	-	-	-	2.94	80.4	81.0	9.4	102	118	130	146	164	200	245	306	330	360	1.0	1.1
15	2	62.6	Neg.	.043	2.0	2.65	83.8	81.3	8.6	98	115	130	154	181	228	270	326	352	388	1.0	1.3
16	16	62.0	do	.080	1.3	2.65	85.3	81.8	9.8	92	111	127	151	174	218	263	338	370	403	1.0	1.6
17	2	62.1	do	.024	2.0	2.54	86.4	81.4	10.0	93	115	131	161	185	225	264	325	348	382	1.0	1.8
18	18	60.1	do	.067	(Oily)	2.24	85.4	80.7	9.2	94	117	136	164	190	232	272	338	363	396	1.0	1.6
19	1	64.2	-	-	-	2.41	83.8	78.7	10.5	96	114	127	148	173	223	277	348	374	416	1.0	2.0
20	11	62.5	Neg.	.043	1.3	2.28	84.8	80.9	9.7	94	112	128	152	175	222	269	333	360	394	1.0	1.5
21	1	65.5	-	-	-	2.48	80.4	81.6	10.5	90	112	129	153	175	217	259	327	350	375	1.0	2.0
22	1	63.3	-	-	-	2.59	84.4	85.0	10.3	95	114	125	142	162	203	247	331	366	406	1.0	1.9
23	10	62.9	Neg.	.091	1.0	2.32	85.7	80.4	10.5	91	110	124	149	174	220	265	336	367	406	1.0	1.2
Average	-	62.7	Neg.	0.052	2.0	2.34	83.5	80.7	9.7	94	113	129	154	178	221	264	329	356	392	1.0	1.6
Minimum	-	59.3	-	0.013	1.0	0.80	78.0	76.5	8.6	89	102	117	138	158	198	240	304	330	360	0.8	1.0
Maximum	-	68.1	-	.102	4.0	2.94	86.4	85.0	11.7	102	121	138	173	198	241	285	355	381	428	1.1	3.1
Samples	141																				

Premium-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	I.B.P.	5	10	20	30	50	70	90	95	End point	Resid.	Loss
24	2	62.3	Neg.	0.050	4.0	2.39	90.4	80.6	8.7	94	112	129	154	176	212	246	300	330	382	0.9	1.6
25	5	59.5	do	.057	4.1	2.04	92.7	84.8	9.0	95	112	126	144	166	219	284	357	380	405	1.0	1.0
26	1	63.1	-	-	-	2.99	86.0	84.7	10.4	93	110	125	149	173	222	270	334	356	384	1.0	1.0
27	1	65.7	Neg.	.017	10.0	2.98	88.2	86.7	11.0	89	104	119	139	158	197	229	275	294	344	.8	1.4
28	9	59.8	do	.046	3.3	1.88	92.6	84.7	9.0	95	112	126	146	168	219	276	347	370	402	1.0	1.2
29	1	66.2	do	.030	2.0	2.86	86.0	80.0	10.5	90	105	115	132	153	207	270	340	362	392	.8	1.2
30	19	58.5	do	.054	1.9	2.25	92.9	83.8	9.4	93	112	128	153	179	232	281	347	370	401	1.0	1.4
31	2	63.7	do	.016	2.0	2.79	85.7	84.6	10.1	95	109	126	146	166	206	241	295	322	362	.9	1.8
32	10	59.3	do	.086	3.7	2.47	92.5	83.6	11.0	87	101	114	136	163	229	291	368	393	422	1.0	1.2
33	1	64.3	-	-	-	2.93	83.8	85.5	10.3	90	108	122	140	160	202	253	337	364	409	1.0	2.0
34	1	67.1	-	-	-	3.00	92.0	83.2	11.2	90	106	122	141	161	205	251	326	352	385	1.0	2.0
35	11	60.7	Neg.	.041	2.5	2.21	92.2	83.6	9.4	95	110	124	147	171	220	277	351	380	419	1.0	1.5
36	1	61.0	-	-	-	2.43	89.0	82.0	9.5	94	114	132	157	183	236	290	369	392	422	1.0	1.0
37	18	59.6	Neg.	.051	(Oily)	1.91	92.4	84.1	9.2	93	113	127	149	170	221	278	346	370	399	1.0	1.4
38	2	58.7	do	.034	4.0	3.03	92.6	84.5	10.9	96	114	130	157	182	221	276	338	364	396	1.0	1.5
39	14	61.8	do	.095	2.0	2.79	92.4	84.4	9.2	100	117	130	148	166	208	254	328	356	391	1.0	1.3
40	2	63.4	do	.019	4.0	2.85	86.0	84.3	10.3	96	110	123	147	170	217	265	324	345	376	1.0	1.2
41	1	67.6	-	-	-	3.09	80.6	81.3	9.4	113	126	133	150	165	200	246	306	330	356	1.0	1.1
42	18	58.9	Neg.	.070	2.4	2.56	92.2	82.8	7.7	103	124	138	162	184	229	278	341	363	390	1.0	1.2
43	1	62.9	-	-	-	1.70	85.8	83.8	10.1	96	112	128	149	172	214	258	337	364	406	1.0	2.0
44	19	62.4	Neg.	.093	(Oily)	2.49	93.5	83.2	9.0	98	118	131	150	168	203	243	308	341	392	1.0	1.2
Average	-	62.2	Neg.	0.051	3.5	2.55	89.5	83.6	9.8	95	112	126	147	169	215	265	332	357	392	1.0	1.4
Minimum	-	58.5	-	0.016	1.9	1.70	80.6	80.0	7.7	87	101	114	132	153	197	229	275	294	344	0.8	1.0
Maximum	-	67.6	-	.095	10.0	3.09	93.5	86.7	11.2	113	126	138	162	184	236	291	369	393	422	1.0	2.0
Samples	139																				

District 13

TABLE 1.- Motor-gasoline survey, winter 1950-51
(Average values of different brands)

South Mountain States: southwestern Kansas, panhandles of Oklahoma and Texas, western Texas, New Mexico, Colorado, Utah, Arizona, Nevada, and eastern California

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	E.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
1	2	60.4	Neg.	0.150	3.0	2.30	77.4	72.8	9.3	93	110	128	153	179	234	288	358	388	417	1.0	1.6
2	1	62.7	do	.024	1.0	2.06	79.0	75.8	11.0	90	107	127	163	191	239	287	349	376	406	.7	2.3
3	7	62.9	do	.082	4.0	.96	82.0	76.9	10.1	94	106	121	148	174	227	273	338	368	407	1.1	2.2
4	2	62.7	do	.103	3.0	2.03	83.1	78.2	11.7	90	99	114	138	165	217	262	323	350	386	.9	2.3
5	6	-	-	-	-	-	80.6	-	9.2	95	107	113	125	142	179	237	330	359	393	1.0	1.3
6	15	61.0	Neg.	.065	2.4	1.11	81.2	76.0	9.9	94	110	126	154	182	241	293	351	371	397	1.0	2.6
7	2	71.2	do	.026	6.0	1.98	79.5	78.9	5.9	122	137	144	150	155	166	182	224	260	430	1.2	1.1
8	4	-	-	-	-	-	81.9	-	9.3	98	113	125	150	179	232	285	346	372	418	.6	1.7
9	2	66.8	Neg.	.081	3.0	2.51	80.7	76.9	10.2	92	102	112	130	147	200	260	340	370	406	.9	1.1
10	4	60.3	do	.133	3.0	2.33	80.2	75.2	9.0	96	119	137	172	200	252	298	358	384	413	.6	1.4
11	1	60.1	do	.302	5.0	2.88	79.4	74.3	8.0	92	112	126	150	172	227	283	343	360	392	.9	1.1
12	20	60.2	do	.146	2.0	1.67	81.3	76.0	9.3	89	108	125	155	185	237	284	344	368	396	.9	2.0
13	1	64.8	do	.045	1.0	1.00	74.3	72.0	10.3	88	98	111	126	145	198	252	351	383	410	1.0	1.5
14	1	63.4	do	.129	2.0	2.01	79.8	75.7	9.5	92	107	120	138	160	208	263	334	360	387	.9	1.1
15	6	64.9	do	.140	1.0	.91	82.3	76.6	11.6	85	99	109	129	153	207	271	346	372	394	.8	1.7
16	3	60.7	do	.036	3.0	.57	79.4	75.5	10.8	90	104	121	152	185	251	304	360	381	409	1.0	2.5
17	12	61.9	do	.092	1.0	1.33	81.3	76.6	10.1	95	110	127	159	185	236	280	330	351	382	1.0	2.6
18	1	58.7	do	.207	3.0	.89	82.4	78.5	8.2	96	115	134	169	200	242	276	329	351	391	1.0	1.0
19	17	62.2	do	.055	2.2	2.18	80.6	76.6	10.0	93	107	127	159	190	247	296	358	382	420	1.0	2.8
20	1	-	-	-	-	-	76.3	-	12.5	95	120	143	177	208	251	298	359	380	409	1.0	4.0
21	15	63.1	Neg.	.033	1.0	.94	81.8	77.6	9.7	88	102	120	149	177	228	277	346	378	413	.7	2.4
22	2	59.6	do	.050	1.0	1.99	80.3	78.8	10.0	103	119	136	167	198	245	291	351	378	403	1.0	2.0
23	3	-	-	-	-	-	77.9	-	9.6	97	123	128	156	185	237	289	355	375	405	.6	3.1
24	2	59.6	Neg.	.115	3.5	1.99	82.3	77.3	10.5	94	111	129	159	189	246	295	346	364	384	1.0	2.5
25	2	62.7	do	.025	1.0	1.97	79.1	76.0	10.9	89	113	133	164	194	241	285	347	372	401	.4	1.6
26	2	59.4	do	.110	1.5	1.42	81.3	76.0	9.2	103	122	139	168	195	241	281	332	352	371	1.0	1.5
27	3	58.7	do	.180	2.3	1.66	82.3	78.0	9.5	99	111	129	161	191	243	290	357	383	408	1.0	2.5
Average	-	62.1	Neg.	0.101	2.4	1.68	80.3	76.4	9.8	95	111	126	153	179	229	277	341	366	402	0.9	2.0
Minimum	-	58.7	-	0.024	1.0	0.57	74.3	72.0	5.9	85	98	109	125	142	166	182	224	260	371	0.4	1.0
Maximum	-	71.2	-	.302	6.0	2.88	83.1	78.9	12.5	122	137	144	177	208	252	304	360	388	430	1.2	4.0
Samples	137																				

Premium-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	E.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
28	1	62.4	Neg.	0.138	2.0	2.95	84.7	78.7	10.2	94	111	122	142	163	212	270	337	360	390	0.9	1.1
29	6	63.6	do	.112	3.0	1.73	89.5	81.4	10.6	88	104	115	136	158	206	259	326	354	388	.6	1.5
30	3	63.1	do	.031	4.0	1.56	90.0	82.2	10.5	90	105	120	147	174	220	258	312	337	380	.8	2.5
31	12	63.4	do	.062	2.2	1.80	88.8	81.9	10.3	91	105	122	148	174	216	253	301	323	357	1.0	2.7
32	1	59.9	do	.180	1.0	2.39	90.2	82.2	8.9	99	112	128	157	182	219	253	309	333	375	1.0	1.8
33	19	62.3	do	.069	3.8	2.59	87.5	81.1	10.0	94	107	122	149	176	230	279	344	372	410	.9	2.2
34	1	-	-	-	-	-	88.9	-	11.1	95	110	122	147	178	237	296	363	384	417	1.0	1.5
35	15	63.8	Neg.	.033	4.0	1.07	88.4	82.1	9.6	88	100	121	156	187	230	275	345	376	414	.8	3.0
36	2	65.0	do	.090	1.0	3.00	92.0	84.3	9.6	93	114	131	151	169	197	222	259	280	314	1.0	1.8
37	3	-	-	-	-	-	85.2	-	12.2	91	91	119	153	188	249	307	358	389	413	.4	5.0
38	2	64.2	Neg.	.030	5.5	2.98	90.0	86.0	7.7	98	118	133	159	180	212	238	277	302	339	1.0	1.3
39	2	65.9	do	.035	3.0	2.86	87.3	79.4	10.0	96	107	117	134	150	196	269	357	380	410	.8	1.2
40	2	62.5	do	.130	1.5	2.91	89.8	82.8	9.1	93	111	129	156	185	232	272	315	333	354	1.0	2.0
41	3	58.5	do	.113	2.3	2.33	92.0	82.7	8.4	104	122	137	158	178	219	268	323	349	379	1.0	1.1
42	21	61.2	do	.117	2.0	2.11	88.9	80.6	9.2	94	113	130	155	177	223	271	337	362	390	.8	1.5
43	1	62.7	do	.057	6.0	2.90	84.5	80.6	9.2	97	111	123	143	161	203	250	320	350	394	.9	2.1
44	4	60.0	do	.100	1.0	2.40	89.5	81.2	11.1	91	105	122	151	180	237	293	359	386	411	.5	1.5
45	2	65.5	do	.107	2.0	2.84	89.0	79.6	8.5	101	110	120	133	147	193	258	345	376	417	1.0	1.5
46	4	-	-	-	-	-	87.0	-	9.3	97	110	121	138	159	208	257	317	344	380	.5	1.7
47	2	72.3	Neg.	.020	3.0	2.91	85.6	84.2	7.3	110	126	134	141	148	163	182	223	267	379	1.1	1.1
48	16	63.9	do	.045	2.2	2.07	89.0	82.1	9.6	94	111	124	148	171	213	252	306	327	363	1.0	1.7
49	2	64.5	do	.108	1.5	2.97	84.7	78.6	9.7	96	110	124	142	159	199	242	313	355	389	1.0	1.0
50	1	62.5	do	.040	1.0	2.49	83.0	80.0	10.7	94	112	131	161	189	237	285	349	373	410	.6	1.4
51	7	61.2	do	.092	5.7	.86	89.2	81.5	10.1	93	108	120	143	166	218	274	343	373	413	1.0	1.5
52	2	60.7	do	.117	3.0	2.77	88.6	81.4	11.0	93	102	115	137	161	222	274	336	362	396	.9	1.7
53	6	-	-	-	-	-	92.3	-	8.6	96	111	121	140	164	212	267	342	369	412	1.1	1.5
Average	-	63.1	Neg.	0.083	2.8	2.39	88.3	81.6	9.7	95	109	124	147	170	216	262	324	351	388	0.9	1.8
Minimum	-	58.5	-	0.020	1.0	0.86	83.0	78.6	7.3	88	91	115	133	147	163	182	223	267	314	0.4	1.0
Maximum	-	72.3	-	.180	6.0	3.00	92.3	86.0	12.2	110	126	137	161	189	249	307	368	389	417	1.1	5.0
Samples	140																				

District 14

TABLE 1.- Motor-gasoline survey, winter 1950-51
(Average values of different brands)

North Mountain States: Wyoming, Montana, Idaho, eastern Washington, and eastern Oregon

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	Percent evaporated 5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
1	3	-	-	-	-	-	82.5	-	9.7	91	112	130	156	180	224	270	328	352	393	1.0	3.0
2	2	56.7	-	-	-	-	83.3	76.8	8.4	90	114	133	169	205	261	307	364	386	409	1.0	1.8
3	10	62.1	Neg.	0.112	5.0	2.51	82.1	76.2	10.0	87	104	122	154	183	236	283	345	373	413	.9	2.6
4	9	63.6	do	.110	2.3	.35	82.2	75.0	10.2	86	104	119	145	169	213	253	312	341	385	.8	2.1
5	1	58.7	-	-	-	-	83.0	76.9	9.1	86	106	124	159	193	246	290	352	378	419	.9	2.0
6	18	61.2	Neg.	.093	1.3	1.27	82.2	75.8	10.0	86	104	121	152	184	239	286	340	361	391	.8	2.2
7	5	63.9	do	.060	1.0	1.14	83.0	77.9	10.8	87	106	121	148	176	224	274	346	374	424	1.0	3.0
8	3	62.1	do	.223	1.0	1.66	80.8	77.4	11.4	89	109	130	166	195	239	283	352	386	424	.8	2.2
9	5	64.1	do	.083	2.0	2.00	80.6	77.2	11.2	84	100	116	143	171	223	273	330	355	381	.7	2.2
10	1	65.6	do	.050	2.0	2.33	78.3	78.2	8.0	92	118	136	162	182	222	258	300	322	358	.5	1.5
11	12	61.9	do	.079	1.3	.78	82.3	76.4	10.2	87	105	123	153	181	237	287	343	366	402	.8	2.3
12	1	61.5	do	.020	1.0	1.88	80.6	78.9	11.6	92	110	129	166	195	242	283	336	356	383	.5	2.5
13	5	63.5	do	.070	6.0	.87	80.8	76.8	10.9	83	99	112	138	165	217	266	328	357	401	1.0	2.0
14	2	59.6	do	.129	1.0	1.13	81.8	75.6	8.6	92	116	134	167	196	246	293	349	372	401	.7	1.4
15	4	66.0	do	.060	1.0	1.40	82.1	77.9	10.3	91	102	113	130	150	204	266	348	370	398	1.0	3.0
Average	-	62.2	Neg.	0.091	2.1	1.44	81.7	76.9	10.0	88	107	124	154	182	232	278	338	363	399	0.8	2.3
Minimum	-	56.7	-	0.020	1.0	0.35	78.3	75.0	8.0	83	99	112	130	150	204	253	300	322	358	0.5	1.4
Maximum	-	66.0	-	.223	6.0	2.51	83.3	78.9	11.6	92	118	136	169	205	261	307	364	386	424	1.0	3.0
Samples	81																				

Premium-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	Percent evaporated 5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
16	1	64.9	Neg.	0.090	2.0	2.60	86.3	81.3	9.0	88	110	129	158	180	212	248	304	330	366	1.0	1.0
17	11	64.0	do	.075	4.5	1.02	90.7	80.6	10.3	81	96	110	135	159	209	267	344	374	406	.8	2.7
18	1	59.9	do	.025	3.0	2.77	83.3	79.6	9.5	93	114	139	178	208	253	295	346	368	402	.6	1.9
19	5	60.8	do	.080	5.0	.64	89.1	80.7	10.0	86	107	119	140	165	219	275	340	368	401	.8	1.2
20	1	58.9	do	.135	2.0	2.27	87.1	78.8	9.1	92	118	136	168	200	249	294	355	375	408	.5	1.0
21	4	64.1	do	.110	1.0	2.35	89.2	81.8	10.5	94	112	127	145	166	211	264	323	350	399	1.0	2.5
22	3	-	-	-	-	-	89.0	-	8.6	96	114	132	160	182	222	264	330	356	397	1.0	3.0
23	2	58.4	-	-	-	-	91.6	82.6	8.1	93	119	137	163	185	224	270	335	363	389	.8	1.3
24	10	60.7	Neg.	.120	5.0	2.54	89.0	81.3	9.9	86	103	121	152	183	235	283	352	383	423	1.1	2.4
25	9	64.1	do	.124	1.3	.64	89.5	79.2	11.3	84	93	109	136	160	210	253	301	322	353	.5	2.9
26	1	58.3	-	-	-	-	91.0	82.8	8.3	93	114	133	157	182	231	276	341	373	408	.8	1.2
27	18	61.9	Neg.	.095	1.5	2.66	90.1	81.1	10.2	86	103	118	145	172	220	264	317	340	370	.8	2.0
28	5	63.0	do	.100	1.0	1.71	88.3	81.0	9.9	89	102	119	148	176	228	284	365	392	428	1.0	3.5
29	2	-	-	-	-	-	87.5	-	10.0	98	106	118	140	164	219	272	336	354	389	1.1	2.4
30	5	65.5	Neg.	.116	1.0	2.73	91.1	82.4	10.3	90	107	118	137	158	203	245	298	320	352	.6	1.6
Average	-	61.9	Neg.	0.097	2.5	1.99	88.9	81.0	9.7	90	108	124	151	176	223	270	332	358	393	0.8	2.0
Minimum	-	58.3	-	0.025	1.0	0.64	83.3	78.8	8.1	81	93	109	135	158	203	245	298	320	352	0.5	1.0
Maximum	-	65.5	-	.135	5.0	2.77	91.6	82.8	11.3	98	119	139	178	208	253	295	365	392	428	1.1	3.5
Samples	78																				

District 15

TABLE 1.- Motor-gasoline survey, winter 1950-51
(Average values of different brands)

Pacific Northwest: western Washington and western Oregon

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	Percent evaporated 5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
1	9	59.0	Neg.	0.277	3.4	2.26	82.7	77.0	9.2	94	111	129	163	196	250	293	346	367	396	0.9	2.1
2	8	58.8	do	.209	1.6	1.75	83.9	77.4	9.5	94	113	130	165	197	248	291	350	374	403	1.0	2.0
3	8	59.3	do	.175	2.4	1.11	82.6	76.4	9.6	94	112	128	162	192	243	287	348	377	409	1.0	1.7
4	5	59.0	do	.170	1.5	1.15	82.8	76.3	10.1	94	118	135	163	192	241	288	345	366	393	1.0	1.0
5	8	59.6	do	.160	3.2	1.86	83.0	77.5	9.1	92	107	130	170	203	247	282	331	354	387	1.0	2.5
6	4	59.2	do	.291	2.0	2.24	83.1	77.9	9.0	100	113	131	164	194	246	289	343	363	391	1.2	1.8
7	8	57.6	do	.206	1.8	1.51	82.4	76.4	8.8	95	116	137	176	208	255	299	356	380	408	1.0	1.9
8	9	60.5	do	.236	2.0	1.08	82.3	77.2	9.8	93	110	128	158	188	236	276	326	348	388	1.0	2.3
Average	-	59.1	Neg.	0.216	2.2	1.62	82.9	77.0	9.4	95	113	131	165	196	246	288	343	366	397	1.0	1.9
Minimum	-	57.6	-	0.160	1.5	1.08	82.3	76.3	8.8	92	107	128	158	188	236	276	326	348	387	0.9	1.0
Maximum	-	60.5	-	.291	3.4	2.26	83.9	77.9	10.1	100	118	137	176	208	255	299	356	380	409	1.2	2.5
Samples	59																				

Premium-price gasoline

9	4	58.8	Neg.	0.142	5.0	2.73	89.4	84.0	9.4	96	111	128	158	186	230	276	345	370	402	1.0	1.2
10	8	58.3	do	.121	2.2	2.11	91.9	82.1	7.9	104	126	143	165	184	222	267	332	359	392	1.0	1.3
11	9	60.0	do	.178	1.2	2.30	91.4	82.3	9.5	95	112	128	155	180	221	257	312	337	381	1.0	1.5
12	9	58.7	do	.151	2.6	2.63	91.1	82.9	9.6	92	108	126	158	186	233	278	345	374	400	1.0	1.8
13	8	63.3	do	.117	1.2	2.92	91.4	83.1	8.6	99	122	134	154	171	204	236	280	303	345	1.0	.8
14	8	58.3	do	.157	1.8	1.27	91.4	81.4	10.4	93	109	124	150	177	231	286	355	382	411	1.0	1.8
15	5	59.6	do	.130	2.0	2.14	91.7	81.5	10.2	94	110	127	151	175	227	278	337	356	380	1.0	1.3
16	8	59.4	do	.153	3.8	2.18	91.4	81.9	8.6	98	117	133	157	179	227	279	342	365	394	1.0	1.5
Average	-	59.6	Neg.	0.144	2.5	2.29	91.2	82.4	9.3	96	114	130	156	180	224	270	331	356	388	1.0	1.4
Minimum	-	58.3	-	0.117	1.2	1.27	89.4	81.4	7.9	92	108	124	150	171	204	236	280	303	345	1.0	0.8
Maximum	-	63.3	-	.178	5.0	2.92	91.9	84.0	10.4	104	126	143	165	186	233	286	355	382	411	1.0	1.8
Samples	59																				

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TABLE 1.-- Motor-gasoline survey, winter 1950-51
(Average values of different brands)

Northern California

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	Percent evaporated 5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
1	8	59.2	Neg.	0.176	1.8	1.61	82.9	77.4	9.6	94	112	133	171	205	248	282	334	359	400	1.0	2.0
2	1	59.1	do	.340	2.0	2.34	82.6	77.2	7.9	92	113	130	162	198	250	293	345	363	393	1.2	1.3
3	8	58.9	do	.156	1.8	1.25	83.0	77.1	9.1	97	113	130	161	191	241	287	354	383	411	1.0	1.7
4	1	59.2	do	.346	1.0	2.26	83.6	77.6	8.4	99	118	134	166	194	242	284	339	359	390	1.0	1.5
5	8	59.5	do	.340	1.6	2.19	83.1	77.2	9.4	94	112	129	162	194	246	288	343	363	392	1.0	1.7
6	8	58.6	do	.212	1.6	.96	82.4	76.7	9.3	97	113	130	162	192	242	283	335	354	398	1.0	1.6
7	8	59.4	do	.168	1.0	1.41	83.1	77.5	9.5	93	108	126	158	188	237	281	340	365	392	1.0	1.8
8	8	59.0	do	.235	1.2	2.08	83.5	77.7	10.0	94	108	130	167	200	247	285	341	364	396	1.0	2.4
9	7	57.7	do	.183	1.8	1.28	83.0	77.1	9.3	96	116	137	170	203	255	301	357	378	408	1.0	1.9
Average	-	59.0	Neg.	0.240	1.5	1.71	83.0	77.3	9.2	95	113	131	164	196	245	287	343	365	398	1.0	1.8
Minimum	-	57.7	-	0.156	1.0	0.96	82.4	76.7	7.9	92	108	126	158	188	237	281	334	354	390	1.0	1.3
Maximum	-	59.5	-	.346	2.0	2.34	83.6	77.7	10.0	99	118	137	171	205	255	301	357	383	411	1.2	2.4
Samples	57																				

Premium-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	I.B.P.	5	10	20	30	50	70	90	95	End point	Resid.	Loss
10	1	58.3	Neg.	0.153	2.0	2.67	91.8	84.2	9.0	99	114	132	163	190	235	280	343	372	401	1.0	1.5
11	8	58.6	do	.147	2.8	2.72	91.5	83.4	9.5	94	110	128	160	188	234	279	347	375	401	1.0	1.8
12	8	59.4	do	.159	1.6	2.06	91.6	82.5	9.5	93	110	127	157	184	224	258	309	333	376	1.0	1.5
13	8	59.7	do	.134	1.0	2.16	91.9	82.8	9.5	96	113	126	150	174	223	271	331	354	382	.9	1.3
14	8	63.5	do	.094	1.6	2.90	91.2	83.7	9.2	95	115	130	151	171	204	233	277	301	344	1.0	1.3
15	7	58.2	do	.121	2.0	2.01	92.0	82.2	7.8	107	128	145	166	185	223	266	332	358	392	1.0	.9
16	8	59.4	do	.166	3.8	2.01	91.2	81.9	9.0	95	115	130	155	179	231	282	347	371	401	1.0	.8
17	1	59.8	do	.168	5.0	2.35	91.7	82.2	7.9	102	120	132	156	179	229	282	343	368	395	1.0	.5
18	8	59.7	do	.168	2.4	1.45	91.3	80.7	9.8	96	111	123	145	167	218	273	348	377	409	1.0	1.4
Average	-	59.6	Neg.	0.146	2.5	2.26	91.6	82.6	9.0	97	115	130	156	180	225	269	331	357	389	1.0	1.2
Minimum	-	58.2	-	0.094	1.0	1.45	91.2	80.7	7.8	93	110	123	145	167	204	233	277	301	344	0.9	0.5
Maximum	-	63.5	-	.168	5.0	2.90	92.0	84.2	9.8	107	128	145	166	190	235	282	348	377	409	1.0	1.8
Samples	57																				

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TABLE 1.- Motor-gasoline survey, winter 1950-51
(Average values of different brands)

Southern California

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
1	1	59.5	Neg.	0.303	1.0	2.33	83.4	77.8	8.6	98	114	130	164	195	244	288	342	361	386	1.0	2.0
2	1	55.4	do	.358	1.0	.74	76.0	71.4	8.4	98	112	136	189	226	276	312	352	365	385	1.0	3.0
3	1	58.2	do	.362	2.0	1.83	80.8	74.8	9.7	94	108	128	164	197	249	297	361	386	411	1.0	2.0
4	13	58.2	do	.125	1.2	1.91	84.0	79.0	9.2	93	110	130	165	200	252	298	358	378	406	1.0	2.1
5	1	55.3	do	.277	1.0	1.81	82.3	76.0	8.0	94	113	136	180	218	264	303	348	363	390	.7	2.3
6	14	60.2	do	.137	2.3	1.99	83.0	78.2	9.9	90	108	130	169	206	248	278	328	353	382	1.0	2.3
7	2	55.7	do	.256	1.5	1.64	81.2	76.6	8.0	101	117	139	182	221	269	309	355	372	392	1.0	2.0
8	13	59.4	do	.208	1.2	1.19	82.8	76.9	8.9	93	112	131	164	195	242	278	332	360	398	1.0	1.4
9	2	57.5	do	.246	1.0	1.50	81.2	77.2	8.5	99	118	140	179	213	258	296	343	361	397	1.0	1.8
10	13	58.1	do	.158	1.1	1.41	82.9	77.5	8.3	92	114	136	173	202	245	286	345	369	393	.9	1.7
11	1	57.5	do	.139	3.0	1.21	78.4	76.0	8.9	100	107	138	189	221	261	296	347	376	404	1.0	3.7
12	13	58.1	do	.211	1.9	1.82	82.6	76.7	8.5	94	115	135	169	201	251	292	346	369	392	.9	1.6
13	1	56.5	do	.129	2.0	1.02	79.4	77.0	9.0	98	114	137	180	219	264	305	354	372	401	1.2	1.8
14	13	59.4	do	.295	2.3	2.42	82.9	77.4	8.9	93	113	130	163	193	244	288	343	364	387	1.0	1.7
15	1	60.0	do	.184	1.0	1.23	82.0	77.9	9.6	94	112	126	158	194	246	280	325	347	390	1.0	2.0
16	13	57.8	do	.201	3.4	1.28	82.6	76.2	8.5	96	120	138	172	204	251	288	350	381	411	1.1	1.3
17	1	61.6	do	.039	2.0	1.70	79.6	78.3	9.1	96	112	130	158	184	226	268	323	343	372	1.0	2.8
18	1	60.5	do	.148	2.0	1.82	83.2	77.8	10.4	100	112	130	164	196	246	276	321	347	383	1.0	3.5
19	1	58.8	do	.359	3.0	1.94	80.2	75.5	9.6	90	103	120	156	194	256	304	354	369	391	1.0	2.5
20	1	59.0	do	.377	5.0	2.28	84.4	78.2	10.0	91	101	116	147	184	248	295	349	373	419	1.0	2.0
Average	-	58.3	Neg.	0.226	1.9	1.65	81.6	76.8	9.0	95	112	132	169	203	252	292	344	365	395	1.0	2.2
Minimum	-	55.3	-	0.039	1.0	0.74	76.0	71.4	8.0	90	101	116	147	184	226	268	321	343	372	0.7	1.3
Maximum	-	61.6	-	.377	5.0	2.42	84.4	79.0	10.4	101	120	140	189	226	276	312	361	386	419	1.2	3.7
Samples	107																				

Premium-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	I.B.P.	5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
21	1	58.1	Neg.	0.090	1.0	2.89	88.5	85.3	8.2	96	115	138	177	205	243	273	313	329	355	1.0	2.2
22	1	59.3	do	.303	6.0	2.62	86.8	79.2	9.5	94	105	122	154	186	240	284	338	359	403	1.0	2.0
23	1	60.2	do	.180	2.0	2.80	87.0	81.6	10.0	92	108	126	158	187	234	272	327	353	385	1.0	1.2
24	1	59.8	do	.128	4.0	2.24	91.0	82.0	8.6	102	116	129	154	178	228	277	338	363	398	1.0	1.2
25	1	60.3	do	.070	3.0	2.68	88.9	84.0	8.9	98	120	136	162	184	226	267	322	345	373	1.0	1.5
26	1	58.2	do	.169	3.0	2.66	91.6	83.4	9.1	94	110	130	163	190	236	280	347	375	398	1.1	1.9
27	1	58.9	do	.206	1.0	2.99	92.0	83.4	9.0	97	112	127	155	182	232	280	338	359	389	1.1	1.7
28	1	57.8	do	.207	2.0	2.76	90.4	82.2	8.8	98	112	128	157	185	236	275	338	361	389	1.0	1.0
29	13	64.5	do	.115	1.2	2.84	92.0	83.2	8.4	98	118	130	148	163	196	233	281	303	336	.9	1.0
30	1	61.0	do	.231	1.0	2.93	88.0	79.9	9.3	94	117	131	156	180	222	262	317	339	371	1.0	1.0
31	14	59.4	do	.134	2.4	2.26	91.5	82.3	8.8	93	113	128	152	177	228	278	343	367	394	1.0	1.5
32	2	57.9	do	.351	5.0	2.95	87.6	80.2	8.5	96	110	126	160	195	246	290	340	356	383	1.0	2.3
33	13	60.7	do	.142	2.3	2.67	91.7	82.5	8.4	97	117	130	153	175	218	258	312	341	385	1.0	1.3
34	2	58.4	do	.164	2.0	1.51	90.3	81.3	8.7	98	112	129	157	182	228	275	346	375	406	1.1	2.0
35	13	57.8	do	.133	1.2	2.11	91.8	82.1	8.2	95	115	131	159	184	233	279	334	356	379	.9	1.2
36	1	59.4	do	.151	1.0	2.22	89.5	81.0	8.8	100	118	133	162	188	235	281	339	362	395	1.0	1.0
37	13	58.9	do	.127	2.2	2.05	91.7	82.0	7.8	98	125	141	165	185	223	263	325	353	383	.9	1.0
38	1	58.5	do	.066	3.0	2.80	87.0	84.5	9.7	98	112	130	169	204	250	283	327	345	375	1.0	2.0
39	13	58.2	do	.165	2.9	2.67	90.9	82.7	9.2	93	112	130	162	191	236	281	350	375	399	1.1	1.7
40	1	60.7	do	.132	1.0	2.70	91.6	83.5	8.7	96	120	132	156	178	218	256	313	341	389	1.0	.8
41	13	57.1	do	.148	2.8	1.21	91.0	81.2	8.4	95	115	130	155	182	236	286	354	382	411	1.0	1.6
Average	-	59.3	Neg.	0.162	2.4	2.50	90.0	82.3	8.8	96	114	130	159	185	231	273	331	354	386	1.0	1.5
Minimum	-	57.1	-	0.066	1.0	1.21	86.8	79.2	7.8	92	105	122	148	163	196	233	281	303	336	0.9	0.8
Maximum	-	64.5	-	.351	6.0	2.99	92.0	85.3	10.0	102	125	141	177	205	250	290	354	382	411	1.1	2.3
Samples	108																				

TABLE 2.- Motor-gasoline survey, winter 1950-51
(Average values for brands from different districts)

Regular-price gasoline

District No.	Name	Samples	Items (Brands)	Gravity A.S.T.M. D287 ° A.P.I.	Corrosion A.S.T.M. D130	Sulfur A.S.T.M. D90 percent	Gum A.S.T.M. D381 mg./100 ml.	T.E.L. A.S.T.M. D526 ml./gal.	Octane number Research A.S.T.M. D908	Octane number Motor A.S.T.M. D357	R.V.P. A.S.T.M. D323 lb.	Distillation, A.S.T.M. Method D86 Temperature range, °F. (Corrected to sea level) I.B.P.	Percent evaporated 5	10	20	30	50	70	90	95	End point	Percent Resid.	Percent Loss
1	Northeast area	119	15	62.1	Neg.	0.066	1.9	1.92	86.8	80.8	11.2	87	100	117	145	171	220	268	338	368	406	1.1	2.5
2	Mid-Atl. Coast States	345	21	61.8	do	.063	1.6	1.88	86.5	80.6	10.9	88	102	119	147	174	222	268	336	366	403	1.0	2.4
3	Southeast area	137	15	61.4	do	.055	2.5	2.28	85.9	80.4	9.8	91	108	125	152	177	225	272	338	367	408	1.1	1.7
4	Appalachian area	252	31	63.0	do	.065	1.9	2.24	86.2	80.1	11.2	87	100	117	144	170	218	265	334	364	401	1.0	2.5
5	Michigan	70	15	64.0	do	.071	2.5	2.01	85.4	79.7	11.3	89	102	119	144	167	212	257	326	357	397	1.0	2.3
6	North Illinois area	122	15	65.0	do	.069	2.0	1.66	83.2	78.6	11.9	87	99	112	135	160	209	258	332	361	402	1.1	2.4
7	Central Miss. area	100	20	63.8	do	.061	1.4	2.09	83.2	79.3	11.2	90	103	119	145	171	220	267	336	368	407	1.0	2.2
8	Lower Miss. area	74	13	63.1	do	.064	2.1	2.31	85.0	80.2	9.6	94	111	126	151	173	218	262	326	357	396	1.0	1.7
9	North Plains area	44	13	65.1	do	.055	1.8	1.58	82.3	78.4	11.5	88	102	115	137	161	214	265	334	363	404	1.1	2.0
10	Central Plains area	73	9	65.8	do	.044	1.6	1.83	82.5	78.6	11.5	88	101	114	136	160	209	258	328	358	404	1.1	2.4
11	South Plains area	157	29	64.1	do	.047	2.7	2.25	82.2	78.3	10.7	92	106	122	147	173	220	266	328	355	390	.9	1.8
12	Southern Texas	141	23	62.7	do	.052	2.0	2.34	83.5	80.7	9.7	94	113	129	154	178	221	264	329	356	392	1.0	1.6
13	South Mountain States	137	27	62.1	do	.101	2.4	1.68	80.3	76.4	9.8	95	111	126	153	179	229	277	341	366	402	.9	2.0
14	North Mountain States	81	15	62.2	do	.091	2.1	1.44	81.7	76.9	10.0	88	107	124	154	182	232	278	338	363	399	.8	2.3
15	Pacific Northwest	59	8	59.1	do	.216	2.2	1.62	82.9	77.0	9.4	95	113	131	165	196	246	288	343	366	397	1.0	1.9
16	Northern California	57	9	59.0	do	.240	1.5	1.71	83.0	77.3	9.2	95	113	131	164	196	245	287	343	365	398	1.0	1.8
17	Southern California	107	20	58.3	do	.226	1.9	1.65	81.6	76.8	9.0	95	112	132	169	203	252	292	344	365	395	1.0	2.2
Average		-	-	62.5	Neg.	0.093	2.0	1.91	83.7	78.8	10.5	91	106	122	150	176	224	270	335	363	400	1.0	2.1
Samples		2,075																					

Premium-price gasoline

1	Northeast area	102	13	62.2	Neg.	0.068	1.6	2.00	92.0	82.9	11.1	87	101	116	140	163	211	262	333	364	404	1.0	1.9
2	Mid-Atl. Coast States	299	21	61.4	do	.070	2.1	2.09	91.9	82.6	10.9	89	102	117	141	166	217	269	336	364	400	.9	2.0
3	Southeast area	131	15	60.9	do	.052	2.5	2.33	91.9	83.2	9.7	92	108	123	146	169	218	269	338	368	404	1.0	1.4
4	Appalachian area	211	27	62.5	do	.063	2.5	2.38	90.7	82.3	11.0	88	103	118	144	169	216	264	333	363	397	1.0	2.1
5	Michigan	64	13	62.8	do	.071	3.1	2.30	90.7	82.2	11.2	90	101	116	141	165	211	258	331	362	398	1.0	2.4
6	North Illinois area	121	13	64.6	do	.059	2.3	2.14	89.9	82.4	11.8	88	99	111	131	153	200	250	330	364	408	1.1	2.2
7	Central Miss. area	97	18	62.7	do	.059	1.8	2.18	89.9	82.4	11.3	89	101	115	138	162	214	267	347	378	416	1.1	2.2
8	Lower Miss. area	73	13	62.6	do	.059	2.1	2.34	90.1	82.7	9.8	93	108	122	143	164	212	260	331	362	404	1.0	1.6
9	North Plains area	44	13	62.8	do	.056	2.1	2.32	89.7	82.7	10.9	90	104	117	141	168	221	272	342	370	407	1.2	2.0
10	Central Plains area	76	10	64.3	do	.043	2.1	2.34	90.0	83.2	11.5	88	100	114	136	160	209	260	336	365	403	1.1	2.3
11	South Plains area	155	28	63.7	do	.056	3.7	2.61	89.3	81.9	10.7	90	104	118	140	164	214	265	335	362	398	.9	1.7
12	Southern Texas	139	21	62.2	do	.051	3.5	2.55	89.5	83.6	9.8	95	112	126	147	169	215	265	332	357	392	1.0	1.4
13	South Mountain States	140	26	63.1	do	.083	2.8	2.39	88.3	81.6	9.7	95	109	124	147	170	216	262	324	351	388	.9	1.8
14	North Mountain States	78	15	61.9	do	.097	2.5	1.99	88.9	81.0	9.7	90	108	124	151	176	223	270	332	358	393	.8	2.0
15	Pacific Northwest	59	8	59.6	do	.144	2.5	2.29	91.2	82.4	9.3	96	114	130	156	180	224	270	331	356	388	1.0	1.4
16	Northern California	57	9	59.6	do	.146	2.5	2.26	91.6	82.6	9.0	97	115	130	156	180	225	269	331	357	389	1.0	1.2
17	Southern California	108	21	59.3	do	.162	2.4	2.50	90.0	82.3	8.8	96	114	130	159	185	231	273	331	354	386	1.0	1.5
Average		-	-	62.1	Neg.	0.079	2.5	2.29	90.3	82.5	10.4	91	106	121	145	168	216	265	334	362	399	1.0	1.8
Samples		1,954																					

TABLE 3.- Motor-gasoline survey, winter 1950-51
(Summary of data of the survey)

Test	Regular-price gasoline			Premium-price gasoline		
	Minimum	Average	Maximum	Minimum	Average	Maximum
Gravity, degrees A.P.I.	55.3	62.5	71.2	56.9	62.1	72.3
Sulfur content, percent	.004	.092	.377	.016	.079	.351
Gum, mg. per 100 ml.	.2	2.0	8.0	.4	2.5	14.0
Tetraethyllead, ml. per gal.	.35	1.91	3.12	.00	2.29	3.32
Octane number, Research	74.3	83.7	88.7	80.6	90.3	93.5
Octane number, Motor	71.4	78.8	85.0	78.6	82.5	86.7
Reid vapor pressure, lb.	5.9	10.5	15.5	7.3	10.4	13.8
Initial boiling point, °F.	80	91	122	80	91	113
Percent evaporated,						
5	84	106	137	89	106	128
10	98	122	146	100	121	145
20	112	150	189	118	145	178
30	130	176	226	135	168	208
50	166	224	276	163	216	253
70	182	270	312	182	265	307
90	224	335	366	223	334	382
95	260	363	410	267	362	412
End point	335	400	440	314	399	450
Residue, percent	.4	1.0	1.9	.4	1.0	1.8
Distillation loss, percent	.8	2.1	5.0	.5	1.8	5.0

TABLE 4.- Motor-gasoline survey, winter 1949-50
(Summary of data of the survey)

Test	Regular-price gasoline			Premium-price gasoline		
	Minimum	Average	Maximum	Minimum	Average	Maximum
Gravity, degrees A.P.I.	55.8	62.4	72.0	55.7	62.6	71.6
Sulfur content, percent	.007	.084	.328	.005	.074	.373
Gum, mg. per 100 ml.	.0	1.7	10.0	.0	2.2	7.0
Tetraethyllead, ml. per gal.	.00	1.53	3.00	.00	2.02	3.45
Octane number, Research	73.9	82.4	87.0	82.2	89.0	94.1
Octane number, Motor	71.2	77.1	84.5	73.8	81.2	85.2
Reid vapor pressure, lb.	6.3	10.4	14.8	6.0	10.5	14.3
Initial boiling point, °F.	80	90	127	80	91	122
Percent evaporated,						
5	83	105	139	87	105	135
10	96	122	155	98	120	143
20	114	150	187	113	144	182
30	129	177	229	126	168	217
50	168	226	278	163	216	257
70	187	272	323	179	265	311
90	247	336	378	227	331	377
95	302	363	401	289	358	404
End point	336	398	438	327	394	452
Residue, percent	.5	1.0	1.7	.5	1.0	2.0
Distillation loss, percent	.7	2.2	5.0	.8	2.0	4.7

Table 5.- Motor-gasoline survey, winter 1950-51
(Locations and numbers of samples)

District 1 (Northeast area)

Location	State	Samples		
Portland	Maine	16		
	Mass.		(Boston	143
			(Brookline	2
			(Cambridge	6
			(Chelsea	23
			(Everett	4
			(Framingham	1
Boston		195	(Quincy	1
			(Revere	4
			(Somerville	5
			(Watertown	4
			(West Roxbury	2
Fitchburg		2		
Manchester	N.H.	4		
Burlington	Vt.	4		
5 locations (15 cities)		221		

District 2 (Mid-Atlantic Coast States)

Berlin	Conn.	2		
East Hartford		1		
Middletown		6		
New Haven		3		
Windsor		2		
Baltimore	Md.	30		
	N.J.		(Bayonne	27
			(Cartaret	2
			(Elizabeth	129
			(Jersey City	6
			(Linden	12
			(Metuchen	2
			(Newark	74
			(Passaic	2
			(Scotch Plains	1
			(Wallington	2
New York City area	N.Y.	335	(Baldwin and North	10
			(Bellerose	2
			(Brooklyn	12
			(Elmont	2
			(Floral Park	2
			(Franklin Square	2
			(Hicksville	2
			(Long Island City	29
			(Maspeth	2
			(New York	7
			(White Plains	2
			(Yonkers	6

Table 5.- Motor-gasoline survey, winter 1950-51
(Locations and numbers of samples)

District 2 (Mid-Atlantic Coast States)--Continued

Location	State	Samples		
Albany	N.Y.	58		
Allentown	Pa.	2		
			(Camden, N.J.	4
			(Chester, Pa.	19
			(Lansdowne	2
Philadelphia		111	(Philadelphia	84
			(Upper Darby	2
Harrisburg		4		
Providence	R.I.	41	(Providence	39
			(Tiverton	2
Washington	D.C.	26	(Washington	15
	Va.		(Alexandria	11
Lynchburg		4		
Norfolk		1		
Richmond		18		
16 locations (43 cities)		644		

District 3 (Southeast area)

Birmingham	Ala.	7
Tuscaloosa		2
York		2
Daytona Beach	Fla.	2
Ft. Lauderdale		2
Jacksonville		72
Miami		7
Tampa		2
Atlanta	Ga.	36
Savannah		12
Charlotte	N.C.	52
Wilmington		72
12 locations (12 cities)		268

Table 5.- Motor-gasoline survey, winter 1950-51
(Locations and numbers of samples)

District 4 (Appalachian area)

Location	State	Samples		
	N.Y.		(Buffalo	85
Buffalo		104	(East Aurora	2
			(Niagara Falls	15
			(Tonawanda	2
Jamestown		4		
Wellsville		23		
Akron	Ohio	11	(Akron	5
			(Hudson	6
Canton		2		
Chillicothe		2		
Cincinnati		40		
Cleveland		79		
Columbus		18		
Heath		2		
Lima		26		
Marietta		2		
Steubenville		3		
Toledo		29		
Zanesville		1		
Bradford	Pa.	2		
Kane		3		
Oil City		5		
			(Baden	2
Pittsburgh		96	(Corapolis	45
			(New Brighton	2
			(Pittsburgh	47
Warren		3		
Charleston	W. Va.	8		
21 locations (28 cities)		463		

District 5 (Michigan)

Alma	Mich.	2		
Bay City		2		
Detroit		96	(Detroit	93
			(Hamtramck	3
Flint		12		
Grand Rapids		1		
Lansing		21		
6 locations (7 cities)		134		

Table 5.- Motor-gasoline survey, winter 1950-51
(Locations and numbers of samples)

District 6 (North Illinois area)

Location	State	Samples		
Cedar Rapids	Ia.	2		
Chicago	Ill.	183	(Chicago	127
			(Oak Park	1
	Ind.		(East Chicago	55
South Bend		22	(South Bend	18
			(Mishawaka	4
Madison	Wis.	36		
4 locations (7 cities)		243		

District 7 (Central Mississippi area)

Mt. Carmel	Ill.	4		
St. Elmo		2		
Vienna		2		
Indianapolis	Ind.	51		
Princeton		3		
Tell City		1		
Terre Haute		2		
Louisville	Ky.	38		
Paducah		2		
St. Louis	Mo.	92	(St. Louis, Mo.	82
			(Wood River, Ill.	10
10 locations (11 cities)		197		

District 8 (Lower Mississippi area)

El Dorado	Ark.	10
Little Rock		12
Magnolia		2
Texarkana		4
Baton Rouge	La.	2
Monroe		2
Lake Charles		18
New Orleans		45
Shreveport		2
Memphis	Tenn.	40
Nashville		10
11 locations (11 cities)		147

Table 5.- Motor-gasoline survey, winter 1950-51
(Locations and numbers of samples)

District 9 (North Plains area)

Location	State	Samples		
Mankato	Minn.	2		
Minneapolis		84	(Minneapolis	72
			(St. Paul	12
Montevideo		2		
3 locations (4 cities)		88		

District 10 (Central Plains area)

Hays	Kans.	12		
Salina		12		
			(Kansas City, Kans.	18
Kansas City	Mo.	93	(Kansas City, and North	75
Omaha	Nebr.	32		
4 locations (6 cities)		149		

District 11 (South Plains area)

Fayetteville	Ark.	12		
Harrison		10		
Arkansas City	Kans.	2		
Augusta		4		
Coffeyville		8		
Eldorado		2		
Independence		2		
McPherson		8		
Neodesha		2		
Wichita		54		
Bartlesville	Okla.	16		
Blackwell		14		
Comanche		2		
Duncan		2		
Enid		4		
Oklahoma City		19		
Tulsa		76		
Wynne Wood		1		
Abilene	Tex.	19		
Arp		2		
Baird		1		
Burkburnett		2		
Dallas		44		
Longview		3	(Greggton	1
			(Longview	2
Tyler		1		
Wichita Falls		2		
26 locations (27 cities)		312		

Table 5.- Motor-gasoline survey, winter 1950-51
(Locations and numbers of samples)

District 12 (Southern Texas)

Location	State	Samples
Austin	Tex.	1
Beeville		1
Corpus Christi		30
Edinburg		4
Harlingen		18
Houston		162
Jacksonville		14
Laredo		1
Monahans		2
Palestine		2
Pettus		2
San Antonio		43
12 locations (12 cities)		280

District 13 (South Mountain States)

Phoenix	Ariz.	4		
Bakersfield	Calif.	14		
Fresno		14		
Stockton		4	(Stockton	2
			(Tracy	2
Denver	Colo.	61	(Denver	59
			(Englewood	2
Dodge City	Kans.	11		
Liberal		2		
Artesia	N. Mex.	2		
Prewitt		1		
Roswell		4		
Las Vegas	Nev.	4		
Hooker	Okla.	2		
Amarillo	Tex.	73		
Colorado City		4		
El Paso		30		
Pecos		3		
Salt Lake City	Utah	44		
17 locations (19 cities)		277		

Table 5.- Motor-gasoline survey, winter 1950-51
(Locations and numbers of samples)

District 14 (North Mountain States)

Location	State	Samples
Boise	Idaho	2
Pocatello		4
Billings	Mont.	32
Conrad		20
Great Falls		13
Kevin		2
Shelby		4
Spokane	Wash.	24
Casper	Wyo.	48
Glenrock		2
Lovell		2
Newcastle		2
Rock Springs		2
Sinclair		2
14 locations (14 cities)		159

District 15 (Pacific Northwest)

Portland	Ore.	26
Seattle	Wash.	88
Yakima		4
3 locations (3 cities)		118

District 16 (Northern California)

	Calif.		(Alameda	4
			(Berkeley	2
			(Concord	2
			(El Cerrito	2
			(Hayward	2
			(Livermore	2
San Francisco Bay area		114	(Martinez	2
			(Oakland	23
			(Pleasanton	2
			(Pinole	2
			(San Francisco	53
			(San Leandro	14
			(San Lorenzo	4
1 location (13 cities)		114		

Table 5.- Motor-gasoline survey, winter 1950-51
(Locations and numbers of samples)

District 17 (Southern California)

Location	State	Samples		
Beaumont	Calif.	2		
			(Alhambra	10
			(Baldwin Park	2
			(Covina	4
			(El Monte	12
			(Flintridge	2
Los Angeles		195	(Huntington Beach	1
			(Inglewood	2
			(Long Beach	84
			(Los Angeles	68
			(La Canada	2
			(Pasadena	2
			(San Fernando	2
			(San Marino	2
			(Vernon	2
Palm Springs		2		
San Bernadino		14		
Santa Barbara		2		
5 locations (18 cities)		215		

Total: 170 locations (250 cities) 4,029 samples

Table 6.- Motor-gasoline survey, winter 1950-51
(Summary of locations and numbers of samples)

District					
No.	Name	Locations	Cities	Samples	Percent
1	Northeast area	5	15	221	5.5
2	Mid-Atlantic Coast States	16	43	644	16.0
3	Southeast area	12	12	268	6.7
4	Appalachian area	21	28	463	11.5
5	Michigan	6	7	134	3.3
6	North Illinois area	4	7	243	6.0
7	Central Mississippi area	10	11	197	4.9
8	Lower Mississippi area	11	11	147	3.7
9	North Plains area	3	4	88	2.2
10	Central Plains area	4	6	149	3.7
11	South Plains area	26	27	312	7.7
12	Southern Texas	12	12	280	7.0
13	South Mountain States	17	19	277	6.9
14	North Mountain States	14	14	159	3.9
15	Pacific Northwest	3	3	118	2.9
16	Northern California	1	13	114	2.8
17	Southern California	5	18	215	5.3
Total 17 districts		170	250	4,029	100.0

Interior - Bureau of Mines, Pittsburgh, Pa.