

MISCELLANEOUS ANALYSES OF COAL SAMPLES FROM VARIOUS FIELDS OF THE UNITED STATES.

INTRODUCTION.

From time to time during the last six years a large number of analyses have been made of samples of coal collected from various States and fields by members of the United States Geological Survey, but for one reason or another they have not been published. Most of the samples were taken in anticipation of a geologic report on the field from which they were obtained, but, largely on account of the urgent demand for the classification and valuation of public coal lands, the preparation of the several reports has been greatly delayed and some of them have been abandoned. The analyses, however, are so valuable to persons interested in the fields that they are herewith published independently of the reports to which they pertain. The descriptions are necessarily brief, but it is believed that enough data are given to supply the present needs.

During the early stages of land classification all analytical work was done by the Geological Survey, but with the establishment of the Bureau of Mines "the analyzing and testing of coals, lignites, and other mineral fuel substances" of the United States passed by law to that bureau. Accordingly all coal analyses bearing laboratory numbers greater than 10534 should be credited to the Bureau of Mines, and those bearing a smaller number should be credited to the Geological Survey. Although the analytical work has passed from one bureau to the other, the laboratory and many of the chemists engaged in the work have remained the same.

In the table the analyses are given in four forms, marked A, B, C, and D. Analysis A represents the sample as it comes from the mine. This form is not well suited for comparison because the amount of moisture in the sample as it comes from the mine is largely a matter of accident, and consequently analyses of the same coal expressed in this form may vary widely. Analysis B represents the sample after it has been dried at a temperature a little above the normal until its weight becomes constant. This form of analysis is best adapted to general purposes of comparison. Analysis C represents the theoretical condition of the coal after all the moisture has been eliminated. Analysis D represents the coal after all moisture and ash have been

theoretically removed. This is supposed to represent the true coal substance, free from the most significant impurities. Forms C and D are obtained from the others by recalculation. They should not be used in comparison, for they represent theoretical conditions that never exist.

In the analytical work it is not possible to determine the proximate constituents of coal or lignite with the same degree of accuracy as the ultimate constituents. Therefore the air-drying loss, moisture, volatile matter, fixed carbon, and ash are given to one decimal place only; whereas the ash (in the ultimate analysis), sulphur, hydrogen, carbon, nitrogen, and oxygen are given to two decimal places. The determination of the calorific value to individual units is not reliable, hence in the column headed "Calories" the values are given to the nearest five units, and in the column headed "British thermal units" they are given to the nearest tens, as the value of a British thermal unit is about one-half that of a calorie.

ANALYSES.

[Made by the United States Geological Survey and the Bureau of Mines. F. M. Stanton and A. C. Fieldner, chemists in charge.

ALABAMA.

JEFFERSON COUNTY.

Mine.	Collector.	Coal bed and kind of coal.	Location.			Thickness.		Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heat value.	
			Sec.	T.	R.	Coal bed.	Part sampled.				Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
Seloca mine, Seloca.....	W. F. Prouty.....	Jefferson..... Bituminous.	26	14 S.	3 W.	<i>Ft. in.</i>	<i>Ft. in.</i> (<i>a</i>)	3948	2.2	A B C D	3.2 1.0	29.0 29.7 30.0 33.8	56.8 58.0 58.6 66.2	11.03 11.28 11.40	2.58 2.64 2.67 3.01	4.83 4.69 4.62 5.21	72.43 74.06 74.85 84.48	1.56 1.59 1.62 1.82	7.57 5.74 4.84 5.48	7,315 7,480 7,555 8,530	13,160 13,460 13,600 15,350
Watt mine of Morgan Coal Co., Watts Mines.	Butts and Prouty.	Black Creek..... Bituminous.	26	14 S.	3 W.	3 3½	3 3½	3949	.3	A B C D	1.3 1.0	33.2 33.3 33.7 34.3	63.6 63.8 64.4 65.7	1.87 1.88 1.90.....	.73 .73 .74 .75	5.29 5.28 5.22 5.31	83.20 83.45 84.31 85.95	1.77 1.77 1.80 1.83	7.14 6.89 6.03 6.16	8,425 8,450 8,540 8,705	15,170 15,220 15,370 15,670
Mine of Little Warrior Coal & Coke Co., Littleton.	W. F. Prouty.....	Mary Lee..... Bituminous.	6	16 S.	4 W.	.....	(<i>a</i>)	4011	2.2	A B C D	3.1 1.0	25.4 25.9 26.2 30.9	56.8 58.1 58.7 69.1	14.7 15.0 15.1.....	.91 .93 .94 1.11	....................	....................	....................	....................	....................	....................

ST. CLAIR COUNTY.

Vulcan No. 4 mine of Branch Coal Co., Coal City.	Chas. Butts.....	Broken Arrow.. Bituminous.	6	16 S.	4 W.	4 1½	3 3½	12436	2.9	A B C D	3.7 .9	29.1 29.9 30.2 33.1	58.7 60.4 61.0 66.9	8.5 8.8 8.8	1.43 1.50 1.52 1.67	....................	....................	....................	....................	....................	....................
Do.....	.....do.....	Broken Arrow.. Bituminous.	6	16 S.	4 W.	4 9	3 8	12437	2.7	A B C D	3.5 .9	29.1 29.9 30.1 32.9	59.2 60.8 61.4 67.1	8.2 8.4 8.5	1.36 1.40 1.41 1.54	....................	....................	....................	....................	....................	....................

a Car sample.

ALABAMA—Continued.

ST. CLAIR COUNTY—Continued.

Mine.	Collector.	Coal bed and kind of coal.	Location.			Thickness.		Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heat value.	
			Sec.	T.	R.	Coal bed.	Part sampled.				Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
Vulcan No. 4 mine of Branch Coal Co., Coal City.	Chas. Butts.....	Broken Arrow... Bituminous.	6	16 S.	4 W.	<i>Ft. in.</i> 4 3/4	<i>Ft. in.</i> 3 5	12438	3.7	A B C D	4.4 .7	27.7 28.8 29.0 32.9	56.6 58.8 59.2 67.1	11.3 11.7 11.8 ...	1.43 1.49 1.50 1.70	....................	....................	....................	....................	....................	....................
Do.....	.....do.....	Broken Arrow... Bituminous.	6	16 S.	4 W.	.....	(a)	12439	3.1	A B C D	3.9 .9	28.2 29.0 29.3 32.4	58.6 60.5 61.0 67.6	9.33 9.63 9.71 ...	1.46 1.51 1.52 1.68	5.10 4.91 4.85 5.37	75.71 78.13 78.81 87.28	1.32 1.36 1.37 1.52	7.08 7.74 3.74 4.15	7,500 7,740 7,805 8,645	13,500 13,930 14,050 15,560
Coal Branch mine of Seaboard Coal & Coke Co., Coal City.	.....do.....	Coal City... Bituminous.	12	16 S.	3 W.	5	4 10	12440	1.8	A B C D	2.8 1.0	32.9 33.5 33.9 35.3	60.3 61.4 62.0 64.7	4.0 4.1 4.1 ...	1.10 1.12 1.13 1.18	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	8,055 8,200 8,285 8,640	14,500 14,670 14,910 15,550
Do.....	.....do.....	Coal City... Bituminous.	12	16 S.	3 W.	3 10	3 10	12441	1.2	A B C D	2.0 .8	34.3 34.7 35.0 37.1	58.2 58.9 59.4 62.9	5.5 5.6 5.6 ...	1.30 1.32 1.33 1.41	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	8,000 8,100 8,165 8,650	14,400 14,580 14,690 15,570
Do.....	.....do.....	Coal City... Bituminous.	12	16 S.	3 W.	2 10	2 10	12442	1.4	A B C D	2.4 1.0	33.7 34.2 34.5 35.7	60.7 61.5 62.2 64.3	3.2 3.3 3.3...	.81 .82 .83 .86	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	8,215 8,330 8,415 8,705	14,790 14,500 15,150 15,670
Do.....	.....do.....	Coal City... Bituminous.	12	16 S.	3 W.	.....	(b)	12443	1.5	A B C D	2.4 .9	33.3 33.8 34.1 35.7	60.0 60.9 61.5 64.3	4.31 4.38 4.42 ...	1.07 1.09 1.10 1.15	5.27 5.18 5.13 5.37	81.85 83.10 83.85 87.72	1.46 1.48 1.50 1.57	6.04 4.77 4.00 4.19	8,140 8,260 8,335 8,720	14,650 14,870 15,010 15,700

CALIFORNIA.
CONTRA COSTA COUNTY.

Black Diamond mine, Los Medanos.	M. R. Campbell...	Subbituminous.	....	2 N.	1 W.	2 8	2 7	2463	7.7	A	15.0	38.4	34.5	12.1	5.57	.....	.....	.....	.....	5,135	9,240
										B	7.9	41.6	37.4	13.1	6.03	.....	.....	.....	.....	5,560	10,010
										C	....	45.2	40.5	14.3	6.55	.....	.....	.....	.....	6,040	10,870
										D	....	52.7	47.3	.....	7.64	.....	.....	.....	.....	7,045	12,580

COLORADO.
ADAMS COUNTY.

Mine of E. B. Thomas.....	G. B. Richardson.	Subbituminous.	12	1 S.	61 W.	8	4	13141	26.9	A	35.0	27.4	30.2	7.38	0.31	6.56	41.71	0.74	43.30	3,880	6,980
										B	11.1	37.5	41.3	10.09	.43	4.88	57.06	1.01	28.53	5,305	9,550
										C	....	42.1	46.5	11.35	.48	4.11	64.17	1.14	18.75	5,970	10,740
										D	....	47.5	52.5	.....	.54	4.64	72.38	1.29	21.15	6,730	12,120

EL PASO COUNTY.

Mine of J. M. Mosby.....	G. B. Richardson.	Mosby..... Subbituminous.	18	13 S.	62 W.	4 8	4 4	10732	20.8	A	33.1	26.0	27.0	13.89	0.30	6.48	37.25	0.68	41.40	3,445	6,200
										B	15.6	32.8	34.1	17.54	.38	5.27	47.03	.86	28.92	4,350	7,830
										C	....	38.8	40.4	20.77	.45	4.19	55.70	1.02	17.87	5,150	9,270
										D	....	49.0	51.0	.....	.57	5.29	70.30	1.29	22.55	6,500	11,700
Mine of H. W. Purdon.....	.....do.....	Purdon..... Subbituminous.	27	11 S.	61 W.	6 9½	6 6	10741	25.2	A	33.7	23.4	24.7	18.21	.32	6.31	33.21	.54	41.41	3,060	5,510
										B	11.3	31.4	33.0	24.35	.43	4.09	44.40	.72	25.41	4,090	7,360
										C	....	35.4	37.2	27.45	.48	3.87	50.06	.81	17.33	4,610	8,300
										D	....	48.7	51.3	.....	.66	5.33	69.00	1.12	23.89	6,355	11,440

GARFIELD COUNTY.

Coal Ridge mine, 3 miles southeast of Newcastle.	A. L. Beekly.....	G.....	8	6 S.	90 W.	5	5	8804	17.4	A	25.2	30.7	39.9	4.2	0.31	.....	.....	.....	.....	4,230	7,970
										B	9.4	37.2	48.3	5.1	.33	.....	.....	.....	.....	5,300	9,650
										C	....	41.0	53.3	5.7	.41	.....	.....	.....	.....	5,915	10,650
										D	....	45.5	56.5	.....	.43	.....	.....	.....	.....	6,270	11,280
Entry No. 1 of Boston Coal Co., South Canyon.	.....do.....	E..... Bituminous.	14	6 S.	90 W.	3	3	8805	2.9	A	6.4	34.7	54.2	4.7	.50	.....	.....	.....	.....	6,880	12,390
										B	3.7	35.7	55.8	4.8	.51	.....	.....	.....	.....	7,090	12,560
										C	....	37.1	57.9	5.0	.53	.....	.....	.....	.....	7,800	13,240
										D	....	39.0	61.0	.....	.56	.....	.....	.....	.....	7,745	13,940

^a Composite of Nos. 12436, 12437, and 12438.

^b Composite of Nos. 12440, 12441, and 12442.

^c Volatile matter determined by the "modified" method.

COLORADO—Continued.
GARFIELD COUNTY—Continued.

Mine.	Collector.	Coal bed and kind of coal.	Location.			Thickness.		Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heat value.	
			Sec.	T.	R.	Coal bed.	Part sampled.				Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
Keystone mine of Coryell Mine Leasing Co., 1 mile southwest of Newcastle.	A. L. Beekly.....	Keystone No. 2. Bituminous.	4	6 S.	91 W.	<i>Ft. in.</i> 2 8	<i>Ft. in.</i> 2 8	8807	2.8	A B C D	5.3 2.6 34.2 35.1	33.3 34.2 53.7 55.2	52.2 53.7 9.49 9.74	9.22 9.49 9.74.....	.42 .43 .44 .49	5.14 4.97 4.80 5.32	68.28 70.25 72.10 79.88	1.25 1.29 1.32 1.46	15.69 13.57 11.60 12.85	6,860 7,060 7,245 8,030	12,350 12,710 13,040 14,450
South Canyon mine of Boston Coal Co., South Canyon.	.....do.....	Wheeler. Bituminous.	14	6 S.	90 W.	14	9	8808	2.9	A B C D	6.8 4.1 34.9 38.8	32.5 33.4 55.0 61.2	51.3 52.8 10.1	9.4 9.7..........	.34 .35 .36 .40	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	6,515 6,710 6,995 7,785	11,730 12,080 12,590 14,010
Mine of Martin Ohrkraut, 3 miles south of South Canyon.	.....do.....	Keystone No. 2. Bituminous.	23	6 S.	90 W.	3 6	3 6	8809	4.2	A B C D	10.3 6.4 30.0 32.1	28.8 30.0 55.1 58.9	52.8 55.1 9.0 64.7	8.1 8.5..........	.27 .28 .30 .33	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	6,120 6,390 6,825 7,500	11,020 11,500 12,280 13,500
Coryell mine of Coryell Mine Leasing Co., Newcastle.	.....do.....	Allen. Bituminous.	2	6 S.	91 W.	.....	(a)	8810	2.0	A B C D	4.8 2.8 33.9 38.1	33.2 33.9 56.6 61.9	53.9 55.1 8.5	8.1 8.2..........	.45 .46 .47 .51	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	6,700 6,840 7,035 7,690	12,060 12,310 12,670 13,840
Trial entry of Boston Coal Co., 2 miles south of South Canyon.	.....do.....	Allen. Bituminous.	14	6 S.	90 W.	5 6	5 6	8811	6.0	A B C D	10.7 5.0 33.6 35.4	31.6 33.6 55.3 58.2	52.0 6.1	5.7 6.1 6.4.....	.42 .45 .47 .50	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	6,495 6,910 7,275 7,775	11,690 12,430 13,090 13,790
Entry No. 3 of Boston Coal Co., 2 miles south of South Canyon.	.....do.....	D. Bituminous.	14	6 S.	90 W.	4 6	4 6	8812	4.1	A B C D	8.6 4.6 33.7 35.3	32.3 33.7 53.5 56.1	51.3 8.2 8.6	7.8 8.2 8.6.....	.58 .61 .63 .69	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	6,520 6,800 7,130 7,805	11,740 12,240 12,840 14,050
Diamond mine of Cardiff Coal & Coke Co., 4 miles southwest of Cardiff.	.....do.....	B. Bituminous.	8	7 S.	89 W.	16 8	8	9143	8.9	A B C D	12.2 3.6 37.6 39.0	34.2 37.6 53.3 55.3	48.6 53.3 5.7	5.0 5.5..........	.48 .53 .55 .58	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	6,170 6,770 7,025 7,450	11,100 12,190 12,650 13,410

Do.....	do.....	Diamond.....	8	7 S.	89 W.	4	4	9144	9.6	A	11.4	35.1	51.4	2.1	.55					6,840	12,310		
		Bituminous.								B	2.0	38.9	56.8	2.3	.61					7,565	13,620		
										C		39.7	58.0	2.3	.62					7,715	13,890		
										D		40.6	59.4		.63					7,900	14,220		
Midland mine of Rocky Mountain Fuel Co., Sunlight.	do.....	C.....	34	7 S.	89 W.	6	6	9191	3.3	A	6.9	36.2	52.0	4.92	1.06	5.47	69.04	1.44	18.07	6,810	12,260		
		Bituminous.								B	3.8	37.4	53.7	5.09	1.10	5.27	71.40	1.49	15.65	7,045	12,680		
										C		38.9	55.8	5.28	1.14	5.07	74.18	1.55	12.78	7,320	13,170		
										D		41.1	58.9		1.20	5.35	78.32	1.64	13.49	7,725	13,910		
Do.....	do.....	B.....	34	7 S.	89 W.	6	6	9192	4.8	A	7.7	36.5	48.7	7.08	.78	5.50	67.16	1.46	18.02	6,720	12,100		
		Bituminous.								B	3.1	38.3	51.2	7.44	.82	5.22	70.55	1.53	14.44	7,060	12,710		
										C		39.5	52.8	7.67	.84	5.04	72.75	1.58	12.12	7,280	13,100		
										D		42.8	57.2		.91	5.46	78.80	1.71	13.12	7,885	14,190		
Do.....	do.....	A.....	34	7 S.	89 W.	6	6	9193	5.0	A	7.4	34.8	49.2	8.6	.67					6,720	12,100		
		Bituminous.								B	2.5	36.6	51.8	9.1	.70					7,075	12,730		
										C		37.6	53.1	9.3	.72					7,255	13,060		
										D		41.4	58.6		.79					8,000	14,400		
Do.....	do.....	D.....	34	7 S.	89 W.	8	8	9194	2.1	A	5.3	38.0	53.7	3.0	.86					7,325	13,190		
		Bituminous.								B	3.2	38.8	54.9	3.1	.88					7,485	13,470		
										C		40.1	56.7	3.2	.91					7,735	13,920		
										D		41.5	58.5		.94					7,990	14,380		
Marion mine of Colorado Fuel & Iron Co., Marion.	do.....	Allen.....	10	8 S.	89 W.	4	7	4	7	9195	1.6	A	3.8	36.3	55.3	4.60	.40	5.50	73.78	1.64	14.08	7,450	13,410
		Bituminous.								B	2.2	36.9	56.2	4.67	.41	5.41	74.98	1.67	12.86	7,570	13,630		
										C		37.7	57.5	4.78	.42	5.28	76.70	1.71	11.11	7,745	13,940		
										D		39.6	60.4		.44	5.54	80.55	1.80	11.67	8,135	14,640		
Do.....	do.....	Allen.....	10	8 S.	89 W.	5	2	5	9196	2.6	A	4.4	36.7	54.6	4.30	.46	5.58	73.85	1.64	14.17	7,505	13,510	
		Bituminous.								B	1.9	37.6	56.1	4.41	.47	5.43	75.83	1.68	12.18	7,705	13,870		
										C		38.3	57.2	4.50	.48	5.33	77.28	1.72	10.69	7,855	14,140		
										D		40.2	59.8		.50	5.58	80.92	1.80	11.20	8,225	14,800		
Do.....	do.....	Anderson.....	10	8 S.	89 W.	4	4	9197	4.3	A	6.3	34.8	56.0	2.92	.42	5.56	74.31	1.55	15.24	7,440	13,390		
		Bituminous.								B	2.1	36.3	58.5	3.05	.44	5.31	77.65	1.62	11.93	7,775	13,990		
										C		37.1	59.8	3.12	.45	5.19	79.34	1.65	10.25	7,945	14,300		
										D		38.3	61.7		.46	5.36	81.89	1.70	10.59	8,200	14,760		
Mascot mine of Farmers Union Co., 1 mile north of Sunlight.	do.....	Upper A.....	28	7 S.	89 W.	6	1	5	4	9200	3.9	A	8.7	35.7	50.8	4.8	.62			6,580	11,840		
		Bituminous.								B	5.0	37.2	52.8	5.0	.64					6,850	12,330		
										C		39.1	55.6	5.3	.68					7,205	12,970		
										D		41.3	58.7		.72					7,610	13,700		
Do.....	do.....	Lower A.....	28	7 S.	89 W.	4	5	3	9201	4.3	A	8.9	33.1	41.8	16.2	2.08				5,640	10,160		
		Bituminous.								B	4.8	34.6	43.7	16.9	2.17					5,895	10,610		
										C		36.3	45.9	17.8	2.28					6,195	11,150		
										D		44.2	55.8		2.77					7,530	13,550		
Prospect of Colorado Fuel & Iron Co.	do.....	Keystone.....	9	8 S.	89 W.	3	6	3	6	9202	13.4	A	24.1	28.4	36.2	11.3	.29			4,190	7,540		
		Bituminous.								B	12.4	32.7	41.8	13.1	.33					4,835	8,710		
										C		37.4	47.7	14.9	.38					5,520	9,930		
										D		43.9	56.1		.45					6,485	11,670		

a Car sample.

b Volatile matter determined by the "modified" method.

COLORADO—Continued.

JACKSON COUNTY.

Mine.	Collector.	Coal bed and kind of coal.	Location.			Thickness.		Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heat value.	
			Sec.	T.	R.	Coal bed.	Part sampled.				Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
Mine of N. Suddeth.....	A. L. Beekly.....	Subbituminous.	15	9 N.	78 W.	<i>Ft. in.</i> 50	<i>Ft. in.</i> 20	12414	8.2	A	20.0	32.5	42.5	5.00	0.59	5.82	57.05	0.78	30.76	5,420	9,750
										B	12.8	35.4	46.3	5.45	.64	5.35	62.15	.85	25.56	5,905	10,630
										C	....	40.7	53.1	6.25	.74	4.50	71.28	.97	16.26	6,770	12,190
										D	....	43.4	56.6	.....	.79	4.80	76.03	1.03	17.35	7,225	13,000
Mine of L. Marr.....	.....do.....	Subbituminous.	35	9 N.	78 W.	53	6	12415	7.4	A	16.7	33.0	46.7	3.59	.16	5.63	60.20	.70	29.72	5,755	10,360
										B	10.1	35.6	50.4	3.88	.17	5.19	65.01	.76	24.99	6,215	11,190
										C	....	39.7	56.0	4.31	.19	4.53	72.29	.84	17.84	6,910	12,440
										D	....	41.4	58.6	.....	.20	4.73	75.54	.88	18.65	7,220	13,000
Mine of John F. Mitchell.....	.....do.....	Mitchell Subbituminous.	24	8 N.	82 W.	11 4	S	12539	4.1	A	20.7	33.6	35.7	9.96	.83	6.32	51.27	1.27	30.35	5,025	9,040
										B	17.3	35.1	37.2	10.39	.87	6.11	53.46	1.32	27.85	5,240	9,430
										C	....	42.4	45.0	12.56	1.05	5.07	64.67	1.60	15.05	6,735	11,410
										D	....	48.5	51.5	.....	1.20	5.80	73.96	1.83	17.21	7,245	13,050
Mine of Wm. Monahan.....	.....do.....	Subbituminous.	31	10 N.	81 W.	4 6	4 6	12540	4.8	A	19.7	32.8	44.0	3.47	.68	6.39	57.70	1.49	30.27	5,715	10,290
										B	15.6	34.4	46.3	3.65	.71	6.16	60.61	1.57	27.30	6,005	10,810
										C	....	40.8	54.9	4.32	.85	5.23	71.85	1.86	15.89	7,120	12,810
										D	....	42.6	57.4	.....	.89	5.47	75.09	1.94	16.61	7,440	13,390
Riach mine of Northern Colorado Coal Co., Coal- mont.	.....do.....	Subbituminous.	24	7 N.	81 W.	77	7	12601	5.9	A	22.8	36.2	34.1	6.90	.70	6.30	51.74	1.14	33.22	5,005	9,010
										B	18.0	38.5	36.2	7.33	.74	5.99	54.98	1.21	29.75	5,320	9,570
										C	....	46.9	44.2	8.94	.91	4.88	67.03	1.48	16.76	6,485	11,670
										D	....	51.5	48.5	.....	1.00	5.36	73.61	1.63	18.40	7,120	12,820
McCallum mine.....	.....do.....	McCallum Subbituminous.	18	9 N.	78 W.	35	7	12774	5.2	A	19.2	33.5	41.0	6.29	.27	5.75	56.34	.82	30.53	5,355	9,640
										B	14.8	35.3	43.3	6.63	.28	5.45	59.43	.87	27.34	5,645	10,170
										C	....	41.4	50.8	7.78	.33	4.48	69.71	1.01	16.69	6,625	11,920
										D	....	44.9	55.1	.....	.36	4.86	75.59	1.10	18.09	7,180	12,930
Mine of Wm. Winscom.....	.....do.....	Winscom Subbituminous.	14	8 N.	78 W.	3 7	2 7	12775	5.2	A	18.1	34.5	35.3	12.13	.80	5.82	52.44	1.11	27.70	5,555	9,280
										B	13.6	36.4	37.2	12.80	.84	5.53	55.32	1.17	24.34	5,435	9,790
										C	....	42.1	43.1	14.80	.98	4.65	64.00	1.35	14.22	6,290	11,320
										D	....	49.4	50.6	.....	1.15	5.46	75.12	1.58	16.69	7,380	13,290

LA PLATA COUNTY.

Prospect.....	J. H. Gardner....	B b..... Bituminous.	19	35 N.	8 W.	12 4	4	8431	2.1	A	5.2	27.3	53.0	14.46	1.98	4.93	64.33	1.22	13.08	6,335	11,410
										B	3.2	27.9	54.1	14.77	2.02	4.80	65.71	1.25	11.45	6,470	11,650
										C	.....	28.8	55.9	15.25	2.09	4.59	67.87	1.29	8.91	6,685	12,080
										D	.....	34.0	66.0	.....	2.47	5.42	80.09	1.52	10.50	7,885	14,200
Do	do.....	A..... Bituminous.	19	35 N.	8 W.	3 2	2 6	8433	1.3	A	3.2	27.3	49.3	20.17	.77	4.83	63.30	1.21	9.72	6,315	11,370
										B	2.0	27.6	50.0	20.44	.78	4.75	64.13	1.23	8.67	6,395	11,520
										C	.....	28.2	50.9	20.85	.80	4.62	65.44	1.25	7.04	6,525	11,750
										D	.....	35.6	64.4	.....	1.01	5.83	82.68	1.58	8.90	8,245	14,840
Palmer mine.....	do.....	B..... Bituminous.	15	35 N.	6 W.	8	8	9146	2.0	A	3.3	34.6	50.7	11.41	.86	5.36	69.12	1.33	11.92	6,950	12,510
										B	1.3	35.4	51.7	11.64	.88	5.24	70.53	1.36	10.35	7,090	12,760
										C	.....	35.8	52.4	11.80	.89	5.17	71.46	1.38	9.30	7,185	12,930
										D	.....	40.6	59.4	.....	1.01	5.86	81.02	1.56	10.55	8,145	14,660

MOFFAT COUNTY.

Moore mine.....	John A. Davis....	Subbituminous	16	5 N.	90 W.	5 2	4 8	9134	10.0	A	12.4	34.1	48.0	5.47	0.50	5.54	62.34	1.32	24.83	6,170	11,110
										B	2.7	37.9	53.3	6.08	.55	4.92	69.27	1.47	17.71	6,855	12,340
										C	.....	38.9	54.8	6.25	.57	4.76	71.19	1.51	15.72	7,045	12,690
										D	.....	41.5	58.5	.....	.61	5.07	75.94	1.61	16.77	7,515	13,530
Wise mine.....	do.....	Subbituminous	6	5 N.	91 W.	9	8 6	9135	10.7	A	13.3	33.5	45.8	7.40	.51	5.66	60.27	1.05	25.11	5,835	10,510
										B	2.9	37.5	51.3	8.29	.57	5.01	67.49	1.18	17.46	6,535	11,760
										C	.....	38.6	52.9	8.53	.59	4.83	69.50	1.21	15.34	6,730	12,110
										D	.....	42.2	57.8	.....	.65	5.28	75.98	1.32	16.77	7,355	13,240
Hamilton mine.....	do.....	Subbituminous	24	5 N.	91 W.	5 8	5 8	9136	9.7	A	12.5	32.9	48.1	9.79	.84	5.56	60.40	1.26	22.15	5,920	10,650
										B	3.1	32.9	53.2	10.84	.93	4.96	66.89	1.40	14.98	6,554	11,800
										C	.....	33.9	54.9	11.19	.96	4.76	69.01	1.44	12.64	6,760	12,170
										D	.....	38.2	61.8	.....	1.08	5.36	77.71	1.62	14.23	7,615	13,700
Haubrich mine.....	do.....	Subbituminous	29	6 N.	91 W.	6 10	4 7	9137	13.8	A	17.7	30.4	48.1	3.78	.51	5.94	59.63	1.51	28.63	5,740	10,340
										B	4.6	35.2	55.8	4.38	.59	5.12	69.18	1.75	18.98	6,660	11,990
										C	.....	36.9	58.5	4.60	.62	4.83	72.50	1.84	15.61	6,980	12,570
										D	.....	38.7	61.3	.....	.65	5.06	75.99	1.93	16.37	7,315	13,170
Ratcliff mine.....	do.....	Subbituminous	31	6 N.	91 W.	13	10	9138	10.2	A	13.4	35.5	47.9	3.18	.34	5.82	62.94	1.20	26.52	6,115	11,010
										B	3.7	39.5	53.3	3.54	.38	5.22	70.09	1.34	19.43	6,810	12,260
										C	.....	41.0	55.3	3.68	.39	4.99	72.73	1.39	16.82	7,070	12,720
										D	.....	42.6	57.4	.....	.40	5.18	75.51	1.44	17.47	7,340	13,210
James mine.....	E. T. Hancock....	Bituminous (?)	14	3 N.	93 W.	8	6 4	12704	.8	A	11.4	40.2	44.5	3.87	.54	5.57	65.27	1.32	23.43	6,310	11,360
										B	10.7	40.6	44.8	3.90	.54	5.52	65.80	1.33	22.91	6,310	11,360
										C	.....	45.4	50.2	4.37	.61	4.85	73.68	1.49	15.06	7,125	12,820
										D	.....	47.5	52.5	.....	.64	5.07	77.05	1.56	15.68	7,450	13,410

a Volatile matter determined by the "modified" method.

b Weathered coal.

COLORADO—Continued.

MONTEZUMA COUNTY.

Mine.	Collector.	Coal bed and kind of coal.	Location.			Thickness.		Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heat value.		
			Sec.	T.	R.	Coal bed.	Part sampled.				Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.	
Mine of Fred Haller.....	M. K. Shaler.....	Bituminous.....	30	37 N.	13 W.	<i>Ft. in.</i> (a)	<i>Ft. in.</i>	4330	6.8	A B C D	7.7 1.0 29.9 30.2 36.7	27.9 51.6 52.1 52.1 63.3	48.1 17.53 17.71 17.71 63.3	16.34 17.53 17.71 17.71 63.3	1.02 1.09 1.11 1.11 1.34	4.87 4.41 4.34 4.34 5.28	64.24 68.93 69.61 69.61 84.58	0.89 1.06 1.06 1.06 1.17	12.64 7.08 6.27 6.27 7.63	6,380 6,845 6,915 6,915 8,400	11,490 12,320 12,440 12,440 15,120	
Prospect.....	M. A. Pishel.....	Bituminous.....	21	36 N.	12 W.	1 6½	1 2	12444	1.4	A B C D	2.6 1.2 23.6 23.9 36.0	23.2 41.9 41.9 42.4 64.0	41.3 33.3 33.3 33.7 64.0	32.9 33.3 33.3 33.7 64.0	.45 .46 .46 .46 .69	.....	.....	.....	.....	.....	.....	.....
Mine of Fred Haller.....	do.....	Bituminous.....	30	37 N.	13 W.	3 10	1 9	12504	2.1	A B C D	4.0 1.9 29.3 29.9 37.6	28.6 48.6 48.6 49.5 62.4	47.6 20.2 20.6 20.6 62.4	19.8 20.2 20.6 20.6 62.4	.61 .62 .64 .64 .81	.....	.....	.....	.....	.....	6,065 6,195 6,315 6,315 7,955	10,910 11,150 11,370 11,370 14,320
Prospect.....	do.....	Bituminous.....	29	36 N.	15 W.	4 4	2 6½	12551	.9	A B C D	10.3 9.5 32.1 35.5 39.0	31.8 50.2 50.2 55.4 61.0	49.7 8.2 8.2 9.1 61.0	8.2 8.2 9.1 9.1 61.0	.53 .53 .59 .59 .65	.....	.....	.....	.....	.....	.....	.....
Mowry mine.....	do.....	Bituminous.....	35	36 N.	16 W.	2 8	2 2	12586	3.1	A B C D	4.8 1.8 35.7 36.3 45.0	34.6 43.6 43.6 44.5 55.0	42.3 18.89 18.89 19.23 55.0	18.30 18.89 18.89 19.23 55.0	7.56 7.80 4.65 7.94 9.83	4.85 61.82 61.82 4.53 5.61	59.90 1.11 1.15 1.17 1.45	1.11 5.69 5.69 4.18 5.17	8.28 6,145 6,345 6,460 8,000	11,070 11,420 11,630 11,630 14,400		
Prospect of E. J. Hamilton.....	do.....	Bituminous b.....	3	35 N.	18 W.	2 8	1 7	15686	3.2	A B C D	7.7 4.7 21.7 22.8 26.3	21.0 60.6 60.6 63.6 73.7	58.7 13.0 13.0 13.6	12.6 13.0 13.0 13.6.....	.46 .48 .50 .50 .58	.....	.....	.....	.....	.....	6,035 6,230 6,540 7,570	10,860 11,220 11,770 13,630
Prospect.....	do.....	Bituminous.....	23	36 N.	16 W.	4 8½	1 7	12785	4.5	A B C D	8.0 3.7 33.8 35.1 41.5	32.3 47.6 47.6 49.5 58.5	45.5 14.85 14.85 15.42	14.18 14.85 14.85 15.4257 .60 .62 .62 .73	4.72 4.42 4.17 4.17 4.93	60.29 63.13 65.57 65.57 77.52	1.01 1.06 1.10 1.10 1.30	19.23 15.94 13.12 13.12 15.52	5,800 6,075 6,310 6,310 7,460	10,440 10,930 11,350 11,350 13,420	

MISCELLANEOUS ANALYSES OF COAL.

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COLORADO—Continued.
RIO BLANCO COUNTY—Continued.

Mine.	Collector.	Coal bed and kind of coal.	Location.			Thickness.		Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heat value.		
			Sec.	T.	R.	Coal bed.	Part sampled.				Moisture.	Volatile matter.		Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
Black Diamond mine of George Lord.	E. T. Hancock....	Bituminous (?)..	15	1 N.	94 W.	Ft. in. 6 5	Ft. in. 6 5	12776	2.5	A	10.8	37.2	44.0	7.98	.49	5.52	63.98	1.32	20.71	6,230	11,220	
											B	8.5	38.2	45.1	8.18	.50	5.37	65.62	1.35	18.98	6,390	11,510
											C	....	41.8	49.3	8.95	.55	4.84	71.74	1.48	12.44	6,990	12,580
											D	....	45.9	54.1	.....	.60	5.32	78.79	1.63	13.66	7,675	13,820
Montgomery mine.....	.....do	Bituminous (?)..	25	1 N.	94 W.	7 6	7 6	12777	2.0	A	12.4	38.6	42.9	6.13	.71	5.38	62.61	1.33	23.84	5,995	10,790	
											B	10.6	39.4	43.7	6.26	.72	5.27	63.89	1.36	22.50	6,115	11,010
											C	....	44.1	48.9	7.00	.81	4.58	71.45	1.52	14.64	6,840	12,320
											D	....	47.4	52.6	.....	.87	4.92	76.83	1.63	15.75	7,355	13,240

ROUTT COUNTY.

Green mine, Hayden Gulch.	John A. Davis....	(a) Subbituminous.	12	4 N.	89 W.	7 11	7	9693	4.8	A	12.2	35.8	47.4	4.62	0.44	5.51	64.99	1.41	23.03	6,320	11,380
										B	7.8	37.6	49.8	4.85	.46	5.23	68.27	1.48	19.71	6,640	11,950
										C	....	40.9	53.9	5.26	.50	4.73	74.02	1.61	13.88	7,200	12,960
										D	....	43.0	57.0	.....	.53	4.99	78.13	1.70	14.65	7,595	13,680

KANSAS.

LEAVENWORTH COUNTY.

Penitentiary mine, Lansing.	M. Albertson	Bituminous.....	19	9 S.	23 E.	1 10	1 10	12841	8.3	A	11.1	34.5	41.0	13.4	5.07	.....	.....	.....	.....	.....	.....
										B	3.0	37.7	44.7	14.6	5.53	.....	.....	.....	.....	.....	.....
										C	....	38.8	46.1	15.1	5.70	.....	.....	.....	.....	.....	.....
										D	....	45.7	54.3	.....	6.71	.....	.....	.....	.....	.....	.....

^d Composite of Nos. 12849, 12850, and 12851.

KENTUCKY.

PIKE COUNTY.

Mine.	Collector.	Coal bed and kind of coal.	Location.		Thickness.		Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heat value.		
			Sec.	T.	R.	Coal bed.				Part sampled.	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
Mine of Edgewater Coal & Coke Co., Hellier.	C. H. Wegemann.	Upper Elkhorn. Bituminous. ^c	.....	.....		<i>Ft. in.</i> 3 6	<i>Ft. in.</i> (b)	12004	0.5	A	1.9	35.5	59.9	2.70	0.57	5.38	81.37	1.42	8.56	8,165	14,690
										B	1.4	35.7	60.2	2.71	.57	5.35	81.78	1.43	8.16	8,205	14,770
										C	....	36.2	61.1	2.75	.58	5.26	82.98	1.45	6.98	8,325	14,990
										D	....	37.2	62.8	.....	.60	5.41	85.33	1.49	7.17	8,560	15,410

MISSOURI.

HARRISON COUNTY.

Cainesville mine of Grand River Coal & Coke Co., Cainesville.	H. Hinds.....	Cainesville..... Bituminous.	13	65 N.	26 W.	3 10 $\frac{1}{2}$	3 10 $\frac{1}{2}$	12679	7.8	A	13.0	39.7	35.4	11.9	5.24	.....	.....	.....	.....	5,865	10,560
Do.....	do.....	Cainesville..... Bituminous.	13	65 N.	26 W.	3 9 $\frac{1}{2}$	3 9 $\frac{1}{2}$	12680	8.8	B	5.6	43.1	38.4	12.9	5.68	.....	.....	.....	.....	6,360	11,450
										C	....	45.6	40.7	13.7	6.02	.....	.....	.....	.....	6,740	12,130
										D	....	52.9	47.1	.....	6.98	.....	.....	.....	.....	7,810	14,050
										A	11.7	38.8	38.8	10.7	5.13	.....	.....	.....	.....	6,125	11,020
Do.....	do.....	Cainesville..... Bituminous.	13	65 N.	26 W.	3 9 $\frac{1}{2}$	3 9 $\frac{1}{2}$	12681	10.1	B	3.2	42.5	42.6	11.7	5.63	.....	.....	.....	.....	6,715	12,090
										C	....	43.9	44.0	12.1	5.81	.....	.....	.....	.....	6,935	12,480
										D	....	50.0	50.0	.....	6.61	.....	.....	.....	.....	7,890	14,210
										A	13.1	38.9	37.3	10.7	4.78	.....	.....	.....	.....	6,045	10,880
Do.....	do.....	Cainesville..... Bituminous.	13	65 N.	26 W.	3 9 $\frac{1}{2}$	3 9 $\frac{1}{2}$	12681	10.1	B	3.4	43.2	41.5	11.9	5.32	.....	.....	.....	.....	6,725	12,110
										C	....	44.7	43.0	12.3	5.50	.....	.....	.....	.....	6,960	12,530
										D	....	51.0	49.0	.....	6.27	.....	.....	.....	.....	7,935	14,280
										A	13.1	38.9	37.3	10.7	4.78	.....	.....	.....	.....	6,045	10,880

MONTANA.
FLATHEAD COUNTY.

Prospect in bank of North Fork of Flathead River.	M. R. Campbell...	(c) Subbituminous.	33	34 N.	20 W.	6 11	3 6	12786	10.0	A 22.2 B 13.5 C ---- D ----	432.5 36.1 41.8 47.2	36.4 40.5 46.8 52.8	8.9 9.9 11.4 -----	2.27 2.52 2.92 3.30	-----	-----	-----	-----	4,890 5,435 6,280 7,090	8,800 9,780 11,310 12,760
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MUSSELSHELL COUNTY.

Prospect.....	R. W. Richards...	Subbituminous	9 N.	27 E.	4 5	2 11	6829	14.0	A 18.1 B 4.8 C ---- D ----	27.2 31.7 33.2 35.0	50.5 58.7 61.7 65.0	4.15 4.82 5.07 -----	0.88 1.02 1.08 1.14	5.46 4.54 4.20 4.42	60.48 70.32 73.88 77.83	0.77 .90 .94 .99	28.26 18.40 14.83 15.62	5,790 6,730 7,070 7,750	10,420 12,120 12,730 13,410
Commercial mine of Roundup Coal Mining Co., 1 mile west of Roundup.	C. T. Lupton.....	Roundup..... Subbituminous.	23	8 N.	25 E.	5 8	5 8	8801	8.1	A 14.3 B 6.7 C ---- D ----	27.8 30.3 32.5 34.9	52.0 56.6 60.6 65.1	5.9 6.4 6.9 -----	.48 .52 .56 .60	-----	-----	-----	-----	6,135 6,675 7,160 7,690	11,050 12,020 12,890 13,840
Mine No. 2 of Republic Coal Co., 3 miles southwest of Roundup.	.....do.....	Roundup..... Subbituminous.	36	8 N.	25 E.	5 8	5 8	8802	7.1	A 13.7 B 7.1 C ---- D ----	28.0 30.1 32.4 35.1	51.8 55.7 60.0 64.9	6.5 7.1 7.6 -----	.46 .49 .53 .57	-----	-----	-----	-----	6,210 6,685 7,195 7,785	11,180 12,040 12,950 14,020
Mine No. 1 of Republic Coal Co., Roundup.	.....do.....	Roundup..... Subbituminous.	24	8 N.	25 E.	5 8½	5 8½	8803	6.5	A 13.4 B 7.4 C ---- D ----	28.1 30.0 32.4 34.9	52.3 56.0 60.4 65.1	6.2 6.6 7.2 -----	.39 .42 .45 .50	-----	-----	-----	-----	6,140 6,565 7,085 7,635	11,050 11,820 12,760 13,740

SWEETGRASS COUNTY.

Loffer mine.....	F. H. Kay.....	Bituminous.....	29	4 S.	16 E.	5 9	4 7	6320	2.4	A 6.7 B 4.4 C ---- D ----	32.4 33.2 34.7 42.1	44.5 45.6 47.7 57.9	16.41 16.81 17.00 -----	0.53 .54 .57 .69	5.04 4.89 4.60 5.58	61.47 62.98 65.92 80.00	1.10 1.13 1.18 1.43	15.45 13.65 10.13 12.30	5,935 6,080 6,365 7,720	10,680 10,940 11,450 13,900
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^a Coking coal.

^b Car sample.

^c Weathered coal.

^d Volatile matter determined by the "modified" method.

MONTANA—Continued.

TETON COUNTY.

Mine.	Collector.	Coal bed and kind of coal.	Location.			Thickness.		Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heat value.	
			Sec.	T.	R.	Coal bed.	Part sampled.				Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
Birch Creek mine of A. G. Blair.	E. Stebinger.....	Bituminous.....	32	31 N.	5 W.	<i>Ft. in.</i> 1 10	<i>Ft. in.</i> 1 10	12427	1.3	A B C D	6.5 5.3 43.2 50.7	40.4 39.7 41.9 49.3	39.2 14.07 14.87	13.89 3.12 3.30 3.88	3.08 5.16 64.97 5.57	5.16 60.71 64.97 76.32	1.13 1.14 1.21 1.42	16.03 15.07 10.91 12.81	6,070 6,150 6,495 7,630	10,930 11,070 11,690 13,740	
Mine of B. Allison, Cut-bank.	.....do.....	Allison. Bituminous.	29	34 N.	6 W.	1 10	1 10	12494	2.9	A B C D	7.8 5.1 32.8 46.9	30.2 31.1 37.1 53.1	34.3 35.3 30.1	27.7 28.5 1.93 2.76	1.78 1.83 1.93 2.76	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	4,835 4,980 5,245 7,505	8,710 8,970 9,450 13,510
Stone mine.....	.....do.....	Bituminous.....	35	36 N.	12 W.	2 10	2 10	12602	2.3	A B C D	8.0 5.8 38.5 44.5	35.4 36.2 48.0 55.5	44.2 45.3 13.53	12.45 12.74 1.09 1.26	1.00 5.03 4.65 5.38	5.17 64.40 68.39 79.09	62.92 1.49 1.59 1.84	17.00 15.32 10.75 12.43	6,135 6,280 6,670 7,715	11,050 11,310 12,010 13,890

NORTH DAKOTA.

MORTON COUNTY.

Prospect on Cedar Creek, 8 miles northeast of Morris-town.	A. L. Beekly.....	Lignite.....	12	129 N.	88 W.	3	3	7839	21.1	A B C D	33.1 15.2 38.2 41.5	25.5 45.7 53.9 58.5	36.1 6.7 7.9	5.3 1.03 1.12	0.69 ..... ..... .....	.....	.....	.....	.....	.....	4,150 5,255 6,200 6,735	7,470 9,460 11,160 12,120
Mine of A. L. McCord, 8 miles northeast of Morris-town.	... do.....	Lignite.....	5	129 N.	88 W.	2 2	2 2	7841	19.3	A B C D	32.1 15.8 37.7 44.8	25.6 31.8 46.6 55.2	31.7 39.2 15.7	10.6 13.2 2.07	1.19 1.48 1.75 .....	.....	.....	.....	.....	.....	3,790 4,695 5,580 6,615	6,820 8,460 10,040 11,910

Prospect, 6 miles north of Morristown.	.....do.....	Lignite.....	4	129 N.	88 W.	2 6	2 6	7842	23.1	A	32.5	27.1	34.6	5.8	.37	.....	.....	.....	.....	4,030	7,250
										B	12.2	35.3	45.0	7.5	.49	.....	.....	.....	.....	5,240	9,430
										C	.....	40.1	51.3	8.6	.55	.....	.....	.....	.....	5,965	10,740
										D	.....	43.9	56.1	.....	.59	.....	.....	.....	.....	6,525	11,750

WARD COUNTY.

Coal Springs prospect.....	M. A. Pishel.....	(a) Lignite.	17	152 N.	92 W.	4 11	3 3	11294	33.7	A	41.0	24.9	27.5	6.6	0.44	.....	.....	.....	.....	3,265	5,880
										B	11.0	37.5	41.6	9.9	.67	.....	.....	.....	.....	4,925	8,870
										C	.....	42.2	46.7	11.1	.75	.....	.....	.....	.....	5,535	9,970
										D	.....	47.5	52.5	.....	.84	.....	.....	.....	.....	6,230	11,220

WILLIAMS COUNTY.

Geity mine of H. L. Duncan, 6 miles northeast of Trenton.	F. A. Herald.....	Lignite.....	27	154 N.	102 W.	5 6	5 1	12411	34.7	A	42.7	25.7	24.8	6.8	1.38	.....	.....	.....	.....	3,370	6,060
										B	12.3	39.4	37.9	10.4	2.11	.....	.....	.....	.....	5,155	9,280
										C	.....	44.9	43.2	11.9	2.41	.....	.....	.....	.....	5,880	10,580
										D	.....	50.9	49.1	.....	2.74	.....	.....	.....	.....	6,675	12,010
Mine of U. S. Reclamation Service, 3 miles northeast of Williston.	.....do.....	Lignite.	7	154 N.	100 W.	10 3	8	12533	33.2	A	43.9	24.9	25.4	5.8	.49	.....	.....	.....	.....	3,300	5,940
										B	16.0	37.2	38.1	8.7	.73	.....	.....	.....	.....	4,940	8,890
										C	.....	44.3	45.3	10.4	.87	.....	.....	.....	.....	5,875	10,550
										D	.....	49.5	50.5	.....	.97	.....	.....	.....	.....	6,555	11,800
Mine of John Bruegger.....	.....do.....	Lignite.....	8	154 N.	100 W.	11	5 6	12587	33.2	A	41.5	27.0	27.2	4.3	.30	.....	.....	.....	.....	3,580	6,440
										B	12.5	40.4	40.7	6.4	.45	.....	.....	.....	.....	5,355	9,640
										C	.....	46.1	46.5	7.4	.51	.....	.....	.....	.....	6,120	11,010
										D	.....	49.8	50.2	.....	.55	.....	.....	.....	.....	6,605	11,890
Mine of R. M. Powell.....	.....do.....	Lignite.....	33	154 N.	100 W.	10	6 6	12588	34.7	A	42.9	26.8	25.0	5.3	.71	.....	.....	.....	.....	3,460	6,230
										B	12.6	41.1	38.2	8.1	1.09	.....	.....	.....	.....	5,300	9,540
										C	.....	47.0	43.7	9.3	1.24	.....	.....	.....	.....	6,065	10,920
										D	.....	51.8	48.2	.....	1.37	.....	.....	.....	.....	6,685	12,030

OKLAHOMA.

PITTSBURG COUNTY.

Borehole No. 2, 1 miles south-east of Savanna.	A. W. Thompson ..	Lower Harts-horne. Bituminous.	16	4 N.	14 E.	3 10	3 10	5921	0.7	A	2.6	33.5	54.5	9.37	1.35	4.72	72.56	1.57	10.43	7,210	12,980
										B	2.0	33.7	54.9	9.44	1.36	4.67	73.07	1.58	9.88	7,260	13,070
										C	.....	34.4	56.0	9.62	1.39	4.55	74.52	1.61	8.31	7,405	13,330*
										D	.....	38.0	62.0	.....	1.54	5.03	82.45	1.78	9.20	8,195	14,750
Borehole No. 7, 3 miles south of Craig.	.....do.....	McAlester..... Bituminous.	19	4 N.	16 E.	4	4	6224	1.1	A	3.1	32.1	59.3	5.49	.89	5.13	73.52	1.89	13.08	7,495	13,500
										B	2.0	32.4	60.0	5.55	.90	5.07	74.34	1.91	12.23	7,580	13,650
										C	.....	33.1	61.2	5.67	.92	4.94	75.87	1.95	10.65	7,735	13,930
										D	.....	35.1	64.9	.....	.98	5.24	80.43	2.07	11.28	8,200	14,760
Borehole No. 9, 2 miles east of Carbon.	.....do.....	McAlester..... Bituminous.	4	6 N.	16 E.	3 2	3 2	6225	1.0	A	2.1	27.6	50.2	20.07	5.73	4.46	63.66	1.33	4.75	6,495	11,700
										B	1.1	27.9	50.7	20.27	5.79	4.40	64.30	1.34	3.90	6,565	11,810
										C	.....	28.2	51.3	20.50	5.85	4.32	65.02	1.36	2.95	6,635	11,950
										D	.....	35.4	64.6	.....	7.36	5.43	81.79	1.71	3.71	8,345	15,030

a Weathered coal.

b Volatile matter determined by the modified method.

OREGON.
MALHEUR COUNTY.

Mine.	Collector.	Coal bed and kind of coal.	Location.			Thickness.		Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heat value.	
			Sec.	T.	R.	Coal bed.	Part sampled.				Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
Honolulu prospect.....	C. F. Bowen.....	Lignite.....	.....	22 S.	24 E.	<i>Ft. in.</i>	<i>Ft. in.</i>	12585	20.7	A	30.3	19.0	18.9	31.8	2.66	.....	.....	.....	.....	2,430	4,380
						2 4	2 4				12.1	24.0	23.8	40.1	3.35	.....	.....	.....	.....	3,065	5,520
											.....	27.3	27.1	45.6	3.82	.....	.....	.....	.....	3,490	6,280
											.....	50.2	49.8	.....	7.03	.....	.....	.....	.....	6,415	11,550

PENNSYLVANIA.
SOMERSET COUNTY.

Linmer mine of Smith, Meyers & Co., $4\frac{1}{2}$ miles southeast of Confluence.	C. T. Lupton.....	C1..... Bituminous.	.....	.....	.....	3 6	3 6	13631	2.2	A	2.8	25.9	63.1	8.2	2.35	.....	.....	.....	.....	7,715	13,890
										B	.6	26.5	64.5	8.4	2.40	.....	.....	.....	.....	7,890	14,200
										C	.....	26.7	64.9	8.4	2.42	.....	.....	.....	.....	7,935	14,290
										D	.....	29.2	70.8	.....	2.64	.....	.....	.....	.....	8,670	15,600
Grassy Run No. 1, mine of Grassy Run Coal Co., $2\frac{1}{2}$ miles northwest of Elk Lick.	.....do.....	"Four-foot" Semibituminous.	.....	.....	.....	4 7	4 6	13664	2.2	A	2.7	19.6	65.0	12.7	2.30	.....	.....	.....	.....	7,355	13,240
										B	.5	20.1	66.5	12.9	2.35	.....	.....	.....	.....	7,525	13,540
										C	.....	20.2	66.8	13.0	2.36	.....	.....	.....	.....	7,565	13,620
										D	.....	23.2	76.8	.....	2.71	.....	.....	.....	.....	8,695	15,650

SULLIVAN COUNTY.

Mine of Randall & Shaad Bros. Anthracite Coal Co., Bernice.	C. A. Fisher.....	B.....				2 9½	2 9½	9652	2.9	A	3.4	9.3	75.6	11.68	0.81	3.64	77.85	0.95	5.07	7,290	13,120
		Semianthracite.								B	.5	9.6	77.9	12.03	.83	3.42	80.17	.98	2.57	7,505	13,510
										C		9.7	78.2	12.09	.84	3.37	80.59	.98	2.13	7,545	13,580
										D		11.0	89.0		.96	3.83	91.67	1.11	2.43	8,580	15,450
Mine of O'Boyle & Fay Anthracite Coal Co., Bernice.	.....do.....	Semianthracite.				3 5½	2 10½	9653	3.0	A	3.6	9.2	74.1	13.09	1.57	3.58	75.56	1.00	5.20	7,130	12,840
										B	.7	9.4	76.4	13.49	1.62	3.35	77.90	1.03	2.61	7,350	13,230
										C		9.5	76.9	13.59	1.63	3.29	78.43	1.04	2.02	7,400	13,320
										D		11.0	89.0		1.89	3.80	90.76	1.20	2.35	8,565	15,420
Mine of Connell Anthracite Mining Co., Bernice.	.....do.....	Semianthracite.				3 1	3 1	9654	2.8	A	3.3	8.3	72.8	15.55	.53	3.54	74.03	.97	5.38	6,945	12,500
										B	.6	8.6	74.8	16.00	.55	3.32	76.16	1.00	2.97	7,145	12,860
										C		8.6	75.3	16.09	.55	3.28	76.60	1.00	2.48	7,185	12,930
										D		10.3	89.7		.66	3.91	91.29	1.19	2.95	8,560	15,410
Mine of Northern Anthracite Coal Co., Lopez.	.....do.....	B.....				7 ½	6 8	9655	2.6	A	3.1	8.6	78.1	10.17	.67	3.47	79.49	1.10	5.10	7,430	13,380
		Semianthracite.								B	.6	8.8	80.2	10.44	.69	3.26	81.61	1.13	2.87	7,630	13,730
										C		8.9	80.6	10.50	.69	3.22	82.08	1.14	2.37	7,675	13,810
										D		9.9	90.1		.77	3.60	91.71	1.27	2.65	8,575	15,430
Mine of O'Boyle & Fay Anthracite Coal Co., Bernice.	.....do.....	B.....				6 8	6 3	9656	3.0	A	3.5	9.3	76.1	11.15	.78	3.62	77.60	1.00	5.85	7,340	13,220
		Semianthracite.								B	.5	9.6	78.4	11.49	.80	3.39	80.00	1.03	3.29	7,570	13,620
										C		9.6	78.8	11.55	.81	3.34	80.39	1.04	2.87	7,605	13,690
										D		10.9	89.1		.92	3.78	90.89	1.18	3.23	8,600	15,480
Northern mine of Northern Anthracite Coal Co., Lopez.	.....do.....	B.....				4 11	4 6	9664	3.0	A	3.6	9.1	75.4	11.92	.60	3.57	78.04	.97	4.90	7,260	13,070
		Semianthracite.								B	.6	9.4	77.7	12.29	.62	3.34	80.45	1.00	2.30	7,485	13,480
										C		9.5	78.1	12.36	.62	3.29	80.94	1.01	1.78	7,530	13,560
										D		10.8	89.2		.71	3.75	92.35	1.15	2.04	8,595	15,470
Connell mine of Connell Anthracite Mining Co., Bernice.	.....do.....	B.....				6	5 6	9665	2.6	A	3.4	8.5	76.6	11.50	.63	3.58	78.43	1.00	4.56	7,310	13,160
		Semianthracite.								B	.8	8.7	78.7	11.81	.65	3.38	80.52	1.03	2.61	7,505	13,510
										C		8.8	79.3	11.90	.65	3.31	81.18	1.04	1.92	7,565	13,620
										D		9.9	90.1		.74	3.76	92.15	1.18	2.17	8,585	15,460

SOUTH DAKOTA.

SCHNASSE COUNTY.

Prospect, 12 miles southeast of Morristown.	A. L. Beekly.....	Lignite.....	19	21 N.	21 E.	2 11	2 11	7840	19.7	A	30.5	23.0	34.4	12.1	0.39					3,860	6,940
										B	13.4	28.6	42.9	15.1	.48					4,805	8,650
										C		33.0	49.5	17.5	.56					5,545	9,990
										D		40.0	60.0		.68					6,720	12,100

a Volatile matter determined by "modified" method.

TENNESSEE.
BLEDSE COUNTY.

Mine.	Collector.	Coal bed and kind of coal.	Location.			Thickness.		Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heat value.	
			Sec.	T.	R.	Coal bed.	Part sampled.				Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
Al. Hale mine of G. A. Hart, Litton.	W. C. Phalen.....	Bituminous.....				<i>Ft. in.</i> 8	<i>Ft. in.</i> 8	10803	3.9	A B C D	5.0 1.2 25.5 26.8 29.2	33.9 34.7 64.3 65.1 70.8	46.2 47.4 8.0 8.1 7.7	0.60 .62 .61 .62 .67	.....	.....	.....	.....	.....	7,495 7,795 7,890 8,585	13,490 14,040 14,200 15,450
Al. Hale mine, Litton.....	Chas. Butts.....	Bon Air Bituminous.				8	8	12584	2.2	A B C D	3.3 1.2 27.9 28.5 30.6	33.9 39.9 63.2 64.6 69.4	47.4 48.8 5.6 5.7 5.8	1.88 1.92 1.94 2.06	.....	.....	.....	.....	.....	7,850 8,025 8,120 8,620	14,130 14,450 14,620 15,520

UTAH.
CARBON COUNTY.

Prospect, 1 mile from Sunnyside.	F. R. Clark.....	(a) Bituminous.	5	15 S.	14 E.	13 10	9	12545	2.5	A	15.2	33.9	46.2	4.7	0.60						5,295	9,530
										B	13.0	34.7	47.4	4.9	.62						5,430	9,770
										C		39.9	54.5	5.6	.71						6,240	11,230
										D		42.3	57.7		.75						6,610	11,900
Mine No. 3 of Utah Fuel Co., 1½ miles southeast of Sunnyside.	.....do.....	Bituminous b...	9	15 S.	14 E.	6 2	6 2	12546	1.0	A	6.0	38.1	48.8	7.1	.56						6,665	11,990
										B	5.0	38.5	49.3	7.2	.57						6,730	12,110
										C		40.5	51.9	7.6	.60						7,065	12,750
										D		43.8	56.2		.65						7,665	13,800
Mine No. 3 of Utah Fuel Co., Sunnyside.	.....do.....	Upper Bituminous. b	5	15 S.	14 E.	4 8	4 8	12630	1.5	A	5.1	38.4	48.7	7.81	.51	5.54	70.72	1.58	13.84		7,010	12,620
										B	3.6	39.1	49.4	7.93	.52	5.45	71.80	1.60	12.70		7,120	12,810
										C		40.5	51.3	8.23	.54	5.25	74.49	1.66	9.83		7,385	13,290
										D		44.1	55.9		.59	5.72	81.17	1.81	10.71		8,045	14,490
Do.....	.....do.....	Lower Bituminous. b	5	15 S.	14 E.	6 10	6 10	12631	2.1	A	5.1	39.9	47.7	7.3	1.37						7,095	12,770
										B	3.0	40.8	48.7	7.5	1.40						7,246	13,040
										C		42.1	50.2	7.7	1.44						7,475	13,450
										D		45.6	54.4		1.56						8,095	14,570

Mine No. 1 of Utah Fuel Co., Sunnyside.	.....do.....	Lower Bituminous. ^b	8	14 S.	14 E.	7	5	5	12632	3.4	A	5.9	38.7	48.8	6.59	1.73	5.43	71.28	1.52	13.45	7,135	12,840
											B	2.7	40.0	50.5	6.82	1.79	5.23	73.79	1.57	10.80	7,385	13,290
											C	.....	41.1	51.9	7.01	1.84	5.07	75.80	1.62	8.66	7,585	13,660
											D	.....	44.2	55.8	.....	1.98	5.45	81.52	1.74	9.31	8,160	14,680
Prospect.....	.....do.....	Bituminous.....	32	13 S.	13 E.	5	7	5	7	12792	2.9	A	6.7	38.6	49.5	5.2	1.04	.....	.....	.....	6,730	12,110
											B	3.9	39.7	51.0	5.4	1.07	.....	.....	.....	.....	6,930	12,470
											C	.....	41.3	53.1	5.6	1.11	.....	.....	.....	.....	7,210	12,980
											D	.....	43.8	56.2	.....	1.18	.....	.....	.....	.....	7,635	13,740

EMERY COUNTY.

Mine of P. A. and L. Larsen.	J. A. Taff.....	Bituminous.....	2	15 S.	6 E.	7 6	7 6	2142	3.9	A	7.8	42.4	47.0	2.8	0.52							
										B	4.0	44.1	49.0	2.9	.54							
										C		46.0	51.0	3.0	.56							
										D		47.4	52.6		.58							
Williams mine, 2½ miles east of Emery.	C. T. Lupton.....	Williams.....	12	22 S.	6 E.	5 9½	5 3	12613	.9	A	4.0	41.8	42.6	11.6	4.66						6,660	11,990
		Bituminous.								B	3.1	42.2	43.0	11.7	4.70						6,720	12,100
										C		43.5	44.4	12.1	4.85						6,935	12,480
										D		49.5	50.5		5.52						7,890	14,200
Mine of Ira R. Browning, 4 miles south of Emery.	.....do.....	Pugsley.....	33	22 S.	6 E.	20	12	12627	.3	A	4.0	40.9	49.2	5.93	.39	5.52	73.02	1.25	13.89	7,205	12,970	
		Bituminous.								B	3.6	41.0	49.4	5.95	.39	5.51	73.24	1.25	13.66	7,225	13,010	
										C		42.6	51.2	6.17	.41	5.29	76.01	1.30	10.82	7,500	13,500	
										D		45.4	54.6		.44	5.64	81.01	1.39	11.52	7,990	14,380	
Emery mine, 4 miles south-east of Emery.	.....do.....	Grassy Valley... Bituminous.	26	22 S.	6 E.	9 10	6	12652	1.8	A	5.2	39.1	41.6	14.1	.81						6,265	11,270
										B	3.4	39.8	42.4	14.4	.82						6,380	11,480
										C		41.2	43.9	14.9	.85						6,605	11,890
										D		48.4	51.6		1.00						7,764	13,980

SUMMIT COUNTY.

Tom Reese mine of Tom Reese Grass Creek Coal Co., 6 miles northeast of Coalville.	C. H. Wegemann.	Wasatch..... Subbituminous.	24	3 N.	5 E.	8	6½	8	6½	13216	4.5	A	12.2	42.2	42.2	3.39	1.90	5.80	63.77	1.27	23.87	6,255	11,260
											B	.....	8.0	44.2	44.2	3.55	1.99	5.55	66.77	1.33	20.81	6,550	11,790
											C	.....	.....	48.0	48.1	3.86	2.16	5.07	72.61	1.45	14.85	7,120	12,820
											D	.....	.....	50.0	50.0	.....	2.25	5.27	75.52	1.51	15.45	7,405	13,330
Gower Thomas mine of Su- perior Fuel & Briquette Co., 1 mile southeast of Coalville.	.....do.....	Wasatch..... Subbituminous.	16	2 N.	5 E.	7	6	7	6	13217	7.8	A	17.1	36.9	41.3	4.7	1.53	.....	.....	.....	.....	5,655	10,180
											B	.....	10.1	40.1	44.7	5.1	1.66	.....	.....	.....	.....	6,135	11,040
											C	.....	.....	44.6	49.7	5.7	1.85	.....	.....	.....	.....	6,820	12,280
											D	.....	.....	47.2	52.8	.....	1.96	.....	.....	.....	.....	7,235	13,020
Wasatch mine of Weber Coal Co., 1½ miles north- east of Coalville.	.....do.....	Wasatch..... Subbituminous.	3	2 N.	5 E.	10	6	10	6	13218	5.3	A	13.6	41.3	41.0	4.08	1.37	5.84	62.11	1.06	25.54	6,100	10,980
											B	.....	8.8	43.6	43.3	4.31	1.45	5.54	65.59	1.12	21.99	6,440	11,590
											C	.....	.....	47.8	47.5	4.72	1.59	5.01	71.89	1.23	15.56	7,060	12,710
											D	.....	.....	50.2	49.8	.....	1.67	5.26	75.45	1.29	16.33	7,410	13,340

^a Weathered coal.

^b Coking coal.

^c Volatile matter determined by the "modified" method.

VIRGINIA.
RUSSELL COUNTY.

Mine.	Collector.	Coal bed and kind of coal.	Location.			Thickness.		Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heat value.	
			Sec.	T.	R.	Coal bed.	Part sampled.				Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
Mine of Clinchfield Coal Corporation, Dante.	E. G. Woodruff...	Lower Banner Bituminous. ^a	.....	.....	.....	<i>Ft. in.</i> 2 4	<i>Ft. in.</i> 2 4	10385	1.1	A B C D	2.1 1.0	33.7 34.2 34.5 36.9	57.7 58.3 58.9 63.1	6.45 6.52 6.59	0.65 .66 .66 .71	5.44 5.38 5.31 5.68	78.59 79.46 80.30 85.96	1.53 1.55 1.56 1.67	7.34 6.43 5.58 5.98	7,855 7,940 8,025 8,590	14,140 14,290 14,440 15,460
Mine No. 3 of Clinchfield Coal Corporation, 1 mile east of Dante.	.....do.....	Upper Banner Bituminous. ^a	.....	.....	.....	5 2½	4 10½	10387	1.4	A B C D	2.3 .9	35.7 36.2 36.5 39.3	55.0 55.8 56.3 60.7	7.00 7.10 7.16.....	.66 .67 .68 .73	5.48 5.40 5.35 5.76	77.91 79.02 79.73 85.87	1.53 1.55 1.56 1.68	7.42 6.26 5.52 5.96	7,740 7,850 7,920 8,530	13,940 14,130 14,260 15,360

WISE COUNTY.

Swansea mine of Virginia Iron, Coal & Coke Co., Georcel.	E. G. Woodruff...	Upper Banner Bituminous. ^a	.....	.....	.....	8 1½	6 7	10386	1.5	A B C D	2.5 1.0	31.7 32.2 32.5 34.5	60.3 61.2 61.8 65.5	5.51 5.59 5.65	0.52 .53 .53 .56	5.59 5.50 5.44 5.76	79.69 80.90 81.71 86.60	1.56 1.58 1.60 1.70	7.13 5.90 5.07 5.38	7,920 8,040 8,120 8,605	14,250 14,470 14,610 15,490
Mine of Stonega Coke & Coal Co., Stonega.	.....do.....	Imboden Bituminous. ^a	.....	.....	.....	6 3½	5 10	10388	.8	A B C D	2.1 1.4	33.1 33.4 33.8 36.2	58.3 58.7 59.6 63.8	6.47 6.52 6.61.....	.68 .69 .70 .75	5.29 5.24 5.16 5.53	77.85 78.48 79.57 85.20	1.47 1.48 1.50 1.61	8.24 7.59 6.46 6.91	7,775 7,835 7,945 8,510	13,990 14,110 14,300 15,320
Mine No. 4 of Norton Coal Co., Norton.	.....do.....	Bituminous. ^a	.....	.....	.....	4 8	4 2½	10390	1.9	A B C D	3.3 1.4	32.8 33.5 33.9 35.3	60.1 61.3 62.2 64.7	3.76 3.82 3.89.....	.90 .92 .93 .97	5.55 5.44 5.36 5.58	80.01 81.56 82.75 86.10	1.58 1.61 1.63 1.70	8.20 6.64 5.44 5.65	7,895 8,045 8,165 8,495	14,210 14,490 14,700 15,290

WASHINGTON.

KITTITAS COUNTY.

Buckhannon prospect.....	E. J. Saunders....	Bituminous.....	16	18 N.	15 E.	3	9½	3	1½	13267	2.9	A	5.1	31.9	40.4	22.6	1.14	.....	.....	.....	.....	5,750	10,350
												B	2.2	32.8	41.7	23.3	1.17	.....	.....	.....	.....	5,925	10,660
												C	.....	33.6	42.6	23.8	1.20	.....	.....	.....	.....	6,060	10,910
												D	.....	44.1	55.9	.....	1.58	.....	.....	.....	.....	7,955	14,320

LEWIS COUNTY.

Prospect	A. F. Collier.....	Edlands..... Subbituminous.c	12	12 N.	4 E.	4		4		12563	5.1	A	12.6	28.6	36.9	21.9	0.73	.....	.....	.....	.....	.....	.....
												B	7.9	30.1	38.9	23.1	.77	.....	.....	.....	.....	.....	.....
												C	.....	32.7	42.2	25.1	.84	.....	.....	.....	.....	.....	.....
												D	.....	43.7	56.3	.....	1.12	.....	.....	.....	.....	.....	.....
Prospect, 2 miles east of Morton.	.....do.....	Subbituminous.	6	12 N.	5 E.	2	10	2		12564	4.1	A	8.0	22.7	53.3	16.0	.67	.....	.....	.....	.....	.....	.....
												B	4.1	23.7	55.5	16.7	.70	.....	.....	.....	.....	.....	.....
												C	.....	24.7	57.9	17.4	.73	.....	.....	.....	.....	.....	.....
												D	.....	29.9	70.1	.....	.88	.....	.....	.....	.....	.....	.....
Prospect, 4 miles north of Morton.	.....do.....	Semianthracite.	14	13 N.	4 E.	14		6		12565	6.2	A	11.8	8.4	57.3	22.5	.79	.....	.....	.....	.....	5,385	9,690
												B	6.0	9.0	61.1	23.9	.84	.....	.....	.....	.....	5,740	10,330
												C	.....	9.5	65.0	25.5	.90	.....	.....	.....	.....	6,105	10,990
												D	.....	12.8	87.2	.....	1.21	.....	.....	.....	.....	8,195	14,750

PIERCE COUNTY.

Prospect of Evans Creek Coal & Coke Co., 2 miles south of Fairfax.	Geo. W. Evans....	Montezuma..... Bituminous.	2	17 N.	6 E.	8	9	4		12478	2.3	A	3.6	20.6	41.9	33.9	0.55	.....	.....	.....	.....	3,455	6,220
												B	1.3	21.1	42.9	34.7	.56	.....	.....	.....	.....	3,535	6,370
												C	.....	21.4	43.5	35.1	.57	.....	.....	.....	.....	3,585	6,450
												D	.....	32.9	67.1	.....	.88	.....	.....	.....	.....	5,525	9,950
Prospect No. 2 of Tacoma Smelting Co.	.....do.....	No. 2..... Bituminous.	34	18 N.	6 E.	5	2	3		12495	1.7	A	2.6	24.8	52.8	19.8	.68	.....	.....	.....	.....	6,585	11,860
												B	.9	25.2	53.7	20.2	.69	.....	.....	.....	.....	6,700	12,060
												C	.....	25.5	54.2	20.3	.70	.....	.....	.....	.....	6,760	12,170
												D	.....	32.0	68.0	.....	.88	.....	.....	.....	.....	8,435	15,280
Prospect No. 1 of Tacoma Smelting Co.	.....do.....	No. 1..... Bituminous.	34	18 N.	6 E.	2	10	2	10	12496	4.0	A	4.7	26.4	60.8	8.1	1.13	.....	.....	.....	.....	7,575	13,630
												B	.8	27.5	63.3	8.4	1.18	.....	.....	.....	.....	7,890	14,200
												C	.....	27.7	63.8	8.5	1.19	.....	.....	.....	.....	7,950	14,310
												D	.....	30.2	69.8	.....	1.30	.....	.....	.....	.....	8,685	15,640
Prospect of Marshall Coal & Coke Co.	.....do.....	Nisqually Chief. Semibituminous.	15	15 N.	6 E.	12	9	11	8	12581	3.6	A	5.8	15.3	54.7	24.2	.41	.....	.....	.....	.....	5,780	10,410
												B	2.3	15.9	56.7	25.1	.43	.....	.....	.....	.....	6,000	10,800
												C	.....	16.2	58.1	25.7	.44	.....	.....	.....	.....	6,140	11,050
												D	.....	21.8	78.2	.....	.59	.....	.....	.....	.....	8,265	14,877

a Coking coal.

b Volatile matter determined by the "modified" method.

c Weathered coal.

WEST VIRGINIA.

BRAXTON COUNTY.

Mine.	Collector.	Coal bed and kind of coal.	Location.			Thickness.		Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heat value.	
			Sec.	T.	R.	Coal bed.	Part sampled.				Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
Braxton mine of Braxton Coal & Coke Co., Braxton.	E. R. Lloyd.....	Pittsburgh Bituminous.				<i>Ft. in.</i> 5 3	<i>Ft. in.</i> 5 3	13556	1.2	A	2.8	40.9	47.6	8.7	3.40	.....	.....	.....	.....	7,380	13,290
						B	1.6			41.4	48.2	8.8	3.44	.....	.....	.....	.....	7,470	13,450		
						C	.....			42.1	49.0	8.9	3.50	.....	.....	.....	.....	7,595	13,680		
						D	.....			46.2	53.8	.....	3.84	.....	.....	.....	.....	8,340	15,020		

FAYETTE COUNTY.

Prospect of W. M. Page on Rich Creek.	W. R. Calvert.....	Big Eagle..... Bituminous. ^a	.....	.....	5 9½	1 4	10476	1.0	A	1.8	44.9	49.9	3.44	0.87	6.96	80.57	1.51	6.65	8,515	15,330
									B	.8	45.3	50.4	3.47	.88	6.92	81.38	1.53	5.82	8,605	15,490
									C	.....	45.7	50.8	3.50	.89	6.88	82.04	1.54	5.15	8,675	15,610
									D	.....	47.4	52.6	.....	.92	7.13	85.01	1.60	5.34	8,985	16,180

GREENBRIER COUNTY.

Spruce Knob mine of Elk Lick Coal Co., 9 miles above Richwood.	E. R. Lloyd.....	Sewell (?)..... Bituminous.				4 10	4 1	13547	3.1	A	3.9	26.2	64.1	5.80	0.62	5.00	79.33	1.59	7.66	7,810	14,060
										B	.8	27.1	66.1	5.99	.64	4.81	81.87	1.64	5.05	8,060	14,510
										C	....	27.3	66.7	6.04	.65	4.76	82.56	1.65	4.34	8,130	14,630
										D	....	29.0	71.0	.....	.69	5.07	87.87	1.76	4.61	8,650	15,570

RANDOLPH COUNTY.

Mine of Tolbert & Spiker, 6 miles south of Mill Creek.	E. R. Lloyd.....	Sewell (?) Bituminous.	.....	.....	.....	4	3 7	13561	3.4	A	5.0	25.5	58.7	10.8	0.49	.....	.....	.....	.....	.....
										B	1.7	26.4	60.7	11.2	.51	.....	.....	.....	.....	.....
										C	.....	26.8	61.8	11.4	.52	.....	.....	.....	.....	.....
										D	.....	30.3	69.7	.....	.59	.....	.....	.....	.....	.....
Hopkins mine of West Vir- ginia Pulp & Paper Co., 9 miles southwest of Cheat Bridge.	.....do.....	Sewell (?) Bituminous.	.....	.....	.....	4 7	4 7	13601	1.9	A	2.7	28.7	55.1	13.47	.96	4.74	73.22	1.09	6.52	7,190	12,950
										B	.8	29.3	56.2	13.73	.98	4.62	74.64	1.11	4.92	7,330	13,200
										C	.....	29.5	56.6	13.85	.99	4.56	75.27	1.12	4.21	7,395	13,310
										D	.....	34.3	65.7	.....	1.15	5.29	87.37	1.30	4.89	8,580	15,450

WYOMING.

CONVERSE COUNTY.

Prospect.....	C. H. Wegemann..	Subbituminous.	4	37 N.	75 W.	12	6	5	11048	14.3	A	28.1	31.6	35.7	4.02	0.45	6.55	48.32	0.69	39.37	4,640	8,350
											B	16.1	36.9	41.6	5.39	.53	5.79	56.38	.81	31.10	5,415	9,740
											C	....	44.0	49.6	6.42	.63	4.77	67.18	.96	20.04	6,450	11,610
											D	....	47.0	53.0	.....	.67	5.10	71.79	1.03	21.41	6,890	12,410
Outcrop on Sand Creek.....	V. H. Barnett.....	Subbituminous.	33	40 N.	72 W.	6	5	5 7	11442	19.6	A	27.4	30.9	33.2	8.5	.36	.....	.....	.....	.....	4,370	7,870
											B	9.7	38.5	41.3	10.5	.45	.....	.....	.....	.....	5,440	9,790
											C	....	42.6	45.8	11.6	.50	.....	.....	.....	.....	6,625	10,450
											D	....	48.2	51.8	.....	.57	.....	.....	.....	.....	6,820	12,280

JOHNSON COUNTY.

Prospect.....	C. H. Wegemann..	Subbituminous.	36	43 N.	79 W.	13		3 7	10804	8.1	A	18.8	35.8	37.9	7.5	0.57	.....	.....	.....	.....	5,085	9,160
											B	11.7	38.9	41.2	8.2	.62	.....	.....	.....	.....	5,535	9,960
											C	....	44.0	46.7	9.3	.70	.....	.....	.....	.....	6,265	12,280
											D	....	48.5	51.5	.....	.77	.....	.....	.....	.....	6,910	12,430
Do.....	do.....	Subbituminous.	20	42 N.	78 W.	20	5	5	10827	9.4	A	23.5	35.6	35.7	5.17	.49	6.50	51.24	0.70	35.90	5,030	9,050
											B	15.5	39.4	39.4	5.71	.54	6.03	56.56	.77	30.39	5,950	9,990
											C	....	46.6	46.7	6.75	.64	5.08	66.95	.91	19.67	6,570	11,820
											D	....	49.9	50.1	.....	.69	5.45	71.79	.98	21.09	7,045	12,680
Do.....	do.....	Subbituminous.	32	41 N.	78 W.	2	2	2 2	11059	3.7	A	16.8	31.4	36.8	14.99	1.54	5.53	48.93	1.00	28.01	4,710	8,480
											B	13.6	32.6	38.2	15.57	1.60	5.32	50.81	1.04	25.66	4,890	8,810
											C	....	37.8	44.2	18.02	1.85	4.40	58.83	1.20	15.70	5,665	10,200
											D	....	46.1	53.9	.....	2.26	5.37	71.76	1.46	19.15	6,910	12,430

PARK COUNTY.

Mine of Carl Thompson.....	D. F. Hewett.....	Subbituminous.	34	51 N.	101 W.	5	7	3 3	12883	4.3	A	14.8	35.1	38.5	11.6	0.68	.....	.....	.....	.....	5,285	9,510
											B	11.0	36.7	40.2	12.1	.71	.....	.....	.....	.....	5,520	9,940
											C	....	41.3	45.1	13.6	.80	.....	.....	.....	.....	6,205	11,170
											D	....	47.8	52.2	.....	.93	.....	.....	.....	.....	7,180	12,920
East Wiley mine of Geo. W. Schwob and Leonard Olsen.	do.....	Subbituminous.	10	51 N.	100 W.	4		3 7	12884	6.4	A	15.8	35.4	41.0	7.8	0.90	.....	.....	.....	.....	5,675	10,210
											B	10.1	37.8	43.8	8.3	.96	.....	.....	.....	.....	6,060	10,910
											C	....	42.1	48.7	9.2	1.07	.....	.....	.....	.....	6,740	12,130
											D	....	46.3	53.7	.....	1.18	.....	.....	.....	.....	7,425	13,370

^a Cannel coal.

^b Volatile matter determined by the "modified" method.

WYOMING—Continued.

PARK COUNTY—Continued.

Mine.	Collector.	Coal bed and kind of coal.	Location.			Thickness.		Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heat value.	
			Sec.	T.	R.	Coal bed.	Part sampled.				Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
Eagle mine.....	D. F. Hewett.....	Subbituminous.	2	51 N.	100 W.	<i>Ft. in.</i> 5 8	<i>Ft. in.</i> 5 5	12885	6.8	A B C D	15.2 9.1	32.1 34.4 37.8 43.8	41.1 44.1 48.5 56.2	11.6 12.4 13.7	0.53 .57 .63 .73	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	5,265 5,650 6,210 7,195	9,480 10,170 11,180 12,950
Mine of W. A. McGuffey....	.....do.....	Subbituminous.	17	52 N.	100 W.	3 1	2 8	12866	5.8	A B C D	15.5 10.3	36.0 38.2 42.5 47.0	40.5 43.0 48.0 53.0	8.0 8.5 9.5.....	.91 .97 1.08 1.19	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	5,670 6,015 6,710 7,415	10,200 10,830 12,080 13,350
Black Diamond mine of Joseph Christopherson.	.....do.....	Subbituminous.	22	49 N.	100 W.	3 6	3 6	12887	7.3	A B C D	17.8 11.3	30.9 33.3 37.6 41.5	43.5 47.0 52.9 58.5	7.8 8.4 9.5.....	.20 .22 .24 .27	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	5,330 5,750 6,480 7,165	9,590 10,350 11,670 12,890
Greybull mine of Charles H. Wilson, Meeteetse.	.....do.....	Subbituminous.	13	48 N.	101 W.	5 7	5	12888	5.5	A B C D	14.2 9.2	35.8 37.9 41.7 48.7	37.7 39.8 43.9 51.3	12.3 13.1 14.4.....	.92 .97 1.07 1.25	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	..... ..... ..... .....	5,335 5,645 6,220 7,260	9,600 10,160 11,190 13,070

SHERIDAN COUNTY.

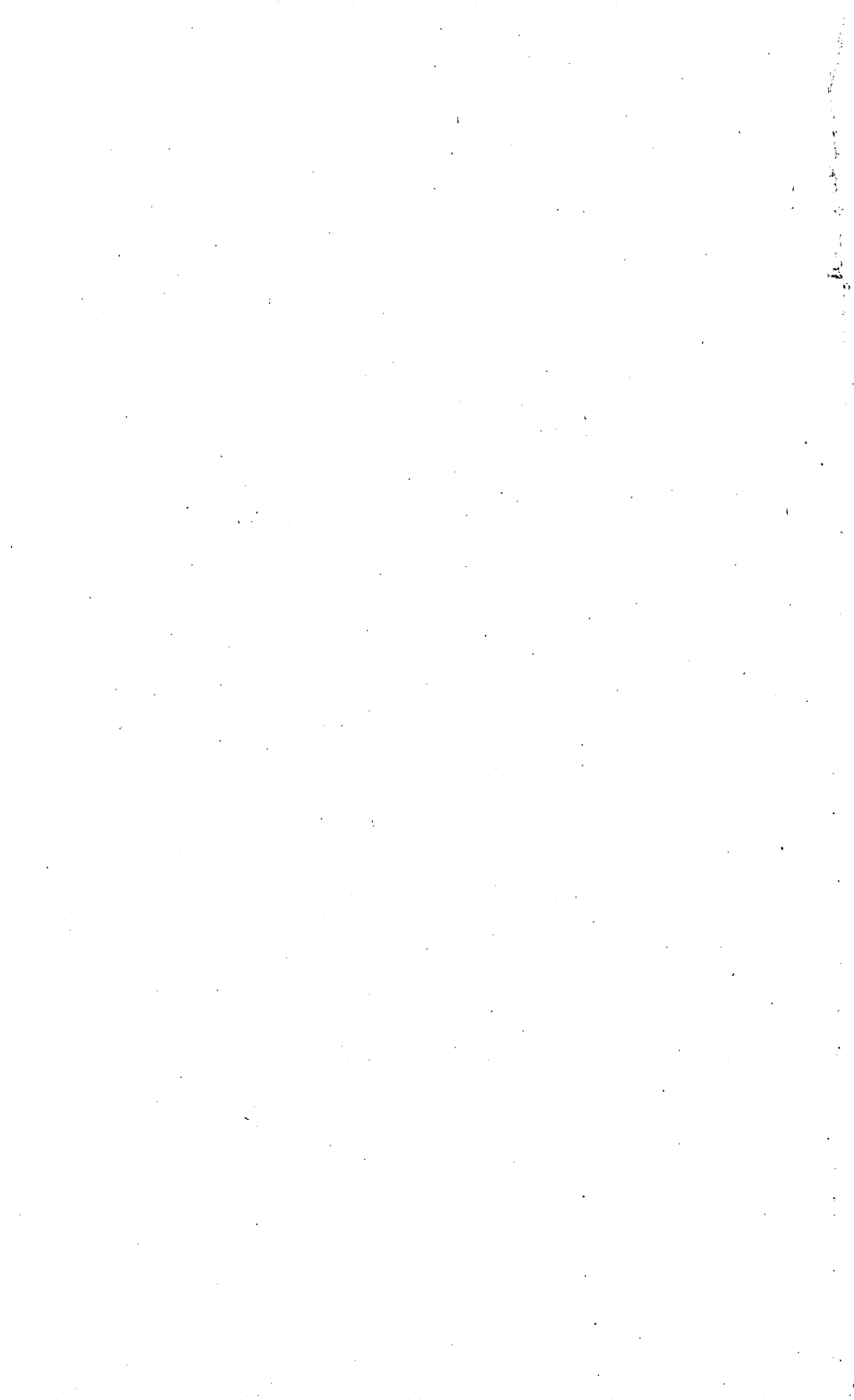
Kooi No. 1, mine of Peter Kooi, Kooi.	O. B. Hopkins....	Monarch..... Subbituminous.	23	57 N.	85 W.	23 10	9	12641	11.9	A B C D	22.4 11.9	35.0 39.8 45.2 48.3	37.5 42.6 48.3 51.7	5.1 5.7 6.5	0.55 .62 .71 .76	.....	.....	.....	.....	.....	5,105 5,795 6,575 7,035	9,190 10,430 11,840 12,660
Hughey mine, 1½ miles south of Kooi.	do.....	Subbituminous.	27	57 N.	85 W.	4	4	12642	15.2	A B C D	24.6 11.1	35.2 41.5 46.7 49.9	35.3 41.6 46.8 50.1	4.9 5.8 6.5.....	.31 .37 .41 .44	.....	.....	.....	.....	.....	4,820 5,685 6,395 6,840	8,680 10,230 11,510 12,310

Acme No. 3, mine of A. G. Craig, Acme.	do	Masters Subbituminous.	57 N.	85 W.			12683	9.5	A	23.9	34.1	38.2	3.81	.33	6.28	53.68	1.19	34.71	5,170	9,300
									B	15.9	37.7	42.2	4.21	.36	5.77	59.32	1.32	29.02	5,710	10,280
									C	44.8	50.2	5.01		.43	4.77	70.52	1.56	17.71	6,790	12,220
									D	47.2	52.8			.45	5.02	74.24	1.64	18.65	7,145	12,870
Carney mine of Carney Coal Co., Carneyville.	do	Carney Subbituminous.	57 N.	84 W.	16	10	12684	11.6	A	25.2	32.9	39.1	2.75	.32	6.28	53.49	1.11	36.05	5,090	9,160
									B	15.4	37.3	44.2	3.11	.36	5.64	60.51	1.25	29.13	5,755	10,360
									C	44.1	52.2	3.68		.43	4.64	71.56	1.48	18.21	6,810	12,250
									D	45.7	54.3			.45	4.82	74.29	1.54	18.90	7,070	12,720
Monarch mine of Monarch Coal Co., Monarch.	do	Monarch Subbituminous.	57 N.	84 W.	25	10	12685	8.1	A	23.9	34.3	38.4	3.35	.38	6.29	54.07	1.14	34.77	5,185	9,340
									B	17.2	37.4	41.8	3.65	.41	5.87	58.84	1.24	29.99	5,645	10,160
									C	45.1	50.5	4.40		.50	4.78	71.03	1.50	17.79	6,815	12,260
									D	47.2	52.8			.52	5.00	74.30	1.57	18.61	7,125	12,830
Acme No. 1, mine of A. G. Craig, Acme.	do	Carney Subbituminous.	57 N.	85 W.	20	10	12687	8.0	A	21.1	34.0	39.7	5.18	.35	6.01	54.87	1.11	32.48	5,210	9,380
									B	14.3	37.0	43.1	5.63	.38	5.56	59.64	1.21	27.58	5,665	10,200
									C	43.1	50.3	6.57		.44	4.64	69.60	1.41	17.34	6,610	11,900
									D	46.2	53.8			.47	4.97	74.49	1.51	18.56	7,075	12,740

WESTON COUNTY.

Prospect, 2 miles southwest of Moorcroft.	A. W. Stickney...	Subbituminous.	29	48 N.	68 W.	2	4	2	4	12392	17.2	A	30.0	28.8	34.5	6.7	0.92						
												B	15.4	34.8	41.7	8.1	1.11						
												C		41.1	49.3	9.6	1.31						
												D		45.5	54.5		1.45						
Local mine.....	do.....	Subbituminous.	29	48 N.	67 W.	3		2	11	12446	14.0	A	26.1	31.0	36.9	6.01	.56	6.26	49.36	0.91	36.90	4,645	8,370
												B	14.0	36.1	42.9	6.99	.65	5.46	57.39	1.06	28.45	5,405	9,750
												C		42.0	49.9	8.13	.76	4.55	66.77	1.23	18.56	6,285	11,320
												D		45.7	54.3		.83	4.95	72.68	1.34	20.20	6,840	12,320

a Volatile matter determined by the "modified" method.



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