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UNITED STATES
DEPARTMENT OF THE INTERIOR
J. A. KRUG, SECRETARY

BUREAU OF MINES
JAMES BOYD, DIRECTOR

REPORT OF INVESTIGATIONS

NATIONAL MOTOR-GASOLINE SURVEY, SUMMER 1948

The work upon which this report is based was done under a cooperative agreement between the Bureau of Mines, United States Department of the Interior, and the American Petroleum Institute

BY

O. C. BLADE

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REPORT OF INVESTIGATIONS

UNITED STATES DEPARTMENT OF THE INTERIOR - BUREAU OF MINES

NATIONAL MOTOR-GASOLINE SURVEY, SUMMER 1948[1]

By O. C. Blade[2]

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.[3] 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.[3]

SUMMARY

Octane numbers of motor gasolines sold in the United States during the summer of 1948 were slightly higher than for those of the preceding summer and represent a less-pronounced but continued trend upward from the low-octane fuels sold during the summer of 1945, when wartime restrictions were still in effect.

The national average octane value of premium-price motor fuels (motor method) from filling stations throughout the country is 79.5, compared with 79.2 for the summer of 1947 and with 78.3 and 74.9 for the summers of 1946 and 1945, respectively. Regular-price gasolines have an average value of 75.2, compared with 75.1 for the summer of 1947 and with 74.4 and 69.7 for the two summers preceding, respectively.

1/ Work on manuscript completed December 1948. The Bureau of Mines will welcome reprinting of this paper providing the following footnote acknowledgment is used: "Reprinted from Bureau of Mines Report of Investigations 4444."

2/ Associate petroleum chemist, Bureau of Mines.

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

Average octane numbers by the research method are virtually the same as those of a year ago; but they, too, reflect the upward trend since the war. Premium-price fuels have a figure of 86.1, compared with 85.9 for the summer of 1947 and with 84.7 and 79.7 for the two preceding summers, respectively. The average value of regular-price gasolines is 80.1, while the value was 80.2 for the summer of 1947 and 79.3 and 73.3 for the two summers preceding, respectively.

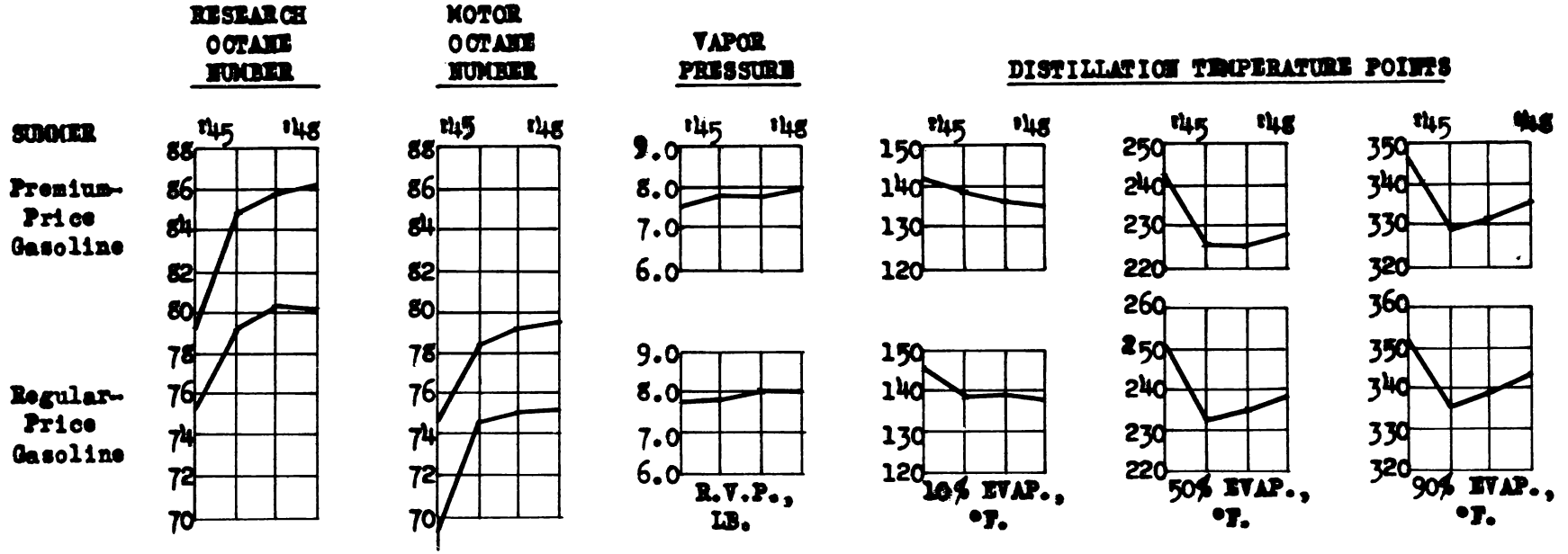
Some changes in volatility characteristics are noticeable. Reid vapor pressure of premium-price gasolines is 8.0 pounds for the summer of 1948 - slightly more than for three previous summers, when 7.8, 7.8, and 7.6 pounds were average values, respectively. The Reid vapor pressure of regular-price gasolines also is 8.0 pounds, compared with 8.0 for the summer of 1947 and with 7.8 and 7.7 pounds for the two summers before. The summer 1948 figures of the distillation tests indicate somewhat lower temperatures at the 10-percent-evaporated point but higher temperatures at the 50-percent and 90-percent-evaporated points, compared with the figures for the postwar gasolines of the summers of 1946 and 1947. Compared with gasolines in the survey of summer 1945 the present data show lower average figures at all the distillation points. The average 10-percent points in the present survey are 136° and 138°F. for the premium- and regular-price fuels, respectively, and do not differ greatly from those of the two summers before. At the 50-percent points, however, average figures of 228° and 238°F. are 2° to 3° higher than for the summer preceding and 2° to 5° higher than the average 50-percent temperatures for the summer of 1946. Temperatures of 335° and 343°F. for the premium- and regular-price gasolines, respectively, at the 90-percent-evaporated point are 4° over those of the preceding year and 6° to 7° above those of the summer of 1946.

These figures reflect the changes from wartime gasoline and the trends since. The table of average values and the set of charts on the following page illustrate the comparisons.

In addition to these figures, data were compiled on tests of six other properties of motor fuels. National average values are: Gravity, 60.5°A.P.I. for premium-price and 60.2°A.P.I. for regular-price gasolines. Corrosion, negative for all but two of the samples tested. Sulfur content, 0.078 percent for the premium- and 0.099 for the regular-price fuel. Gum-test results, 2.7 mg. per 100 ml. for premium- and 2.4 mg. per 100 ml. for regular-grade gasoline. Tetraethyllead contents, 1.99 ml. per gal. and 1.58 ml. per gal. for the two grades, respectively.

The present report presents analytical data for 2,997 samples, representing the products of approximately 115 companies. The samples represented in this report were obtained during July and August 1948. As in previous surveys, the gasolines covered by this survey include those from both large and small suppliers. The data cover two groups of samples - regular-price and premium-price gasolines.

	Summer	Research Octane No.	Motor Octane No.	R.V.P., lb.	10% evap., °F.	50% evap., °F.	90% evap., °F.
Premium-price gasoline	1945	79.7	74.9	7.6	142	243	346
	1946	84.7	78.3	7.8	139	226	329
	1947	85.9	79.2	7.8	137	226	331
	1948	86.1	79.5	8.0	136	228	335
Regular-price gasoline	1945	73.3	69.7	7.7	145	251	351
	1946	79.3	74.4	7.8	139	233	336
	1947	80.2	75.1	8.0	139	235	339
	1948	80.1	75.2	8.0	138	238	343



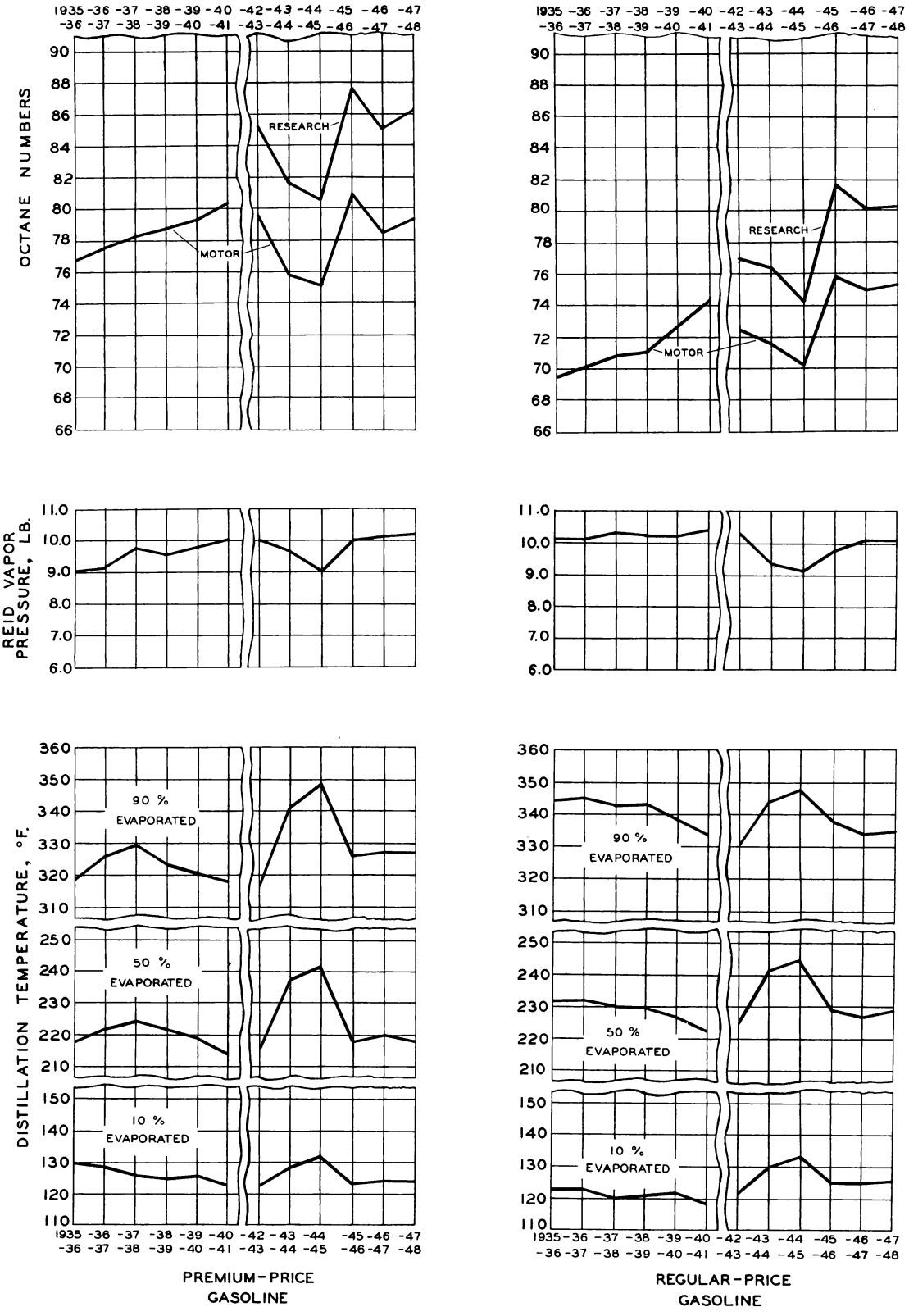


FIGURE 1.- COMPARISON OF GASOLINE CHARACTERISTICS FROM WINTER SURVEYS OF 1935-36 THROUGH 1947-48.

NO PLOTS ARE SHOWN FOR THE WINTER OF 1941-42 AS THE SURVEYS WERE DISCONTINUED DURING 1942.

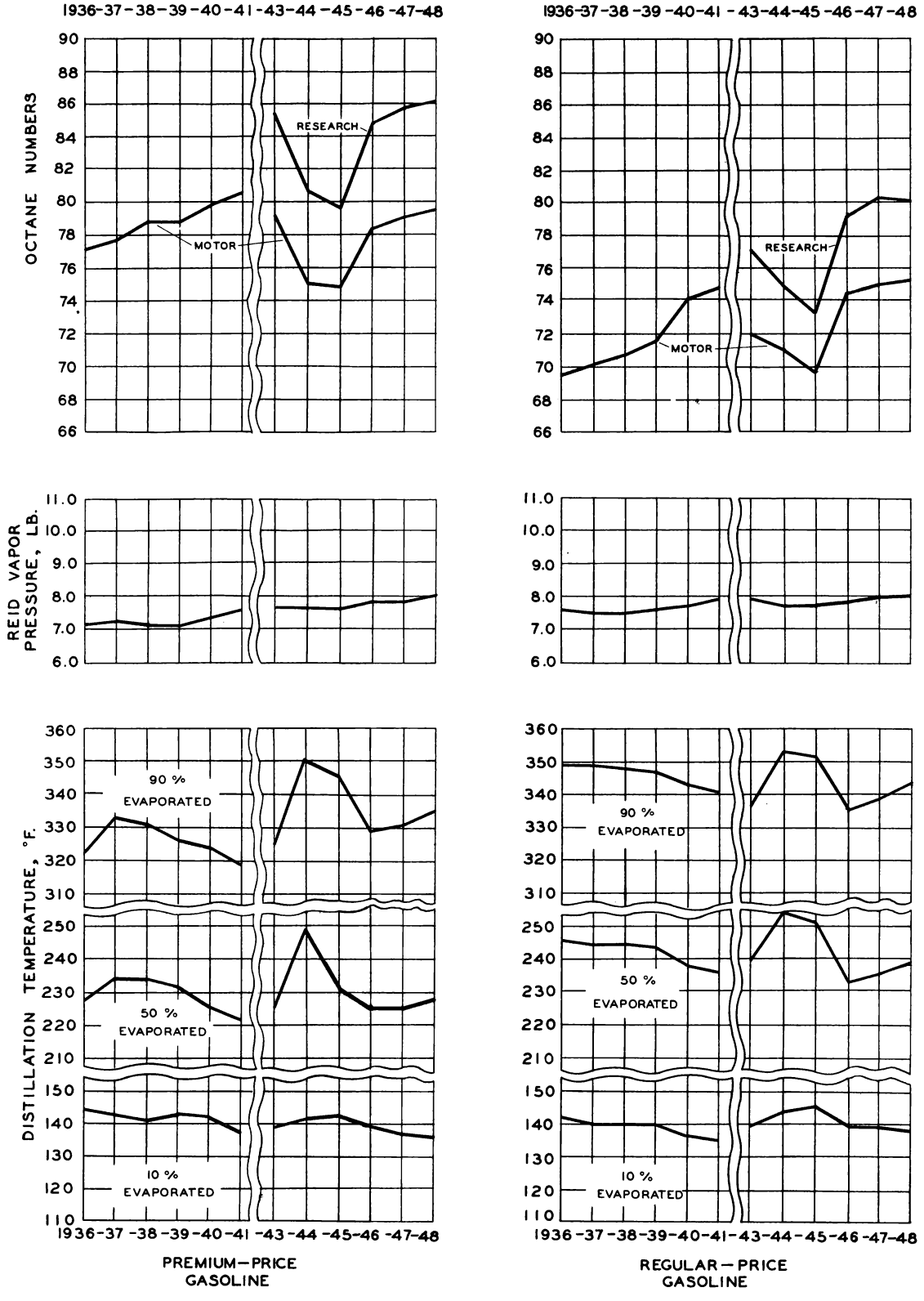


FIGURE 2.- COMPARISON OF GASOLINE CHARACTERISTICS FROM SUMMER SURVEYS OF 1936 THROUGH 1948

NO PLOTS ARE SHOWN FOR THE SUMMER OF 1942 AS THE SURVEYS WERE DISCONTINUED DURING 1942.

FIGURE 3.—MAP SHOWING LOCATIONS AND NUMBERS OF SAMPLES FOR THE NATIONAL MOTOR-GASOLINE SURVEY.

SUMMER 1948

SCALE: AREA OF THIS CIRCLE ○ REPRESENTS ONE SAMPLE

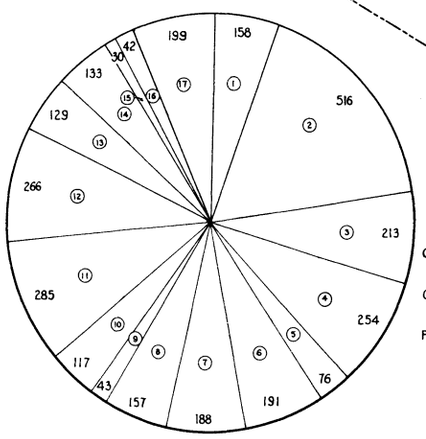


Chart showing distribution of samples by districts

Circled numerals represent district numbers

Figures in segments are numbers of samples

Scale : ○ = 1 sample

TABLE 6.- Motor-gasoline survey, summer 1948
(Summary of locations and numbers of samples)

District No.	Name	Locations	Cities	Samples	Percent
1	Northeast area	2	12	158	5.3
2	Mid-Atlantic Coast States	13	31	516	17.2
3	Southeast area	14	14	213	7.1
4	Appalachian area	22	22	254	8.5
5	Michigan	3	5	76	2.5
6	North Illinois area	5	12	191	6.4
7	Central Mississippi area	9	14	188	6.3
8	Lower Mississippi area	9	9	157	5.2
9	North Plains area	4	4	43	1.4
10	Central Plains area	6	8	117	3.9
11	South Plains area	19	21	285	9.5
12	Southern Texas	8	11	266	8.9
13	South Mountain States	10	17	129	4.3
14	North Mountain States	13	13	133	4.4
15	Pacific Northwest	1	1	30	1.0
16	Northern California	1	3	42	1.4
17	Southern California	2	10	129	4.7
Total 17 districts		147	207	2,997	100.0

The number of samples, items, and brands comprising each group is as follows: Regular-price, 1,592 samples, 294 items, and 110 brands; premium-price, 1,405 samples, 251 items, and 86 brands. The meanings of these terms as used in the surveys are as follows:

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 instances 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 new arrangement of marketing districts used in the two 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. The States or parts of States in each district are indicated in the headings of table 1.

Characteristics of regular- and premium-price motor gasolines are reported, based upon data contributed through the American Petroleum Institute for compilation by the Bureau of Mines.

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 summer 1948. 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[4/]

4/ American Society for Testing Materials, 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, October 1947, 1916 Race St., Philadelphia 3, Pennsylvania.

are shown in the column headings. The data reported for 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. motor and research method.5/ 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 before 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, for the first time, 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 figures of that number of items and not of the number of samples shown in parentheses 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 summer survey of 1947.

Figure 1 is a plot of the average data for octane number (motor method), vapor pressure, and certain distillation points, taken from tables 2 and 3 of the reports for the winter surveys beginning with 1935-36 and for research octane numbers beginning with 1942-43. Figure 2 is a similar plot of data from tables 2 and 3 of the reports for the summer surveys beginning with 1936 with the exception of research octane number which begins with 1943. The distillation data have been converted, where necessary, from the recovered to the evaporated basis.

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, 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.

5/ American Society for Testing Materials, A.S.T.M. Manual of Engine Test Methods for Rating Fuels, 1948, A.S.T.M. Designation: D357-47, pp. 7-18 and D908-47T, pp. 21-30, respectively.

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 2,997 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.I. 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: This report.

District 1

TABLE 1.- Motor-gasoline survey, summer 1948
(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. D-287 °A.P.I.	Corrosion A.S.T.M. D-130	Sulfur A.S.T.M. D-90 percent	Gum A.S.T.M. D-381 mg./100 ml.	T.E.L. A.S.T.M. D-526 ml./gal.	Octane number Research A.S.T.M. D-908	Octane number Motor A.S.T.M. D-357	R.V.P. A.S.T.M. D-323 lb.	Distillation, A.S.T.M. Method D-86 Temperature range, °F. (Corrected to sea level) I.B.P.	Percent evaporated 5	10	20	30	50	70	90	95	End point	Percent Resid.	Loss
1	7	57.5	Neg.	0.058	1.8	1.41	83.8	78.3	7.8	102	126	147	178	206	251	293	353	380	410	1.0	1.5
2	5	57.2	do	.049	5.1	.74	83.9	77.5	8.5	101	123	139	171	202	252	301	364	388	416	.9	1.5
3	12	58.5	do	.124	(Oily)	1.81	85.5	77.3	8.3	102	124	144	171	198	236	278	343	370	405	1.0	1.7
4	3	58.4	do	.057	2.5	.68	83.7	77.3	7.9	97	116	133	158	186	241	284	345	380	416	1.1	1.4
5	8	56.9	do	.025	2.7	.00	83.9	76.5	9.0	95	115	131	156	182	233	288	367	395	429	1.0	1.6
6	6	57.9	do	.049	3.6	1.19	82.3	77.0	8.1	96	115	131	157	195	248	290	360	388	414	1.0	1.8
7	8	61.9	do	.093	4.3	1.66	82.4	76.8	9.6	95	110	125	148	174	220	265	335	373	414	1.0	1.8
8	8	56.4	do	.055	2.6	1.12	83.2	78.4	8.9	98	118	140	175	204	248	294	372	405	432	1.0	1.9
9	6	57.2	do	.122	2.8	1.89	83.1	76.5	8.5	98	118	136	169	198	246	290	357	385	414	1.1	1.7
10	8	58.1	do	.057	3.5	2.06	85.3	78.0	8.4	97	116	132	159	187	238	287	352	377	410	1.1	1.3
11	1	57.2	do	.100	6.4	.75	82.0	75.5	7.6	98	120	139	164	194	238	284	340	367	403	1.0	1.0
12	7	59.0	do	.047	2.4	1.11	82.8	76.7	9.1	97	117	136	167	195	242	289	352	378	400	1.1	1.9
13	2	57.6	do	.035	1.6	1.77	83.1	78.9	7.4	108	131	158	183	204	240	278	333	362	389	1.0	1.8
14	1	58.3	do	.140	1.0	.93	81.0	76.0	8.3	100	122	148	178	200	239	280	346	392	410	1.0	1.0
15	1	52.8	do	.070	10.0	1.40	81.3	77.5	8.5	110	123	141	162	183	222	264	339	375	400	.5	2.0
16	1	58.3	do	.050	-	1.44	82.5	77.5	7.4	106	139	155	179	207	242	292	384	393	398	.7	1.3
17	1	54.6	do	.037	1.8	.88	84.4	79.0	9.2	92	113	136	174	201	245	290	372	408	432	1.4	1.6
Average	-	57.5	Neg.	0.070	3.5	1.23	83.2	77.3	8.4	100	120	139	168	195	240	285	354	383	411	1.0	1.6
Minimum	-	52.8	-	0.025	1.0	0.00	81.0	75.5	7.4	92	110	125	148	174	220	264	333	362	389	0.5	1.0
Maximum	-	61.9	-	.140	10.0	2.06	85.5	79.0	9.6	110	139	158	183	207	252	301	384	408	432	1.4	2.0
Samples	85																				

Premium-price gasoline

18	7	59.5	Neg.	0.062	1.9	1.02	89.6	80.2	8.2	100	122	133	156	178	214	257	329	360	395	1.0	1.4
19	5	61.8	do	.051	2.6	.85	89.6	80.1	8.1	99	119	131	151	171	213	258	328	363	401	1.1	1.2
20	1	59.7	do	.120	3.0	1.90	82.5	78.3	9.2	102	122	147	173	195	230	270	350	396	425	1.5	1.0
21	6	60.2	do	.061	4.0	1.00	86.9	78.8	8.3	96	111	126	150	174	220	267	338	369	408	1.0	1.5
22	8	60.8	do	.072	3.5	1.68	88.0	80.5	9.4	98	113	126	149	173	223	269	342	373	412	1.1	1.4
23	8	57.0	do	.037	2.3	.79	88.3	80.7	9.0	100	118	133	160	186	237	290	357	386	417	1.0	1.4
24	6	60.9	do	.086	1.6	1.80	88.2	79.6	8.3	102	119	131	152	173	211	252	322	355	386	1.2	1.2
25	7	58.9	do	.051	2.3	1.77	88.3	80.8	7.9	98	118	135	161	187	235	280	346	372	407	1.1	1.5
26	7	58.4	do	.060	3.2	.00	88.9	79.5	9.5	97	112	126	149	174	230	284	344	369	397	1.0	1.5
27	2	59.6	do	.062	4.1	1.71	86.8	80.4	8.1	99	116	131	157	182	235	283	349	376	400	1.2	1.5
28	2	64.6	do	.042	2.4	2.70	87.0	81.1	7.1	107	123	140	160	181	235	279	325	354	383	1.0	1.3
29	11	61.2	do	.137	(Oily)	2.41	88.9	79.2	7.8	102	121	138	160	179	214	245	300	335	378	1.2	1.6
30	1	61.2	do	.070	10.0	1.40	84.4	81.2	8.4	106	117	137	161	185	226	265	342	388	404	1.0	3.0
31	1	61.0	do	.040	-	2.45	87.5	80.5	9.5	114	130	138	156	178	226	269	321	357	372	1.4	.6
32	1	56.0	do	.041	9.0	.71	87.8	80.4	8.5	92	107	121	147	174	231	284	353	380	410	1.2	1.8
Average	-	60.1	Neg.	0.066	3.8	1.48	87.5	80.1	8.5	101	118	133	156	179	225	270	336	369	400	1.1	1.5
Minimum	-	56.0	-	0.037	1.6	0.00	82.5	78.3	7.1	92	107	121	147	171	211	245	300	335	372	1.0	0.6
Maximum	-	64.6	-	.137	10.0	2.70	89.6	81.2	9.5	114	130	147	173	195	237	290	357	396	425	1.5	3.0
Samples	73																				

R. I. 4444

District 2

TABLE 1.- Motor-gasoline survey, summer 1948
(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. D-287 °A.P.I.	Corrosion A.S.T.M. D-130	Sulfur A.S.T.M. D-90 percent	Gum A.S.T.M. D-381 mg./100 ml.	T.E.L. A.S.T.M. D-526 ml./gal.	Octane number Research A.S.T.M. D-908	Octane number Motor A.S.T.M. D-357	R.V.P. A.S.T.M. D-323 lb.	Distillation, A.S.T.M. Method D-86 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	21	58.6	Neg.	0.057	2.1	1.64	83.3	77.4	8.2	99	119	138	168	194	239	283	348	376	412	1.0	1.5
2	19	59.1	do	.055	2.9	.87	84.4	77.3	8.2	99	120	138	166	191	236	279	340	367	400	1.0	1.3
3	25	59.9	do	.084	1.4	1.39	84.1	80.0	8.7	98	116	134	162	188	231	272	333	361	401	1.0	1.5
4	37	57.6	do	.099	(Oily)	1.21	85.5	77.9	7.8	101	121	137	161	185	232	282	347	373	417	1.0	1.2
5	31	57.9	do	.086	2.5	1.68	84.6	77.6	8.0	99	119	137	167	196	248	295	352	377	409	1.0	1.3
6	23	59.0	do	.051	2.7	1.16	82.4	75.9	8.8	98	118	136	166	192	240	287	348	371	400	1.0	1.5
7	11	59.2	do	.056	3.7	.69	83.1	76.8	7.9	99	119	137	164	188	233	278	338	362	399	1.1	1.2
8	8	58.1	do	.073	2.9	.91	83.6	77.1	7.9	98	120	138	168	196	248	296	356	384	412	1.1	1.1
9	23	56.7	do	.052	3.1	1.34	83.9	78.2	8.6	98	120	140	171	199	243	287	361	391	420	1.0	1.4
10	26	59.0	do	.071	2.2	1.83	82.9	77.1	7.9	100	119	137	166	192	237	281	344	373	409	1.0	1.5
11	14	60.6	do	.079	2.7	1.41	82.7	76.8	8.8	99	116	133	158	183	228	275	338	364	401	.9	1.5
12	31	57.0	do	.027	2.1	.00	84.0	76.4	8.7	96	113	129	156	182	234	290	370	398	427	1.0	1.4
13	1	60.2	do	.090	1.0	-	85.0	76.5	8.6	88	104	121	151	178	229	268	325	354	384	1.0	1.0
14	3	57.9	do	.063	1.3	-	84.2	77.5	8.2	94	113	132	163	190	231	281	342	368	404	.9	1.5
15	3	56.7	do	.057	2.6	-	83.8	77.7	8.3	92	113	132	165	195	248	297	365	396	440	1.0	1.4
16	8	57.8	do	.064	1.0	1.88	83.2	77.7	7.1	106	132	152	182	201	237	272	319	345	382	1.0	.8
17	4	60.0	do	.047	2.3	1.49	82.3	76.5	8.4	102	123	141	167	191	240	288	354	375	412	1.0	1.1
18	1	59.8	do	.110	2.4	-	83.0	76.5	8.0	96	113	133	156	176	216	258	334	365	402	.9	2.1
19	1	57.7	do	.070	2.4	-	83.5	78.0	8.4	86	113	133	165	197	250	297	353	378	434	1.0	1.0
20	1	58.9	do	.044	.0	.90	83.2	78.0	8.9	108	120	136	162	189	239	286	354	384	402	1.1	1.9
21	2	59.8	do	.055	4.3	.76	84.0	77.1	8.6	94	119	138	167	194	242	290	350	374	414	1.0	1.5
Average	-	58.6	Neg.	0.066	2.3	1.20	83.7	77.3	8.3	98	118	136	164	190	237	283	346	373	409	1.0	1.4
Minimum	-	56.7	-	0.027	0.0	0.00	82.3	75.9	7.1	86	104	121	151	176	216	258	319	345	382	0.9	0.8
Maximum	-	60.6	-	.110	4.3	1.88	85.5	80.0	8.9	108	132	152	182	201	250	297	370	398	440	1.1	2.1
Samples	293																				

Premium-price gasoline

22	22	58.5	Neg.	0.075	2.4	0.00	89.6	79.4	9.1	96	111	126	150	176	229	281	342	365	394	1.0	1.3
23	31	58.9	do	.057	3.0	1.51	88.7	80.4	7.6	102	122	138	164	188	235	279	341	365	396	.9	1.2
24	36	60.1	do	.096	(Oily)	1.42	90.1	80.3	7.4	103	121	136	155	174	211	252	319	349	399	1.0	1.2
25	19	59.1	do	.095	1.6	1.58	88.9	80.2	8.4	100	118	136	162	187	233	276	343	372	407	1.0	1.6
26	15	58.2	do	.052	2.9	1.18	88.9	80.2	7.8	100	121	138	163	188	235	280	339	364	398	1.0	1.1
27	18	58.9	do	.073	3.1	1.76	87.2	79.3	8.3	99	117	133	159	184	232	279	343	371	410	1.0	1.5
28	6	58.5	do	.046	2.6	1.14	87.1	79.9	8.0	100	119	136	162	185	232	279	341	369	402	1.1	1.3
29	5	59.2	do	.055	3.7	1.24	88.0	79.1	7.9	101	123	139	165	188	234	279	343	368	405	1.0	.9
30	21	57.8	do	.046	3.0	1.19	88.3	80.4	8.4	97	116	132	159	185	236	287	354	379	412	1.0	1.3
31	24	60.8	do	.076	2.9	2.06	88.4	80.6	8.1	100	118	134	156	178	219	262	326	355	392	.9	1.3
32	11	60.6	do	.074	2.3	1.58	87.5	79.7	8.8	97	112	127	150	173	220	269	340	369	403	1.0	1.5
33	8	60.4	do	.063	1.6	2.38	86.9	80.4	7.2	101	120	138	158	179	230	275	318	344	383	1.0	.8
34	4	59.9	do	.059	5.0	2.09	86.6	79.6	8.0	98	121	138	164	189	235	282	355	386	415	1.0	1.0
35	1	57.0	do	.067	2.4	.49	93.0	80.0	8.8	105	124	142	168	189	231	273	325	349	386	.8	1.7
36	2	59.5	do	.040	3.2	1.91	86.7	79.7	8.4	100	124	138	165	190	237	282	346	372	408	1.0	.8
Average	-	59.2	Neg.	0.065	2.8	1.44	88.4	79.9	8.1	100	119	135	160	184	230	276	338	365	401	1.0	1.2
Minimum	-	57.0	-	0.040	1.6	0.00	86.6	79.1	7.2	96	111	126	150	173	211	252	318	344	383	0.8	0.8
Maximum	-	60.8	-	.096	5.0	2.38	93.0	80.6	9.1	105	124	142	168	190	237	287	355	386	415	1.1	1.7
Samples	223																				

District 3

TABLE 1.- Motor-gasoline survey, summer 1948
(Average values of different brands)

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

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D-287 °A.P.I.	Corrosion A.S.T.M. D-130	Sulfur A.S.T.M. D-90 percent	Gum A.S.T.M. D-381 mg./100 ml.	T.E.L. A.S.T.M. D-526 ml./gal.	Octane number Research A.S.T.M. D-908	Octane number Motor A.S.T.M. D-357	R.V.P. A.S.T.M. D-323 lb.	Distillation, A.S.T.M. Method D-86 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	9	58.4	Neg.	0.056	1.8	1.29	82.4	76.1	8.6	96	121	141	173	197	241	285	345	371	408	0.9	1.2
2	1	57.3	do	.060	.3	.00	83.8	77.6	7.7	101	122	140	173	200	252	302	363	388	410	1.0	1.0
3	1	57.3	do	.060	.5	1.20	83.6	77.4	7.8	96	121	138	173	199	253	303	362	381	412	1.0	1.0
4	14	60.5	do	.086	2.5	1.36	82.8	76.6	8.0	100	121	135	160	184	229	273	337	367	405	.9	1.3
5	13	58.6	do	.055	1.7	1.72	83.3	77.7	7.4	101	123	139	165	189	236	283	343	373	414	.9	1.1
6	3	59.5	do	.087	4.5	2.58	81.0	75.9	7.6	104	124	143	171	197	244	288	349	373	409	1.0	1.3
7	23	58.2	do	.071	2.7	1.40	82.8	76.2	7.6	102	124	141	170	198	247	293	352	376	410	.9	1.1
8	4	56.7	do	.031	1.6	.00	83.9	76.4	8.0	98	114	133	158	182	234	289	370	392	423	.9	1.3
9	4	57.4	do	.061	1.7	.86	83.4	77.1	8.3	102	124	141	173	201	251	300	362	384	411	1.0	1.0
10	8	60.9	do	.077	4.6	1.39	82.7	76.5	8.3	99	119	136	161	184	226	272	341	370	404	1.0	1.3
11	7	59.7	do	.065	3.7	2.32	82.9	77.2	8.3	103	119	141	168	194	240	284	345	374	404	1.0	1.6
12	12	60.1	do	.041	1.8	1.37	83.0	76.8	8.3	100	121	139	166	190	236	282	352	376	410	1.0	1.1
13	15	58.6	do	.077	(Oily)	1.70	83.1	77.5	7.1	105	125	143	168	191	239	287	349	373	419	.8	1.4
14	1	58.1	do	.050	3.0	1.23	80.8	75.8	7.9	100	122	141	176	203	244	287	352	366	406	1.0	1.5
15	1	59.2	do	.040	3.0	1.30	-	76.6	-	105	124	141	170	194	241	287	353	373	413	1.0	1.0
16	1	56.3	do	.060	2.0	.97	-	76.4	-	94	119	141	175	206	263	312	370	391	417	1.0	1.0
17	1	60.0	do	.110	6.0	1.00	-	76.0	-	96	125	142	170	195	239	282	344	374	414	1.0	1.0
Average	-	58.6	Neg.	0.064	2.6	1.28	82.8	76.7	7.9	100	122	140	169	194	242	289	352	377	411	1.0	1.2
Minimum	-	56.3	-	0.031	0.3	0.00	80.8	75.8	7.1	94	114	133	158	182	226	272	337	366	404	0.8	1.0
Maximum	-	60.9	-	.110	6.0	2.58	83.8	77.7	8.6	105	125	143	176	206	263	312	370	392	423	1.0	1.6
Samples	118																				

Premium-price gasoline

18	22	58.7	Neg.	0.055	2.7	1.66	87.7	80.0	6.8	106	128	144	168	188	237	281	340	364	396	1.0	1.1
19	2	59.2	do	.075	4.0	1.94	-	79.6	-	100	121	136	162	188	238	285	349	376	406	.8	1.0
20	12	61.4	do	.067	(Oily)	2.12	89.2	80.8	7.0	105	125	141	160	176	211	254	312	336	391	.9	1.1
21	10	59.6	do	.076	3.1	1.86	87.6	79.8	8.5	103	122	136	160	183	231	278	346	376	409	.9	1.2
22	6	58.0	do	.060	1.7	.00	89.0	78.9	9.0	93	112	127	152	177	229	282	340	362	397	.9	1.1
23	3	61.4	do	.047	1.3	.64	90.4	80.3	8.5	107	120	135	155	172	214	258	335	368	397	1.0	1.0
24	7	58.1	do	.053	3.4	1.63	88.4	79.7	8.4	100	120	138	164	189	235	280	341	364	399	.9	1.2
25	6	59.5	do	.053	4.9	1.38	88.0	80.7	8.2	101	121	136	159	181	228	275	345	387	406	1.0	1.3
26	10	59.3	do	.049	3.0	1.86	87.5	80.0	8.2	98	121	137	165	190	239	288	353	377	411	1.0	1.0
27	1	58.3	do	.045	2.0	.44	88.2	80.0	8.5	99	120	129	150	180	233	281	335	358	396	1.0	1.5
28	13	60.9	do	.043	(Oily)	1.65	90.1	80.9	6.5	110	130	146	162	178	213	254	316	344	394	.9	1.3
29	1	58.4	do	.050	3.0	1.47	-	78.0	-	103	126	144	172	198	244	292	357	384	414	1.0	1.0
30	1	62.4	do	.050	3.0	1.06	-	80.1	-	95	118	132	153	172	211	253	316	355	409	1.0	1.0
31	1	60.6	do	.080	8.0	1.50	-	77.0	-	98	121	138	162	185	227	274	346	378	420	1.0	1.0
Average	-	59.7	Neg.	0.057	3.3	1.37	88.5	79.7	8.0	101	122	137	160	183	228	274	338	366	403	1.0	1.1
Minimum	-	58.0	-	0.043	1.3	0.00	87.5	77.0	6.5	93	112	127	150	172	211	253	312	336	391	0.8	1.0
Maximum	-	62.4	-	.080	8.0	2.12	90.4	80.9	9.0	110	130	146	172	198	244	292	357	387	420	1.0	1.5
Samples	95																				

District 4

TABLE 1.- Motor-gasoline survey, summer 1948
(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. D-287 °A.P.I.	Corrosion A.S.T.M. D-130	Sulfur A.S.T.M. D-90 percent	Gum A.S.T.M. D-381 mg./100 ml.	T.E.L. A.S.T.M. D-526 ml./gal.	Octane number Research A.S.T.M. D-908	Octane number Motor A.S.T.M. D-357	R.V.P. A.S.T.M. D-323 lb.	Distillation, A.S.T.M. Method D-86 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	2	61.8	Neg.	0.042	1.7	2.85	87.9	81.4	9.5	94	109	129	156	180	219	259	320	353	385	1.2	2.4
2	2	61.2	do	.070	2.8	-	82.8	77.0	8.5	100	114	133	160	184	231	277	327	375	412	1.2	1.4
3	11	62.3	do	.047	2.8	2.33	82.9	78.1	8.7	99	122	138	164	187	228	265	325	355	387	1.0	1.4
4	17	57.9	do	.025	2.2	.00	83.8	76.1	8.8	96	117	131	156	180	232	288	368	398	427	1.0	1.3
5	10	62.4	do[1/]	.054	2.3	2.00	81.5	76.3	8.7	97	116	134	160	184	226	265	325	358	388	1.0	1.5
6	3	60.2	do	.074	4.2	1.73	83.2	77.0	9.0	94	112	131	158	182	229	271	334	365	400	.9	1.9
7	5	62.0	do	.049	1.8	1.97	80.8	75.8	8.3	101	119	137	160	184	226	268	331	358	399	1.0	1.6
8	6	61.7	do[1/]	.048	2.4	2.14	81.1	76.0	8.2	101	119	136	160	183	226	271	336	370	401	1.0	1.0
9	7	62.3	do[1/]	.074	2.4	1.56	82.2	75.9	8.5	101	120	136	160	182	226	266	332	369	398	1.0	1.5
10	16	60.8	do	.065	4.0	1.49	82.3	75.8	8.6	97	117	132	157	182	230	278	355	388	424	1.1	1.4
11	2	62.8	do	.045	2.1	-	80.0	75.8	8.5	94	110	128	154	178	221	263	325	360	395	1.1	1.9
12	11	58.3	do	.063	3.3	1.88	82.7	76.3	7.4	101	125	140	168	194	244	295	354	379	409	.9	1.0
13	5	60.3	do	.092	1.8	1.75	84.3	77.3	8.7	98	118	139	165	187	229	270	327	356	397	.9	1.7
14	10	61.4	do	.058	3.1	1.58	83.9	77.0	8.6	101	122	139	165	188	230	270	325	359	392	1.1	1.3
15	5	59.3	do	.070	2.3	1.58	82.4	76.4	8.7	98	119	137	167	193	239	284	344	370	399	.9	1.2
16	10	59.0	do	.086	(Oily)	1.84	85.4	78.1	8.4	98	119	136	161	185	232	281	344	376	408	1.0	1.2
17	3	60.7	do	.061	1.8	1.75	82.9	76.8	8.2	101	118	136	159	181	220	261	325	349	375	.9	1.7
18	1	62.9	do	-	5.0	2.31	80.2	75.2	8.3	97	118	133	156	179	221	265	331	360	406	1.0	1.0
19	1	61.8	do	.013	2.0	1.89	83.4	76.5	8.5	101	125	136	160	180	229	277	344	376	418	1.0	1.0
20	2	60.3	do	.038	1.8	1.87	81.5	74.4	7.9	105	124	138	161	186	233	282	348	386	411	.8	1.0
21	1	61.4	-	-	.8	1.37	85.1	77.6	8.2	98	116	130	158	180	218	256	314	336	373	1.0	1.0
22	1	65.0	-	-	.8	2.83	83.1	76.8	8.2	101	122	137	161	181	218	249	297	318	347	1.0	1.0
23	4	62.2	Neg.	.063	3.7	2.54	83.1	76.9	8.7	100	122	139	164	187	228	271	336	376	406	1.0	1.4
24	1	63.5	do	.052	.0	2.83	81.2	77.4	7.5	102	117	135	160	185	231	273	330	355	383	.8	2.2
25	2	63.5	do	.041	1.2[2/]	2.51	84.8	77.3	8.2	101	133	141	167	189	227	261	311	337	368	1.0	1.6
26	2	65.2	do	.045	6.0[2/]	1.71	79.2	75.0	9.8	95	113	131	157	179	216	254	314	343	376	.9	2.2
27	1	61.3	do	.042	4.0[2/]	2.50	80.0	77.5	8.3	100	126	142	165	187	229	268	320	346	392	1.1	1.6
28	2	58.7	do	.046	2.0[2/]	2.06	83.6	77.3	8.5	97	119	139	172	201	251	301	366	394	419	1.2	1.4
Average	-	61.4	Neg.	0.055	2.5	1.96	82.7	76.8	8.5	99	119	135	161	185	228	271	332	363	396	1.0	1.5
Minimum	-	57.9	-	0.013	0.0	0.00	79.2	74.4	7.4	94	109	128	154	178	216	249	297	318	347	0.8	1.0
Maximum	-	65.2	-	.092	6.0	2.85	87.9	81.4	9.8	105	133	142	172	201	251	301	368	398	427	1.2	2.4
Samples	143																				

Premium-price gasoline

29	1	59.8	Neg.	0.100	3.0	-	87.0	78.5	8.4	94	115	133	159	184	228	266	321	342	390	0.8	1.2
30	11	61.7	do	.047	2.8	2.29	86.7	80.8	8.3	96	116	131	155	178	226	271	329	359	387	1.0	1.2
31	8	60.3	do	.065	3.2	2.55	87.2	78.9	8.7	96	112	130	156	183	234	279	338	367	397	1.0	1.8
32	2	57.9	do	.074	4.0	1.65	85.8	78.2	8.5	93	116	134	159	184	229	281	349	377	409	1.2	1.1
33	5	59.6	do	.062	2.5	2.98	86.8	78.7	8.8	97	117	132	161	187	234	281	341	368	396	1.1	1.5
34	5	60.1	do	.055	3.0	2.43	86.0	78.8	8.4	101	119	134	161	183	226	275	340	374	409	1.0	1.5
35	5	60.3	do	.064	2.4	1.73	86.0	79.8	8.8	97	120	134	158	182	233	277	354	387	411	1.0	1.2
36	16	59.9	do	.061	4.3	2.44	87.1	79.3	8.4	97	118	133	159	185	230	282	357	391	426	.9	1.6
37	10	59.6	do	.053	2.1	2.06	86.5	79.5	7.4	101	123	138	162	183	230	278	341	369	399	1.0	1.3
38	6	59.3	do	.096	1.9	1.73	88.7	79.8	8.3	97	118	137	163	188	228	268	338	372	407	1.0	1.3
39	7	60.8	do	.051	2.9	1.96	87.2	79.3	8.3	99	125	142	165	190	229	266	321	349	371	1.0	1.0
40	5	58.7	do	.083	2.1	.14	88.8	78.9	9.0	95	112	125	149	173	229	279	343	369	397	.9	1.1
41	10	61.3	do	.073	(Oily)	2.05	90.9	81.1	7.9	103	124	139	159	177	212	250	317	351	398	1.0	1.3
42	2	60.5	do	.053	1.5	2.33	87.6	80.2	7.8	108	127	142	164	184	222	265	326	348	388	.9	1.2
43	1	58.5	do	-	6.2	3.16	87.2	79.9	8.0	100	122	138	162	185	229	283	353	384	412	1.0	1.0
44	1	59.8	do	.043	3.6	1.40	87.0	78.3	7.6	106	118	133	158	186	240	292	371	423	453	1.0	2.0
45	2	60.4	do	.035	3.7	2.42	85.6	77.9	8.4	108	133	143	163	183	233	275	347	378	415	1.0	.5
46	1	60.2	-	-	2.2	2.01	87.3	79.7	8.6	100	122	139	163	187	232	271	333	349	388	1.0	1.0
47	1	61.2	-	-	1.2	3.02	86.3	80.2	8.0	98	118	135	163	191	244	287	327	347	368	1.0	1.0
48	3	61.6	Neg.	.037	1.0	2.63	86.5	80.6	8.5	96	116	130	158	184	230	273	334	373	384	1.1	2.0
49	4	62.1	do	.060	1.1	2.57	87.9	80.1	8.8	101	118	134	160	185	224	267	339	379	413	1.0	1.9
50	1	62.4	do	.055	4.0	2.33	84.0	78.0	8.0	105	127	143	163	187	227	271	335	363	404	1.0	1.2
51	1	64.8	do	.047	6.0	2.45	83.6	77.6	9.8	106	114	130	156	180	221	261	320	358	396	.9	2.9
52	1	62.0	do	.048	2.0	2.75	84.0	79.4	8.4	106	120	136	160	182	224	267	324	348	392	.8	2.6
53	2	60.0	do	.037	3.0	1.96	86.0	80.3	9.2	103	118	135	163	189	234	282	359	394	424	1.0	1.6
Average	-	60.5	Neg.	0.059	2.9	2.21	86.8	79.4	8.4	100	120	135	160	184	229	274	338	369	401	1.0	1.4
Minimum	-	57.9	-	0.035	1.0	0.14	83.6	77.6	7.4	93	112	125	149	173	212	250	317	342	368	0.8	0.5
Maximum	-	64.8	-	.100	6.2	3.16	90.9	81.1	9.8	108	133	143	165	191	244	292	371	423	453	1.2	2.9
Samples	111																				

1/ One sample positive to corrosion test.
2/ Test on one sample yielded oily gum.

R. I. 4444

District 5

TABLE 1.- Motor-gasoline survey, summer 1948
(Average values of different brands)

Michigan

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D-287 °A.P.I.	Corrosion A.S.T.M. D-130	Sulfur A.S.T.M. D-90 percent	Gum A.S.T.M. D-381 mg./100 ml.	T.E.L. A.S.T.M. D-526 ml./gal.	Octane number Research A.S.T.M. D-908	Octane number Motor A.S.T.M. D-357	R.V.P. A.S.T.M. D-323 lb.	Distillation, A.S.T.M. Method D-86 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	4	61.5	Neg.	0.070	1.9	1.96	80.0	75.9	8.7	97	117	136	162	185	226	269	337	364	401	1.1	1.8
2	3	61.9	do	.086	1.5	1.76	81.3	75.3	9.1	94	114	130	159	184	234	281	347	375	406	1.0	1.3
3	2	62.9	do	.057	1.2	.87	79.1	75.0	8.3	96	107	128	156	177	220	254	321	351	387	1.1	3.0
4	4	58.5	do	.053	2.7	1.17	80.9	75.3	7.6	96	119	137	168	196	248	296	360	387	413	1.0	1.4
5	3	62.5	do	.070	1.3	1.73	79.5	75.0	9.2	91	112	129	150	176	220	269	339	368	402	1.1	1.3
6	5	60.3	do	.028	2.4	.00	82.2	74.8	9.5	94	111	124	147	169	217	272	360	392	420	1.0	1.3
7	2	62.2	do	.060	1.3	1.91	80.8	77.0	9.1	98	116	137	161	183	223	267	327	355	383	1.1	2.5
8	4	60.6	do	.126	6.1	1.60	79.1	74.6	8.9	96	117	132	158	183	228	273	336	367	405	1.0	1.0
9	3	62.0	do	.114	3.4	1.22	83.2	75.3	9.0	95	108	123	148	175	222	266	337	371	409	1.0	1.4
10	4	62.5	do	.074	1.8	1.36	80.1	75.3	9.0	95	113	129	152	174	214	258	334	371	414	1.1	1.5
11	1	65.9	do	.070	1.4	3.05	80.0	76.0	8.4	92	105	128	156	178	215	252	295	327	378	1.0	2.0
12	2	66.1	do	.034	.7	2.70	77.0	73.0	7.9	99	125	142	167	187	218	243	286	303	326	1.0	1.0
13	1	65.3	-	.056	4.4	2.97	82.8	79.5	10.5	97	121	137	158	175	205	243	306	334	359	1.2	1.3
14	1	61.5	-	.067	3.2	1.63	79.5	75.4	9.4	93	111	130	155	176	216	256	342	383	406	1.0	2.0
15	1	60.0	Neg.	.072	2.0	1.84	83.6	76.8	8.5	100	116	130	152	174	226	276	352	382	408	1.0	2.0
16	2	62.7	do	.043	2.0	.82	82.3	75.8	9.6	91	118	127	149	172	222	277	353	381	404	1.0	1.3
17	1	67.0	do	.021	5.0	2.30	70.0	68.1	8.3	104	126	145	167	184	212	239	279	299	323	.8	1.7
18	1	60.2	do	.061	1.0	2.02	78.0	73.0	9.4	97	118	132	160	185	234	284	356	377	402	1.0	1.0
19	1	59.1	do	.081	11.0	2.67	76.0	70.5	7.4	106	142	161	188	214	254	294	344	364	394	1.0	.5
Average	-	62.2	Neg.	0.065	2.9	1.77	79.8	74.8	8.8	96	117	134	159	181	224	267	332	361	392	1.0	1.5
Minimum	-	58.5	-	0.021	0.7	0.00	70.0	68.1	7.4	91	105	123	147	169	205	239	279	299	323	0.8	0.5
Maximum	-	67.0	-	.126	11.0	3.05	83.6	79.5	10.5	106	142	161	188	214	254	296	360	392	420	1.1	3.0
Samples	45																				

Premium-price gasoline

20	2	63.5	Neg.	0.069	4.9	2.68	82.8	78.8	9.3	96	120	136	160	180	216	253	323	363	407	1.0	1.1
21	1	54.7	-	.050	3.2	2.91	87.5	80.5	8.2	96	106	119	147	175	231	287	350	381	406	1.1	1.9
22	1	61.0	-	.056	2.0	1.61	86.3	79.6	8.8	93	111	122	142	164	209	264	354	386	410	1.1	.9
23	1	56.9	-	.145	3.2	1.62	82.7	76.7	8.6	95	135	151	166	178	194	237	307	341	375	1.3	1.2
24	2	61.1	Neg.	.075	2.6	2.14	85.3	78.8	9.9	94	112	127	154	182	228	276	344	382	410	1.0	1.5
25	2	62.3	do	.051	3.4	1.58	84.8	78.7	9.3	94	111	125	148	172	216	263	331	362	392	1.0	1.5
26	4	57.8	do	.043	2.3	1.10	86.1	79.3	7.5	102	121	135	160	187	243	292	346	366	392	.9	1.5
27	1	60.0	-	.062	2.6	2.75	85.8	79.7	8.8	84	117	138	160	181	226	274	325	363	388	1.1	.9
28	3	59.9	Neg.	.158	6.6	1.59	85.3	78.2	9.2	94	115	132	159	185	233	280	343	371	398	1.1	1.0
29	3	60.8	do	.093	3.9	1.59	86.9	78.9	9.5	92	109	123	152	179	222	273	347	381	414	1.1	1.2
30	3	62.2	do	.058	2.3	2.19	85.1	79.2	9.1	96	111	128	150	171	212	258	338	374	411	1.0	1.7
31	2	61.2	do	.059	2.8	2.74	82.3	77.0	7.9	101	125	140	163	187	236	281	345	376	415	1.0	1.0
32	1	64.8	do	.080	2.0	3.11	84.5	80.0	10.6	94	112	128	154	174	217	260	322	365	395	1.0	1.0
33	1	58.3	do	.055	5.0	2.82	88.0	80.5	9.2	100	114	131	156	180	230	282	352	380	414	.9	2.5
34	2	60.8	do	.047	5.0	2.08	86.0	79.3	8.5	99	117	129	151	173	223	284	371	400	425	1.0	1.3
35	1	63.5	do	.137	1.0	2.29	85.5	78.0	9.2	98	121	135	156	178	217	260	325	355	399	1.0	1.0
36	1	59.9	do	.055	17.0	2.70	81.5	77.5	9.4	100	129	144	172	200	250	300	362	380	409	1.0	1.0
Average	-	60.5	Neg.	0.076	4.1	2.21	85.1	78.9	9.0	96	117	132	156	179	224	272	340	372	404	1.0	1.3
Minimum	-	54.7	-	0.043	1.0	1.10	88.0	76.7	7.5	84	106	119	142	164	194	237	307	341	375	0.9	0.9
Maximum	-	64.8	-	.158	17.0	3.11	81.5	80.5	10.6	102	135	151	172	200	250	300	371	400	425	1.3	2.5
Samples	31																				

R. I. 4444

District 6

TABLE 1.- Motor-gasoline survey, summer 1948
(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. D-287 °A.P.I.	Corrosion A.S.T.M. D-130	Sulfur A.S.T.M. D-90 percent	Gum A.S.T.M. D-381 mg./100 ml.	T.E.L. A.S.T.M. D-526 ml./gal.	Octane number Research A.S.T.M. D-908	Octane number Motor A.S.T.M. D-357	R.V.P. A.S.T.M. D-323 lb.	Distillation, A.S.T.M. Method D-86 Temperature range, °F. (Corrected to sea level) I.B.P.	Percent evaporated 5	10	20	30	50	70	90	95	End point	Percent Resid.	Loss
1	11	62.9	Neg.	0.063	2.1	1.20	78.4	74.3	8.1	98	118	133	158	182	225	266	328	359	397	0.9	1.4
2	11	60.9	do	.162	1.8	1.29	79.4	74.0	8.7	99	116	132	159	185	232	279	345	373	407	.8	1.6
3	16	61.5	do	.055	1.6	1.42	78.8	74.3	8.0	99	119	134	158	183	231	280	346	373	409	.9	1.2
4	12	59.6	do	.069	3.0	1.35	81.1	75.4	7.6	98	118	137	169	199	252	301	361	387	415	.8	1.4
5	8	63.5	do	.132	1.9	.94	81.0	75.0	9.5	95	109	124	147	171	217	261	329	361	406	.9	1.7
6	9	62.9	do	.093	3.1	1.79	79.9	74.4	9.4	95	113	127	152	176	220	266	344	377	416	.9	1.2
7	1	61.9	do	.170	1.0	1.68	80.3	73.6	9.1	94	109	126	154	181	231	282	354	380	406	1.0	1.8
8	4	62.1	do	.070	3.5	1.84	78.7	74.8	9.0	99	113	129	158	187	237	283	347	373	404	.9	1.9
9	5	63.2	do	.056	2.8	1.03	77.9	74.4	8.4	98	117	130	157	183	231	276	334	363	403	.9	1.3
10	5	63.1	do	.053	(Oily)	1.31	77.1	74.0	8.5	98	116	131	158	184	233	276	339	367	417	1.0	1.4
11	9	62.5	do	.062	2.9	1.75	77.5	74.3	8.5	98	115	131	160	189	239	285	348	377	411	.9	1.6
12	1	62.4	do	.069	2.4	1.80	78.4	74.9	8.6	98	117	134	163	190	239	283	352	379	413	1.0	1.0
13	1	61.5	do	.140	1.0	1.69	78.2	74.0	10.1	89	105	121	151	180	235	283	351	378	401	.4	2.1
14	1	62.6	do	.081	1.0	1.29	78.3	73.4	9.3	93	112	126	156	183	236	284	352	382	406	.7	1.3
15	1	65.2	do	.087	1.6	2.89	77.3	74.6	10.1	92	101	115	140	166	222	269	334	361	377	1.5	1.5
16	1	67.7	do	.141	.8	.80	76.8	72.5	9.5	96	102	113	128	143	186	241	329	362	398	1.0	1.0
17	2	63.7	-	-	-	-	76.4	73.5	8.7	98	114	129	152	179	227	272	335	364	397	.7	1.8
18	1	61.0	-	-	-	-	77.1	74.0	7.9	98	120	138	168	195	238	280	336	360	389	.4	1.6
Average	-	62.7	Neg.	0.094	2.0	1.50	78.5	74.2	8.8	96	113	128	155	181	230	276	342	371	404	0.9	1.5
Minimum	-	59.6	-	0.053	0.8	0.80	76.4	72.5	7.6	89	101	113	128	143	186	241	328	359	377	0.4	1.0
Maximum	-	67.7	-	.170	3.5	2.89	81.1	75.4	10.1	99	120	138	169	199	252	301	361	387	417	1.5	2.1
Samples	99																				

Premium-price gasoline

19	1	61.0	Neg.	0.130	1.0	2.10	81.8	74.6	9.7	95	108	125	155	184	235	285	355	381	405	1.0	1.9
20	10	61.9	do	.060	2.5	1.22	84.7	78.6	9.6	94	109	122	145	168	214	266	352	387	416	.9	1.4
21	8	61.1	do	.100	3.2	1.88	88.1	79.6	9.1	94	109	125	152	177	226	276	346	374	409	1.0	2.0
22	12	57.9	do	.040	2.9	1.21	86.8	79.6	6.8	101	125	141	166	190	242	291	347	368	394	.9	1.1
23	16	62.4	do	.052	2.5	1.78	82.7	78.2	8.1	98	117	131	155	178	228	277	342	369	411	.9	1.2
24	11	59.2	do	.133	3.1	1.40	86.0	78.4	8.6	98	115	132	162	189	241	289	353	377	408	.9	1.7
25	11	62.0	do	.048	2.1	1.25	85.4	78.7	8.4	96	115	131	159	185	233	275	334	359	392	.7	1.4
26	2	62.2	do	.075	2.1	2.17	84.5	79.5	8.1	102	124	134	157	181	226	269	340	379	408	1.1	.9
27	4	63.6	do	.058	2.1	2.11	82.5	78.5	8.3	100	118	131	155	178	215	264	334	369	413	1.2	1.3
28	4	64.4	do	.038	(Oily)	1.96	81.8	78.1	8.4	98	118	131	155	178	219	260	320	346	400	1.0	1.4
29	8	64.5	do	.053	2.2	2.26	82.9	79.1	8.4	100	116	129	152	175	221	259	327	360	404	.9	1.5
30	1	64.6	do	.065	1.2	2.27	82.5	79.7	8.6	97	116	132	147	178	219	257	328	355	405	1.0	1.0
31	1	60.2	do	.101	3.0	2.42	84.8	78.4	10.0	90	113	129	159	186	237	287	361	397	416	.8	1.2
32	1	63.3	do	.105	1.0	2.09	82.1	77.1	8.2	96	118	132	157	180	223	266	330	359	392	.6	1.4
33	2	60.6	do	.110	2.9	.72	85.1	78.0	9.2	102	110	122	138	153	189	248	334	369	399	.8	1.3
Average	-	61.9	Neg.	0.078	2.3	1.79	84.1	78.4	8.6	97	115	130	154	179	225	271	340	370	405	0.9	1.4
Minimum	-	57.9	-	0.038	1.0	0.72	81.8	74.6	6.8	90	108	122	138	153	189	248	320	346	392	0.6	0.9
Maximum	-	64.6	-	.133	3.2	2.42	88.1	79.7	10.0	102	125	141	166	190	242	291	361	397	416	1.2	2.0
Samples	92																				

R. I. 4444

District 7

TABLE 1.- Motor-gasoline survey, summer 1948
(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. D-287 °A.P.I.	Corrosion A.S.T.M. D-130	Sulfur A.S.T.M. D-90 percent	Gum A.S.T.M. D-381 mg./100 ml.	T.E.L. A.S.T.M. D-526 ml./gal.	Octane number Research A.S.T.M. D-908	Octane number Motor A.S.T.M. D-357	R.V.P. A.S.T.M. D-323 lb.	Distillation, A.S.T.M. Method D-86 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	16	59.5	Neg.	0.051	3.1	2.03	80.9	76.1	6.6	103	125	142	169	195	246	297	359	381	410	0.8	1.2
2	17	62.4	do	.100	4.8	1.18	81.2	75.1	7.9	97	117	133	159	182	226	267	329	357	398	.9	1.3
3	7	62.2	do	.066	3.0	1.30	78.5	75.0	7.3	96	112	129	156	188	238	284	342	365	401	.8	1.8
4	7	61.3	do	.133	1.0	2.52	78.0	74.7	7.4	97	117	136	169	197	244	288	344	366	402	.8	1.7
5	9	60.2	do	.071	3.7	1.52	80.1	75.8	7.0	99	122	142	176	203	247	298	342	374	407	.9	1.5
6	7	57.8	do	.060	(Oily)	1.56	83.6	78.5	6.3	111	131	147	172	196	247	298	355	374	430	1.0	1.2
7	7	60.5	do	.058	3.2	1.08	77.9	73.9	7.9	97	120	140	172	200	245	287	346	373	406	.9	1.6
8	7	62.2	do	.088	2.1	1.93	78.8	74.5	8.8	98	114	131	159	185	228	274	333	358	397	.8	1.6
9	7	61.9	do	.074	2.5	.99	79.0	74.3	7.8	100	118	132	154	176	226	277	343	369	405	.9	1.1
10	3	62.6	do	.088	3.4	1.39	79.2	74.5	8.0	101	116	131	156	183	229	274	333	360	398	.9	1.1
11	2	62.5	do	.089	4.0	2.36	78.5	72.8	8.2	94	117	135	167	193	235	270	325	354	390	1.0	1.8
12	1	62.8	do	.041	4.0	2.17	70.8	70.0	7.4	106	136	157	182	203	234	263	304	326	369	1.0	2.0
13	2	62.6	do	.044	.8	1.51	78.9	74.4	9.6	98	113	130	157	183	232	279	344	369	403	.9	1.7
14	2	60.3	do	.045	1.0	1.98	-	76.5	-	95	124	146	180	208	253	295	347	368	387	1.0	1.0
15	1	63.0	do	.050	3.0	1.81	-	76.0	-	96	117	131	152	173	223	275	347	384	423	1.0	1.0
16	1	62.0	-	-	-	-	76.2	72.6	9.0	93	114	137	166	193	233	271	326	349	390	.8	2.2
17	2	63.6	-	-	-	-	79.2	74.5	8.1	100	119	132	151	172	217	264	329	358	396	.8	1.6
18	1	62.7	-	-	-	-	79.6	75.0	8.6	95	115	127	152	175	219	265	328	358	404	.9	1.2
19	1	61.5	-	-	-	-	74.6	73.8	9.3	93	110	131	163	195	247	293	352	377	411	.6	2.4
Average	-	61.7	Neg.	0.071	2.8	1.69	78.5	74.6	8.0	98	119	136	164	189	235	280	338	364	401	0.9	1.5
Minimum	-	57.8	-	0.041	0.8	0.99	70.8	70.0	6.3	93	110	127	151	172	217	263	304	326	369	0.6	1.0
Maximum	-	63.6	-	.133	4.8	2.52	83.6	78.5	9.6	111	136	157	182	208	253	298	359	384	430	1.0	2.4
Samples	100																				

Premium-price gasoline

20	1	59.9	Neg.	0.064	14.0	1.78	85.3	78.1	7.0	97	120	136	164	191	237	282	347	376	417	1.0	1.5
21	2	61.5	do	.055	3.6	1.81	83.7	78.8	8.3	100	116	131	155	182	230	282	353	380	410	1.0	1.0
22	7	62.1	do	.061	2.8	1.47	85.1	79.0	8.3	97	117	130	152	174	219	271	339	369	403	1.0	1.2
23	7	61.4	do	.071	3.3	2.36	85.5	78.4	9.2	96	113	129	157	183	231	278	344	370	401	.9	1.6
24	8	60.4	do	.083	3.3	1.09	83.8	78.3	7.9	97	121	140	170	198	242	284	347	372	406	.9	1.4
25	7	61.3	do	.044	(Oily)	1.98	89.0	81.4	6.2	109	129	142	160	177	213	256	319	350	385	1.0	.8
26	9	60.7	do	.071	4.7	1.20	85.8	79.3	7.7	97	120	140	171	198	241	293	355	382	413	.9	1.3
27	5	61.3	do	.085	2.5	2.78	84.3	78.4	7.1	90	111	127	155	183	235	286	354	381	404	.8	1.5
28	6	61.2	do	.089	3.8	2.14	85.0	79.0	8.5	96	108	124	152	179	234	288	354	377	402	.9	2.4
29	16	60.9	do	.080	3.4	1.82	87.8	79.5	7.9	98	118	134	158	181	228	277	348	374	410	.9	1.2
30	16	60.3	do	.040	3.0	1.67	86.4	79.7	6.8	101	123	139	163	186	232	279	340	364	393	.9	1.2
31	1	61.3	do	.040	3.4	1.68	84.0	79.1	9.3	100	116	131	158	183	234	289	359	394	410	1.0	1.0
32	2	61.5	do	.060	1.0	2.48	-	79.3	-	107	126	144	172	195	236	277	338	363	396	1.0	1.0
33	1	61.7	do	.050	(Oily)	2.44	-	80.3	-	100	122	134	156	176	221	270	337	370	417	1.0	1.0
Average	-	61.1	Neg.	0.064	4.1	1.91	85.5	79.2	7.9	99	119	134	160	185	231	279	345	373	405	0.9	1.3
Minimum	-	59.9	-	0.040	1.0	1.09	83.7	78.1	6.2	90	108	124	152	174	213	256	319	350	385	0.8	0.8
Maximum	-	62.1	-	.089	14.0	2.78	89.0	81.4	9.3	109	129	144	172	198	242	293	359	394	417	1.0	2.4
Samples	88																				

R. I. 4444

District 8

TABLE 1.- Motor gasoline survey, summer 1948
(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. D-287 °A.P.I.	Corrosion A.S.T.M. D-130	Sulfur A.S.T.M. D-90 percent	Gum A.S.T.M. D-381 mg./100 ml.	T.E.L. A.S.T.M. D-526 ml./gal.	Octane number Research A.S.T.M. D-908	Octane number Motor A.S.T.M. D-357	R.V.P. A.S.T.M. D-323 lb.	Distillation, A.S.T.M. Method D-86 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	22	59.6	Neg.	0.042	(Oily)	1.57	82.8	77.5	7.1	103	124	139	163	188	238	287	346	370	415	1.1	1.2
2	16	58.0	do	.073	2.8	1.31	82.9	76.0	7.7	101	124	142	172	198	249	297	361	382	416	1.0	1.3
3	9	62.4	do	.057	3.8	1.85	82.5	76.7	7.9	100	121	139	166	185	226	269	334	368	398	1.0	1.4
4	5	64.1	do	.066	4.6	.87	82.2	77.1	8.2	101	117	130	151	172	215	259	330	366	414	1.0	1.5
5	5	61.2	do	.064	4.2	2.16	81.2	76.3	8.4	103	120	137	164	190	236	280	343	370	407	1.0	1.8
6	5	62.1	do	.056	3.4	1.82	82.4	78.2	8.1	100	120	136	159	182	225	269	337	365	403	1.0	1.4
7	4	61.4	do	.064	4.8	1.44	81.2	75.7	7.9	102	123	141	164	188	230	274	343	369	401	1.0	1.6
8	1	63.7	do	.032	(Oily)	2.08	73.0	73.0	8.0	103	119	138	162	185	224	267	336	365	403	1.0	2.0
9	1	64.4	do	.019	2.8	1.82	76.0	74.0	6.7	104	120	133	158	177	219	266	332	356	384	.8	1.7
10	2	62.5	do	.030	1.6	1.52	76.0	74.7	7.4	103	124	142	165	186	221	259	318	347	385	1.0	1.5
11	4	60.4	do	.055	2.3	1.60	83.0	76.7	8.1	99	120	132	165	189	231	275	340	365	403	1.1	1.6
12	2	59.2	do	.048	2.7	1.46	82.0	77.6	7.2	103	126	144	171	195	241	291	360	387	414	1.0	1.3
13	3	59.4	do	.080	3.3	1.28	82.3	75.8	7.6	99	124	142	171	197	241	286	349	375	408	1.1	1.1
14	1	59.5	do	.040	(Oily)	1.46	-	77.7	-	98	127	143	170	199	242	286	340	361	437	1.0	1.0
Average	-	61.3	Neg.	0.052	3.3	1.59	80.6	76.2	7.7	101	122	138	164	188	231	276	341	368	406	1.0	1.5
Minimum	-	58.0	-	0.019	1.6	0.87	73.0	73.0	6.7	98	117	130	151	172	215	259	318	347	384	0.8	1.0
Maximum	-	64.4	-	.080	4.8	2.16	83.0	78.2	8.4	104	127	144	172	199	249	297	361	387	437	1.1	2.0
Samples	80																				

Premium-price gasoline

15	9	61.0	Neg.	0.045	2.8	1.82	87.2	79.4	7.9	100	121	136	161	186	230	275	336	360	393	1.0	1.4
16	15	58.6	do	.042	2.9	1.67	87.6	79.9	6.5	108	134	153	175	195	238	283	343	363	395	1.0	1.2
17	22	61.8	do	.036	(Oily)	1.93	88.8	80.8	6.8	107	128	141	158	175	211	253	312	338	380	1.0	1.2
18	5	63.9	do	.060	2.9	1.64	85.8	80.3	8.2	98	117	131	151	172	213	259	328	362	408	1.0	1.4
19	5	59.5	do	.068	7.1	1.35	86.0	78.4	8.5	99	116	131	156	181	230	278	348	377	416	1.0	2.0
20	6	63.2	do	.064	2.5	2.14	87.3	80.7	8.6	99	118	133	154	173	213	258	325	355	395	1.0	1.3
21	3	57.8	do	.029	3.0	2.05	87.5	79.8	7.8	100	123	142	170	198	246	289	344	364	395	1.0	1.5
22	1	62.5	do	.033	(Oily)	2.84	79.0	79.0	7.6	98	112	139	163	187	230	278	340	369	409	1.0	2.0
23	1	64.3	do	.021	3.2	2.01	83.0	79.0	7.4	107	130	147	165	182	215	248	294	316	345	.8	1.2
24	2	62.7	do	.038	2.6	2.07	80.0	80.5	8.0	106	125	143	167	188	224	260	327	356	391	1.0	1.3
25	3	60.5	do	.044	1.9	1.52	88.3	79.8	8.1	101	123	141	171	195	237	278	345	373	411	1.1	1.6
26	1	59.6	do	.049	4.4	1.14	86.3	79.8	8.9	106	130	147	172	196	241	290	356	382	408	1.0	1.0
27	3	61.6	do	.075	4.4	1.54	87.5	79.7	8.4	101	122	136	156	179	221	266	336	367	401	1.1	1.1
28	1	60.9	do	.040	(Oily)	1.89	-	81.2	-	106	133	146	163	182	219	260	319	338	392	1.0	1.0
Average	-	61.3	Neg.	0.046	3.4	1.83	85.7	79.9	7.9	103	124	140	163	185	226	270	332	359	396	1.0	1.4
Minimum	-	57.8	-	0.021	1.9	1.14	79.0	78.4	6.5	98	112	131	151	172	211	248	294	316	345	0.8	1.0
Maximum	-	64.3	-	.075	7.1	2.84	88.8	81.2	8.9	108	134	153	175	198	246	290	356	382	416	1.1	2.0
Samples	77																				

R. I. 4444

District 9

TABLE 1.- Motor-gasoline survey, summer 1946
(Average values of different brands)

North Plains area: Minnesota, North Dakota, South Dakota

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D-287 °A.P.I.	Corrosion A.S.T.M. D-130	Sulfur A.S.T.M. D-90 percent	Gum A.S.T.M. D-381 mg./100 ml.	T.E.L. A.S.T.M. D-526 ml./gal.	Octane number Research A.S.T.M. D-908	Octane number Motor A.S.T.M. D-357	R.V.P. A.S.T.M. D-323 lb.	Distillation, A.S.T.M. Method D-86 Temperature range, °F. (Corrected to sea level) I.B.P.	Percent evaporated 5	10	20	30	50	70	90	95	End point	Residue, percent	Loss, percent
1	3	62.0	Neg.	0.043	2.5	1.40	76.7	72.0	7.5	99	120	139	168	192	236	277	335	362	398	0.6	1.3
2	3	63.9	do	.097	1.5	1.23	78.3	73.6	9.0	97	117	130	155	178	222	266	329	360	393	.7	1.2
3	3	60.6	do	.203	2.0	1.36	78.2	73.2	8.1	97	118	133	160	185	232	277	343	373	408	.9	2.0
4	3	60.4	do	.064	.5	1.44	81.9	76.3	7.7	99	122	137	162	188	234	277	345	374	404	1.0	1.5
5	2	63.6	do	.050	.0	1.45	76.5	73.2	8.1	96	115	129	153	177	224	270	332	356	387	.9	1.6
6	1	62.5	do	.042	7.0	2.92	77.5	74.5	7.1	103	132	150	178	204	246	276	334	364	390	1.0	1.0
7	1	62.5	do	.059	(Oily)	1.69	76.0	73.5	7.5	100	132	144	172	194	238	282	346	376	406	1.0	1.0
8	2	58.4	do	.084	1.0	1.51	80.7	75.0	8.2	99	123	141	172	202	255	302	365	390	418	.7	1.3
9	2	63.3	-	-	-	-	76.5	74.0	8.7	97	117	134	158	182	227	271	331	358	392	.7	1.4
10	1	63.0	-	-	-	-	78.0	75.0	8.9	93	112	128	156	186	233	276	333	369	396	.9	1.6
11	1	60.4	-	-	-	-	77.4	73.2	7.0	99	123	138	163	188	244	293	356	382	410	.9	1.0
12	1	64.3	-	-	-	-	77.3	72.5	8.6	95	115	128	151	174	221	267	330	354	384	.8	1.2
13	1	64.0	-	-	-	-	76.0	72.7	8.5	96	115	132	153	176	223	268	332	361	393	.7	1.4
Average	-	62.2	Neg.	0.080	2.1	1.63	77.8	73.7	8.1	98	120	136	162	187	233	277	339	368	398	0.8	1.3
Minimum	-	58.4	-	0.042	0.0	1.23	76.0	72.0	7.0	93	112	128	151	174	221	266	329	354	384	0.6	1.0
Maximum	-	64.3	-	.203	7.0	2.92	81.9	76.3	9.0	103	132	150	178	204	255	302	365	390	418	1.0	2.0
Samples	24																				

Premium-price gasoline

14	1	60.6	Neg.	0.061	3.0	2.44	82.0	78.0	8.7	100	132	150	178	202	248	292	342	366	390	1.0	1.0
15	1	64.7	do	.030	.6	2.02	82.0	78.3	8.0	95	118	130	154	176	220	263	325	354	392	1.0	1.0
16	2	62.6	do	.055	1.2	1.88	82.5	77.7	7.1	105	124	135	158	181	224	267	332	362	399	1.0	1.5
17	3	59.8	do	.195	2.0	.90	86.0	77.9	8.7	96	118	133	162	189	238	283	349	373	400	.9	1.4
18	3	61.2	do	.075	1.5	1.63	86.4	79.4	8.7	100	116	131	155	180	227	277	342	371	405	.8	1.1
19	1	64.1	do	.045	2.0	2.20	80.3	76.8	8.0	94	118	130	154	177	218	262	327	357	401	.7	1.3
20	1	64.0	do	.050	2.0	2.01	81.5	78.0	6.4	100	124	137	158	180	224	265	334	366	398	1.0	1.0
21	1	63.3	do	.055	(Oily)	1.94	81.0	77.5	8.3	106	130	144	166	189	233	276	339	364	410	1.0	.5
22	2	58.2	do	.038	2.0	1.21	86.2	79.9	6.6	106	130	144	167	189	243	292	349	369	393	.9	1.2
23	2	64.9	-	-	-	-	81.2	78.0	8.6	96	116	129	151	174	218	262	320	347	383	.8	1.6
24	1	67.8	-	-	-	-	80.9	78.4	9.1	92	111	122	140	158	203	253	317	343	378	1.0	1.0
25	1	61.3	-	-	-	-	87.9	80.0	7.8	97	119	131	148	168	218	277	349	378	418	.8	1.2
Average	-	62.7	Neg.	0.067	1.8	1.80	83.2	78.3	8.0	99	121	135	158	180	226	272	335	363	397	0.9	1.2
Minimum	-	58.2	-	0.030	0.6	0.90	80.3	76.8	6.4	92	111	122	140	158	203	253	317	343	378	0.7	0.5
Maximum	-	67.8	-	.195	3.0	2.44	87.9	80.0	9.1	106	132	150	178	202	248	292	349	378	418	1.0	1.6
Samples	19																				

R. I. 4444

District 10

TABLE 1.- Motor-gasoline survey, summer 1948
(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. D-287 °A.P.I.	Corrosion A.S.T.M. D-130	Sulfur A.S.T.M. D-90 percent	Gum A.S.T.M. D-381 mg./100 ml.	T.E.L. A.S.T.M. D-526 ml./gal.	Octane number Research A.S.T.M. D-908	Octane number Motor A.S.T.M. D-357	R.V.P. A.S.T.M. D-323 lb.	Distillation, A.S.T.M. Method D-86 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	63.1	Neg.	0.073	0.9	1.31	77.7	72.8	8.3	97	116	132	157	181	228	273	331	356	388	0.9	1.4
2	10	60.5	do	.110	4.2	2.18	78.9	74.0	8.2	97	116	137	168	195	237	276	332	359	396	.8	2.0
3	2	62.8	do	.048	.0	1.21	76.8	72.5	8.4	97	116	132	158	183	230	274	332	358	390	.9	1.2
4	5	62.6	do	.067	1.3	1.55	78.2	74.2	8.5	98	118	132	159	185	236	283	347	373	403	.9	1.3
5	4	63.3	do	.086	1.0	1.29	78.1	72.5	8.2	99	116	131	156	178	225	271	329	360	393	.9	1.4
6	7	62.3	do	.089	4.2	1.55	78.8	73.8	7.9	101	121	136	163	186	230	273	329	353	380	.8	1.4
7	13	64.4	do	.069	1.0	2.02	77.8	74.2	8.0	98	118	132	155	177	215	263	321	346	380	.8	1.4
8	4	63.4	do	.071	.7	1.60	77.7	72.9	8.3	98	114	130	155	179	225	270	330	359	391	.9	1.6
9	2	63.3	do	.053	1.7	1.62	76.9	73.2	6.8	104	122	138	164	189	230	270	326	352	382	1.1	1.7
10	2	62.7	-	-	-	-	76.1	72.8	8.6	93	116	132	158	184	231	276	340	366	395	.9	1.8
11	1	62.8	-	-	-	-	75.1	72.5	8.5	97	117	133	160	186	232	274	333	357	389	.6	1.5
12	1	64.6	-	-	-	-	74.8	71.4	9.2	91	112	128	153	177	224	266	321	345	380	.9	2.1
13	1	64.7	-	-	-	-	76.0	74.0	8.4	98	117	131	149	169	217	262	328	357	393	.5	1.3
14	1	63.7	-	-	-	-	75.3	74.0	9.7	95	108	124	150	176	233	283	343	366	395	.5	2.0
15	1	63.7	-	-	-	-	76.0	73.0	8.4	97	115	132	153	176	225	272	338	367	398	.7	1.3
Average	-	63.2	Neg.	0.074	1.7	1.59	76.9	73.2	8.4	97	116	132	157	181	228	272	332	358	390	0.8	1.6
Minimum	-	60.2	-	0.048	0.0	1.21	74.8	71.4	6.8	91	108	124	149	169	217	262	321	345	380	0.5	1.2
Maximum	-	64.7	-	.110	4.2	2.18	78.9	74.2	9.7	104	122	138	168	195	237	283	347	373	403	1.1	2.1
Samples	62																				

Premium-price gasoline

16	12	63.9	Neg.	0.054	1.7	1.97	82.8	77.8	8.2	99	117	130	151	172	218	264	324	351	384	0.9	1.4
17	8	63.4	do	.043	2.0	1.79	83.8	77.9	8.0	101	121	138	164	186	223	257	307	331	364	.8	1.8
18	4	61.1	do	.072	2.2	1.96	84.8	78.2	7.5	99	120	137	167	192	234	273	324	353	392	.8	1.7
19	6	62.3	do	.077	1.1	1.80	85.1	78.9	8.4	98	114	125	144	165	224	283	354	378	409	.9	1.3
20	1	64.4	do	.050	.0	.62	82.3	77.5	8.2	99	121	140	163	185	226	266	325	351	385	1.0	1.0
21	10	61.8	do	.106	2.3	2.39	85.1	78.2	8.2	97	117	132	157	178	225	268	332	363	403	.9	1.7
22	7	64.3	do	.049	1.7	1.94	81.1	77.1	8.4	99	119	132	156	179	221	261	318	344	388	.9	1.0
23	4	64.4	do	.069	.6	1.83	80.6	77.0	8.3	98	115	130	155	179	221	261	316	342	381	.9	1.7
24	2	62.1	do	.068	1.3	2.78	85.2	78.2	7.8	98	122	138	161	183	222	266	330	355	387	1.0	1.3
25	1	64.7	-	-	-	-	79.8	76.6	8.8	92	113	126	152	176	221	263	314	344	380	.7	1.3
Average	-	63.2	Neg.	0.065	1.4	1.90	83.1	77.7	8.2	98	118	133	157	180	224	266	324	351	387	0.9	1.4
Minimum	-	61.1	-	0.043	0.0	0.62	79.8	76.6	7.5	92	113	125	144	165	218	257	307	331	364	0.7	1.0
Maximum	-	64.7	-	.106	2.3	2.78	85.2	78.9	8.8	101	122	140	167	192	234	283	354	378	409	1.0	1.8
Samples	55																				

R. I. 4444

District 11

TABLE 1.- Motor-gasoline survey, summer 1946
(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. D-287 °A.P.I.	Corrosion A.S.T.M. D-130	Sulfur A.S.T.M. D-90 percent	Gum A.S.T.M. D-381 mg./100 ml.	T.E.L. A.S.T.M. D-526 ml./gal.	Octane number Research A.S.T.M. D-908	Octane number Motor A.S.T.M. D-357	R.V.P. A.S.T.M. D-323 lb.	Distillation, A.S.T.M. Method D-86 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	7	60.8	Neg.	0.028	1.0	2.45	78.3	75.4	7.5	104	126	145	173	199	241	283	339	361	388	1.0	1.4
2	8	58.1	do	.110	2.4	1.64	82.8	76.9	7.5	105	124	140	164	184	239	292	355	379	422	1.0	1.1
3	18	61.3	do	.139	3.0	2.03	78.8	74.1	8.3	101	121	138	167	194	240	283	338	360	387	.9	1.4
4	16	63.1	do	.041	1.5	1.69	76.7	74.1	8.2	102	119	133	156	178	224	272	337	361	393	.9	1.5
5	19	58.6	do	.048	2.7	1.86	79.4	74.8	7.5	104	128	144	174	201	249	296	355	380	414	.9	1.4
6	13	63.3	do	.027	1.3	1.54	76.5	74.0	8.5	100	118	133	158	181	222	266	331	360	391	.9	1.6
7	3	59.4	do	.020	1.1	1.96	80.0	75.6	8.0	108	131	146	175	200	246	290	349	374	394	1.0	1.3
8	18	64.1	do	.037	2.5	2.19	77.6	74.9	8.5	101	118	135	161	183	228	269	324	346	377	.9	1.6
9	1	62.1	do	-	3.0	2.48	76.0	73.6	6.0	110	134	151	178	201	243	286	338	358	386	1.0	1.0
10	6	63.2	do	.020	.0	1.60	75.2	73.2	8.6	96	112	127	155	181	228	273	331	354	393	.9	1.7
11	11	61.1	do	.041	(Oily)	1.30	77.7	73.9	8.6	99	111	130	159	186	235	282	344	372	417	1.0	2.1
12	2	58.8	do	.136	1.2	2.53	78.5	73.7	7.9	110	133	150	187	213	256	296	349	373	394	.8	2.0
13	7	61.8	do	.055	1.9	1.58	77.1	72.9	7.8	101	120	137	166	191	233	277	338	361	392	.8	1.8
14	3	60.7	do	.054	1.3	1.37	76.8	72.0	7.9	104	118	139	169	195	242	291	358	373	391	.9	1.7
15	1	61.3	do	.056	1.0	1.91	76.3	72.4	6.7	99	129	146	175	201	246	291	348	367	394	.4	1.1
16	1	61.6	do	.061	1.0	1.57	75.8	71.3	6.3	97	121	141	171	197	243	289	350	371	406	.4	1.6
17	1	63.4	do	.055	1.0	2.20	77.2	73.9	7.9	98	114	132	164	190	232	272	327	350	392	.5	1.5
18	1	63.0	do	.054	2.0	1.90	75.3	73.6	7.4	99	115	136	167	192	237	279	336	358	386	.8	2.2
19	1	61.5	do	.070	6.0	2.53	74.9	71.8	6.8	99	119	139	171	198	245	296	369	393	416	1.0	2.0
20	1	66.6	do	.005	4.0	1.23	72.6	73.9	6.9	106	126	138	154	170	208	247	300	320	350	.8	1.2
21	1	60.7	do	.049	5.0	1.54	73.7	72.6	9.0	93	110	128	156	186	247	308	374	398	418	1.1	1.4
22	1	63.3	do	.027	1.0	2.09	73.1	73.4	8.4	95	111	128	153	176	229	285	349	369	390	.9	2.1
23	1	59.2	do	.056	1.0	2.48	77.3	74.6	7.1	96	120	142	175	206	256	301	352	371	392	.9	1.1
24	1	59.0	do	.102	1.0	2.42	76.7	73.7	7.5	100	123	143	177	207	253	298	346	360	382	1.0	1.0
25	1	62.5	do	.020	.0	2.17	75.0	73.0	7.9	98	125	144	173	197	237	275	325	345	365	1.0	1.0
26	1	62.2	-	-	-	-	76.0	72.0	7.9	98	121	141	170	195	240	285	347	373	404	.9	1.9
27	1	63.0	-	-	-	-	76.0	73.5	8.7	91	113	130	158	185	231	276	338	364	405	.8	1.7
28	1	63.2	-	-	-	-	77.7	73.8	9.0	92	111	130	163	190	233	272	321	342	370	.7	1.8
29	1	62.6	-	-	-	-	74.4	73.6	7.9	95	122	144	176	206	253	288	328	340	368	.7	1.3
Average	-	61.7	Neg.	0.085	1.9	1.93	76.7	73.7	7.8	100	120	138	167	193	238	283	341	363	392	0.9	1.5
Minimum	-	58.1	-	0.005	0.0	1.23	72.6	71.3	6.0	91	110	127	153	170	208	247	300	320	350	0.4	1.0
Maximum	-	66.6	-	.139	6.0	2.53	82.8	76.9	9.0	110	134	151	187	213	256	308	374	398	422	1.1	2.2
Samples	147																				

Premium-price gasoline

30	1	63.1	Neg.	-	2.0	2.82	84.8	78.4	10.1	108	126	140	170	196	236	274	340	390	392	1.0	1.0
31	17	65.0	do	0.036	1.2	2.67	82.7	78.9	8.3	100	121	139	165	186	220	253	299	321	356	.9	1.4
32	3	60.5	do	.040	1.5	2.59	85.7	79.0	8.6	98	119	134	161	186	232	276	337	363	383	1.0	1.3
33	13	63.1	do	.033	1.5	2.21	82.4	78.2	8.6	99	118	131	154	176	220	264	331	359	396	1.0	1.4
34	19	60.2	do	.061	2.4	2.47	86.5	79.6	7.2	103	130	145	172	196	237	279	337	362	402	1.0	1.5
35	15	62.6	do	.047	2.3	2.57	83.1	78.2	8.2	99	118	131	154	176	221	269	330	354	387	.9	1.4
36	17	62.0	do	.106	3.1	2.50	85.6	78.0	8.4	100	118	132	157	180	224	266	328	354	381	.9	1.4
37	8	59.5	do	.080	2.7	2.01	92.6	82.0	7.2	113	132	143	160	178	216	261	321	348	392	1.0	1.0
38	6	60.9	do	.037	1.8	2.45	85.6	78.6	8.7	98	116	131	159	184	231	270	332	358	383	1.0	1.5
39	5	63.2	do	.010	3.2	2.45	81.7	78.1	8.5	98	117	130	150	168	212	260	317	335	376	1.0	1.0
40	11	60.7	do	.040	(Oily)	2.66	83.6	78.6	8.5	99	114	131	160	188	236	282	343	371	420	1.0	1.8
41	3	64.9	do	.106	.9	2.53	82.8	78.0	8.0	101	120	134	156	176	209	239	288	322	357	.9	1.5
42	7	62.7	do	.045	1.4	2.27	82.7	78.3	8.4	99	116	136	163	186	226	264	319	339	388	.8	1.8
43	3	61.7	do	.057	2.1	2.45	83.0	77.6	9.2	102	114	133	161	186	237	284	349	375	396	1.0	2.2
44	1	64.6	do	.070	1.0	2.90	84.1	77.6	8.8	96	111	120	139	160	212	272	339	362	392	.6	1.4
45	1	64.5	do	.073	1.0	2.71	85.6	78.1	9.7	94	110	119	138	160	212	273	342	370	402	.5	1.5
46	1	63.1	do	.062	2.0	2.99	84.5	78.2	7.9	102	124	138	165	189	228	267	330	360	407	.5	1.0
47	1	64.8	do	.082	3.0	2.80	82.2	77.3	8.6	97	114	129	154	175	211	250	317	353	385	1.2	1.3
48	1	68.7	do	.030	1.0	2.52	78.7	77.1	10.0	99	108	121	144	165	206	253	315	343	389	1.0	2.0
49	1	63.5	do	.050	3.0	2.74	83.7	78.6	8.1	101	120	136	163	184	217	250	309	345	384	1.0	2.0
50	1	63.4	do	.039	1.0	2.85	78.7	77.5	8.4	99	120	137	164	188	224	251	295	314	344	.9	1.6
51	1	65.2	do	.070	1.0	2.95	83.7	77.9	9.0	97	107	118	136	156	209	269	336	365	395	1.2	1.8
52	1	60.5	do	.030	.0	2.63	83.0	78.0	8.5	96	120	137	168	195	242	284	342	363	400	1.0	1.0
53	1	63.2	-	-	-	-	81.5	77.3	9.2	93	112	130	158	186	232	273	325	342	368	.7	1.8
Average	-	63.0	Neg.	0.055	1.8	2.60	83.7	78.3	8.6	100	118	132	157	180	223	266	326	353	386	0.9	1.5
Minimum	-	59.5	-	0.010	0.0	2.01	78.7	77.1	7.2	93	107	118	136	156	206	239	288	314	344	0.5	1.0
Maximum	-	68.7	-	.106	3.2	2.99	92.6	82.0	10.1	113	132	145	172	196	242	284	349	390	420	1.2	2.2
Samples	138																				

R. I. 4444

District 12

TABLE 1.- Motor-gasoline survey, summer 1945
(Average values of different brands)

Southern Texas

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D-287 °A.P.I.	Corrosion A.S.T.M. D-130	Sulfur A.S.T.M. D-90 percent	Gum A.S.T.M. D-381 mg./100 ml.	T.E.L. A.S.T.M. D-526 ml./gal.	Octane number Research A.S.T.M. D-908	Octane number Motor A.S.T.M. D-357	R.V.P. A.S.T.M. D-323 lb.	Distillation, A.S.T.M. Method D-86 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	20	62.5	Neg.	0.072	2.0	1.49	81.8	78.1	8.3	102	123	136	159	181	222	262	324	353	379	1.0	1.1
2	15	59.0	do	.040	2.4	.91	83.0	77.4	7.2	103	128	143	170	194	236	279	340	366	393	1.0	1.2
3	22	58.4	do	.094	4.1	1.83	82.8	77.6	7.2	104	126	142	170	193	242	292	351	377	415	1.1	1.2
4	4	56.7	do	.021	3.2	1.42	82.9	77.1	7.5	103	127	146	178	206	251	295	358	382	412	1.0	1.3
5	18	60.2	do	.067	1.5	2.13	79.3	76.6	7.3	107	130	146	173	199	244	288	347	374	396	1.0	1.4
6	7	59.8	do	.055	2.5	1.11	82.3	77.7	8.0	106	132	146	174	197	240	282	344	371	394	1.0	1.1
7	23	58.4	do	.118	2.6	1.92	82.8	76.9	7.1	106	132	149	175	199	241	288	353	378	408	1.0	1.2
8	1	60.2	do	-	1.6	1.82	72.8	74.0	8.4	113	140	155	184	207	244	293	366	406	432	1.0	1.0
9	1	58.4	do	-	1.6	1.80	72.8	73.0	5.5	126	152	169	198	224	265	310	370	396	428	1.0	1.0
10	6	61.4	do	.101	2.9	1.53	82.5	76.5	7.9	103	126	139	160	180	223	267	333	367	402	1.0	1.0
11	1	57.8	do	-	2.4	1.18	81.0	76.6	7.7	107	125	150	176	202	245	287	348	362	398	1.0	1.0
12	8	59.6	do	.079	1.8	1.31	83.2	77.3	7.7	105	123	139	170	197	247	293	356	375	403	1.0	1.5
13	1	60.5	do	-	.0	1.70	76.3	74.0	7.9	98	121	140	170	196	240	280	340	362	382	1.0	1.0
14	5	59.6	do	.060	2.0	1.36	82.4	76.1	7.8	104	127	143	168	193	244	299	365	388	423	1.0	1.0
15	1	57.8	do	.010	2.0	1.10	71.8	70.0	6.5	108	132	160	190	210	244	276	324	346	401	1.0	1.0
16	1	60.2	do	.016	.0	2.10	77.8	76.6	8.3	100	119	136	173	203	249	289	340	360	386	.9	1.1
Average	-	59.4	Neg.	0.061	2.0	1.54	79.7	76.0	7.5	106	129	146	174	199	242	286	347	373	403	1.0	1.1
Minimum	-	56.7	-	0.010	0.0	0.91	71.8	70.0	5.5	98	119	136	159	180	222	262	324	346	379	0.9	1.0
Maximum	-	62.5	-	.118	4.1	2.13	83.2	78.1	8.4	126	152	169	198	224	265	310	370	406	432	1.1	1.5
Samples	134																				

Premium-price gasoline

17	1	60.8	Neg.	-	1.6	2.92	79.6	79.6	8.7	112	134	150	175	199	241	297	371	416	424	1.0	1.0
18	1	58.8	do	-	2.0	2.91	82.0	80.4	6.6	116	146	162	198	210	248	290	340	362	396	1.0	1.0
19	7	59.2	do	0.085	4.2	1.72	85.9	79.0	7.5	106	130	141	163	184	228	276	348	381	412	1.0	1.0
20	1	59.1	do	-	2.6	1.39	87.0	81.0	8.7	109	122	140	163	186	235	278	355	360	401	1.0	1.0
21	8	61.5	do	.053	1.5	1.67	88.5	80.3	7.9	103	126	139	163	186	227	269	338	367	398	1.0	1.4
22	1	62.9	do	-	1.6	2.58	80.3	79.7	8.4	104	126	140	164	186	224	269	322	350	376	1.0	1.0
23	20	60.7	do	.096	2.2	1.79	88.4	80.3	8.2	102	123	135	155	175	214	254	325	357	388	1.0	1.1
24	15	57.0	do	.027	3.6	1.06	89.0	80.6	6.8	105	129	143	170	198	247	291	346	367	393	.9	1.2
25	22	59.5	do	.091	3.1	2.05	92.6	81.8	6.8	109	129	142	161	178	216	263	321	351	393	1.0	1.1
26	4	56.5	do	.035	3.2	1.50	87.9	80.5	8.3	107	128	151	176	202	247	293	357	387	414	1.0	1.2
27	17	62.0	do	.053	1.9	2.60	85.6	80.4	7.9	106	126	139	161	181	221	262	325	355	380	1.0	1.3
28	7	59.3	do	.064	1.3	1.59	87.0	80.5	7.8	102	125	141	167	192	239	285	349	376	401	1.0	1.0
29	23	56.3	do	.090	3.5	2.25	91.8	81.8	6.0	112	139	154	174	194	236	285	349	372	397	1.0	1.0
30	5	59.4	do	.050	3.0	2.47	87.2	79.5	7.7	107	130	145	168	192	243	296	361	384	416	1.0	1.0
Average	-	59.5	Neg.	0.064	2.5	2.04	86.6	80.4	7.7	107	130	144	168	190	233	279	343	370	399	1.0	1.1
Minimum	-	56.3	-	0.027	1.3	1.06	79.6	79.0	6.0	102	122	135	155	175	214	254	321	350	376	0.9	1.0
Maximum	-	62.9	-	.096	4.2	2.92	92.6	81.8	8.7	116	146	162	198	210	248	297	371	416	424	1.0	1.4
Samples	132																				

R. I. 4444

District 13

TABLE 1.- Motor-gasoline survey, summer 1948
(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	Sam-ples No.	Gravity A.S.T.M. D-287 °A.P.I.	Corrosion A.S.T.M. D-130	Sulfur A.S.T.M. D-90 percent	Gum A.S.T.M. D-381 mg./100 ml.	T.E.L. A.S.T.M. D-526 ml./gal.	Octane number Research A.S.T.M. D-908	Octane number Motor A.S.T.M. D-357	R.V.P. A.S.T.M. D-323 lb.	Distillation, A.S.T.M. Method D-86 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	6	58.2	Neg.	0.206	1.0	2.43	77.4	72.8	7.7	97	117	143	183	214	259	303	362	384	409	0.9	2.7
2	6	61.2	do	.120	2.2	.85	77.7	73.2	6.8	111	130	142	166	190	241	290	355	386	421	1.0	.8
3	11	62.2	do	.103	.6	1.77	76.5	72.9	6.7	102	124	138	160	183	231	279	343	367	404	.9	1.2
4	10	58.3	do	.121	3.3	2.22	78.2	73.0	7.2	102	128	146	179	209	258	304	364	388	416	1.0	1.7
5	4	57.8	do	.140	1.9	1.31	79.1	74.7	7.3	109	129	145	175	203	253	306	363	389	422	1.0	1.6
6	5	61.5	do	.037	1.0	1.24	77.4	73.6	7.5	101	123	139	168	195	244	290	351	375	401	.9	1.8
7	4	60.0	do	.114	2.3	2.35	73.5	71.2	6.8	107	132	154	183	210	254	298	357	379	410	.9	1.6
8	2	58.1	do	.134	2.2	2.05	79.5	75.1	7.5	101	129	150	188	218	261	307	364	387	408	1.3	1.9
9	1	56.9	do	.154	2.0	.92	83.4	74.7	8.1	100	122	140	176	206	254	298	360	381	403	1.0	2.0
10	1	58.3	do	.096	3.0	1.81	81.4	76.7	6.0	110	123	139	168	194	238	282	336	355	385	1.0	2.5
11	2	60.7	do	.036	4.0	1.43	73.5	70.3	7.1	100	125	146	179	207	255	303	366	393	439	.9	1.3
12	1	56.7	do	.155	6.0	1.44	76.8	71.8	8.0	107	124	143	177	206	252	297	356	380	410	1.0	1.0
13	1	56.0	do	.115	(Oily)	2.50	75.0	71.6	5.7	114	140	160	187	206	240	280	340	366	404	1.1	.9
14	2	58.4	do	.166	3.0	1.21	80.5	75.3	7.5	106	124	145	174	199	243	281	340	361	387	1.0	1.0
15	1	67.0	do	.034	4.0	1.03	72.9	70.8	5.8	122	141	149	155	161	173	196	274	340	419	1.0	1.0
16	1	65.0	do	.104	3.0	1.79	75.7	72.1	7.7	98	112	124	140	156	199	258	342	365	398	.8	1.2
17	1	59.1	do	.160	.0	1.29	76.0	71.6	7.9	100	120	139	168	195	241	286	350	375	403	1.0	2.0
18	2	60.1	do	.042	2.1	1.18	77.8	74.3	7.2	107	131	148	180	211	264	313	370	392	414	1.0	1.0
19	2	60.5	do	.085	2.4	1.64	77.5	73.3	8.0	98	116	129	154	179	234	290	365	397	430	1.0	1.8
20	1	59.5	-	-	-	-	76.8	72.2	7.5	99	123	145	176	208	256	299	350	372	394	.7	1.5
21	1	60.6	-	-	-	-	74.0	71.1	6.7	104	135	157	187	215	258	298	350	372	393	.7	1.4
22	1	64.1	-	-	-	-	74.2	72.6	8.3	93	115	131	156	180	230	277	333	359	388	.9	1.2
23	1	59.9	-	-	-	-	75.4	69.7	7.6	95	121	139	169	198	250	298	361	387	419	.7	1.3
Average	-	60.0	Neg.	0.112	2.4	1.60	77.0	72.8	7.2	104	125	143	172	198	243	288	350	376	408	0.9	1.5
Minimum	-	56.0	-	0.034	0.0	0.85	72.9	69.7	5.7	93	112	124	140	156	173	196	274	340	385	0.7	0.8
Maximum	-	67.0	-	.206	6.0	2.50	83.4	76.7	8.3	122	141	160	188	218	264	313	370	397	439	1.3	2.7
Samples	67																				

Premium-price gasoline

24	1	60.6	Neg.	0.036	4.0	1.68	88.0	81.3	7.8	103	120	130	150	171	212	256	326	354	409	0.8	2.2
25	1	58.1	do	.118	3.0	1.78	89.5	80.7	7.6	107	130	144	164	187	232	280	348	375	404	1.0	2.0
26	2	60.0	do	.083	2.5	1.82	86.8	80.3	7.4	109	127	150	177	200	239	276	349	380	401	1.0	2.0
27	3	61.1	do	.144	2.9	2.62	87.4	78.2	7.8	98	115	132	158	184	225	262	313	333	364	.9	1.6
28	6	62.5	do	.055	1.7	1.82	84.1	78.6	7.7	104	127	143	170	191	229	267	331	362	390	.9	1.5
29	5	59.3	do	.087	1.2	2.22	86.1	79.7	6.5	108	131	147	174	195	232	270	329	358	392	1.0	1.6
30	10	59.0	do	.084	2.1	2.47	84.0	78.1	6.7	111	135	152	179	203	246	290	345	369	401	1.0	1.6
31	11	61.9	do	.067	2.9	2.26	82.3	77.5	6.9	103	122	135	155	175	224	275	341	367	400	.8	1.1
32	6	61.2	do	.100	1.8	.88	83.8	78.0	7.2	104	123	135	154	178	227	279	346	378	409	1.0	1.1
33	6	59.8	do	.075	3.0	1.98	81.7	78.3	7.7	99	122	139	165	190	235	278	336	364	395	.9	1.7
34	1	64.2	do	.032	2.0	1.73	81.7	77.4	8.7	98	115	126	149	172	226	288	353	378	412	.5	1.5
35	1	59.1	do	.069	6.0	2.78	79.7	77.0	9.6	94	110	129	160	186	235	284	354	376	410	1.0	2.0
36	1	57.0	do	.045	2.0	2.83	80.9	77.4	5.6	107	136	155	181	199	234	270	320	342	370	.9	1.6
37	2	58.6	do	.159	1.5	2.69	86.4	78.6	7.7	99	126	141	167	192	238	283	340	361	386	1.0	1.0
38	1	66.7	do	.037	1.0	2.65	79.0	77.6	5.4	125	142	149	157	161	177	202	280	360	426	1.0	1.0
39	2	62.3	do	.037	1.0	1.61	85.8	79.9	8.1	104	124	141	171	195	234	271	328	359	385	1.0	2.0
40	2	62.0	do	.080	1.5	2.78	84.0	78.9	8.7	99	122	129	155	181	237	294	370	403	433	1.0	2.0
41	1	63.2	-	-	-	-	77.8	76.5	7.4	100	123	139	162	182	221	260	313	338	380	.4	1.6
Average	-	60.9	Neg.	0.077	2.4	2.15	83.8	78.6	7.5	104	125	140	164	186	228	271	335	364	398	0.9	1.6
Minimum	-	57.0	-	0.032	1.0	0.88	77.8	76.5	5.4	94	110	126	149	161	177	202	280	333	364	0.4	1.0
Maximum	-	66.7	-	.159	6.0	2.83	89.5	81.3	9.6	125	142	155	181	203	246	294	370	403	433	1.0	2.2
Samples	62																				

R. I. 4444

District 14

TABLE 1.- Motor-gasoline survey, summer 1948
(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. D-287 °A.P.I.	Corrosion A.S.T.M. D-130	Sulfur A.S.T.M. D-90 percent	Gum A.S.T.M. D-381 mg./100 ml.	T.E.L. A.S.T.M. D-526 ml./gal.	Octane number Research A.S.T.M. D-908	Octane number Motor A.S.T.M. D-357	R.V.P. A.S.T.M. D-323 lb.	Distillation, A.S.T.M. Method D-86 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	6	60.7	Neg.	0.204	1.9	1.27	78.8	73.3	8.2	98	118	136	167	195	245	288	352	379	414	0.9	1.6
2	6	57.6	do	.180	4.2	1.19	77.5	72.8	6.4	105	124	137	166	196	246	297	352	374	408	1.0	2.0
3	11	57.6	do	.124	1.9	1.14	80.2	73.9	7.2	97	119	136	173	203	251	293	352	377	415	.9	1.8
4	7	60.9	do	.080	1.4	.35	77.5	72.7	7.5	101	126	134	158	181	234	285	340	369	413	.9	.9
5	7	60.1	do	.165	1.1	1.43	77.2	73.0	7.0	100	123	139	168	196	241	281	340	365	399	1.0	1.8
6	8	59.7	do	.078	1.9	2.51	79.0	73.4	7.2	101	123	141	173	202	250	293	346	364	394	.8	1.9
7	7	63.2	do	.039	.0	1.09	75.9	71.9	7.3	106	126	140	166	188	229	270	320	339	384	.7	1.8
8	5	62.1	do	.075	2.5	1.45	76.8	72.7	7.4	103	124	141	169	194	236	276	333	357	397	.6	1.4
9	3	-	-	-	-	-	-	72.4	7.8	-	-	-	-	-	-	-	-	-	-	-	-
10	2	59.3	Neg.	.106	3.9	1.01	82.1	74.3	8.9	101	118	136	167	194	245	293	351	375	404	.9	2.1
11	1	60.2	do	.091	7.0	1.97	79.0	75.2	6.4	101	126	144	174	201	246	286	338	366	396	.6	1.4
12	2	59.3	do	.152	3.2	1.90	77.2	72.4	7.0	99	120	141	174	202	252	297	355	377	403	.8	1.8
13	1	59.5	do	.190	4.8	1.43	76.8	72.2	8.2	100	117	134	166	198	249	294	350	368	418	1.0	2.0
14	1	57.7	do	.110	3.4	1.52	78.0	73.3	7.8	90	120	137	170	203	254	298	353	383	428	1.0	2.0
Average	-	59.8	Neg.	0.123	2.9	1.40	78.2	73.1	7.5	100	122	138	169	196	244	289	345	369	406	0.9	1.7
Minimum	-	57.6	-	0.039	0.0	0.35	75.9	71.9	6.4	90	117	134	158	181	229	270	320	339	384	0.6	0.9
Maximum	-	63.2	-	.204	7.0	2.51	82.1	75.2	8.9	106	126	144	174	203	254	298	355	383	428	1.0	2.1
Samples	67																				

Premium-price gasoline

15	6	61.0	Neg.	0.183	2.6	2.94	87.3	78.3	8.4	97	118	137	167	195	240	288	357	396	418	0.9	1.7
16	6	56.8	do	.100	.0	1.56	81.5	77.2	6.8	108	129	145	166	188	231	271	338	374	408	1.0	1.5
17	10	59.2	do	.160	1.7	1.65	85.7	78.1	6.5	98	122	136	164	190	237	283	334	357	390	1.0	1.8
18	7	61.0	do	.069	2.1	.82	83.8	78.0	7.2	99	118	130	152	175	228	279	340	363	401	.7	1.3
19	7	60.2	do	.070	.9	2.49	83.7	78.8	7.2	103	123	134	162	185	227	269	323	348	383	1.0	2.3
20	8	63.7	do	.024	.5	2.33	78.9	76.8	6.8	104	125	139	161	181	214	248	301	328	369	.8	1.7
21	7	64.7	do	.022	2.0	2.06	81.2	77.0	7.1	105	127	144	169	189	223	255	304	331	369	.8	1.2
22	5	61.0	do	.097	3.5	2.86	84.4	78.5	7.8	99	113	135	162	187	232	272	329	352	382	.7	1.4
23	5	61.1	do	.165	1.4	2.70	85.8	76.7	8.1	102	116	132	156	180	226	270	319	337	376	.9	2.6
24	1	58.4	do	.115	10.0	2.54	86.7	78.1	8.2	99	114	126	170	198	249	297	355	377	400	.7	2.3
25	2	61.4	do	.135	3.0	2.82	82.9	77.2	8.9	92	109	130	163	194	244	288	347	371	400	.9	2.9
26	1	58.3	do	.270	1.4	1.49	88.8	78.7	8.7	94	109	122	148	176	232	292	358	379	420	1.0	3.0
27	1	58.5	do	.110	11.8	3.05	84.4	78.0	8.2	90	113	127	158	184	239	290	355	383	430	1.0	2.0
Average	-	60.4	Neg.	0.117	3.1	2.25	84.2	77.8	7.7	99	118	134	161	186	232	277	335	361	396	0.9	2.0
Minimum	-	56.8	-	0.022	0.0	0.82	78.9	76.7	6.5	90	109	122	148	175	214	248	301	328	369	0.7	1.2
Maximum	-	64.7	-	.270	11.8	3.05	88.8	78.8	8.9	108	129	145	170	198	249	297	358	396	430	1.0	3.0
Samples	66																				

District 15

TABLE 1.- Motor-gasoline survey, summer 1946
(Average values of different brands)

Pacific Northwest: western Washington and western Oregon

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D-287 °A.P.I.	Corrosion A.S.T.M. D-130	Sulfur A.S.T.M. D-90 percent	Gum A.S.T.M. D-381 mg./100 ml.	T.E.L. A.S.T.M. D-526 ml./gal.	Octane number Research A.S.T.M. D-908	Octane number Motor A.S.T.M. D-357	R.V.P. A.S.T.M. D-323 lb.	Distillation, A.S.T.M. Method D-86 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	60.2	-	0.170	3.0	1.34	82.0	76.0	8.3	96	122	143	180	209	246	276	318	346	376	1.0	1.0
2	5	57.1	Neg.	.204	3.2	.93	82.0	76.3	7.3	104	122	139	166	191	241	293	362	388	422	1.1	2.0
3	3	57.4	do	.247	2.0	1.97	82.7	77.2	8.0	98	114	134	171	204	253	295	346	365	398	1.0	2.3
4	3	57.3	do	.205	2.0	1.65	81.8	76.7	8.3	99	115	134	169	204	252	293	347	369	404	1.0	2.0
5	1	58.2	-	.190	3.0	1.38	82.0	76.0	6.2	98	122	138	164	191	246	295	357	385	415	1.0	1.0
6	1	56.9	-	.220	1.0	2.62	82.0	76.0	7.9	96	124	147	182	220	262	303	366	388	416	1.0	2.0
7	1	57.7	-	.120	1.0	1.36	82.0	76.0	7.9	102	129	145	174	201	251	298	357	382	403	1.0	2.0
Average	-	57.8	Neg.	0.194	2.2	1.61	82.1	76.3	7.7	99	121	140	172	203	250	293	350	375	405	1.0	1.8
Minimum	-	56.9	-	0.120	1.0	0.93	81.8	76.0	6.2	96	114	134	164	191	241	276	318	346	376	1.0	1.0
Maximum	-	60.2	-	.247	3.2	2.62	82.7	77.2	8.3	104	129	147	182	220	262	303	366	388	422	1.1	2.3
Samples	15																				

Premium-price gasoline

8	3	57.1	Neg.	0.105	8.0	1.89	90.1	81.4	7.1	101	123	139	165	190	240	287	347	369	393	0.9	1.6
9	3	61.6	do	.104	1.3	2.93	90.9	82.8	6.3	110	134	146	161	176	208	238	285	307	341	.8	1.2
10	1	58.8	-	.130	3.0	1.33	90.0	82.0	6.5	100	126	143	170	190	230	270	324	352	368	1.0	1.0
11	5	58.5	Neg.	.136	1.4	2.15	90.0	81.6	7.4	104	126	141	165	186	224	261	315	338	378	.9	1.5
12	1	57.5	-	.110	4.0	2.31	89.0	82.0	6.3	101	135	153	180	202	237	275	350	380	405	1.0	1.0
13	1	56.9	-	.150	3.0	1.36	90.0	82.0	5.5	107	135	149	169	190	232	274	343	377	405	1.0	1.0
14	1	57.2	-	.130	3.0	1.98	91.0	83.0	8.5	96	121	137	163	187	237	286	342	363	388	1.0	1.0
Average	-	58.2	Neg.	0.124	3.4	1.99	90.1	82.1	6.8	103	129	144	168	189	230	270	329	355	383	0.9	1.2
Minimum	-	56.9	-	0.104	1.3	1.33	89.0	81.4	5.5	96	121	137	161	176	208	238	285	307	341	0.8	1.0
Maximum	-	61.6	-	.150	8.0	2.93	91.0	83.0	8.5	110	135	153	180	202	240	287	350	380	405	1.0	1.6
Samples	15																				

District 16

TABLE 1.- Motor-gasoline survey, summer 1948
(Average values of different brands

Northern California

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D-287 °A.P.I.	Corrosion A.S.T.M. D-130	Sulfur A.S.T.M. D-90 percent	Gum A.S.T.M. D-381 mg./100 ml.	T.E.L. A.S.T.M. D-526 ml./gal.	Octane number Research A.S.T.M. D-908	Octane number Motor A.S.T.M. D-357	R.V.P. A.S.T.M. D-323 lb.	Distillation, A.S.T.M. Method D-86 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	56.6	Neg.	0.207	2.7	2.49	81.6	76.2	7.7	98	122	141	175	210	264	305	361	384	408	1.0	1.8
2	3	57.9	do	.281	1.0	2.01	82.3	76.7	8.5	97	116	138	168	201	254	296	347	368	387	1.1	1.5
3	2	59.3	do	.190	1.5	1.52	84.3	77.3	7.4	95	129	141	177	208	247	278	320	345	377	1.0	1.0
4	3	56.9	do	.157	1.0	1.07	82.9	76.0	7.7	99	123	142	174	203	249	292	338	362	389	1.1	1.0
5	3	57.5	do	.195	1.7	1.02	82.2	76.1	7.2	100	118	136	162	189	240	293	352	381	415	1.0	1.5
6	3	57.3	do	.156	1.0	1.48	82.0	76.6	7.6	98	123	139	172	201	252	299	359	383	407	1.0	1.6
7	4	58.4	do	.302	1.5	2.92	81.6	76.8	7.2	101	122	144	178	206	249	285	332	351	390	1.0	2.0
Average	-	57.7	Neg.	0.213	1.5	1.79	82.4	76.5	7.6	98	122	140	172	203	251	293	344	368	396	1.0	1.5
Minimum	-	56.6	-	0.156	1.0	1.02	81.6	76.0	7.2	95	116	136	162	189	240	278	320	345	377	1.0	1.0
Maximum	-	59.3	-	.302	2.7	2.92	84.3	77.3	8.5	101	129	144	178	210	264	305	361	384	415	1.1	2.0
Samples	21																				

Premium-price gasoline

8	3	57.7	Neg.	0.138	2.0	2.32	90.3	81.5	7.1	99	124	141	168	193	242	283	338	357	386	1.0	1.1
9	3	58.4	do	.175	1.3	2.77	90.1	81.9	6.5	108	129	146	167	188	226	259	317	338	382	1.0	1.3
10	3	58.5	do	.118	1.7	1.92	90.6	81.5	6.6	104	125	139	162	183	227	276	346	371	400	1.0	1.3
11	2	58.7	do	.180	1.0	2.10	90.0	81.5	6.5	99	119	135	161	187	236	276	332	356	380	1.0	1.0
12	4	60.8	do	.113	1.5	2.88	90.2	82.8	6.6	110	139	150	169	184	213	242	283	301	340	1.0	1.5
13	3	56.7	do	.122	3.0	1.74	89.9	82.0	7.7	97	115	132	159	188	242	295	358	376	399	1.0	1.5
14	3	57.5	do	.082	1.3	2.09	89.2	81.1	7.4	100	127	145	174	199	238	278	344	372	405	1.0	1.3
Average	-	58.3	Neg.	0.133	1.7	2.26	90.0	81.8	6.9	102	125	141	166	189	232	273	331	353	385	1.0	1.3
Minimum	-	56.7	-	0.082	1.0	1.74	89.2	81.1	6.5	97	115	132	159	183	213	242	283	301	340	1.0	1.0
Maximum	-	60.8	-	.180	3.0	2.88	90.6	82.8	7.7	110	139	150	174	199	242	295	358	376	405	1.0	1.5
Samples	21																				

R. I. 4444

District 17

TABLE 1.- Motor-gasoline survey, summer 1948
(Average values of different brands)

Southern California

Regular-price gasoline

Item	Samples, No.	Gravity A.S.T.M. D-287 °A.P.I.	Corrosion A.S.T.M. D-130	Sulfur A.S.T.M. D-90 percent	Gum A.S.T.M. D-381 mg./100 ml.	T.E.L. A.S.T.M. D-526 ml./gal.	Octane number Research A.S.T.M. D-908	Octane number Motor A.S.T.M. D-357	R.V.P. A.S.T.M. D-323 lb.	Distillation, A.S.T.M. Method D-86 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	12	59.5	Neg.	0.193	1.9	1.64	82.2	75.9	8.0	98	123	144	181	213	249	278	321	348	374	0.9	2.3
2	12	56.2	do	.160	1.5	1.53	82.5	76.2	7.5	100	118	142	181	214	260	298	351	372	400	.9	2.3
3	11	57.6	do	.206	2.4	1.16	82.9	75.3	6.0	105	127	144	169	195	242	285	344	370	404	.8	1.7
4	12	58.0	do	.249	2.6	1.88	82.4	76.1	8.2	98	117	136	170	203	254	297	347	365	390	.8	2.2
5	11	56.1	do	.156	1.3	1.66	82.2	76.4	7.1	103	127	151	182	210	256	300	357	381	410	.8	2.0
6	12	57.9	do	.216	1.7	1.79	81.3	75.9	7.7	98	119	140	173	206	255	297	352	372	397	.9	2.0
7	12	56.9	do	.158	1.4	1.76	81.0	76.2	6.6	104	129	145	175	204	254	298	358	382	412	.9	1.3
8	1	58.4	do	.074	1.0	1.45	78.6	76.8	9.0	102	126	147	180	208	248	282	327	343	376	.9	2.1
9	1	58.2	do	.197	3.0	1.42	84.2	76.7	5.8	114	140	153	175	194	234	271	334	368	398	1.0	1.5
10	1	58.9	do	.272	1.0	2.07	81.0	75.5	9.4	104	114	132	164	198	250	297	353	372	394	1.0	3.5
11	1	59.4	do	.033	2.0	.95	77.0	75.2	9.2	94	108	122	150	180	236	289	344	364	398	1.1	2.4
12	1	60.1	do	.264	2.0	2.16	80.9	75.7	8.2	100	113	128	156	184	234	280	340	366	393	1.0	2.5
13	1	56.6	do	.798	3.0	.65	81.7	72.7	10.1	96	101	128	171	216	275	311	347	359	375	1.0	4.5
14	1	56.9	do	.214	2.0	1.28	82.5	75.9	5.4	114	141	156	179	202	248	296	360	387	423	1.1	.9
15	1	58.5	do	.445	1.0	1.40	85.6	75.2	9.9	92	108	125	157	189	254	308	363	379	403	.9	3.1
16	1	58.9	do	.100	1.0	2.73	83.2	81.3	10.4	92	110	127	161	196	248	292	345	366	383	1.0	2.5
17	1	57.0	do	.245	1.0	1.50	-	74.0	6.8	94	117	145	185	214	261	301	351	371	397	.7	2.1
Average	-	57.9	Neg.	0.234	1.8	1.59	81.8	75.9	8.0	100	120	139	171	202	250	293	347	369	396	0.9	2.3
Minimum	-	56.1	-	0.033	1.0	0.65	77.0	72.7	5.4	92	101	122	150	180	234	271	321	343	374	0.8	0.9
Maximum	-	60.1	-	.798	3.0	2.73	85.6	81.3	10.4	114	141	156	185	216	275	311	363	387	423	1.1	4.5
Samples	92																				

Premium-price gasoline

18	3	57.3	Neg.	0.163	1.0	2.94	86.8	80.0	6.6	97	118	145	177	204	249	292	349	369	399	0.7	2.2
19	1	59.0	do	.106	1.0	2.63	83.2	81.4	10.1	94	110	129	161	197	250	296	347	366	387	.9	3.6
20	1	58.3	do	.185	1.0	2.86	84.4	80.1	8.5	96	115	132	166	202	256	297	343	361	384	.9	2.1
21	1	58.2	do	.132	1.0	2.96	85.1	80.1	8.0	102	120	141	172	198	240	282	334	353	377	1.0	2.0
22	1	61.5	do	.058	1.0	2.99	87.2	82.5	9.9	99	107	136	174	195	224	246	277	290	325	.8	4.4
23	1	62.2	do	.200	2.0	3.01	84.5	78.7	8.4	96	114	129	155	180	223	262	313	331	363	1.1	1.9
24	1	61.1	do	.030	3.0	2.03	83.7	81.5	9.8	98	112	126	150	176	222	270	340	365	411	1.1	2.4
25	1	59.0	do	.050	1.0	2.85	83.9	82.1	9.5	97	112	131	164	196	247	289	339	356	378	1.1	2.9
26	1	56.5	do	.117	2.0	1.72	90.4	80.9	5.8	114	139	155	177	196	232	271	338	363	394	1.0	1.5
27	1	60.5	do	.048	1.0	2.98	86.9	84.3	10.2	96	112	130	160	190	232	268	320	345	383	1.0	3.0
28	12	58.5	do	.062	1.3	2.41	88.3	81.9	6.2	105	132	149	171	193	227	257	304	329	374	.8	1.6
29	12	57.3	do	.093	2.7	1.94	89.8	81.0	7.4	102	121	138	167	192	238	282	343	368	397	.8	1.6
30	13	56.2	do	.158	1.6	2.40	90.4	81.1	6.8	104	128	147	174	198	244	288	338	357	387	.8	1.6
31	15	56.7	do	.114	3.0	1.85	89.4	81.2	7.9	100	118	134	162	190	241	292	353	375	396	.8	1.6
32	13	55.9	do	.106	1.8	1.62	90.7	80.8	5.7	107	134	150	172	192	233	274	337	354	398	.8	1.5
33	16	61.7	do	.100	1.3	2.98	91.3	82.8	6.2	106	131	143	158	172	204	236	283	304	335	.8	1.1
34	14	58.3	do	.187	2.6	2.63	90.4	81.3	7.0	103	125	143	171	194	236	273	324	347	374	.8	1.5
Average	-	58.7	Neg.	0.112	1.7	2.52	87.4	81.3	7.9	101	120	139	167	192	235	275	328	349	380	0.9	2.1
Minimum	-	55.9	-	0.030	1.0	1.62	83.2	78.7	5.7	94	107	126	150	172	204	236	277	290	325	0.7	1.1
Maximum	-	62.2	-	.200	3.0	3.01	91.3	84.3	10.2	114	139	155	177	204	256	297	353	375	411	1.1	4.4
Samples	107																				

TABLE 2.- Motor-gasoline survey, summer 1948
(Average values for brands from different districts)

Regular-price gasoline

District No.	Name	Samples	Items (Brands)	Gravity A.S.T.M. D-287 °A.P.I.	Corrosion A.S.T.M. D-130	Sulfur A.S.T.M. D-90 percent	Gum A.S.T.M. D-381 mg./100 ml.	T.E.L. A.S.T.M. D-526 ml./gal.	Octane number Research A.S.T.M. D-908	Octane number Motor A.S.T.M. D-357	R.V.P. A.S.T.M. D-323 lb.	Distillation, A.S.T.M. Method D-86 Temperature range, °F. (Corrected to sea level) I.B.P.	Percent evaporated 5	10	20	30	50	70	90	95	End point	Percent Residue	Percent Loss
1	Northeast area	85	17	57.5	Neg.	0.070	3.5	1.23	83.2	77.3	8.4	100	120	139	168	195	240	285	354	383	411	1.0	1.6
2	Mid-Atl. Coast States	293	21	58.6	do	.066	2.3	1.20	83.7	77.3	8.3	98	118	136	164	190	237	283	346	373	409	1.0	1.4
3	Southeast area	118	17	58.6	do	.064	2.6	1.28	82.8	76.7	7.9	100	122	140	169	194	242	289	352	377	411	1.0	1.2
4	Appalachian area	143	28	61.4	do	.055	2.5	1.96	82.7	76.8	8.5	99	119	135	161	185	228	271	332	363	396	1.0	1.5
5	Michigan	45	19	62.2	do	.065	2.9	1.77	79.8	74.8	8.8	96	117	134	159	181	224	267	332	361	392	1.0	1.5
6	North Illinois area	99	18	62.7	do	.094	2.0	1.50	78.5	74.2	8.8	96	113	128	155	181	230	276	342	371	404	.9	1.5
7	Central Miss. area	100	19	61.7	do	.071	2.8	1.69	78.5	74.6	8.0	98	119	136	164	189	235	280	338	364	401	.9	1.5
8	Lower Miss. area	80	14	61.3	do	.052	3.3	1.59	80.6	76.2	7.7	101	122	138	164	188	231	276	341	368	406	1.0	1.5
9	North Plains area	24	13	62.2	do	.080	2.1	1.63	77.8	73.7	8.1	98	120	136	162	187	233	277	339	368	398	.8	1.3
10	Central Plains area	62	15	63.2	do	.074	1.7	1.59	76.9	73.2	8.4	97	116	132	157	181	228	272	332	358	390	.8	1.6
11	South Plains area	147	29	61.7	do	.055	1.9	1.93	76.7	73.7	7.8	100	120	138	167	193	238	283	341	363	392	.9	1.5
12	Southern Texas	134	16	59.4	do	.061	2.0	1.54	79.7	76.0	7.5	105	129	146	174	199	242	286	347	373	403	1.0	1.1
13	South Mountain States	67	23	60.0	do	.112	2.4	1.60	77.0	72.8	7.2	104	125	143	172	198	243	288	350	376	408	.9	1.5
14	North Mountain States	67	14	59.8	do	.123	2.9	1.40	78.2	73.1	7.5	100	122	138	169	196	244	289	345	369	406	.9	1.7
15	Pacific Northwest	15	7	57.8	do	.194	2.2	1.61	82.1	76.3	7.7	99	121	140	172	203	250	293	350	375	405	1.0	1.8
16	Northern California	21	7	57.7	do	.213	1.5	1.79	82.4	76.5	7.6	98	122	140	172	203	251	293	344	368	396	1.0	1.5
17	Southern California	92	17	57.9	do	.234	1.8	1.59	81.8	75.9	8.0	100	120	139	171	202	250	293	347	369	396	.9	2.3
Average		-	-	60.2	Neg.	0.099	2.4	1.58	80.1	75.2	8.0	99	120	138	166	192	238	282	343	369	401	0.9	1.5
Samples		1,592																					

Premium-price gasoline

1	Northeast area	73	15	60.1	Neg.	0.066	3.8	1.48	87.5	80.1	8.5	101	118	133	156	179	225	270	336	369	400	1.1	1.5
2	Mid-Atl. Coast States	223	15	59.2	do	.065	2.8	1.44	88.4	79.9	8.1	100	119	135	160	184	230	276	338	365	401	1.0	1.2
3	Southeast area	95	14	59.7	do	.057	3.3	1.37	88.6	79.7	8.0	101	122	137	160	183	228	274	338	366	403	1.0	1.1
4	Appalachian area	111	25	60.5	do	.059	2.9	2.21	86.8	79.4	8.4	100	120	135	160	184	229	274	338	369	401	1.0	1.4
5	Michigan	31	17	60.5	do	.076	4.1	2.21	85.1	78.9	9.0	96	117	132	156	179	224	272	340	372	404	1.0	1.3
6	North Illinois area	92	15	61.9	do	.078	2.3	1.79	84.1	78.4	8.6	97	115	130	154	179	225	271	340	370	405	.9	1.4
7	Central Miss. area	88	14	61.1	do	.064	4.1	1.91	85.5	79.2	7.9	99	119	134	160	185	231	279	345	373	405	.9	1.3
8	Lower Miss. area	77	14	61.3	do	.046	3.4	1.83	85.7	79.9	7.9	103	124	140	163	185	226	270	332	359	396	1.0	1.4
9	North Plains area	19	12	62.7	do	.067	1.8	1.80	83.2	78.3	8.0	99	121	135	158	180	226	272	335	363	397	.9	1.2
10	Central Plains area	55	10	63.2	do	.065	1.4	1.90	83.1	77.7	8.2	98	118	133	157	180	224	266	324	351	387	.9	1.4
11	South Plains area	138	24	63.0	do	.055	1.8	2.60	83.7	78.3	8.6	100	118	132	157	180	223	266	326	353	386	.9	1.5
12	Southern Texas	132	14	59.5	do	.064	2.5	2.04	86.6	80.4	7.7	107	130	144	168	190	233	279	343	370	399	1.0	1.1
13	South Mountain States	62	18	60.9	do	.077	2.4	2.15	83.8	78.6	7.5	104	125	140	164	186	228	271	335	364	398	.9	1.6
14	North Mountain States	66	13	60.4	do	.117	3.1	2.25	84.2	77.8	7.7	99	118	134	161	186	232	277	335	361	396	.9	2.0
15	Pacific Northwest	15	7	58.2	do	.124	3.4	1.99	90.1	82.1	6.8	103	129	144	168	189	230	270	329	355	383	.9	1.2
16	Northern California	21	7	58.3	do	.133	1.7	2.26	90.0	81.8	6.9	102	125	141	166	189	232	273	331	353	385	1.0	1.3
17	Southern California	107	17	58.7	do	.112	1.7	2.52	87.4	81.3	7.9	101	120	139	167	192	235	275	328	349	380	.9	2.1
Average		-	-	60.5	Neg.	0.078	2.7	1.99	86.1	79.5	8.0	101	121	136	161	184	228	273	335	362	396	1.0	1.4
Samples		1,405																					

TABLE 3.- Motor-Gasoline survey, summer 1948
(Summary of data of the survey)

Test	Regular-price gasoline			Premium-price gasoline		
	Minimum	Average	Maximum	Minimum	Average	Maximum
Gravity, degrees A.P.I.	52.8	60.2	67.7	54.7	60.5	68.7
Sulfur content, percent	.005	.099	.798	.010	.078	.270
Gum, mg. per 100 ml.	.0	2.4	11.0	.0	2.7	17.0
Tetraethyllead, ml. per gal.	.00	1.58	3.05	.00	1.99	3.16
Octane number, Research	70.0	80.1	87.9	77.8	86.1	93.0
Octane number, Motor	68.1	75.2	81.4	74.6	79.5	84.3
Reid vapor pressure, pounds	5.4	8.0	10.5	5.4	8.0	10.6
Initial boiling point, °F.	86	99	126	84	101	125
5% evaporated	101	120	152	106	121	146
10% evaporated	113	138	169	118	136	162
20% evaporated	128	166	198	136	161	198
30% evaporated	143	192	224	153	184	210
50% evaporated	173	238	275	177	228	256
70% evaporated	196	282	313	202	273	300
90% evaporated	274	343	384	277	335	371
95% evaporated	299	369	408	290	362	423
End point	323	401	440	325	396	453
Distillation loss, percent	.5	1.5	4.5	.5	1.4	4.4

TABLE 4.- Motor-gasoline survey, summer 1947
(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	60.7	71.6	55.4	61.0	68.6
Sulfur content, percent	.003	.092	.712	.006	.075	.280
Gum, mg. per 100 ml.	.0	2.2	11.0	.0	2.6	13.0
Tetraethyllead, ml. per gal.	.00	1.46	3.04	.00	1.86	3.24
Octane number, Research	69.4	80.2	86.5	77.2	85.9	94.0
Octane number, Motor	68.0	75.1	81.3	76.1	79.2	88.7
Reid vapor pressure, pounds	5.6	8.0	10.5	5.5	7.8	11.6
Initial boiling point, °F.	89	100	126	89	102	118
5% evaporated	105	121	152	102	122	153
10% evaporated	113	139	175	113	137	168
20% evaporated	124	165	201	131	161	190
30% evaporated	135	190	226	151	183	210
50% evaporated	168	235	273	188	226	255
70% evaporated	216	279	314	218	269	303
90% evaporated	272	339	373	262	331	384
95% evaporated	297	364	400	286	357	415
End point	338	396	439	322	389	449
Distillation loss, percent	.7	1.5	3.4	.5	1.5	3.5

TABLE 5.— Motor-gasoline survey, summer 1948
(Locations and numbers of samples)

District 1 (Northeast area)

Location	State	Samples		
Portland, and South	Maine	9		
	Mass.		(Boston, and South	64
			(Braintree	2
			(Brookline	2
			(Cambridge	12
			(Chelsea	1
			(Dorchester	12
Boston		149	(Everett	31
			(Malden	6
			(Roxbury	15
			(Waltham	2
			(Wellesley	2
2 locations (12 cities)		158		

District 2 (Mid-Atlantic Coast States)

Hartford	Conn.	10		
Baltimore	Md.	58		
Atlantic City	N.J.	5		
			(Bayonne	10
			(Bayway	2
			(Elizabeth	88
			(Hillside	2
			(Jersey City	2
New York		229	(Linden	10
			(Newark	65
	N.Y.		(Brooklyn, N.Y.	4
			(Long Island City	21
			(New York	25
Syracuse		9		
Albany		48	(Albany	43
			(Renssalaer	5
			(Beacon	20
Beacon		32	(Fishkill	2
			(Poughkeepsie	2
			(Wappingers Falls	8
Harrisburg	Penn.	7	(Chester	24
			(Lansdowne	2
Philadelphia		75	(Philadelphia	40
			(Trainer	2
Scranton		7	(Claymont, Del.	5
			(Collingswood, N.J.	2
Providence	R.I.	11		
Norfolk	Va.	4		
Richmond		21		
13 locations (31 cities)		516		

TABLE 5.- Motor-gasoline survey, summer 1948 (Cont'd.)
(Locations and numbers of samples)

District 3 (Southeast area)

Location	State	Samples
Birmingham	Ala.	2
Mobile		6
Daytona Beach	Fla.	3
Jacksonville		35
Miami		8
Atlanta	Ga.	50
Asheville	N.C.	7
Charlotte		11
Wilmington		36
Charleston	S.C.	25
Columbia		8
Chatanooga	Tenn.	4
Knoxville		12
Nashville		6
14 locations (14 cities)		213

District 4 (Appalachian area)

Ashland	Ky.	2
Cumberland	Md.	4
Buffalo	N.Y.	18
Olean		4
Wellsville		27
Canton	Ohio	2
Cincinnati		30
Cleveland		44
Columbus		8
Cuyahoga Falls		2
Findlay		5
Hudson		4
Lima		6
Salem		2
Toledo		22
Oil City	Penn.	5
Pittsburgh		51
Warren		2
Charleston	W.Va.	11
Elm Grove		1
Moundsville		2
Sistersville		2
22 locations (22 cities)		254

TABLE 5.- Motor-gasoline survey, summer 1948 (Cont'd.)
(Locations and numbers of samples)

District 5 (Michigan)

Location	State	Samples		
	Mich.		(Detroit	48
Detroit		53	(Keego Harbor	3
			(Pontiac	2
Grand Rapids		20		
Saginaw		3		
3 locations (5 cities)		76		

District 6 (North Illinois area)

Peoria	Ill.	4		
			(Chicago	111
			(Chicago Heights	1
			(Elmwood Park	6
Chicago		154	(Joliet	4
			(Oak Lawn	2
			(Oak Park	3
			(River Forest	1
			(East Chicago, Ind.	26
Davenport	Iowa	4		
LaCrosse	Wis.	6		
Milwaukee		23		
5 locations (12 cities)		191		

District 7 (Central Mississippi area)

Lawrenceville	Ill.	6	(Lawrenceville	3
			(Robinson	3
Indianapolis	Ind.	37		
Evansville		6	(Evansville	2
			(Mt. Vernon	4
Tell City		2		
Terre Haute		2		
Lawrenceburg	Ky.	2		
Louisville		56		
Paducah		4	(East Alton, Ill.	6
			(Hartford	1
			(Wood River	1
St. Louis	Mo.	73	(St. Louis, Mo.	65
9 locations (14 cities)		188		

TABLE 5.- Motor-gasoline survey, summer 1948 (Cont'd.)
(Locations and numbers of samples)

District 8 (Lower Mississippi area)

Location	State	Samples
El Dorado	Ark.	12
Little Rock		32
Baton Rouge	La.	6
Lafayette		2
Lake Charles		20
New Orleans		54
Shreveport		9
Jackson	Miss.	4
Memphis	Tenn.	18
9 locations (9 cities)		157

District 9 (North Plains area)

Le Seur	Minn.	1
Minneapolis		38
Sauk Center		2
Valley City	N. Dak.	2
4 locations (4 cities)		43

District 10 (Central Plains area)

Des Moines	Iowa	5		
Phillipsburg	Kans.	2		
Ottawa		1	(Kansas City, Kans.	21
Kansas City	Mo.	77	(Olathe	1
			(Kansas City, Mo.	55
Grand Island	Nebr.	5		
Omaha		27		
6 locations (8 cities)		117		

TABLE 5.- Motor-gasoline survey, summer 1948 (Cont'd.)
(Locations and numbers of samples)

District 11 (South Plains area)

Location	State	Samples		
Arkansas City	Kans.	2		
Augusta		2		
Coffeyville		26		
El Dorado		2		
Newton		2		
Wichita		21		
Bartlesville	Okla.	4		
Bristow		1		
Lawton		3		
Oklahoma City		2		
Okmulgee		2		
Ponca City		4		
Tulsa		110		
Abilene	Texas	14		
Burkburnett		1		
Dallas		83	(Dallas	64
			(Forney	1
			(Fort Worth	18
Electra		2		
Gladewater		2		
Wichita Falls		2		
19 locations (21 cities)		285		

District 12 (Southern Texas)

Beaumont	Texas	64	(Beaumont	58
			(Nederland	2
			(Port Arthur	4
Corpus Christi		31		
Harlingen		16		
			(Galena Park	2
Houston		76	(Houston	74
Jacksonville		15		
Laredo		1		
San Antonio		62		
Tulsita		1		
8 locations (11 cities)		266		

TABLE 5.- Motor-gasoline survey, summer 1948 (Cont'd.)
(Locations and numbers of samples)

District 13 (South Mountain States)

Location	State	Samples		
Bakersfield	Calif.	2		
Los Banos		2		
Madera		2		
Newman		2		
Patterson		2		
Westby		2		
Denver	Colo.	24	(Denver	21
			(Englewood	3
Pueblo		2		
Albuquerque	N. Mex.	1		
Amarillo	Texas	49		
Big Spring	4	4		
Borger	2	2		
Colorado	2	2		
El Paso		7		
Sweetwater		4		
Salt Lake City	Utah	22		
16 locations (17 cities)		129		

District 14 (North Mountain States)

Pocatello	Idaho	2
Billings	Mont.	14
Butte		2
Conrad		14
Cut Bank		8
Great Falls		7
Kalispell		1
Kevin		2
Missoula		4
Shelby		2
Casper	Wyo.	71
Cheyenne		2
Sinclair		4
13 locations (13 cities)		133

District 15 (Pacific Northwest)

Seattle	Wash.	30
1 location (1 city)		30

TABLE 5.- Motor-gasoline survey, summer 1948 (Cont'd.)
(Locations and numbers of samples)

District 16 (Northern California)

Location	State	Samples		
San Francisco Bay area	Calif.	42	(Oakland	2
			(San Francisco	30
			(San Leandro	10
1 location (3 cities)		42		

District 17 (Southern California)

	Calif.		(Fillmore	2
			(Glendale	8
			(Long Beach	94
			(Los Angeles	80
Los Angeles		197	(Manhatton Beach	2
			(Midway City	3
			(Montebello	4
			(Pico	2
			(San Fernando	2
Santa Maria		2		
2 locations (10 cities)		199		
Total: 147 locations (207 cities)		2,997 samples		

TABLE 6.- Motor-gasoline survey, summer 1948
(Summary of locations and numbers of samples)

District No.	District Name	Locations	Cities	Samples	Percent
1	Northeast area	2	12	158	5.3
2	Mid-Atlantic Coast States	13	31	516	17.2
3	Southeast area	14	14	213	7.1
4	Appalachian area	22	22	254	8.5
5	Michigan	3	5	76	2.5
6	North Illinois area	5	12	191	6.4
7	Central Mississippi area	9	14	188	6.3
8	Lower Mississippi area	9	9	157	5.2
9	North Plains area	4	4	43	1.4
10	Central Plains area	6	8	117	3.9
11	South Plains area	19	21	285	9.5
12	Southern Texas	8	11	266	8.9
13	South Mountain States	16	17	129	4.3
14	North Mountain States	13	13	133	4.4
15	Pacific Northwest	1	1	30	1.0
16	Northern California	1	3	42	1.4
17	Southern California	2	10	199	6.7
Total 17 districts		147	207	2,997	100.0