ANALYSES OF COAL SAMPLES FROM VARIOUS PARTS OF THE UNITED STATES.

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INTRODUCTION.

The accompanying table gives the analyses of all coal samples collected by the United States Geological Survey in 1914 and that part of the year 1915 ending May 31. The analyses were made at the Pittsburgh laboratory of the Bureau of Mines, and to that organization belongs the credit and responsibility for the accuracy of the chemical work.

In the course of a year many coal fields are examined in reconnaissance or in detail by members of the United States Geological Survey. The fields in the eastern part of the country are surveyed for the purpose of determining the amount and quality of the coal, in order that the public may be made acquainted with the fuel resources of the United States. In the public-land States of the West the examinations are made in part for a similar purpose and in part (in late years this has been the controlling influence) to gather data for the classification of the land as mineral or nonmineral according to its coal content. If the land is classified as coal land a valuation must be assigned to it in accordance with certain regulations adopted by the Department of the Interior, which take into account both the quantity and quality of the coal. The quantity of coal is determined by a general survey of the field and the quality by chemical analysis and by calorimeter determination of samples sent by the geologist to the chemical laboratory.

Most of these analyses will be published in the descriptions of the fields from which the samples were obtained, but as such reports will necessarily be delayed until all the data gathered in the field have been thoroughly classified and digested, they may not appear for several months or perhaps more than a year. In order to make the analyses immediately available to the public they have been grouped according to States and counties and are herewith published in advance of the reports to which they relate. The samples of coal from Virginia, Tennessee, Illinois, and Missouri were collected by the United States Geological Survey in cooperation with the geological surveys of these States.

Many of the samples, especially those from the public-land States, were collected in fields in which mining either has not begun or has attained only a small development. Under such conditions it is difficult, if not impossible, to procure fresh material, and hence the analyses may show coal of lower grade than would appear if the sample were made up of strictly unweathered coal. In the table the analyses of weathered samples are marked so as to warn the reader against basing important conclusions on the figures given. They should be used with caution and only until such time as they may be replaced by the analyses of fresh material.

The geologist taking a sample of coal for analysis is instructed to procure unweathered material if possible. He is supposed to face up the bed in the mine or prospect until fresh coal is available, and then to obtain the sample by making a uniform cut across the bed from roof to floor. He is expected to cut sufficient coal to give at least 6 pounds to the foot of coal bed sampled. The sample thus obtained is hastily pulverized in the mine until it will pass through a ½-inch mesh screen and then is quartered down to about 4 pounds in weight. This sample is placed in a galvanized-iron can, which is sealed with adhesive tape and mailed to the laboratory for analysis. The geologist proceeds on the principle that a coal mine should be sampled as carefully as a gold mine and that the sample should be even more carefully handled after it has been taken. The object of sealing is mainly to prevent change in the moisture content, so that the coal may reach the laboratory in practically the same condition as it leaves the mine. Coal is a very unstable substance, and great care must be exercised to prevent the taking on or giving off of moisture and its oxidation in the course of preparation and in transit. It is also important that the sample should consist of neither the best nor the poorest coal, but that it should be representative of the output of the mine, if one is in operation, or, if the field is undeveloped, it should represent as nearly as possible the merchantable coal that may be procured at some time in the future when mining is carried on.

Although the aim of the geologist in sampling by the method specified above is to obtain coal that is representative of the output of the mine, experience has shown that this aim is seldom or never accomplished. Almost invariably the sample obtained in the mine contains a lower percentage of impurities than the coal which reaches the consumer. This difference is due largely to carelessness in mining and handling and probably could be mostly eliminated were conditions of mining more nearly ideal. By comparing a large number of samples taken in a mine with samples from the same mine taken at the point of consumption, it has been found that there is a fairly constant but small difference in the percentages of moisture, ash, and sulphur, and that almost invariably the amounts of these

substances in the mine samples are less than in the coal that reaches the market. On this account the sulphur as given in the analyses should be increased by about 1 per cent of itself and the ash by 1¼ per cent of itself to represent correctly the sulphur and the ash in merchantable coal from the mines.

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 determining the relative merits of a fuel, because the amount of moisture in a sample of coal 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 as widely as the analyses of coal from different beds or from different fields. Analysis B represents the sample after it has been dried at a temperature of 86° to 95° Fahrenheit until its weight becomes constant. This form of analysis probably represents the coal in the most stable form that it can be put by natural or artificial means and therefore is the one best adapted to general purposes of comparison in order to determine relative fuel values. Analysis C represents the coal after all moisture has been eliminated, and analysis D the coal after all moisture and ash have been theoretically removed. The latter is supposed to represent the true coal substance, free from the most significant impurities. Forms C and D are obtained from the others merely by recalculation. They are useful to the mechanical engineer who desires to reduce his fuel theoretically to a stable, unchanging form in order to test or check the performance of his apparatus and also in a study of the pure coal substance, free from all impurities, but as this substance is not the same as the coal that reaches the bin of the consumer neither forms C nor D should be used in determining the relative practical fuel values of coals.

The analyses reported from the laboratory have been somewhat generalized, as it is commonly recognized that the figures representing the different percentages are not generally correct to the second decimal place or to the ultimate unit. This is particularly true of the proximate analysis, and therefore the air-drying loss, moisture, volatile matter, fixed carbon, and ash are given to one decimal place only; and 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.

CLASSIFICATION OF COAL.

The separation of coals into various classes, such as bituminous, semibituminous, and lignite, is practiced in the trade, but so far no one has devised a satisfactory or systematic basis for such a classification. Many have attempted to classify coals on their chemical composition alone, and for the higher grade coals this plan seems to be fairly satisfactory, but it does not apply to the lower-rank bituminous, subbituminous, and lignite coals, or at least no one has yet proposed a scheme of separation which fits these coals and corresponds with the physical differences that have been observed by all who use them or are concerned with their mining or exploitation. Recent analytical work done on some of the so-called anthracites of southwestern Virginia (see analyses 19357–19360, 19431, 19924, 20721, and 20722) shows that chemically they are nothing more than semibituminous coal, but their physical characteristics seem to rank them with the semianthracites. It seems probable that both chemical and physical properties must be taken into account in framing a classification that will have any practical value. The classes of coal generally recognized in the United States and the criteria used by the Geological Survey for their differentiation and separation are as follows:

Anthracite.—The characteristics of anthracite are generally so well known that they need no detailed description. The coal is hard and has a vitreous or metallic luster. It is high in fixed carbon, the fuel ratio (fixed carbon divided by the volatile matter) being not less than 10. Most of this kind of coal comes from the anthracite fields of eastern Pennsylvania, but small areas are known in some of the Western States, where the coal has been changed to anthracite by the heat or pressure of intruded masses of igneous rocks.

Semianthracite coal.—Semianthracite coal is regarded in the trade as the lowest grade of anthracite. It resembles anthracite in that it is distinctly harder than ordinary bituminous coal and has some of the vitreous luster of the higher-grade coal. Its fuel ratio is supposed to range from 6 or 7 to 10. These limits are arbitrary, however, and are intended to represent the distinctions made in the trade, but as stated in the description of analyses from Virginia, it is very uncertain whether the lower limit should be fixed by some arbitrary fuel ratio or whether it should be determined by the physical properties of the coal in conjunction with its fuel ratio. This question can be answered only by a more thorough study of this kind of coal than has yet been given to it and the collection of more analyses bearing on the question. There is only a small amount of semianthracite in the United States. It occurs in isolated basins along the eastern front of the great Appalachian trough, where the rocks have been subjected to great pressures, or in the West in the proximity of igneous rocks.

Semibituminous coal.—Semibituminous coal is of great commercial importance but is not widely distributed. Its fuel ratio ranges from 3 to 6 or 7, and on account of its relatively high fixed carbon it is generally known to the trade as "smokeless" coal. It has the highest calorific value and is the best coal of the country for the generation of steam. Much of it can be utilized for the manufacture of coke, but for this use it is not best suited, for the reason that the amount of volatile matter is scarcely sufficient to bind the particles of carbon together into a firm and homogeneous coke. The centers of production of semibituminous coal are the Pocahontas and New River fields of Virginia and West Virginia, the Georges Creek field of Maryland, the Windber field of Pennsylvania, and the west end of the Arkansas field, in the vicinity of Fort Smith. Coal of this rank has been found in the West, especially in Washington, but the areas are small and the output comparatively insignificant.

Bituminous coal.—Bituminous coal is the most generally useful and important rank of coal in the country and includes most of the coals east of the Rocky Mountains. In the Western States there are large areas of bituminous coal, such as the Raton Mesa region of Colorado and New Mexico; the Grand Hogback field of Colorado; the Book Cliffs field of Utah; the Rock Springs, Kemmerer, and Black Hills fields of Wyoming; the Great Falls field of Montana; the Eden Ridge field in Coos County, Oreg.; and many districts in Washington. Coal of this rank furnishes most of the coking coal of the country and is largely used for steam raising and for domestic purposes.

Subbituminous coal.—The name "subbituminous" has been adopted by the Geological Survey for that rank of coal which has generally been called "black lignite." The term lignite for coal of this kind is objectionable, for the reason that it is not lignitic in the sense of being perceptibly woody, and the use of that term seems to imply that it is little better in quality than the brown, woody lignite of North Dakota or Texas, whereas many of the coals of this rank closely approach bituminous coal in quality. It is, in fact, extremely difficult to say where the line separating coal of this rank from the lignite below and the bituminous coal above should be drawn. It is generally distinguishable from the lignite by its black color and its freedom from apparent woody structure, and from bituminous coal by the slacking it undergoes when exposed to the weather. As slacking is an important difference in commercial use, it has been adopted by the Geological Survey as the criterion for the separation of subbituminous and bituminous coals.

Subbituminous coal is found in most of the Western States, being well known in the Boulder, North Park, and Yampa fields, Colorado; the Gallup field, New Mexico; the Hanna, Douglas, Sheridan, and Bighorn Basin fields, Wyoming; the Red Lodge and Musselshell fields, Montana; and many of the districts of Washington and Oregon.

Lignite.—The word "lignite," as used by the Geological Survey, is restricted to coals that are distinctly brown and generally woody. Lignite is characterized by the great amount of water that it carries and is intermediate in quality between peat and subbituminous coal. It is abundant in eastern Montana and North Dakota and in the northwest corner of South Dakota. In the South it is commercially developed only in Texas, but it is known to be present in small quantities in the other Gulf States as far east as Alabama.

DESCRIPTION OF SAMPLES.

COLORADO.

ELBERT COUNTY.

19902. Subbituminous coal from strip pit of Wright Barker, sec. 21, T. 10 S., R. 58 W., 4 miles east of Mattison station, on Chicago, Rock Island & Pacific Railroad. Pit worked only to supply local demands. Coal bed, Upper Cretaceous age; Laramie formation. Sample only slightly weathered; cut at back end of pit September 28, 1914, by M. R. Campbell. Section is as follows:

	Feet.
Coal and carbonaceous shale	3
Coal, soft	2
Coal, hard (sampled)	5
Coal, hard	4
	14

LA PLATA COUNTY.

20268. Bituminous coal from drift mine of Andrew Hauert, in sec. 7, T. 35 N., R. 12 W., 6 miles southeast of Mancos station on Rio Grande Southern Railroad. Coal bed, Spencer; Upper Cretaceous age; Mesaverde formation. Roof and floor are shale and sandstone. Sample cut 60 feet from mouth November 14, 1914, by A. J. Collier. Section at point sampled is as follows:

	Ft.	in.
Coal	1	4
Shale		10
Coal (sampled)	1	1
Shale (sampled)		½
Coal (sampled)	1	2
Coal, bony (sampled)		3
Coal (sampled)	2	9
	7	5½

MONTEZUMA COUNTY.

20267. Bituminous coal from drift mine of G. S. Todd, in sec. 25, T. 35 N., R. 16 W., 6 miles southeast of Cortez and 18 miles southwest of Mancos station, on Rio Grande Southern Railroad. Coal bed, Spencer; Upper Cretaceous age; Mesaverde formation. The bed dips about 2° S. Roof and floor are shale and sandstone. Sample cut in room on left 85 feet from mine mouth October 28, 1914, by A. J. Collier; represents 3 feet 11 inches of coal, entire thickness of bed.

20498. Bituminous coal from Old Spencer (drift) mine of E. J. Freeman, in sec. 3, T. 35 N., R. 13 W., 2 miles southeast of Mancos station, on Rio Grande Southern Railroad. Coal bed, Peacock; Upper Cretaceous age; Mesaverde formation. Roof is sandstone and floor is shale. Sample cut in north entry 700 feet from mine mouth October 8, 1914, by A. J. Collier; represents 2 feet 4 inches of coal, entire thickness of bed.

20500. Bituminous coal from same mine as No. 20498. Coal bed, Spencer; Upper Cretaceous age; Mesaverde formation. Roof is shale and floor is sandstone. Sample cut in right entry 500 feet from mine mouth October 9, 1914, by A. J. Collier. Section at point sampled is as follows:

	Ft.	in.
Coal, Spencer (sampled)	3	1
Coal, bony		6
Sandstone	35	0
Coal (Peacock)	2	4
	40	11

20499. Bituminous coal from drift mine of Spencer & Fielding, in sec. 2, T. 35 N., R. 13 W., 2 miles southeast of Mancos station, on Rio Grande Southern Railroad. Coal bed, Spencer; Upper Cretaceous age; Mesaverde formation. Roof and floor are shale. Sample cut in right entry 400 feet from mine mouth October 8, 1914, by O. B. Hopkins; represents 2 feet 9 inches of coal, entire thickness of bed.

MONTANA.

CHOUTEAU COUNTY.

19790. Subbituminous coal from the mine of John Deda, in sec. 6, T. 24 N., R. 13 E., 16 miles southeast of Virgelle station, on Great Falls branch of Great Northern Railway. Coal bed, Upper Cretaceous age; Eagle sandstone. Roof and floor are shale. Sample taken in entry about 175 feet southeast of mine mouth August 28, 1914, by E. Russell Lloyd. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)		7¾
Bone		2¼
Coal (sampled)	1	8
	2	6

19795. Subbituminous coal from mine of Price Sexton, in sec. 17, T. 24 N., R. 13 E., 20 miles southeast of Virgelle station, on Great Falls branch of Great Northern Railway. Coal bed, Upper Cretaceous age; Eagle sandstone. The roof and floor are shale. Sample cut 50 feet south of mine mouth September 4, 1914, by E. Russell Lloyd; represents 1 foot 5 inches of coal, entire thickness of bed. Coal slightly weathered.

DAWSON COUNTY.

19923. Subbituminous coal from Foster prospect, on Big Dry Creek in sec. 18, T. 18 N., R. 38 E., 1 mile west of Jordan, a small town 90 miles northwest of Miles City, which is on the Chicago, Milwaukee & St. Paul and Northern Pacific railways. Coal bed, no name; Tertiary (Eocene) age; Fort Union formation. Roof is sandstone and floor is shale. Sample taken from side wall of drift 50 feet from mouth and 15 feet from face of drift October 4, 1914, by C. F. Bowen. The coal was dry and probably slightly weathered. Section at point sampled is as follows:

	Ft.	in.
Coal		2½
Shale, carbonaceous		2
Coal		2
Sandstone		½
Coal	1	3
Shale		8
Coal (sampled)	2	4
Shale		2
Coal (sampled)		5½
Bone		1½
Coal (sampled)		8
	6	3

FALLON COUNTY.

20370. Lignite from the open-cut mine of G. A. Horner, in sec. 12, T. 3 S., R. 62 E., 4½ miles northwest of Camp Crook, S. Dak., a small inland town 60 miles southwest of Bowman, S. Dak., a station on the Chicago, Milwaukee & St. Paul Railway. Coal bed, Kerr; Tertiary (Eocene) age; Fort Union formation. The bed lies flat. Roof is sandstone and floor is clay. Sample cut at face of an open pit November 24, 1914, by E. M. Parks. Section at point sampled is as follows:

	Ft.	in.
Lignite, poor (sampled)		4
Lignite, brown, woody (sampled)	1	7
Bone (sampled)		1
Lignite (sampled)		6
Lignite, bony		6
Lignite (sampled)	1	2
Clay		5½
Lignite (sampled)		4
Clay		½
Lignite (sampled)		8½
	5	8½

20372. Lignite from the open-cut mine of J. S. Kerr, in sec. 11, T. 3 S., R. 62 E., 4½ miles northwest of Camp Crook, S. Dak., a small town 60 miles southwest of Bowman, a station on the Chicago, Milwaukee & St. Paul Railway. Coal bed, Kerr; Tertiary (Eocene) age; Fort Union formation. Bed lies flat. Roof and floor are shale. Sample taken at surface of an open pit November 24, 1914, by E. M. Parks. Section at point sampled is as follows:

	Ft.	in.
Lignite, brown, woody (sampled)	2	4
Lignite, shaly (sampled)		7
Lignite, brown, woody (sampled)		11
Shale (sampled)		¾
Lignite (sampled)		8
Shale		1¾
Lignite, brown	1	3
	5	11½

MONTANA—Continued.

FERGUS COUNTY.

20000. Subbituminous coal from mine of Charles Calderwood, in sec. 31, T. 22 N., R. 19 E., 5 miles northeast of Winifred station, on Lewistown branch of Chicago, Milwaukee & St. Paul Railway. Coal bed, no name; Upper Cretaceous age; Judith River formation. Sample taken in room about 50 feet east of mine mouth October 17, 1914, by E. Russell Lloyd. Roof and floor are bone. Section at point sampled is as follows:

	Ft.	in.
Coal		7
Bone		7
Coal		7
Bone		8
Coal (sampled)	2	1
	4	6

MUSSELSHELL COUNTY.

19784. Subbituminous coal from Bennett (slope) mine, in sec. 24, T. 7 N., R. 22 E., 2 miles north of Lavinia station, on Chicago, Milwaukee & St. Paul Railway. Coal bed, no name; Upper Cretaceous age; Judith River formation. The bed dips 25° NE. Roof is sandstone and floor is shale. Sample cut in small room to left 150 feet down the slope August 12, 1914, by C. E. Lesher. This mine supplies the local trade in the town of Lavinia. Section of coal bed at point sampled is as follows:

	Ft.	in.
Coal (sampled)	1	10½
Bone		3½
	2	2

19785. Subbituminous coal from Caldwell (slope) mine, in sec. 9, T. 8 N., R. 20 E., 18 miles northwest of Lavinia station, on Chicago, Milwaukee & St. Paul Railway. Coal bed, no name; Tertiary ? (Eocene) age; Lance formation. Bed dips 2°–4° W. Roof consists of 2 feet of sandy shale overlain by heavy sandstone; floor is shale. Sample taken 40 feet down the slope August 11, 1914, by C. E. Lesher. Section of coal bed at point sampled is as follows:

	Ft.	in.
Coal, bony (sampled)		9
Sandstone		4
Coal (sampled)		5
Coal, bony (sampled)		9
Coal (sampled)		10
	3	1

NEW MEXICO.

McKINLEY COUNTY.

19131. Subbituminous coal from Navajo (slope) mine of Victor-American Fuel Co., in the SW. ¼ SE. ¼ sec. 33, T. 16 N., R. 18 W., 3 miles north of Gallup, on spur of Atchison, Topeka & Santa Fe Railway. Coal bed, No. 1; Upper Cretaceous age; Mesaverde formation. Roof is shale; floor not exposed. Dip of bed is 2½° N. Sample dry; cut 1,400 feet N. 21° W. of mouth of old slope April 8, 1914, by C. T. Lupton. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	1	8½
Shale		¾
Coal (sampled)	1	8¾
Shale		1
Coal; base not exposed (sampled).	2	2+
	5	9+

19132. Subbituminous coal from same mine as No. 19131. Coal bed, No. 2; Upper Cretaceous age; Mesaverde formation. Roof is sandstone and floor is shale. Bed dips 7° N. Sample cut 2,300 feet N. 21° W. of mouth of old slope April 8, 1914, by C. T. Lupton. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	1	8
Bone		¾
Coal (sampled)	1	2
Bone		½
Coal (sampled)	1	3½
	4	2¾

19133. Subbituminous coal from same mine as No. 19131. Coal bed, No. 5; Upper Cretaceous age; Mesaverde formation. Roof is sandstone; floor is shale. Bed dips 7° N. Sample cut 2,500 feet N. 2° W. of mouth of No. 5 slope April 8, 1914, by C. T. Lupton. Section at point sampled is as follows:

NEW MEXICO—Continued.

	Ft.	in.
Coal (sampled)		11
Sandstone		1½
Coal (sampled)	6	3
	7	3½

19134. Subbituminous coal from same mine as No. 19131. Coal bed, No. 5; Upper Cretaceous age; Mesaverde formation. Bed dips 12° NW. Roof and floor are shale. Sample dry; cut 1,300 feet N. 55° W. of mouth of No. 5 slope April 8, 1914, by C. T. Lupton. Section at point sampled is as follows:

	Ft.	in.
Coal, bony		5
Coal		4
Coal, bony	1	2
Coal (sampled)	5	3½
	7	2½

19135. Composite[1] of samples 19133 and 19134.

19136. Subbituminous coal from Bartlett (shaft) mine of Victor-American Fuel Co., in the NE. ¼ sec. 9, T. 15 N., R. 18 W., 1½ miles north of Gallup, on spur of Atchison, Topeka & Santa Fe Railway. Coal bed, Black Diamond (?); Upper Cretaceous age; Mesaverde formation. Roof and floor are shale. Bed dips 11° W. Sample dry; cut 430 feet south of shaft landing April 8, 1914, by C. T. Lupton. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	2	3
Sandstone		1½
Coal (sampled)	1	8
Bone		2
Coal (sampled)	1	9
	5	11½

19137. Subbituminous coal from Weaver (slope) mine of Victor-American Fuel Co., at Gibson, N. Mex., on a branch of the Atchison, Topeka & Santa Fe Railway, in the NE. ¼ sec. 34, T. 16 N., R. 18 W., 3 miles north of Gallup. Coal bed, No. 2; Upper Cretaceous age; Mesaverde formation. Roof is sandstone and floor is shale. Bed dips 11° N. Sample dry; cut 3,900 feet N. 6° W. of mine mouth April 7, 1914, by C. T. Lupton; represents 3 feet 8 inches of coal, entire thickness of bed at point sampled.

19138. Subbituminous coal from same mine as No. 19137. Coal bed, No. 3; Upper Cretaceous age; Mesaverde formation. Roof is sandstone and floor is shale. Bed dips 7° N. Sample dry; cut 3,450 feet N. 12° W. of mine mouth April 7, 1914, by C. T. Lupton; represents 4 feet 11 inches of coal, entire thickness of bed.

19139. Subbituminous coal from same mine as No. 19137. Coal bed, No. 3½; Upper Cretaceous age; Mesaverde formation. Roof is sandstone and floor is shale. Sample dry; cut 2,750 feet N. 2° W. of mine mouth April 7, 1914, by C. T. Lupton. Section at point sampled is as follows:

	Ft.	in.
Coal, bony (sampled)		11
Coal (sampled)		7
Bone		6
Coal (sampled)	3	8
	5	8

19140. Subbituminous coal from same mine as No. 19137. Coal bed, No. 5; Upper Cretaceous age; Mesaverde formation. Roof is sandstone and floor is shale. Sample dry; cut 2,800 feet N. 42° W. of mine mouth April 7, 1914, by C. T. Lupton. Section at point sampled is as follows:

	Ft.	in.
Bone		5½
Coal, bony		5
Coal (sampled)	5	2
	6	½

19162. Subbituminous coal from Gallup Southwestern mine of Gallup Coal Mining Co., in the SE. ¼ sec. 21, T. 15 N., R. 18 W., 1 mile south of Gallup, on spur of Atchison, Topeka & Santa Fe Railway. Coal bed, Black Diamond; Upper Cretaceous age; Mesaverde formation. Roof is sandstone and floor is shale. The bed dips 20° W. Sample dry; cut 1,200 feet south of mine mouth April 10, 1914, by C. T.

[1] A sample obtained in the laboratory by thoroughly mixing equal weights of two or more face samples.

NEW MEXICO—Continued.

Lupton. Section of coal bed at point sampled is as follows:

	Ft.	in.
Coal		2
Bone		2
Coal (sampled)		10
Bone		1½
Sandstone		2
Coal (sampled)	3	11
	5	4½

19163. Subbituminous coal from mine of Dominic Carreto, in the SW. ¼ sec. 14, T. 15 N., R. 18 W., 1¼ miles east of Gallup station, on Atchison, Topeka & Santa Fe Railway. Coal bed, Otero (?); Upper Cretaceous age; Mesaverde formation. Roof is sandstone and floor is shale. Sample dry; cut 350 feet S. 15° E. of mine mouth April 10, 1914, by C. T. Lupton. Section at point sampled is as follows:

	Ft.	in.
Coal		4
Shale		3
Coal (sampled)	3	2
	3	9

19213. Subbituminous coal from mine of Myers Bros., in the SE. ¼ sec. 21, T. 15 N., R. 19 W., 8 miles west of Gallup station, on Atchison, Topeka & Santa Fe Railway. Coal bed, Myers; Upper Cretaceous age; Mesaverde formation. Roof and floor are shale. Bed dips 3° NE. Sample dry; cut 205 feet N. 45° W. of mine mouth April 15, 1914, by C. T. Lupton. Section at point sampled is as follows:

	Ft.	in.
Coal, hard and very bony		3
Coal, slightly bony (sampled)		2
Coal (sampled)	2	4
Bone		1
	2	10

19217. Subbituminous coal from Diamond (shaft) mine of Diamond Coal Co., in the SW. ¼ sec. 18, T. 15 N., R. 18 W., at Allison, on spur of Atchison, Topeka & Santa Fe Railway. Coal bed, Aztec (?); Upper Cretaceous age; Mesaverde formation. Roof is bone and coal; floor is sandstone. Bed is flat. Sample dry; cut about 2,600 feet N. 55° W. of shaft landing April 14, 1914, by C. T. Lupton. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	1	4
Bone		½
Coal (sampled)	2	8½
	4	1

19218. Subbituminous coal from same mine as No. 19217. Coal bed, Aztec (?); Upper Cretaceous age; Mesaverde formation. Bed dips 3° N. Sample dry; cut 1,400 feet S. 85° W. of shaft landing April 14, 1914, by C. T. Lupton. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	1	0
Bone		3
Coal, bony		6
Coal (sampled)		7½
Bone		½
Coal (sampled)		11
Coal, bony		4
Coal (sampled)	2	3
	5	11

19219. Subbituminous coal from same mine as No. 19217. Coal bed, Aztec (?); Upper Cretaceous age; Mesaverde formation. Roof is shale and sandstone and floor is shale. Bed dips 2° S. 70° E. Sample dry; cut 3,300 feet N. 45° E. of shaft landing April 14, 1914, by C. T. Lupton. Section at point sampled is as follows:

	Ft.	in.
Coal and bone interbedded	1	0
Coal (sampled)		11
Bone		¾
Coal (sampled)	3	9
Bone		3½
Coal (sampled)	2	2½
	8	2¾

19220. Composite of samples 19217, 19218, and 19219.

19221. Subbituminous coal from mine of A. Jones & Co., in the NW. ¼ sec. 22, T. 15 N., R. 19 W., 7 miles slightly south of west of Gallup station, on Atchison, Topeka & Santa Fe Railway. Coal bed, Defiance; Upper Cretaceous age; Mesaverde formation. Roof and floor are shale. Sample damp; cut 250 feet north of mine mouth April 11, 1914, by C. T.

NEW MEXICO—Continued.

Lupton; represents 2 feet 6 inches of coal, entire thickness of bed.

19222. Subbituminous coal from shaft mine of John Beddow, in the SW. ¼ sec. 8, T. 15 N., R. 18 W., 1½ miles northwest of Gallup station, on Atchison, Topeka & Santa Fe Railway. Coal bed, Aztec (?); Upper Cretaceous age; Mesaverde formation. Roof is sandstone and floor is shale. Bed dips 2° E. Sample dry; cut 300 feet west of shaft landing April 14, 1914, by C. T. Lupton; represents 3 feet 10½ inches of coal, entire thickness of bed.

19223. Subbituminous coal from Defiance mine, in the NE. ¼ sec. 16, T. 15 N., R. 19 W., 6 miles west of Gallup and about 2 miles north of Atchison, Topeka & Santa Fe Railway. Coal bed, Defiance; Upper Cretaceous age; Mesaverde formation. Roof is sandstone and floor is shale. Bed dips 4° E. Sample dry; cut about 880 feet N. 85° E. of mine mouth April 11, 1914, by C. T. Lupton; represents 5 feet 9½ inches of coal, entire thickness of bed.

19286. Subbituminous coal from Heaton (slope) mine of Victor-American Fuel Co., in the NW. ¼ sec. 35, T. 16 N., R. 18 W., 4 miles northeast of Gallup, on spur of Atchison, Topeka & Santa Fe Railway. Coal bed, No. 2; Upper Cretaceous age; Mesaverde formation. Roof and floor are shale. Sample dry; cut 2,300 feet N. 30° W. of slope mouth April 23, 1914, by C. T. Lupton; represents 2 feet 11 inches of coal, entire thickness of bed.

19287. Subbituminous coal from same mine as No. 19286. Coal bed, No. 3½; Upper Cretaceous age; Mesaverde formation. Roof and floor are shale. Sample dry; cut 3,300 feet N. 15° W. of mine mouth April 23, 1914, by C. T. Lupton; represents 3 feet 11 inches of coal, entire thickness of bed.

19288. Subbituminous coal from same mine as No. 19286. Coal bed, No. 3; Upper Cretaceous age; Mesaverde formation. Sample dry; cut 4,000 feet N. 37° W. of mine mouth April 23, 1914, by C. T. Lupton. Section at point sampled is as follows:

	Ft.	in.
Coal, bony		7
Coal (sampled)	2	4
Coal, bony		8
Coal (sampled)		5
	4	0

SOCORRO COUNTY.

20007. Bituminous coal from prospect drift in sec. 8, T. 2 N., R. 6 W., about 32 miles northwest of Magdalena station, on a branch of Atchison, Topeka & Santa Fe Railway. Coal bed, no name; upper Cretaceous age; Mancos (?) shale. Roof is sandstone and floor is shale. Bed dips 4° SW. Sample wet; taken at face of drift 15 feet long, which was made at the time of sampling, October 22, 1914, by Dean E. Winchester. Section at point sampled is as follows:

	Ft.	in.
Coal		9
Shale		4
Coal (sampled)	1	2
Shale		4
Coal (sampled)	1	9
	4	4

NORTH DAKOTA.

MORTON COUNTY.

19786. Lignite from open-cut mine of T. A. Ramsland, in the NW. ¼ sec. 6, T. 137 N., R. 86 W., 5 miles southwest of Almont station, on Northern Pacific Railway. Coal bed, no name; Tertiary (Eocene) age; Fort Union formation. Sample cut from south wall of open pit August 24, 1914, by E. T. Hancock. Section at point sampled is as follows:

	Ft.	in.
Lignite (sampled)	3	11
Lignite	1	8
Shale, brown		4½
Lignite		10
	6	9½

19801. Lignite from mine in SW. ¼ sec. 32, T. 138 N., R. 84 W., 8 miles south and 2 miles west of Judson station, on Northern Pacific Railway. Coal bed, no name;

NORTH DAKOTA—Continued.

Tertiary (Eocene) age; Fort Union formation. Bed lies flat. Roof is sandstone and floor is shale. Sample wet; cut 70 feet N. 15° W. of shaft landing September 7, 1914, by E. T. Hancock. Bed is 6 feet 8 inches thick, but as part of bed was weathered, sample represents only 4 feet 2 inches of the lower part of the bed.

20033. Lignite from mine (slope) of Dakota Products Co., in sec. 15, T. 139 N., R. 85 W., on spur of Northern Pacific Railway, half a mile northeast of New Salem, N. Dak. Coal bed, no name; Tertiary (Eocene) age; Fort Union formation. Roof is lignite and floor is shale. Bed lies flat. Sample wet; cut 2,040 feet northwest of mine mouth October 23, 1914, by E. T. Hancock. Section at point sampled is as follows:

	Ft.	in.
Lignite (sampled)	1	4
Lignite, shaly (sampled)		4
Lignite (sampled)	3	1
	4	9

This section represents only the lower part of the bed, as the roof of the mine is composed of lignite.

OHIO.

BELMONT COUNTY.

20174. Bituminous coal from mine of J. H. Milhoan, in sec. 7, T. 7 N., R. 5 W., Goshen Township, 1½ miles northeast of Hunter, 5 miles south of Bethesda station, on Baltimore & Ohio Railroad. Coal bed, Waynesburg; Carboniferous (Pennsylvanian) age; Monongahela formation. Roof and floor are shale. Sample dry; cut 50 feet south of mine mouth November 21, 1914, by D. Dale Condit. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	2	1½
Bone (sampled)		1½
Coal (sampled)		11
	3	2

20176. Bituminous coal from mine of Thomas Davy, in sec. 20, T. 8 N., R. 6 W., Warren Township, 1 mile southwest of Barnesville station, on Baltimore & Ohio Railroad. Coal bed, Meigs Creek (Sewickley); Carboniferous (Pennsylvanian) age; Monongahela formation. Roof is coal and floor is shale. Sample dry; cut 350 feet southwest of mine mouth November 20, 1914, by D. Dale Condit. Section at point sampled is as follows:

	Ft.	in.
Coal, impure		10
Clay	1	2
Coal (sampled)	3	2
Bone		2
	5	4

20187. Bituminous coal from Cochran mine No. 2 of Bixler (Ohio) Coal Co., in sec. 31, T. 8 N., R. 6 W., Warren Township, at Baileys Mills, on Baltimore & Ohio Railroad 3½ miles southwest of Barnesville. Coal bed, Pittsburgh; Carboniferous (Pennsylvanian) age; Monongahela formation. Roof is shale and floor is clay. Sample cut at face of main north entry, 1 mile north of mine mouth, November 25, 1914, by R. V. A. Mills. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)		9
"Sulphur"		1
Coal (sampled)	2	11
	3	9

20188. Bituminous coal from same mine as No. 20187. Coal bed, Pittsburgh; Carboniferous (Pennsylvanian) age; Monongahela formation. Roof is shale and floor is clay. Sample cut in room 6 off No. 15 west entry, three-quarters of a mile north of mine mouth, November 25, 1914, by R. V. A. Mills. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	1	1
"Sulphur"		1
Coal; some "sulphur" (sampled)		2
Coal (sampled)		3
Bone (sampled)		1
Coal (sampled)		6
"Sulphur" (sampled)		¼
Coal (sampled)	2	
	4	2¼

20189. Composite of samples 20187 and 20188.

OHIO—Continued.

20230. Bituminous coal from Jeeffries mine, Temperanceville, in sec. 33, T. 7 N., R. 6 W., Somerset Township, 4 miles south of Baileys Mills station, on Baltimore & Ohio Railroad. Coal bed, Pittsburgh; Carboniferous (Pennsylvanian) age; Monongahela formation. Roof is shale and floor is clay. Sample dry; cut 600 feet north of mine mouth November 22, 1914, by R. V. A. Mills. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)		7½
"Soot" streak		½
Coal (sampled)		4½
Bone		¾
Coal (sampled)	1	7
"Sulphur"		¼
Coal (sampled)	1	
	3	8½

20234. Bituminous coal from mine of Howard Brown, in sec. 26, T. 6 N., R. 5 W., Wayne Township, 2 miles southeast of Somerton and 8 miles southeast of Barnesville station, on Baltimore & Ohio Railroad. Coal bed, Waynesburg; Carboniferous (Pennsylvanian) age; Monongahela formation. Sample cut 100 feet west of mine mouth November 24, 1914, by D. Dale Condit. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)		6
"Sulphur"		1
Coal (sampled)	1	
"Soot"		½
Coal (sampled)		11
	2	6½

20236. Bituminous coal from Stoffel mine of Nathan Davis, in sec. 27, T. 5 N., R. 4 W., Washington Township, 1 mile southwest of Alledonia station, on Ohio River & Western Railroad (narrow gage). Coal bed, Waynesburg; Carboniferous (Pennsylvanian) age; Monongahela formation. Roof and floor are shale. Sample dry; cut 50 feet southwest of mine mouth November 26, 1914, by D. Dale Condit. Section at point sampled is as follows:

	Ft.	in
Bone		4
Coal (sampled)	2	5½
	2	9½

20237. Bituminous coal from mine of Shipman Bros., in sec. 22, T. 5 N., R. 4 W., Washington Township, 1 mile north of Alledonia station, on Ohio River & Western Railroad (narrow gage). Coal bed, Meigs Creek (Sewickley); Carboniferous (Pennsylvanian) age; Monongahela formation. Roof is clay and limestone; floor is shale. Sample dry; cut 40 feet west of mine mouth November 26, 1914, by D. Dale Condit. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	2	1
Coal, bony cannel (sampled)		2½
Coal (sampled)		1½
Clay		½
Coal (sampled)	1	6
	3	11½

20238. Bituminous coal from mine of S. A. Moore, in sec. 33, T. 5 N., R. 4 W., Washington Township, 1½ miles southwest of Alledonia station, on Ohio River & Western Railroad (narrow gage). Coal bed, Washington; Carboniferous (Permian?) age; Washington formation. Roof and floor are shale. Sample dry; cut 50 feet east of mine mouth November 26, 1914, by D. Dale Condit. Section at point sampled is as follows:

	Ft.	in.
Coal, bony		3
Coal, bony in lower part (sampled)	2	1
Clay		8
Coal (sampled)		11
	3	11

20241. Bituminous coal from mine of George Thomas, in sec. 14, T. 7 N., R. 6 W., Somerset Township, 2 miles east of Boston, 7 miles south of Barnesville station, on Baltimore & Ohio Railroad. Coal bed, Waynesburg; Carboniferous (Pennsylvanian) age; Monongahela formation.

OHIO—Continued.

Roof is sandstone and floor is shale. Sample dry; cut 200 feet south of mine mouth November 24, 1914, by D. Dale Condit. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	1	0
"Sulphur"		2
Coal (sampled)		10
"Soot"		1
Coal (sampled)		11
	3	0

20775. Bituminous coal from prospect of Peter Kemp, in sec. 1, T. 7 N., R. 5 W., Goshen Township, 2 miles east of Hunter and 5 miles southeast of Bethesda station, on Baltimore & Ohio Railroad. Coal bed, Uniontown; Carboniferous (Pennsylvanian) age; Monongahela formation. Roof and floor are clay. Sample dry and weathered; cut 20 feet west of mine mouth November 21, 1914, by D. Dale Condit. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	2	6
Shale		1
Coal (sampled)		3
Shale		5
Coal (sampled)		7
	3	10

GUERNSEY COUNTY.

20178. Bituminous coal from mine of Samuel Sayre, in sec. 21, T. 9 N., R. 7 W., Millwood Township, 1½ miles northwest of Quaker City station, on Baltimore & Ohio Railroad. Coal bed, Pittsburgh; Carboniferous (Pennsylvanian) age; Monongahela formation. Roof is shale and floor is clay. Sample dry; cut 250 feet east of mine mouth November 20, 1914, by D. Dale Condit. Section at point sampled is as follows:

	Ft.	in.
Coal, bony		4
Coal (sampled)		9
"Sulphur"		1
Coal (sampled)	1	8
Shale		½
Coal (sampled)		3½
Shale		½
Coal (sampled)		11
	4	1½

20243. Bituminous coal from mine of Andy Slovak, in sec. 11, T. 8 N., R. 9 W., Valley Township, 1 mile southeast of Hartford, on spur of Baltimore & Ohio Railroad. Coal bed, Anderson (Bakerstown); Carboniferous (Pennsylvanian) age; Conemaugh formation. Roof is sandstone and floor is shale. Sample cut 75 feet east of mine mouth November 27, 1914, by D. Dale Condit; represents 1 foot 10 inches of coal, entire thickness of bed.

20245. Bituminous coal from Waldhonding No. 2 (shaft) mine of Cambridge Colliery Co., in sec. 11, T. 8 N., R. 9 W., Valley Township, 1 mile southeast of Hartford, on spur of Baltimore & Ohio Railroad. Coal bed, Upper Freeport; Carboniferous (Pennsylvanian) age; Allegheny formation. Roof is shale and floor is clay. Sample cut 600 feet southeast of shaft landing November 27, 1914, by D. Dale Condit. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)		2
"Soot" (sampled)		¼
Coal (sampled)		8
"Soot"		½
Coal (sampled)	2	0
"Soot"		½
Coal (sampled)		7
"Soot" (sampled)		¼
Coal (sampled)		8
Clay		¾
Coal (sampled)		6
Bone		1½
Coal (sampled)	1	2
	6	¾

20246. Bituminous coal from same mine as No. 20245. Coal bed, Upper Freeport; Carboniferous (Pennsylvanian) age; Allegheny formation. Roof is shale and floor is clay. Sample cut 3,400 feet northwest of shaft landing November 27, 1914, by D. Dale Condit. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	1	9
"Soot"		½
Coal (sampled)	1	6
"Soot" (sampled)		¼
Coal (sampled)		4

OHIO—Continued.

	Ft.	in.
"Soot"		½
Coal (sampled)		9
Bone		1
Coal (sampled)		10
	5	4½

20247. Composite of samples 20245 and 20246.

20261. Bituminous coal from Cleveland (shaft) mine of Morris Coal Co., in sec. 21, T. 1 N., R. 2 W., Richland Township, a quarter of a mile southeast of Senecaville, on branch of Baltimore & Ohio Railroad. Coal bed, Upper Freeport; Carboniferous (Pennsylvanian) age; Allegheny formation. Roof is shale and floor is clay. Sample cut in room No. 5 east off main north entry, 5,200 feet east of shaft landing, November 28, 1914, by D. Dale Condit. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	1	6
"Soot" (sampled)		½
Coal (sampled)		8
Bone		½
Coal (sampled)		7
"Soot" (sampled)		½
Coal (sampled)		4
"Soot" (sampled)		½
Coal (sampled)		8
Bone		2
Coal (sampled)		9
"Soot"		½
Coal (sampled)		4
"Soot"		½
Coal (sampled)		9
	5	11½

20262. Bituminous coal from same mine as No. 20261. Coal bed, Upper Freeport; Carboniferous (Pennsylvanian) age; Allegheny formation. Roof is shale and floor is clay. Sample cut 10,500 feet north of shaft landing November 28, 1914, by D. Dale Condit. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)		8
"Soot" (sampled)		½
Coal (sampled)	1	0
"Soot" (sampled)		½
Coal (sampled)		7
Bone		½
Coal (sampled)		6
"Soot" (sampled)		½
Coal (sampled)		8
"Soot" (sampled)		½
Coal (sampled)		6
Bone		2
Coal (sampled)		4
Bone		1
Coal (sampled)		7
	5	3½

20263. Composite of samples 20261 and 20262.

20264. Bituminous coal from Black Top (shaft) mine of Morris Coal Co., in sec. 8, T. 1 N., R. 2 W., Richland Township, 1 mile west of Lore City, on spur of Baltimore & Ohio Railroad. Coal bed, Upper Freeport; Carboniferous (Pennsylvanian) age; Allegheny formation. Roof is shale and floor is clay. Sample dry; cut in No. 23 east entry, off main south entry, 6,200 feet S. 15° E. of shaft landing, November 28, 1914, by D. Dale Condit. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	2	6
Coal, bony (sampled)		1½
Coal (sampled)	1	2½
Bone		2
Coal (sampled)		10
	4	10

20265. Bituminous coal from same mine as No. 20264. Coal bed, Upper Freeport; Carboniferous (Pennsylvanian) age; Allegheny formation. Roof is shale and floor is clay. Sample dry; cut near end of main south entry, 7,300 feet S. 12° W. of shaft landing, November 28, 1914, by D. Dale Condit. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	2	3
Coal, bony (sampled)		2½
Coal (sampled)	1	7
Bone		2½
Coal (sampled)	1	9
	6	0

20266. Composite of samples 20264 and 20265.

OHIO—Continued.

JEFFERSON COUNTY.

15394. Bituminous coal from Amsterdam mine of Youghiogheny & Ohio Coal Co., in SW. ¼ sec. 18, T. 11 N., R. 4 W., half a mile south of Amsterdam. Sampled December 27, 1912, by D. Dale Condit. Composite of Nos. 15388, 15389, and 15390.[1]

15395. Bituminous coal from Eastern Ohio mine of Rice Coal Co., in the NE. ¼ sec. 8, T. 12 N., R. 4 W., 2 miles northeast of Amsterdam. Sampled December 28, 1912, by D. Dale Condit. Composite of Nos. 15391, 15392, and 15393.[1]

15442. Bituminous coal from Elizabeth mine of Wolf Run Coal Co., in the SE. ¼ sec. 7, T. 12 N., R. 4 W., 1½ miles east of Amsterdam. Sampled December 30, 1912, by D. Dale Condit. Composite of Nos. 15440 and 15441.[1]

15446. Bituminous coal from Parlett mine of Etta Coal Co., in SE. ¼ sec. 32, T. 9 N., R. 3 W., 2 miles southeast of Hopedale. Sampled December 31, 1912, by D. Dale Condit. Composite of Nos. 15444[2] and 15445.[1]

15565. Bituminous coal from Goucher No. 2 mine of Dexter Coal Co., in the SE. ¼ sec. 6, T. 5 N., R. 2 W., 1½ miles northwest of Brilliant. Sampled January 4, 1913, by D. Dale Condit. Composite of Nos. 15563 and 15564.[1]

MONROE COUNTY.

20259. Bituminous coal from mine of Charles Mobley, in sec. 31, T. 4 N., R. 4 W., Adams Township, 2½ miles east of Coats station, on Ohio River & Western Railroad (narrow gage). Coal bed, Uniontown; Carboniferous (Pennsylvanian) age; Monongahela formation. Roof and floor are shale. Sample cut 40 feet east of mouth November 27, 1914, by D. Dale Condit. Sample dry. Section at point sampled is as follows:

	Ft.	in.
Coal, bony at top (sampled)	1	7
Shale		3½
Coal (sampled)		10½
Shale		2
Coal (sampled)		6
	3	5

NOBLE COUNTY.

20185. Bituminous coal from mine of G. W. Griffin, in sec. 11, T. 8 N., R. 7 W., Beaver Township, 3 miles southeast of Quaker City station, on the Baltimore & Ohio Railroad. Coal bed, Meigs Creek (Sewickley); Carboniferous (Pennsylvanian) age; Monongahela formation. Roof and floor are shale. Sample dry; cut 350 feet west of mine mouth November 22, 1914, by D. Dale Condit. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	2	5
Clay		2
Coal (sampled)	1	2
	3	9

20235. Bituminous coal from mine of Wiley Carter, in sec. 33, T. 8 N., R. 8 W., Seneca Township, 1 mile north of Mount Ephraim station on Ohio River & Western Railroad (narrow gage). Coal bed, Meigs Creek (Sewickley); Carboniferous (Pennsylvanian) age; Monongahela formation. Roof and floor are shale. Sample cut 300 feet west of mouth November 26, 1914, by D. Dale Condit. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)		11
"Soot"		¾
Coal (sampled)		10
"Soot"		1
Coal (sampled)	1	4
	3	2¾

20240. Bituminous coal from mine of J. T. Moore, in sec. 11, T. 7 N., R. 8 W., Marion Township, 1 mile west of Steam-

[1] For analyses of original samples see U. S. Geol. Survey Bull. 531, pp. 344-346, 1913.

[2] The thickness of the coal bed represented by sample 15444 is 4 feet 6 inches instead of 2 feet 6 inches, as stated by a typographic error in Bulletin 531, p. 346.

OHIO—Continued.

town station, on Ohio River & Western Railroad (narrow gage). Coal bed, Meigs Creek (Sewickley); Carboniferous (Pennsylvanian) age; Monongahela formation. Roof is clay and floor is shale. Sample cut 480 feet south of mine mouth November 26, 1914, by D. Dale Condit. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)		11
"Soot"		½
Coal (sampled)	2	
"Soot"		1
Coal (sampled)	1	
	4	½

OKLAHOMA.

CRAIG COUNTY.

20715. Bituminous coal from strip pit of J. A. Mills, in sec. 28, T. 28 N., R. 20 E., 4 miles west of Welch station, on Missouri, Kansas & Texas Railway. Coal bed, no name; Carboniferous (Pennsylvanian) age; Cherokee formation. Roof is shale and floor is clay. Sample cut in face of open pit December 12, 1914, by Carl D. Smith; sample represents 2 feet 2 inches of coal, entire thickness of bed.

20716. Bituminous coal from drift mine of James Coates in sec. 26, T. 27 N., R. 20 E., 4 miles west of Bluejacket station on Missouri, Kansas & Texas Railway. Coal bed, no name; Carboniferous (Pennsylvanian) age; Cherokee formation. Roof is shaly sandstone and floor is clay. Sample cut just off east side of main entry, 300 feet from mine mouth, December 13, 1914, by Carl D. Smith; represents 3 feet 1 inch of coal, entire thickness of bed.

20717. Bituminous coal from strip pit of Mr. Heldebrand, in sec. 13, T. 26 N., R. 19 E., 10 miles northwest of Vinita station, on Missouri, Kansas & Texas Railway and St. Louis & San Francisco Railroad. Coal bed, no name; Carboniferous (Pennsylvanian) age; Cherokee formation. Roof is shale and sandstone; floor is clay. Sample cut in face of open pit December 14, 1914, by Carl D. Smith; represents 2 feet 3 inches of coal, entire thickness of bed.

20718. Bituminous coal from strip pit of William Boot, in sec. 33, T. 26 N., R. 19 E., 1 mile east of Estella; no railroad connection. Coal bed, no name; Carboniferous (Pennsylvanian) age; Cherokee formation. Sample cut in face of open pit December 14, 1914, by Carl D. Smith; represents 2 feet of coal, entire thickness of bed.

ROGERS COUNTY.

20714. Bituminous coal from strip pit of New State Coal Co., in sec. 21, T. 22 N., R. 14 E., half a mile north of Collinsville, on Atchison, Topeka & Santa Fe Railway. Coal bed, Dawson; Carboniferous (Pennsylvanian) age; Coffeyville (?) formation. Shale above and clay below. Sample cut at face of open pit December 10, 1914, by Carl D. Smith; represents 1 foot 9 inches of coal, entire thickness of bed.

20780. Bituminous coal from shaft mine No. 1, of Catale Coal Co., in sec. 14, T. 24 N., R. 18 E., 1 mile northeast of Catale, a station on the St. Louis & San Francisco Railroad. Coal bed, no name; Carboniferous (Pennsylvanian) age; Cherokee formation. Roof is hard shale; floor is clay. Sample cut 300 feet northwest of shaft December 15, 1914, by Carl D. Smith; represents 1 foot 10 inches of coal, entire thickness of bed. Depth below surface at point of sampling, 70 feet.

20781. Bituminous coal from slope mine of A. P. McNutt, in sec. 22, T. 22 N., R. 16 E., 5 miles northeast of Claremore, a station on the St. Louis & San Francisco and St. Louis, Iron Mountain & Southern railways. Coal bed, no name; Carboniferous (Pennsylvanian) age; Cherokee formation. Roof is shale; floor is clay. Sample cut in slope 50 feet north of mine mouth December 17, 1914, by Carl D. Smith; represents 1 foot 7 inches of coal, entire thickness of bed. Depth below surface at point of sampling, 25 feet.

OKLAHOMA—Continued.

TULSA COUNTY.

20712. Bituminous coal from mine No. 1 (slope) of Southwestern Coal Co., in sec. 28, T. 20 N., R. 13 E., half a mile west of Dawson, on St. Louis & San Francisco Railroad. Coal bed, Dawson; Carboniferous (Pennsylvanian) age; Coffeyville (?) formation. Roof and floor are shale. Sample cut 500 feet north of slope mouth December 9, 1914, by Carl D. Smith; represents 2 feet of coal, entire thickness of bed.

20713. Bituminous coal from No. 2 (shaft) mine of Hickory Coal & Mining Co., in sec. 17, T. 19 N., R. 13 E., 4 miles southeast of Tulsa, on Missouri, Kansas & Texas Railway. Coal bed, Dawson; Carboniferous (Pennsylvanian) age; Coffeyville (?) formation. Roof and floor are shale. Sample cut 300 feet southeast of shaft landing December 9, 1914, by Carl D. Smith. Sample represents 2 feet 6½ inches of coal, entire thickness of bed.

WAGONER COUNTY.

20832. Bituminous coal from strip pit of the Arkansas Valley Coal, Gas & Oil Co., in sec. 15, T. 18 N., R. 15 E., 3½ miles northeast of Broken Arrow station, on the Missouri, Kansas & Texas Railway. Coal bed, no name; Carboniferous (Pennsylvanian) age; Cherokee formation. Roof is shale and floor is clay. Sample cut from open pit December 19, 1914, by Carl D. Smith; represents 2 feet of coal which contains some sulphur bands, entire thickness of bed.

OREGON.

COOS COUNTY.

19877. Bituminous coal from prospect on Pulford claim, in SW. ¼ sec. 20, T. 32 S., R. 11 W., Eden Ridge field, 35 miles west of West Fork station, on Southern Pacific Railroad. Coal bed, Anderson; Tertiary (Eocene) age; Arago formation. Roof is shale overlain by massive sandstone; floor is shale. Bed dips 16° S. Sample cut in drift 125 feet from mouth and 4 feet from face September 22, 1914, by C. E. Lesher. Section at point sampled is as follows:

	Ft.	in.
Coal, bony (sampled)		11½
Coal (sampled)		5
Coal, bony (sampled)		4
Clay		2½
Coal (sampled)		2
Bone (sampled)		¾
Coal, bony (sampled)		2¼
Coal (sampled)		4
Bone		8
Black coaly mud (sample 19878)	1	8
	5	0

19878. Bituminous coal from same prospect and location as No. 19877. Sample represents lower bench.

PENNSYLVANIA.

SOMERSET COUNTY.

19848. Semibituminous coal from Cairnbrook mine of Loyalhanna Coal & Coke Co., on Pennsylvania Railroad at Cairnbrook. Coal bed, lower Kittanning (B) bed; Carboniferous (Pennsylvanian) age; Allegheny formation. Roof and floor are shale. Sample cut in "empty" southeast entry September 18, 1914, by G. B. Richardson. Section at point sampled is as follows:

	Ft.	in.
Coal, bony		10
Coal (sampled)	3	2
Coal, bony		8
	4	8

19849. Semibituminous coal from same mine as No. 19848. Coal bed, Lower Kittanning (B) bed; Carboniferous (Pennsylvanian) age; Allegheny formation. Roof and floor are shale. Sample cut in "loaded" south entry September 18, 1914,

PENNSYLVANIA—Continued.

by G. B. Richardson. Section at point sampled is as follows:

	Ft.	in.
Coal, bony	1	3
Coal (sampled)	3	2
Coal, bony	1	7
	6	0

19850. Composite of samples 19848 and 19849.

19851. Semibituminous coal from mine of Irving Fleegle (old Hitchens mine), 2½ miles southeast of Cairnbrook station on Pennsylvania Railroad. Coal bed, Brookville (A) bed; Carboniferous (Pennsylvanian) age; Allegheny formation. Roof and floor are shale. Sample cut in small entry west of main entry, 300 feet from mine mouth, September 18, 1914, by G. B. Richardson. Section at point sampled is as follows:

	Ft.	in.
Bone		4
Coal (sampled)	1	0
Shale		5½
Coal (sampled)	1	6
	3	3½

TENNESSEE.

In accordance with an agreement with the Tennessee Geological Survey for the cooperative investigation of the coals of the State all the commercially productive mines of the State were sampled by the United States Geological Survey in 1915, the work being done by F. R. Clark.

ANDERSON COUNTY.

21427. Bituminous coal from mine (wagon) of Alexander Hall, 1¼ miles north-northeast of Oliver Springs, on Louisville & Nashville Railroad and Southern Railway. Coal is fresh. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Sample dry; cut at face of main entry, 400 feet east of mouth, March 11, 1915, by F. R. Clark. Section of coal bed at point sampled is as follows:

	Ft.	in.
Coal, massive, hard, and blocky (sampled)	1	10
Coal, containing some rash (sampled)		2
	2	0

21451. Bituminous coal from drift mine of Piedmont Coal & Coke Co., 3 miles north-northeast of Oliver Springs, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Sample dry; cut at face of Moore's place off Pigankle entry, 1,200 feet north of mouth, March 11, 1915, by F. R. Clark. Section of coal bed at point sampled is as follows:

	Ft.	in.
Rash, coal, and sulphur mixed		5
Clay		3
Coal, massive and blocky (sampled)	1	11
	2	7

21452. Bituminous coal from same mine and bed as No. 21451. Sample dry; cut at face of room 18 off No. 6 right entry, 4,000 feet north-northwest, 1,325 feet east-northeast, and 200 feet south-southeast from mouth, March 11, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash and coal lenses interbedded		5
Coal, massive and brittle (sampled)	4	5
	4	10

21453. Bituminous coal from same mine and bed as No. 21451. Sample dry; cut at face of No. 1 room (left) off No. 3 right entry, 2,200 feet north-northwest, 800 feet east-northeast, and 45 feet north-northwest from mouth, March 11, 1915, by F. R. Clark. Section of bed sampled shows 4 feet 6 inches of massive coal containing thin lenses of sulphur.

21455. Composite of [samples 21451, 21452, and 21453.

TENNESSEE—Continued.

21454. Bituminous coal from same mine and bed as No. 21451. Sample dry; cut at mouth of No. 5 right entry, 3,000 feet north-northwest of mouth, March 11, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Bone		2
Clay		1½
Coal, cannel (?) (sampled)		11
Coal, massive and blocky	1	3½
	2	6

21627. Bituminous coal from Smith mine (wagon), 1½ miles west of Coal Creek, on Southern Railway and Louisville & Nashville Railroad. This small mine is operated continuously, but the coal at the point sampled was slightly weathered. Coal bed, not identified; Carboniferous (Pennsylvanian) age; Wartburg sandstone (?). Sample dry; cut at face of No. 1 right off main entry, 75 feet north of mouth, March 13, 1915, by F. R. Clark; represents 2 feet of coal, entire thickness of bed.

21628. Bituminous coal from Thistle (drift) mine of Coal Creek Coal Co., 3 miles southwest of Coal Creek, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Sample dry; cut at face of No. 2 right off main face entry, 1,200 feet S. 30° W. of mouth of Dogwood opening, March 13, 1915, by F. R. Clark. Section at point sampled is as follows:

	Ft.	in.
Coal, bright and laminated (sampled)		2¾
Rash (sampled)		¼
Coal and rash interbedded (sampled)		4½
Coal, bright and blocky (sampled)		4½
Coal, very dull and hard, cannel-like (sampled)		2
Coal, bright and blocky (sampled)	2	10
Coal		2
	4	2

21629. Bituminous coal from same mine and bed as No. 21628. Sample dry; cut at face of room 63 off No. 5 left entry, 1,980 feet S. 72° W. of mouth, March 12, 1915, by F. R. Clark; represents entire thickness of bed. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, soft and blocky		9
Coal, very dull and hard (cannel in character)		6
Coal, massive and hard	2	11
	4	2

21630. Bituminous coal from same mine and bed as No. 21628. Sample dry; cut in face of room 8 off No. 4 left entry off No. 5 left entry, 2,380 feet S. 52° W. of mouth, March 12, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal laminated (sampled)	1	1
Coal, very dull and very hard (sampled)		4
Coal, massive, hard, and blocky (sampled)	2	11
	4	4

21631. Composite of samples 21628, 21629, and 21630.

21636. Bituminous coal from Fraterville (drift) mine of Coal Creek Coal Co., 1¼ miles southwest of Coal Creek, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Sample dry; cut at face of room 2 off No. 14 right off new main entry, 5,560 feet N. 40° W. of mouth, March 12, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		3
Coal, massive and blocky (sampled)	3	3
Shale or clay		6
Coal, massive and blocky (sampled)		7
	4	7

TENNESSEE—Continued.

Can containing sample was broken in transit and coal reached laboratory loose in mail pouch. Coal may be slightly altered.

21637. Bituminous coal from same mine and bed as No. 21636. Sample dry; cut from room No. 3 off No. 14 right off new main entry, 5,700 feet N. 38° W. of mouth, March 12, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal and rash (sampled)		9
Coal, massive but crushed (sampled)	2	10
Shale		7
Coal, good (sampled)		5
	4	7

21638. Bituminous coal from same mine and bed as No. 21636. Sample dry; cut at face of room 3 off No. 16 left off old main entry, 4,900 feet N. 71° W. of mouth, March 12, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal and rash (sampled)		9
Coal, massive but crushed (sampled)	2	10
	3	7

21639. A composite of samples 21636, 21637, and 21638.

21632. Bituminous coal from Tennessee (drift) mine of Royal Consolidated Coal Co., 5 miles southwest of Coal Creek, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Sample damp; cut on pillar A off main entry, 2,840 feet S. 40° W. of mouth, March 13, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		2
Coal, crushed (sampled)		6
Coal and some rash (sampled)		1
Coal, massive but crushed (sampled)	3	1
	3	10

21633. Bituminous coal from same mine and bed at No. 21632. Sample damp; cut at face of room 1 off entry No. 625 on Minersville side, 4,040 feet S. 57° W. of mouth, March 13, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		2
Coal, with considerable rash intermixed (sampled)	1	11
Shale or clay		10
Coal, massive but crushed (sampled)	2	
	4	11

21634. Bituminous coal from same mine and bed as No. 21632. Sample dry; cut at face of room 1 off No. 11 right entry, 4,060 feet S. 88° W. of mouth, March 13, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Bone		3
Clay		2
Coal, badly crushed (sampled)	1	2
Clay and rash		3
Coal, bright (sampled)		5
Clay		3
Coal, massive (sampled)	2	8
	5	2

21635. A composite of samples 21632, 21633, and 21634.

21680. Bituminous coal from Middle Ridge (drift) mine of Royal Consolidated Coal Co., 4½ miles southwest of Coal Creek, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is sandy shale and floor is clay. Sample wet and slightly weathered; cut from rib on left main entry 100 feet southwest of mouth, March 13, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		2
Coal		2

TENNESSEE—Continued.

	Ft.	in.
Rash		2
Coal (sampled)	3	5
	3	11

21640. Bituminous coal from Klondike (slope) mine of Black Diamond Coal Co., 3 miles north-northwest of Coal Creek, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is sandy shale and floor is clay. Sample dry; cut at face of main entry, 7,700 feet N. 65° W. of mouth, March 15, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash and coal		2
Coal, massive and hard (sampled)	3	6
Shale		8
Coal, massive (sampled)		6
	4	10

21641. Bituminous coal from same mine and bed as No. 21640. Sample dry; cut at face of No. 30 left entry, 7,500 feet S. 39° W. of mouth, March 16, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and blocky (sampled)	3	9
Shale		9
Coal, massive (sampled)		7
Rash		1
	5	2

21642. Bituminous coal from same mine and bed as No. 21640. Sample dry; cut at face of No. 22 left entry, 7,900 feet S. 39° W. of mouth, March 16, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash and coal		8
Coal, dull and hard (sampled)	1	3
Rash		1½
Coal, bright and hard (sampled)	1	5½
Clay		½
Coal (sampled)		2
Clay		½
Coal (sampled)		1½
Shale		8½
Coal (sampled)		7
Rash		2
	5	4

21643. Bituminous coal from same mine and bed as No. 21640. Sample dry; cut at face of room 32 off No. 26 left entry, 7,600 feet S. 39° W. of mouth, March 16, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal		2½
Sulphur lens		2
Rash and coal		3
Coal, dull and very hard (sampled)	1	8
Coal, bright with dull bands (sampled)	1	11
Shale		3
Coal, bright and hard (sampled)		10
	5	3½

21644. A composite of samples 21640, 21641, 21642, and 21643.

21645. Bituminous coal from Black Diamond (drift) mine No. 1 of Black Diamond Coal Co., 3 miles north-northwest of Coal Creek, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is sandy shale, and floor is shale and clay. Sample dry; cut from pillar 25 off No. 1 right off No. 12 east entry, 10,900 feet S. 22° W. of mouth, March 17, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, rashy (sampled)		4½
Rash		½
Coal, massive with dull bands (sampled)	3	2
	3	7

21646. Bituminous coal from same mine and bed as No. 21645. Sample dry; cut at face of room 11 off No. 7 right off No. 12 east entry, 9,500 feet south of mouth,

TENNESSEE—Continued.

March 17, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal (sampled)		4
Rash		½
Coal, blocky (sampled)	1	7
Rash		½
Coal, massive and hard (sampled)	1	7
	3	7

21647. Bituminous coal from same mine and bed as No. 21645. Sample dry; cut at face of No. 4 left, off No. 10, west entry, 8,200 feet S. 40° W. of mouth, March 17, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash, containing lenses of coal		6
Coal, hard and massive (sampled)	2	8
Shale		6
Rash		2
	3	10

21648. Bituminous coal from same mine and bed as No. 21645. Sample dry; cut at face of No. 1 airway off No. 1 left off No. 10 west entry, 8,900 feet S. 24° W. of mouth, March 16, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal		5
Rash		2
Coal, hard and massive (sampled)	3	
	3	7

21649. Composite of samples 21645, 21646, 21647, and 21648.

BLEDSOE COUNTY.

22259. Bituminous coal from Atpontley drift mine of Lusk Coal Mining Co., 1 mile north of Atpontley, on spur of Pikeville branch of Nashville, Chattanooga & St. Louis Railway. Coal bed, Sewanee; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof is sandy shale and floor is shale. Sample dry; cut at face of Lusk entry, 1,000 feet southwest of mouth, May 13, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Shale, with bands of coal interbedded		4
Coal, lustrous, banded and crushed (sampled)	3	6
Rash		6
Coal		10
	5	2

22260. Bituminous coal from same mine and bed as No. 22259. Sample dry; cut at face of Smith's room off Lusk entry, 1,200 feet west-southwest of mouth, May 13, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		1
Coal, banded and soft (sampled)		7
Coal, bright and hard (sampled)		10
Coal, bright and badly crushed (sampled)	1	8
Rash		6
Coal		10
	4	6

22261. Composite of samples 22259 and 22260.

CAMPBELL COUNTY.

21650. Bituminous coal from Cambria (drift) mine of Royal Consolidated Coal Co., 4 miles north-northwest of Coal Creek, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is sandy shale and floor is clay. Sample dry; cut at face of room No. 1 off No. 16, left entry, 5,280 feet N. 18° W. and 100 feet S. 72° W. from mouth, March 15, 1915, by F. R. Clark; represents entire thickness of bed. Section of bed at point sampled shows 3 feet 4½ inches of massive hard coal containing thin bands of dull coal.

21651. Bituminous coal from same mine and bed as No. 21650. Sample dry; cut at face of room 5 off No. 17½, right entry, 5,280 feet N. 18° W. and 500 feet N. 72° E. from mouth, March 15, 1915, by

TENNESSEE—Continued.

F. R. Clark. Section of coal bed at point sampled is as follows:

	Ft.	in.
Rash		2
Coal, massive and hard (sampled)	2	10
	3	0

21652. Bituminous coal from same mine and bed as No. 21650. Sample dry; cut on pillar 9 off No. 21 left entry, 6,280 feet N. 18° W. and 500 feet S. 72° W. from mouth, March 15, 1915, by F. R. Clark. Sample represents 3 feet 2 inches of hard, massive coal, entire thickness of bed.

21653. Composite of samples 21650 to 21652, inclusive.

21654. Bituminous coal from Sun (drift) mine of Sun Coal Co., 1½ miles southwest of Caryville, on Southern Railway. Coal bed, Red Ash; Carboniferous (Pennsylvanian) age; Scott shale (?). Roof is sandy shale and floor is clay. Sample cut at face of room 30 off No. 10 right entry, 2,500 feet north-northwest, 1,400 feet north-northeast, 550 feet east-southeast, and 50 feet south from mouth, March 19, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and hard (sampled)	1	4½
Clay		1
Coal, bright and hard (sampled)	1	4½
Clay		3
Coal, bright (sampled)		1½
	3	2½

21655. Bituminous coal from same mine and bed as No. 21654. Sample cut at face of No. 17 right entry, 4,000 feet west and 900 feet north from mouth, March 19, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		2
Bony coal		2
Coal, massive and hard (sampled)	1	4
Coal, very dull and hard (sampled)		1
Coal, bright, hard, and blocky (sampled)	2	1
Clay		4
Coal (sampled)		2
	4	4

21656. Bituminous coal from same mine and bed as No. 21654. Sample cut at face of No. 14 left entry, 2,900 feet west, 1,300 feet south, and 100 feet west from mouth, March 19, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, hard, bright, and massive (sampled)	2	0
Clay		2
Coal, bright, hard, and massive (sampled)	1	3
Clay		4
Coal, bright and hard (sampled)		2
	3	11

21657. Bituminous coal from same mine and bed as No. 21654. Sample cut at face of room 5 off No. 17 left entry, 3,700 feet west and 200 feet south from mouth, March 19, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		3
Coal (sampled)	2	8
Shale		1
Coal (sampled)	1	
Clay		3½
Coal (sampled)		2
	4	5½

21658. Composite of samples 21654 to 21657, inclusive.

21677. Bituminous coal from Pee Wee, a (drift) mine of Sun Coal Co., 1½ miles southwest of Caryville, on Southern Railway. Coal bed, Lower Dean; Carboniferous (Pennsylvanian) age; Scott shale (?). Roof is sandy shale and floor is clay. Sample cut in room 1 off main haulage way, 150 feet southwest, 100 feet south, 700 feet east, and 450 feet northeast from mouth, March 19, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal (sampled)	3	½
Rash		4
	3	4½

TENNESSEE—Continued.

21678. Bituminous coal from same mine and bed as No. 21677. Sample dry; cut at face of No. 4 right entry, 150 feet southwest, 100 feet south, and 700 feet southwest from mouth, March 18, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal (sampled)	2	10
Rash		2
Clay		5
Coal (sampled)		2
Clay		5½
Rash		½
Coal, bright (sampled)		5
	4	6

21679. Composite of samples 21677 and 21678.

21659. Bituminous coal from Caryville (drift) mine of New Caryville Coal Co., 1½ miles northwest of Caryville, on Southern Railway. Coal bed, Red Ash; Carboniferous (Pennsylvanian) age; Scott shale (?). Roof is shale and floor is clay. Sample wet; cut in face of room 6 off No. 4 right entry, 1,150 feet west of mouth, March 20, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash and coal		3
Coal, bright, hard, and massive (sampled)	1	4
Coal, rashy (sampled)		1
Coal, bright and blocky (sampled)	1	11
Clay		4
Coal		2
	4	1

21660. Bituminous coal from same mine and bed as No. 21659. Roof is sandy shale and floor is clay. Sample dry; cut at face of room 3 off No. 10 left entry, 1,850 feet S. 75° W. of mouth, March 20, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, rashy (sampled)		3
Coal, massive, bright, and hard (sampled)	1	3½
Shale and rash		1
Coal, massive and blocky (sampled)	1	8
Coal and clay interbedded		6
	3	9½

21661. Bituminous coal from same mine and bed as No. 21659. Sample dry; cut at face of room 5 off No. 15 left entry, 3,275 feet S. 75° W. of mouth, March 20, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and very hard (sampled)	1	6
Clay and rash		½
Coal, massive and blocky (sampled)	1	10½
Clay and rash		2
Coal		1
	3	8

21662. Bituminous coal from same mine and bed as No. 21659. Sample dry; cut at face of room 3 off No. 15 right entry, 3,875 feet west of mouth, March 20, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal and clay interbedded		2
Coal (sampled)	1	9
Clay		⅜
Coal (sampled)	1	9
Clay		2
Coal		1
	3	11⅜

21663. Composite of samples 21659 to 21662, inclusive.

21664. Bituminous coal (weathered) from Disney prospect, 1½ miles southwest of Vasper, on Southern Railway. Coal bed, Frozen Head (?); Carboniferous (Pennsylvanian) age; Scott shale (?). Roof is sandstone and floor is clay. Sample dry; cut from rib in main entry near face, 150 feet south of mouth, March 18, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Shale, coal, and carbonaceous shale, interbedded		2
Clay		2

TENNESSEE—Continued.

	Ft.	in.
Rash		1
Coal, bright, with dull bands (sampled)	3	1
Clay		1
Coal (sampled)		2
	3	9

21668. Bituminous coal from Red Ash (drift) mine of Red Ash Coal Co., 1¾ miles north-northwest of Caryville, on Southern Railway. Coal bed, Red Ash; Carboniferous (Pennsylvanian) age; Scott shale (?). Roof is sandstone and floor is clay. Sample wet; cut at face of room 1 off No. 15 right entry off No. 1 haulage way, 2,550 feet west of mouth, March 22, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Clay and coal interbedded		1½
Coal (sampled)	1	8
Shale		½
Coal (sampled)	1	7
	3	5

21669. Bituminous coal from same mine and bed as No. 21668. Roof is sandy shale and floor is clay. Sample wet; cut at face of No. 9 left entry off No. 1 haulage way, 3,025 feet west of mouth, March 22, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Shale, carbonaceous		1
Coal, bright and hard (sampled)	1	1
Coal, rashy (sampled)		1
Coal, bright and hard (sampled)		9
Rash		3
Coal, bright and hard (sampled)	1	3
	3	6

21670. Bituminous coal from same mine and bed as No. 21668. Sample dry; cut at face of room 1 off No. 7½ left entry, 2,050 feet west of mouth, March 22, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and blocky (sampled)	2	9½
Clay (cut by machine)		5
	3	2½

21671. Bituminous coal from same mine and bed as No. 21668. Sample dry; cut at face of room 7 off No. 4 right entry, 1,250 feet west and 1,400 feet north from mouth, March 22, 1915, by F. R. Clark; represents 3 feet 3 inches of massive, blocky coal, total thickness of bed.

21672. Composite of samples 21668 to 21671, inclusive.

21665. Bituminous coal from Vasper (slope) mine of Vasper Coal Co., half a mile west of Vasper, on Southern Railway. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is sandstone and floor is clay. Sample dry; cut at face of main entry, 1,400 feet southwest of mouth, March 18, 1915, by F. R. Clark; represents 3 feet 10½ inches of hard, massive coal, entire thickness of bed.

21666. Bituminous coal from same mine and bed as No. 21665. Sample dry; cut at face of No. 1 right off main entry, 800 feet west and 260 feet north from mouth, March 18, 1915, by F. R. Clark; represents 3 feet 4 inches of good, clean, massive coal, total thickness of bed.

21667. Composite of samples 21665 and 21666.

21673. Bituminous coal from Bear Wallow (drift) mine of the Bear Wallow Coal & Coke Co., 1½ miles southwest of Caryville, on the Southern Railway. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is sandy shale and floor is clay. Sample dry; cut at face of main entry, 3,000 feet S. 85° W. of mouth, March 23, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and hard (sampled)	1	11
Coal, very dull and hard (sampled)		1
Coal, bright and hard (sampled)		6
	2	6

21674. Bituminous coal from same mine and bed as No. 21673. Sample dry; cut at face of No. 9 left entry, 2,200 feet S. 85° W. and 1,000 feet S. 5° E. from mouth, March 23, 1915, by F. R. Clark;

TENNESSEE—Continued.

represents 2 feet 4 inches of massive, hard coal, entire thickness of bed.

21675. Bituminous coal from same mine and bed as No. 21673. Roof is sandstone and floor is clay. Sample dry; cut at face of room 6 off No. 7 right entry, 2,050 feet S. 85° W. and 900 feet N. 5° W. from mouth, March 23, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Bone		1½
Coal, rashy (sampled)		1½
Coal, bright and hard (sampled)		10
Rash		1
Coal (sampled)	1	10
	3	0

21676. Composite of samples 21673 to 21675, inclusive.

21687. Bituminous coal from Southern (drift) mine of Southern Coal & Coke Co., 2,000 feet west of Cotula, on Louisville & Nashville Railroad. Coal bed, Jordan; Carboniferous (Pennsylvanian) age; Wartburg sandstone. Roof is shale and floor is clay. Sample dry; cut at face of room 4 off A entry, 1,200 feet S. 20° W. of mouth, March 27, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and blocky (sampled)		11
Coal, rashy (sampled)		2
Coal, bright and blocky (sampled)	3	6
	4	7

21688. Bituminous coal from same mine and bed as No. 21687. Sample dry; cut at face of a room off main entry 75 feet southwest of mouth of the E entry, or 1,700 feet S. 60° W. of mine mouth, March 27, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and blocky (sampled)		9
Rash		2
Coal, massive and bright (sampled)		8½
Rash and mineral charcoal [1]		1
Coal, bright, hard, and brittle (sampled)	2	5
	4	1½

[1] Commonly called "mother of coal" by the miners.

21689. Composite of samples 21687 and 21688.

21690. Bituminous coal from Wynn (drift) mine of Wynn Coal Co., 1 mile south of Cotula, on Louisville & Nashville Railroad. Coal bed, Rich Mountain; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is shale and floor is clay. Sample dry; cut at face of room 36 off No. 2 left entry, 250 feet west, 4,000 feet south, and 50 feet west from mouth, March 27, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and blocky (sampled)	1	4
Rash		5
Coal, massive and blocky (sampled)	1	4
	3	1

21691. Bituminous coal from same mine and bed as No. 21690. Sample dry; cut at face of No. 5 right entry, 1,000 feet west, 1,300 feet south, 400 feet west, and 250 feet north from mouth, March 27, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal (sampled)	1	2
Rash		2
Coal, bright and brittle (sampled)		8
Coal, with thin bands of mineral charcoal (sampled)		1
Coal, bright and hard (sampled)	1	2
	3	3

21692. Bituminous coal from same mine and bed as No. 21690. Sample dry; cut at face of main entry, 1,000 feet west, 1,300 feet south, and 650 feet west from mouth, March 27, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and hard (sampled)	1	3
Rash		3
Coal, bright and hard (sampled)	1	3
Rash		4
	3	1

21693. Composite of samples 21690 to 21692, inclusive.

21694. Bituminous coal from Gem No. 4 (drift) mine of Lafollette Coal, Iron &

TENNESSEE—Continued.

Railway Co., 2 miles northeast of Kilsyth, on Louisville & Nashville Railroad. Coal bed, Jordan; Carboniferous (Pennsylvanian) age; Wartburg sandstone. Roof is sandy shale and floor is clay. Sample dry; cut at face of No. 2 right entry, 600 feet N. 11° 15′ W. and 550 feet N. 38° 45′ W. from mouth, March 25, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		1
Coal, bright and hard (sampled)	3	2½
Clay and rash		4
	3	7½

21695. Bituminous coal from same mine and bed as No. 21694. Sample dry; cut at face of No. 3 left entry, 1,050 feet N. 11° 15′ W. and 175 feet S. 78° 45′ W. from mouth, March 25, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and hard (sampled)	3	5½
Rash and coal interbedded		8
	4	1½

21696. Bituminous coal from Gem No. 2 (drift) mine of Lafollette Coal, Iron & Railway Co., 2 miles northeast of Kilsyth, on Louisville & Nashville Railroad. Coal bed, Jordan; Carboniferous (Pennsylvanian) age; Wartburg sandstone. Sample dry; cut in room No. 2 off No. 7 left entry, 1,450 feet N. 23° W., 1,300 feet N. 11° 15′ W., 180 feet S. 38° 45′ W., and 150 feet S 11° 15′ E. from mouth, March 25, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		2
Coal, massive and hard (sampled)	4	4
	4	6

21697. Bituminous coal from same mine and bed as No. 21696. Roof is shale and floor is clay. Sample dry; cut at face of No. 8 right entry, 1,450 feet N. 23° W., 1,850 feet N. 11° 15′ W., and 150 feet N. 38° 45′ E. from mouth, March 25, 1915. Section of bed at point sampled is as follows:

	Ft.	in.
Rash and coal interbedded		2
Coal, massive and hard (sampled)	3	2
	3	4

21698. Composite of samples 21694 to 21697, inclusive.

21699. Bituminous coal from Rex No. 1 (slope) mine of Lafollette Coal, Iron & Railway Co., 2 miles north-northeast of Lafollette, on Louisville & Nashville Railroad. Coal bed, Rex; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is shale and floor is clay. Sample dry; cut at face of No. 1 left entry, 4,500 feet N. 37° W., 1,325 feet N. 24° E., and 800 feet N. 66° W. from mouth, March 26, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Bone		1
Coal, bright and brittle (sampled)	3	10
Rash		1
	4	0

21700. Bituminous coal from same mine and bed as No. 21699. Sample dry; cut at face of main entry, 4,500 feet N. 37° W. and 2,550 feet N. 66° W. from mouth, March 26, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Shale, with thin lenses of coal interbedded		4
Coal, massive and brittle (sampled)	2	7
	2	11

21701. Bituminous coal from same mine and bed as No. 21699. Roof is sandstone and floor is clay. Sample dry; cut at face of No. 2 right entry, 2,400 feet N. 37° W., 2,125 feet N. 53° E., 1,875 feet N. 24° E., and 1,775 feet S. 66° E. from mouth, March 26, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, cannel		10
Coal, bright		5
Shale	2	2
Coal, bright (sampled)	2	9
	6	2

TENNESSEE—Continued.

21702. Bituminous coal from same mine and bed as No. 21699. Sample dry; cut at face of No. 2 left main entry, 2,400 feet N. 37° W., 2,125 feet N. 53° E., 1,875 feet N. 24° E., and 2,900 feet N. 66° W. from mouth, March 26, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, cannel-like (sampled)		2
Coal, soft, containing thin lenses of pyrite (sampled)		10
Coal, massive and brittle (sampled)	2	8
	3	8

21703. A composite of samples 21699 to 21702, inclusive.

21802. Bituminous coal from Remy (drift) mine of Remy Coal Co., 2 miles southeast of Habersham, on Louisville & Nashville Railroad. Coal bed, Rich Mountain; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is sandy shale and floor is clay. Sample dry; cut at face of No. 12 right entry, 3,100 feet from mouth, March 29, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Bone		8
Clay		8
Coal, massive and hard (sampled)	2	4½
Rash		4
	4	½

21803. Bituminous coal from same mine and bed as No. 21802. Sample dry; cut at face of No. 13 left entry, 3,400 feet from mouth, March 29, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal (sampled)	2	9
Rash		5
	3	2

21804. Bituminous coal from same mine and bed as No. 21802. Sample dry; cut at face of No. 11½ left entry, 2,800 feet from mouth, March 29, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and hard (sampled)	2	7
Rash		3
	2	10

21805. Composite of samples 21802 to 21804, inclusive.

21806. Bituminous coal from Rich Mountain (drift) mine of Rich Mountain Coal & Coke Co., 1 mile east of Habersham, on Louisville & Nashville Railroad. Coal bed, Rich Mountain; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is shale and floor is clay. Sample dry; cut at face of No. 7 left entry, 2,150 feet S. 30° E. and 800 feet N. 60° E. from mouth, March 30, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and brittle (sampled)	1	8
Coal, soft and laminated (sampled)		6
Rash		1½
Coal (sampled)		1½
	2	5

21807. Bituminous coal from same mine and bed as No. 21806. Roof is sandy shale and floor is clay. Sample dry; cut at face of No. 4 left entry, 1,200 feet S. 30° E. and 1,300 feet N. 60° E. from mouth, March 30, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and hard (sampled)	1	8
Coal, laminated and soft (sampled)		10
	2	6

21808. Bituminous coal from same mine and bed as No. 21806. Sample dry; cut at face of No. 8 right entry, 2,450 feet S. 30° E. and 400 feet S. 60° W. from mouth, March 30, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and brittle (sampled)	2	4
Shale and lenses of coal interbedded		7
Coal, bright and brittle (sampled)		3
Coal, impure, high in ash		7

TENNESSEE—Continued.

	Ft.	in.
Coal, bright and brittle (sampled).		6
Clay and rash		3
	4	6

21809. Bituminous coal from same mine and bed as No. 21806. Sample dry; cut at face of No. 9 left entry, 2,650 feet S. 30° E. and 200 feet N. 60° E. from mouth, March 30, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright, hard, and blocky (sampled)	2	7
Rash		4
Coal, bright and laminated (sampled)		6
Coal, rashy		2
Coal, bright		1
	3	8

21810. Composite of samples 21806 to 21809, inclusive.

21811. Bituminous coal from Chaska (drift) mine of Chaska Coal Co., 3,600 feet southeast of Chaska, on Louisville & Nashville Railroad. Coal bed, Rich Mountain; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is shale and floor is clay. Sample dry; cut from pillar off main entry 400 feet east of mouth, April 1, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and hard (sampled)	2	6
Clay		10
Coal, hard and blocky (sampled)		10
	4	2

21812. Bituminous coal from same mine and bed as No. 21811. Sample dry; cut in room 1 off No. 1 right entry, 300 feet southeast of mouth, April 1, 1915, by F. R. Clark; represents 2 feet 8 inches of hard, massive coal, entire thickness of bed.

21813. Bituminous coal from same mine and bed as No. 21811. Sample wet; cut from main entry of panhandle side, 600 feet southwest of mouth, April 1, 1915, by F. R. Clark; represents 2 feet 8 inches of coal, entire thickness of bed.

21814. Composite of samples 21811 to 21813, inclusive.

21821. Bituminous coal from Kimberly (drift) mine of Kimberly Coal Co., half a mile east of Kimberly, on Louisville & Nashville Railroad. Coal bed, Rich Mountain; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is sandy shale and floor is clay. Sample damp; cut at face of No. 10 left entry March 31, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and hard, containing thin bands of sulphur (sampled)	1	9
Rash		1
Coal, bright and hard (sampled)		7
Rash		2
	2	7

21822. Bituminous coal from same mine and bed as No. 21821. Sample cut at face of No. 3 right entry off new main entry March 31, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, hard and blocky (sampled)	2	1
Rash		½
Coal, bright and hard (sampled)		7
	2	8½

21823. Bituminous coal from same mine and bed as No. 21821. Sample cut at face of No. 2 right entry off new main entry March 31, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and hard (sampled).	2	3½
Clay and rash		1
Coal (sampled)		6
Rash		1
	2	11½

21824. Composite of samples 21821 to 21823, inclusive.

21825. Bituminous coal from Davis Creek (drift) mine of Kentucky-Tennessee Coal Co., half a mile north of Habersham, on Louisville & Nashville Railroad. Coal bed, Jellico; Carboniferous (Pennsylvanian) age; Briceville shale (?).

TENNESSEE—Continued.

Roof is sandy shale and floor is clay. Sample cut at face of No. 3 right entry, 1,500 feet southeast and 300 feet southwest from mouth, March 31, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and blocky (sampled)	1	3
Clay		10
Rash and clay interbedded		9
Clay		11
Coal, bright and blocky (sampled)	2	2½
	5	11½

21826. Bituminous coal from Old Davis Creek (drift) mine. Same bed and operating company as No. 21825. Sample dry; cut at face of No. 5 left entry, 1,650 feet southeast and 250 feet northeast from mouth, March 31, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and hard (sampled)		10
Coal, soft and laminated (sampled)		5
Clay		7
Rash and clay interbedded		4
Clay		9
Coal, bright and hard (sampled)	2	4½
	5	3½

21827. Bituminous coal from Red Moon (drift) mine of Red Moon Coal Co., 1½ miles southeast of Morley, on Louisville & Nashville Railroad. Coal bed, Jellico; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is shale and floor is clay. Sample damp; cut at face of No. 3 main south entry, 1,900 feet southwest of mouth, April 1, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Shale, with thin lenses of coal interbedded	1	3
Coal, massive and brittle (sampled)	2	9
	4	0

21828. Bituminous coal from same mine and bed as No. 21827. Roof is sandstone and floor is clay. Sample damp; cut at face of No. 3 main north entry, 1,800 feet southwest of mouth, April 1, 1915, by F. R. Clark; represents 2 feet 7 inches of clean coal, total thickness of bed.

21829. Bituminous coal from same mine and bed as No. 21827. Roof is sandy shale and floor is clay. Sample dry; cut at face of No. 1 right entry, 1,950 feet southwest of mouth, April 1, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Shale, with thin lenses of coal interbedded	1	3
Coal, bony		1½
Rash and coal interbedded		2
Coal, bright, massive, and brittle (sampled)	2	7½
	4	2

21830. Composite of samples 21827 to 21829, inclusive.

21831. Bituminous coal from Indian Mountain (drift) mine of Proctor Coal Co., 2½ miles west of Jellico, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Jellico; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is sandy shale and floor is clay. Sample dry; cut from rib at mouth of Short Dog entry off No. 3 main entry, 1,000 feet southwest of mouth of No. 3 mine, April 2, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Bone		2
Coal, bright and blocky (sampled)	3	1
	3	3

21832. Bituminous coal from same mine and bed as No. 21831. Sample dry; cut at face of No. 4 left entry off No. 1 main entry, 900 feet southeast of mouth of No. 1 mine, April 2, 1915, by F. R. Clark; represents 3 feet 8 inches of clean, bright, and brittle coal, entire thickness of bed.

21833. Bituminous coal from same mine and bed as No. 21831. Sample dry; cut at face of No. 2 left entry, off No. 2 main entry, 700 feet southeast of mouth of No. 2 mine, April 2, 1915, by F. R.

TENNESSEE—Continued.

Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and blocky (sampled)	2	11
Bone		1
Coal, rashy		3
	3	3

21834. Bituminous coal from same mine and bed as No. 21831. Sample, dry; cut at face of No. 4 entry, off No. 5 main entry, 1,200 feet southeast of mouth of No. 5 mine, April 2, 1915, by F. R. Clark; represents 2 feet 2 inches of coal, entire thickness of bed.

21835. Composite of samples 21832 to 21834, inclusive.

21836. Bituminous coal from Braughton (drift) mine, operated by S. M. Braughton, half a mile east of Jellico, on the Southern Railway and Louisville & Nashville Railroad. Coal bed, Blue Gem; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is sandy shale and floor is clay. Sample, dry; cut in face of main entry, 1,600 feet south-southeast of mouth, April 2, 1915, by F. R. Clark; represents 1 foot 5 inches of massive, brittle coal, total thickness of bed.

21837. Bituminous coal from same mine and bed as No. 21836. Sample, dry; cut at face of last room on main entry, 1,200 feet southeast of mouth, April 2, 1915, by F. R. Clark; represents 2 feet 2 inches of massive, brittle coal, entire thickness of bed.

21838. Composite of samples 21836 and 21837.

21839. Bituminous coal from Falls Branch (drift) mine of Falls Branch Coal Co., 2¼ miles northwest of Oswego, on Southern Railway. Coal bed, Jellico; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is sandy shale and floor is clay. Sample, dry; cut from rib at mouth of room No. 1, off No. 49½ entry, 2,500 feet northeast, 550 feet northwest, and 350 feet northeast from mouth, April 3, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Bone, coal and rash interbedded		3
Coal, bright and hard (sampled)		10
Bone		2
Coal, bright and hard (sampled)	2	2
	3	5

21840. Bituminous coal from same mine and bed as No. 21839. Sample cut at face of room No. 1 off No. 39 right entry, 2,500 feet northeast, 375 feet southeast, 125 feet northeast, and 100 feet southeast from mouth, April 3, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Bone		2
Coal, bright and blocky (sampled)	2	11
	3	1

21841. Bituminous coal from same mine and bed as No. 21839. Sample dry; cut at face of No. 59 entry, 1,000 feet northeast, 1,200 feet northwest, and 800 feet northeast from mouth, April 3, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Bone and rash		2
Coal, bright and hard (sampled)	3	1
	3	3

21842. Bituminous coal from same mine and bed as No. 21839. Sample dry; cut at face of No. 58 entry, 1,000 feet northeast, 1,550 feet northwest, and 900 feet northeast from mouth, April 3, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Bone and rash		2
Coal, bright and hard (sampled)	2	9
	2	11

21843. Composite of samples 21840 to 21842, inclusive.

21853. Bituminous coal from Anthras (drift) mine of Tennessee Jellico Coal Co., half a mile south of Anthras, on Clearfork branch of Southern Railway. Coal bed, Jellico; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is sandy shale and floor is clay. Sample dry; cut at face of No. 2 left entry off No. 2

TENNESSEE—Continued.

main entry, 2,450 feet S. 45° E. and 200 feet N. 45° E. from mouth, April 9, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive, hard, and dull (sampled)	1	5
Coal, lustrous and hard (sampled)	1	6
	2	11

21854. Bituminous coal from same mine and bed as No. 21853. Sample dry; cut in at face of No. 1 left entry off No. 2 main entry, 2,200 feet S. 45° E. and 300 feet N. 45° E. from mouth, April 9, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated (sampled)		2
Coal, massive, hard, and dull (sampled)	1	3
Coal, lustrous and brittle (sampled)	1	7
	3	0

21855. Bituminous coal from same mine and bed as No. 21853. Sample dry; cut from pillar No. 10 off No. 2 right entry, 400 feet S. 45° E. and 400 feet S. 45° W. from mouth, April 9, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		1
Coal, massive and hard (sampled)	2	9
	2	10

21856. A composite of samples 21853 to 21855, inclusive.

21871. Bituminous coal from Powhatan (drift) mine of Falls Branch Coal Co., half a mile northwest of Oswego, on Southern Railway. Coal bed, Blue Gem; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is sandy shale and floor is clay. Sample dry; cut at face of No. 10 entry, 3,100 feet northwest of mouth, April 3, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		1½
Coal, bright and hard (sampled)	1	10
	1	11½

21872. Bituminous coal from same mine and bed as No. 21871. Sample dry; cut at face of room 10 off No. 9 entry, 2,700 feet north-northwest of mouth, April 3, 1915, by F. R. Clark; represents 1 foot 10 inches of hard, brittle coal, entire thickness of bed.

21873. Composite of samples 21871 and 21872.

21924. Bituminous coal from Blue Gem (drift) mine of Blue Gem Coal Co., 1 mile south of Jellico, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Blue Gem; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is shale and floor is clay. Sample dry; cut at face of Pine Mountain left entry, 160 feet southeast of mouth, April 10, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous and very hard (sampled)	2	2
Rash		1
	2	3

21925. Bituminous coal from same mine and bed as No. 21924. Sample dry; cut at face of Pine Mountain right entry, 200 feet southwest of mouth, April 10, 1915, by F. R. Clark; 2 feet of lustrous, hard, and brittle coal, entire thickness of bed.

21926. Bituminous coal from same mine and bed as No. 21924. Sample dry; cut at face of No. 2 right entry off Crouch Creek entry, 450 feet west of mouth, April 10, 1915, by F. R. Clark; represents 1 foot 6 inches of hard, lustrous coal, entire thickness of bed.

21927. A composite of samples 21924 to 21926, inclusive.

21928. Bituminous coal from Old Italian Blue Gem (drift) mine of Whistle Creek Mining Co., 1½ miles northeast of Newcomb, on Southern Railway. Coal bed, Blue Gem; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is sandy shale and floor is clay. Sample wet; cut at face of Ben Vicar entry off No. 4 right entry, 875 feet east-southeast, 190 feet south-southwest, and 150 feet west-northwest from mouth, April 12, 1915, by

TENNESSEE—Continued.

F. R. Clark. Section of coal bed at point sampled is as follows:

	Ft.	in.
Coal, massive (sampled)		2
Mineral charcoal (sampled)		½
Coal, massive and hard (sampled)	1	3
	1	5½

21929. Bituminous coal from same mine and bed as No. 21928. Sample wet; cut at face of No. 3 left entry off old main entry, 775 feet east-northeast and 800 feet north-northeast from mouth, April 12, 1915, by F. R. Clark; represents 2 feet 1 inch of hard, massive coal, entire thickness of bed.

21930. A composite of samples 21928 and 21929.

21931. Bituminous coal from Washington Blue Gem (drift) mine of Wooldridge Jellico Coal Co., 1½ miles northwest of Newcomb, on Southern Railway. Coal bed, Blue Gem; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is sandy shale and floor is clay. Sample wet; cut at face of No. 6 "break through" off main tunnel entry, 700 feet west-southwest of mouth, April 13, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and hard (sampled)		9
Mineral charcoal and sulphur interbedded		¾
Coal, massive and hard		11
	1	8¾

21932. Bituminous coal from same mine and bed as No. 21931. Sample dry; cut at face of No. 1 left entry, 800 feet west-southwest of mouth, April 13, 1915, by F. R. Clark; represents 1 foot 10 inches of hard massive coal, entire thickness of bed.

21933. A composite of samples 21931 and 21932.

21996. Bituminous coal (weathered) from the Brummitt (drift) mine of New Blue Gem Coal Co., 1½ miles west of Newcomb, on Southern Railway. Coal bed, Blue Gem; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is sandy shale and floor is clay. Sample dry; cut from rib of No. 1 main entry, 100 feet west of mouth, April 14, 1915, by F. R. Clark; represents 1 foot 7 inches of hard massive coal, entire thickness of bed.

21997. Cannel coal from a drift mine of Jellico Cannel Coal Co., 2 miles west of Newcomb, on Southern Railway. Coal bed, no name; Carboniferous age; formation not identified. Roof is sandstone and floor is clay. Sample dry; cut from rib on main entry opposite third left entry 300 feet north-northeast and 720 feet west-northwest from mouth, April 14, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Shale, bituminous		10
Bone		½
Coal, cannel (sampled)	2	1½
Clay		¼
Shale, bituminous		1¾
Coal, cannel (sampled)		7
	3	9

At the time the sample was collected the mine was not in operation and the sample was cut from the rib which had been exposed to the mine air for a considerable time. The coal is probably only slightly weathered.

21998. Bituminous coal (rib sample) from Jameson Blue Gem (drift) mine of H. M. Jones Coal Co., 3 miles south of Jellico, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Blue Gem; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is sandy shale and floor is clay. Sample wet; cut from rib 150 feet north of mouth of No. 10 main entry April 12, 1915, by F. R. Clark; represents 1 foot 11 inches of hard massive coal, entire thickness of bed.

21999. Bituminous coal from same mine and bed as No. 21998. Sample dry; cut at face of No. 13 main entry, 650 feet south of mouth, April 12, 1915, by F. R. Clark; represents 1 foot 11 inches of hard massive coal, total thickness of bed.

22000. Bituminous coal from small drift mine of F. S. Black, 1½ miles east-south-

TENNESSEE—Continued.

east of Jellico, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Blue Gem; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is shale and floor is clay. Sample dry; cut at face of main entry, 300 feet north-northeast of mouth, April 12, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated (sampled)		3
Coal, massive and hard (sampled)	1	9
	2	0

22001. Bituminous coal from Evans (drift) mine of Evans Coal Co., 1½ miles south of Jellico, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Blue Gem, Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is shale and floor is clay. Sample dry; cut at face of room 10 off No. 3 left entry, 300 feet south of mouth, April 10, 1915, by F. R. Clark; represents 1 foot 10 inches of hard, brittle, lustrous coal, entire thickness of bed.

22002. Bituminous coal from same mine and bed as No. 22001. Sample dry; cut from face of room 7 off No. 4 left entry, 600 feet southwest of mouth, April 10, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		1
Coal, lustrous and hard (sampled)	1	11
	2	0

22003. Composite of samples 22001 and 22002.

22004. Bituminous coal from Marion-Anna (drift) mine of Wooldridge Jellico Coal Co., 3 miles north-northwest of Newcomb, on Southern Railway. Coal bed, Jellico; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is sandy shale and floor is clay. Sample cut at face of No. 1 right entry, 3,000 feet west of mouth, April 13, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Bone		4
Coal, bright and brittle (sampled)		4
Coal, dull (sampled)		1½
Coal, bright and hard (sampled)		4½
Coal, rash and bone		4
Clay		4
Coal, massive and hard (sampled)	1	6
	3	4

22005. Bituminous coal from same mine and bed as No. 22004. Sample cut from pillar off T right entry, 3,200 feet west-northwest of mouth, April 13, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Bone		2
Coal, bright and brittle (sampled)		9
Coal, rashy (sampled)		2
Clay, containing sulphur balls		6
Coal, massive and hard, containing thin films of sulphur (sampled)	1	4
	2	11

22006. Bituminous coal from same mine and bed as No. 22004. Sample dry; cut from pillar off No. 3 main entry, 3,400 feet west-northwest of mouth, April 13, 1915, by F. R. Clark. Section of bed at point sampled is as follws:

	Ft.	in.
Bone		1
Coal, dull and hard (sampled)		10
Rash		2
Clay		2
Rash and coal interbedded		3½
Clay		5
Coal, massive and brittle (sampled)	1	8
	3	7½

22007. Composite of samples 22004 to 22006, inclusive.

22008. Bituminous coal from Zechini (drift) mine of Whistle Creek Mining Co., 2½ miles west of Newcomb, on Southern Railway. Coal bed, Jellico; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is sandy shale and floor is clay. Sample dry; cut at face of Vaughn entry, 500 feet N. 20° W. of mouth,

TENNESSEE—Continued.

April 14, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and hard (sampled).	2	1
Clay		9
Coal, impure		3
	3	1

22009. Bituminous coal from same mine and bed as No. 22008. Sample dry; cut at face of main east entry, 400 feet N. 65° W. of mouth, April 14, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated (sampled)		2
Bone		½
Coal, massive and hard (sampled).	1	8
	1	10½

22010. Bituminous coal from same mine and bed as No. 22008. Sample dry; cut at face of main entry, 500 feet N. 55° W. of mouth, April 14, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated (sampled)		2
Bone		1
Coal, lustrous and brittle (sampled)	1	9
Clay		4
Coal, impure		6
	2	10

22011. Composite of samples 22008 to 22010, inclusive.

22012. Bituminous coal from Perkins Branch (drift) mine of Perkins Branch Blue Gem Coal Co., 1⅛ miles northwest of Elk Valley, on Southern Railway. Coal bed, Blue Gem; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is sandy shale and floor is clay. Sample dry; cut at face of No. 1 right entry, 700 feet west of mouth, April 15, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and brittle (sampled)	1	0
Coal and thin films of sulphur interbedded (sampled)		1
Coal, massive and brittle (sampled)		6
	1	7

22013. Bituminous coal from same mine and bed as No. 22012. Sample dry; cut at face of No. 2 right entry, 700 feet west-southwest of mouth, April 15, 1915, by F. R. Clark; represents 1 foot 7½ inches of hard, massive coal, entire thickness of bed.

22014. Composite of samples 22012 and 22013.

22015. Bituminous coal from Elkhart (drift) mine of Fox Blue Gem Coal Co., three-fourths of a mile north-northwest of Elk Valley, on Southern Railway. Coal bed, Blue Gem; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is sandy shale and floor is clay. Sample dry; cut at face of No. 2 left entry, 1,200 feet west-southwest of mouth, April 15, 1915, by F. R. Clark; represents 1 foot 7 inches of hard, massive coal, entire thickness of bed.

22016. Bituminous coal from same mine and bed as No. 22015. Sample cut at face of room 8 off No. 2 left entry, 700 feet west-southwest of mouth, April 15, 1915, by F. R. Clark; represents 1 foot 6 inches of hard, massive coal, entire thickness of bed.

22017. Composite of samples 22015 and 22016.

22018. Bituminous coal from Elk Valley (drift) mine of Elk Valley Blue Gem Coal Co., 1 mile northwest of Elk Valley, on Southern Railway. Coal bed, Blue Gem; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is sandy shale and floor is clay. Sample dry; cut at face of main entry, 900 feet north of mouth, April 15, 1915, by F. R. Clark; represents 1 foot 7 inches of hard, massive coal, entire thickness of bed.

22019. Bituminous coal from same mine and bed as No. 22018. Sample dry; cut at face of mud entry, 300 feet north-northeast of mouth, April 15, 1915, by F. R. Clark; represents 1 foot 5½ inches of hard massive coal, entire thickness of bed.

22020. Composite of samples 22018 and 22019.

22021. Bituminous coal from Rock Springs (drift) mine of Turley Coal Co., 1⅛ miles west-southwest of Turley, on Southern Railway. Coal bed, Upper

TENNESSEE—Continued.

Dean; Carboniferous (Pennsylvanian) age; Scott shale (?). Roof is sandy shale and floor is clay. Sample dry; cut at face of No. 2 main entry, 2,500 feet west-southwest of mouth, April 16, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated and soft (sampled).	1	2
Coal, very dull, hard, and bony (sampled)		6
Shale		3
Coal, massive and very hard (sampled)	2	5
	4	4

22022. Bituminous coal from same mine and bed as No. 22021. Sample dry; cut at face of No. 4 right entry, 2,000 feet west of mouth, April 16, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated, containing sulphur bands (sampled)	1	2
Coal, dull, massive, and hard (sampled)		6
Shale		4
Coal, massive and very hard (sampled)	2	4½
	4	4½

22023. Bituminous coal from same mine and bed as No. 22021. Sample wet; cut at face of room 8 off No. 2 left entry, 1,800 feet southwest of mouth, April 16, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous and laminated (sampled)	1	2
Coal, very dull, hard, and bony (sampled)		3
Coal, lustrous and very hard (sampled)		5
Shale		4
Coal, massive, blocky, and hard (sampled)	2	4
	4	6

22024. Composite of samples 22021 to 22023, inclusive.

22025. Bituminous coal from Pee Wee (drift) mine of Block Coal & Coke Co., 1 mile west-southwest of Block, on Southern Railway. Coal bed, Red Ash; Carboniferous (Pennsylvanian) age; Scott shale (?). Roof is sandy shale and floor is shale and clay. Sample dry; cut from rib near face of No. 2 left entry, 350 feet west-southwest of mouth, April 19, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous and brittle (sampled)		7
Coal, locally containing thin films of sulphur (sampled)		½
Coal, bright (sampled)		1¼
Shale, containing sulphur balls		¾
Coal, bright and brittle (sampled)	2	½
	2	10

22026. Bituminous coal from same mine and bed as No. 22025. Sample dry; cut at face of No. 1 right entry, 300 feet north of mouth, April 19, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bony (sampled)		1
Coal, bright and hard (sampled)		5
Coal, very dull and very hard (sampled)		½
Coal, rashy (sampled)		1½
Coal, lustrous and brittle (sampled)	2	1
Rash		1
	2	10

22027. A composite of samples 22025 and 22026.

22028. Bituminous coal from Monarch (drift) mine of Block Coal & Coke Co., 1 mile west-southwest of Block, on Southern Railway. Coal bed, Monarch or Upper Dean; Carboniferous (Pennsylvanian) age; Scott shale (?). Roof is sandy shale and floor is clay. Sample dry; cut at face of room 49 off No. 2 left entry, 1,700 feet south of mouth, April 19, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous and soft (sampled).	1	1
Coal, dull and very hard (sampled)		2
Coal, bright and soft (sampled)		4
Shale		1
Coal, bright and hard (sampled)		4

TENNESSEE—Continued.

	Ft.	in.
Coal, dull and very hard (sampled)		4
Coal, lustrous and hard (sampled).		9
Coal, alternating dull and bright bands (sampled)	1	2
Shale		1
Coal, bright and hard (sampled)..		7
Coal, dull and very hard (sampled)		4
	5	3

22029. Bituminous coal from same mine and bed as No. 22028. Sample dry; cut at face of No. 3 right entry, 1,050 feet northwest of mouth, April 19, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous and soft (sampled)..	1	1
Shale		4
Coal, massive, lustrous, containing soft bands (sampled)	2	11½
Shale	1	3
Coal, lustrous (sampled)		11
	6	6½

22030. Bituminous coal from same mine and bed as No. 22028. Sample dry; cut at face of room 23, near face of No. 2 right entry, 1,050 feet north-northwest of mouth, April 19, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous, containing thin bands of dull coal (sampled)	1	7
Shale		4
Coal, massive, hard, containing dull bands (sampled)	2	9
Shale	1	2
Coal, lustrous (sampled)		11
	6	9

22031. Bituminous coal from same mine and bed as No. 22028. Sample dry; cut in room neck off No. 1 left entry off No. 1 left cross entry, 2,000 feet south-southeast of mouth, April 19, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous and soft (sampled)..	1	0
Coal, dull and very hard (sampled)		2
Coal, lustrous and soft (sampled)..		4
Shale		3
Coal, massive, hard, and blocky (sampled)	3	0
Sulphur lens		½
Coal, massive and hard (sampled).		6
	5	3½

22032. Composite of samples 22028 to 22031, inclusive.

CLAIBORNE COUNTY.

21844. Bituminous coal from Pruden (drift) mine of Pruden Coal & Coke Co., 1 mile east of Pruden, on Clearfork branch of Southern Railway. Coal bed, Mingo; Carboniferous age; formation not identified. Roof is sandy shale and shale and floor is clay. Sample dry; cut at face of room 4 (left) off No. 7 left entry off No. 3 main entry, 1,900 feet east of mouth, April 6, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and blocky (sampled).	2	0
Coal, rashy (sampled)		2
Clay		½
Coal, dull and bony (sampled)		2
Coal, bright, containing thin films of sulphur (sampled)	2	4
Clay		1
Coal, bright (sampled)		5
	5	2½

21845. Bituminous coal from same mine and bed as No. 21844. Sample dry; cut at face of room 9 off No. 17 left entry off No. 1 main entry, 2,100 feet south of mouth, April 5, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal (sampled)		1
Rash		½
Coal, laminated and impure (sampled)	1	10
Rash		2
Clay and rash interbedded		6
Rash		4
Coal, laminated, containing thin films of sulphur (sampled)	1	10
Rash		4
Coal (sampled)		2½
Shale		1

TENNESSEE—Continued.

	Ft.	in.
Coal (sampled)		2
Shale		6
Coal, massive and hard (sampled)	3	1
	9	2

21846. Bituminous coal from same mine and bed as No. 21844. Sample dry; cut at face of No. 17 right entry off No. 1 main entry, 3,000 feet south of mouth, April 5, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and laminated (sampled)	2	1
Rash		2
Coal, bright and soft (sampled)		4
Shale		1½
Coal, bright and soft (sampled)		3
Clay, containing sulphur balls		5
Coal, massive and hard (sampled)	3	0
	6	4½

21847. Bituminous coal from same mine and bed as No. 21844. Sample cut at face of room 16 off No. 5 right entry off No. 3 main entry, 1,300 feet south-southeast of mouth, April 6, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and laminated (sampled)	1	9
Shale and bands of bone, interbedded		5
Bone and lenses of impure coal, interbedded		3
Coal, bright, containing dull bands of bony coal (sampled)	2	2
Rash		½
Coal, bright (sampled)		2
Shale		10
Coal, massive and hard	2	11
	8	6½

21848. A composite of samples 21844 to 21847, inclusive.

21849. Bituminous coal from King Mountain (drift) mine of Clairfield Jellico Coal Co., three-fourths of a mile east of Clairfield, on Clearfork branch of Southern Railway. Coal bed, Jellico; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is shale and floor is clay. Sample dry; cut at face of room 3 off No. 3 left entry off No. 1 left entry, 1,000 feet S. 50° E. of mouth, April 7, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		1
Coal, very hard, tough, and dull (sampled)	1	6
Coal, lustrous, hard, and brittle (sampled)	1	7
	3	2

21850. Bituminous coal from same mine and bed as No. 21849. Sample dry; cut at face of room 14 off No. 2 left entry off No. 1 right main entry, 1,850 feet S. 30° W. of mouth, April 7, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash and shale		2
Coal, massive and hard, containing thin films of sulphur (sampled)	3	0
Rash		3
	3	5

21851. Bituminous coal from same mine and bed as No. 21849. Sample dry; cut at face of room 4 off No. 1 left entry off No. 1 left main entry, 700 feet S. 25° E. of mouth, April 7, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		1½
Coal, dull and hard (sampled)	1	6
Coal, very lustrous and hard (sampled)	1	7
	3	2½

21852. Composite of samples 21849 to 21851, inclusive.

21857. Bituminous coal from High Cliff (drift) mine of High Cliff Coal Co., half a mile south of Pruden, on Clearfork branch of Southern Railway. Coal bed, Mingo; Carboniferous age; formation not identified. Roof is shale and floor is clay. Sample dry; cut at face of main entry, 3,300 feet S. 45° E. of mouth, April 7,

TENNESSEE—Continued.

1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal		1
Rash		2
Coal, bright and laminated (sampled)	2	8
Clay, containing sulphur balls		4
Coal, massive and hard (sampled)	2	6
	5	9

21858. Bituminous coal from same mine and bed as No. 21857. Sample dry; cut at face of room 5 off No. 8 right entry, 2,900 feet S. 45° E. and 300 feet S. 45° W. from mouth, April 7, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright		1
Clay		2
Rash		1½
Coal, lustrous and laminated (sampled)	2	4
Coal, rashy (sampled)		½
Coal, bright (sampled)		2
Clay, containing thin bands of coal		8
Coal, massive, containing thin bands of dull coal (sampled)	2	11
	6	6

21859. Bituminous coal from same mine and bed as No. 21857. Sample dry; cut at face of room 6 off No. 7 right entry, 2,530 feet S. 45° E. and 400 feet S. 45° W. from mouth, April 7, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, very dull and hard (sampled)		2
Clay		3
Rash		1
Coal, lustrous and brittle (sampled)	2	0
Coal and rash interbedded		1½
Coal (sampled)		5½
Clay		5
Coal, massive and hard, containing dull bands (sampled)	2	11½
	6	5½

21860. Bituminous coal from same mine and bed as No. 21857. Sample dry; cut at face of room 5 off No. 6 right entry, 2,160 feet S. 45° E. and 350 feet S. 45° W. from mouth, April 6, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal		1½
Clay		3
Bone and lenses of coal interbedded		2
Coal, massive and bright (sampled)	2	2
Shale		1
Coal (sampled)		3
Shale, containing kidneys of sulphur		4
Coal, massive, hard, and blocky (sampled)	2	8
	6	½

21861. A composite of samples 21857 to 21860, inclusive.

21862. Bituminous coal from Buffalo (drift) mine of Campbell Coal Mining Co., three-fourths of a mile south of Eagan, on Clearfork branch of Southern Railway. Coal bed, Jellico; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is shale and sandy shale and floor is clay. Sample dry; cut at face of No. 9 main entry, 3,250 feet south of mouth, April 8, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		2
Coal, very bright and hard (sampled)	2	10½
	3	½

21863. Bituminous coal from same mine and bed as No. 21862. Sample dry; cut at face of No. 10 right entry, 2,400 feet south and 1,050 feet west from mouth, April 8, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		½
Coal, massive and hard (sampled)	3	½
	3	1

TENNESSEE—Continued.

21864. Bituminous coal from same mine and bed as No. 21862. Sample dry; cut at face of No. 8 right entry, 2,000 feet south and 1,500 feet west from mouth, April 8, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		½
Coal, very bright and very hard (sampled)	3	1
	3	1½

21865. Bituminous coal from same mine and bed as No. 21862. Sample dry; cut at face of No. 6 right entry, 1,500 feet south and 1,600 feet west from mouth, April 8, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		1½
Coal, massive, bright, and hard (sampled)	3	1
	3	2½

21866. Composite of samples 21862 to 21865, inclusive.

21867. Bituminous coal from Standard (drift) mine of Standard Jellico Coal Co., 1 mile east of Clairfield, on Clearfork branch of Southern Railway. Coal bed, Jellico; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is shale and floor is clay. Sample dry; cut in room neck 17 off No. 1 C entry, 825 feet N. 5° W. of mouth, April 8, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Bone and rash, interbedded		4
Coal, massive, dull, and hard (sampled)	1	3
Coal, soft and rashy (sampled)		2
Coal, lustrous, hard, and brittle (sampled)	1	6
	3	3

21868. Bituminous coal from same mine and bed as No. 21867. Sample dry; cut at face of room 20 off No. 3 D entry, 2,100 feet N. 15° E. of mouth, April 8, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, dull and very hard (sampled)		8
Coal, lustrous and hard (sampled)	2	4
	3	0

21869. Bituminous coal from same mine and bed as No. 21867. Sample dry; cut at face of No. 3 C entry, 1,100 feet N. 30° W. of mouth, April 8, 1915, by F. R. Clark; represents 2 feet 6 inches of bright hard coal, total thickness of bed.

21870. A composite of samples 21867 to 21869, inclusive.

22087. Bituminous coal from mine No. 3 (a drift mine) of Yellow Creek Coal Co., 2,500 feet south-southwest of Bosworth, Ky., on Mingo branch of Louisville & Nashville Railroad. Coal bed, Billy-goat; Carboniferous age; formation not identified. Roof is sandy shale and floor is sandstone. Sample dry; cut on chain pillar off No. 2 right entry, 600 feet S. 30° E. of mouth, April 28, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash and clay		1
Coal, badly crushed (sampled)	1	4½
Coal, massive, lustrous, and hard	1	5
	2	10½

22088. Bituminous coal from same mine and bed as No. 22087. Sample dry; cut at face of No. 4, right entry, 1,150 feet S. 25° E. of mouth, April 28, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		¾
Coal, lustrous and brittle (sampled)	2	10
	2	10¾

22089. Bituminous coal from same mine and bed as No. 22087. Sample dry; cut at face of main entry, 1,500 feet S. 45° E. of mouth, April 28, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright		1
Coal, impure and bony		1
Coal, lustrous and brittle (sampled)	2	4
	2	6

TENNESSEE—Continued.

22090. Bituminous coal from same mine and bed as No. 22087. Sample dry; cut at face of No. 5, left entry, 1,250 feet S. 70° E. of mouth, April 28, 1915, by F. R. Clark; represents 2 feet 8 inches of lustrous, brittle coal, entire thickness of bed.

22091. A composite of samples 22087 to 22090 inclusive.

22097. Bituminous coal from No. 5 (drift) mine of Mingo Coal & Coke Co., 1,500 feet southeast of Hartranft, on Mingo branch of Louisville & Nashville Railroad. Coal bed, Poplar Lick; Carboniferous age; formation not identified. Roof is sandy shale and floor is clay. Sample dry; cut at face of No. 21, left entry, 3,600 feet S. 45° E. of mouth, April 23, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and soft (sampled)		5
Bone and sulphur bands interbedded		5
Coal, massive and hard (sampled)	3	4
	4	2

22098. Bituminous coal from same mine and bed as No. 21097. Sample dry; cut at face of No. 11, right entry, 3,200 feet S. 5° W. of mouth, April 23, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous and resinous (sampled)		8
Bone		2½
Coal, very hard and dull (sampled)	1	0
Coal, lustrous and hard (sampled)	2	0
Rash		4
	4	2½

22126. Bituminous coal from same mine and bed as No. 22097. Sample dry; cut at face of No. 19, right entry, 3,700 feet S. 10° E. of mouth, April 23, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated, containing thin bands of sulphur (sampled)		9½
Bone		2½
Coal, very dull and very hard (sampled)		10½
Coal, soft and badly crushed (sampled)		4
Coal, massive and hard (sampled)	2	0
	4	2½

22099. Composite of samples 22097, 22098, and 22126.

22100. Bituminous coal from Sterling (drift) mine of Sterling Coal & Coke Co., half a mile west-southwest of Manring, at terminus of Mingo branch of Louisville & Nashville Railroad. Coal bed, Poplar Lick; Carboniferous age; formation not identified. Roof is sandy shale and sandstone and floor is clay. Sample dry; cut at face of No. 6 left entry off No. 2 face entry, 6,400 feet west and 2,000 feet north from mouth, April 21, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous, laminated, and rashy (sampled)		9
Coal, bony (sampled)		1
Coal, massive and hard (sampled)	1	0
Coal, locally bony and containing thin streaks of sulphur (sampled)		1
Coal, massive and hard (sampled)	2	8
	4	7

22101. Bituminous coal from same mine and bed as No. 22100. Sample dry; cut at face of No. 2 entry off No. 4 right entry off No. 2 face entry, 5,500 feet west and 2,900 feet north from mouth, April 21, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, rashy (sampled)		6
Coal, bright and hard (sampled)		11
Coal, very dull and very hard (sampled)		4
Coal, bright, massive, and hard (sampled)	2	6
	4	3

22102. Bituminous coal from same mine and bed as No. 22100. Sample dry; cut at face of room 1 off No. 2 right entry off No. 2 face entry, 4,500 feet west and 2,800

TENNESSEE—Continued.

feet north from mouth, April 21, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous and brittle (sampled)		4
Coal, rashy (sampled)		9
Coal, lustrous and hard (sampled)		8
Coal, dull and very hard (sampled)		8
Coal, massive, bright, and hard (sampled)	1	8
	4	1

22103. Bituminous coal from same mine and bed as No. 22100. Sample dry; cut at face of room No. 1 off No. 3 left entry off No. 2 face entry, 5,600 feet west and 1,400 feet north from mouth, April 21, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and brittle (sampled)		5
Coal, rashy, high in ash (sampled)		8
Coal, lustrous and brittle (sampled)	1	3
Shale		½
Coal, massive and hard (sampled)	2	8
	5	½

22104. Composite of samples 22100 to 22103, inclusive.

22105. Bituminous coal from No. 2 (drift) mine of Bryson Mountain Coal & Coke Co., 700 feet west of Bryson, on Mingo branch of Louisville & Nashville Railroad. Coal bed, Poplar Lick; Carboniferous age; formation not identified. Roof is sandy shale and floor is clay. Sample dry; cut from rib on main entry 500 feet west of mouth April 22, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive, blocky, and hard (sampled)	3	8
Coal, rashy (sampled)		2
Coal, massive, bright, and hard (sampled)	1	2
	5	0

This mine was not in operation at the time the sample was collected and absolutely fresh coal could not be obtained. The sample is probably slightly weathered.

22106. Bituminous coal from No. 1 (drift) mine of Bryson Mountain Coal & Coke Co., at Bryson, on Mingo branch of Louisville & Nashville Railroad. Coal bed, Mingo; Carboniferous age; formation not identified. Roof is shale and sandy shale and floor is clay. Sample dry; cut from stump No. 16 off No. 3 cross entry, 3,400 feet S. 70° W. of mouth, April 22, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous, laminated, and soft (sampled)	2	2
Rash		3
Shale and sulphur lens interbedded		1
Coal, lustrous and soft (sampled)	2	0
Sulphur bands		½
Coal, bright (sampled)		1½
Rash		1
	4	9

22107. Bituminous coal from same mine and bed as No. 22106. Sample dry; cut from chain pillar off No. 1 cross entry, 2,600 feet S. 45° W. of mouth, April 22, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous and soft (sampled)	2	4
Rash and lenses of coal interbedded		5
Shale and bands of sulphur interbedded		4
Coal and bands of sulphur interbedded		1
Coal, lustrous and banded (sampled)	2	1½
Clay		1
Coal, bright (sampled)		1½
	5	6

22108. Bituminous coal from same mine and bed as No. 22106. Sample dry; cut from chain pillar off No. 5 cross entry, 3,800 feet S. 85° W. of mouth, April 22, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Clay		5
Coal, massive, but badly crushed (sampled)	1	10½

TENNESSEE—Continued.

	Ft.	in.
Clay and rash interbedded		3
Coal, bright, but badly crushed (sampled)		7
Shale		1
Coal, bright, but crushed (sampled)		11
Shale and rash		½
Coal, rashy and badly crushed (sampled)		6½
Shale and rash		1½
Coal, bright and hard (sampled)		2
Rash		½
	5	½

22109. Composite of samples 22106 to 22108, inclusive.

22110. Bituminous coal from No. 4 (drift) mine of Fork Ridge Coal & Coke Co., 1¼ miles southwest of Fork Ridge, on Mingo branch of Louisville & Nashville Railroad. Coal bed, Poplar Lick; Carboniferous age; formation not identified. Roof is sandy shale and floor is clay. Sample cut at face of No. 1 right entry off No. 1 face entry, 2,400 feet west, 350 feet north, and 200 feet east from mouth, April 27, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and soft (sampled)		8½
Bone		1
Coal, bright and soft (sampled)		4
Bone		8
Coal, bony (sampled)		6
Coal, massive, bright and brittle (sampled)	1	8
	3	11½

22111. Bituminous coal from same mine and bed as No. 22110. Sample cut at face of main entry, 2,500 feet west of mouth, April 27, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive (sampled)	1	6½
Bone		3½
Coal, massive, hard, and brittle (sampled)	1	10½
	3	8½

22112. Bituminous coal from same mine and bed as No. 22110. Sample cut at face of No. 2 cross entry, 2,400 feet west and 600 feet south from mouth, April 27, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and soft (sampled)		8
Bone		2
Coal, bright and soft (sampled)		5
Bone		7
Coal, massive and hard (sampled)	2	1
Rash		½
	3	11½

22113. Composite of samples 22110 to 22112, inclusive.

22114. Bituminous coal from No. 1 (drift) mine of Fork Ridge Coal & Coke Co., five-eighths of a mile southwest of Fork Ridge, on Mingo branch of Louisville & Nashville Railroad. Coal bed, Mingo; Carboniferous age; formation not identified. Roof is sandy shale and floor is clay. Sample dry; cut at face of room 17 off No. 1 right entry, 9,200 feet S. 45° E. of mouth, April 26, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous and laminated (sampled)	2	2
Shale and rash interbedded		3
Coal, lustrous and blocky (sampled)	2	1
	4	6

22115. Bituminous coal from same mine and bed as No. 22114. Sample dry; cut at face of room 11 off No. 2 right entry, 8,900 feet S. 43° E. of mouth, April 26, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated (sampled)	1	11½
Shale, rash, and sulphur kidneys, interbedded		2½
Coal, laminated (sampled)	2	1½
	4	3½

22116. Bituminous coal from same mine and bed as No. 22114. Sample dry; cut in face of room 11 off No. 3 left entry,

TENNESSEE—Continued.

8,850 feet S. 48° E. of mouth, April 26, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and hard (sampled)		10
Coal, laminated and lustrous (sampled)	1	6
Shale and rash interbedded		1½
Coal, lustrous and laminated (sampled)	2	5
	4	10½

22117. Bituminous coal from same mine and bed as No. 22114. Sample dry; cut at face of room 15 off No. 4 left entry, 9,300 feet S. 52° E. of mouth, April 26, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and blocky (sampled)	2	2
Shale, rash, and sulphur interbedded		2
Coal, laminated, containing bands of mineral charcoal (sampled)	2	2
	4	6

22118. Composite of samples 22114 to 22117, inclusive.

22119. Bituminous coal from Sandstone Parting (drift) mine of Reliance Coal & Coke Co., 900 feet west of Hartranft, on Mingo branch of Louisville & Nashville Railroad. Coal bed, Sandstone Parting; Carboniferous age; formation not identified. Roof is sandstone and floor is shale. Sample wet; cut from rib near face of No. 1 left entry, 500 feet S. 85° W. of mouth, April 24, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, splintlike (sampled)		1½
Shale		2
Coal, blocky (sampled)		2½
Shale and clay interbedded		11
Coal, massive, blocky, and very hard (sampled)	2	11
	4	4

This mine was not in operation when the sample was taken and therefore fresh coal could not be obtained. The sample is probably slightly weathered.

22120. Bituminous coal from No. 2 (drift) mine of Reliance Coal & Coke Co., at Hartranft, on Mingo branch of Louisville & Nashville Railroad. Coal bed, Mingo; Carboniferous age; formation not identified. Roof is sandy shale and floor is clay. Sample dry; cut from barrier pillar off the main air course, 2,700 feet S. 40° W. of mouth, April 24, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous and banded (sampled)	2	0
Rash		2
Shale and rash interbedded		6
Coal, lustrous (sampled)	1	6
Clay and bands of rash, interbedded		7
Coal, lustrous and hard (sampled)		3
	5	0

22121. Bituminous coal from same mine and bed as No. 22120. Sample dry; cut from pillar No. 30 off No. 27 right entry, 1,950 feet S. 25° W. of mouth, April 24, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous and banded (sampled)	1	11
Shale and bands of rash interbedded		5
Coal, lustrous and bedded (sampled)	1	5½
Shale and rash interbedded		4½
Coal, lustrous and hard (sampled)		5
	4	7

22122. Bituminous coal from No. 1 (drift) mine of Reliance Coal & Coke Co., at Hartranft, on Mingo branch of Louisville & Nashville Railroad. Coal bed, Mingo; Carboniferous age; formation not identified. Roof is sandy shale and sandstone and floor is clay. Sample dry; cut at new side track off No. 2 left entry, 500 feet N. 65° W. of mouth, April 24, 1915, by

TENNESSEE—Continued.

F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and blocky (sampled)	2	2
Rash and lenses of coal interbedded		2
Shale and rash, interbedded		9
Coal, lustrous and badly crushed (sampled)	1	4
Shale and clay, interbedded		4
Coal, bright (sampled)		4
	5	1

22123. Bituminous coal from same mine and bed as No. 22122. Sample dry; cut in mine in room No. 1 off No. 3 left entry, 750 feet N. 70° W. of mouth, April 24, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous and bedded (sampled)	1	6
Coal, rashy (sampled)		4
Shale and rash interbedded	1	6
Coal, massive and lustrous (sampled)	1	4
Shale and rash interbedded		6
Coal, bright and hard (sampled)		3
Rash		1
	5	6

22124. Composite of samples 22120 to 22123, inclusive.

FENTRESS COUNTY.

20982. Bituminous coal from Highland No. 2 (drift) mine of Highland Coal & Lumber Co., 1½ miles north of Highland Junction, on Crawford branch of Tennessee Central Railroad. Coal bed, Bon Air No. 2; Carboniferous (Pennsylvanian) age; Lee formation. Roof and floor are sandstone. Sample damp; cut at face of main entry, 1,350 feet N. 41° E. of mouth, February 9, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal (sampled)	1	0
Sulphur kidney		½
Coal (sampled)	3	2
	4	2½

20983. Bituminous coal from same mine and bed as No. 20982. Sample dry; cut at face of No. 2 right entry, 900 feet northeast of mouth, February 8, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal (sampled)		9
Bone		2½
Coal (sampled)	2	8
	3	7½

20984. Bituminous coal from same mine and bed as No. 20982. Sample dry; cut at face of No. 3 right entry, 1,300 feet east of mouth, February 8, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal (sampled)		10
Coal, containing thin lenses of sulphur (sampled)		6
Coal, massive and hard (sampled)	3	½
Clay		1
	4	5½

20985. Composite of samples 20982 to 20984, inclusive.

20986. Bituminous coal from same mine and bed as No. 20982. Sample wet and coal possibly slightly weathered; cut near mouth of second left entry, 1,000 feet N. 41° E. of mouth, April 8, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal (sampled)		5½
Sulphur kidney		1
Coal (sampled)		4
Sulphur kidney		2½
Coal (sampled)	3	½
	4	1½

20987. Bituminous coal from Davidson (drift) mine of Davidson Coal Co., 1⅝ miles north of Highland Junction, on Crawford branch of Tennessee Central Railroad. Coal bed, Bon Air No. 2; Carboniferous (Pennsylvanian) age; Lee formation. Roof and floor are sandstone. Sample damp; cut at face of main entry, 200 feet northeast of mouth of new opening, February 9, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

TENNESSEE—Continued.

	Ft.	in.
Coal and thin bands of shale interbedded		1
Sulphur kidney		1½
Coal (sampled)		6½
Coal, containing thin lenses of sulphur (sampled)		7
Sulphur kidney		1
Coal (sampled)	2	11½
	4	4½

20988. Bituminous coal from same mine and bed as No. 20987. Sample damp; cut at face of cross entry 1,000 feet north-northeast of mouth of old opening, February 9, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, containing thin lenses of shale		1
Coal, massive (sampled)		10
Coal, soft, containing sulphur balls (sampled)		3
Sulphur kidney		1½
Coal (sampled)		4
Sulphur kidney		½
Coal, massive (sampled)	2	6
	4	2

20989. Composite of samples 20987 and 20988.

GRUNDY COUNTY.

22359. Bituminous coal from Reed Hill No. 1 (drift) mine of Tennessee Consolidated Coal Co., 1½ miles east of Tracy City, on Tracy City branch of Nashville, Chattanooga & St. Louis Railway. Coal bed, Sewanee; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof and floor are shale. Sample dry; cut in room off main entry 2,400 feet south of mouth May 19, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, glossy and hard (sampled)	2	8½
Rash		4
	3	½

22360. Bituminous coal from Reed Hill No. 2 (drift) mine of Tennessee Consolidated Coal Co., 2 miles east of Tracy City. Coal bed, Sewanee; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof and floor are shale. Sample damp; cut in mine at face of Sitz opening, near face of old No. 7 in old Reed Hill mine, 1,300 feet N. 75° W. of mouth, May 18, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, containing thin bands of sulphur		3
Coal, massive and hard (sampled)	3	8
	3	11

22361. Bituminous coal from East Fork (drift) mine of Tennessee Consolidated Coal Co., 1¼ miles northeast of Tracy City. Coal bed, Sewanee. Roof and floor are shale. Sample cut in room off No. 2 right entry off No. 1 main entry, 1,600 feet S. 16° W. of mouth, May 19, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		2
Coal, soft, badly crushed and contorted (sampled)	2	10
	3	0

22362. Bituminous coal from Rattlesnake (drift) mine of Tennessee Consolidated Coal Co., 1¼ miles northeast of Tracy City. Coal bed, Sewanee. Roof and floor are shale. Sample damp; cut at face of crosscut off old Rattlesnake entry, 2,100 feet N. 10° W. of mouth, May 19, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Clay		1
Coal, bedded (sampled)	2	10
	2	11

22363. Bituminous coal from East Staub (drift) mine of Tennessee Consolidated Coal Co., 1¼ miles north-northeast of Tracy City. Coal bed, Sewanee. Roof and floor are shale. Sample cut near No. 1 right entry off Campbell entry, 4,600 feet N. 20° E. of mouth, May 19, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Clay, soft		1
Coal, bedded and hard (sampled)	4	4
	4	5

TENNESSEE—Continued.

22364. A composite of samples 22359 to 22363, inclusive.

22371. Bituminous coal from Old Staub (drift) mine of Tennessee Consolidated Coal Co., 1 mile east of Tracy City. Coal bed, Sewanee. Roof and floor are shale. Sample dry; cut at face of Jerry Downing entry off old main entry, 5,850 feet N. 20° W. of mouth of old No. 1, May 20, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Clay, soft		2
Coal, bedded and badly crushed and contorted (sampled)	3	8
	3	10

22403. Bituminous coal from West Ramsey (drift) mine of Tennessee Consolidated Coal Co., 2½ miles west of Tracy City. Coal bed, Sewanee. Roof and floor are shale. Sample cut near face of Saunders entry, off old N. C. main entry, 1,850 feet S. 60° W. of mine mouth near old Ramsey tipple, May 20, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Clay		1
Coal, bedded and badly contorted (sampled)	3	8
	3	9

22404. Bituminous coal from Old Ramsey (drift) mine of Tennessee Consolidated Coal Co., 2½ miles north-northwest of Tracy City. Coal bed, Sewanee. Roof and floor are shale. Sample dry; cut near No. 11 right entry off T. C. I. main entry, 2,600 feet N. 45° E. of mine mouth near old Ramsey tipple, May 20, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		2
Coal, glossy and bedded (sampled)	4	8
	4	10

22405. Composite of samples 22403 and 22404.

22379. Bituminous coal (weathered) from prospect pit of Tennessee Consolidated Coal Co., 11.4 miles N. 40° E. of Coalmont, at terminus of Tracy City branch of Nashville, Chattanooga & St. Louis Railway. Coal bed, Sewanee. Roof is sandstone and floor is shale. Sample damp; cut at face of entry 60 feet east of mouth of prospect, near bottom of main branch of Mill Creek, May 22, 1915, by F. R. Clark; represents 4 feet of hard, massive coal the entire thickness of bed.

22380. Bituminous coal (weathered) from prospect pit on west side of Mill Creek not far from the pit where sample 22379 was taken. Coal bed, Sewanee. Roof is sandstone and floor is shale and clay. Sample, wet; cut at face of entry 50 feet south of mouth, May 22, 1915, by F. R. Clark; represents 3 feet 7 inches of hard, massive, bright coal, entire thickness of bed.

22381. Bituminous coal (weathered) from prospect pit on east side of Mill Creek near pit where sample 22379 was taken. Coal bed, Sewanee. Roof and floor are shale. Sample cut at face of entry 100 feet east of mouth, May 22, 1915, by F. R. Clark; represents 4 feet 2 inches of hard, massive, brilliant coal, entire thickness of bed.

22382. Composite of samples 22379 to 22381, inclusive.

22372. Bituminous coal (rib weathered) from Old Clouse Hill (drift) mine of Sewanee Fuel & Iron Co., 3½ miles west of Tracy City, on Tracy City branch of Nashville, Chattanooga & St. Louis Railway. Coal bed, Sewanee. Roof is shale and floor is shale and clay. Sample dry; cut in room 200 feet east of mouth of new opening at southwest corner of Clouse Hill, May 20, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal		½
Shale, carbonaceous		2
Clay		3
Coal, bedded and badly contorted (sampled)	3	4
	3	9½

22373. Bituminous coal from Flanagan (drift) mine of Flat Branch Coal Co., 2 miles southeast of Coalmont, at terminus

TENNESSEE—Continued.

of Tracy City branch of Nashville, Chattanooga & St. Louis Railway. Coal bed, Sewanee. Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof and floor are shale. Sample dry; cut near face of main entry, 700 feet east and 300 feet south from mouth, May 21, 1915, by F. R. Clark; represents 2 feet 9 inches of laminated and badly crushed coal, entire thickness of bed.

22374. Bituminous coal from the Coalmont S Old Hill (drift) mine of Sewanee Fuel & Iron Co., 2½ miles south-southeast of Coalmont. Coal bed, Sewanee. Roof is shale and floor is sandy shale. Sample dry; cut at face of main entry, 2,380 feet S. 56° 30′ W. of mouth, May 21, 1915, by F. R. Clark; represents 4 feet 11 inches of laminated, glossy coal, entire thickness of bed.

22375. Bituminous coal from Coalmont S New Hill (drift) mine of Sewanee Fuel & Iron Co., 2½ miles south of Coalmont. Coal bed, Sewanee. Roof and floor are shale. Sample dry; cut at face of No. 1 right entry off main entry, 1,063 feet S. 75° W. of mouth, May 21, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Shale, carbonaceous		6
Coal, glossy, laminated, and contorted (sampled)	3	0
	3	6

22383. Bituminous coal from Coalmont I (drift) mine of Sewanee Fuel & Iron Co., ½ mile N. 15° W. of Coalmont. Coal bed, Sewanee. Roof and floor are shale. Sample damp; cut at face of room 11 off No. 2 left entry, 1,140 feet N. 37° W. and 500 feet S. 55° W. from mouth, May 21, 1915, by F. R. Clark; represents 3 feet of laminated and contorted coal containing thin bands of mineral charcoal, total thickness of bed.

22384. Bituminous coal from Coalmont E (drift) mine of Sewanee Fuel & Iron Co., half a mile N. 15° W. of Coalmont. Coal bed, Sewanee. Roof is shale and floor is clay. Sample damp; cut at face of main entry, 500 feet east of mouth, May 21, 1915, by F. R. Clark; represents 4 feet 2½ inches of laminated and badly contorted coal, entire thickness of bed.

22385. Bituminous coal from Coalmont New A (drift) mine of Sewanee Fuel & Iron Co., a quarter of a mile southeast of Coalmont. Coal bed, Sewanee. Roof and floor are shale. Sample cut in room neck off main entry, 600 feet northeast of mouth, May 21, 1915, by F. R. Clark; represents 2 feet 7 inches of hard laminated glossy coal, entire thickness of bed.

22386. Bituminous coal from Coalmont Old A (drift) mine of Sewanee Fuel & Iron Co., half a mile southeast of Coalmont. Coal bed, Sewanee. Roof is shale and floor is clay. Sample dry; cut in room neck off west main entry, 300 feet east of mouth, May 21, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		1
Coal, soft and laminated (sampled)	2	3
	2	4

22387. Composite of samples 22383 to 22386, inclusive.

HAMILTON COUNTY.

22160. Bituminous coal from Soddy No. 1 (drift) mine of Durham Coal & Iron Co., 1¼ miles west of Rathburn, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, Soddy; Carboniferous (Pennsylvanian) age; "Walden sandstone"(?). Roof is sandy shale and sandstone and floor is shale and clay. Sample dry; cut at face of room 43 off No. 5 right entry off new haulage way, 8,900 feet S. 75° W. of mouth, May 3, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		½
Coal, steel-gray and hard (sampled)	2	8
Rash		1
	2	9½

22161. Bituminous coal from same mine and bed as No. 22160. Sample dry; cut in face of room 3 off No. 11 right entry off new haulage way, 9,300 feet S. 65° W. of mouth, May 3, 1915, by F. R. Clark.

TENNESSEE—Continued.

Section of bed at point sampled is as follows:

	Ft.	in.
Coal, steel-gray and hard (sampled)	2	
Coal, laminated (sampled)		3
Bone		2
	2	5

22162. Bituminous coal from same mine and bed as No. 22160. Sample dry; cut in face of No. 14 right entry off new main entry, 7,000 feet N. 85° W. of mouth, May 3, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, steel-gray and hard (sampled)	2	0
Coal, laminated and bright (sampled)		4
	2	4

22163. Bituminous coal from same mine and bed as No. 22160. Sample dry; cut in face of room 1 off No. 17 right off main entry, 8,200 feet west of mouth, May 3, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Bone		1
Coal, steel-gray, hard, and brittle (sampled)	2	4
Rash and coal lenses interbedded		8
	3	1

22164. Composite of samples 22160 to 22163, inclusive.

22187. Bituminous coal from Sheephead (slope) mine of Durham Coal & Iron Co., 1½ miles southwest of Rathburn, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, Soddy; Carboniferous (Pennsylvanian) age; "Walden sandstone" (?). Roof is sandy shale and floor is shale. Sample dry; cut in face of room 3 off new slope, 400 feet N. 10° W. of mouth, May 4, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, steel-gray and hard (sampled)	2	0
Coal, laminated (sampled)		4
	2	4

22188. Bituminous coal from same mine and bed as No. 22187. Sample dry; cut at face of room 6 off back entry, 350 feet S. 40° W. of mouth, May 4, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, steel-gray and hard (sampled)	1	5½
Coal, lustrous and hard (sampled)		5
Coal, soft and laminated (sampled)		11
	2	9½

22189. Composite of samples 22187 and 22188.

22190. Bituminous coal from Old Bunker (drift) mine of Durham Coal & Iron Co., 1¼ miles southwest of Rathburn, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, Soddy; Carboniferous (Pennsylvanian) age; "Walden sandstone" (?). Roof is sandstone and floor is clay. Sample dry; cut at face of room 5 off main entry, 500 feet N. 80° W. of mouth, May 4, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous and soft (sampled)		7
Coal, steel-gray and hard (sampled)	1	11
Coal, laminated (sampled)		3
	2	9

22211. Bituminous coal from Furman (drift) mine of Durham Coal & Iron Co., three-fourths of a mile west of Rathburn, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, Soddy; Carboniferous (Pennsylvanian) age; "Walden sandstone" (?). Roof is sandy shale and floor is shale and sandstone. Sample dry; cut in mine at face of Jones's place, 650 feet N. 15° W. of mouth, May 4, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash and clay interbedded		2
Coal, laminated, with thin bands of mineral charcoal (sampled)	1	11
Coal, rashy (sampled)		2
	2	3

22212. Bituminous coal from same mine and bed as No. 22211. Sample dry; cut at face of room 4 off No. 1 right entry, 700 feet N. 10° W. of mouth, May 4, 1915,

TENNESSEE—Continued.

by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		1
Coal, laminated and soft (sampled)		2
Coal, steel-gray and hard (sampled)	1	3
	1	6

22213. Composite of samples 22211 and 22212.

22248. Bituminous coal from Big Soddy (drift) mine of Durham Coal & Iron Co., 2¼ miles northwest of Rathburn, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, Soddy; Carboniferous (Pennsylvanian) age; "Walden sandstone" (?). Roof is sandy shale and floor is shale. Sample dry; cut in room 8 off main entry, 1,200 feet N. 25° E. of mouth, May 5, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		2
Coal, laminated and soft (sampled)	3	8
	3	10

22243. Bituminous coal from Montlake (drift) mine of Montlake Coal Co., 2½ miles northwest of Montlake, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, No. 10; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof is sandy shale and floor is shale. Sample wet; cut at face of No. 3 crosscut, 1,400 feet N. 30° E. of mouth, May 6, 1915, by F. R. Clark; represents 2 feet 5 inches of hard, lustrous coal, total thickness of bed.

22244. Bituminous coal from same mine and bed as No. 22243. Sample damp; cut at face of No. 11 cross entry, 2,850 feet N. 32° E. of mouth, May 6, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bony		2
Coal, massive and brittle (sampled)	3	2
	3	4

22245. Bituminous coal from same mine and bed as No. 22243. Sample dry; cut at face of No. 11 cross entry right, 2,700 feet N. 20° E. of mouth, May 6, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Shale and bands of bone interbedded		3
Coal, bright, laminated, and soft (sampled)		4
Coal, massive and hard (sampled)	2	9
	3	4

22246. Composite of samples 22243 to 22245.

22247. Bituminous coal from Montlake No. 4 (drift) mine of Montlake Coal Co., 2⅜ miles northwest of Montlake station, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, not identified; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof is sandy shale and floor is clay. Sample damp; cut at face of No. 1 right entry, 185 feet N. 4° E. and 415 feet S. 86° E. from mouth, May 6, 1915, by F. R. Clark; represents 2 feet 10 inches of soft and badly crushed coal, the entire thickness of the bed.

22249. Bituminous coal from Wagon (drift) mine of J. C. Abel, three-fourths of a mile northwest of Daisy, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, not identified; Carboniferous (Pennsylvanian) age; Lookout sandstone (?). Roof is sandy shale and floor is clay. Sample wet; cut at face of room 2 off main entry, 350 feet north-northeast of mouth, May 6, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Shale, containing lenses of sulphur		6
Coal, steel-gray and hard (sampled)	1	4
	1	10

MARION COUNTY.

22230. Bituminous coal from Battle Creek No. 4 (drift) mine of Battle Creek Coal & Coke Co., 1½ miles north of Orme, terminus of branch of Nashville, Chattanooga & St. Louis Railway. Coal bed, Battle Creek; Carboniferous (Pennsylvanian) age; Lookout sandstone (?). Roof is sandy shale and floor is shale and clay. Sample dry; cut from pillar off No. 5 right entry, 1,600 feet north and 750 feet

TENNESSEE—Continued.

east from mouth, May 11, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, very hard and massive (sampled)	1	5
Rash		1½
Coal, laminated and soft (sampled)	3	7½
	5	2

22231. Bituminous coal from Battle Creek No. 3 (drift) mine of Battle Creek Coal & Coke Co., 1½ miles north of Orme. Coal bed, Battle Creek. Sample dry; cut from pillar off Collins entry, 1,550 feet west of mouth, May 11, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, very hard, massive, and bright (sampled)	2	0
Rash		2
Coal, lustrous and hard (sampled)	1	8
Rash		5
Coal, very bright and soft (sampled)	1	1
	5	4

22232. Bituminous coal from Battle Creek No. 5 mine (drift) of Battle Creek Coal & Coke Co., 2¾ miles north-northwest of Orme. Coal bed, Battle Creek. Roof and floor are shale. Sample dry; cut in main entry 60 feet east of mouth, May 11, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, very hard, bright, and massive (sampled)	3	6
Rash		4
Coal, lustrous, laminated, and hard (sampled)	2	4
Rash and impure coal intimately mixed	3	2
	9	4

22233. Bituminous coal from same mine and bed as No. 22230. Sample dry; cut from pillar at end of No. 16 left entry, 2,500 feet north and 1,500 feet west from mouth, May 11, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, very bright, hard, and contorted (sampled)	3	4
Rash		2
Coal, bright and hard (sampled)	2	2
Rash		4
Coal, very bright and contorted (sampled)		7
Rash		3
	6	10

22234. Composite of samples 22230 to 22233, inclusive.

22235. Bituminous coal from No. 1 (drift) mine of New Etna Coal Co., 7 miles northwest of Whiteside, on Nashville, Chattanooga & St. Louis Railway. Coal bed, Kelley; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof and floor are shale. Sample dry; cut at face of No. 4 cross entry, 3,000 feet northwest of mouth, May 10, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous, massive, cubical structure (sampled)	1	9
Coal, laminated (sampled)	1	0
	2	9

22236. Bituminous coal from same mine and bed as No. 22235. Sample dry; cut at face of No. 7 cross entry, 2,000 feet northeast of mouth, May 10, 1915, by F. R. Clark. Section of bed at point of sampling is as follows:

	Ft.	in.
Coal, massive (sampled)	1	6
Coal, laminated (sampled)	1	0
	2	6

22237. Bituminous coal from No. 2 (drift) mine of New Etna Coal Co., 7 miles northwest of Whiteside. Coal bed, Kelley; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof and floor are shale. Sample damp; cut at face of No. 1 left entry, 1,000 feet southwest of mouth, May 10, 1915, by F. R. Clark; represents 2 feet 6 inches of lustrous jet-black coal, the entire thickness of the bed.

TENNESSEE—Continued.

22238. A composite of samples 22235 to 22237, inclusive.

22251. Bituminous coal from Old Etna No. 1 (drift) mine of Castle Rock Coal & Coke Co., 1⅛ miles west of Whiteside, on Nashville, Chattanooga & St. Louis Railway. Coal bed, Old Etna; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof is sandy shale and floor is clay. Sample wet; cut at face of main entry, 165 feet west of mouth, May 8, 1915, by F. R. Clark; represents 2 feet 1 inch of hard, lustrous coal, entire thickness of the bed.

22252. Bituminous coal from Old Etna No. 2 (drift) mine of Castle Rock Coal & Coke Co. Location of mine about the same as No. 22251. Coal bed, Old Etna. Sample wet; cut at face of main entry, 200 feet south-southwest of mouth, May 8, 1915, by F. R. Clark; represents 1 foot 11 inches of hard bright coal, the total thickness of the bed.

22253. Composite of samples 22251 and 22252.

22254. Bituminous coal from Castle Rock (drift) mine of Castle Rock Coal & Coke Co., 1 mile west of Whiteside, on Nashville, Chattanooga & St. Louis Railway. Coal bed, Castle Rock; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof is sandy shale and floor is clay. Sample wet; cut at face of main entry, about 200 feet south of mouth, May 8, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Bone and sulphur		1
Coal, very bright and hard (sampled)		10½
Coal, laminated (sampled)		7
Rash		1½
Coal, lustrous and soft (sampled)	2	1
	3	9

22255. Bituminous coal from same mine and bed as No. 22254. Sample damp; cut at face of No. 1 right entry, 175 feet S. 20° W. of mouth, May 8, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, soft and laminated (sampled)	2	0
Coal, rashy (sampled)		4
Rash		3
	2	7

22256. A composite of samples 22254 and 22255.

22257. Bituminous coal from Clements (drift) prospect of Tennessee River Coal & Coke Co., about 1 mile southwest of Whiteside, on Nashville, Chattanooga & St. Louis Railway. Coal bed, Castle Rock; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof is sandy shale and floor is clay. Sample damp and slightly weathered; cut from rib of main entry, 100 feet southwest of mouth, May 8, 1915, by F. R. Clark; represents 3 feet 4 inches of hard, massive coal, entire thickness of bed.

22258. Bituminous coal from Bessie (drift) prospect of Tennessee River Coal & Coke Co., 1 mile southwest of Whiteside, on Nashville, Chattanooga & St. Louis Railway. Coal bed, Old Etna; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof is sandy shale and floor is clay. Sample dry and weathered; cut from rib in main entry, 400 feet south of mouth, May 8, 1915, by F. R. Clark; represents 2 feet ½ inch of hard, lustrous coal, entire thickness of bed.

22267. Bituminous coal from Whitwell No. 1 (drift) mine of Tennessee Coal, Iron & Railway Co., 1 mile southwest of Whitwell, on Pikeville branch of Nashville, Chattanooga & St. Louis Railway. Coal bed, Sewanee; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof and floor are shale. Sample dry; cut in face of No. 23 south entry, 5,500 feet S. 21° W. of mouth, May 15, 1915, by F. R. Clark; represents 3 feet 4⅛ inches of hard massive coal, entire thickness of bed.

22268. Bituminous coal from Whitwell No. 5 (drift) mine of Tennessee Coal, Iron & Railway Co., 1¼ miles northwest of Whitwell, on Pikeville branch of Nashville, Chattanooga & St. Louis Railway. Coal bed, Sewanee; Carboniferous (Pennsylvanian) age; "Walden sandstone."

TENNESSEE—Continued.

Roof and floor are shale. Sample dry; cut at face of No. 7 north entry off main haulage way, 1,150 feet N. 39° E. of mouth, May 15, 1915, by F. R. Clark; represents 3 feet 5 inches of very hard, massive coal, total thickness of bed.

22269. Bituminous coal from same mine and bed as No. 22268. Sample dry; cut at face of main slope entry, 500 feet north and 2,750 feet N. 21° E. from mouth of main haulage way, May 15, 1915, by F. R. Clark; represents 3 feet 3 inches of hard, bedded coal, total thickness of bed.

22270. Bituminous coal from same mine and bed as No. 22268. Sample dry; cut at face of No. 4 north entry off main haulage way, 1,850 feet N. 39° E. of mouth, May 15, 1915, by F. R. Clark; represents 3 feet 3 inches of extra hard, massive coal, total thickness of bed.

22271. Composite of samples 22267 to 22270, inclusive.

22370. Bituminous coal from Long Ridge (drift) mine of Tennessee Consolidated Coal Co., 7 miles east of Tracy City, on Tracy City branch of Nashville, Chattanooga & St. Louis Railway. Coal bed, Sewanee; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof is shale and floor is clay. Sample damp and slightly weathered; cut at face of main entry, 250 feet S. 45° E. of mouth, May 18, 1915, by F. R. Clark; represents 3 feet 3 inches of hard, massive coal, entire thickness of bed.

22398. Bituminous coal from Pryor Ridge No. 1 (drift) mine of Tennessee Consolidated Coal Co., 5½ miles east of Tracy City, on Tracy City branch of Nashville, Chattanooga & St. Louis Railway. Coal bed, Sewanee; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof and floor are shale. Sample dry; cut at face of room 6 off Thompson entry off left main entry, 1,200 feet N. 10° E. of mouth, May 18, 1915, by F. R. Clark; represents 3 feet 6 inches of soft, glossy coal, entire thickness of bed.

22399. Bituminous coal from same mine and bed as No. 22398. Sample dry; cut at face of No. 4 right entry off No. 5 right entry off left main entry, 2,700 feet east of mouth, May 18, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Clay, soft		½
Coal, soft and laminated (sampled)		8
Coal, massive and hard (sampled)	4	0
	4	8½

22400. Bituminous coal from same mine and bed as No. 22398. Sample dry; cut at face of No. 5 right entry off right main entry, 1,800 feet N. 45° W. of mouth, May 18, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and hard (sampled)	3	11½
Rash		½
	4	0

22401. Bituminous coal from same mine and bed as No. 22398. Sample dry; cut from stump No. 20 off No. 5 left entry off right main entry, 1,900 feet S. 80° W. of mouth, May 18, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated (sampled)		3
Mineral charcoal (sampled)		1
Coal, laminated (sampled)		6
Coal, massive and hard (sampled)	2	0
Coal, soft and laminated (sampled)	1	0
Coal, massive and very hard (sampled)	1	3
	5	1

22402. Composite of samples 22398 to 22401, inclusive.

MORGAN COUNTY.

21083. Bituminous coal (weathered) from Frozen Head (drift) mine, formerly operated by State of Tennessee, 1½ miles north of Petros, at terminus of Harriman & Northeastern Railroad. Coal bed, Frozen Head; Carboniferous (Pennsylvanian) age; Scott shale (?). Roof is shale and floor is fire clay. Sample dry and slightly weathered; cut from rib on main

TENNESSEE—Continued.

entry, 900 feet north of mouth, February 18, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and laminated (sampled)		6
Clay and rash interbedded		2
Coal, bright and laminated (sampled)	1	2
Coal, dull, very hard, and splint-like (sampled)		6
Coal, massive, bright, and very hard (sampled)	1	0
Coal, rashy (sampled)		1
Clay and coal lenses interbedded		1½
Rash and coal lenses interbedded		4
Clay		1
Coal, bright and hard		4
	4	3½

21084. Bituminous coal from Little Brushy (drift) mine of Little Brushy Coal Co., half a mile southwest of Stephens, on Harriman & Northeastern Railroad. Coal bed, Jellico; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is sandy shale and floor is sandstone. Sample wet; cut at mouth of room 12 off No. 1 entry, 2,600 feet S. 43° W. of mouth, February 20, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated, with thin bands of sulphur (sampled)	1	1
Coal, bright and slightly laminated (sampled)	1	7½
	2	8½

21085. Bituminous coal from same mine and bed as No. 21084. Sample damp; cut from face of dip entry, 2,600 feet S. 43° W. of mouth, February 20, 1915, by F. R. Clark; represents 2 feet 11 inches of bedded coal, locally containing thin bands of sulphur, entire thickness of bed.

21086. Bituminous coal from same mine and bed as No. 21084. Sample wet; cut in mouth of room 4 off main entry of new opening, 2,650 feet S. 43° W. of mouth of old opening, February 20, 1915, by F. R. Clark; represents 2 feet 10 inches of bedded coal, containing thin lenses of sulphur, entire thickness of bed.

21087. Composite of samples 21084 to 21086, inclusive.

21088. Bituminous coal from the Petros No. 5 (drift) mine of Petros Coal Mining Co., 1 mile east of Petros, at terminus of Harriman & Northeastern Railroad. Coal bed, Jellico; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is sandy shale and floor is shale. Sample dry; cut at face of No. 2 right entry, 2,000 feet east-southeast of mouth, February 19, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal (sampled)		6
Coal, rashy (sampled)		1
Coal, massive (sampled)		6¾
Sulphur kidney		¼
Coal, massive (sampled)	1	5
	2	7

21089. Bituminous coal from same mine and bed as No. 21088. Sample dry; cut at face of No. 3 left entry, 2,500 feet north of mouth, February 19, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated (sampled)	1	0
Coal, massive and hard (sampled)	1	4
Coal, rashy (sampled)		1
Coal, massive and hard (sampled)	1	1
	3	6

21090. Bituminous coal from same mine and bed as No. 21088. Sample dry; cut at face of No. 4 entry, 2,500 feet north-northeast of mouth, February 19, 1915, by F. R. Clark; represents 2 feet 4 inches of bedded coal, containing thin lenses of sulphur, total thickness of bed.

21091. A composite of samples 21088 to 21090, inclusive.

21092. Bituminous coal from State No. 3 (drift) mine, operated by State of Tennessee, 1 mile north of Petros, at terminus of Harriman & Northeastern Railroad. Coal bed, Jellico; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is sandy shale and sandstone and floor is clay. Sample dry; cut at face of No. 15

TENNESSEE—Continued.

cross entry, 3,500 feet N. 55° W. of main entry, February 18, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated, containing thin lenses of sulphur (sampled)		9
Mineral charcoal (sampled)		1
Coal, massive and hard, locally containing thin streaks of mineral charcoal (sampled)	1	10
Rash		2
	2	10

21093. Bituminous coal from same mine and bed as No. 21092. Sample dry; cut at face of No. 9 cross entry, 3,800 feet N. 55° W. of main entry, February 18, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal (sampled)		1¾
Mineral charcoal (sampled)		1
Coal, laminated (sampled)		6¼
Mineral charcoal (sampled)		2
Coal, massive (sampled)	1	5
Coal, containing thin lenses of mineral charcoal (sampled)		5
Coal, massive, containing lenses of mineral charcoal (sampled)	1	5
	4	2

21094. Bituminous coal from same mine and bed as No. 21092. Sample dry; cut at face of No. 8 cross entry, 4,500 feet S. 55° E. of main entry, February 17, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, containing lenses of sulphur (sampled)		4
Coal, slightly laminated (sampled)	1	10
Coal, containing bands of mineral charcoal (sampled)		5
	2	7

21095. Bituminous coal from same mine and bed as No. 21092. Sample dry; cut at face of No. 12 cross entry, 4,400 feet S. 55° E. of main entry, February 17, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and hard (sampled)		8
Coal, soft (sampled)		2
Coal, massive and hard (sampled)		8
Mineral charcoal (sampled)		½
Coal, laminated (sampled)		6
Coal, massive and hard (sampled)	1	8
	3	8½

21096. A composite of samples 21092 to 21095, inclusive.

21099. Bituminous coal from Slope mine of Conger Coal Co., 1½ miles northeast of Coalfield, on Harriman & Northeastern Railroad. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Sample wet; cut at mouth of No. 1 east entry, 250 feet northeast of slope mouth, February 22, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and laminated (sampled)		9½
Coal, bright and very hard (sampled)	1	1
Coal, bright and massive (sampled)	1	5½
Rash (sampled)		¼
Coal, massive (sampled)	1	2½
Coal (reported)		4
	4	10¾

21100. Bituminous coal from the Conger or Old Baker (drift) mine of Conger Coal Co., 1½ miles northeast of Coalfield, on Harriman & Northeastern Railroad. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is sandy shale and floor is clay. Sample damp; cut at face of No. 2 right entry, 1,800 feet northeast of mouth, February 23, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive, bright, and hard (sampled)	3	10
Coal and sulphur lenses interbedded		5
	4	3

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21101. Bituminous coal from same mine and bed as No. 21100. Sample dry; cut at face of No. 6 right entry, 2,000 feet northeast of mouth, February 23, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Shale and lenses of coal interbedded		2
Coal, laminated (sampled)	2	4
Coal, very soft (sampled)		6
Sulphur kidney		½
Coal, hard and massive (sampled)		8½
Coal and sulphur lenses interbedded		2
	3	11

21102. Bituminous coal from same mine and bed as No. 21100. Sample dry; cut at face of No. 8 right entry, 2,000 feet northeast of mouth, February 23, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Shale, coal, and sulphur lenses interbedded		2
Coal, soft and bright (sampled)		11
Coal, bright and hard (sampled)		7
Sulphur and coal interbedded		1
Coal, containing thin lenses of sulphur (sampled)	1	10
Coal and sulphur lenses interbedded		2
	3	9

21103. A composite of samples 21100 to 21102, inclusive.

21104. Bituminous coal from Bowing (drift) mine of Coalfield Coal Co., 1½ miles northeast of Coalfield, on Harriman & Northeastern Railroad. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is shale and floor is sandy shale. Sample dry; cut in No. 6 left entry, off No. 1 entry, 2,400 feet N. 30° W. of mouth, February 22, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and hard (sampled)	1	2
Coal, containing lenses of sulphur (sampled)		10
Clay, containing bands of coal		3
Clay		4
Coal, bright and soft (sampled)	1	8
	4	3

21105. Bituminous coal from same mine and bed as No. 21104. Sample damp and rib weathered; cut in main Fisher entry, 600 feet northeast of mouth, February 22, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, containing sulphur kidneys (sampled)		8½
Coal, rashy (sampled)		1
Coal, massive, containing some sulphur kidneys (sampled)	2	½
Clay, containing bands of coal		5
Coal (sampled)		11
Coal (reported)	1	0
	5	2

21106. Composite of samples 21104 and 21105.

21145. Bituminous coal from Coal Cut (drift) mine of J. A. Fagan, at Bluegem siding, on Harriman & Northeastern Railroad. Coal bed, Blue Gem; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is shale or sandy shale and floor is clay. Sample dry and rib weathered; cut in main entry 250 feet east of mouth February 26, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, hard and bright (sampled)		9½
Rash and clay		½
Coal, bright and hard (sampled)		8½
Rash and clay		2
	1	8½

21146. Bituminous coal from Thornton (drift) mine of John Thornton, 1¼ miles southeast of Coalfield, on Harriman & Northeastern Railroad. Coal bed, Blue Gem; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is shale and floor is clay. Sample wet and weathered; cut at face of No. 1 left entry, 100 feet north and 50 feet west from mouth, Feb-

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ruary 26, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, blocky		9
Clay		2
Coal, badly crushed and mixed with clay		4
Coal, hard, bright, and massive (sampled)	2	3
	3	6

21147. Bituminous coal from Davis (wagon drift) mine of H. H. Davis, three-fourths of a mile west of Coalfield, on Harriman & Northeastern Railroad. Coal bed, Coal Creek (?); Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is sandy shale and floor is clay. Sample damp; cut in first right entry 200 feet east of main entry February 25, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and hard (sampled)	1	7
Clay with bands of rash interbedded	1	2
Coal (sampled)		11
Clay		11
Coal (sampled)		10
	5	5

21148. Bituminous coal (weathered) from Summers (wagon drift) mine, 8 miles east of Lancing, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, no name; Carboniferous (Pennsylvanian) age; Wartburg sandstone. Roof is sandstone and floor is clay. Sample wet; cut at face of main entry, 230 feet S. 30° E. of mouth, February 25, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and blocky (sampled)		10
Rash and clay interbedded		4
Coal, massive and blocky (sampled)	2	2
	3	4

21149. Bituminous coal (weathered) from Laymance (wagon drift) mine, 5 miles west of Stephens's switch, on Harriman & Northeastern Railroad. Coal bed, no name; Carboniferous (Pennsylvanian) age; Wartburg sandstone. Roof is sandy shale and floor is clay. Sample wet and weathered; cut from rib in main entry 200 feet south of mouth February 24, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, soft and laminated (sampled)		8
Coal, hard and massive (sampled)	2	6
	3	2

21150. Bituminous coal from Bottomlee (drift) mine of L. M. Bottomlee, 2 miles west-southwest of Bluegem siding, on Harriman & Northeastern Railroad. Coal bed, Blue Gem; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is sandy shale and floor is clay. Sample dry; cut in face of No. 1 right entry, 650 feet west of mouth, February 26, 1915, by F. R. Clark; represents 2 feet of hard, massive coal, entire thickness of bed.

21151. Bituminous coal (weathered) from Grassy Ridge (drift mine) of Chattanooga Gas Co., 1½ miles west of Christmas siding, on Harriman & Northeastern Railroad. Coal bed, Grassy Ridge; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof is sandy shale and floor is clay. Sample dry and weathered; cut from rib in main entry of new opening, 250 feet north of mouth, February 27, 1915, by F. R. Clark; represents 2 feet 1½ inches of hard, massive coal, total thickness of bed.

21152. Bituminous coal (weathered) from Harriman (slope) mine of Chattanooga Gas Co., half a mile west of Christmas siding, on Harriman & Northeastern Railroad. Coal bed, Hooper; Carboniferous age; formation not identified. Roof is sandy shale and floor is clay. Sample wet and rib weathered; cut from rib in main slope, 50 feet south of mouth, February 27, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash and coal interbedded		3
Coal, hard and massive (sampled)	3	10
	4	1

TENNESSEE—Continued.

21153. Bituminous coal (weathered) from Smith (wagon drift) mine, a quarter of a mile south of Christmas siding, on Harriman & Northeastern Railroad. Coal bed, Hooper (?); Carboniferous age; formation not identified. Roof is sandy shale and floor is clay. Sample wet; cut from rib in main entry 100 feet south of mouth, February 27,1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		2
Coal, very bright and hard (sampled)		4
Coal, very dull and very hard (sampled)		1½
Coal, bright, hard, and massive (sampled)		11½
Rash		2
	1	9

21412. Bituminous coal from Prudential (drift) mine of Prudential Coal Mining Co., 3½ miles northwest of Oliver Springs, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is shale and sandy shale and floor is clay. Sample damp; cut at face of No. 13 left entry, 850 feet north and 2,300 feet northwest from mouth, March 9, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated (sampled)		3
Coal, soft and badly crushed (sampled)		10
Coal, massive (sampled)	2	1
	3	2

21413. Bituminous coal from same mine and bed as No. 21412. Sample dry; cut at face of No. 12 left entry, 850 feet north and 2,000 feet northwest from mouth, March 9, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash and sulphur lenses interbedded		1½
Coal, soft and badly crushed (sampled)	3	8½
	3	10

21414. Bituminous coal from same mine and bed as No. 21412. Sample dry; cut at face of No. 11 left entry, 850 feet north and 1,800 feet northwest from mouth, March 9, 1915, by F. R. Clark; represents 4 feet 4 inches of soft and badly crushed coal, total thickness of bed.

21415. Composite of samples 21412 to 21414, inclusive.

21416. Bituminous coal from Richards (drift) mine of Middle Creek Coal Co., 3 miles northwest of Oliver Springs, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is shale and sandy shale and floor is clay. Sample damp; cut at face of main face entry, March 9, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated, containing thin bands of sulphur (sampled)	1	8
Coal, very dull and hard (sampled)		4
Coal, massive and badly crushed (sampled)	2	5
	4	5

21417. Bituminous coal from same mine and bed as No. 21416. Sample dry; cut at face of main entry, March 9, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash, coal, and sulphur lenses interbedded	1	2
Coal, containing lenses of sulphur (sampled)		10
Coal, badly crushed (sampled)	1	4
Sulphur kidney		3
Coal, crushed (sampled)	1	8½
Sulphur kidney		1
Coal, hard and massive (sampled)	3	6
	8	10½

21418. Composite of samples 21416 and 21417.

TENNESSEE—Continued.

21419. Bituminous coal from Williams (wagon drift) mine, operated by James Williams, 1½ miles north-northwest of Oliver Springs, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is shale and floor is clay. Sample cut in main entry 100 feet west of mouth, March 10, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal and rash interbedded (sampled)		5
Coal, bright, hard, and blocky (sampled)	2	6
Rash		10
	3	9

21420. Bituminous coal from Levan (wagon drift) mine, operated by W. H. Levan, 1½ miles west-northwest of Oliver Springs, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Old Eagle; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is shale and floor is clay. Sample dry; cut at face of Butt entry, 250 feet north of mouth, March 10, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal and rash interbedded		5
Coal, very hard, massive, and blocky (sampled)	1	10
Coal and rash interbedded		3
	2	6

21421. Bituminous coal from Old Mount Carbon (drift) mine, operated by John Roddy, 2¼ miles north-northwest of Oliver Springs, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is shale and floor is clay. Sample dry but shows no appreciable weathering after about 14 years' exposure to the mine air; cut in main entry, 75 feet east of mouth, March 10, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash and coal interbedded		2
Coal, bright, massive, and splint-like (sampled)	2	8
	2	10

22422. Bituminous coal from Signal Mountain (drift) mine of Signal Mountain Coal Co., 2½ miles north-northwest of Oliver Springs, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is shale and floor is clay. Sample dry; cut at face of main entry, 250 feet north of mouth, March 10, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal with thin bands of sulphur interbedded (sampled)		7
Coal, massive, bright, and hard (sampled)	2	0
	2	7

21423. Bituminous coal from Poplar Creek (drift) mine of Butler & Denton, 4 miles north-northwest of Oliver Springs, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is sandy shale and floor is clay. Sample dry and rib weathered; cut from rib in main entry 400 feet north of mouth March 10, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bedded, containing some rash (sampled)		7
Clay		2
Coal, soft and bedded (sampled)		7½
Sulphur kidney		½
Coal, massive and hard (sampled)	2	8
	4	1

21424. Bituminous coal from Big Mountain (drift) mine of Big Mountain Coal Co., 3¾ miles north-northwest of Oliver Springs, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Coal Creek; Carboniferous (Penn-

TENNESSEE—Continued.

sylvanian) age; Briceville shale. Sample dry and possibly slightly weathered; cut from rib in main entry, 300 feet north of mouth, March 10, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash and coal interbedded		1
Coal, massive and blocky (sampled)		6
Clay		3
Coal, massive and blocky (sampled)	2	7
Coal (under water)		4
	3	9

21425. Bituminous coal from Reed (drift) mine of Oliver Springs Coal & Clay Co., 1 mile west-northwest of Oliver Springs, on Southern Railway and Louisville & Nashville Railroad. Coal bed, not identified; Carboniferous (Pennsylvanian) age; Lee (?) formation. Roof is shale and floor is fire clay. Sample dry; cut at face of No. 2 right entry, 800 feet north and 500 feet east from mouth, March 10, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, containing thin bands of rash and sulphur (sampled)		4
Coal, massive and hard (sampled)	1	6
	1	10

21426. Bituminous coal from Jackson (drift) mine of Jackson Coal Co., 1¼ miles northwest of Oliver Springs, on Southern Railway and Louisville & Nashville Railroad. Coal bed, Coal Creek; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is shale and sandy shale and floor is clay. Sample dry and possibly slightly weathered; cut from rib in main entry 400 feet northwest of mouth March 9, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, containing some rash		2½
Coal, massive, very hard, and flinty (sampled)	2	0
Coal, soft and badly crushed (sampled)		10
	3	½

21428. Bituminous coal from Catoosa (drift) mine of Tennessee Timber, Coal & Iron Co., 3 miles west-southwest of Nemo, a station on the Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, Walden Ridge; Carboniferous (Pennsylvanian) age; Lee (?) formation. Roof is sandy shale and floor is clay and sandy shale. Sample dry and possibly slightly weathered; cut at face of room 2 off No. 1 right entry, 75 feet north of mouth, March 8, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in
Coal		1
Rash and shale intermixed		5
Coal, soft and crushed (sampled)	2	2
	2	8

OVERTON COUNTY.

20978. Bituminous coal from Overton (drift) mine of Overton Coal & Coke Co., 2½ miles northwest of Highland Junction, on Crawford branch of Tennessee Central Railroad. Coal bed, Bon Air No. 2; Carboniferous (Pennsylvanian) age; Lee formation. Roof is sandy shale and floor is shale. Sample damp; cut at face of main straight entry, 460 feet southwest of mouth, February 10, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal		3
Sulphur kidney		1½
Coal (sampled)		7½
Coal, impure, containing sulphur kidneys		1
Coal, massive (sampled)	3	6½
	4	7½

20979. Bituminous coal from same mine and bed as No. 20978. Sample damp; cut at face of main entry, 1,200 feet N. 20° W. of mouth, February 10, 1915, by

TENNESSEE—Continued.

F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, interbedded with bands of shale		3
Coal, laminated, containing thin lenses of sulphur (sampled)	1	0
Coal, impure (sampled)		1
Coal, massive (sampled)	3	6
	4	10

20980. Bituminous coal from same mine and bed as No. 20978. Sample damp and rib weathered; cut in No. 1 left entry, 500 feet from mouth, February 10, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, containing thin bands of shale		2
Coal (sampled)	1	1
Sulphur kidney		2
Coal, massive (sampled)	3	4
	4	9

20981. Composite of samples 20978 to 20980, inclusive.

20991. Bituminous coal from Obey River (drift) mine of Obey River Coal Co., half a mile east of Obey City station, on Crawford branch of Tennessee Central Railroad. Coal bed, Bon Air No. 2; Carboniferous (Pennsylvanian) age; Lee (?) formation. Roof is sandy shale and floor is shale. Sample dry and rib weathered; cut at face of cross entry, off No. 1 left entry, 500 feet northeast of mouth, February 11, 1915, by F. R. Clark. The mine was not in operation at the time the sample was taken. Section of bed at point sampled is as follows:

	Ft.	in.
Coal (sampled)	2	4½
Rash		5
	2	9½

20992. Bituminous coal from Peacock (drift) mine of Peacock Coal Co., one-eighth mile west of Obey City station, on Crawford branch of Tennessee Central Railroad. Coal bed, Bon Air No. 2; Carboniferous (Pennsylvanian) age; Lee (?) formation. Roof is sandstone and floor is shale. Sample dry and fresh; cut at face of cross entry off No. 1 right entry, 1,000 feet southwest of mouth, February 11, 1915, by F. R. Clark; represents 2 feet 6 inches of massive coal, entire thickness of bed.

PUTNAM COUNTY.

20990. Bituminous coal from Monterey (drift) mine, operated by R. E. Hodge, 2 miles north of Monterey, on Tennessee Central Railroad. Coal bed, Bon Air No. 2; Carboniferous (Pennsylvanian) age; Bonair sandstone. Sample damp; cut at face of main entry, 200 feet south of drift mouth, February 12, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated (sampled)		9½
Coal, locally containing sulphur kidneys (sampled)		1
Coal, laminated (sampled)	1	4
Sulphur kidney		1½
Coal (sampled)	1	6½
Rash		5
	4	3½

RHEA COUNTY.

22158. Bituminous coal from Montague No. 6 (slope) mine of Durham Coal & Iron Co., 2 miles north of Graysville, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, Nelson (lower bench); Carboniferous (Pennsylvanian) age; Lookout sandstone. Roof and floor sandstone. Sample dry; cut in face of room 1 off main entry, 400 feet west of mouth, May 1, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Shale		2
Coal, steel-gray, very hard, and brittle (sampled)	2	7
	2	9

22159. Bituminous coal from Montague No. 1 (drift) mine of Durham Coal & Iron Co., 2⅛ miles north of Graysville, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, Nelson (top bench); Carboniferous (Pennsylvanian) age; Look-

TENNESSEE—Continued.

out sandstone. Roof is sandy shale and floor is sandstone. Sample dry; cut from air-course pillar off No. 2 haulage off No. 1 main entry, May 1, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		2
Clay		1
Rash		3
Coal, badly crushed and contorted (sampled)	2	4
	2	10

22165. Bituminous coal from same mine and bed as No. 22159. Sample dry; cut from chain pillar off main entry May 1, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Clay		4
Rash		2
Coal, impure and badly crushed (sampled)		7
Shale		1
Coal, steel-gray and badly crushed (sampled)	2	7
	3	9

22180. Bituminous coal from Montague No. 3 (drift) mine of Durham Coal & Iron Co., 2½ miles north of Graysville, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, Sewanee; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof and floor are sandy shale. Sample dry; cut at face of No. 8 right entry, 3,200 feet N. 20° E. and 500 feet S. 70° E. from mouth, April 30, 1915, by F. R. Clark. Sample represents 1 foot 10 inches of laminated and lustrous coal, entire thickness of bed.

22181. Bituminous coal from Montague No. 5-A (drift) mine of Durham Coal & Iron Co., 2⅝ miles north of Graysville, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, Sewanee; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof and floor are sandstone. Sample dry; cut at face of No. 2 right entry, 600 feet east of mouth, April 30, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal and rash interbedded		3
Coal, badly crushed (sampled)	3	4
Rash	1	0
	4	7

22182. Bituminous coal from same mine and bed as No. 22181. Sample dry; cut at face of No. 2 left entry, 1,200 feet north of mouth, April 30, 1915, by F. R. Clark; represents 2 feet 11 inches of lustrous, badly crushed coal, total thickness of bed.

22183. Bituminous coal from Montague No. 5-B (drift) mine of Durham Coal & Iron Co., 2¾ miles north of Graysville. Coal bed, Sewanee; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof is sandy shale and floor is sandstone. Sample dry; cut from pillar off No. 1 right entry, 600 feet south of mouth, April 30, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Clay		2
Coal, laminated and crushed (sampled)	2	11½
Rash		2
	3	3½

22184. Composite of samples 22180 to 22183, inclusive.

ROANE COUNTY.

21015.[1] Bituminous coal from Rockwood (slope) mine of Knox Mining Co., three-quarters of a mile west of Rockwood station, on Tennessee Central Railroad. Coal bed, Sewanee; Carboniferous (Pennsylvanian) age; "Walden sandstone" (?). Roof is shale and floor is clay. Sample dry; cut in Bill Mahorn's place off No. 2 entry, 10,500 feet northwest of mouth, February 15, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

[1] Owing to the crushed condition of the coal in the Rockwood mine the ash varies greatly, ranging from about 9 per cent where there is little admixture of foreign material to over 20 per cent where the shale is intimately mixed with the coal.

TENNESSEE—Continued.

	Ft.	in.
Coal, crushed (sampled)		6
Shale		¼
Coal, badly crushed (sampled)	1	6¾
Shale and coal intermixed		4
Coal, badly crushed (sampled)	2	6
	4	11

21016. Bituminous coal from same mine and bed as No. 21015. Sample dry; cut at face of Lee McNeil's place, 10,500 feet N. 20° W. of mouth, February 15, 1915, by F. R. Clark. Sample represents 3 feet of soft and badly crushed coal, total thickness of bed.

21017. Bituminous coal from same mine and bed as No. 21015. Sample dry; cut at face of John Long's place off No. 9 entry, 11,500 feet N. 15° E. of mouth, February 15, 1915, by F. R. Clark; represents 4 feet 10 inches of soft and badly crushed coal, total thickness of bed.

21018. Bituminous coal from same mine and bed as No. 21015. Sample dry; cut at face of W. T. Acuff's place off No. 10 entry, 6,500 feet north of mouth, February 15, 1915, by F. R. Clark; represents 4 feet ½ inch of soft and badly crushed coal, total thickness of bed.

21023.[1] Bituminous coal from McLean (slope) mine of Knox Mining Co., three-quarters of a mile south of McLean siding, on Tennessee Central Railroad. Coal bed, Sewanee; Carboniferous (Pennsylvanian) age; "Walden sandstone" (?). Roof is shale and floor is clay. Sample cut at face of Sam Day's place, 3,000 feet N. 70° W. of mouth, February 13, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash and carbonaceous shale		6
Coal, rashy and badly crushed (sampled)	4	3
	4	9

21024. Bituminous coal from same mine and bed as No. 21023. Sample dry; cut at face of Hartberger's place, 700 feet northwest of mouth, February 13, 1915, by F. R. Clark; represents 4 feet of soft, crushed coal, total thickness of bed.

21082. Bituminous coal from Walden Ridge (slope) mine of E. F. Blizzard, 2 miles northeast of Harriman, on Southern Railway. Coal bed, Walden Ridge; Carboniferous (Pennsylvanian) age; Lookout sandstone. Roof is sandy shale and floor is clay. Sample damp; cut at face of room 1 off No. 1 right entry, 300 feet north of mouth, February 16, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		2
Coal, massive and hard (sampled)	2	6
	2	8

SCOTT COUNTY.

21154. Bituminous coal from Phillips (drift) mine of Virginia Mining Co., 3 miles west of Bear Creek Junction, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, No. 4; Carboniferous age; formation not identified. Roof is shale and floor is clay. Sample dry; cut at face of room 17 off No. 2 right entry, 600 feet west and 1,100 feet north from mouth, March 1, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bedded and hard (sampled)	1	0
Bone	1	1
Coal, massive and hard (sampled)	1	5
	3	6

21155. Bituminous coal from same mine and bed as No. 21154. Sample dry; cut at mouth of No. 6 right entry off main entry, 1,800 feet west of mouth, March 1, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated and hard (sampled)	1	0
Bone		11
Coal, massive and hard (sampled)	1	7
	3	6

[1] Owing to the crushed condition of the coal in the McLean mine the ash varies greatly, ranging from about 9 per cent where there is little admixture of foreign material to over 20 per cent where the shale is intimately mixed with the coal.

TENNESSEE—Continued.

21156. Composite of samples 21154 and 21155.

21219. Bituminous coal from Wilson (drift) mine of Virginia Mining Co., 3 miles west of Bear Creek Junction, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, No. 4; Carboniferous age; formation not identified. Roof is shale and floor is clay. Sample dry; cut at face of room 7 off No. 4 south entry, 200 feet west and 600 feet south from mouth, March 1, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated and hard (sampled)	1	2
Bone and coal interbedded		9
Coal, massive and hard (sampled)	1	5
Rash, coal, and sulphur lenses		2
	3	6

21220. Bituminous coal from same mine and bed as No. 21219. Sample dry; cut at face of room 10 off No. 1 north entry, 700 feet north of mouth, March 1, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated and hard (sampled)	1	7
Shale, containing thin lenses of coal	1	3
Bone		5
Coal, massive and hard (sampled)	1	7
	4	10

21221. Composite of samples 21219 and 21220.

21218. Sample taken from a railroad car of slack coal from the Phillips and Wilson mines, which had been run through the coal washer for the purpose of removing the impurities.

21222. Bituminous coal from Cross (wagon drift) mine of W. A. Cross, at Cross's crossing, on Tennessee Railway. Coal bed, Paint Rock; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is shale and floor is clay. Sample damp; cut at face of main entry, 100 feet northwest of mouth, March 4, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and soft (sampled)		5
Coal, very dull and very hard (sampled)		3
Coal, massive, bright, and hard (sampled)	1	0
	1	8

21223. Bituminous coal from Opossum Jaw (drift) mine of George Chambers, half a mile south of Jakes Tank station, on Tennessee Railway. Coal bed, Paint Rock (?); Carboniferous (Pennsylvanian) age; Briceville shale. Roof is shale and floor is clay. Sample damp and weathered; cut at face of room No. 2 (right) off main entry, 100 feet south and 25 feet west from mouth, March 3, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, rashy (sampled)		2
Coal, massive and hard (sampled)	1	6
	1	8

21224. Bituminous coal from Sexton (drift) mine of Sexton Bros., 1,000 feet southeast of Stanley Junction station, on Tennessee Railway. Coal bed, Paint Rock; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is sandy shale and floor is clay. Sample cut at face of main entry, 200 feet northeast of mouth, March 4, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Bone and shale interbedded		9
Coal, bright and soft (sampled)		4
Coal, very dull and very hard (sampled)		2
Coal, massive, bright, and hard (sampled)	1	10
	3	1

21225. Bituminous coal from Pumpkin Hollow (drift) mine of Archie McDonald, one-fourth of a mile northwest of Jakes Tank station, on Tennessee Railway. Coal bed, Paint Rock; Carboniferous (Pennsylvanian) age; Briceville shale. Sample dry and possibly slightly weathered; cut from rib in main entry, 250 feet

TENNESSEE—Continued.

west of mouth, March 4, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Shale, containing thin lenses of coal		4
Coal, bright and soft (sampled)		4
Coal, very dull and very hard (sampled)		2
Coal, massive, bright, and hard (sampled)	1	9
	2	7

21226. Bituminous coal from Jakes Branch (drift) mine of Archie McDonald, one-fourth of a mile west of Jakes Tank station, on Tennessee Railway. [Coal bed, Paint Rock; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is sandy shale and floor is clay. Sample dry and rib weathered; cut from rib on No. 2 right entry, 300 feet from mouth, March 3, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and soft (sampled)		5
Coal, very dull and very hard (sampled)		3
Coal, bright, massive, and hard (sampled)	1	2
	1	10

21227. Bituminous coal from Keaton (drift) mine of Keaton Bros., 1,000 feet northwest of Stanley Junction station, on Tennessee Railway. Coal bed, Paint Rock; Carboniferous (Pennsylvanian) age; Briceville shale. Sample cut in main entry, 200 feet south-southwest of mouth, March 4, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Shale, containing thin lenses of coal	1	2
Coal, bright and soft (sampled)		6
Coal, very dull and very hard (sampled)		1
Coal, massive, bright, and hard (sampled)	1	9
	3	6

21228. Bituminous coal from Clay No. 1 (drift) mine of Southern Clay Manufacturing Co., 1 mile south of Robbins, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, Blue Gem (?); Carboniferous (Pennsylvanian) age; Wartburg sandstone (?). Roof is shale and floor is fire clay. Sample dry; cut at face of main entry, 1,000 feet south of mouth, March 5, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash		5
Coal, bright and massive (sampled)	1	5
Clay		1
Coal, bright (sampled)		4
	2	3

21229. Bituminous coal from Hughett (wagon drift) mine of Jasper Hughett, half a mile south of Robbins, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, Blue Gem (?); Carboniferous (Pennsylvanian) age; Wartburg (?) sandstone. Sample dry; cut at face of main entry, 300 feet east of mouth, March 5, 1915, by F. R. Clark; represents 1 foot 1 inch of hard, massive coal, total thickness of bed.

21272. Bituminous coal from Arch Mountain (drift) mine of Baker Coal & Coke Co., 1,500 feet west of Newland station, on Tennessee Railway. Coal bed, Jellico; Carboniferous (Pennsylvanian) age; Briceville shale. Roof is sandy shale and floor is clay. Sample dry; cut at face of No. 2 left entry, 300 feet southwest, 270 feet northwest, and 140 feet southwest from mouth, March 2, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive	1	4
Shale, with thin lenses of coal interbedded		7
Coal, massive (sampled)	1	4
	3	3

21314. Bituminous coal (weathered) from Hughett (drift) prospect of James Chambers, 8 miles southeast of Robbins, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, Mud Slip;

TENNESSEE—Continued.

Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is shale and floor is clay. Sample wet; cut from face of entry, 25 feet west of mouth, March 6, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, soft and laminated (sampled)		7
Coal, massive (sampled)	2	9
	3	4

21315. Bituminous coal (weathered) from Newman (drift) prospect of Newman & Walker, 6 miles south-southeast of Robbins, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, no name; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is shale and floor is clay. Sample damp; cut at face of main entry, 200 feet south of mouth, March 6, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive and blocky (sampled)	1	8
Shale	1	5
Coal, bedded, containing some rash (sampled)	1	0
Coal, massive and blocky (sampled)	2	2
	6	3

21316. Bituminous coal (weathered) from drift prospect of Will Long, 6 miles southeast of Robbins, on Cincinnati, New Orleans & Texas Pacific Railway. Coal bed, not identified; Carboniferous (Pennsylvanian) age; Briceville shale (?). Roof is shale and floor is clay. Sample cut at face of entry, 20 feet north of mouth, March 6, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Rash and coal interbedded		4
Coal, massive (sampled)	2	0
	2	4

SEQUATCHIE COUNTY.

22239. Bituminous coal from Douglas No. 2 (drift) mine of Chattanooga Iron & Coal Co., 2 miles west of Dunlap, on Pikeville branch of Nashville, Chattanooga & St. Louis Railway. Coal bed, Sewanee; Carboniferous (Pennsylvanian) age; "Walden sandstone." Roof is shale and sandy shale and floor is shale. Sample dry; cut at face of No. 9 north entry off No. 22 west entry, 4,500 feet N. 9° W., 2,350 feet S. 19° W., and 1,600 feet N. 9° W. from mouth, May 12, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated, containing some rash (sampled)	1	1
Coal, lustrous and contorted (sampled)	4	3
Shale and bone		1
Coal		2
	5	7

22240. Bituminous coal from same mine and bed as No. 22239. Sample cut at face of No. 6 north entry off No. 22 west entry, 4,500 feet N. 9° W., 1,675 feet S. 19° W., and 1,800 feet N. 9° W. from mouth, May 12, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and laminated (sampled)		7
Coal, dull, steel-gray, and hard (sampled)	1	0
Coal, lustrous and soft (sampled)		6
Rash and coal interbedded		4
Coal, soft and laminated (sampled)		10
	3	3

22241. Bituminous coal from same mine and bed as No. 22239. Sample dry; cut in room 32 off No. 10 north off No. 22 west entry, 4,500 feet N. 9° W., 2,400 feet S. 19° W., and 1,300 feet N. 9° W. from mouth, May 12, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Shale, carbonaceous		2
Coal, rashy, containing thin bands of mineral charcoal (sampled)		4
Coal, very bright, containing bands of dull coal (sampled)	3	10
	4	4

22242. Composite of samples 22239 to 22241, inclusive.

TENNESSEE—Continued.

WHITE COUNTY.

22365. Bituminous coal from Bon Air (shaft) mine of Bon Air Coal & Iron Co., 1¾ miles south of Bon Air, on Sparta branch of Nashville, Chattanooga & St. Louis Railway. Coal bed, Bon Air (lower bench); Carboniferous age; formation not identified. Depth of shaft to base of coal bed, 212 feet. Roof and floor are shale. Sample dry; cut at face of main airway, 2,020 feet S. 41° E. of shaft landing, May 24, 1915, by F. R. Clark; represents 2 feet 7 inches of bedded coal, entire thickness of bed.

22366. Bituminous coal from same mine and bed as No. 22365. Sample dry; cut at face of No. 2 east entry, 200 feet S. 41° E. and 900 feet N. 50° E. from shaft landing, May 25, 1915, by F. R. Clark; represents 2 feet 11½ inches of hard, massive coal, total thickness of bed.

22367. Bituminous coal from same mine and bed as No. 22365. Sample dry; cut at face of main west entry, 1,030 feet N. 41° W. and 400 feet N. 13° W. from shaft landing, May 25, 1915, by F. R. Clark; represents 3 feet of hard, massive coal containing thin bands of sulphur, total thickness of bed.

22368. A composite of samples 22365 to 22367, inclusive.

22369. Bituminous coal (rib weathered) from same mine and bed as No. 22365. Sample dry; cut from rib on No. 3 east entry, 200 feet from main face entry, May 24, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous and hard (sampled)		2
Bone		¼
Coal, cannel (sampled)		7
Coal, massive, bright, and very hard (sampled)	2	6
	3	3¼

22393. Bituminous coal from Ravenscroft (shaft) mine of Bon Air Coal & Iron Co., half a mile northeast of Ravenscroft, on Sparta branch of Nashville, Chattanooga & St. Louis Railway. Coal bed, Bon Air (?); Carboniferous age; formation not identified. Roof is sandstone and floor is shale. Depth of shaft to base of coal bed, 178 feet. Sample dry; cut at face of cross entry off Will Marr entry, 1,500 feet northeast of shaft landing, May 25, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, massive, containing thin bands of sulphur (sampled)	4	2
Clay		2
Rash		4
	4	8

22394. Bituminous coal from same mine and bed as No. 22393. Sample dry; cut at face of Kelley entry, 2,000 feet north of shaft landing, May 25, 1915, by F. R. Clark; represents 3 feet 8 inches of hard, massive coal, entire thickness of bed.

22395. Bituminous coal from same mine and bed as No. 22393. Sample dry; cut at face of Campbell entry, 2,700 feet east of shaft landing, May 25, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, lustrous (sampled)		3
Coal, containing thin lenses of sulphur (sampled)	1	5
Sulphur kidney		½
Coal, massive and very hard (sampled)	1	11
Sulphur kidney		½
Coal, massive and very hard (sampled)		10
	4	6

22396. Bituminous coal from same mine and bed as No. 22393. Sample dry; cut in room off new west works, 1,700 feet west of shaft landing, May 25, 1915, by F. R. Clark; represents 4 feet 9 inches of massive coal, containing thin bands of sulphur and mineral charcoal, entire thickness of bed.

22397. Composite of samples 22393 to 22396, inclusive.

22388. Bituminous coal from Clifty No. 1 (drift) mine of Clifty Consolidated Coal Co., a quarter of a mile east of Clifty, at terminus of Sparta branch of

TENNESSEE—Continued.

Nashville, Chattanooga & St. Louis Railway. Coal bed, Sewanee (?); Carboniferous (Pennsylvanian) age; "Walden sandstone" (?). Roof is sandstone and floor is shale. Sample wet; cut at face of No. 1 west entry, 3,450 feet N. 5° W., 3,225 feet N. 86° W., and 3,150 feet west from mouth, May 26, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated (sampled).....		10
Coal, massive and hard (sampled).	1	3
Coal, soft (sampled).....	1	5
	3	6

22389. Bituminous coal from same mine and bed as 22388. Sample dry; cut at face of No. 8 west entry, 3,450 feet N. 5° W., 3,225 feet N. 86° W., 1,750 feet north, and 1,950 feet west from mouth, May 26, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, bright and hard (sampled)...		9
Sulphur.....		½
Coal, bright and very hard (sampled).....	1	6
Sulphur.....		½
Coal, massive and hard (sampled).	1	0
	3	4

22390. Bituminous coal from same mine and bed as No. 22388. Sample wet; cut at face of No. 3 main air course, 3,450 feet N. 5° W., 3,225 feet N. 86° W., 2,150 feet west, and 1,050 feet north from mouth, May 26, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated (sampled).....		7
Coal, massive and hard (sampled).	2	6
	3	1

22391. Bituminous coal from same mine and bed as No. 22388. Sample wet; cut at face of No. 3 west entry, 3,450 feet N. 5° W., 3,225 feet N. 86° W., 2,150 feet west, 425 feet north, and 280 feet west from mouth, May 26, 1915, by F. R. Clark. Section of bed at point sampled is as follows:

	Ft.	in.
Coal, laminated and soft (sampled).		8½
Coal, massive and hard (sampled).	1	0
Sulphur.....		1½
Coal, soft (sampled).....	2	2
	4	0

22392. Composite of samples 22388 to 22391, inclusive.

UTAH.

CARBON COUNTY.

19680. Bituminous coal from Kenilworth (slope) mine of Independent Coal & Coke Co., in NW. ¼ sec. 16, T. 13 S., R. 10 E., three-quarters of a mile north of Kenilworth, at terminus of Kenilworth & Helper Railroad. Coal bed, Aberdeen; Upper Cretaceous age; Mesaverde formation. Roof and floor are coal. Sample cut from face of No. 10 right entry, 2,260 feet N. 30° W., 1,700 feet west, and 790 feet east from mine mouth, July 16, 1914, by F. R. Clark. Section at point sampled is as follows:

	Ft.	in.
Coal..... Thickness not known.		
Coal (sampled).....	6	10
Coal..... Thickness not known.		

19711. Bituminous coal from same mine as No. 19680. Coal bed, Aberdeen; Upper Cretaceous age; Mesaverde formation. Roof and floor are coal. Sample dry; cut in room 7 off No. 9 left entry, 2,200 feet N. 30° W., 1,200 feet north, 530 feet west, and 100 feet S. 37° W. from mine mouth, July 24, 1914, by F. R. Clark; represents 16 feet 2 inches of coal, only partial thickness of bed.

19681. Bituminous coal from same mine as No. 19680. Coal bed, Kenilworth; Upper Cretaceous age; Mesaverde formation. Roof is sandstone and floor is coal. Sample dry; cut from face of main slope, 1,950 feet N. 33° W., 140 feet N. 19° E., 510 feet north, 165 feet west, and 165 feet north from mine mouth, July 16, 1914, by

UTAH—Continued.

F. R. Clark. Section at point sampled is as follows:

	Feet.
Coal	2
Shale, sandy	3
Coal	2
Coal (sampled)	8
Coal.....Thickness not known.	

19712. Bituminous coal from same mine as No. 19680. Coal bed, Kenilworth; Upper Cretaceous age; Mesaverde formation. Roof and floor are coal. Sample dry; cut at face of No. 1 left back entry, 1,930 feet N. 33° W., 150 feet N. 19° E., 455 feet north, 165 feet west, and 300 feet S. 70° W. from mine mouth, July 24, 1914, by F. R. Clark; represents 7 feet of coal, partial thickness of bed. Coal left as floor about 1 foot; thickness of roof coal not determined.

19682. Bituminous coal from same mine as No. 19680. Coal bed, Royal Blue; Upper Cretaceous age; Mesaverde formation. Roof is sandstone and floor is shale. Sample dry; cut from face of No. 1 right entry up new tunnel, 1,930 feet N. 33° W., 140 feet N. 19° W., 290 feet north, and 100 feet east from mine mouth, July 16, 1914, by F. R. Clark; represents 5 feet 7 inches of coal, entire thickness of bed.

19710. Bituminous coal from same mine as No. 19680. Coal bed, Royal Blue; Upper Cretaceous age; Mesaverde formation. Roof and floor are sandstone. Sample wet; cut in room 3 off No. 2 west entry, 350 feet N. 7° W., 250 feet N. 81° W., and 250 feet S. 57° W. from mine mouth, July 24, 1914, by F. R. Clark; represents entire bed. Section at point sampled is as follows:

	Ft.	in.
Coal, soft		8
Coal, dull, hard		2
Coal, bright, hard	1	8
Bone		½
Coal, bright, hard	1	8
Bone		1
Coal, very hard	2	3
	6	6½

19702. Bituminous coal from Aberdeen (wagon drift) mine, in SW. ¼ sec. 10, T. 13 S., R. 10 E., 1½ miles northeast of Kenilworth, at terminus of Kenilworth & Helper Railroad. Coal bed, Aberdeen; Upper Cretaceous age; Mesaverde formation. Roof is sandstone and floor is coal. Sample dry; cut 460 feet west of mine mouth July 23, 1914, by F. R. Clark. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	10	10
Coal	3	4
	14	2

19706. Bituminous coal from Milburn (wagon drift) mine, in SW. ¼ sec. 11, T. 13 S., R. 10 E., 2¼ miles northeast of Kenilworth, at terminus of Kenilworth & Helper Railroad. Coal bed, Kenilworth; Upper Cretaceous age; Mesaverde formation. Sample cut 100 feet N. 55° W. and 90 feet north from mine mouth July 23, 1914, by F. R. Clark. Section at point sampled is as follows:

	Ft.	in.
Shale, brown		9
Coal (sampled)	6	4
Coal	4	10
	11	11

19843. Bituminous coal from Castlegate No. 2 (drift) mine of Utah Fuel Co., in NW. ¼ sec. 6, T. 13 S., R. 10 E., three-fourths of a mile northeast of Castlegate, on Denver & Rio Grande Railroad. Coal bed, "D"; Upper Cretaceous age; Mesaverde formation. Roof and floor are coal. Sample cut in No. 1 left main entry off No. 1 rise, 3,200 feet south of mine mouth, September 23, 1914, by F. R. Clark. Section at point sampled is as follows:

	Ft.	in.
Coal.....Thickness unknown.		
Bone		½
Coal (sampled)	3	3
Bone		1
Coal (sampled)		3
Bone		½
Coal (sampled)	3	4
Coal, cut by machine		6
Coal.....Thickness unknown.		
	7	6+

19845. Bituminous coal from same mine as No. 19843. Coal bed, "B"; Upper Cretaceous age; Mesaverde formation.

UTAH—Continued.

Roof and floor are sandstone. Sample cut at face of No. 4 right entry off No. 1 rise, 1,700 feet S. 30° E. of mine mouth, September 23, 1914, by F. R. Clark. Section at point sampled is as follows:

	Ft.	in.
Coal		6
Bone		3
Coal (sampled)		6
Bone		3
Coal (sampled)		7
Bone		2
Coal (sampled)	3	5
Bone		5
Coal (sampled)		8
Coal.....Thickness unknown.		
	6	9+

19844. Bituminous coal from Castlegate No. 1 (slope) mine of Utah Fuel Co., in NW. ¼ sec. 1, T. 13 S., R. 9 E., at Castlegate, on Denver & Rio Grande Railroad. Coal bed "D"; Upper Cretaceous age; Mesaverde formation. Roof and floor are sandstone. Sample cut in mine in No. 1 right entry off No. 1 dip, 5,400 feet S. 66° W. and 1,400 feet N. 45° W. from mine mouth, September 22, 1914, by F. R. Clark. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	4	10
Coal		2
	5	0

19846. Bituminous coal from same mine as No. 19844. Coal bed "C"; Upper Cretaceous age; Mesaverde formation. Roof and floor are sandstone. Sample cut in room 18 off No. 4 right entry off No. 1 rise, 5,400 feet S. 66° W. and 1,900 feet S. 45° W. from mine mouth, September 22, 1914, by F. R. Clark. Section at point sampled is as follows:

	Ft.	in.
Bone		3
Coal (sampled)	5	7
	5	10

19847. Bituminous coal from same mine as No. 19844. Coal bed, "A"; Upper Cretaceous age; Mesaverde formation. Roof is coal and floor is sandstone. Sample dry; cut at entry stump on No. 12 level off No. 10 rise 4,000 feet S. 66° W.; 4,650 feet S. 4° W., and 200 feet S. 80° E. from mine mouth, September 22, 1914, by F. R. Clark. Section at point sampled is as follows:

	Ft.	in.
Coal		8±
Coal (sampled)	7	4½
Bone		3
	8	3½±

19880. Bituminous coal from No. 1 (slope) mine of Cameron Coal Co., in sec. 35, T. 12 S., R. 9 E., 1½ miles northwest of Castlegate, on Denver & Rio Grande Railroad. Coal Bed No. 1; Upper Cretaceous age; Mesaverde formation. Sample cut in second left main entry 800 feet south and 50 feet west from slope mouth, September 24, 1914, by F. R. Clark. Section at point sampled is as follows:

	Ft.	in.
Coal (mine roof)		8
Coal (sampled)	5	6½
Coal (mine floor)		6
	6	8½

19879. Bituminous coal from No. 2 (slope) mine of Cameron Coal Co., in NE. ¼ sec. 35, T. 12 S., R. 9 E., 1½ miles northwest of Castlegate, on Denver & Rio Grande Railroad. Coal bed No. 2; Upper Cretaceous age; Mesaverde formation. Roof and floor are shale. Sample cut at face of main rise entry, 900 feet S. 85° W. of mine mouth, September 24, 1914, by F. R. Clark. Section at point sampled is as follows:

	Ft.	in.
Coal, not mined	2±	
Bone, mine roof		4
Coal (sampled)	5	0
Coal, cut by machine		6½
Coal, mine floor		9
	8	7½±

19881. Bituminous coal from Panther (slope) mine of Panther Coal Co., in sec. 1, T. 13 S., R. 9 E., 1¼ miles north of Carbon post office, on Denver & Rio Grande Railroad. Coal bed, Castlegate; Upper Cretaceous age; Mesaverde formation. Roof

UTAH—Continued.

and floor are shale. Sample cut at face of No. 2 east entry off main slope, 1,000 feet N. 45° E. and 500 feet east from mouth, September 25, 1914, by F. R. Clark. Section at point sampled is as follows:

	Ft.	in.
Coal		4
Bone		5
Coal (sampled)	6	2½
	6	11½

19837. Bituminous coal from drift prospect in Hardscrabble Canyon, in SW. ¼ NE. ¼ sec. 10, T. 13 S., R. 9 E., 3 miles northwest of Helper, on Denver & Rio Grande Railroad. Coal bed, Spring Canyon No. 1; Upper Cretaceous age; Mesaverde formation. Roof is sandy shale and floor is sandstone. Sample dry and possibly slightly weathered; cut at face of main entry, 350 feet S. 35° W. of opening, September 19, 1914, by F. R. Clark; represents 4 feet ½ inch of coal, entire thickness of bed.

19838. Bituminous coal from drift prospect near same prospect and from same bed as No. 19837. Sample dry and perhaps slightly weathered; cut at face of main entry, 400 feet S. 70° W. of mine mouth, September 19, 1914, by F. R. Clark; represents 4 feet of coal, entire thickness of bed.

19986. Bituminous coal from No. 1 (slope) mine of Spring Canyon Coal Co., in sec. 9, T. 13 S., R. 9 E., at Storrs, on Spring Canyon Railroad. Coal bed, Spring Canyon No. 1: Upper Cretaceous age; Mesaverde formation. Roof is shale and floor is sandstone. Sample wet; cut at face of No. 4 right entry off main entry, 1,720 feet N. 32° W. of mine mouth, October 16, 1914, by F. R. Clark. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	6	4
Bone		2
Coal (sampled)	2	2
Coal		4
	9	0

19987. Bituminous coal from No. 2 (drift) mine of Spring Canyon Coal Co., in sec. 9, T. 13 S., R. 9 E., at Storrs, on Spring Canyon Railroad. Coal bed, Spring Canyon No. 2; Upper Cretaceous age; Mesaverde formation. Roof and floor are shale. Sample cut at face of main entry, 810 feet east of mine mouth, October 17, 1914, by F. R. Clark; represents 4 feet 2½ inches of coal, entire thickness of bed.

19990. Bituminous coal from No. 3 (drift) mine of Spring Canyon Coal Co., in sec. 9, T. 13 S., R. 9 E., at Storrs, on Spring Canyon Railroad. Coal bed, Spring Canyon No. 3; Upper Cretaceous age; Mesaverde formation. Roof and floor are sandstone. Sample dry; cut at face of main entry October 17, 1914, by F. R. Clark. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	3	10
Bone		½
Coal (sampled)	3	10
Coal		8
	8	4½

19988. Bituminous coal from Standard (drift) mine of Standard Coal Co., in sec. 8, T. 13 S., R. 9 E., at Standardville, terminus of Spring Canyon Railroad. Coal bed, Castlegate; Upper Cretaceous age; Mesaverde formation. Roof and floor are sandstone. Sample dry; taken in crosscut 200 feet S. 50° E. of face of fan way or 1,450 feet N. 50° W. of mine mouth October 17, 1914, by F. R. Clark. Section at point sampled is as follows:

	Ft.	in.
Coal (on roof)	1	0
Coal (sampled)	8	2
Coal, cannel (sampled)		1
Bone		1½
Coal (lower bench)	5	8
	15	½

19989. Bituminous coal from same mine as No. 19988. Coal bed, Castlegate; Upper Cretaceous age; Mesaverde formation. Roof and floor are sandstone. Sample dry; cut 150 feet from face of fan way or 1,550 feet N. 50° W. of mine mouth October 17, 1914, by F. R. Clark. Section at point sampled is as follows:

UTAH—Continued.

	Ft.	in.
Coal	8±	
Coal, cannel		1
Bone		8
Coal (sampled)	1	8
Bone		1
Coal (sampled)	3	4
Coal		10
	14	8±

MORGAN COUNTY.

19799. Subbituminous coal from Robinson (drift) mine of Heber Robinson, in sec. 28, T. 5 N., R. 5 E., in Toone Canyon, 12 miles northeast of Devils Slide station, on Union Pacific Railroad. Coal bed, no name; Tertiary age (?); formation not determined. Roof is shale and floor is coal. Sample probably slightly weathered; cut 300 feet northeast of opening September 5, 1914, by F. R. Clark. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	1	8
Bone		2
Coal, dull, earthy (sampled)		5
Coal, bright (sampled)	1	2
Coal, dull (sampled)		2
Coal (sampled)	1	7
Coal	1	0
	6	2

19800. Subbituminous coal from abandoned slope mine of W. Lucas and H. C. Smith, in sec. 17, T. 5 N., R. 5 E., 12½ miles northeast of Devils Slide station, on Union Pacific Railroad. Coal bed, no name; Tertiary age (?); formation not determined. Roof is shale and sandstone and floor is shale. Sample slightly weathered; cut from rib 200 feet west of opening September 5, 1914, by F. R. Clark. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	1	5
Bone		9
	2	2

SUMMIT COUNTY.

20894. Bituminous coal from prospect in NE. ¼ sec. 8, T. 2 N., R. 18 E., 50 miles southeast of Carter, Wyo., on Union Pacific Railroad. Coal bed, no name; Carboniferous (Pennsylvanian) age. Sample consisted of a lump taken from prospect September 19, 1914, by A. R. Schultz. The coal bed in this prospect is 3 feet thick. Coal weathered.

20895. Bituminous coal from prospect in NE. ¼ sec. 4, T. 2 N., R. 16 E., 50 miles southeast of Carter, Wyo., on Union Pacific Railroad. Coal bed, no name; Carboniferous (Pennsylvanian) age. Roof is shale; floor not seen. Sample consisted of a lump taken from a prospect in September, 1914, by A. R. Schultz. Coal weathered. Section of coal bed in this prospect is as follows:

	Feet.
Shale, carbonaceous	2
Coal	3
	5

VIRGINIA.

The sampling of coals in Virginia was done in connection with a cooperative examination of the southwestern coal fields by the Virginia Geological Survey and the United States Geological Survey.

BUCHANAN COUNTY.

19833. Bituminous coal from Blackey (drift) mine of W. M. Ritter Lumber Co., 1 mile southeast of Blackey station, on Big Sandy & Cumberland Railroad. Coal bed, no name; Carboniferous (Pennsylvanian) age; Pottsville group. Sample slightly wet; cut 450 feet east of mine mouth September 19, 1914, by T. K. Harnsberger. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	2	½
Sandstone		2¾
Coal (sampled)	2	9
	5	¼

19834. Bituminous coal from same mine as No. 19833. Coal bed, no name; Carboniferous (Pennsylvanian) age; Pottsville group. Sample dry; cut 525

VIRGINIA—Continued.

feet S. 80° E. of mine mouth. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	2	1¼
Sandstone		2½
Coal (sampled)	2	8¼
	5	0

19735. Bituminous coal from mine of Oliver Elswick, at Big Rock, Va., 15 miles east of Elkhorn City station on Chesapeake & Ohio Railway and Carolina, Clinchfield & Ohio Railway. Coal bed, no name; Carboniferous (Pennsylvanian) age; Pottsville group. Roof and floor are shale. Sample cut 60 feet N. 70° E. of mine mouth August 11, 1914, by T. K. Harnsberger; represents 3 feet 8½ inches of coal, entire thickness of bed.

19924. Semibituminous coal from Whitewood (drift) mine of C. L. Ritter Lumber Co., at Whitewood, Va., on a railroad owned by the company, 14 miles northwest of Norfolk & Western Railway. Coal bed, no name; Carboniferous (Pennsylvanian) age; Pottsville group. Roof and floor are shale. Sample cut 600 feet southwest of main entrance October 9, 1914, by Clayton Davidson. Section at point sampled is as follows:

	Ft.	in.
Coal, slightly bony (sampled)	3	4
Shale		4
Coal (sampled)		8
	4	4

MONTGOMERY COUNTY.

19357. Semibituminous coal from mine of Plunkett & Wall, 4 miles northwest of Blacksburg, terminus of a branch of Norfolk & Western Railway. Coal bed, Large; Carboniferous (Mississippian) age; Price sandstone. Roof and floor are shale and sandstone. Sample cut down slope 300 feet and northwest 100 feet alongside entry April 28, 1914, by Ralph W. Howell. Section at point sampled is as follows:

	Ft.	in.
Coal, shaly	1	0
Shale		6
Coal		3
Shale and coal		7
Coal		10
Shale		6
Coal (sampled)	2	2
Shale and coal		8
Coal (sampled)	1	5
Shale and coal		4
Coal (sampled)		3
	8	6

19358. Semibituminous coal from mine of M. C. Slusser, 3½ miles north of Blacksburg, terminus of a branch of Norfolk & Western Railway. Coal bed, Large; Carboniferous (Mississippian) age; Price sandstone. Roof and floor are sandstone. Sample cut in mine 900 feet west on main entry and 25 feet north on side entry April 30, 1914, by Ralph W. Howell. Section at point sampled is as follows:

	Ft.	in.
Coal	1	2
Shale and coal		6
Shale		8
Coal		5
Shale		2
Coal, crushed		6
Shale		8
Coal (sampled)	2	3
Shale		3
Coal (sampled)	2	3
Shale		3
Coal, crushed (sampled)		10
Shale, bone, and coal		9
Coal, soft, shattered (sampled)	1	6
	12	2

22629. Semibituminous coal from same mine and bed as No. 19358. Roof is shale and floor is sandstone. Sample cut 1,050 feet along main entry and 25 feet northeast along airway May 14, 1915, by J. T. Watson and R. J. Holden. Section of bed at point sampled is as follows:

	Ft.	in.
"Draw slate"	1	6
Coal (sample 22629)	2	4
Coal, shaly		2½
Coal, dull and brittle		5
Coal, bright		8½
Coal, dull and brittle		8½

VIRGINIA—Continued.

	Ft.	in.
Shale		3
Coal, soft (sample 22630)	2	4
Shale		3
Coal, soft and crumbly		11
Shale, containing some coal		9
Coal, bright and soft (sample 22631)	2	2
	12	6½

22630. Semibituminous coal from the same mine and location as No. 22629. Sample represents middle bench of coal.

22631. Semibituminous coal from same mine and location as No. 22629. Sample represents lowest bench of coal.

19359. Semibituminous coal from Clements Hollow mine (abandoned) of Blacksburg Mining & Manufacturing Co., 3½ miles northwest of Blacksburg, terminus of a branch of Norfolk & Western Railway. Coal bed, Small; Carboniferous (Mississippian) age; Price sandstone. Roof and floor are shale and sandstone. Sample weathered; cut in main entry 100 feet from mouth May 1, 1914, by Ralph W. Howell. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)		10
Coal, soft, shaly (sampled)		11
Shale		2
Coal, dirty (sampled)		1
Shale, coaly		4
	2	4

19360. Semibituminous coal from Company (slope) mine of Seymour Price & Co., 5 miles northwest of Blacksburg, terminus of a branch of Norfolk & Western Railway. Coal bed, Large; Carboniferous (Mississippian) age; Price sandstone. Roof is shale and sandstone and floor is shale. Sample cut in mine 350 feet down slope and 150 feet northeast along bottom level April 29, 1914, by Ralph W. Howell. Section at point sampled is as follows:

	Ft.	in.
Coal, soft, shelly	1	0
Shale		6
Coal, soft		3
Shale		5
Coal		6
Coal, soft, dirty		6
Coal		4
Shale		1
Coal		3
Shale		8
Coal (sampled)	2	4
Shale		1
Coal (sampled)		3
Shale		3
Coal		6
Shale		1
Coal (sampled)		8
Shale		1
Coal, sheared (sampled)		8
	9	5

19403. Semianthracite coal from slope mine of Lyken Hill Coal Co., on a branch of Norfolk & Western Railway, 3½ miles northwest of Christianburg. Coal bed, Large; Carboniferous (Mississippian) age; Price sandstone. Roof and floor are shale and sandstone. Sample cut 350 feet along the main slope and east 200 feet on east entry May 7, 1914, by Ralph W. Howell. Section at point sampled is as follows:

	Ft.	in.
Coal, slightly shaly (sampled)		7
Coal (sampled)		6
Shale		6
Coal (sampled)	1	3
Coal, soft, dirty (sampled)		1½
Coal (sampled)		6
Shale and coal	1	8
Coal	1	2
Shale		7
Coal		9
	7	7½

FULASKI COUNTY.

19431. Semibituminous coal from Parrott (shaft) mine of Pulaski Anthracite Coal Co., at Parrott, on Bluefield division of Norfolk & Western Railway. Coal bed, Large; Carboniferous (Mississippian) age; Price sandstone. Roof and floor are shale. Sample cut in mine 100 feet west of shaft landing April 25, 1914, by Ralph W.

VIRGINIA—Continued.

Howell. Section at point sampled is as follows:

	Ft.	in.
Coal, soft (sampled)		2
Shale		2
Coal (sampled)		9
Shale		3
Coal (sampled)		3
Shale		1
Coal, soft, dirty (sampled)		7
Shale		1
Coal (sampled)		2
Shale		1
Coal (sampled)		4
Shale		6
Coal (sampled)	1	4
Coal and shale		5
Coal (sampled)	1	10
	7	0

20722. Semibituminous coal from Cloyd (drift) mine, 5½ miles northwest of Dublin station, on Norfolk & Western Railway. Coal bed, "Upper"; Carboniferous (Mississippian) age; Price sandstone. Roof and floor are shale passing into sandstone. Sample cut in 125 feet west of mine mouth May 14, 1914, by Ralph W. Howell. Section at point sampled is as follows:

	Ft.	in.
Coal, broken (sampled)		6
Shale and dirty coal		9
Coal, sheared (sampled)		10
Shale and coal		9
Coal (sampled)		7
Shale and bone		4
Coal, soft, dirty (sampled)		10
Coal (sampled)	1	6+
	6	1+

RUSSELL COUNTY.

19484. Bituminous coal from Drill mine of Honaker Lumber Co., at Drill, on Honaker Lumber Co. Railroad. Coal bed, Kennedy; Carboniferous (Pennsylvanian) age; Pottsville group. Roof is shale and floor is sandstone. Sample dry; cut 450 feet northeast of mine mouth, June 5, 1914, by C. M. Bauer; represents 4 feet of coal, entire thickness of bed.

19528. Bituminous coal from Sandy Ridge mine of Sandy Ridge Coal Co., 1 mile south of Drill, on Honaker Lumber Co. Railroad. Coal bed, Kennedy; Carboniferous (Pennsylvanian) age; Pottsville group. Sample cut 150 feet north of mouth of southernmost drift, in room 20 feet to right of entry, June 15, 1914, by C. M. Bauer; represents 2 feet 10 inches of coal, entire thickness of bed.

22345. Bituminous coal from Sandy Ridge mine of Sandy Ridge Coal & Coke Co., half a mile south of Drill, on Honaker Lumber Co. Railroad. Coal bed, Kennedy; Carboniferous (Pennsylvanian) age; Pottsville group. Sample cut 170 feet S. 70° W. of mouth of northernmost drift May 25, 1915, by T. K. Harnsberger; represents 2 feet 9 inches of coal, entire thickness of coal bed.

22346. Bituminous coal from Jackson mine, operated by W. N. Jackson & Bro., 3 miles northwest of Honaker station, on Norfolk & Western Railway. Coal bed, not named; Carboniferous (Pennsylvanian) age; Pottsville group. Sample cut 600 feet northwest of opening May 26, 1915, by T. K. Harnsberger. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	1	0
Rash (sampled)		⅛
Coal (sampled)	1	9½
Clay		½
Coal (sampled)		7
	3	5⅛

WISE COUNTY.

22277. Bituminous coal from Pardee (No. 1) mine of Blackwood Coal & Coke Co., 1 mile northwest of Pardee station, on Roaring Fork Railroad. Coal bed, Pardee (Limestone or Parsons); Carboniferous (Pennsylvanian) age; Pottsville group. Sample dry; cut in No. 2 right entry off main three-face entry, 2,500 feet N. 15° W. of mine mouth, May 22, 1915, by T. K. Harnsberger. Section at point sampled is as follows:

Coal (roof).	Ft.	in.
Coal (sampled)	7	10

VIRGINIA—Continued.

22278. Bituminous coal from same mine and bed as No. 22277. Sample dry; cut at face of main three-face entry, 2,000 feet north of mine mouth, May 22, 1915, by T. K. Harnsberger. Section at point sampled is as follows:

	Ft.	in.
Coal (roof).		
Coal (sampled)	7	8

22279. Bituminous coal from same mine and bed as No. 22277. Sample dry; cut in No. 6 left entry off main entry, 2,500 feet northwest of mine mouth, May 22, 1915, by T. K. Harnsberger. Section at point sampled is as follows:

	Ft.	in.
Coal (roof).		
Coal (sampled)	7	3

22280. Composite of samples 22277 to 22279, inclusive.

WYTHE COUNTY.

20721. Semibituminous coal from prospect pit of Ellison & Johnson, 3 miles north of Max Meadows station, on Norfolk & Western Railway. Coal bed, "Large" or "Upper"; Carboniferous (Mississippian) age; Price sandstone. Roof is sandstone and floor is shale. Sample weathered; cut 10 feet in from mouth May 15, 1914, by Ralph W. Howell; represents 6 feet 8 inches of coal, badly crushed and weathered, entire thickness of bed.

WASHINGTON.

WHATCOM COUNTY.

19722. Anthracite coal from Discovery tunnel of Washington Anthracite Coal Co., in SE. ¼ sec. 29, T. 39 N., R. 7 E., 4 miles south of Glacier, terminus of Bellingham & Northern Railroad, a branch of Chicago, Milwaukee & St. Paul Railway. Coal bed, Tertiary (Eocene) age; Puget group; dips 68° NW. Sample slightly damp; cut at end of 750-foot entry July 31, 1914, by M. R. Campbell. Coal bed varies considerably in thickness, owing to the intense pressure developed when the rocks were folded. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	2	5
Coal, soft, laminated		4
Shale, carbonaceous	1	6
Coal (sampled)	5	10
	10	1

19723. Anthracite coal from same mine as No. 19722. Coal bed, Tertiary (Eocene) age; Puget group. Sample cut 300 feet from mouth of drift July 31, 1914, by M. R. Campbell. Coal slightly weathered and covered with some dirt. Section at point sampled is as follows:

	Ft.	in.
Coal, impure, laminated	1	6
Coal, hard (sampled)	14	5
Coal, impure, laminated	2	1
	18	0

19724. Anthracite coal from Smith tunnel of Washington Anthracite Coal Co., in SE. ¼ sec. 30, T. 39 N., R. 7 E., 4 miles south of Glacier, terminus of Bellingham & Northern Railroad, a branch of Chicago, Milwaukee & St. Paul Railway. Coal bed, Tertiary (Eocene) age; Puget group; dips about 30° NE. Sample weathered; cut in first right entry 200 feet from mouth of tunnel August 1, 1914, by M. R. Campbell. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	5	6
Coal, soft, laminated	2	6
	8	0

19725. Semianthracite (?) coal from prospect in SE. ¼ sec. 24, T. 39 N., R. 6 E., 3 miles southwest of Glacier, terminus of Bellingham & Northern Railroad, a branch of Chicago, Milwaukee & St. Paul Railway. Coal bed, Tertiary (Eocene) age; Puget group; dips about 51° NE. Sample weathered; cut from east end of drift, 20 feet from mouth, August 2, 1914, by M. R. Campbell. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)	5	9
Bone		11
Coal, soft, laminated	2	7+
	9	3+

19726. Semianthracite (?) coal from open-cut prospect in SW. ¼ sec. 24, T. 39

WASHINGTON—Continued.

N., R. 6 E., 3 miles southwest of Glacier, terminus of Bellingham & Northern Railroad, a branch of Chicago, Milwaukee & St. Paul Railway. Coal bed, Tertiary (Eocene) age; dips 30°–40° N.; poorly exposed. Sample badly weathered, crushed, and squeezed; taken from open cut August 2, 1914, by M. R. Campbell; represents about 3 feet of coal.

WEST VIRGINIA.

CLAY COUNTY.

21816. Bituminous coal from Rich Run (drift) mine of Elk River Coal & Lumber Co., at Widen, terminus of Buffalo Creek & Gauley Railroad. Coal bed, No. 5 Block; Carboniferous (Pennsylvanian) age; Allegheny formation. Roof is shale and floor is clay. Sample cut at face of No. 1 east entry off No. 5½ entry, about 2,000 feet S. 60° E. of mine mouth and about 800 feet from nearest outcrop, April 9, 1915, by E. Russell Lloyd. Section at point sampled is as follows:

	Ft.	in.
Coal with bright luster (sampled)		11
Shale and bone		6
Coal (sampled)	4	4
	5	9

21817. Bituminous coal from same mine and bed as No. 21816. Roof is sandstone and floor is clay. Sample cut from room 15 off No. 2 right entry off No. 5½ entry, 1,200 feet southwest of mine mouth and about 150 feet from nearest outcrop, April 9, 1915, by E. Russell Lloyd. Section at point sampled is as follows:

	Ft.	in.
Coal (sampled)		6½
Mineral charcoal (sampled)		½
Coal (sampled)		5½
Shale		5
Coal (sampled)	3	7½
Shale		1½
Coal (sampled)		9
	5	11½

21818. Composite of samples 21816 and 21817.

21892. Bituminous coal from same mine and bed as No. 21816. Roof is shale and floor is clay. Sample cut at same place as No. 21816, April 9, 1915, by E. Russell Lloyd. Section of bed at point sampled is as follows:

	Ft.	in.
Coal with bright luster (sampled)		11
Shale and bone		6
Coal	4	4
	5	9

NICHOLAS COUNTY.

21819. Bituminous coal from local mine operated by Edward McClung at Kirkwood, 16 miles southwest of Camden, on Baltimore & Ohio Railroad. Coal bed, No. 2 or Gas (?); Carboniferous (Pennsylvanian) age; Kanawha formation. Roof is shale and floor is clay. Sample fresh; cut at face of entry 60 feet S. 7° E. of mouth, April 8, 1915, by E. Russell Lloyd. Section of bed at point sampled is as follows:

	Ft.	in.
Coal (sampled)	1	5½
Bone		1
Coal (sampled)	1	10
	3	4½

21820. Bituminous coal from local mine operated by George Donaldson at Muddlety, about 20 miles southwest of Camden, on Baltimore & Ohio Railroad. Coal bed, No. 1 or Eagle (?); Carboniferous (Pennsylvanian) age; Kanawha formation. Roof is shale and floor is clay. Sample cut at face of entry about 200 feet S. 50° E. of mine mouth, April 7, 1915, by E. Russell Lloyd. Section of bed at point sampled is as follows:

	Ft.	in.
Coal (sampled)	1	1
Bone		½
Coal		1½
Shale		5
Coal (sampled)		6
Bone		1
Coal (sampled)	1	4
Shale		1½
Coal (sampled)		4½
	4	1

COAL ANALYSES.

[Made by the Bureau of Mines; A. C. Fieldner, chemist in charge. For description of samples, see pp. 256–328.]

COLORADO.

ELBERT COUNTY.

Laboratory No.	Air-drying loss.	Form of analysis.[a]	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
19902	23.5	A	33.1	[b] 25.6	25.6	15.66	0.44	6.20	36.78	0.70	40.22	3,415	6,150
		B	12.5	33.5	33.5	20.48	.57	4.68	48.10	.91	25.26	4,465	8,040
		C	.....	38.3	38.3	23.41	.66	3.77	54.98	1.05	16.13	5,105	9,190
		D	.....	50.0	50.0	.....	.86	4.92	71.79	1.37	21.06	6,665	12,000

LA PLATA COUNTY.

20268	11.5	A	15.7	31.7	44.5	8.06	0.58	5.65	59.59	1.19	24.93	5,705	10,270
		B	4.8	35.8	50.3	9.10	.65	4.95	67.30	1.34	16.66	6,445	11,600
		C	.....	37.6	52.8	9.57	.69	4.63	70.72	1.42	12.97	6,770	12,190
		D	.....	41.6	58.4	.....	.76	5.12	78.20	1.57	14.35	7,490	13,480

MONTEZUMA COUNTY.

20267	8.7	A	12.1	37.7	44.1	6.07	0.59	5.96	64.41	1.41	21.56	6,330	11,390
		B	3.7	41.3	48.3	6.65	.65	5.47	70.53	1.54	15.16	6,930	12,480
		C	.....	42.9	50.2	6.91	.67	5.26	73.28	1.60	12.28	7,200	12,960
		D	.....	46.1	53.9	.....	.72	5.65	78.72	1.72	13.19	7,735	13,930
20498	6.2	A	8.5	39.2	47.0	5.33	.99	5.97	69.99	1.31	16.41	6,975	12,560
		B	2.4	41.8	50.1	5.68	1.06	5.62	74.60	1.40	11.64	7,435	13,390
		C	.....	42.9	51.3	5.82	1.08	5.49	76.46	1.43	9.72	7,620	13,720
		D	.....	45.5	54.5	.....	1.15	5.83	81.19	1.52	10.31	8,090	14,570
20500	4.6	A	7.0	38.3	50.2	4.47	.61	5.70	72.57	1.33	15.32	7,185	12,940
		B	2.5	40.2	52.6	4.68	.64	5.44	76.05	1.39	11.80	7,530	13,550
		C	.....	41.2	54.0	4.80	.66	5.29	78.01	1.43	9.81	7,725	13,910
		D	.....	43.3	56.7	.....	.69	5.56	81.94	1.50	10.31	8,115	14,610
20499	3.2	A	5.5	38.3	47.3	8.85	.77	5.59	69.92	1.33	13.54	6,970	12,550
		B	2.3	39.6	48.9	9.15	.80	5.41	72.26	1.37	11.01	7,205	12,970
		C	.....	40.6	50.0	9.37	.81	5.27	74.00	1.41	9.14	7,375	13,280
		D	.....	44.8	55.2	.....	.89	5.81	81.65	1.56	10.09	8,140	14,650

MONTANA.

CHOUTEAU COUNTY.

19790	7.2	A	18.1	[b] 29.3	41.3	11.33	0.81	5.61	53.21	1.20	27.84	5,065	9,120
		B	11.8	31.5	44.5	12.20	.87	5.18	57.32	1.29	23.14	5,455	9,820
		C	.....	35.8	50.4	13.84	.99	4.39	65.01	1.47	14.30	6,185	11,140
		D	.....	41.5	58.5	.....	1.15	5.10	75.45	1.71	16.59	7,180	12,930
[c] 19795	4.1	A	17.5	[b] 30.1	41.2	11.17	.61	5.62	54.42	1.11	27.07	5,175	9,320
		B	13.9	31.5	43.0	11.65	.64	5.38	56.75	1.16	24.42	5,395	9,720
		C	.....	36.6	49.9	13.54	.74	4.46	65.95	1.35	13.96	6,270	11,290
		D	.....	42.3	57.7	.....	.86	5.16	76.28	1.56	16.14	7,255	13,060

[a] See p. 253.
[b] Volatile matter determined by the modified official method. (See Bureau of Mines Bull. 22, p. 29, 1913.)
[c] Coal slightly weathered.

MONTANA—Continued.

DAWSON COUNTY.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
19923	19.2	A	28.3	26.5	33.6	11.6	0.45	.....	.....	.....	.....	4,090	7,360
		B	11.2	32.8	41.7	14.3	.56	.....	.....	.....	.....	5,060	9,110
		C	.....	36.9	46.9	16.2	.63	.....	.....	.....	.....	5,705	10,270
		D	.....	44.0	56.0	.....	.75	.....	.....	.....	.....	6,805	12,250
FALLON COUNTY.													
20370	34.3	A	41.3	[a] 24.6	26.9	7.2	0.62	.....	.....	.....	.....	3,440	6,190
		B	10.6	37.5	40.9	11.0	.95	.....	.....	.....	.....	5,240	9,430
		C	.....	42.0	45.8	12.2	1.06	.....	.....	.....	.....	5,860	10,550
		D	.....	47.8	52.2	.....	1.21	.....	.....	.....	.....	6,680	12,020
20372	33.5	A	39.0	[a] 22.6	23.9	14.5	1.60	.....	.....	.....	.....	3,110	5,600
		B	8.4	34.0	35.9	21.7	2.41	.....	.....	.....	.....	4,680	8,420
		C	.....	37.1	39.2	23.7	2.62	.....	.....	.....	.....	5,105	9,190
		D	.....	48.7	51.3	.....	3.44	.....	.....	.....	.....	6,690	12,050
FERGUS COUNTY.													
20000	14.4	A	22.8	[a] 27.7	37.7	11.77	0.82	5.96	49.34	1.08	31.03	4,710	8,480
		B	9.8	32.3	44.1	13.75	.96	5.09	57.64	1.26	21.30	5,500	9,900
		C	.....	35.8	48.9	15.25	1.06	4.44	63.92	1.40	13.93	6,100	10,980
		D	.....	42.3	57.7	.....	1.25	5.24	75.41	1.65	16.45	7,200	12,960
MUSSELSHELL COUNTY.													
19784	4.5	A	10.4	[a] 31.1	43.5	15.05	1.77	5.29	57.38	1.41	19.10	5,680	10,220
		B	6.2	32.6	45.5	15.75	1.85	5.01	60.07	1.48	15.84	5,945	10,700
		C	.....	34.7	48.5	16.79	1.97	4.62	64.02	1.57	11.03	6,335	11,400
		D	.....	41.7	58.3	.....	2.37	5.55	76.94	1.89	13.25	7,615	13,700
19785	4.2	A	10.4	[a] 29.6	43.9	16.1	1.73	.....	.....	.....	.....	5,610	10,100
		B	6.6	30.9	45.8	16.7	1.81	.....	.....	.....	.....	5,855	10,540
		C	.....	33.1	49.0	17.9	1.93	.....	.....	.....	.....	6,265	11,280
		D	.....	40.3	59.7	.....	2.35	.....	.....	.....	.....	7,630	13,740

NEW MEXICO.

McKINLEY COUNTY.

19131	4.8	A	12.5	38.9	39.4	9.17	0.43	5.89	60.85	1.09	22.57	6,000	10,800
		B	8.2	40.8	41.4	9.63	.45	5.63	63.93	1.15	19.21	6,305	11,350
		C	.....	44.4	45.1	10.49	.49	5.15	69.58	1.25	13.04	6,865	12,350
		D	.....	49.7	50.3	.....	.55	5.75	77.73	1.40	14.57	7,665	13,800
19132	5.7	A	14.1	39.7	42.2	4.00	.58	6.13	64.15	1.16	23.98	6,285	11,320
		B	8.9	42.1	44.8	4.24	.62	5.83	68.04	1.23	20.04	6,665	12,000
		C	.....	46.2	49.1	4.65	.67	5.32	74.64	1.35	13.37	7,315	13,170
		D	.....	48.5	51.5	.....	.70	5.58	78.28	1.42	14.02	7,670	13,810
19133	6.1	A	14.0	39.5	41.1	5.4	.49	.....	.....	.....	.....	6,260	11,260
		B	8.4	42.0	43.8	5.8	.52	.....	.....	.....	.....	6,660	11,990
		C	.....	45.2	47.8	6.3	.57	.....	.....	.....	.....	7,275	13,100
		D	.....	49.0	51.0	.....	.61	.....	.....	.....	.....	7,765	13,980
19134	5.3	A	12.4	39.1	39.5	9.0	.44	.....	.....	.....	.....	6,100	10,980
		B	7.5	41.3	41.7	9.5	.47	.....	.....	.....	.....	6,440	11,600
		C	.....	44.6	45.1	10.3	.50	.....	.....	.....	.....	6,965	12,540
		D	.....	49.7	50.3	.....	.56	.....	.....	.....	.....	7,765	13,980
19135	5.7	A	13.2	39.1	40.5	7.21	.45	6.04	62.73	1.13	22.44	6,165	11,100
		B	7.9	41.5	42.9	7.65	.48	5.74	66.51	1.20	18.42	6,535	11,770
		C	.....	45.1	46.6	8.31	.52	5.26	72.26	1.30	12.35	7,100	12,780
		D	.....	49.2	50.8	.....	.57	5.74	78.81	1.42	13.46	7,745	13,940

[a] Volatile matter determined by the modified official method.

NEW MEXICO—Continued.

McKINLEY COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
19136	4.6	A	11.8	38.1	39.7	10.40	0.65	5.71	61.57	1.14	20.53	6,055	10,900
		B	7.6	39.9	41.6	10.90	.68	5.45	64.50	1.19	17.28	6,345	11,420
		C	.....	43.2	45.0	11.79	.74	4.99	69.80	1.29	11.39	6,865	12,360
		D	.....	49.0	51.0	.....	.84	5.66	79.13	1.46	12.91	7,785	14,010
19137	5.5	A	14.1	39.2	41.9	4.8	.49	.....	.....	.....	.....	6,280	11,300
		B	9.1	41.5	44.3	5.1	.52	.....	.....	.....	.....	6,645	11,960
		C	.....	45.6	48.8	5.6	.57	.....	.....	.....	.....	7,305	13,150
		D	.....	48.3	51.7	.....	.60	.....	.....	.....	.....	7,745	13,940
19138	6.4	A	15.8	38.0	43.1	3.14	.45	6.28	64.08	1.11	24.94	6,275	11,300
		B	10.1	40.6	46.0	3.35	.48	5.95	68.45	1.19	20.58	6,710	12,080
		C	.....	45.1	51.2	3.73	.53	5.37	76.12	1.32	12.93	7,460	13,430
		D	.....	46.9	53.1	.....	.55	5.58	79.07	1.37	13.43	7,750	13,950
19139	5.5	A	13.5	37.8	42.5	6.24	.36	5.95	63.37	1.10	22.98	6,190	11,140
		B	8.5	39.9	45.0	6.60	.38	5.65	67.03	1.16	19.18	6,545	11,780
		C	.....	43.6	49.2	7.21	.42	5.14	73.26	1.27	12.70	7,155	12,880
		D	.....	47.0	53.0	.....	.45	5.54	78.95	1.37	13.69	7,710	13,880
19140	5.7	A	13.9	39.0	40.6	6.5	.47	.....	.....	.....	.....	6,165	11,100
		B	8.7	41.3	43.1	6.9	.50	.....	.....	.....	.....	6,535	11,770
		C	.....	45.3	47.2	7.5	.55	.....	.....	.....	.....	7,160	12,890
		D	.....	48.9	51.1	.....	.59	.....	.....	.....	.....	7,745	13,940
19162	4.0	A	11.4	39.9	42.2	6.5	.75	.....	.....	.....	.....	6,465	11,640
		B	7.7	41.5	44.0	6.8	.78	.....	.....	.....	.....	6,735	12,120
		C	.....	45.0	47.7	7.3	.85	.....	.....	.....	.....	7,295	13,140
		D	.....	48.5	51.5	.....	.92	.....	.....	.....	.....	7,875	14,180
19163	3.4	A	10.6	40.6	44.4	4.40	.59	5.95	68.16	1.11	19.79	6,725	12,100
		B	7.4	42.0	46.0	4.55	.61	5.77	70.56	1.15	17.36	6,960	12,530
		C	.....	45.4	49.7	4.92	.66	5.33	76.22	1.24	11.63	7,520	13,530
		D	.....	47.7	52.3	.....	.69	5.61	80.16	1.30	12.24	7,905	14,230
19213	7.6	A	12.7	36.4	43.4	7.47	.72	5.78	64.18	1.10	20.75	6,240	11,230
		B	5.5	39.5	46.9	8.08	.78	5.35	69.44	1.19	15.16	6,750	12,150
		C	.....	41.7	49.7	8.56	.82	5.01	73.52	1.26	10.83	7,145	12,870
		D	.....	45.7	54.3	.....	.90	5.48	80.40	1.38	11.84	7,815	14,070
19217	9.3	A	15.2	38.1	40.6	6.1	.58	.....	.....	.....	.....	6,085	10,950
		B	6.5	42.0	44.8	6.7	.64	.....	.....	.....	.....	6,705	12,070
		C	.....	44.9	47.9	7.2	.68	.....	.....	.....	.....	7,175	12,920
		D	.....	48.4	51.6	.....	.73	.....	.....	.....	.....	7,730	13,910
19218	9.0	A	14.8	35.4	38.0	11.8	.43	.....	.....	.....	.....	5,640	10,150
		B	6.3	38.9	41.8	13.0	.47	.....	.....	.....	.....	6,200	11,160
		C	.....	41.6	44.5	13.9	.50	.....	.....	.....	.....	6,615	11,910
		D	.....	48.3	51.7	.....	.58	.....	.....	.....	.....	7,685	13,830
19219	8.2	A	14.3	38.6	40.3	6.8	.40	.....	.....	.....	.....	6,085	10,950
		B	6.6	42.1	43.9	7.4	.44	.....	.....	.....	.....	6,630	11,930
		C	.....	45.1	46.9	8.0	.47	.....	.....	.....	.....	7,095	12,770
		D	.....	49.0	51.0	.....	.51	.....	.....	.....	.....	7,710	13,880
19220	8.8	A	14.8	37.2	39.7	8.30	.50	6.02	60.78	1.07	23.33	5,945	10,700
		B	6.5	40.9	43.5	9.10	.55	5.53	66.67	1.17	16.98	6,525	11,740
		C	.....	43.7	46.6	9.74	.59	5.14	71.31	1.26	11.96	6,975	12,560
		D	.....	48.4	51.6	.....	.65	5.69	79.00	1.40	13.26	7,730	13,910
19221	10.6	A	15.4	38.2	41.3	5.11	.92	6.25	62.95	1.13	23.64	6,185	11,130
		B	5.4	42.7	46.2	5.72	1.03	5.67	70.40	1.26	15.92	6,915	12,450
		C	.....	45.1	48.9	6.04	1.09	5.37	74.40	1.34	11.76	7,310	13,160
		D	.....	48.0	52.0	.....	1.16	5.72	79.18	1.43	12.51	7,780	14,000
19222	10.0	A	16.2	38.1	40.8	4.9	.61	.....	.....	.....	.....	6,110	11,000
		B	6.9	42.3	45.4	5.4	.68	.....	.....	.....	.....	6,785	12,220
		C	.....	45.4	48.7	5.9	.73	.....	.....	.....	.....	7,285	13,120
		D	.....	48.2	51.8	.....	.78	.....	.....	.....	.....	7,740	13,930
19223	5.9	A	10.6	40.9	41.4	7.1	.79	.....	.....	.....	.....	6,395	11,510
		B	5.0	43.5	44.0	7.5	.84	.....	.....	.....	.....	6,795	12,230
		C	.....	45.7	46.4	7.9	.88	.....	.....	.....	.....	7,155	12,880
		D	.....	49.7	50.3	.....	.96	.....	.....	.....	.....	7,770	13,990

NEW MEXICO—Continued.

McKINLEY COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
19286	6.7	A	14.6	38.8	40.9	5.7	0.60	.....	.....	.....	.....	6,130	11,030
		B	8.4	41.6	43.9	6.1	.64	.....	.....	.....	.....	6,575	11,830
		C	.....	45.4	47.9	6.7	.70	.....	.....	.....	.....	7,175	12,920
		D	.....	48.7	51.3	.....	.75	.....	.....	.....	.....	7,690	13,840
19287	7.5	A	15.0	38.1	43.6	3.3	.53	.....	.....	.....	.....	6,305	11,350
		B	8.0	41.2	47.2	3.6	.57	.....	.....	.....	.....	6,820	12,270
		C	.....	44.8	51.3	3.9	.62	.....	.....	.....	.....	7,415	13,350
		D	.....	46.6	53.4	.....	.65	.....	.....	.....	.....	7,715	13,890
19288	8.5	A	16.0	38.1	41.3	4.6	.85	.....	.....	.....	.....	6,100	10,980
		B	8.3	41.6	45.1	5.0	.93	.....	.....	.....	.....	6,660	11,990
		C	.....	45.3	49.2	5.5	1.01	.....	.....	.....	.....	7,265	13,070
		D	.....	47.9	52.1	.....	1.07	.....	.....	.....	.....	7,685	13,830

SOCORRO COUNTY.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
[a] 20007	18.5	A	25.9	[b] 30.3	34.7	9.07	0.39	5.65	46.45	0.91	37.53	4,125	7,430
		B	9.1	37.2	42.6	11.13	.48	4.40	57.00	1.12	25.87	5,065	9,120
		C	.....	40.9	46.9	12.24	.53	3.74	62.69	1.23	19.57	5,570	10,030
		D	.....	46.6	53.4	.....	.60	4.26	71.44	1.40	22.30	6,345	11,430

NORTH DAKOTA.

MORTON COUNTY.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
[a] 19786	24.9	A	36.1	[b] 27.7	30.4	5.8	0.41	.....	.....	.....	.....	3,875	6,980
		B	14.9	36.9	40.4	7.8	.54	.....	.....	.....	.....	5,165	9,300
		C	.....	43.3	47.5	9.2	.64	.....	.....	.....	.....	6,065	10,920
		D	.....	47.7	52.3	.....	.70	.....	.....	.....	.....	6,680	12,020
19801	31.5	A	38.6	[b] 26.8	26.7	7.9	.66	.....	.....	.....	.....	3,585	6,450
		B	10.4	39.1	39.0	11.5	.97	.....	.....	.....	.....	5,230	9,420
		C	.....	43.7	43.5	12.8	1.07	.....	.....	.....	.....	5,835	10,500
		D	.....	50.1	49.9	.....	1.23	.....	.....	.....	.....	6,695	12,050
20033	32.7	A	38.5	27.6	26.6	7.28	1.31	7.03	39.22	0.60	44.56	3,725	6,700
		B	8.6	41.0	39.6	10.83	1.95	5.04	58.31	.89	22.98	5,535	9,970
		C	.....	44.9	43.3	11.84	2.13	4.47	63.79	.98	16.79	6,055	10,900
		D	.....	50.9	49.1	.....	2.42	5.07	72.36	1.11	19.04	6,870	12,360

OHIO.

BELMONT COUNTY.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
20174	2.2	A	4.3	35.3	44.2	16.22	3.53	4.98	64.10	1.20	9.97	6,445	11,610
		B	2.2	36.1	45.1	16.58	3.61	4.84	65.52	1.23	8.22	6,590	11,860
		C	.....	36.9	46.1	16.95	3.69	4.70	66.98	1.25	6.43	6,735	12,130
		D	.....	44.4	55.6	.....	4.44	5.66	80.65	1.50	7.75	8,110	14,600
20176	2.4	A	4.3	39.0	45.5	11.21	3.65	5.31	68.17	1.20	10.46	6,890	12,400
		B	2.0	39.9	46.6	11.48	3.74	5.16	69.84	1.23	8.55	7,060	12,710
		C	.....	40.7	47.6	11.72	3.81	5.05	71.26	1.25	6.91	7,205	12,970
		D	.....	46.1	53.9	.....	4.32	5.72	80.72	1.42	7.82	8,160	14,690
20187	2.3	A	4.1	42.7	43.9	9.3	4.46	.....	.....	.....	.....	7,075	12,730
		B	1.9	43.7	44.9	9.5	4.56	.....	.....	.....	.....	7,240	13,030
		C	.....	44.6	45.7	9.7	4.65	.....	.....	.....	.....	7,380	13,280
		D	.....	49.4	50.6	.....	5.15	.....	.....	.....	.....	8,175	14,710
20188	1.7	A	3.7	43.3	44.4	8.6	4.45	.....	.....	.....	.....	7,195	12,950
		B	2.0	44.0	45.2	8.8	4.53	.....	.....	.....	.....	7,320	13,170
		C	.....	44.9	46.1	9.0	4.62	.....	.....	.....	.....	7,470	13,450
		D	.....	49.3	50.7	.....	5.07	.....	.....	.....	.....	8,205	14,770

[a] Weathered.

[b] Moisture determined by modified official method.

OHIO—Continued.

BELMONT COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
20189	2.0	A	3.9	43.1	43.9	9.07	4.36	5.46	69.97	1.27	9.87	7,130	12,840
		B	1.9	44.0	44.8	9.25	4.45	5.35	71.39	1.30	8.26	7,275	13,100
		C	.....	44.8	45.8	9.44	4.54	5.23	72.80	1.32	6.67	7,420	13,360
		D	.....	49.5	50.5	.....	5.01	5.77	80.39	1.46	7.37	8,195	14,750
20230	2.0	A	3.7	41.0	45.8	9.5	4.57	.....	.....	.....	.....	7,090	12,760
		B	1.8	41.8	46.7	9.7	4.66	.....	.....	.....	.....	7,230	13,020
		C	.....	42.6	47.5	9.9	4.75	.....	.....	.....	.....	7,365	13,250
		D	.....	47.3	52.7	.....	5.27	.....	.....	.....	.....	8,170	14,700
20234	2.3	A	4.4	37.1	43.1	15.4	2.90	.....	.....	.....	.....	6,475	11,660
		B	2.2	37.9	44.1	15.8	2.97	.....	.....	.....	.....	6,625	11,930
		C	.....	38.8	45.0	16.2	3.03	.....	.....	.....	.....	6,775	12,190
		D	.....	46.3	53.7	.....	3.61	.....	.....	.....	.....	8,080	14,540
20236	2.4	A	4.6	36.8	44.2	14.4	2.59	.....	.....	.....	.....	6,575	11,830
		B	2.2	37.7	45.3	14.8	2.65	.....	.....	.....	.....	6,735	12,120
		C	.....	38.6	46.3	15.1	2.71	.....	.....	.....	.....	6,890	12,400
		D	.....	45.5	54.5	.....	3.19	.....	.....	.....	.....	8,120	14,610
20237	1.6	A	3.5	37.2	41.5	17.8	4.05	.....	.....	.....	.....	6,395	11,510
		B	1.9	37.8	42.2	18.1	4.12	.....	.....	.....	.....	6,500	11,700
		C	.....	38.5	43.0	18.5	4.20	.....	.....	.....	.....	6,630	11,930
		D	.....	47.2	52.8	.....	5.15	.....	.....	.....	.....	8,130	14,630
20238	2.3	A	4.1	33.7	41.2	21.00	2.86	4.76	59.93	1.09	10.36	6,010	10,820
		B	1.8	34.5	42.2	21.50	2.93	4.61	61.37	1.12	8.47	6,155	11,080
		C	.....	35.1	43.0	21.89	2.98	4.49	62.48	1.14	7.02	6,270	11,280
		D	.....	45.0	55.0	.....	3.81	5.75	79.99	1.46	8.99	8,025	14,440
20241	2.5	A	4.5	36.6	44.2	14.75	3.02	5.10	65.32	1.16	10.65	6,555	11,800
		B	2.0	37.6	45.3	15.13	3.10	4.94	67.02	1.19	8.62	6,725	12,100
		C	.....	38.3	46.3	15.44	3.16	4.81	68.37	1.21	7.01	6,860	12,350
		D	.....	45.3	54.7	.....	3.74	5.69	80.85	1.43	8.29	8,110	14,600
20775	2.6	A	4.7	34.2	45.8	15.34	2.85	4.95	63.71	1.33	11.82	6,480	11,660
		B	2.1	35.1	47.0	15.75	2.93	4.79	65.42	1.37	9.74	6,655	11,980
		C	.....	35.9	48.0	16.10	2.99	4.65	66.85	1.40	8.01	6,800	12,240
		D	.....	42.8	57.2	.....	3.56	5.54	79.68	1.67	9.55	9,105	14,590

GUERNSEY COUNTY.

20178	2.2	A	4.4	41.1	45.8	8.74	4.85	5.37	69.30	1.26	10.48	7,060	12,710
		B	2.2	42.1	46.8	8.93	4.96	5.24	70.83	1.29	8.75	7,215	12,990
		C	.....	43.0	47.9	9.14	5.07	5.11	72.46	1.32	6.90	7,385	13,290
		D	.....	47.4	52.6	.....	5.58	5.62	79.75	1.45	7.60	8,125	14,630
20243	2.5	A	4.3	40.2	45.1	10.39	3.75	5.37	68.30	1.50	10.69	6,940	12,490
		B	1.9	41.2	46.2	10.65	3.84	5.23	70.02	1.54	8.72	7,115	12,810
		C	.....	42.0	47.1	10.86	3.92	5.11	71.39	1.57	7.15	7,255	13,060
		D	.....	47.2	52.8	.....	4.40	5.73	80.09	1.76	8.02	8,140	14,650
20245	4.2	A	6.9	34.1	53.3	5.7	.84	.....	.....	.....	.....	7,105	12,790
		B	2.8	35.6	55.6	6.0	.88	.....	.....	.....	.....	7,410	13,340
		C	.....	36.6	57.2	6.2	.90	.....	.....	.....	.....	7,630	13,730
		D	.....	39.0	61.0	.....	.96	.....	.....	.....	.....	8,130	14,640
20246	3.6	A	6.2	36.2	52.3	5.3	.88	.....	.....	.....	.....	7,225	13,000
		B	2.7	37.5	54.3	5.5	.91	.....	.....	.....	.....	7,495	13,490
		C	.....	38.6	55.8	5.6	.94	.....	.....	.....	.....	7,705	13,870
		D	.....	40.9	59.1	.....	1.00	.....	.....	.....	.....	8,170	14,700
20247	3.9	A	6.5	35.4	52.6	5.53	.88	5.49	73.42	1.37	13.31	7,190	14,940
		B	2.7	36.9	54.7	5.75	.92	5.27	76.39	1.43	10.24	7,480	13,470
		C	.....	37.9	56.2	5.91	.94	5.10	78.51	1.46	8.08	7,690	13,840
		D	.....	40.2	59.8	.....	1.00	5.42	83.44	1.55	8.59	8,470	14,710
20261	3.2	A	5.4	35.8	50.8	8.0	1.64	.....	.....	.....	.....	7,100	12,780
		B	2.2	37.0	52.5	8.3	1.69	.....	.....	.....	.....	7,340	13,210
		C	.....	37.8	53.7	8.5	1.73	.....	.....	.....	.....	7,505	13,510
		D	.....	41.4	58.6	.....	1.89	.....	.....	.....	.....	8,205	14,770

OHIO—Continued.

GUERNSEY COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
20262	4.1	A	6.4	33.7	52.1	7.8	2.16	.....	.....	.....	.....	7,015	12,630
		B	2.4	35.1	54.4	8.1	2.25	.....	.....	.....	.....	7,315	13,170
		C	.....	36.0	55.7	8.3	2.30	.....	.....	.....	.....	7,495	13,490
		D	.....	39.2	60.8	.....	2.51	.....	.....	.....	.....	8,175	14,720
20263	3.7	A	6.0	34.2	52.0	7.83	1.98	5.38	71.38	1.32	12.11	7,065	12,720
		B	2.4	35.5	54.0	8.13	2.06	5.16	74.12	1.37	9.16	7,340	13,210
		C	.....	36.4	55.3	8.33	2.11	5.01	75.93	1.40	7.22	7,520	13,530
		D	.....	39.7	60.3	.....	2.30	5.47	82.83	1.53	7.87	8,200	14,760
20264	3.8	A	6.1	35.2	51.8	6.9	1.62	.....	.....	.....	.....	7,075	12,740
		B	2.4	36.6	53.8	7.2	1.68	.....	.....	.....	.....	7,355	13,240
		C	.....	37.5	55.1	7.4	1.72	.....	.....	.....	.....	7,535	13,570
		D	.....	40.5	59.5	.....	1.86	.....	.....	.....	.....	8,135	14,650
20265	3.4	A	6.0	35.7	50.4	7.9	2.15	.....	.....	.....	.....	7,035	12,660
		B	2.6	37.0	52.2	8.2	2.23	.....	.....	.....	.....	7,285	13,110
		C	.....	38.0	53.6	8.4	2.29	.....	.....	.....	.....	7,480	13,460
		D	.....	41.5	58.5	.....	2.50	.....	.....	.....	.....	8,170	14,700
20266	3.6	A	6.1	35.0	51.6	7.33	1.95	5.37	71.24	1.39	12.72	7,060	12,710
		B	2.5	36.4	53.5	7.60	2.02	5.16	73.91	1.44	9.87	7,325	13,190
		C	.....	37.3	54.9	7.80	2.08	5.00	75.84	1.48	7.80	7,520	13,530
		D	.....	40.5	59.5	.....	2.26	5.42	82.26	1.61	8.45	8,155	14,680
JEFFERSON COUNTY.													
15394	1.4	A	3.5	38.0	51.1	7.44	3.09	5.43	73.39	1.46	9.19	7,380	13,290
		B	2.1	38.5	51.8	7.55	3.13	5.35	74.43	1.48	8.06	7,485	13,480
		C	.....	39.4	52.9	7.71	3.20	5.22	76.05	1.51	6.31	7,650	13,770
		D	.....	42.7	57.3	.....	3.47	5.66	82.40	1.64	6.83	8,290	14,920
15395	1.7	A	3.7	38.0	49.6	8.75	2.82	5.32	71.76	1.39	9.96	7,285	13,110
		B	2.0	38.6	50.5	8.90	2.87	5.22	73.00	1.41	8.60	7,410	13,340
		C	.....	39.4	51.5	9.09	2.93	5.10	74.51	1.44	6.93	7,560	13,610
		D	.....	43.4	56.6	.....	3.22	5.61	81.96	1.58	7.63	8,320	14,970
15442	1.6	A	3.4	38.0	51.6	6.97	2.71	5.40	73.31	1.46	10.15	7,440	13,390
		B	1.8	38.6	52.5	7.08	2.75	5.31	74.50	1.49	8.87	7,560	13,610
		C	.....	39.3	53.5	7.21	2.80	5.20	75.88	1.51	7.40	7,700	13,860
		D	.....	42.4	57.6	.....	3.02	5.60	81.78	1.63	7.97	8,295	14,930
15446	2.4	A	4.7	36.6	50.8	7.89	2.80	5.28	71.72	1.35	10.96	7,195	12,950
		B	2.3	37.5	52.1	8.08	2.87	5.13	73.49	1.38	9.05	7,370	13,270
		C	.....	38.4	53.3	8.28	2.94	4.99	75.23	1.42	7.14	7,545	13,580
		D	.....	41.9	58.1	.....	3.21	5.44	82.02	1.55	7.78	8,225	14,810
15565	2.3	A	4.1	38.0	50.2	7.70	3.84	5.23	71.69	1.39	10.15	7,230	13,010
		B	1.8	38.9	51.4	7.88	3.93	5.10	73.38	1.42	8.29	7,400	13,320
		C	.....	39.6	52.4	8.03	4.00	4.97	74.77	1.45	6.78	7,540	13,570
		D	.....	43.1	56.9	.....	4.35	5.40	81.30	1.58	7.37	8,130	14,760
MONROE COUNTY.													
20259	2.7	A	4.9	35.9	43.9	15.32	3.96	4.87	63.59	1.19	11.07	6,410	11,540
		B	2.2	36.9	45.1	15.75	4.07	4.70	65.36	1.22	8.90	6,590	11,860
		C	.....	37.8	46.1	16.10	4.16	4.55	66.83	1.25	7.11	6,740	12,130
		D	.....	45.0	55.0	.....	4.96	5.42	79.65	1.49	8.48	8,030	14,460

OHIO—Continued.

NOBLE COUNTY.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
20185	2.1	A	4.2	38.4	44.8	12.62	3.61	5.22	66.87	1.20	10.48	6,740	12,130
		B	2.1	39.2	45.8	12.88	3.69	5.09	68.27	1.23	8.84	6,880	12,380
		C	.....	40.1	46.7	13.17	3.77	4.97	69.76	1.25	7.08	7,030	12,650
		D	.....	46.2	53.8	.....	4.34	5.72	80.34	1.44	8.16	8,095	12,570
20235	2.4	A	4.5	39.6	45.6	10.32	4.12	5.27	68.00	1.17	11.12	6,845	12,320
		B	2.1	40.6	46.7	10.58	4.22	5.12	69.69	1.20	9.19	7,015	12,630
		C	.....	41.4	47.8	10.81	4.32	5.00	71.22	1.23	7.42	7,170	12,910
		D	.....	46.5	53.5	.....	4.84	5.61	79.85	1.38	8.32	8,040	14,470
20240	1.9	A	3.6	41.5	44.4	10.53	4.87	5.25	68.15	1.11	10.09	6,945	12,510
		B	1.8	42.3	45.2	10.73	4.96	5.14	69.45	1.13	8.59	7,080	12,740
		C	.....	43.1	46.0	10.92	5.05	5.03	70.67	1.15	7.18	7,205	12,970
		D	.....	48.4	51.6	.....	5.67	5.65	79.33	1.29	8.06	8,085	14,560

OKLAHOMA.

CRAIG COUNTY.

20715	2.9	A	4.9	35.4	48.0	11.7	5.76	.....	.....	.....	.....	6,935	12,480
		B	2.0	36.4	49.5	12.1	5.93	.....	.....	.....	.....	7,145	12,860
		C	.....	37.2	50.5	12.3	6.06	.....	.....	.....	.....	7,290	13,120
		D	.....	42.4	57.6	.....	6.91	.....	.....	.....	.....	8,315	14,970
20716	2.5	A	4.1	37.4	48.3	10.17	6.08	5.33	69.76	1.39	7.27	7,175	12,920
		B	1.7	38.4	49.5	10.43	6.24	5.18	71.57	1.43	5.15	7,360	13,250
		C	.....	39.0	50.4	10.61	6.34	5.08	72.77	1.45	3.75	7,485	13,470
		D	.....	43.7	56.3	.....	7.09	5.68	81.41	1.62	4.20	8,375	15,070
20717	2.4	A	4.1	40.3	45.5	10.1	6.55	.....	.....	.....	.....	7,170	12,910
		B	1.8	41.3	46.6	10.3	6.71	.....	.....	.....	.....	7,345	13,230
		C	.....	42.1	47.4	10.5	6.83	.....	.....	.....	.....	7,480	13,460
		D	.....	47.0	53.0	.....	7.63	.....	.....	.....	.....	8,355	15,040
20718	4.1	A	5.7	38.3	45.9	10.1	6.02	.....	.....	.....	.....	6,980	12,570
		B	1.7	39.9	47.9	10.5	6.28	.....	.....	.....	.....	7,280	13,110
		C	.....	40.6	48.7	10.7	6.38	.....	.....	.....	.....	7,410	13,330
		D	.....	45.4	54.6	.....	7.14	.....	.....	.....	.....	8,295	14,930

ROGERS COUNTY.

20714	3.8	A	6.1	38.3	47.4	8.2	3.84	.....	.....	.....	.....	7,075	12,740
		B	2.3	39.9	49.3	8.5	3.99	.....	.....	.....	.....	7,355	13,240
		C	.....	40.8	50.5	8.7	4.09	.....	.....	.....	.....	7,530	13,560
		D	.....	44.7	55.3	.....	4.48	.....	.....	.....	.....	8,255	14,860
20780	2.6	A	4.2	38.2	47.8	9.82	5.17	5.35	69.67	1.60	8.39	7,175	12,910
		B	1.7	39.2	49.0	10.08	5.31	5.20	71.54	1.64	6.23	7,365	13,260
		C	.....	39.9	49.9	10.25	5.40	5.10	72.75	1.67	4.83	7,490	13,480
		D	.....	44.5	55.5	.....	6.02	5.68	81.06	1.86	5.38	8,345	15,020
20781	7.3	A	9.4	31.7	54.3	4.6	.81	.....	.....	.....	.....	7,150	12,870
		B	2.2	34.2	58.6	5.0	.87	.....	.....	.....	.....	7,715	13,890
		C	.....	35.0	59.9	5.1	.89	.....	.....	.....	.....	7,895	14,210
		D	.....	36.8	63.2	.....	.94	.....	.....	.....	.....	8,315	14,970

OKLAHOMA—Continued.

TULSA COUNTY.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.			Ultimate.						Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
20712	3.3	A	6.7	36.3	48.3	8.7	3.38	.....	.....	.....	.....	6,970	12,540
		B	3.5	37.6	49.9	9.0	3.50	.....	.....	.....	.....	7,210	12,980
		C	.....	38.9	51.7	9.4	3.62	.....	.....	.....	.....	7,470	13,450
		D	.....	42.9	57.1	.....	3.99	.....	.....	.....	.....	8,240	14,840
20713	2.9	A	6.3	37.7	47.8	8.20	3.76	5.61	69.54	1.73	11.16	7,050	12,690
		B	3.4	38.9	49.3	8.45	3.87	5.44	71.65	1.78	8.81	7,265	13,080
		C	.....	40.2	51.0	8.75	4.01	5.24	74.21	1.85	5.94	7,525	13,550
		D	.....	44.1	55.9	.....	4.39	5.74	81.33	2.03	6.51	8,245	14,850

WAGONER COUNTY.

20832	6.1	A	8.3	34.0	51.1	6.6	2.51	.....	.....	.....	.....	6,985	12,580
		B	2.3	36.2	54.4	7.1	2.68	.....	.....	.....	.....	7,440	13,390
		C	.....	37.1	55.7	7.2	2.74	.....	.....	.....	.....	7,615	13,710
		D	.....	40.0	60.0	.....	2.95	.....	.....	.....	.....	8,210	14,780

OREGON.

COOS COUNTY.

19877	3.8	A	7.8	30.4	31.5	30.3	1 11	.....	.....	.....	.....	4,690	8,440
		B	4.2	31.6	32.7	31.5	1.15	.....	.....	.....	.....	4,875	8,770
		C	.....	33.0	34.1	32.9	1.20	.....	.....	.....	.....	5,090	9,160
		D	.....	49.1	50.9	.....	1.79	.....	.....	.....	.....	7,585	13,650
19878	10.8	A	14.6	29.0	29.4	27.0	.56	.....	.....	.....	.....	4,410	7,930
		B	4.2	32.5	33.0	30.3	.63	.....	.....	.....	.....	4,940	8,890
		C	.....	33.9	34.5	31.6	.66	.....	.....	.....	.....	5,160	9,290
		D	.....	49.6	50.4	.....	.97	.....	.....	.....	.....	7,550	13,590

PENNSYLVANIA.

SOMERSET COUNTY.

19848	3.3	A	4.0	17.8	71.8	6.4	0.87	.....	.....	.....	.....	7,810	14,060
		B	.7	18.4	74.2	6.7	.90	.....	.....	.....	.....	8,075	14,540
		C	.....	18.5	74.8	6.7	.91	.....	.....	.....	.....	8,140	14,650
		D	.....	19.9	80.1	.....	.98	.....	.....	.....	.....	8,720	15,700
19849	2.1	A	2.7	17.2	73.5	6.6	.79	.....	.....	.....	.....	7,885	14,200
		B	.7	17.5	75.0	6.8	.81	.....	.....	.....	.....	8,050	14,490
		C	.....	17.7	75.5	6.8	.81	.....	.....	.....	.....	8,110	14,600
		D	.....	19.0	81.0	.....	.87	.....	.....	.....	.....	8,700	15,660
19850	2.7	A	3.4	17.2	73.0	6.45	.83	4.75	81.53	1.43	5.01	7,835	14,100
		B	.8	17.6	75.0	6.63	.85	4.57	83.78	1.47	2.70	8,050	14,490
		C	.....	17.7	75.6	6.68	.86	4.52	84.39	1.48	2.07	8,110	14,600
		D	.....	19.0	81.0	.....	.92	4.84	90.42	1.59	2.23	8,690	15,640
19851	2.0	A	2.9	20.9	65.9	10.29	1.39	4.47	76.78	1.08	5.99	7,405	13,330
		B	.9	21.4	67.2	10.50	1.42	4.33	78.37	1.10	4.28	7,560	13,600
		C	.....	21.5	67.9	10.60	1.43	4.27	79.11	1.11	3.48	7,630	13,730
		D	.....	24.1	75.9	.....	1.60	4.78	88.49	1.24	3.89	8,535	15,360

TENNESSEE.

ANDERSON COUNTY.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
21427	0.8	A	2.1	40.5	53.4	4.0	1.60	.....	.....	.....	.....	7,900	14,220
		B	1.3	40.8	53.8	4.1	1.61	.....	.....	.....	.....	7,960	14,330
		C	.....	41.3	54.6	4.1	1.63	.....	.....	.....	.....	8,070	14,530
		D	.....	43.1	56.9	.....	1.70	.....	.....	.....	.....	8,415	15,150
21451	1.1	A	2.4	37.2	56.7	3.7	2.03	.....	.....	.....	.....	7,970	14.350
		B	1.3	37.6	57.3	3.8	2.05	.....	.....	.....	.....	8,065	14,510
		C	.....	38.1	58.1	3.8	2.08	.....	.....	.....	.....	8,170	14,710
		D	.....	39.7	60.3	.....	2.16	.....	.....	.....	.....	8,495	15,290
21452	.4	A	1.7	38.9	56.0	3.4	1.22	.....	.....	.....	.....	8,065	14,520
		B	1.3	39.1	56.2	3.4	1.22	.....	.....	.....	.....	8,095	14,570
		C	.....	39.6	57.0	3.4	1.24	.....	.....	.....	.....	8,205	14,770
		D	.....	41.0	59.0	.....	1.28	.....	.....	.....	.....	8,500	15,300
21453	.6	A	1.9	39.1	54.3	4.7	1.75	.....	.....	.....	.....	7,955	14,320
		B	1.3	39.3	54.7	4.7	1.76	.....	.....	.....	.....	8,005	14,410
		C	.....	39.8	55.4	4.8	1.78	.....	.....	.....	.....	8,110	14,590
		D	.....	41.8	58.2	.....	1.87	.....	.....	.....	.....	8,515	15,330
21455	.7	A	2.0	38.4	55.6	3.96	1.81	5.58	79.45	2.13	7.07	7,990	14,380
		B	1.3	38.6	56.1	3.99	1.82	5.54	80.02	2.15	6.48	8,045	14,480
		C	.....	39.2	56.8	4.04	1.85	5.47	81.09	2.17	5.38	8,155	14,680
		D	.....	40.8	59.2	.....	1.93	5.70	84.50	2.26	5.61	8,495	15,290
21454	.4	A	1.3	41.7	51.1	5.9	1.60	.....	.....	.....	.....	8,010	14,420
		B	.9	41.9	51.3	5.9	1.61	.....	.....	.....	.....	8,045	14,480
		C	.....	42.2	51.8	6.0	1.62	.....	.....	.....	.....	8,115	14,610
		D	.....	44.9	55.1	.....	1.72	.....	.....	.....	.....	8,635	15,550
21627	2.2	A	3.9	38.4	54.8	2.9	.84	.....	.....	.....	.....	7,855	14,140
		B	1.8	39.3	56.0	2.9	.86	.....	.....	.....	.....	8,035	14,460
		C	.....	40.0	57.0	3.0	.87	.....	.....	.....	.....	8,175	14,720
		D	.....	41.2	58.8	.....	.90	.....	.....	.....	.....	8,430	15,170
21628	1.1	A	2.5	36.3	56.8	4.4	1.05	.....	.....	.....	.....	7,865	14,160
		B	1.5	36.7	57.4	4.4	1.06	.....	.....	.....	.....	7,950	14,310
		C	.....	37.2	58.3	4.5	1.08	.....	.....	.....	.....	8,070	14,530
		D	.....	39.0	61.0	.....	1.13	.....	.....	.....	.....	8,450	15,210
21629	.8	A	2.0	37.9	53.1	7.0	1.76	.....	.....	.....	.....	7,675	13,820
		B	1.2	38.2	53.5	7.1	1.77	.....	.....	.....	.....	7,735	13,930
		C	.....	38.7	54.1	7.2	1.80	.....	.....	.....	.....	7,830	14,090
		D	.....	41.7	58.3	.....	1.94	.....	.....	.....	.....	8,440	15,190
21630	1.0	A	2.2	37.4	53.7	6.7	1.89	.....	.....	.....	.....	7,715	13,880
		B	1.2	37.8	54.2	6.8	1.91	.....	.....	.....	.....	7,790	14,030
		C	.....	38.2	54.9	6.9	1.93	.....	.....	.....	.....	7,885	14,190
		D	.....	41.1	58.9	.....	2.07	.....	.....	.....	.....	8,465	15,240
21631	1.0	A	2.2	37.2	54.5	6.12	1.59	5.40	77.61	1.83	7.45	7,755	13,960
		B	1.2	37.6	55.0	6.18	1.61	5.34	78.35	1.85	6.67	7,830	14,090
		C	.....	38.0	55.7	6.26	1.63	5.28	79.35	1.87	5.61	7,930	14,270
		D	.....	40.6	59.4	.....	1.74	5.63	84.65	1.99	5.99	8,460	15,230
21636	.3	A	1.7	37.0	56.6	4.7	1.18	.....	.....	.....	.....	7,865	14,150
		B	1.4	37.1	56.8	4.7	1.18	.....	.....	.....	.....	7,890	14,200
		C	.....	37.6	57.6	4.8	1.20	.....	.....	.....	.....	8,005	14.410
		D	.....	39.5	60.5	.....	1.26	.....	.....	.....	.....	8,405	15,130
21637	.5	A	2.0	36.1	56.3	5.6	.99	.....	.....	.....	.....	7,770	13,990
		B	1.5	36.3	56.6	5.6	1.00	.....	.....	.....	.....	7,810	14,060
		C	.....	36.8	57.4	5.8	1.01	.....	.....	.....	.....	7,925	14,270
		D	.....	39.1	60.9	.....	1.07	.....	.....	.....	.....	8,410	15,140
21638	.6	A	1.7	36.3	55.0	7.0	.89	.....	.....	.....	.....	7,700	13,860
		B	1.1	36.5	55.3	7.1	.90	.....	.....	.....	.....	7,745	13,940
		C	.....	36.9	55.9	7.2	.91	.....	.....	.....	.....	7,835	14,100
		D	.....	39.8	60.2	.....	.98	.....	.....	.....	.....	8,440	15,190
21639	.6	A	1.8	36.5	55.4	6.34	.99	5.47	78.06	1.92	7.22	7,730	13,920
		B	1.2	36.7	55.7	6.38	1.00	5.44	78.49	1.93	6.76	7,775	14,000
		C	.....	37.2	56.4	6.45	1.01	5.38	79.46	1.95	5.75	7,870	14,170
		D	.....	39.7	60.3	.....	1.08	5.75	84.93	2.08	6.16	8,410	15,140

TENNESSEE—Continued.

ANDERSON COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
21632	1.1	A	2.7	36.4	55.5	5.4	1.52	.....	.....	.....	.....	7,730	13,920
		B	1.5	36.8	56.2	5.5	1.54	.....	.....	.....	.....	7,820	14,070
		C	.....	37.4	57.0	5.6	1.56	.....	.....	.....	.....	7,945	14,300
		D	.....	39.6	60.4	.....	1.65	.....	.....	.....	.....	8,410	15,140
21633	1.2	A	2.5	35.4	52.5	9.6	1.73	.....	.....	.....	.....	7,385	13,300
		B	1.4	35.8	53.1	9.7	1.75	.....	.....	.....	.....	7,475	13,460
		C	.....	36.3	53.9	9.8	1.78	.....	.....	.....	.....	7,580	13,640
		D	.....	40.3	59.7	.....	1.97	.....	.....	.....	.....	8,400	15,120
21634	.6	A	2.0	35.9	51.8	10.3	1.65	.....	.....	.....	.....	7,345	13,230
		B	1.4	36.1	52.1	10.4	1.66	.....	.....	.....	.....	7,390	13,300
		C	.....	36.6	52.8	10.6	1.68	.....	.....	.....	.....	7,495	13,490
		D	.....	41.0	59.0	.....	1.88	.....	.....	.....	.....	8,375	15,080
21635	1.0	A	2.4	36.0	53.2	8.39	1.61	5.27	75.23	1.80	7.70	7,510	13,520
		B	1.4	36.4	53.7	8.47	1.63	5.21	75.97	1.82	6.90	7,585	13,650
		C	.....	36.9	54.5	8.59	1.65	5.13	77.03	1.84	5.76	7,690	13,840
		D	.....	40.4	59.6	.....	1.81	5.61	84.27	2.01	6.30	8,410	15,140
21680	.7	A	2.3	37.4	56.1	4.2	.89	.....	.....	.....	.....	7,880	14,180
		B	1.6	37.6	56.5	4.3	.90	.....	.....	.....	.....	7,935	14,280
		C	.....	38.3	57.4	4.3	.91	.....	.....	.....	.....	8,065	14,520
		D	.....	40.0	60.0	.....	.95	.....	.....	.....	.....	8,430	15,170
21640	.7	A	2.2	36.0	56.4	5.4	.83	.....	.....	.....	.....	7,805	14,050
		B	1.5	36.2	56.8	5.5	.84	.....	.....	.....	.....	7,865	14,160
		C	.....	36.8	57.6	5.6	.85	.....	.....	.....	.....	7,985	14,370
		D	.....	39.0	61.0	.....	.90	.....	.....	.....	.....	8,455	15,220
21641	.5	A	1.7	36.4	55.4	6.5	.91	.....	.....	.....	.....	7,765	13,980
		B	1.2	36.6	55.6	6.6	.91	.....	.....	.....	.....	7,805	14,050
		C	.....	37.1	56.3	6.6	.93	.....	.....	.....	.....	7,900	14,220
		D	.....	39.7	60.3	.....	1.00	.....	.....	.....	.....	8,460	15,230
21642	.4	A	1.7	37.0	55.9	5.4	.82	.....	.....	.....	.....	7,875	14,170
		B	1.4	37.1	56.1	5.4	.82	.....	.....	.....	.....	7,905	14,230
		C	.....	37.6	56.9	5.5	.83	.....	.....	.....	.....	8,015	14,420
		D	.....	39.8	60.2	.....	.88	.....	.....	.....	.....	8,480	15,260
21643	.7	A	2.0	37.0	55.5	5.5	.73	.....	.....	.....	.....	7,850	14,130
		B	1.3	37.3	55.9	5.5	.73	.....	.....	.....	.....	7,900	14,220
		C	.....	37.7	56.7	5.6	.74	.....	.....	.....	.....	8,010	14,420
		D	.....	40.0	60.0	.....	.78	.....	.....	.....	.....	8,480	15,270
21644	.6	A	1.9	36.6	55.8	5.70	.87	5.49	78.75	1.88	7.31	7,830	14,090
		B	1.4	36.8	56.1	5.73	.87	5.46	79.20	1.89	6.85	7,875	14,170
		C	.....	37.3	56.9	5.81	.89	5.38	80.30	1.92	5.70	7,980	14,370
		D	.....	39.6	60.4	.....	.94	5.71	85.25	2.04	6.06	8,475	15,250
21645	.6	A	1.9	36.5	56.0	5.6	1.49	.....	.....	.....	.....	7,850	14,130
		B	1.4	36.7	56.3	5.6	1.50	.....	.....	.....	.....	7,895	14,210
		C	.....	37.2	57.1	5.7	1.52	.....	.....	.....	.....	8,005	14,410
		D	.....	39.5	60.5	.....	1.61	.....	.....	.....	.....	8,490	15,280
21646	.6	A	1.9	36.6	54.9	6.6	1.80	.....	.....	.....	.....	7,750	13,950
		B	1.3	36.8	55.2	6.7	1.81	.....	.....	.....	.....	7,795	14,030
		C	.....	37.3	56.0	6.7	1.83	.....	.....	.....	.....	7,900	14,220
		D	.....	40.0	60.0	.....	1.96	.....	.....	.....	.....	8,470	15,250
21647	.5	A	1.8	37.3	56.9	4.0	.83	.....	.....	.....	.....	7,975	14,350
		B	1.4	37.4	57.2	4.0	.83	.....	.....	.....	.....	8,010	14,420
		C	.....	37.9	58.0	4.1	.85	.....	.....	.....	.....	8,125	14,620
		D	.....	39.6	60.4	.....	.89	.....	.....	.....	.....	8,465	15,240
21648	.6	A	1.9	36.7	57.5	3.9	1.00	.....	.....	.....	.....	7,990	14,380
		B	1.3	36.9	57.8	4.0	1.01	.....	.....	.....	.....	8,035	14,470
		C	.....	37.4	58.6	4.0	1.02	.....	.....	.....	.....	8,145	14,660
		D	.....	38.9	61.1	.....	1.06	.....	.....	.....	.....	8,485	15,280
21649	.6	A	1.8	36.6	56.5	5.08	1.32	5.42	78.95	1.91	7.32	7,890	14,200
		B	1.3	36.8	56.8	5.11	1.33	5.39	79.39	1.92	6.86	7,935	14,280
		C	.....	37.3	57.5	5.17	1.34	5.32	80.42	1.95	5.80	8,035	14,470
		D	.....	39.3	60.7	.....	1.41	5.61	84.80	2.06	6.12	8,475	15,250

TENNESSEE—Continued.

BLEDSOE COUNTY.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
22259	1.5	A	2.9	30.3	59.8	7.0	0.82	.....	.....	.....	.....	7,635	13,750
		B	1.4	30.8	60.7	7.1	.83	.....	.....	.....	.....	7,755	13,960
		C	.....	31.2	61.6	7.2	.84	.....	.....	.....	.....	7,860	14,150
		D	.....	33.6	66.4	.....	.91	.....	.....	.....	.....	8,475	15,250
22260	1.7	A	3.1	28.7	58.8	9.4	1.25	.....	.....	.....	.....	7,430	13,380
		B	1.4	29.2	59.9	9.5	1.27	.....	.....	.....	.....	7,560	13,610
		C	.....	29.6	60.7	9.7	1.29	.....	.....	.....	.....	7,665	13,800
		D	.....	32.8	67.2	.....	1.43	.....	.....	.....	.....	8,490	15,280
22261	1.6	A	3.1	29.8	58.9	8.24	1.02	5.09	76.67	1.43	7.55	7,530	13,560
		B	1.4	30.3	59.9	8.37	1.04	4.99	77.92	1.45	6.23	7,655	13,780
		C	.....	30.7	60.8	8.50	1.05	4.90	79.05	1.47	5.03	7,765	13,980
		D	.....	33.6	66.4	.....	1.15	5.36	86.39	1.61	5.49	8,485	15,280

CAMPBELL COUNTY.

21650	0.6	A	2.1	36.4	58.1	3.4	0.86	.....	.....	.....	.....	7,985	14,380
		B	1.5	36.6	58.4	3.5	.87	.....	.....	.....	.....	8,035	14,460
		C	.....	37.2	59.3	3.5	.88	.....	.....	.....	.....	8,160	14,680
		D	.....	38.5	61.5	.....	.91	.....	.....	.....	.....	8,455	15,220
21651	.7	A	2.2	36.7	56.5	4.6	.77	.....	.....	.....	.....	7,875	14,170
		B	1.5	37.0	56.8	4.7	.78	.....	.....	.....	.....	7,930	14,270
		C	.....	37.5	57.7	4.8	.79	.....	.....	.....	.....	8,055	14,500
		D	.....	39.4	60.6	.....	.83	.....	.....	.....	.....	8,455	15,220
21652	.5	A	2.0	37.6	56.9	3.5	.81	.....	.....	.....	.....	7,985	14,370
		B	1.5	37.8	57.1	3.6	.81	.....	.....	.....	.....	8,025	14,450
		C	.....	38.4	58.0	3.6	.83	.....	.....	.....	.....	8,145	14,660
		D	.....	39.8	60.2	.....	.86	.....	.....	.....	.....	8,450	15,210
21653	.6	A	2.1	36.6	57.5	3.83	.77	5.50	79.71	1.92	8.27	7,960	14,330
		B	1.5	36.8	57.8	3.85	.77	5.46	80.20	1.93	7.79	8,010	14,420
		C	.....	37.4	58.7	3.91	.79	5.37	81.44	1.96	6.53	8,135	14,640
		D	.....	38.9	61.1	.....	.82	5.59	84.75	2.04	6.80	8,465	15,240
21654	1.1	A	3.3	38.1	50.8	7.8	1.00	.....	.....	.....	.....	7,345	13,220
		B	2.3	38.5	51.3	7.9	1.01	.....	.....	.....	.....	7,425	13,370
		C	.....	39.4	52.5	8.1	1.03	.....	.....	.....	.....	7,600	13,680
		D	.....	42.9	57.1	.....	1.12	.....	.....	.....	.....	8,265	14,880
21655	1.5	A	3.8	38.3	52.8	5.1	1.37	.....	.....	.....	.....	7,535	13,560
		B	2.4	38.9	53.6	5.1	1.39	.....	.....	.....	.....	7,645	13,770
		C	.....	39.8	54.9	5.3	1.42	.....	.....	.....	.....	7,830	14,100
		D	.....	42.0	58.0	.....	1.50	.....	.....	.....	.....	8,270	14,880
21656	1.1	A	3.5	39.3	51.4	5.8	1.05	.....	.....	.....	.....	7,475	13,460
		B	2.4	39.7	52.0	5.9	1.06	.....	.....	.....	.....	7,560	13,610
		C	.....	40.7	53.3	6.0	1.09	.....	.....	.....	.....	7,745	13,940
		D	.....	43.3	56.7	.....	1.16	.....	.....	.....	.....	8,240	14,840
21657	1.1	A	3.4	38.6	52.7	5.3	1.12	.....	.....	.....	.....	7,485	13,480
		B	2.3	39.0	53.3	5.4	1.13	.....	.....	.....	.....	7,570	13,630
		C	.....	39.9	54.6	5.5	1.16	.....	.....	.....	.....	7,750	13,950
		D	.....	42.3	57.7	.....	1.23	.....	.....	.....	.....	8,200	14,760
21658	1.2	A	3.5	38.6	51.9	6.03	1.13	5.55	75.95	1.70	9.64	7,450	13,410
		B	2.3	39.1	52.5	6.10	1.14	5.49	76.88	1.72	8.67	7,540	13,570
		C	.....	40.0	53.8	6.25	1.17	5.35	78.66	1.76	6.81	7,715	13,890
		D	.....	42.7	57.3	.....	1.25	5.71	83.91	1.88	7.25	8,230	14,820
21677	1.4	A	4.0	37.3	55.3	3.4	.64	.....	.....	.....	.....	7,700	13,860
		B	2.7	37.8	56.1	3.4	.65	.....	.....	.....	.....	7,810	14,050
		C	.....	38.8	57.7	3.5	.67	.....	.....	.....	.....	8,020	14,440
		D	.....	40.2	59.8	.....	.69	.....	.....	.....	.....	8,310	14,960
21678	1.0	A	3.5	38.4	54.4	3.7	.75	.....	.....	.....	.....	7,700	13,860
		B	2.5	38.8	54.9	3.8	.76	.....	.....	.....	.....	7,775	13,990
		C	.....	39.8	56.3	3.9	.78	.....	.....	.....	.....	7,980	14,360
		D	.....	41.4	58.6	.....	.81	.....	.....	.....	.....	8,300	14,940

TENNESSEE—Continued.

CAMPBELL COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.			Ultimate.						Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
21679	1.2	A	3.7	37.5	55.3	3.46	0.70	5.54	77.92	1.61	10.77	7,710	13,880
		B	2.5	38.0	56.0	3.50	.71	5.48	78.86	1.63	9.82	7,800	14,040
		C	.....	38.9	57.5	3.59	.73	5.33	80.91	1.67	7.77	8,005	14,410
		D	.....	40.4	59.6	.....	.76	5.53	83.92	1.73	8.06	8,305	14,950
21659	1.2	A	3.6	38.4	53.7	4.3	1.01	.....	.....	.....	.....	7,610	13,690
		B	2.4	38.9	54.3	4.4	1.02	.....	.....	.....	.....	7,700	13,860
		C	.....	39.8	55.7	4.5	1.05	.....	.....	.....	.....	7,895	14,210
		D	.....	41.7	58.3	.....	1.10	.....	.....	.....	.....	8,265	14,880
21660	1.3	A	3.4	37.7	51.7	7.2	1.34	.....	.....	.....	.....	7,355	13,240
		B	2.2	38.2	52.3	7.3	1.36	.....	.....	.....	.....	7,450	13,410
		C	.....	39.0	53.6	7.4	1.39	.....	.....	.....	.....	7,620	13,710
		D	.....	42.2	57.8	.....	1.50	.....	.....	.....	.....	8,225	14,810
21661	1.1	A	3.5	38.8	52.7	5.0	1.30	.....	.....	.....	.....	7,600	13,680
		B	2.4	39.3	53.3	5.0	1.31	.....	.....	.....	.....	7,685	13,840
		C	.....	40.2	54.6	5.2	1.35	.....	.....	.....	.....	7,875	14,180
		D	.....	42.4	57.6	.....	1.42	.....	.....	.....	.....	8,305	14,950
21662	1.2	A	3.3	38.8	50.9	7.0	1.14	.....	.....	.....	.....	7,385	13,290
		B	2.2	39.2	51.5	7.1	1.15	.....	.....	.....	.....	7,470	13,440
		C	.....	40.1	52.6	7.3	1.18	.....	.....	.....	.....	7,640	13,750
		D	.....	43.3	56.7	.....	1.27	.....	.....	.....	.....	8,240	14,830
21663	1.2	A	3.4	38.4	52.4	5.82	1.22	5.53	75.36	1.77	10.30	7,500	13,500
		B	2.2	38.9	53.0	5.89	1.23	5.46	76.26	1.79	9.37	7,585	13,660
		C	.....	39.8	54.2	6.02	1.26	5.32	78.00	1.83	7.57	7,760	13,970
		D	.....	42.3	57.7	.....	1.34	5.66	83.00	1.95	8.05	8,255	14,860
21664	2.2	A	4.7	37.5	54.0	3.8	.69	.....	.....	.....	.....	7,555	13,600
		B	2.6	38.3	55.2	3.9	.71	.....	.....	.....	.....	7,720	13,900
		C	.....	39.3	56.7	4.0	.72	.....	.....	.....	.....	7,930	14,270
		D	.....	41.0	59.0	.....	.75	.....	.....	.....	.....	8,255	14,860
21668	1.3	A	3.5	39.3	52.2	5.0	1.18	.....	.....	.....	.....	7,565	13,620
		B	2.2	39.9	52.8	5.1	1.20	.....	.....	.....	.....	7,665	13,800
		C	.....	40.8	54.0	5.2	1.22	.....	.....	.....	.....	7,840	14,120
		D	.....	43.0	57.0	.....	1.29	.....	.....	.....	.....	8,270	14,880
21669	1.2	A	3.4	37.8	50.6	8.2	1.00	.....	.....	.....	.....	7,290	13,120
		B	2.2	38.3	51.2	8.3	1.01	.....	.....	.....	.....	7,375	13,280
		C	.....	39.2	52.3	8.5	1.03	.....	.....	.....	.....	7,545	13,580
		D	.....	42.8	57.2	.....	1.13	.....	.....	.....	.....	8,245	14,850
21670	1.4	A	3.7	38.1	53.3	4.9	.87	.....	.....	.....	.....	7,570	13,630
		B	2.3	38.6	54.1	5.0	.88	.....	.....	.....	.....	7,675	13 820
		C	.....	39.5	55.4	5.1	.90	.....	.....	.....	.....	7,860	14,150
		D	.....	41.6	58.4	.....	.95	.....	.....	.....	.....	8,280	14,900
21671	.9	A	3.2	39.2	51.9	5.7	1.10	.....	.....	.....	.....	7,525	13,550
		B	2.3	39.6	52.4	5.7	1.11	.....	.....	.....	.....	7,595	13,680
		C	.....	40.5	53.6	5.9	1.14	.....	.....	.....	.....	7,775	14,000
		D	.....	43.1	56.9	.....	1.21	.....	.....	.....	.....	8,260	14,860
21672	1.2	A	3.5	38.5	52.2	5.84	1.00	5.57	75.01	1.74	10.84	7,485	13,480
		B	2.3	38.9	52.9	5.91	1.01	5.51	75.93	1.76	9.88	7.580	13,640
		C	.....	39.9	54.1	6.05	1.04	5.38	77.70	1.80	8.03	7,755	13,960
		D	.....	42.4	57.6	.....	1.11	5.73	82.71	1.92	8.53	8.255	14,860
21665	.6	A	2.1	37.1	56.4	4.4	1.47	.....	.....	.....	.....	7,825	14,080
		B	1.6	37.3	56.7	4.4	1.48	.....	.....	.....	.....	7,865	14,160
		C	.....	37.9	57.6	4.5	1.50	.....	.....	.....	.....	7,990	14,380
		D	.....	39.7	60.3	.....	1.57	.....	.....	.....	.....	8,365	15,060
21666	.3	A	1.7	38.2	56.2	3.9	.85	.....	.....	.....	.....	7,900	14,220
		B	1.4	38.3	56.4	3.9	.85	.....	.....	.....	.....	7,925	14,270
		C	.....	38.8	57.2	4.0	.87	.....	.....	.....	.....	8,040	14,470
		D	.....	40.4	59.6	.....	.91	.....	.....	.....	.....	8,375	15,080
21667	.4	A	1.9	37.7	56.3	4.09	1.23	5.49	79.27	1.94	7.98	7,875	14,180
		B	1.5	37.8	56.6	4.11	1.24	5.46	79.61	1.95	7.63	7,910	14,240
		C	.....	38.4	57.4	4.17	1.25	5.37	80.85	1.98	6.38	8,035	14,460
		D	.....	40.1	59.9	.....	1.30	5.60	84.37	2.07	6.66	8,385	15,090

TENNESSEE—Continued.

CAMPBELL COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
21673	0.6	A	2.1	37.2	56.5	4.2	0.82	.....	.....	.....	.....	7,900	14,220
		B	1.6	37.4	56.8	4.2	.83	.....	.....	.....	.....	7,950	14,310
		C	.....	38.0	57.7	4.3	.84	.....	.....	.....	.....	8,075	14,530
		D	.....	39.7	60.3	.....	.88	.....	.....	.....	.....	8,435	15,190
21674	.7	A	2.3	36.7	56.8	4.2	1.06	.....	.....	.....	.....	7,870	14,170
		B	1.6	36.9	57.2	4.3	1.07	.....	.....	.....	.....	7,925	14,270
		C	.....	37.5	58.2	4.3	1.08	.....	.....	.....	.....	8,055	14,500
		D	.....	39.2	60.8	.....	1.13	.....	.....	.....	.....	8,420	15,160
21675	.7	A	2.3	36.7	56.5	4.5	.87	.....	.....	.....	.....	7,870	14,160
		B	1.6	37.0	56.9	4.5	.88	.....	.....	.....	.....	7,925	14,260
		C	.....	37.6	57.9	4.5	.89	.....	.....	.....	.....	8,055	14,500
		D	.....	39.4	60.6	.....	.93	.....	.....	.....	.....	8,440	15,190
21676	.7	A	2.3	36.7	56.8	4.16	.92	5.51	79.20	1.87	8.34	7,885	14,190
		B	1.6	36.9	57.3	4.19	.93	5.48	79.73	1.88	7.79	7,935	14,290
		C	.....	37.5	58.2	4.26	.94	5.40	81.05	1.91	6.44	8,070	14,520
		D	.....	39.2	60.8	.....	.98	5.64	84.65	1.99	6.74	8,425	15,170
21687	1.8	A	4.4	36.7	54.8	4.1	1.35	.....	.....	.....	.....	7,490	13,480
		B	2.7	37.4	55.8	4.1	1.37	.....	.....	.....	.....	7,625	13,730
		C	.....	38.4	57.4	4.2	1.41	.....	.....	.....	.....	7,835	14,110
		D	.....	40.1	59.9	.....	1.47	.....	.....	.....	.....	8,185	14,730
21688	1.8	A	4.2	37.5	55.5	2.8	.98	.....	.....	.....	.....	7,635	13,740
		B	2.5	38.2	56.5	2.8	1.00	.....	.....	.....	.....	7,775	13,990
		C	.....	39.2	57.9	2.9	1.02	.....	.....	.....	.....	7,970	14,350
		D	.....	40.3	59.7	.....	1.05	.....	.....	.....	.....	8,210	14,780
21689	1.8	A	4.3	37.1	55.1	3.52	1.19	5.62	76.72	1.84	11.11	7,585	13,660
		B	2.5	37.8	56.1	3.59	1.21	5.53	78.14	1.87	9.66	7,730	13,910
		C	.....	38.8	57.5	3.68	1.24	5.37	80.16	1.92	7.63	7,925	14,270
		D	.....	40.3	59.7	.....	1.29	5.58	83.22	1.99	7.92	8,230	14,810
21690	1.7	A	3.9	38.9	55.2	2.0	.79	.....	.....	.....	.....	7,775	14,000
		B	2.3	39.6	56.1	2.0	.80	.....	.....	.....	.....	7,910	14,240
		C	.....	40.5	57.5	2.0	.82	.....	.....	.....	.....	8,095	14,580
		D	.....	41.3	58.7	.....	.84	.....	.....	.....	.....	8,265	14,880
21691	1.7	A	3.8	39.2	54.7	2.3	.89	.....	.....	.....	.....	7,770	13,980
		B	2.1	39.9	55.7	2.3	.91	.....	.....	.....	.....	7,905	14,230
		C	.....	40.8	56.9	2.3	.93	.....	.....	.....	.....	8,075	14,540
		D	.....	41.7	58.3	.....	.95	.....	.....	.....	.....	8,270	14,890
21692	1.6	A	3.9	38.8	55.5	1.8	.80	.....	.....	.....	.....	7,795	14,030
		B	2.3	39.4	56.4	1.9	.81	.....	.....	.....	.....	7,920	14,250
		C	.....	40.3	57.8	1.9	.83	.....	.....	.....	.....	8,105	14,590
		D	.....	41.1	58.9	.....	.85	.....	.....	.....	.....	8,265	14,870
21693	1.7	A	3.9	38.8	55.2	2.07	.86	5.75	78.49	1.95	10.88	7,880	14,000
		B	2.3	39.5	56.1	2.11	.87	5.66	79.82	1.98	9.56	7,910	14,240
		C	.....	40.4	57.4	2.16	.90	5.53	81.72	2.03	7.66	8,100	14,580
		D	.....	41.3	58.7	.....	.92	5.65	83.53	2.07	7.83	8,280	14,900
21694	1.8	A	4.2	36.3	56.5	3.0	.64	.....	.....	.....	.....	7,625	13,720
		B	2.5	36.9	57.6	3.0	.65	.....	.....	.....	.....	7,760	13,970
		C	.....	37.9	59.0	3.1	.67	.....	.....	.....	.....	7,960	14,330
		D	.....	39.1	60.9	.....	.69	.....	.....	.....	.....	8,215	14,790
21695	2.0	A	4.4	36.0	56.6	3.0	.69	.....	.....	.....	.....	7,575	13,640
		B	2.4	36.7	57.8	3.1	.70	.....	.....	.....	.....	7,730	13,910
		C	.....	37.6	59.3	3.1	.72	.....	.....	.....	.....	7,925	14,260
		D	.....	38.8	61.2	.....	.74	.....	.....	.....	.....	8,180	14,730
21696	1.6	A	4.0	37.5	55.7	2.8	.76	.....	.....	.....	.....	7,640	13,750
		B	2.5	38.2	56.5	2.8	.77	.....	.....	.....	.....	7,760	13,970
		C	.....	39.1	58.0	2.9	.79	.....	.....	.....	.....	7,960	14,330
		D	.....	40.3	59.7	.....	.81	.....	.....	.....	.....	8,200	14,760
21697	2.0	A	4.6	36.3	55.6	3.5	.74	.....	.....	.....	.....	7,540	13,570
		B	2.6	37.0	56.8	3.6	.76	.....	.....	.....	.....	7,695	13,860
		C	.....	38.0	58.3	3.7	.78	.....	.....	.....	.....	7,905	14,230
		D	.....	39.5	60.5	.....	.81	.....	.....	.....	.....	8,205	14,770

TENNESSEE—Continued.

CAMPBELL COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
21698	1.9	A	4.3	36.7	55.9	3.09	0.71	5.58	77.38	1.93	11.31	7,595	13,670
		B	2.5	37.4	56.9	3.15	.72	5.47	78.84	1.97	9.85	7,740	13,930
		C	.....	38.4	58.4	3.23	.74	5.33	80.88	2.02	7.80	7,940	14,290
		D	.....	39.6	60.4	.....	.76	5.51	83.58	2.09	8.06	8,205	14,770
21699	1.3	A	3.2	37.5	56.3	3.0	1.13	.....	.....	.....	.....	7,790	14,020
		B	1.9	38.0	57.1	3.0	1.14	.....	.....	.....	.....	7,890	14,200
		C	.....	38.8	58.1	3.1	1.17	.....	.....	.....	.....	8,045	14,480
		D	.....	40.0	60.0	.....	1.21	.....	.....	.....	.....	8,300	14,940
21700	1.0	A	3.0	37.8	55.8	3.4	.78	.....	.....	.....	.....	7,820	14,080
		B	2.0	38.2	56.4	3.4	.79	.....	.....	.....	.....	7,905	14,230
		C	.....	39.0	57.5	3.5	.80	.....	.....	.....	.....	8,060	14,510
		D	.....	40.4	59.6	.....	.83	.....	.....	.....	.....	8,355	15,040
21701	1.1	A	3.3	37.1	55.9	3.7	1.49	.....	.....	.....	.....	7,685	13,830
		B	2.3	37.5	56.5	3.7	1.51	.....	.....	.....	.....	7,770	13,980
		C	.....	38.4	57.8	3.8	1.54	.....	.....	.....	.....	7,950	14,310
		D	.....	39.9	60.1	.....	1.60	.....	.....	.....	.....	8,260	14,870
21702	1.1	A	3.2	37.5	56.6	2.7	.89	.....	.....	.....	.....	7,835	14,100
		B	2.2	37.9	57.2	2.7	.90	.....	.....	.....	.....	7,920	14,250
		C	.....	38.8	58.5	2.7	.92	.....	.....	.....	.....	8,095	14,570
		D	.....	39.9	60.1	.....	.95	.....	.....	.....	.....	8,325	14,990
21703	1.1	A	3.1	37.4	56.3	3.23	1.04	5.62	78.56	1.96	9.59	7,785	14,010
		B	2.0	37.8	56.9	3.27	1.05	5.56	79.44	1.98	8.70	7,870	14,170
		C	.....	38.6	58.1	3.33	1.07	5.44	81.09	2.02	7.05	8,035	14,470
		D	.....	39.9	60.1	.....	1.11	5.63	83.88	2.09	7.29	8,310	14,960
21802	2.2	A	4.4	38.0	55.1	2.5	.69	.....	.....	.....	.....	7,720	13,900
		B	2.2	38.8	56.4	2.6	.71	.....	.....	.....	.....	7,895	14,210
		C	.....	39.7	57.7	2.6	.72	.....	.....	.....	.....	8,075	14,540
		D	.....	40.8	59.2	.....	.74	.....	.....	.....	.....	8,295	14,930
21803	1.6	A	3.7	39.0	54.8	2.5	.68	.....	.....	.....	.....	7,755	13,960
		B	2.2	39.6	55.7	2.5	.69	.....	.....	.....	.....	7,880	14,180
		C	.....	40.5	56.9	2.6	.71	.....	.....	.....	.....	8,055	14,500
		D	.....	41.6	58.4	.....	.74	.....	.....	.....	.....	8,270	14,890
21804	2.1	A	4.2	38.7	55.5	1.6	.68	.....	.....	.....	.....	7,820	14,080
		B	2.2	39.5	56.7	1.6	.69	.....	.....	.....	.....	7,990	14,380
		C	.....	40.4	58.0	1.6	.71	.....	.....	.....	.....	8,165	14,700
		D	.....	41.1	58.9	.....	.72	.....	.....	.....	.....	8,305	14,950
21805	2.0	A	4.1	38.6	55.1	2.22	.72	5.87	77.87	2.01	11.31	7,765	13,980
		B	2.1	39.3	56.3	2.26	.73	5.76	79.44	2.05	9.76	7,920	14,260
		C	.....	40.2	57.5	2.31	.75	5.65	81.16	2.10	8.03	8,095	14,570
		D	.....	41.2	58.8	.....	.77	5.78	83.08	2.15	8.22	8,285	14,920
21806	1.6	A	3.7	37.9	53.8	4.6	2.23	.....	.....	.....	.....	7,595	13,670
		B	2.1	38.5	54.7	4.7	2.27	.....	.....	.....	.....	7,720	13,890
		C	.....	39.3	55.9	4.8	2.32	.....	.....	.....	.....	7,885	14,200
		D	.....	41.3	58.7	.....	2.44	.....	.....	.....	.....	8,280	14,910
21807	1.6	A	3.6	38.8	53.9	3.7	1.50	.....	.....	.....	.....	7,650	13,770
		B	2.0	39.4	54.8	3.8	1.52	.....	.....	.....	.....	7,770	13,990
		C	.....	40.2	55.9	3.9	1.56	.....	.....	.....	.....	7,930	14,280
		D	.....	41.9	58.1	.....	1.62	.....	.....	.....	.....	8,250	14,850
21808	1.2	A	3.4	39.2	53.2	4.2	1.72	.....	.....	.....	.....	7,655	13,780
		B	2.2	39.7	53.8	4.3	1.74	.....	.....	.....	.....	7,745	13,940
		C	.....	40.6	55.0	4.4	1.78	.....	.....	.....	.....	7,920	14,260
		D	.....	42.5	57.5	.....	1.86	.....	.....	.....	.....	8,285	14,910
21809	1.5	A	3.8	37.9	53.7	4.6	2.12	.....	.....	.....	.....	7,565	13,620
		B	2.3	38.5	54.5	4.7	2.15	.....	.....	.....	.....	7,685	13,830
		C	.....	39.4	55.8	4.8	2.20	.....	.....	.....	.....	7,865	14,160
		D	.....	41.4	58.6	.....	2.31	.....	.....	.....	.....	8,260	14,870
21810	1.5	A	3.6	38.7	53.4	4.29	1.88	5.78	76.49	1.96	9.60	7,625	13,730
		B	2.2	39.3	54.2	4.35	1.91	5.70	77.62	1.99	8.43	7,740	13,930
		C	.....	40.2	55.4	4.45	1.95	5.58	79.37	2.03	6.62	7,915	14,250
		D	.....	42.0	58.0	.....	2.04	5.84	83.07	2.12	6.93	8,285	14,910

TENNESSEE—Continued.

CAMPBELL COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
21811	1.8	A	4.3	39.0	53.8	2.9	1.41	.....	.....	.....	.....	7,685	13,840
		B	2.6	39.6	54.8	3.0	1.44	.....	.....	.....	.....	7,825	14,090
		C	.....	40.7	56.2	3.1	1.47	.....	.....	.....	.....	8,030	14,460
		D	.....	42.0	58.0	.....	1.52	.....	.....	.....	.....	8,285	14,910
21812	1.8	A	4.6	37.9	56.3	1.2	.75	.....	.....	.....	.....	7,795	14,030
		B	2.8	38.6	57.3	1.3	.76	.....	.....	.....	.....	7,935	14,280
		C	.....	39.7	59.0	1.3	.79	.....	.....	.....	.....	8,165	14,700
		D	.....	40.2	59.8	.....	.80	.....	.....	.....	.....	8,275	14,890
21813	1.7	A	4.4	38.4	55.7	1.5	.86	.....	.....	.....	.....	7,800	14,040
		B	2.8	39.1	56.6	1.5	.87	.....	.....	.....	.....	7,930	14,280
		C	.....	40.2	58.3	1.5	.90	.....	.....	.....	.....	8,165	14,690
		D	.....	40.8	59.2	.....	.91	.....	.....	.....	.....	8,290	14,920
21814	1.7	A	4.4	38.4	55.3	1.86	1.04	5.94	78.89	1.99	10.28	7,745	13,940
		B	2.7	39.1	56.3	1.89	1.06	5.85	80.20	2.03	8.89	7,880	14,190
		C	.....	40.2	57.9	1.95	1.09	5.70	82.55	2.08	6.63	8,105	14,590
		D	.....	40.9	59.1	.....	1.11	5.81	84.19	2.12	6.77	8,265	14,880
21821	2.8	A	4.9	39.1	51.9	4.1	2.22	.....	.....	.....	.....	7,520	13,530
		B	2.1	40.3	53.4	4.2	2.28	.....	.....	.....	.....	7,735	13,930
		C	.....	41.2	54.5	4.3	2.33	.....	.....	.....	.....	7,905	14,230
		D	.....	43.0	57.0	.....	2.44	.....	.....	.....	.....	8,265	14,880
21822	1.8	A	4.0	39.6	51.2	5.2	1.45	.....	.....	.....	.....	7,530	13,560
		B	2.1	40.4	52.2	5.3	1.48	.....	.....	.....	.....	7,670	13,810
		C	.....	41.3	53.3	5.4	1.51	.....	.....	.....	.....	7,840	14,110
		D	.....	43.6	56.4	.....	1.60	.....	.....	.....	.....	8,285	14,920
21823	1.9	A	4.1	39.3	52.2	4.4	1.76	.....	.....	.....	.....	7,595	13,670
		B	2.2	40.1	53.2	4.5	1.79	.....	.....	.....	.....	7,740	13,930
		C	.....	41.0	54.4	4.6	1.83	.....	.....	.....	.....	7,915	14,250
		D	.....	43.0	57.0	.....	1.92	.....	.....	.....	.....	8,290	14,920
21824	2.2	A	4.2	39.7	51.5	4.58	1.79	5.79	74.74	1.94	11.16	7,555	13,600
		B	2.1	40.6	52.6	4.68	1.83	5.67	76.41	1.98	9.43	7,725	13,900
		C	.....	41.4	53.8	4.78	1.87	5.56	78.07	2.03	7.69	7,890	14,200
		D	.....	43.5	56.5	.....	1.96	5.84	81.99	2.13	8.08	8,285	14,920
21825	2.1	A	4.1	37.1	55.0	3.8	1.25	.....	.....	.....	.....	7,640	13,750
		B	2.1	37.8	56.2	3.9	1.28	.....	.....	.....	.....	7,800	14,040
		C	.....	38.6	57.4	4.0	1.30	.....	.....	.....	.....	7,965	14,340
		D	.....	40.2	59.8	.....	1.35	.....	.....	.....	.....	8,300	14,940
21826	2.0	A	3.9	36.0	53.5	6.6	1.44	.....	.....	.....	.....	7,405	13,330
		B	1.9	36.8	54.6	6.7	1.47	.....	.....	.....	.....	7,555	13,600
		C	.....	37.5	55.7	6.8	1.50	.....	.....	.....	.....	7,705	13,870
		D	.....	40.3	59.7	.....	1.61	.....	.....	.....	.....	8,270	14,890
21827	1.5	A	3.4	38.1	54.1	4.4	1.81	.....	.....	.....	.....	7,675	13,820
		B	1.9	38.7	54.9	4.5	1.84	.....	.....	.....	.....	7,790	14,020
		C	.....	39.5	56.0	4.5	1.87	.....	.....	.....	.....	7,945	14,300
		D	.....	41.4	58.6	.....	1.96	.....	.....	.....	.....	8,320	14,970
21828	2.5	A	4.3	37.3	52.8	5.6	2.50	.....	.....	.....	.....	7,500	13,500
		B	1.8	38.3	54.2	5.7	2.56	.....	.....	.....	.....	7,695	13,850
		C	.....	39.0	55.2	5.8	2.61	.....	.....	.....	.....	7,835	14,100
		D	.....	41.4	58.6	.....	2.77	.....	.....	.....	.....	8,320	14,970
21829	1.4	A	3.3	38.3	53.7	4.7	1.16	.....	.....	.....	.....	7,655	13,780
		B	1.9	38.8	54.5	4.8	1.18	.....	.....	.....	.....	7,765	13,980
		C	.....	39.6	55.6	4.8	1.20	.....	.....	.....	.....	7,920	14,250
		D	.....	41.6	58.4	.....	1.26	.....	.....	.....	.....	8,320	14,980
21830	1.8	A	3.6	37.9	53.6	4.85	1.82	5.65	76.08	1.90	9.70	7,595	13,670
		B	1.8	38.7	54.6	4.94	1.85	5.55	77.48	1.93	8.25	7,735	13,930
		C	.....	39.4	55.6	5.03	1.89	5.45	78.92	1.97	6.74	7,880	14,180
		D	.....	41.4	58.6	.....	1.99	5.74	83.10	2.07	7.10	8,295	14,940
21831	2.2	A	4.5	36.0	57.0	2.5	1.08	.....	.....	.....	.....	7,640	13,750
		B	2.4	36.8	58.3	2.5	1.10	.....	.....	.....	.....	7,810	14,060
		C	.....	37.7	59.7	2.6	1.13	.....	.....	.....	.....	8,000	14,400
		D	.....	38.7	61.3	.....	1.16	.....	.....	.....	.....	8,215	14,790

TENNESSEE—Continued.

CAMPBELL COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
21832	2.0	A	4.5	37.7	55.7	2.1	0.75	.....	.....	.....	.....	7,740	13,930
		B	2.6	38.5	56.8	2.1	.77	.....	.....	.....	.....	7,890	14,210
		C	.....	39.5	58.3	2.2	.79	.....	.....	.....	.....	8,100	14,580
		D	.....	40.4	59.6	.....	.81	.....	.....	.....	.....	8,280	14,900
21833	2.3	A	4.8	36.6	55.3	3.3	1.41	.....	.....	.....	.....	7,585	13,650
		B	2.6	37.5	56.5	3.4	1.44	.....	.....	.....	.....	7,760	13,970
		C	.....	38.5	58.0	3.5	1.48	.....	.....	.....	.....	7,965	14,340
		D	.....	39.9	60.1	.....	1.53	.....	.....	.....	.....	8,250	14,850
21834	2.4	A	4.8	38.1	53.0	4.1	2.01	.....	.....	.....	.....	7,495	13,500
		B	2.4	39.1	54.3	4.2	2.06	.....	.....	.....	.....	7,685	13,830
		C	.....	40.0	55.7	4.3	2.11	.....	.....	.....	.....	7,870	14,170
		D	.....	41.8	58.2	.....	2.20	.....	.....	.....	.....	8,225	14,810
21835	2.2	A	4.7	36.8	55.3	3.16	1.36	5.78	76.39	2.00	11.31	7,600	13,680
		B	2.5	37.7	56.6	3.23	1.39	5.65	78.12	2.05	9.56	7,770	14,000
		C	.....	38.6	58.1	3.32	1.43	5.52	80.15	2.10	7.48	7,975	14,350
		D	.....	40.0	60.0	.....	1.48	5.71	82.90	2.17	7.74	8,245	14,840
21836	2.0	A	4.4	39.6	53.7	2.3	1.00	.....	.....	.....	.....	7,640	13,750
		B	2.4	40.5	54.8	2.3	1.02	.....	.....	.....	.....	7,795	14,040
		C	.....	41.5	56.2	2.3	1.05	.....	.....	.....	.....	7,990	14,380
		D	.....	42.5	57.5	.....	1.08	.....	.....	.....	.....	8,185	14,730
21837	2.2	A	4.5	38.4	55.3	1.8	.86	.....	.....	.....	.....	7,665	13,790
		B	2.4	39.3	56.5	1.8	.88	.....	.....	.....	.....	7,835	14,100
		C	.....	40.2	57.9	1.9	.90	.....	.....	.....	.....	8,020	14,440
		D	.....	41.0	59.0	.....	.92	.....	.....	.....	.....	8,175	14,720
21838	2.1	A	4.6	38.9	54.5	2.05	.95	5.96	77.04	1.96	12.04	7,665	13,800
		B	2.5	39.8	55.6	2.09	.97	5.85	78.68	2.00	10.41	7,830	14,090
		C	.....	40.8	57.1	2.15	1.00	5.71	80.72	2.05	8.37	8,030	14,450
		D	.....	41.7	58.3	.....	1.02	5.84	82.50	2.09	8.55	8,205	14,770
21839	2.1	A	4.3	38.2	55.5	2.0	.97	.....	.....	.....	.....	7,735	13,930
		B	2.2	39.0	56.8	2.0	.99	.....	.....	.....	.....	7,900	14,220
		C	.....	39.9	58.0	2.1	1.01	.....	.....	.....	.....	8,080	14,550
		D	.....	40.7	59.3	.....	1.03	.....	.....	.....	.....	8,255	14,860
21840	1.8	A	3.8	38.4	55.7	2.1	.92	.....	.....	.....	.....	7,765	13,970
		B	2.0	39.2	56.7	2.1	.94	.....	.....	.....	.....	7,910	14,230
		C	.....	40.0	57.9	2.1	.96	.....	.....	.....	.....	8,075	14,530
		D	.....	40.8	59.2	.....	.98	.....	.....	.....	.....	8,250	14,850
21841	1.9	A	3.7	38.6	54.4	3.3	1.27	.....	.....	.....	.....	7,660	13,790
		B	1.8	39.3	55.5	3.4	1.29	.....	.....	.....	.....	7,810	14,050
		C	.....	40.0	56.5	3.5	1.32	.....	.....	.....	.....	7,955	14,320
		D	.....	41.5	58.5	.....	1.37	.....	.....	.....	.....	8,240	14,800
21842	2.0	A	3.8	37.8	54.9	3.5	1.16	.....	.....	.....	.....	7,640	13,750
		B	1.8	38.6	56.0	3.6	1.18	.....	.....	.....	.....	7,795	14,030
		C	.....	39.3	57.0	3.7	1.20	.....	.....	.....	.....	7,940	14,290
		D	.....	40.8	59.2	.....	1.25	.....	.....	.....	.....	8,245	14,840
21843	1.9	A	3.9	38.0	55.2	2.92	1.09	5.76	77.23	1.97	11.03	7,685	13,840
		B	2.0	38.8	56.2	2.98	1.11	5.66	78.72	2.01	9.52	7,835	14,100
		C	.....	39.6	57.4	3.04	1.13	5.54	80.34	2.05	7.90	7,995	14,390
		D	.....	40.8	59.2	.....	1.17	5.71	82.86	2.11	8.15	8,245	14,850
21853	1.7	A	3.5	36.8	56.6	3.1	.79	.....	.....	.....	.....	7,825	14,090
		B	1.8	37.4	57.6	3.2	.80	.....	.....	.....	.....	7,960	14,330
		C	.....	38.1	58.6	3.3	.82	.....	.....	.....	.....	8,110	14,600
		D	.....	39.4	60.6	.....	.85	.....	.....	.....	.....	8,385	15,090
21854	1.0	A	2.9	36.8	57.1	3.2	.82	.....	.....	.....	.....	7,870	14,160
		B	1.9	37.2	57.7	3.2	.83	.....	.....	.....	.....	7,945	14,300
		C	.....	37.9	58.8	3.3	.84	.....	.....	.....	.....	8,100	14,580
		D	.....	39.2	60.8	.....	.87	.....	.....	.....	.....	8,375	15,070
21855	1.3	A	3.3	36.7	57.2	2.8	.86	.....	.....	.....	.....	7,840	14,110
		B	2.0	37.2	57.9	2.9	.87	.....	.....	.....	.....	7,945	14,300
		C	.....	38.0	59.1	2.9	.89	.....	.....	.....	.....	8,105	14,590
		D	.....	39.1	60.9	.....	.92	.....	.....	.....	.....	8,345	15,020

TENNESSEE—Continued.

CAMPBELL COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
21856	1.3	A	3.2	36.8	56.9	3.11	0.87	5.59	78.83	1.99	9.61	7,845	14,120
		B	1.9	37.3	57.6	3.15	.88	5.52	79.88	2.02	8.55	7,950	14,310
		C	.....	38.1	58.7	3.21	.90	5.40	81.46	2.06	6.97	8,110	14,590
		D	.....	39.3	60.7	.....	.93	5.58	84.16	2.13	7.20	8,375	15,080
21871	1.5	A	4.4	37.7	55.8	2.1	.81	.....	.....	.....	.....	7,665	13,800
		B	2.9	38.3	56.7	2.1	.82	.....	.....	.....	.....	7,790	14,020
		C	.....	39.4	58.4	2.2	.85	.....	.....	.....	.....	8,020	14,440
		D	.....	40.3	59.7	.....	.87	.....	.....	.....	.....	8,195	14,760
21872	1.4	A	4.3	38.7	55.3	1.7	.88	.....	.....	.....	.....	7,710	13,870
		B	2.9	39.2	56.1	1.8	.89	.....	.....	.....	.....	7,820	14,080
		C	.....	40.4	57.8	1.8	.92	.....	.....	.....	.....	8,055	14,500
		D	.....	41.2	58.8	.....	.94	.....	.....	.....	.....	8,200	14,760
21873	1.5	A	4.4	38.0	55.7	1.92	.85	5.79	77.67	2.12	11.65	7,710	13,880
		B	2.9	38.5	56.6	1.95	.86	5.71	78.84	2.15	10.49	7,830	14,090
		C	.....	39.7	58.3	2.01	.89	5.54	81.24	2.22	8.10	8,065	14,520
		D	.....	40.5	59.5	.....	.91	5.65	82.91	2.27	8.26	8,230	14,820
21924	2.0	A	4.9	39.6	53.7	1.8	1.06	.....	.....	.....	.....	7,615	13,710
		B	2.9	40.4	54.8	1.9	1.08	.....	.....	.....	.....	7,770	13,990
		C	.....	41.6	56.5	1.9	1.11	.....	.....	.....	.....	8,010	14,410
		D	.....	42.4	57.6	.....	1.13	.....	.....	.....	.....	8,165	14,690
21925	1.4	A	4.4	39.6	54.1	1.9	.95	.....	.....	.....	.....	7,645	13,770
		B	3.0	40.2	54.9	1.9	.96	.....	.....	.....	.....	7,755	13,960
		C	.....	41.4	56.6	2.0	.99	.....	.....	.....	.....	8,000	14,400
		D	.....	42.2	57.8	.....	1.01	.....	.....	.....	.....	8,160	14,690
21926	1.3	A	4.2	39.8	53.6	2.4	.93	.....	.....	.....	.....	7,610	13,700
		B	2.9	40.3	54.3	2.5	.94	.....	.....	.....	.....	7,715	13,890
		C	.....	41.5	55.9	2.6	.97	.....	.....	.....	.....	7,945	14,300
		D	.....	42.6	57.4	.....	1.00	.....	.....	.....	.....	8,150	14,670
21927	1.6	A	4.4	39.6	54.0	2.04	1.00	5.81	76.45	2.01	12.69	7,625	13,720
		B	2.8	40.2	54.9	2.07	1.02	5.72	77.69	2.04	11.46	7,745	13,940
		C	.....	41.4	56.5	2.13	1.05	5.56	79.97	2.10	9.19	7,975	14,350
		D	.....	42.3	57.7	.....	1.07	5.68	81.71	2.15	9.39	8,150	14,670
21928	2.0	A	5.1	37.7	54.1	3.1	.85	.....	.....	.....	.....	7,430	13,370
		B	3.2	38.4	55.2	3.2	.87	.....	.....	.....	.....	7,580	13,640
		C	.....	39.7	57.0	3.3	.90	.....	.....	.....	.....	7,830	14,090
		D	.....	41.1	58.9	.....	.93	.....	.....	.....	.....	8,095	14,570
21929	2.1	A	5.7	36.7	55.9	1.7	.96	.....	.....	.....	.....	7,505	13,510
		B	3.7	37.5	57.1	1.7	.98	.....	.....	.....	.....	7,665	13,790
		C	.....	39.0	59.2	1.8	1.02	.....	.....	.....	.....	7,955	14,320
		D	.....	39.7	60.3	.....	1.04	.....	.....	.....	.....	8,100	14,580
21930	2.0	A	5.4	37.5	54.7	2.44	.89	5.76	75.22	1.99	13.75	7,465	13,440
		B	3.5	38.2	55.9	2.39	.91	5.65	76.77	2.03	12.20	7,620	13,720
		C	.....	39.6	57.9	2.53	.94	5.45	79.52	2.10	9.46	7,895	14,210
		D	.....	40.6	59.4	.....	.96	5.59	81.59	2.15	9.71	8,100	14,580
21931	2.5	A	4.8	37.0	56.5	1.7	.87	.....	.....	.....	.....	7,705	13,870
		B	2.4	37.9	57.9	1.8	.89	.....	.....	.....	.....	7,900	14,220
		C	.....	38.8	59.4	1.8	.91	.....	.....	.....	.....	8,095	14,570
		D	.....	39.5	60.5	.....	.93	.....	.....	.....	.....	8,245	14,850
21932	1.8	A	4.2	38.4	55.7	1.7	.77	.....	.....	.....	.....	7,740	13,930
		B	2.5	39.0	56.7	1.8	.78	.....	.....	.....	.....	7,880	14,180
		C	.....	40.0	58.2	1.8	.80	.....	.....	.....	.....	8,080	14,540
		D	.....	40.8	59.2	.....	.81	.....	.....	.....	.....	8,225	14,810
21933	2.1	A	4.5	37.8	56.0	1.66	.79	5.81	78.47	2.06	11.21	7,725	13,900
		B	2.4	38.6	57.3	1.70	.81	5.69	80.17	2.10	9.53	7,890	14,200
		C	.....	39.6	58.7	1.74	.83	5.56	82.18	2.16	7.53	8,090	14,560
		D	.....	40.3	59.7	.....	.84	5.66	83.63	2.20	7.67	8,230	14,820
21996	1.8	A	5.1	37.0	56.2	1.7	.81	.....	.....	.....	.....	7,640	13,760
		B	3.4	37.7	57.2	1.7	.82	.....	.....	.....	.....	7,780	14,000
		C	.....	39.0	59.2	1.8	.85	.....	.....	.....	.....	8,055	14,500
		D	.....	39.7	60.3	.....	.87	.....	.....	.....	.....	8,200	14,760

TENNESSEE—Continued.

CAMPBELL COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
21997	0.5	A	1.5	45.1	34.1	19.3	1.16	.....	.....	.....	.....	6,855	12,340
		B	1.0	45.3	34.3	19.4	1.17	.....	.....	.....	.....	6,885	12,400
		C	.....	45.7	34.7	19.6	1.18	.....	.....	.....	.....	6,960	12,530
		D	.....	56.9	43.1	.....	1.47	.....	.....	.....	.....	8,655	15,580
21998	1.3	A	4.6	39.2	53.9	2.3	1.20	.....	.....	.....	.....	7,590	13,660
		B	3.4	39.7	54.6	2.3	1.22	.....	.....	.....	.....	7,685	13,840
		C	.....	41.1	56.5	2.4	1.26	.....	.....	.....	.....	7,955	14,320
		D	.....	42.1	57.9	.....	1.29	.....	.....	.....	.....	8,145	14,660
21999	1.9	A	5.2	37.8	54.6	2.4	.91	.....	.....	.....	.....	7,550	13,590
		B	3.4	38.5	55.7	2.4	.93	.....	.....	.....	.....	7,695	13,850
		C	.....	39.9	57.6	2.5	.96	.....	.....	.....	.....	7,965	14,340
		D	.....	40.9	59.1	.....	.98	.....	.....	.....	.....	8,170	14,700
22000	1.7	A	4.6	38.5	53.0	3.9	1.11	.....	.....	.....	.....	7,485	13,480
		B	3.0	39.1	53.9	4.0	1.13	.....	.....	.....	.....	7,615	13,700
		C	.....	40.3	55.5	4.2	1.16	.....	.....	.....	.....	7,850	14,130
		D	.....	42.1	57.9	.....	1.21	.....	.....	.....	.....	8,190	14,740
22001	2.3	A	5.5	38.0	54.4	2.1	.81	.....	.....	.....	.....	7,585	13,650
		B	3.3	38.9	55.6	2.2	.83	.....	.....	.....	.....	7,760	13,960
		C	.....	40.2	57.5	2.3	.86	.....	.....	.....	.....	8,025	14,440
		D	.....	41.1	58.9	.....	.88	.....	.....	.....	.....	8,210	14,780
22002	1.7	A	5.1	38.7	54.6	1.6	.85	.....	.....	.....	.....	7,655	13,780
		B	3.4	39.4	55.6	1.6	.87	.....	.....	.....	.....	7,790	14,020
		C	.....	40.8	57.5	1.7	.90	.....	.....	.....	.....	8,065	14,520
		D	.....	41.5	58.5	.....	.92	.....	.....	.....	.....	8,205	14,770
22003	2.0	A	5.2	38.1	54.8	1.92	.83	5.89	76.34	2.10	12.92	7,625	13,730
		B	3.2	38.9	55.9	1.96	.85	5.79	77.89	2.14	11.37	7,780	14,010
		C	.....	40.2	57.8	2.03	.88	5.60	80.52	2.21	8.76	8,045	14,480
		D	.....	41.0	59.0	.....	.90	5.72	82.19	2.26	8.93	8,210	14,780
22004	1.0	A	3.1	37.6	53.0	6.3	2.24	.....	.....	.....	.....	7,455	13,420
		B	2.1	38.0	53.5	6.4	2.26	.....	.....	.....	.....	7,530	13,550
		C	.....	38.8	54.7	6.5	2.31	.....	.....	.....	.....	7,695	13,850
		D	.....	41.5	58.5	.....	2.47	.....	.....	.....	.....	8,235	14,820
22005	.9	A	3.2	37.4	53.4	6.0	1.73	.....	.....	.....	.....	7,460	13,430
		B	2.3	37.7	53.9	6.1	1.75	.....	.....	.....	.....	7,530	13,550
		C	.....	38.6	55.1	6.3	1.79	.....	.....	.....	.....	7,710	13,880
		D	.....	41.2	58.8	.....	1.91	.....	.....	.....	.....	8,220	14,800
22006	1.0	A	3.0	38.1	53.5	5.4	1.49	.....	.....	.....	.....	7,535	13,560
		B	2.0	38.5	54.0	5.5	1.50	.....	.....	.....	.....	7,605	13,690
		C	.....	39.3	55.1	5.6	1.54	.....	.....	.....	.....	7,765	13,980
		D	.....	41.6	58.4	.....	1.63	.....	.....	.....	.....	8,225	14,810
22007	1.0	A	3.2	37.6	53.3	5.93	1.85	5.52	75.25	1.96	9.49	7,485	13,480
		B	2.3	37.9	53.8	5.99	1.87	5.46	75.97	1.98	8.73	7,560	13,610
		C	.....	38.8	55.1	6.13	1.91	5.33	77.75	2.03	6.85	7,735	13,930
		D	.....	41.3	58.7	.....	2.03	5.68	82.83	2.16	7.30	8,240	14,830
22008	1.7	A	4.2	37.3	52.9	5.6	.85	.....	.....	.....	.....	7,440	13,390
		B	2.5	38.0	53.8	5.7	.86	.....	.....	.....	.....	7,565	13,620
		C	.....	38.9	55.2	5.9	.89	.....	.....	.....	.....	7,765	13,980
		D	.....	41.4	58.6	.....	.95	.....	.....	.....	.....	8,250	14,850
22009	2.1	A	4.5	37.9	53.9	3.7	.80	.....	.....	.....	.....	7,585	13,660
		B	2.5	38.7	55.0	3.8	.82	.....	.....	.....	.....	7,745	13,950
		C	.....	39.7	56.4	3.9	.84	.....	.....	.....	.....	7,945	14,300
		D	.....	41.3	58.7	.....	.87	.....	.....	.....	.....	8,270	14,880
22010	2.5	A	5.0	36.4	53.4	5.2	.83	.....	.....	.....	.....	7,415	13,350
		B	2.5	37.3	54.8	5.4	.85	.....	.....	.....	.....	7,605	13,690
		C	.....	38.3	56.2	5.5	.87	.....	.....	.....	.....	7,805	14,050
		D	.....	40.5	59.5	.....	.92	.....	.....	.....	.....	8,260	14,870
22011	2.1	A	4.6	36.8	53.7	4.88	.83	5.57	75.59	1.77	11.36	7,490	13,490
		B	2.5	37.6	54.9	4.98	.85	5.45	77.20	1.81	9.71	7,650	13,770
		C	.....	38.6	56.3	5.11	.87	5.30	79.20	1.85	7.67	7,850	14,130
		D	.....	40.7	59.3	.....	.92	5.59	83.47	1.95	8.07	8,275	14,890

TENNESSEE—Continued.

CAMPBELL COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
22012	1.1	A	3.5	39.1	55.3	2.1	1.03	.....	.....	.....	.....	7,855	14,140
		B	2.4	39.6	55.9	2.1	1.04	.....	.....	.....	.....	7,945	14,300
		C	.....	40.6	57.2	2.2	1.07	.....	.....	.....	.....	8,140	14,650
		D	.....	41.5	58.5	.....	1.09	.....	.....	.....	.....	8,320	14,980
22013	1.0	A	3.6	39.8	54.7	1.9	.96	.....	.....	.....	.....	7,850	14,130
		B	2.6	40.2	55.3	1.9	.97	.....	.....	.....	.....	7,930	14,280
		C	.....	41.3	56.8	1.9	1.00	.....	.....	.....	.....	8,145	14,660
		D	.....	42.1	57.9	.....	1.02	.....	.....	.....	.....	8,305	14,950
22014	1.1	A	3.5	39.7	54.7	2.06	1.03	5.77	78.70	2.00	10.44	7,875	14,180
		B	2.4	40.2	55.3	2.08	1.04	5.71	79.55	2.02	9.60	7,960	14,330
		C	.....	41.2	56.7	2.13	1.07	5.58	81.56	2.07	7.59	8,160	14,690
		D	.....	42.1	57.9	.....	1.09	5.70	83.34	2.12	7.75	8,340	15,010
22015	1.6	A	4.3	38.3	55.6	1.8	1.11	.....	.....	.....	.....	7,805	14,050
		B	2.8	38.9	56.5	1.8	1.13	.....	.....	.....	.....	7,925	14,270
		C	.....	40.0	58.2	1.8	1.16	.....	.....	.....	.....	8,155	14,680
		D	.....	40.7	59.3	.....	1.18	.....	.....	.....	.....	8,310	14,950
22016	2.3	A	5.2	37.3	55.0	2.5	1.30	.....	.....	.....	.....	7,650	13,770
		B	3.0	38.2	56.2	2.6	1.33	.....	.....	.....	.....	7,825	14,090
		C	.....	39.3	58.0	2.7	1.37	.....	.....	.....	.....	8,070	14,520
		D	.....	40.4	59.6	.....	1.41	.....	.....	.....	.....	8,290	14,920
22017	1.9	A	4.6	38.0	55.3	2.13	1.19	5.72	77.51	2.01	11.44	7,705	13,870
		B	2.8	38.7	56.3	2.17	1.21	5.62	79.02	2.05	9.93	7,855	14,140
		C	.....	39.8	58.0	2.23	1.25	5.45	81.28	2.11	7.68	8,080	14,550
		D	.....	40.7	59.3	.....	1.28	5.57	83.13	2.16	7.86	8,265	14,880
22018	1.2	A	4.0	38.4	55.6	2.0	1.01	.....	.....	.....	.....	7,795	14,040
		B	2.8	38.9	56.3	2.0	1.02	.....	.....	.....	.....	7,895	14,210
		C	.....	40.0	57.9	2.1	1.05	.....	.....	.....	.....	8,120	14,610
		D	.....	40.8	59.2	.....	1.07	.....	.....	.....	.....	8,290	14,920
22019	1.5	A	4.0	39.5	53.9	2.6	.96	.....	.....	.....	.....	7,780	14,010
		B	2.4	40.2	54.7	2.7	.98	.....	.....	.....	.....	7,905	14,230
		C	.....	41.2	56.1	2.7	1.00	.....	.....	.....	.....	8,100	14,580
		D	.....	42.3	57.7	.....	1.03	.....	.....	.....	.....	8,330	14,990
22020	1.4	A	3.9	39.1	54.7	2.32	.96	5.77	78.03	2.10	10.82	7,775	13,990
		B	2.6	39.6	55.5	2.30	.97	5.70	79.13	2.13	9.72	7,885	14,190
		C	.....	40.7	56.9	2.41	1.00	5.55	81.21	2.19	7.64	8,090	14,560
		D	.....	41.7	58.3	.....	1.02	5.69	83.22	2.24	7.83	8,290	14,920
22021	1.6	A	3.2	36.7	48.5	11.6	2.78	.....	.....	.....	.....	6,985	12,580
		B	1.7	37.3	49.2	11.8	2.83	.....	.....	.....	.....	7,100	12,780
		C	.....	37.9	50.1	12.0	2.87	.....	.....	.....	.....	7,220	13,000
		D	.....	43.1	56.9	.....	3.26	.....	.....	.....	.....	8,205	14,770
22022	1.9	A	3.6	37.0	48.0	11.4	2.92	.....	.....	.....	.....	7,010	12,620
		B	1.8	37.7	48.9	11.6	2.98	.....	.....	.....	.....	7,140	12,860
		C	.....	38.4	49.8	11.8	3.03	.....	.....	.....	.....	7,270	13,090
		D	.....	43.5	56.5	.....	3.43	.....	.....	.....	.....	8,240	14,830
22023	1.6	A	3.5	37.1	47.5	11.9	2.86	.....	.....	.....	.....	6,950	12,510
		B	1.9	37.7	48.3	12.1	2.91	.....	.....	.....	.....	7,065	12,720
		C	.....	38.5	49.2	12.3	2.96	.....	.....	.....	.....	7,205	12,970
		D	.....	43.8	56.2	.....	3.37	.....	.....	.....	.....	8,215	14,780
22024	1.7	A	3.5	36.6	48.4	11.54	2.80	5.17	69.81	1.30	9.38	6,995	12,590
		B	1.9	37.2	49.2	11.74	2.85	5.07	71.01	1.32	8.01	7,115	12,810
		C	.....	37.9	50.1	11.96	2.90	4.95	72.37	1.35	6.47	7,250	13,050
		D	.....	43.1	56.9	.....	3.29	5.62	82.20	1.53	7.36	8,235	14,830
22025	1.3	A	3.6	37.9	53.4	5.1	.91	.....	.....	.....	.....	7,540	13,570
		B	2.4	38.3	54.1	5.2	.92	.....	.....	.....	.....	7,635	13,740
		C	.....	39.3	55.4	5.3	.94	.....	.....	.....	.....	7,820	14,080
		D	.....	41.5	58.5	.....	.99	.....	.....	.....	.....	8,260	14,860
22026	1.5	A	3.8	38.4	51.9	5.9	1.14	.....	.....	.....	.....	7,470	13,440
		B	2.3	39.0	52.7	6.0	1.16	.....	.....	.....	.....	7,585	13,650
		C	.....	39.9	54.0	6.1	1.19	.....	.....	.....	.....	7,765	13,980
		D	.....	42.5	57.5	.....	1.27	.....	.....	.....	.....	8,275	14,900

TENNESSEE—Continued.

CAMPBELL COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
22027	1.4	A	3.7	38.0	52.7	5.58	1.00	5.52	75.52	1.75	10.63	7,505	13,510
		B	2.3	38.5	53.5	5.66	1.01	5.45	76.58	1.77	9.53	7,615	13,700
		C	.....	39.5	54.7	5.79	1.04	5.31	78.41	1.82	7.63	7,795	14,030
		D	.....	41.9	58.1	.....	1.10	5.64	83.23	1.93	8.10	8,275	14,890
22028	1.4	A	3.4	39.0	49.2	8.4	2.35	.....	.....	.....	.....	7,295	13,140
		B	2.0	39.6	49.9	8.5	2.38	.....	.....	.....	.....	7,405	13,330
		C	.....	40.4	51.0	8.6	2.43	.....	.....	.....	.....	7,555	13,600
		D	.....	44.2	55.8	.....	2.66	.....	.....	.....	.....	8,270	14,880
22029	2.0	A	4.1	36.9	48.2	10.8	2.39	.....	.....	.....	.....	7,025	12,650
		B	2.1	37.7	49.2	11.0	2.44	.....	.....	.....	.....	7,170	12,910
		C	.....	38.5	50.2	11.3	2.49	.....	.....	.....	.....	7,325	13,180
		D	.....	43.4	56.6	.....	2.81	.....	.....	.....	.....	8,255	14,860
22030	2.0	A	4.1	36.2	47.6	12.1	3.66	.....	.....	.....	.....	6,850	12,330
		B	2.1	36.9	48.6	12.4	3.73	.....	.....	.....	.....	6,990	12,580
		C	.....	37.7	49.7	12.6	3.82	.....	.....	.....	.....	7,145	12,870
		D	.....	43.2	56.8	.....	4.37	.....	.....	.....	.....	8,180	14,730
22031	2.4	A	4.4	35.7	47.8	12.1	2.22	.....	.....	.....	.....	6,850	12,330
		B	2.1	36.6	49.0	12.3	2.27	.....	.....	.....	.....	7,015	12,630
		C	.....	37.3	50.1	12.6	2.32	.....	.....	.....	.....	7,165	12,890
		D	.....	42.7	57.3	.....	2.65	.....	.....	.....	.....	8,195	14,760
22032	2.0	A	4.0	37.1	48.1	10.84	2.65	5.27	70.32	1.42	9.50	7,020	12,640
		B	2.1	37.8	49.0	11.06	2.70	5.15	71.22	1.45	7.92	7,160	12,890
		C	.....	38.6	50.1	11.29	2.76	5.03	73.25	1.48	6.19	7,315	13,170
		D	.....	43.5	56.5	.....	3.11	5.67	82,57	1.67	6.98	8,245	14,840

CLAIBORNE COUNTY.

21844	1.5	A	3.0	36.7	53.9	6.4	1.77	.....	.....	.....	.....	7,520	13,540
		B	1.6	37.2	54.7	6.5	1.80	.....	.....	.....	.....	7,630	13,740
		C	.....	37.9	55.5	6.6	1.83	.....	.....	.....	.....	7,755	13,960
		D	.....	40.5	59.5	.....	1.96	.....	.....	.....	.....	8,305	14,950
21845	1.6	A	3.2	37.3	55.5	4.0	1.05	.....	.....	.....	.....	7,755	13,960
		B	1.6	37.9	56.4	4.1	1.07	.....	.....	.....	.....	7,885	14,190
		C	.....	38.5	57.4	4.1	1.08	.....	.....	.....	.....	8,005	14,410
		D	.....	40.2	59.8	.....	1.13	.....	.....	.....	.....	8,350	15,030
21846	1.3	A	2.9	38.7	54.8	3.6	1.48	.....	.....	.....	.....	7,795	14,040
		B	1.6	39.3	55.5	3.6	1.50	.....	.....	.....	.....	7,900	14,220
		C	.....	39.9	56.4	3.7	1.52	.....	.....	.....	.....	8,030	14,460
		D	.....	41.4	58.6	.....	1.58	.....	.....	.....	.....	8,335	15,010
21847	1.4	A	3.0	37.2	55.4	4.4	1.34	.....	.....	.....	.....	7,740	13,930
		B	1.6	37.7	56.2	4.5	1.36	.....	.....	.....	.....	7,850	14,130
		C	.....	38.4	57.1	4.5	1.38	.....	.....	.....	.....	7,985	14,370
		D	.....	40.2	59.8	.....	1.45	.....	.....	.....	.....	8,360	15,050
21848	1.5	A	3.1	37.1	55.3	4.50	1.39	5.58	77.24	1.99	9.30	7,710	13,870
		B	1.6	37.7	56.1	4.57	1.41	5.50	78.38	2.02	8.12	7,820	14,080
		C	.....	38.3	57.1	4.64	1.43	5.41	79.70	2.05	6.77	7,955	14,320
		D	.....	40.2	59.8	.....	1.50	5.67	83.58	2.15	7.10	8,340	15,010
21849	1.4	A	3.1	36.4	57.9	2.6	.69	.....	.....	.....	.....	7,880	14,190
		B	1.7	36.9	58.7	2.7	.70	.....	.....	.....	.....	7,990	14,380
		C	.....	37.5	59.8	2.7	.71	.....	.....	.....	.....	8,130	14,630
		D	.....	38.6	61.4	.....	.73	.....	.....	.....	.....	8,360	15,040
21850	1.4	A	2.9	37.5	53.1	6.5	2.20	.....	.....	.....	.....	7,570	13,620
		B	1.5	38.0	53.9	6.6	2.23	.....	.....	.....	.....	7,675	13,820
		C	.....	38.6	54.7	6.7	2.27	.....	.....	.....	.....	7,795	14,030
		D	.....	41.4	58.6	.....	2.43	.....	.....	.....	.....	8,355	15,040
21851	1.4	A	3.1	36.9	57.4	2.6	.78	.....	.....	.....	.....	7,900	14,220
		B	1.7	37.4	58.2	2.7	.79	.....	.....	.....	.....	8,010	14,420
		C	.....	38.1	59.2	2.7	.80	.....	.....	.....	.....	8,150	14,670
		D	.....	39.1	60.9	.....	.82	.....	.....	.....	.....	8,380	15,090

TENNESSEE—Continued.

CLAIBORNE COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
21852	1.4	A	3.0	37.2	55.9	3.94	1.16	5.56	78.50	1.93	8.91	7,790	14,020
		B	1.6	37.7	56.7	4.00	1.18	5.49	79.60	1.96	7.77	7,900	14,220
		C	.....	38.3	57.6	4.06	1.20	5.39	80.92	1.99	6.44	8,030	14,460
		D	.....	39.9	60.1	.....	1.25	5.62	84.34	2.07	6.72	8,370	15,070
21857	1.5	A	3.3	37.8	54.3	4.6	1.15	.....	.....	.....	.....	7,690	13,840
		B	1.8	38.4	55.1	4.7	1.17	.....	.....	.....	.....	7,805	14,050
		C	.....	39.1	56.1	4.8	1.19	.....	.....	.....	.....	7,955	14,320
		D	.....	41.1	58.9	.....	1.25	.....	.....	.....	.....	8,350	15,030
21858	1.4	A	3.2	38.3	55.8	2.7	1.06	.....	.....	.....	.....	7,875	14,180
		B	1.8	38.9	56.6	2.7	1.08	.....	.....	.....	.....	7,990	14,380
		C	.....	39.6	57.7	2.7	1.10	.....	.....	.....	.....	8,140	14,650
		D	.....	40.7	59.3	.....	1.13	.....	.....	.....	.....	8,370	15,070
21859	1.4	A	3.2	39.4	54.4	3.0	1.31	.....	.....	.....	.....	7,860	14,150
		B	1.8	39.9	55.2	3.1	1.33	.....	.....	.....	.....	7,970	14,350
		C	.....	40.7	56.2	3.1	1.35	.....	.....	.....	.....	8,120	14,620
		D	.....	42.0	58.0	.....	1.39	.....	.....	.....	.....	8,380	15,090
21860	1.3	A	3.0	38.4	55.5	3.1	1.25	.....	.....	.....	.....	7,860	14,150
		B	1.8	38.9	56.2	3.1	1.27	.....	.....	.....	.....	7,960	14,330
		C	.....	39.6	57.2	3.2	1.29	.....	.....	.....	.....	8,105	14,590
		D	.....	40.9	59.1	.....	1.33	.....	.....	.....	.....	8,370	15,070
21861	1.4	A	3.2	38.3	55.1	3.43	1.19	5.66	78.10	1.94	9.73	7,815	14,070
		B	1.8	38.9	55.9	3.38	1.21	5.59	79.20	1.97	8.60	7,925	14,270
		C	.....	39.6	56.9	3.49	1.23	5.48	80.65	2.00	7.15	8,070	14,530
		D	.....	41.0	59.0	.....	1.27	5.68	83.57	2.07	7.41	8,360	15,050
21862	1.4	A	3.2	37.5	56.7	2.6	.67	.....	.....	.....	.....	7,935	14,290
		B	1.8	38.0	57.5	2.7	.68	.....	.....	.....	.....	8,050	14,490
		C	.....	38.7	58.6	2.7	.69	.....	.....	.....	.....	8,195	14,750
		D	.....	39.8	60.2	.....	.71	.....	.....	.....	.....	8,425	15,170
21863	1.1	A	3.0	38.1	54.6	4.3	1.72	.....	.....	.....	.....	7,770	13,990
		B	2.0	38.5	55.2	4.3	1.74	.....	.....	.....	.....	7,855	14,140
		C	.....	39.3	56.3	4.4	1.77	.....	.....	.....	.....	8,010	14,420
		D	.....	41.1	58.9	.....	1.85	.....	.....	.....	.....	8,380	15,080
21864	1.1	A	2.9	37.9	56.1	3.1	.69	.....	.....	.....	.....	7,900	14,220
		B	1.9	38.3	56.7	3.1	.70	.....	.....	.....	.....	7,990	14,380
		C	.....	39.0	57.8	3.2	.71	.....	.....	.....	.....	8,140	14,650
		D	.....	40.3	59.7	.....	.73	.....	.....	.....	.....	8,405	15,130
21865	1.5	A	3.4	37.7	55.1	3.8	1.54	.....	.....	.....	.....	7,775	14,000
		B	1.9	38.3	56.0	3.8	1.56	.....	.....	.....	.....	7,895	14,210
		C	.....	39.0	57.1	3.9	1.59	.....	.....	.....	.....	8,050	14,490
		D	.....	40.6	59.4	.....	1.65	.....	.....	.....	.....	8,375	15,080
21866	1.3	A	3.1	37.8	55.7	3.39	1.19	5.62	78.49	1.99	9.32	7,840	14,110
		B	1.9	38.3	56.4	3.43	1.21	5.55	79.50	2.02	8.29	7,940	14,300
		C	.....	39.1	57.4	3.50	1.23	5.44	81.02	2.05	6.76	8,095	14,570
		D	.....	40.5	59.5	.....	1.27	5.64	83.96	2.12	7.01	8,385	15,100
21867	1.5	A	3.2	37.2	57.1	2.5	.89	.....	.....	.....	.....	7,910	14,240
		B	1.8	37.7	57.9	2.6	.90	.....	.....	.....	.....	8,025	14,450
		C	.....	38.4	59.0	2.6	.92	.....	.....	.....	.....	8,175	14,710
		D	.....	39.4	60.6	.....	.94	.....	.....	.....	.....	8,390	15,100
21868	1.2	A	3.0	38.9	54.6	3.5	.90	.....	.....	.....	.....	7,845	14,120
		B	1.8	39.4	55.3	3.5	.91	.....	.....	.....	.....	7,940	14,290
		C	.....	40.1	56.3	3.6	.93	.....	.....	.....	.....	8,085	14,550
		D	.....	41.6	58.4	.....	.96	.....	.....	.....	.....	8,385	15,090
21869	1.0	A	2.8	36.4	57.1	3.7	1.01	.....	.....	.....	.....	7,825	14,090
		B	1.8	36.8	57.7	3.7	1.02	.....	.....	.....	.....	7,900	14,220
		C	.....	37.5	58.8	3.7	1.04	.....	.....	.....	.....	8,050	14,490
		D	.....	38.9	61.1	.....	1.08	.....	.....	.....	.....	8,365	15,060
21870	1.2	A	2.9	37.7	56.2	3.22	.90	5.60	79.10	1.96	9.22	7,865	14,160
		B	1.7	38.2	56.8	3.26	.91	5.54	80.07	1.98	8.24	7,965	14,330
		C	.....	38.8	57.9	3.32	.93	5.44	81.50	2.02	6.79	8,105	14,590
		D	.....	40.2	59.8	.....	.96	5.63	84.30	2.09	7.02	8,385	15,090

TENNESSEE—Continued.

CLAIBORNE COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
22087	2.2	A	3.9	39.7	53.3	3.1	1.08	.....	.....	.....	.....	7,830	14,100
		B	1.8	40.6	54.4	3.2	1.10	.....	.....	.....	.....	8,005	14,410
		C	.....	41.3	55.4	3.3	1.12	.....	.....	.....	.....	8,150	14,670
		D	.....	42.7	57.3	.....	1.16	.....	.....	.....	.....	8,425	15,160
22088	1.5	A	3.4	38.9	54.5	3.2	1.05	.....	.....	.....	.....	7,885	14,190
		B	1.9	39.5	55.3	3.3	1.07	.....	.....	.....	.....	8,005	14,410
		C	.....	40.2	56.4	3.4	1.09	.....	.....	.....	.....	8,160	14,690
		D	.....	41.6	58.4	.....	1.13	.....	.....	.....	.....	8,445	15,200
22089	1.3	A	3.2	40.2	55.1	1.5	1.03	.....	.....	.....	.....	8,060	14,500
		B	1.9	40.8	55.8	1.5	1.04	.....	.....	.....	.....	8,165	14,700
		C	.....	41.6	56.9	1.5	1.06	.....	.....	.....	.....	8,325	14,990
		D	.....	42.2	57.8	.....	1.08	.....	.....	.....	.....	8,460	15,220
22090	1.1	A	2.9	40.0	54.1	3.0	1.11	.....	.....	.....	.....	7,940	14,300
		B	1.8	40.4	54.8	3.0	1.12	.....	.....	.....	.....	8,030	14,460
		C	.....	41.1	55.8	3.1	1.14	.....	.....	.....	.....	8,180	14,720
		D	.....	42.5	57.5	.....	1.18	.....	.....	.....	.....	8,440	15,200
22091	1.5	A	3.3	39.9	54.0	2.77	1.03	5.86	79.29	2.11	8.94	7,940	14,290
		B	1.8	40.5	54.9	2.81	1.05	5.78	80.52	2.14	7.70	8,060	14,510
		C	.....	41.2	55.9	2.87	1.07	5.68	82.03	2.18	6.17	8,215	14,790
		D	.....	42.5	57.5	.....	1.10	5.85	84.45	2.24	6.36	8,455	15,220
22097	1.2	A	3.1	36.9	51.0	9.0	2.75	.....	.....	.....	.....	7,255	13,060
		B	1.9	37.3	51.7	9.1	2.78	.....	.....	.....	.....	7,340	13,210
		C	.....	38.0	52.7	9.3	2.84	.....	.....	.....	.....	7,485	13,470
		D	.....	41.9	58.1	.....	3.12	.....	.....	.....	.....	8,250	14,850
22098	1.1	A	3.1	38.2	50.2	8.5	2.59	.....	.....	.....	.....	7,315	13,160
		B	2.0	38.6	50.8	8.6	2.62	.....	.....	.....	.....	7,395	13,310
		C	.....	39.4	51.8	8.8	2.67	.....	.....	.....	.....	7,545	13,580
		D	.....	43.2	56.8	.....	2.93	.....	.....	.....	.....	8,275	14,890
22126	1.1	A	3.0	37.1	49.7	10.2	3.02	.....	.....	.....	.....	7,140	12,850
		B	1.9	37.5	50.2	10.4	3.05	.....	.....	.....	.....	7,215	12,990
		C	.....	38.3	51.2	10.5	3.11	.....	.....	.....	.....	7,360	13,240
		D	.....	42.8	57.2	.....	3.48	.....	.....	.....	.....	8,225	14,810
22099	1.1	A	2.9	37.6	50.2	9.28	2.73	5.53	72.66	1.70	8.10	7,245	13,050
		B	1.8	38.1	50.7	9.38	2.76	5.47	73.48	1.72	7.19	7,330	13,190
		C	.....	38.8	51.6	9.56	2.81	5.37	74.83	1.75	5.63	7,465	13,430
		D	.....	42.9	57.1	.....	3.11	5.94	32.74	1.93	6.28	8,250	14,850
22100	1.1	A	3.3	36.2	52.3	8.2	.94	.....	.....	.....	.....	7,335	13,200
		B	2.2	36.6	52.9	8.3	.95	.....	.....	.....	.....	7,410	13,340
		C	.....	37.4	54.1	8.5	.97	.....	.....	.....	.....	7,585	13,650
		D	.....	40.9	59.1	.....	1.06	.....	.....	.....	.....	8,285	14,910
22101	1.1	A	3.3	34.5	53.2	9.0	.95	.....	.....	.....	.....	7,230	13,010
		B	2.3	34.9	53.7	9.1	.96	.....	.....	.....	.....	7,305	13,150
		C	.....	35.7	55.0	9.3	.98	.....	.....	.....	.....	7,480	13,470
		D	.....	39.3	60.7	.....	1.03	.....	.....	.....	.....	8,250	14,850
22102	1.2	A	3.4	33.9	51.1	11.6	.88	.....	.....	.....	.....	6,965	12,540
		B	2.3	34.2	51.7	11.8	.89	.....	.....	.....	.....	7,050	12,690
		C	.....	35.0	52.9	12.1	.91	.....	.....	.....	.....	7,210	12,980
		D	.....	39.9	60.1	.....	1.03	.....	.....	.....	.....	8,200	14,760
22103	1.5	A	3.5	36.5	52.0	8.0	.96	.....	.....	.....	.....	7,320	13,170
		B	2.0	37.0	52.9	8.1	.97	.....	.....	.....	.....	7,430	13,380
		C	.....	37.8	53.9	8.3	.99	.....	.....	.....	.....	7,580	13,640
		D	.....	41.2	58.8	.....	1.08	.....	.....	.....	.....	8,265	14,880
22104	1.2	A	3.4	35.5	51.9	9.23	.95	5.61	72.51	1.85	9.85	7,215	12,990
		B	2.3	35.9	52.5	9.34	.96	5.55	73.40	1.87	8.88	7,305	13,150
		C	.....	36.7	53.7	9.56	.98	5.41	75.07	1.92	7.06	7,470	13,450
		D	.....	40.6	59.4	.....	1.08	5.98	83.00	2.12	7.82	8,260	14,870
22105	1.8	A	3.4	38.6	50.5	7.5	2.61	.....	.....	.....	.....	7,385	13,290
		B	1.7	39.3	51.4	7.6	2.66	.....	.....	.....	.....	7,515	13,530
		C	.....	39.9	52.3	7.8	2.70	.....	.....	.....	.....	7,645	13,760
		D	.....	43.3	56.7	.....	2.93	.....	.....	.....	.....	8,290	14,920

TENNESSEE—Continued.

CLAIBORNE COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
22106	1.6	A	3.4	37.7	54.7	4.2	1.13	.....	.....	.....	.....	7,685	13,830
		B	1.9	38.3	55.5	4.3	1.15	.....	.....	.....	.....	7,805	14,050
		C	.....	39.0	56.6	4.4	1.17	.....	.....	.....	.....	7,960	14,320
		D	.....	40.8	59.2	.....	1.22	.....	.....	.....	.....	8,320	14,980
22107	1.7	A	3.6	36.7	53.9	5.8	1.61	.....	.....	.....	.....	7,550	13,590
		B	1.9	37.4	54.8	5.9	1.64	.....	.....	.....	.....	7,680	13,820
		C	.....	38.1	55.9	6.0	1.67	.....	.....	.....	.....	7,825	14,090
		D	.....	40.5	59.5	.....	1.78	.....	.....	.....	.....	8,325	14,990
22108	1.7	A	3.8	37.2	54.7	4.3	1.18	.....	.....	.....	.....	7,650	13,770
		B	2.1	37.9	55.7	4.3	1.20	.....	.....	.....	.....	7,785	14,020
		C	.....	38.7	56.9	4.4	1.23	.....	.....	.....	.....	7,955	14,320
		D	.....	40.5	59.5	.....	1.29	.....	.....	.....	.....	8,325	14,990
22109	1.7	A	3.6	37.3	54.3	4.81	1.35	5.64	76.33	1.69	10.18	7,615	13,700
		B	1.9	38.0	55.2	4.89	1.37	5.55	77.62	1.72	8.85	7,740	13,940
		C	.....	38.7	56.3	4.99	1.40	5.44	79.14	1.75	7.28	7,895	14,210
		D	.....	40.7	59.3	.....	1.47	5.73	83.29	1.84	7.67	8,305	14,950
22110	1.5	A	3.4	36.7	53.0	6.9	.81	.....	.....	.....	.....	7,465	13,440
		B	1.9	37.3	53.8	7.0	.82	.....	.....	.....	.....	7,580	13,640
		C	.....	38.0	54.9	7.1	.84	.....	.....	.....	.....	7,725	13,910
		D	.....	40.9	59.1	.....	.90	.....	.....	.....	.....	8,320	14,980
22111	1.7	A	3.7	37.2	52.7	6.4	.76	.....	.....	.....	.....	7,460	13,430
		B	2.0	37.9	53.6	6.5	.77	.....	.....	.....	.....	7,590	13,660
		C	.....	38.7	54.7	6.6	.79	.....	.....	.....	.....	7,750	13,950
		D	.....	41.4	58.6	.....	.85	.....	.....	.....	.....	8,300	14,940
22112	1.5	A	3.4	37.5	53.4	5.7	.81	.....	.....	.....	.....	7,545	13,590
		B	2.0	38.0	54.2	5.8	.82	.....	.....	.....	.....	7,660	13,780
		C	.....	38.8	55.3	5.9	.84	.....	.....	.....	.....	7,810	14,060
		D	.....	41.3	58.7	.....	.89	.....	.....	.....	.....	8,305	14,950
22113	1.6	A	3.5	37.2	52.9	6.42	.84	5.62	75.19	1.91	10.02	7,475	13,450
		B	2.0	37.8	53.7	6.52	.85	5.54	76.37	1.94	8.78	7,590	13,660
		C	.....	38.5	54.8	6.65	.87	5.42	77.93	1.98	7.15	7,745	13,940
		D	.....	41.3	58.7	.....	.93	5.81	83.48	2.12	7.66	8,295	14,930
22114	2.5	A	5.2	38.0	54.9	1.9	.95	.....	.....	.....	.....	7,650	13,770
		B	2.8	39.0	56.3	1.9	.97	.....	.....	.....	.....	7,850	14,130
		C	.....	40.1	57.9	2.0	1.00	.....	.....	.....	.....	8,075	14,530
		D	.....	40.9	59.1	.....	1.02	.....	.....	.....	.....	8,240	14,830
22115	1.3	A	3.1	37.2	54.6	5.1	1.34	.....	.....	.....	.....	7,645	13,770
		B	1.8	37.7	55.3	5.2	1.36	.....	.....	.....	.....	7,750	13,950
		C	.....	38.4	56.3	5.3	1.38	.....	.....	.....	.....	7,890	14,200
		D	.....	40.6	59.4	.....	1.46	.....	.....	.....	.....	8,330	15,000
22116	1.2	A	3.1	36.8	53.0	7.1	1.45	.....	.....	.....	.....	7,475	13,460
		B	1.9	37.3	53.6	7.2	1.47	.....	.....	.....	.....	7,570	13,630
		C	.....	38.0	54.7	7.3	1.50	.....	.....	.....	.....	7,720	13,890
		D	.....	41.0	59.0	.....	1.62	.....	.....	.....	.....	8,330	14,990
22117	1.8	A	3.5	37.2	54.9	4.4	.99	.....	.....	.....	.....	7,660	13,790
		B	1.8	37.9	55.8	4.5	.97	.....	.....	.....	.....	7,800	14,040
		C	.....	38.5	56.9	4.6	1.01	.....	.....	.....	.....	7,940	14,290
		D	.....	40.4	59.6	.....	1.05	.....	.....	.....	.....	8,320	14,980
22118	1.7	A	3.9	36.6	54.9	4.64	1.19	5.61	76.38	1.86	10.32	7,605	13,690
		B	2.2	37.3	55.8	4.72	1.21	5.51	77.71	1.90	8.95	7,740	13,930
		C	.....	38.1	57.1	4.83	1.24	5.39	79.44	1.93	7.17	7,910	14,240
		D	.....	40.0	60.0	.....	1.30	5.66	83.48	2.03	7.53	8,315	14,960
22119	3.1	A	5.0	34.0	51.2	9.8	1.20	.....	.....	.....	.....	7,080	12,740
		B	1.9	35.1	52.8	10.2	1.24	.....	.....	.....	.....	7,310	13,150
		C	.....	35.8	53.9	10.3	1.26	.....	.....	.....	.....	7,450	13,410
		D	.....	39.9	60.1	.....	1.41	.....	.....	.....	.....	8,310	14,960

TENNESSEE—Continued.

CLAIBORNE COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
22120	1.5	A	3.5	37.9	55.3	3.3	0.93	.....	.....	.....	.....	7,805	14,050
		B	2.0	38.5	56.2	3.3	.94	.....	.....	.....	.....	7,920	14,260
		C	.....	39.3	57.3	3.4	.96	.....	.....	.....	.....	8,085	14,560
		D	.....	40.7	59.3	.....	.99	.....	.....	.....	.....	8,370	15,060
22121	1.9	A	3.9	37.3	55.2	3.6	1.18	.....	.....	.....	.....	7,730	13,910
		B	2.0	38.0	56.3	3.7	1.19	.....	.....	.....	.....	7,880	14,180
		C	.....	38.8	57.4	3.8	1.23	.....	.....	.....	.....	8,040	14,470
		D	.....	40.4	59.6	.....	1.28	.....	.....	.....	.....	8,355	15,040
22122	1.9	A	3.7	37.2	54.6	4.5	1.39	.....	.....	.....	.....	7,695	13,860
		B	1.9	37.9	55.6	4.6	1.42	.....	.....	.....	.....	7,845	14,120
		C	.....	38.6	56.7	4.7	1.44	.....	.....	.....	.....	7,990	14,390
		D	.....	40.5	59.5	.....	1.51	.....	.....	.....	.....	8,390	15,100
22123	1.7	A	3.5	37.9	55.4	3.2	1.10	.....	.....	.....	.....	7,835	14,100
		B	1.8	38.6	56.3	3.3	1.12	.....	.....	.....	.....	7,970	14,340
		C	.....	39.3	57.4	3.3	1.14	.....	.....	.....	.....	8,120	14,610
		D	.....	.....	.....	.....	1.18	.....	.....	.....	.....	8,395	15,120
22124	1.7	A	3.6	37.3	55.5	3.63	1.10	5.70	78.28	1.70	9.59	7,765	13,980
		B	1.9	38.0	56.4	3.69	1.12	5.61	79.66	1.73	8.19	7,900	14,220
		C	.....	38.7	57.5	3.77	1.14	5.50	81.22	1.76	6.61	8,055	14,500
		D	.....	40.2	59.8	.....	1.18	5.72	84.40	1.83	6.87	8,375	15,070

FENTRESS COUNTY.

20982	1.8	A	3.0	37.3	50.2	9.5	2.76	.....	.....	.....	.....	7,330	13,190
		B	1.2	38.0	51.1	9.7	2.81	.....	.....	.....	.....	7,460	13,430
		C	.....	38.5	51.7	9.8	2.84	.....	.....	.....	.....	7,555	13,600
		D	.....	42.6	57.4	.....	3.15	.....	.....	.....	.....	8,375	15,080
20983	1.6	A	2.8	36.6	51.8	8.8	2.97	.....	.....	.....	.....	7,395	13,310
		B	1.3	37.2	52.6	8.9	3.02	.....	.....	.....	.....	7,515	13,520
		C	.....	37.7	53.3	9.0	3.06	.....	.....	.....	.....	7,610	13,690
		D	.....	41.4	58.6	.....	3.36	.....	.....	.....	.....	8,360	15,050
20984	1.4	A	2.5	36.7	50.4	10.4	3.27	.....	.....	.....	.....	7,280	13,110
		B	1.1	37.2	51.1	10.6	3.32	.....	.....	.....	.....	7,385	13,300
		C	.....	37.6	51.7	10.7	3.35	.....	.....	.....	.....	7,470	13,440
		D	.....	42.1	57.9	.....	3.75	.....	.....	.....	.....	8,365	15,050
20985	1.6	A	2.8	36.8	50.7	9.67	3.01	5.44	72.68	1.44	7.76	7,340	13,220
		B	1.2	37.5	51.5	9.83	3.06	5.35	73.85	1.46	6.45	7,460	13,430
		C	.....	37.9	52.2	9.95	3.10	5.28	74.75	1.48	5.44	7,550	13,590
		D	.....	42.1	57.9	.....	3.44	5.86	83.01	1.64	6.05	8,385	15,090
20986	1.6	A	2.7	37.3	50.2	9.8	3.66	.....	.....	.....	.....	7,330	13,190
		B	1.1	37.9	51.0	10.0	3.72	.....	.....	.....	.....	7,445	13,410
		C	.....	38.3	51.6	10.1	3.76	.....	.....	.....	.....	7,530	13,550
		D	.....	42.6	57.4	.....	4.18	.....	.....	.....	.....	8,375	15,080
20987	1.8	A	3.0	36.8	50.0	10.2	3.00	.....	.....	.....	.....	7,290	13,120
		B	1.2	37.5	51.0	10.3	3.05	.....	.....	.....	.....	7,425	13,360
		C	.....	38.0	51.5	10.5	3.09	.....	.....	.....	.....	7,515	13,520
		D	.....	42.4	57.6	.....	3.45	.....	.....	.....	.....	8,390	15,100
20988	2.0	A	3.1	36.9	49.7	10.3	3.08	.....	.....	.....	.....	7,270	13,090
		B	1.1	37.6	50.8	10.5	3.14	.....	.....	.....	.....	7,415	13,350
		C	.....	38.1	51.3	10.6	3.18	.....	.....	.....	.....	7,500	13,500
		D	.....	42.6	57.4	.....	3.56	.....	.....	.....	.....	8,390	15,110
20989	1.9	A	3.1	36.6	50.1	10.23	3.04	5.49	71.96	1.44	7.84	7,275	13,090
		B	1.2	37.3	51.1	10.43	3.10	5.38	73.35	1.47	6.27	7,415	13,350
		C	.....	37.7	51.7	10.56	3.14	5.31	74.28	1.48	5.23	7,510	13,510
		D	.....	42.2	57.8	.....	3.51	5.94	83.05	1.65	5.85	8,395	15,110

TENNESSEE—Continued.

GRUNDY COUNTY.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
22359	1.8	A	3.4	29.2	58.4	9.0	0.64	.....	.....	.....	.....	7,355	13,240
		B	1.7	29.8	59.4	9.1	.65	.....	.....	.....	.....	7,485	13,470
		C	.....	30.3	60.5	9.2	.66	.....	.....	.....	.....	7,615	13,710
		D	.....	33.4	66.6	.....	.73	.....	.....	.....	.....	8,390	15,100
22360	1.4	A	2.6	31.8	53.9	11.7	3.71	.....	.....	.....	.....	7,190	12,940
		B	1.3	32.2	54.7	11.8	3.76	.....	.....	.....	.....	7,290	13,120
		C	.....	32.6	55.4	12.0	3.81	.....	.....	.....	.....	7,385	13,290
		D	.....	37.1	62.9	.....	4.33	.....	.....	.....	.....	8,390	15,100
22361	1.7	A	3.1	31.8	55.1	10.0	1.99	.....	.....	.....	.....	7,325	13,190
		B	1.4	32.4	56.1	10.1	2.03	.....	.....	.....	.....	7,455	13,420
		C	.....	32.8	56.9	10.3	2.05	.....	.....	.....	.....	7,565	13,610
		D	.....	36.6	63.4	.....	2.29	.....	.....	.....	.....	8,430	15,170
22362	2.0	A	3.5	28.7	58.4	9.4	.63	.....	.....	.....	.....	7,320	13,170
		B	1.5	29.3	59.6	9.6	.64	.....	.....	.....	.....	7,470	13,450
		C	.....	29.8	60.5	9.7	.65	.....	.....	.....	.....	7,580	13,650
		D	.....	33.0	67.0	.....	.72	.....	.....	.....	.....	8,400	15,120
22363	2.4	A	3.9	27.5	57.8	10.8	.60	.....	.....	.....	.....	7,145	12,860
		B	1.5	28.2	59.3	11.0	.61	.....	.....	.....	.....	7,325	13,180
		C	.....	28.6	60.2	11.2	.62	.....	.....	.....	.....	7,435	13,380
		D	.....	32.2	67.8	.....	.70	.....	.....	.....	.....	8,375	15,080
22364	1.9	A	3.3	29.8	56.6	10.27	1.52	5.00	73.88	1.38	7.95	7,245	13,040
		B	1.4	30.4	57.7	10.47	1.55	4.88	75.29	1.41	6.40	7,385	13,290
		C	.....	30.9	58.5	10.62	1.57	4.80	76.38	1.43	5.20	7,490	13,480
		D	.....	34.6	65.4	.....	1.76	5.37	85.45	1.60	5.82	8,380	15,090
22371	2.8	A	4.1	28.4	58.7	8.8	.55	.....	.....	.....	.....	7,280	13,110
		B	1.3	29.2	60.4	9.1	.57	.....	.....	.....	.....	7,495	13,490
		C	.....	29.6	61.2	9.2	.57	.....	.....	.....	.....	7,595	13,670
		D	.....	32.6	67.4	.....	.63	.....	.....	.....	.....	8,360	15,050
22403	2.7	A	4.5	29.1	58.7	7.7	.63	.....	.....	.....	.....	7,335	13,200
		B	1.9	29.9	60.3	7.9	.65	.....	.....	.....	.....	7,535	13,560
		C	.....	30.5	61.4	8.1	.66	.....	.....	.....	.....	7,680	13,820
		D	.....	33.2	66.8	.....	.72	.....	.....	.....	.....	8,350	15,030
22404	2.1	A	3.9	29.5	58.6	8.0	.56	.....	.....	.....	.....	7,360	13,240
		B	1.8	30.1	59.9	8.2	.57	.....	.....	.....	.....	7,515	13,530
		C	.....	30.7	61.0	8.3	.58	.....	.....	.....	.....	7,655	13,780
		D	.....	33.5	66.5	.....	.63	.....	.....	.....	.....	8,350	15,030
22405	2.4	A	4.2	29.1	58.9	7.76	.59	5.04	75.26	1.54	9.81	7,350	13,230
		B	1.9	29.8	60.3	7.95	.60	4.89	77.10	1.58	7.88	7,530	13,550
		C	.....	30.4	61.5	8.10	.62	4.77	78.59	1.61	6.31	7,675	13,820
		D	.....	33.1	56.9	.....	.67	5.19	85.51	1.75	6.88	8,350	15,030
22379	1.8	A	3.0	31.7	55.1	10.2	2.70	.....	.....	.....	.....	7,335	13,200
		B	1.2	32.3	56.1	10.4	2.75	.....	.....	.....	.....	7,475	13,450
		C	.....	32.7	56.8	10.5	2.79	.....	.....	.....	.....	7,565	13,620
		D	.....	36.5	63.5	.....	3.12	.....	.....	.....	.....	8,460	15,220
22380	3.0	A	4.3	28.3	60.1	7.3	.61	.....	.....	.....	.....	7,460	13,420
		B	1.4	29.1	61.9	7.6	.63	.....	.....	.....	.....	7,690	13,840
		C	.....	29.5	62.8	7.7	.64	.....	.....	.....	.....	7,795	14,040
		D	.....	32.0	68.0	.....	.69	.....	.....	.....	.....	8,445	15,200
22381	1.7	A	3.3	30.1	58.3	8.3	.86	.....	.....	.....	.....	7,425	13,370
		B	1.6	30.6	59.4	8.4	.88	.....	.....	.....	.....	7,555	13,600
		C	.....	31.1	60.3	8.6	.89	.....	.....	.....	.....	7,680	13,820
		D	.....	34.0	66.0	.....	.97	.....	.....	.....	.....	8,395	15,120
22382	2.2	A	3.6	29.8	57.9	8.66	1.37	4.97	75.16	1.49	8.35	7,405	13,330
		B	1.5	30.5	59.2	8.85	1.40	4.84	76.84	1.52	6.55	7,570	13,630
		C	.....	30.9	60.1	8.99	1.42	4.74	78.00	1.55	5.30	7,685	13,830
		D	.....	34.0	66.0	.....	1.56	5.21	85.71	1.70	5.82	8,445	15,200
22372	2.5	A	3.9	30.7	56.7	8.7	.77	.....	.....	.....	.....	7,250	13,050
		B	1.5	31.5	58.1	8.9	.79	.....	.....	.....	.....	7,435	13,380
		C	.....	32.0	59.0	9.0	.80	.....	.....	.....	.....	7,545	13,580
		D	.....	35.1	64.9	.....	.88	.....	.....	.....	.....	8,295	14,930

TENNESSEE—Continued.

GRUNDY COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
22373	1.9	A	2.9	30.1	58.1	8.9	0.72	.....	.....	.....	.....	7,360	13,250
		B	1.1	30.7	59.2	9.0	.73	.....	.....	.....	.....	7,500	13,500
		C	.....	31.0	59.8	9.2	.74	.....	.....	.....	.....	7,580	13,650
		D	.....	34.2	65.8	.....	.81	.....	.....	.....	.....	8,345	15,020
22374	1.9	A	3.1	29.0	58.8	9.1	.82	.....	.....	.....	.....	7,390	13,300
		B	1.2	29.5	60.0	9.3	.84	.....	.....	.....	.....	7,530	13,560
		C	.....	29.9	60.7	9.4	.85	.....	.....	.....	.....	7,625	13,730
		D	.....	33.0	67.0	.....	.94	.....	.....	.....	.....	8,420	15,150
22375	2.2	A	3.2	30.0	57.0	9.8	.79	.....	.....	.....	.....	7,285	13,110
		B	1.1	30.7	58.2	10.0	.81	.....	.....	.....	.....	7,445	13,400
		C	.....	31.0	58.9	10.1	.82	.....	.....	.....	.....	7,525	13,550
		D	.....	34.5	65.5	.....	.91	.....	.....	.....	.....	8,375	15,080
22383	1.7	A	3.1	30.2	54.5	12.2	.87	.....	.....	.....	.....	7,120	12,810
		B	1.4	30.7	55.5	12.4	.89	.....	.....	.....	.....	7,245	13,040
		C	.....	31.1	56.3	12.6	.90	.....	.....	.....	.....	7,350	13,230
		D	.....	35.6	64.4	.....	1.03	.....	.....	.....	.....	8,410	15,140
22384	1.6	A	3.1	30.0	57.6	9.3	1.16	.....	.....	.....	.....	7,340	13,210
		B	1.6	30.5	58.5	9.4	1.18	.....	.....	.....	.....	7,455	13,420
		C	.....	31.0	59.4	9.6	1.20	.....	.....	.....	.....	7,575	13,640
		D	.....	34.3	65.7	.....	1.33	.....	.....	.....	.....	8,375	15,080
22385	1.0	A	2.6	29.6	55.0	12.8	1.18	.....	.....	.....	.....	7,070	12,730
		B	1.6	29.9	55.5	13.0	1.19	.....	.....	.....	.....	7,140	12,850
		C	.....	30.4	56.4	13.2	1.21	.....	.....	.....	.....	7,260	13,070
		D	.....	35.0	65.0	.....	1.39	.....	.....	.....	.....	8,360	15,050
22386	1.5	A	3.1	29.8	57.4	9.7	1.02	.....	.....	.....	.....	7,310	13,150
		B	1.6	30.2	58.3	9.9	1.04	.....	.....	.....	.....	7,420	13,350
		C	.....	30.7	59.2	10.1	1.05	.....	.....	.....	.....	7,540	13,570
		D	.....	34.2	65.8	.....	1.17	.....	.....	.....	.....	8,385	15,090
22387	1.4	A	2.9	29.7	56.4	11.01	1.10	4.76	73.30	1.52	8.31	7,220	12,990
		B	1.4	30.2	57.2	11.17	1.12	4.67	74.37	1.54	7.13	7,325	13,180
		C	.....	30.6	58.1	11.33	1.13	4.57	75.47	1.56	5.94	7,430	13,380
		D	.....	34.5	65.5	.....	1.27	5.15	85.12	1.76	6.70	8,380	15,090

HAMILTON COUNTY.

22160	1.9	A	2.8	27.8	61.6	7.8	0.98	.....	.....	.....	.....	7,670	13,810
		B	.9	28.3	62.8	8.0	1.00	.....	.....	.....	.....	7,815	14,070
		C	.....	28.5	63.4	8.1	1.01	.....	.....	.....	.....	7,890	14,200
		D	.....	31.1	68.9	.....	1.10	.....	.....	.....	.....	8,580	15,450
22161	1.7	A	2.6	29.5	62.5	5.4	1.23	.....	.....	.....	.....	7,915	14,250
		B	1.0	30.0	63.5	5.5	1.25	.....	.....	.....	.....	8,050	14,490
		C	.....	30.2	64.2	5.6	1.26	.....	.....	.....	.....	8,130	14,640
		D	.....	32.1	67.9	.....	1.33	.....	.....	.....	.....	8,610	15,500
22162	1.9	A	2.9	29.9	59.2	8.0	1.20	.....	.....	.....	.....	7,640	13,760
		B	1.0	30.5	60.4	8.1	1.22	.....	.....	.....	.....	7,790	14,020
		C	.....	30.8	61.0	8.2	1.24	.....	.....	.....	.....	7,865	14,160
		D	.....	33.6	66.4	.....	1.35	.....	.....	.....	.....	8,570	15,430
22163	1.5	A	2.5	29.6	61.0	6.9	1.54	.....	.....	.....	.....	7,755	13,960
		B	1.0	30.1	61.9	7.0	1.56	.....	.....	.....	.....	7,870	14,170
		C	.....	30.4	62.5	7.1	1.58	.....	.....	.....	.....	7,955	14,320
		D	.....	32.7	67.3	.....	1.70	.....	.....	.....	.....	8,560	15,410
22164	1.7	A	2.7	29.1	61.1	7.07	1.25	5.22	78.86	1.48	6.12	7,750	13,950
		B	1.0	29.6	62.2	7.19	1.27	5.12	80.23	1.51	4.68	7,885	14,190
		C	.....	29.9	62.8	7.27	1.28	5.06	81.04	1.52	3.83	7,960	14,330
		D	.....	32.3	67.7	.....	1.38	5.46	87.39	1.64	4.13	8,585	15,460
22187	2.5	A	3.5	26.7	60.0	9.8	.81	.....	.....	.....	.....	7,440	13,390
		B	1.0	27.4	61.6	10.0	.83	.....	.....	.....	.....	7,625	13,730
		C	.....	27.7	62.2	10.1	.84	.....	.....	.....	.....	7,705	13,870
		D	.....	30.8	69.2	.....	.93	.....	.....	.....	.....	8,575	15,430

TENNESSEE—Continued.

HAMILTON COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
22188	2.3	A	3.4	27.4	58.7	10.5	0.99	.....	.....	.....	.....	7,385	13,290
		B	1.1	28.0	60.2	10.7	1.01	.....	.....	.....	.....	7,560	13,610
		C	.....	28.3	60.8	10.9	1.02	.....	.....	.....	.....	7,640	13,750
		D	.....	31.8	68.2	.....	1.14	.....	.....	.....	.....	8,570	15,430
22189	2.4	A	3.4	27.1	59.4	10.10	.90	5.10	75.67	1.42	6.81	7,405	13,330
		B	1.0	27.8	60.9	10.35	.92	4.95	77.53	1.46	4.79	7,590	13,660
		C	.....	28.0	61.5	10.46	.93	4.89	78.35	1.47	3.90	7,670	13,800
		D	.....	31.3	68.7	.....	1.04	5.46	87.50	1.64	4.36	8,565	15,420
22190	2.0	A	3.2	28.2	64.6	4.0	.69	.....	.....	.....	.....	7,950	14,310
		B	1.2	28.8	65.9	4.1	.70	.....	.....	.....	.....	8,115	14,600
		C	.....	29.2	66.7	4.1	.71	.....	.....	.....	.....	8,210	14,780
		D	.....	30.4	69.6	.....	.74	.....	.....	.....	.....	8,565	15,420
22211	1.9	A	3.0	29.5	62.0	5.5	.72	.....	.....	.....	.....	7,870	14,170
		B	1.1	30.1	63.1	5.7	.73	.....	.....	.....	.....	8,020	14,440
		C	.....	30.4	63.9	5.7	.74	.....	.....	.....	.....	8,110	14,600
		D	.....	32.3	67.7	.....	.79	.....	.....	.....	.....	8,605	15,490
22212	1.6	A	2.7	30.2	60.4	6.7	.66	.....	.....	.....	.....	7,710	13,880
		B	1.0	30.7	61.4	6.9	.67	.....	.....	.....	.....	7,840	14,110
		C	.....	31.1	62.0	6.9	.68	.....	.....	.....	.....	7,925	14,260
		D	.....	33.4	66.6	.....	.73	.....	.....	.....	.....	8,510	15,320
22213	1.8	A	2.8	29.8	61.2	6.21	.69	5.26	79.43	1.30	7.11	7,790	14,020
		B	1.0	30.4	62.3	6.32	.70	5.15	80.85	1.32	5.66	7,930	14,270
		C	.....	30.7	62.9	6.38	.71	5.10	81.66	1.34	4.81	8,005	14,410
		D	.....	32.8	67.2	.....	.76	5.45	87.22	1.43	5.14	8,550	15,390
22248	1.9	A	3.2	28.0	63.8	5.0	1.62	.....	.....	.....	.....	7,810	14,050
		B	1.4	28.5	65.0	5.1	1.65	.....	.....	.....	.....	7,960	14,330
		C	.....	28.9	65.9	5.2	1.67	.....	.....	.....	.....	8,070	14,530
		D	.....	30.5	69.5	.....	1.76	.....	.....	.....	.....	8,510	15,320
22243	2.5	A	3.4	28.1	58.6	9.9	2.35	.....	.....	.....	.....	7,435	13,380
		B	1.0	28.8	60.1	10.1	2.41	.....	.....	.....	.....	7,625	13,720
		C	.....	29.1	60.7	10.2	2.43	.....	.....	.....	.....	7,700	13,860
		D	.....	32.4	67.6	.....	2.71	.....	.....	.....	.....	8,570	15,430
22244	1.6	A	2.5	29.0	55.0	13.5	4.27	.....	.....	.....	.....	7,130	12,830
		B	.9	29.5	55.9	13.7	4.34	.....	.....	.....	.....	7,245	13,040
		C	.....	29.7	56.4	13.9	4.38	.....	.....	.....	.....	7,310	13,160
		D	.....	34.5	65.5	.....	5.09	.....	.....	.....	.....	8,485	15,280
22245	1.8	A	2.7	29.8	57.6	9.9	2.53	.....	.....	.....	.....	7,475	13,460
		B	.9	30.3	58.7	10.1	2.58	.....	.....	.....	.....	7,610	13,700
		C	.....	30.6	59.2	10.2	2.60	.....	.....	.....	.....	7,680	13,820
		D	.....	34.1	65.9	.....	2.90	.....	.....	.....	.....	8,550	15,390
22246	2.0	A	2.9	29.0	57.1	11.03	3.00	4.88	73.94	1.34	5.81	7,340	13,210
		B	.9	29.6	58.2	11.25	3.06	4.75	75.42	1.37	4.15	7,490	13,480
		C	.....	29.9	58.8	11.35	3.09	4.69	76.11	1.38	3.38	7,555	13,600
		D	.....	33.7	66.3	.....	3.49	5.29	85.85	1.56	3.81	8,525	15,340
22247	3.1	A	4.3	25.7	59.2	10.8	1.59	.....	.....	.....	.....	7,215	12,990
		B	1.2	26.5	61.1	11.2	1.64	.....	.....	.....	.....	7,450	13,410
		C	.....	26.8	61.9	11.3	1.66	.....	.....	.....	.....	7,540	13,570
		D	.....	30.3	69.7	.....	1.87	.....	.....	.....	.....	8,500	15,300
22249	1.7	A	2.6	30.4	58.3	8.7	1.49	.....	.....	.....	.....	7,685	13,830
		B	.8	31.0	59.3	8.9	1.52	.....	.....	.....	.....	7,820	14,070
		C	.....	31.2	59.8	9.0	1.53	.....	.....	.....	.....	7,890	14,200
		D	.....	34.3	65.7	.....	1.68	.....	.....	.....	.....	8,665	15,590

MARION COUNTY.

22230	1.3	A	2.8	34.9	49.0	13.3	2.00	.....	.....	.....	.....	6,995	12,590
		B	1.6	35.4	49.6	13.4	2.03	.....	.....	.....	.....	7,085	12,760
		C	.....	36.0	50.4	13.6	2.06	.....	.....	.....	.....	7,200	12,960
		D	.....	41.6	58.4	.....	2.39	.....	.....	.....	.....	8,335	15,010

TENNESSEE—Continued.

MARION COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
22231	1.5	A	3.4	34.8	53.3	8.5	1.05	.....	.....	.....	.....	7,370	13,260
		B	1.9	35.4	54.1	8.6	1.07	.....	.....	.....	.....	7,480	13,470
		C	.....	36.0	55.2	8.8	1.09	.....	.....	.....	.....	7,625	13,720
		D	.....	39.5	60.5	.....	1.19	.....	.....	.....	.....	8,355	15,040
22232	1.7	A	3.1	36.9	50.9	9.1	1.42	.....	.....	.....	.....	7,385	13,290
		B	1.4	37.6	51.8	9.2	1.44	.....	.....	.....	.....	7,515	13,520
		C	.....	38.1	52.5	9.4	1.47	.....	.....	.....	.....	7,625	13,720
		D	.....	42.1	57.9	.....	1.62	.....	.....	.....	.....	8,410	15,140
22233	1.4	A	3.0	37.3	52.4	7.3	1.76	.....	.....	.....	.....	7,545	13,580
		B	1.6	37.9	53.1	7.4	1.78	.....	.....	.....	.....	7,655	13,780
		C	.....	38.5	54.0	7.5	1.81	.....	.....	.....	.....	7,775	14,000
		D	.....	41.6	58.4	.....	1.96	.....	.....	.....	.....	8,410	15,130
22234	1.5	A	3.1	35.8	51.6	9.48	1.57	5.38	73.89	1.43	8.25	7,330	13,200
		B	1.6	36.4	52.4	9.62	1.89	5.30	75.00	1.45	7.04	7,440	13,400
		C	.....	36.9	53.3	9.78	1.62	5.20	76.25	1.48	5.67	7,565	13,620
		D	.....	41.0	59.0	.....	1.80	5.76	84.52	1.64	6.28	8,385	15,100
22235	2.1	A	3.1	27.8	59.7	9.4	1.25	.....	.....	.....	.....	7,515	13,530
		B	1.1	28.4	60.9	9.6	1.28	.....	.....	.....	.....	7,675	13,820
		C	.....	28.7	61.6	9.7	1.29	.....	.....	.....	.....	7,760	13,470
		D	.....	31.8	68.2	.....	1.43	.....	.....	.....	.....	8,595	15,470
22236	2.7	A	3.6	27.4	62.0	7.0	1.20	.....	.....	.....	.....	7,715	13,880
		B	1.0	28.1	63.7	7.2	1.23	.....	.....	.....	.....	7,925	14,260
		C	.....	28.4	64.4	7.2	1.25	.....	.....	.....	.....	8,005	14,410
		D	.....	30.6	69.4	.....	1.35	.....	.....	.....	.....	8,625	15,530
22237	2.6	A	3.7	28.0	62.9	5.4	1.31	.....	.....	.....	.....	7,820	14,080
		B	1.1	28.8	64.6	5.5	1.34	.....	.....	.....	.....	8,025	14,450
		C	.....	29.1	65.3	5.6	1.36	.....	.....	.....	.....	8,120	14,610
		D	.....	30.8	69.2	.....	1.44	.....	.....	.....	.....	8,595	15,470
22238	2.4	A	3.5	27.6	61.7	7.18	1.28	5.16	78.09	1.63	6.66	7,665	13,800
		B	1.1	28.3	63.2	7.36	1.31	5.01	80.04	1.67	4.61	7,860	14,150
		C	.....	28.7	63.9	7.44	1.33	4.94	80.94	1.69	3.66	7,945	14,310
		D	.....	30.9	69.1	.....	1.44	5.34	87.45	1.83	3.94	8,585	15,460
22251	3.6	A	4.5	26.3	66.7	2.5	.73	.....	.....	.....	.....	8,125	14,620
		B	1.0	27.3	69.1	2.6	.76	.....	.....	.....	.....	8,425	15,170
		C	.....	27.6	69.8	2.6	.76	.....	.....	.....	.....	8,505	15,310
		D	.....	28.3	71.7	.....	.78	.....	.....	.....	.....	8,735	15,730
22252	4.8	A	5.6	26.7	64.8	2.9	1.06	.....	.....	.....	.....	7,990	14,380
		B	1.0	28.0	68.0	3.0	1.11	.....	.....	.....	.....	8,385	15,100
		C	.....	28.3	68.7	3.0	1.12	.....	.....	.....	.....	8,465	15,240
		D	.....	29.2	70.8	.....	1.15	.....	.....	.....	.....	8,730	15,710
22253	4.2	A	5.1	26.6	65.6	2.68	.90	5.35	81.92	1.46	7.69	8,050	14,490
		B	1.0	27.7	68.5	2.80	.94	5.10	85.48	1.52	4.16	8,400	15,120
		C	.....	28.0	69.2	2.82	.95	5.04	86.31	1.54	3.34	8,485	15,270
		D	.....	28.8	71.2	.....	.98	5.19	88.81	1.58	3.44	8,730	15,710
22254	3.2	A	4.1	23.8	62.2	9.9	2.31	.....	.....	.....	.....	7,410	13,340
		B	.9	24.6	64.3	10.2	2.39	.....	.....	.....	.....	7,655	13,780
		C	.....	24.8	64.9	10.3	2.41	.....	.....	.....	.....	7,725	13,900
		D	.....	27.7	72.3	.....	2.68	.....	.....	.....	.....	8,610	15,500
22255	2.7	A	3.6	23.0	61.8	11.6	2.71	.....	.....	.....	.....	7,255	13,060
		B	.9	23.7	63.5	11.9	2.78	.....	.....	.....	.....	7,455	13,420
		C	.....	23.9	64.0	12.1	2.81	.....	.....	.....	.....	7,520	13,540
		D	.....	27.2	72.8	.....	3.20	.....	.....	.....	.....	8,555	15,400
22256	3.0	A	3.8	23.4	62.0	10.75	2.45	4.75	74.80	1.14	6.11	7,325	13,190
		B	.8	24.2	63.9	11.08	2.52	4.55	77.08	1.17	3.60	7,550	13,590
		C	.....	24.3	64.5	11.17	2.55	4.50	77.74	1.18	2.86	7,615	13,710
		D	.....	27.4	72.6	.....	2.87	5.07	87.51	1.33	3.22	8,570	15,430
22257	1.8	A	2.7	25.1	61.3	10.9	2.87	.....	.....	.....	.....	7,390	13,300
		B	.9	25.5	62.5	11.1	2.92	.....	.....	.....	.....	7,530	13,550
		C	.....	25.8	63.0	11.2	2.95	.....	.....	.....	.....	7,595	13,670
		D	.....	29.0	71.0	.....	3.32	.....	.....	.....	.....	8,555	15,400

TENNESSEE—Continued.

MARION COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
22258	4.0	A	5.2	25.3	67.4	2.1	0.63	.....	.....	.....	.....	8,015	14,430
		B	1.3	26.3	70.2	2.2	.66	.....	.....	.....	.....	8,345	15,020
		C	.....	26.7	71.1	2.2	.66	.....	.....	.....	.....	8,450	15,210
		D	.....	27.3	72.7	.....	.67	.....	.....	.....	.....	8,640	15,550
22267	1.8	A	3.3	28.5	60.0	8.2	.58	.....	.....	.....	.....	7,475	13,460
		B	1.5	29.0	61.1	8.4	.59	.....	.....	.....	.....	7,615	13,710
		C	.....	29.5	62.0	8.5	.60	.....	.....	.....	.....	7,730	13,910
		D	.....	32.2	67.8	.....	.66	.....	.....	.....	.....	8,450	15,210
22268	1.8	A	3.3	28.6	59.7	8.4	.75	.....	.....	.....	.....	7,445	13,400
		B	1.6	29.1	60.7	8.6	.76	.....	.....	.....	.....	7,580	13,650
		C	.....	29.6	61.7	8.7	.78	.....	.....	.....	.....	7,700	13,860
		D	.....	32.4	67.6	.....	.85	.....	.....	.....	.....	8,440	15,190
22269	2.2	A	3.6	28.1	60.0	8.3	1.11	.....	.....	.....	.....	7,445	13,400
		B	1.5	28.7	61.3	8.5	1.13	.....	.....	.....	.....	7,605	13,690
		C	.....	29.1	62.3	8.6	1.15	.....	.....	.....	.....	7,725	13,900
		D	.....	31.9	68.1	.....	1.26	.....	.....	.....	.....	8,450	15,210
22270	1.7	A	3.2	28.9	59.5	8.4	.83	.....	.....	.....	.....	7,475	13,450
		B	1.5	29.4	60.6	8.5	.84	.....	.....	.....	.....	7,600	13,680
		C	.....	29.8	61.5	8.7	.86	.....	.....	.....	.....	7,715	13,890
		D	.....	32.7	67.3	.....	.94	.....	.....	.....	.....	8,450	15,210
22271	1.9	A	3.4	28.2	60.1	8.32	.79	5.02	76.49	1.49	7.89	7,460	13,430
		B	1.5	28.7	61.3	8.48	.81	4.90	77.94	1.52	6.35	7,605	13,690
		C	.....	29.1	62.3	8.61	.82	4.80	79.17	1.54	5.06	7,725	13,900
		D	.....	31.9	68.1	.....	.90	5.25	86.63	1.69	5.53	8,450	15,210
22370	2.5	A	3.8	28.4	59.2	8.6	1.14	.....	.....	.....	.....	7,320	13,180
		B	1.4	29.1	60.7	8.8	1.17	.....	.....	.....	.....	7,510	13,520
		C	.....	29.6	61.5	8.9	1.19	.....	.....	.....	.....	7,610	13,700
		D	.....	32.5	67.5	.....	1.31	.....	.....	.....	.....	8,360	15,050
22398	1.6	A	2.9	29.8	56.6	10.7	2.59	.....	.....	.....	.....	7,270	13,090
		B	1.3	30.3	57.6	10.8	2.63	.....	.....	.....	.....	7,385	13,300
		C	.....	30.7	58.3	11.0	2.67	.....	.....	.....	.....	7,485	13,470
		D	.....	34.5	65.5	.....	3.00	.....	.....	.....	.....	8,410	15,130
22399	1.8	A	3.0	29.7	57.5	9.8	1.26	.....	.....	.....	.....	7,310	13,160
		B	1.3	30.2	58.5	10.0	1.28	.....	.....	.....	.....	7,440	13,400
		C	.....	30.6	59.3	10.1	1.30	.....	.....	.....	.....	7,540	13,570
		D	.....	34.1	65.9	.....	1.45	.....	.....	.....	.....	8,385	15,100
22400	1.7	A	2.8	30.7	54.7	11.8	4.26	.....	.....	.....	.....	7,150	12,870
		B	1.1	31.3	55.6	12.0	4.33	.....	.....	.....	.....	7,275	13,090
		C	.....	31.6	56.2	12.2	4.38	.....	.....	.....	.....	7,355	13,240
		D	.....	36.0	64.0	.....	4.99	.....	.....	.....	.....	8,375	15,070
22401	1.8	A	3.2	29.5	58.3	9.0	.82	.....	.....	.....	.....	7,380	13,290
		B	1.5	30.0	59.4	9.1	.83	.....	.....	.....	.....	7,515	13,530
		C	.....	30.5	60.3	9.2	.85	.....	.....	.....	.....	7,630	13,730
		D	.....	33.6	66.4	.....	.94	.....	.....	.....	.....	8,405	15,130
22402	1.7	A	3.1	29.6	57.0	10.31	2.22	4.93	73.92	1.41	7.21	7,285	13,120
		B	1.4	30.1	58.0	10.49	2.26	4.82	75.21	1.43	5.79	7,415	13,350
		C	.....	30.6	58.8	10.64	2.29	4.74	76.27	1.45	4.61	7,520	13,530
		D	.....	34.2	65.8	.....	2.56	5.30	85.35	1.62	5.17	8,415	15,140

MORGAN COUNTY.

21083	1.3	A	3.1	35.2	55.0	6.7	0.89	.....	.....	.....	.....	7,510	13,520
		B	1.8	35.7	55.7	6.8	.90	.....	.....	.....	.....	7,605	13,690
		C	.....	36.3	56.8	6.9	.92	.....	.....	.....	.....	7,745	13,940
		D	.....	39.0	61.0	.....	.99	.....	.....	.....	.....	8,320	14,980
21084	1.6	A	2.8	36.9	54.5	5.8	2.92	.....	.....	.....	.....	7,740	13,930
		B	1.2	37.5	55.4	5.9	2.97	.....	.....	.....	.....	7,865	14,150
		C	.....	38.0	56.1	5.9	3.00	.....	.....	.....	.....	7,960	14,330
		D	.....	40.4	59.6	.....	3.19	.....	.....	.....	.....	8,465	15,230

TENNESSEE—Continued.

MORGAN COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
21085	1.7	A	2.9	37.5	54.9	4.7	2.63	.....	.....	.....	.....	7,850	14,130
		B	1.2	38.1	55.9	4.8	2.68	.....	.....	.....	.....	7,985	14,370
		C	.....	38.6	56.6	4.8	2.71	.....	.....	.....	.....	8,085	14,550
		D	.....	40.5	59.5	.....	2.85	.....	.....	.....	.....	8,490	15,290
21086	1.7	A	2.8	37.3	55.3	4.6	2.26	.....	.....	.....	.....	7,850	14,130
		B	1.1	38.0	56.2	4.7	2.30	.....	.....	.....	.....	7,985	14,370
		C	.....	38.4	56.9	4.7	2.33	.....	.....	.....	.....	8,075	14,540
		D	.....	40.3	59.7	.....	2.44	.....	.....	.....	.....	8,475	15,260
21087	1.6	A	2.9	37.3	54.7	5.10	2.63	5.61	77.44	1.73	7.49	7,885	14,050
		B	1.3	37.9	55.6	5.18	2.67	5.52	78.73	1.76	6.14	7,935	14,280
		C	.....	38.4	56.4	5.25	2.71	5.45	79.72	1.78	5.09	8,035	14,460
		D	.....	40.5	59.5	.....	2.86	5.75	84.14	1.88	5.37	8,480	15,260
21088	.9	A	2.2	36.7	53.3	7.8	2.61	.....	.....	.....	.....	7,540	13,570
		B	1.4	37.0	53.8	7.8	2.63	.....	.....	.....	.....	7,605	13,690
		C	.....	37.5	54.5	8.0	2.67	.....	.....	.....	.....	7,715	13,880
		D	.....	40.8	59.2	.....	2.90	.....	.....	.....	.....	8,380	15,080
21089	1.1	A	2.3	36.4	55.0	6.3	2.56	.....	.....	.....	.....	7,685	13,840
		B	1.2	36.8	55.6	6.4	2.59	.....	.....	.....	.....	7,775	13,990
		C	.....	37.2	56.3	6.5	2.62	.....	.....	.....	.....	7,865	14,160
		D	.....	39.8	60.2	.....	2.80	.....	.....	.....	.....	8,410	15,140
21090	1.1	A	2.2	36.5	53.8	7.5	2.31	.....	.....	.....	.....	7,580	13,640
		B	1.1	36.9	54.4	7.6	2.33	.....	.....	.....	.....	7,660	13,790
		C	.....	37.3	55.0	7.7	2.36	.....	.....	.....	.....	7,750	13,950
		D	.....	40.4	59.6	.....	2.56	.....	.....	.....	.....	8,390	15,100
21091	1.0	A	2.3	36.4	54.2	7.11	2.51	5.43	75.60	1.92	7.43	7,600	13,680
		B	1.3	36.8	54.7	7.18	2.54	5.37	76.37	1.94	6.60	7,680	13,820
		C	.....	37.2	55.4	7.37	2.57	5.30	77.34	1.96	5.56	7,775	14,000
		D	.....	40.2	59.8	.....	2.77	5.72	83.40	2.11	6.00	8,385	15,090
21092	.8	A	2.1	34.6	50.0	13.3	2.05	.....	.....	.....	.....	7,085	12,750
		B	1.3	34.9	50.4	13.4	2.07	.....	.....	.....	.....	7,140	12,850
		C	.....	35.3	51.1	13.6	2.09	.....	.....	.....	.....	7,230	13,120
		D	.....	40.9	59.1	.....	2.42	.....	.....	.....	.....	8,370	15,060
21093	1.0	A	2.2	36.4	53.6	7.8	2.32	.....	.....	.....	.....	7,530	13,560
		B	1.3	36.7	54.1	7.9	2.34	.....	.....	.....	.....	7,605	13,690
		C	.....	37.2	54.8	8.0	2.37	.....	.....	.....	.....	7,705	13,870
		D	.....	40.4	59.6	.....	2.58	.....	.....	.....	.....	8,375	15,070
21094	1.2	A	2.4	37.0	54.8	5.8	3.60	.....	.....	.....	.....	7,725	13,910
		B	1.2	37.5	55.5	5.8	3.64	.....	.....	.....	.....	7,820	14,080
		C	.....	37.9	56.2	5.9	3.69	.....	.....	.....	.....	7,915	14,250
		D	.....	40.3	59.7	.....	3.92	.....	.....	.....	.....	8,415	15,150
21095	1.0	A	2.2	37.2	55.0	5.6	2.69	.....	.....	.....	.....	7,775	14,000
		B	1.2	37.6	55.6	5.6	2.72	.....	.....	.....	.....	7,850	14,130
		C	.....	38.1	56.2	5.7	2.75	.....	.....	.....	.....	7,950	14,310
		D	.....	40.4	59.6	.....	2.92	.....	.....	.....	.....	8,430	15,170
21096	1.0	A	2.3	36.3	53.3	8.10	2.61	5.36	74.94	1.89	7.10	7,550	13,590
		B	1.3	36.7	53.8	8.18	2.64	5.30	75.68	1.91	6.29	7,625	13,720
		C	.....	37.2	54.5	8.29	2.67	5.23	76.66	1.93	5.22	7,725	13,900
		D	.....	40.6	59.4	.....	2.91	5.70	83.59	2.10	5.70	8,420	15,160
21099	2.6	A	3.3	39.1	52.9	4.7	3.29	.....	.....	.....	.....	7,890	14,200
		B	.8	40.1	54.3	4.8	3.38	.....	.....	.....	.....	8,095	14,580
		C	.....	40.4	54.7	4.9	3.40	.....	.....	.....	.....	8,160	14,690
		D	.....	42.5	57.5	.....	3.57	.....	.....	.....	.....	8,580	15,440
21100	1.4	A	2.2	38.5	51.6	7.7	4.26	.....	.....	.....	.....	7,710	13,880
		B	.8	39.0	52.4	7.8	4.32	.....	.....	.....	.....	7,820	14,080
		C	.....	39.3	52.8	7.9	4.35	.....	.....	.....	.....	7,880	14,180
		D	.....	42.7	57.3	.....	4.72	.....	.....	.....	.....	8,550	15,390
21101	1.0	A	1.8	39.3	52.1	6.8	3.55	.....	.....	.....	.....	7,820	14,080
		B	.8	39.7	52.6	6.9	3.52	.....	.....	.....	.....	7,905	14,230
		C	.....	40.0	53.1	6.9	3.62	.....	.....	.....	.....	7,965	14,340
		D	.....	43.0	57.0	.....	3.89	.....	.....	.....	.....	8,560	15,400

TENNESSEE—Continued.

MORGAN COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
21102	1.0	A	1.8	38.0	50.3	9.9	4.33	.....	.....	.....	.....	7,535	13,570
		B	.8	38.4	50.8	10.0	4.37	.....	.....	.....	.....	7,610	13,700
		C	.....	38.7	51.2	10.1	4.41	.....	.....	.....	.....	7,670	13,810
		D	.....	43.1	56.9	.....	4.90	.....	.....	.....	.....	8,530	15,360
21103	1.1	A	1.9	38.5	51.5	8.14	4.04	5.60	75.26	1.79	5.17	7,695	13,850
		B	.8	38.9	52.1	8.23	4.09	5.53	76.13	1.81	4.21	7,780	14,010
		C	.....	39.2	52.5	8.30	4.12	5.49	76.70	1.82	3.57	7,840	14,110
		D	.....	42.7	57.3	.....	4.49	5.99	83.64	1.98	3.90	8,550	15,390
21104	.9	A	1.6	38.4	51.4	8.6	5.01	.....	.....	.....	.....	7,660	13,790
		B	.7	38.7	51.9	8.7	5.06	.....	.....	.....	.....	7,730	13,910
		C	.....	39.0	52.2	8.8	5.09	.....	.....	.....	.....	7,785	14,010
		D	.....	42.7	57.3	.....	5.58	.....	.....	.....	.....	8,530	15,360
21105	1.4	A	2.4	36.3	54.3	7.0	3.12	.....	.....	.....	.....	7,690	13,840
		B	1.1	36.8	55.0	7.1	3.16	.....	.....	.....	.....	7,795	14,030
		C	.....	37.2	55.6	7.2	3.20	.....	.....	.....	.....	7,880	14,190
		D	.....	40.1	59.9	.....	3.45	.....	.....	.....	.....	8,490	15,290
21106	1.1	A	2.0	37.5	52.6	7.89	4.03	5.48	75.00	1.72	5.88	7,670	13,810
		B	.9	38.0	53.1	7.98	4.08	5.41	75.86	1.74	4.93	7,760	13,970
		C	.....	38.3	53.6	8.05	4.11	5.37	76.53	1.76	4.18	7,830	14,090
		D	.....	41.7	58.3	.....	4.47	5.84	83.23	1.91	4.55	8,515	15,330
21145	1.5	A	3.0	39.6	53.2	4.2	1.33	.....	.....	.....	.....	7,790	14,030
		B	1.6	40.2	53.9	4.3	1.35	.....	.....	.....	.....	7,910	14,230
		C	.....	40.8	54.8	4.4	1.37	.....	.....	.....	.....	8,035	14,460
		D	.....	42.7	57.3	.....	1.43	.....	.....	.....	.....	8,400	15,120
21146	3.2	A	4.5	37.0	47.4	11.1	4.35	.....	.....	.....	.....	7,040	12,670
		B	1.3	38.3	48.9	11.5	4.49	.....	.....	.....	.....	7,275	13,090
		C	.....	38.8	49.6	11.6	4.56	.....	.....	.....	.....	7,370	13,270
		D	.....	43.9	56.1	.....	5.16	.....	.....	.....	.....	8,340	15,010
21147	2.1	A	3.5	36.6	55.4	4.5	1.42	.....	.....	.....	.....	7,775	13,990
		B	1.4	37.4	56.6	4.6	1.45	.....	.....	.....	.....	7,940	14,290
		C	.....	37.9	57.4	4.7	1.47	.....	.....	.....	.....	8,055	14,500
		D	.....	39.8	60.2	.....	1.54	.....	.....	.....	.....	8,445	15,200
21148	3.3	A	4.3	35.2	55.9	4.6	1.26	.....	.....	.....	.....	7,775	14,000
		B	1.1	36.3	57.8	4.8	1.30	.....	.....	.....	.....	8,040	14,470
		C	.....	36.7	58.5	4.8	1.32	.....	.....	.....	.....	8,125	14,630
		D	.....	38.6	61.4	.....	1.39	.....	.....	.....	.....	8,540	15,370
21149	2.6	A	3.4	35.7	53.9	7.0	2.71	.....	.....	.....	.....	7,700	13,860
		B	.8	36.7	55.3	7.2	2.78	.....	.....	.....	.....	7,905	14,230
		C	.....	36.9	55.8	7.3	2.80	.....	.....	.....	.....	7,965	14,340
		D	.....	39.8	60.2	.....	3.02	.....	.....	.....	.....	8,590	15,460
21150	1.4	A	2.6	38.9	54.4	4.1	1.62	.....	.....	.....	.....	7,940	14,300
		B	1.2	39.4	55.2	4.2	1.64	.....	.....	.....	.....	8,060	14,500
		C	.....	39.9	55.9	4.2	1.66	.....	.....	.....	.....	8,160	14,680
		D	.....	41.6	58.4	.....	1.73	.....	.....	.....	.....	8,515	15,330
21151	1.7	A	3.0	39.3	54.1	3.6	1.81	.....	.....	.....	.....	7,955	14,320
		B	1.3	40.0	55.0	3.7	1.84	.....	.....	.....	.....	8,090	14,560
		C	.....	40.5	55.7	3.8	1.87	.....	.....	.....	.....	8,200	14,760
		D	.....	42.1	57.9	.....	1.94	.....	.....	.....	.....	8,520	15,340
21152	2.0	A	3.3	39.5	54.7	2.5	.67	.....	.....	.....	.....	8,020	14,440
		B	1.3	40.4	55.8	2.5	.68	.....	.....	.....	.....	8,185	14,730
		C	.....	40.9	56.5	2.6	.69	.....	.....	.....	.....	8,295	14,940
		D	.....	42.0	58.0	.....	.71	.....	.....	.....	.....	8,515	15,330
21153	2.1	A	3.6	36.4	54.7	5.3	.77	.....	.....	.....	.....	7,730	13,910
		B	1.5	37.2	55.9	5.4	.79	.....	.....	.....	.....	7,895	14,220
		C	.....	37.7	56.8	5.5	.80	.....	.....	.....	.....	8,015	14,430
		D	.....	39.9	60.1	.....	.85	.....	.....	.....	.....	8,485	15,270

TENNESSEE—Continued.

MORGAN COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
21412	1.2	A	1.9	39.1	48.8	10.2	4.48	.....	.....	.....	.....	7,465	13,440
		B	.7	39.6	49.4	10.3	4.53	.....	.....	.....	.....	7,555	13,600
		C	.....	39.9	49.7	10.4	4.57	.....	.....	.....	.....	7,615	13,700
		D	.....	44.5	55.5	.....	5.10	.....	.....	.....	.....	8,495	15,290
21413	.5	A	1.4	39.8	49.7	9.1	4.75	.....	.....	.....	.....	7,625	13,730
		B	.9	40.0	49.9	9.2	4.77	.....	.....	.....	.....	7,665	13,800
		C	.....	40.3	50.4	9.3	4.82	.....	.....	.....	.....	7,735	13,920
		D	.....	44.5	55.5	.....	5.31	.....	.....	.....	.....	8,525	15,340
21414	.7	A	1.6	39.4	50.3	8.7	4.36	.....	.....	.....	.....	7,675	13,810
		B	.9	39.7	50.6	8.8	4.39	.....	.....	.....	.....	7,730	13,910
		C	.....	40.0	51.1	8.9	4.43	.....	.....	.....	.....	7,795	14,030
		D	.....	43.9	56.1	.....	4.86	.....	.....	.....	.....	8,555	15,400
21415	.8	A	1.5	39.7	49.5	9.29	4.43	5.38	74.19	1.78	4.93	7,600	13,680
		B	.7	40.0	49.9	9.37	4.47	5.33	74.80	1.79	4.24	7,660	13,790
		C	.....	40.3	50.3	9.43	4.50	5.29	75.33	1.81	3.64	7,715	13,890
		D	.....	44.5	55.5	.....	4.97	5.84	83.17	2.00	4.02	8,520	15,330
21416	.6	A	1.6	39.8	46.4	12.2	6.43	.....	.....	.....	.....	7,275	13,100
		B	1.0	40.1	46.7	12.2	6.47	.....	.....	.....	.....	7,320	13,180
		C	.....	40.5	47.1	12.4	6.53	.....	.....	.....	.....	7,390	13,300
		D	.....	46.2	53.8	.....	7.45	.....	.....	.....	.....	8,435	15,180
21417	.8	A	1.6	40.5	51.1	6.8	4.39	.....	.....	.....	.....	7,770	13,980
		B	.8	40.9	51.5	6.8	4.42	.....	.....	.....	.....	7,830	14,090
		C	.....	41.2	51.9	6.9	4.46	.....	.....	.....	.....	7,895	14,220
		D	.....	44.3	55.7	.....	4.79	.....	.....	.....	.....	8,480	15,270
21418	.7	A	1.5	40.0	48.9	9.56	5.40	5.25	72.83	1.70	5.26	7,525	13,540
		B	.8	40.3	49.3	9.63	5.44	5.21	73.35	1.71	4.66	7,575	13,640
		C	.....	40.6	49.7	9.70	5.49	5.16	73.93	1.73	3.99	7,635	13,750
		D	.....	45.0	55.0	.....	6.07	5.71	81.87	1.92	4.43	8,455	15,220
21419	1.3	A	2.7	37.6	54.4	5.3	1.10	.....	.....	.....	.....	7,745	13,940
		B	1.4	38.1	55.2	5.3	1.11	.....	.....	.....	.....	7,850	14,130
		C	.....	38.7	55.9	5.4	1.13	.....	.....	.....	.....	7,965	14,340
		D	.....	40.9	59.1	.....	1.19	.....	.....	.....	.....	8,420	15,160
21420	1.0	A	2.5	39.1	54.9	3.5	1.36	.....	.....	.....	.....	7,955	14,320
		B	1.5	39.5	55.5	3.5	1.37	.....	.....	.....	.....	8,035	14,470
		C	.....	40.1	56.3	3.6	1.39	.....	.....	.....	.....	8,155	14,680
		D	.....	41.6	58.4	.....	1.44	.....	.....	.....	.....	8,460	15,230
21421	1.1	A	2.5	39.4	54.9	3.2	1.18	.....	.....	.....	.....	7,945	14,310
		B	1.4	39.8	55.5	3.3	1.19	.....	.....	.....	.....	8,040	14,470
		C	.....	40.4	56.3	3.3	1.22	.....	.....	.....	.....	8,155	14,680
		D	.....	41.8	58.2	.....	1.26	.....	.....	.....	.....	8,430	15,170
21422	1.0	A	2.1	39.0	50.0	8.9	5.20	.....	.....	.....	.....	7,480	13,460
		B	1.2	39.4	50.4	9.0	5.25	.....	.....	.....	.....	7,550	13,590
		C	.....	39.8	51.1	9.1	5.31	.....	.....	.....	.....	7,640	13,750
		D	.....	43.8	56.2	.....	5.84	.....	.....	.....	.....	8,405	15,130
21423	1.0	A	2.0	39.0	52.0	7.0	3.89	.....	.....	.....	.....	7,695	13,860
		B	1.0	39.4	52.5	7.1	3.93	.....	.....	.....	.....	7,775	14,000
		C	.....	39.8	53.0	7.2	3.97	.....	.....	.....	.....	7,855	14,140
		D	.....	42.9	57.1	.....	4.28	.....	.....	.....	.....	8,460	15,230
21424	1.1	A	2.1	39.2	52.1	6.6	4.15	.....	.....	.....	.....	7,765	13,980
		B	.9	39.7	52.7	6.7	4.20	.....	.....	.....	.....	7,855	14,140
		C	.....	40.1	53.2	6.7	4.24	.....	.....	.....	.....	7,930	14,270
		D	.....	43.0	57.0	.....	4.55	.....	.....	.....	.....	8,500	15,300
21425	1.0	A	2.3	37.0	56.6	4.1	.70	.....	.....	.....	.....	7,920	14,250
		B	1.3	37.3	57.2	4.2	.71	.....	.....	.....	.....	7,995	14,390
		C	.....	37.8	57.9	4.3	.72	.....	.....	.....	.....	8,100	14,580
		D	.....	39.5	60.5	.....	.75	.....	.....	.....	.....	8,460	15,230
21426	1.0	A	2.4	40.2	54.7	2.7	.99	.....	.....	.....	.....	7,980	14,360
		B	1.4	40.7	55.2	2.7	1.00	.....	.....	.....	.....	8,060	14,510
		C	.....	41.2	56.0	2.8	1.01	.....	.....	.....	.....	8,180	14,720
		D	.....	42.4	57.6	.....	1.04	.....	.....	.....	.....	8,410	15,140

TENNESSEE—Continued.

MORGAN COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
21428	2.2	A	2.9	32.2	57.6	7.3	1.29	.....	.....	.....	.....	7,725	13,900
		B	.7	32.9	58.9	7.5	1.32	.....	.....	.....	.....	7,895	14,210
		C	.....	33.2	59.3	7.5	1.33	.....	.....	.....	.....	7,955	14,320
		D	.....	35.9	64.1	.....	1.44	.....	.....	.....	.....	8,600	15,480
OVERTON COUNTY.													
20978	2.2	A	3.4	35.9	51.2	9.5	3.15	.....	.....	.....	.....	7,315	13,170
		B	1.3	36.7	52.3	9.7	3.22	.....	.....	.....	.....	7,480	13,460
		C	.....	37.2	53.0	9.8	3.26	.....	.....	.....	.....	7,575	13,630
		D	.....	41.3	58.7	.....	3.61	.....	.....	.....	.....	8,395	15,120
20979	2.1	A	5.2	35.8	51.5	9.5	2.29	.....	.....	.....	.....	7,325	13,190
		B	1.2	36.5	52.6	9.7	2.34	.....	.....	.....	.....	7,480	13,460
		C	.....	37.0	53.2	9.8	2.37	.....	.....	.....	.....	7,570	13,630
		D	.....	41.0	59.0	.....	2.63	.....	.....	.....	.....	8,395	15,110
20980	2.3	A	3.6	35.0	49.8	11.6	3.68	.....	.....	.....	.....	7,050	12,690
		B	1.3	35.9	50.9	11.9	3.77	.....	.....	.....	.....	7,220	12,990
		C	.....	36.3	51.6	12.1	3.82	.....	.....	.....	.....	7,310	13,160
		D	.....	41.3	58.7	.....	4.34	.....	.....	.....	.....	8,315	14,970
20981	2.2	A	3.4	35.6	50.6	10.35	3.14	5.32	72.25	1.39	7.55	7,220	12,990
		B	1.3	36.4	51.7	10.58	3.21	5.18	73.86	1.42	5.75	7,380	13,280
		C	.....	36.9	52.4	10.72	3.25	5.12	74.81	1.44	4.66	7,475	13,450
		D	.....	41.3	58.7	.....	3.64	5.74	83.79	1.61	5.22	8,370	15,070
20991	1.7	A	2.6	36.0	49.1	12.3	3.80	.....	.....	.....	.....	7,145	12,870
		B	1.0	36.6	49.9	12.5	3.87	.....	.....	.....	.....	7,270	13,090
		C	.....	37.0	50.4	12.6	3.90	.....	.....	.....	.....	7,340	13,210
		D	.....	42.3	57.7	.....	4.46	.....	.....	.....	.....	8,400	15,120
20992	1.9	A	2.8	36.4	50.8	10.0	3.30	.....	.....	.....	.....	7,315	13,170
		B	1.0	37.1	51.7	10.2	3.37	.....	.....	.....	.....	7,455	13,420
		C	.....	37.5	52.2	10.3	3.40	.....	.....	.....	.....	7,525	13,550
		D	.....	41.8	58.2	.....	3.79	.....	.....	.....	.....	8,390	15,100
PUTNAM COUNTY.													
20990	2.2	A	3.4	38.2	48.7	9.7	3.43	.....	.....	.....	.....	7,275	13,100
		B	1.2	39.1	49.8	9.9	3.51	.....	.....	.....	.....	7,440	13,390
		C	.....	39.6	50.3	10.1	3.55	.....	.....	.....	.....	7,530	13,550
		D	.....	44.0	56.0	.....	3.95	.....	.....	.....	.....	8,375	15,070
RHEA COUNTY.													
22158	1.8	A	2.9	25.5	46.4	25.2	0.57	.....	.....	.....	.....	5,960	10,730
		B	1.1	26.0	47.2	25.7	.58	.....	.....	.....	.....	6,065	10,920
		C	.....	26.3	47.8	25.9	.59	.....	.....	.....	.....	6,135	11,040
		D	.....	35.5	64.5	.....	.80	.....	.....	.....	.....	8,285	14,910
22159	1.1	A	2.0	33.4	57.0	7.6	3.70	.....	.....	.....	.....	7,670	13,810
		B	1.0	33.7	57.6	7.7	3.74	.....	.....	.....	.....	7,750	13,950
		C	.....	34.1	58.1	7.8	3.78	.....	.....	.....	.....	7,830	14,100
		D	.....	37 0	63.0	.....	4.10	.....	.....	.....	.....	8,495	15,290
22165	1.2	A	2.0	29.4	53.1	15.5	.71	.....	.....	.....	.....	6,985	12,570
		B	.9	29.8	53.7	15.6	.72	.....	.....	.....	.....	7,070	12,720
		C	.....	30.0	54.2	15.8	.72	.....	.....	.....	.....	7,130	12,840
		D	.....	35.6	64.4	.....	.86	.....	.....	.....	.....	8,470	15,240
22180	1.3	A	2.5	28.8	54.3	14.4	.91	.....	.....	.....	.....	7,005	12,610
		B	1.3	29.2	55.0	14.5	.92	.....	.....	.....	.....	7,090	12,770
		C	.....	29.6	55.7	14.7	.91	.....	.....	.....	.....	7,185	12,940
		D	.....	34.6	65.4	.....	1.09	.....	.....	.....	.....	8,425	15,170

TENNESSEE—Continued.

RHEA COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
22181	2.9	A	4.2	29.9	55.1	10.8	0.77	.....	.....	.....	.....	7,205	12,970
		B	1.3	30.9	56.7	11.1	.79	.....	.....	.....	.....	7,415	13,350
		C	.....	31.2	57.5	11.3	.80	.....	.....	.....	.....	7,515	13,530
		D	.....	35.2	64.8	.....	.90	.....	.....	.....	.....	8,470	15,240
22182	1.2	A	2.5	31.5	53.8	12.2	2.00	.....	.....	.....	.....	7,170	12,900
		B	1.4	31.8	54.4	12.4	2.02	.....	.....	.....	.....	7,250	13,050
		C	.....	32.3	55.2	12.5	2.05	.....	.....	.....	.....	7,355	13,240
		D	.....	36.9	63.1	.....	2.34	.....	.....	.....	.....	8,410	15,140
22183	1.2	A	2.5	30.7	56.7	10.1	1.31	.....	.....	.....	.....	7,400	13,320
		B	1.3	31.1	57.4	10.2	1.33	.....	.....	.....	.....	7,495	13,490
		C	.....	31.5	58.1	10.4	1.34	.....	.....	.....	.....	7,590	13,660
		D	.....	35.2	64.8	.....	1.49	.....	.....	.....	.....	8,465	15,240
22184	1.6	A	3.0	30.2	55.0	11.82	1.25	4.90	72.96	1.40	7.67	7,200	12,960
		B	1.4	30.7	55.9	12.02	1.27	4.80	74.17	1.42	6.32	7,320	13,180
		C	.....	31.1	56.7	12.18	1.29	4.71	75.20	1.44	5.18	7,420	13,360
		D	.....	35.4	64.6	.....	1.47	5.36	85.63	1.64	5.90	8,450	15,210

ROANE COUNTY.

21015	8.0	A	8.7	22.9	49.4	[a]19.0	0.52	.....	.....	.....	.....	6,100	10,980
		B	.8	24.8	53.7	20.7	.67	.....	.....	.....	.....	6,625	11,930
		C	.....	25.1	54.1	20.8	.68	.....	.....	.....	.....	6,680	12,020
		D	.....	31.6	68.4	.....	.86	.....	.....	.....	.....	8,440	15,190
21016	.9	A	1.7	29.3	60.1	8.9	.53	.....	.....	.....	.....	7,630	13,740
		B	.9	29.5	60.6	9.0	.53	.....	.....	.....	.....	7,695	13,860
		C	.....	29.8	61.1	9.1	.54	.....	.....	.....	.....	7,765	13,980
		D	.....	32.7	67.3	.....	.59	.....	.....	.....	.....	8,545	15,380
21017	.7	A	1.6	29.2	60.0	9.2	.46	.....	.....	.....	.....	7,580	13,650
		B	.9	29.4	60.4	9.3	.46	.....	.....	.....	.....	7,640	13,750
		C	.....	29.6	61.0	9.4	.47	.....	.....	.....	.....	7,710	13,870
		D	.....	32.7	67.3	.....	.52	.....	.....	.....	.....	8,505	15,310
21018	1.2	A	2.2	29.5	59.4	8.9	.49	.....	.....	.....	.....	7,565	13,620
		B	1.0	29.9	60.2	8.9	.50	.....	.....	.....	.....	7,660	13,790
		C	.....	30.2	60.8	9.0	.50	.....	.....	.....	.....	7,735	13,930
		D	.....	33.2	66.8	.....	.55	.....	.....	.....	.....	8,505	15,310
21023	.7	A	1.5	28.2	47.2	[a]23.1	2.02	.....	.....	.....	.....	6,350	11,430
		B	.9	28.4	47.5	23.2	2.03	.....	.....	.....	.....	6,390	11,500
		C	.....	28.6	48.0	23.4	2.05	.....	.....	.....	.....	6,445	11,610
		D	.....	37.4	62.6	.....	2.68	.....	.....	.....	.....	8,420	15,150
21024	1.9	A	3.0	29.4	58.1	9.5	.79	.....	.....	.....	.....	7,405	13,330
		B	1.1	30.0	59.2	9.7	.80	.....	.....	.....	.....	7,545	13,580
		C	.....	30.3	59.9	9.8	.81	.....	.....	.....	.....	7,630	13,730
		D	.....	33.6	66.4	.....	.90	.....	.....	.....	.....	8,460	15,230
21082	2.7	A	4.3	33.1	54.1	8.5	.48	.....	.....	.....	.....	7,290	13,130
		B	1.6	34.1	55.6	8.7	.49	.....	.....	.....	.....	7,495	13,490
		C	.....	34.6	56.5	8.9	.50	.....	.....	.....	.....	7,620	13,710
		D	.....	38.0	62.0	.....	.55	.....	.....	.....	.....	8,360	15,050

SCOTT COUNTY.

21154	1.8	A	3.7	37.9	50.9	7.5	1.91	.....	.....	.....	.....	7,365	13,260
		B	1.9	38.6	51.9	7.6	1.95	.....	.....	.....	.....	7,505	13,510
		C	.....	39.4	52.9	7.7	1.98	.....	.....	.....	.....	7,650	13,770
		D	.....	42.7	57.3	.....	2.15	.....	.....	.....	.....	8,295	14,930

[a] High ash probably due to intimate mixture of some shale with the coal.

TENNESSEE—Continued.

SCOTT COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
21155	1.8	A	3.8	39.4	51.1	5.7	1.99	.....	.....	.....	.....	7,540	13,570
		B	2.0	40.1	52.1	5.8	2.03	.....	.....	.....	.....	7,680	13,830
		C	.....	40.9	53.2	5.9	2.07	.....	.....	.....	.....	7,840	14,110
		D	.....	43.5	56.5	.....	2.20	.....	.....	.....	.....	8,335	15,000
21156	1.8	A	3.8	38.5	51.2	6.52	1.93	5.60	74.32	1.83	9.80	7,445	13,400
		B	2.0	39.2	52.2	6.64	1.97	5.50	75.70	1.86	8.33	7,585	13,650
		C	.....	40.0	53.2	6.77	2.01	5.38	77.22	1.90	6.72	7,735	13,930
		D	.....	42.9	57.1	.....	2.16	5.77	82.83	2.04	7.20	8,300	14,940
21219	2.2	A	3.8	39.5	48.6	8.1	4.27	.....	.....	.....	.....	7,310	13,160
		B	1.6	40.4	49.7	8.3	4.37	.....	.....	.....	.....	7,475	13,460
		C	.....	41.1	50.5	8.4	4.44	.....	.....	.....	.....	7,595	13,680
		D	.....	44.8	55.2	.....	4.85	.....	.....	.....	.....	8,295	14,940
21220	2.2	A	3.6	39.7	44.6	12.1	6.02	.....	.....	.....	.....	6,970	12,540
		B	1.4	40.6	45.7	12.3	6.15	.....	.....	.....	.....	7,120	12,820
		C	.....	41.2	46.3	12.5	6.24	.....	.....	.....	.....	7,225	13,010
		D	.....	47.0	53.0	.....	7.13	.....	.....	.....	.....	8,260	14,870
21221	2.2	A	3.6	39.6	46.7	10.12	5.13	5.42	70.08	1.63	7.62	7,150	12,870
		B	1.5	40.5	47.7	10.34	5.24	5.29	71.63	1.67	5.83	7,310	13,160
		C	.....	41.1	48.4	10.50	5.32	5.21	72.71	1.69	4.57	7,420	13,350
		D	.....	45.9	54.1	.....	5.94	5.82	81.24	1.89	5.11	8,290	14,920
21218	7.5	A	9.0	36.5	42.7	11.83	4.52	5.59	63.48	1.55	13.03	6,530	11,760
		B	1.7	39.4	46.1	12.78	4.88	5.14	68.61	1.67	6.92	7,060	12,710
		C	.....	40.1	46.9	13.00	4.97	5.04	69.76	1.70	5.53	7,180	12.920
		D	.....	46.1	53.9	.....	5.71	5.79	80.18	1.95	6.37	8,250	14,850
21222	3.4	A	4.6	38.0	48.8	8.6	3.61	.....	.....	.....	.....	7,295	13,130
		B	1.2	39.3	50.5	9.0	3.74	.....	.....	.....	.....	7,550	13,590
		C	.....	39.8	51.1	9.1	3.78	.....	.....	.....	.....	7,645	13,760
		D	.....	43.8	56.2	.....	4.16	.....	.....	.....	.....	8,405	15,130
21223	2.4	A	3.6	39.3	49.1	8.0	3.34	.....	.....	.....	.....	7,465	13,440
		B	1.2	40.3	50.3	8.2	3.42	.....	.....	.....	.....	7,650	13,770
		C	.....	40.8	50.9	8.3	3.47	.....	.....	.....	.....	7,745	13,940
		D	.....	44.5	55.5	.....	3.79	.....	.....	.....	.....	8,450	15,210
21224	2.7	A	4.2	36.5	55.0	4.3	.71	.....	.....	.....	.....	7,680	13,820
		B	1.6	37.5	56.5	4.4	.73	.....	.....	.....	.....	7,890	14,200
		C	.....	38.1	57.4	4.5	.74	.....	.....	.....	.....	8,020	14,440
		D	.....	39.9	60.1	.....	.77	.....	.....	.....	.....	8,395	15,110
21225	1.9	A	3.6	37.1	54.4	4.9	.81	.....	.....	.....	.....	7,700	13,860
		B	1.8	37.8	55.4	5.0	.83	.....	.....	.....	.....	7,850	14,130
		C	.....	38.5	56.4	5.1	.84	.....	.....	.....	.....	7,990	14,380
		D	.....	40.6	59.4	.....	.88	.....	.....	.....	.....	8,420	15,150
21226	2.3	A	3.9	36.7	54.8	4.6	.79	.....	.....	.....	.....	7,720	13,890
		B	1.7	37.5	56.1	4.7	.81	.....	.....	.....	.....	7,900	14,220
		C	.....	38.2	58.0	4.8	.82	.....	.....	.....	.....	8,030	14,460
		D	.....	40.1	59.9	.....	.86	.....	.....	.....	.....	8,440	15,190
21227	2.4	A	4.1	37.0	54.6	4.3	.77	.....	.....	.....	.....	7,710	13,880
		B	1.7	37.9	56.0	4.4	.79	.....	.....	.....	.....	7,900	14,220
		C	.....	38.6	57.0	4.4	.80	.....	.....	.....	.....	8,040	14,470
		D	.....	40.4	59.6	.....	.84	.....	.....	.....	.....	8,415	15,150
21228	1.2	A	2.7	39.7	48.4	9.2	3.75	.....	.....	.....	.....	7,405	13,330
		B	1.5	40.2	48.9	9.4	3.79	.....	.....	.....	.....	7,490	13,480
		C	.....	40.8	49.7	9.5	3.85	.....	.....	.....	.....	7,605	13,690
		D	.....	45.1	54.9	.....	4.25	.....	.....	.....	.....	8,405	15,130
21229	1.2	A	3.1	38.2	54.6	4.1	1.05	.....	.....	.....	.....	7,830	14,090
		B	2.0	38.6	55.3	4.1	1.06	.....	.....	.....	.....	7,920	14,260
		C	.....	39.4	56.4	4.2	1.08	.....	.....	.....	.....	8,080	14.550
		D	.....	41.1	58.9	.....	1.13	.....	.....	.....	.....	8,435	15,190
21272	1.8	A	2.9	36.1	55.6	5.41	1.87	5.60	77.09	2.00	8.03	7,690	13,840
		B	1.1	36.8	56.6	5.51	1.90	5.50	78.52	2.04	6.53	7,830	14.100
		C	.....	37.2	57.2	5.57	1.93	5.44	79.39	2.06	5.61	7,920	14,250
		D	.....	39.4	60.6	.....	2.04	5.76	84.07	2.18	5.95	8,385	15,100

TENNESSEE—Continued.

SCOTT COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
21314	2.4	A	3.8	36.2	56.0	4.0	0.86	.....	.....	.....	.....	7,845	14,120
		B	1.4	37.1	57.4	4.1	.91	.....	.....	.....	.....	8,040	14,470
		C	.....	37.6	58.2	4.2	.92	.....	.....	.....	.....	8,155	14,680
		D	.....	39.3	60.7	.....	.96	.....	.....	.....	.....	8,510	15,320
21315	2.3	A	3.6	35.3	55.6	5.5	1.04	.....	.....	.....	.....	7,710	13,880
		B	1.3	36.2	56.9	5.6	1.06	.....	.....	.....	.....	7,895	14,210
		C	.....	36.7	57.6	5.7	1.08	.....	.....	.....	.....	8,000	14,400
		D	.....	38.9	61.1	.....	1.15	.....	.....	.....	.....	8,485	15,280
21316	2.8	A	4.3	36.4	55.2	4.1	1.20	.....	.....	.....	.....	7,705	13,870
		B	1.6	37.4	56.8	4.2	1.23	.....	.....	.....	.....	7,925	14,260
		C	.....	38.0	57.7	4.3	1.25	.....	.....	.....	.....	8,050	14,490
		D	.....	39.7	60.3	.....	1.31	.....	.....	.....	.....	8,405	15,130

SEQUATCHIE COUNTY.

22239	1.4	A	2.6	29.7	59.0	8.7	1.12	.....	.....	.....	.....	7,520	13,540
		B	1.2	30.2	59.8	8.8	1.14	.....	.....	.....	.....	7,630	13,730
		C	.....	30.5	60.6	8.9	1.15	.....	.....	.....	.....	7,725	13,900
		D	.....	33.5	66.5	.....	1.26	.....	.....	.....	.....	8,480	15,260
22240	1.7	A	2.8	30.1	57.2	9.9	1.22	.....	.....	.....	.....	7,445	13,400
		B	1.2	30.6	58.2	10.0	1.24	.....	.....	.....	.....	7,575	13,630
		C	.....	31.0	58.8	10.2	1.26	.....	.....	.....	.....	7,660	13,790
		D	.....	34.5	65.5	.....	1.40	.....	.....	.....	.....	8,530	15,350
22241	1.5	A	2.7	29.4	56.9	11.0	1.60	.....	.....	.....	.....	7,320	13,170
		B	1.2	29.9	57.7	11.2	1.62	.....	.....	.....	.....	7,430	13,370
		C	.....	30.2	58.5	11.3	1.64	.....	.....	.....	.....	7,520	13,540
		D	.....	34.1	65.9	.....	1.85	.....	.....	.....	.....	8,480	15,270
22242	1.5	A	2.8	29.5	57.9	9.79	1.27	4.96	75.53	1.44	7.01	7,425	13,370
		B	1.3	30.0	58.8	9.94	1.29	4.86	76.71	1.46	5.74	7,540	13,570
		C	.....	30.4	59.5	10.07	1.31	4.78	77.69	1.48	4.67	7,635	13,750
		D	.....	33.8	66.2	.....	1.46	5.32	86.39	1.65	5.18	8,490	15,290

WHITE COUNTY.

22365	1.6	A	3.0	38.1	51.1	7.8	2.67	.....	.....	.....	.....	7,490	13,480
		B	1.4	38.8	51.9	7.9	2.71	.....	.....	.....	.....	7,610	13,700
		C	.....	39.3	52.6	8.1	2.75	.....	.....	.....	.....	7,720	13,900
		D	.....	42.8	57.2	.....	2.99	.....	.....	.....	.....	8,395	15,120
22366	2.0	A	3.5	37.7	51.9	6.9	2.60	.....	.....	.....	.....	7,510	13,520
		B	1.5	38.5	53.0	7.0	2.65	.....	.....	.....	.....	7,665	13,800
		C	.....	39.1	53.8	7.1	2.69	.....	.....	.....	.....	7,780	14,010
		D	.....	42.1	57.9	.....	2.90	.....	.....	.....	.....	8,375	15,080
22367	1.5	A	2.9	38.3	50.6	8.2	3.04	.....	.....	.....	.....	7,420	13,350
		B	1.5	38.9	51.3	8.3	3.09	.....	.....	.....	.....	7,530	13,550
		C	.....	39.5	52.1	8.4	3.13	.....	.....	.....	.....	7,645	13,760
		D	.....	43.1	56.9	.....	3.42	.....	.....	.....	.....	8,350	15,030
22368	1.7	A	3.2	38.3	50.9	7.60	2.80	5.45	74.45	1.19	8.51	7,455	13,420
		B	1.5	39.0	51.8	7.73	2.85	5.35	75.75	1.21	7.11	7,585	13,650
		C	.....	39.6	52.6	7.85	2.89	5.27	76.87	1.23	5.89	7,695	13,850
		D	.....	42.9	57.1	.....	3.14	5.72	83.42	1.33	6.39	8,350	15,030
22369	1.4	A	2.7	39.8	47.5	10.0	3.36	.....	.....	.....	.....	7,355	13,240
		B	1.4	40.4	48.1	10.1	3.41	.....	.....	.....	.....	7,455	13,420
		C	.....	40.9	48.8	10.3	3.45	.....	.....	.....	.....	7,560	13,610
		D	.....	45.6	54.4	.....	3.85	.....	.....	.....	.....	8,430	15,170
22393	1.8	A	3.4	39.5	46.8	10.3	4.09	.....	.....	.....	.....	7,225	13,010
		B	1.6	40.3	47.6	10.5	4.16	.....	.....	.....	.....	7,360	13,240
		C	.....	41.0	48.4	10.6	4.23	.....	.....	.....	.....	7,480	13,460
		D	.....	45.8	54.2	.....	4.73	.....	.....	.....	.....	8,370	15,060

TENNESSEE—Continued.

WHITE COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
22394	1.3	A	2.8	40.4	46.6	10.2	3.28	.....	.....	.....	.....	7,310	13,160
		B	1.4	41.0	47.2	10.4	3.32	.....	.....	.....	.....	7,410	13,330
		C	.....	41.6	47.9	10.5	3.37	.....	.....	.....	.....	7,515	13,530
		D	.....	46.5	53.5	.....	3.77	.....	.....	.....	.....	8,400	15,120
22395	1.3	A	2.8	39.6	46.4	11.2	5.06	.....	.....	.....	.....	7,205	12,970
		B	1.5	40.1	47.0	11.4	5.13	.....	.....	.....	.....	7,300	13,140
		C	.....	40.7	47.8	11.5	5.20	.....	.....	.....	.....	7,410	13,340
		D	.....	46.0	54.0	.....	5.88	.....	.....	.....	.....	8,380	15,080
22396	1.8	A	3.4	38.8	47.8	10.0	3.84	.....	.....	.....	.....	7,230	13,020
		B	1.6	39.5	48.7	10.2	3.91	.....	.....	.....	.....	7,365	13,260
		C	.....	40.1	49.5	10.4	3.97	.....	.....	.....	.....	7,485	13,470
		D	.....	44.8	55.2	.....	4.43	.....	.....	.....	.....	8,355	15,040
22397	1.6	A	3.0	39.7	46.9	10.40	4.12	5.29	71.00	1.41	7.78	7,250	13,050
		B	1.4	40.3	47.7	10.57	4.19	5.20	72.13	1.43	6.48	7,370	13,260
		C	.....	40.9	48.4	10.72	4.25	5.10	73.21	1.45	5.27	7,480	13,460
		D	.....	45.8	54.2	.....	4.76	5.71	82.00	1.62	5.91	8,375	15,080
22388	2.8	A	4.0	35.8	48.5	11.7	3.90	.....	.....	.....	.....	7,085	12,560
		B	1.2	36.8	49.9	12.1	4.01	.....	.....	.....	.....	7,290	13,120
		C	.....	37.3	50.5	12.2	4.06	.....	.....	.....	.....	7,380	13,280
		D	.....	42.5	57.5	.....	4.62	.....	.....	.....	.....	8,405	15,130
22389	1.1	A	2.4	37.7	49.2	10.7	3.50	.....	.....	.....	.....	7,340	13,210
		B	1.3	38.1	49.8	10.8	3.54	.....	.....	.....	.....	7,425	13,360
		C	.....	38.6	50.4	11.0	3.59	.....	.....	.....	.....	7,525	13,540
		D	.....	43.4	56.6	.....	4.03	.....	.....	.....	.....	8,450	15,210
22390	4.4	A	5.6	35.4	47.5	11.5	4.41	.....	.....	.....	.....	6,965	12,540
		B	1.3	37.0	49.7	12.0	4.61	.....	.....	.....	.....	7,285	13,110
		C	.....	37.5	50.3	12.2	4.67	.....	.....	.....	.....	7,375	13,280
		D	.....	42.7	57.3	.....	5.32	.....	.....	.....	.....	8,400	15,120
22391	2.1	A	3.4	36.1	46.9	13.6	4.82	.....	.....	.....	.....	6,975	12,560
		B	1.3	36.9	48.0	13.8	4.92	.....	.....	.....	.....	7,130	12,830
		C	.....	37.4	48.6	14.0	4.99	.....	.....	.....	.....	7,220	13,000
		D	.....	43.5	56.5	.....	5.80	.....	.....	.....	.....	8,400	15,120
22392	2.6	A	3.8	36.2	48.1	11.93	4.22	5.22	69.72	1.33	7.58	7,090	12,760
		B	1.3	37.1	49.4	12.25	4.33	5.06	71.58	1.37	5.41	7,275	13,100
		C	.....	37.6	50.0	12.40	4.39	4.98	72.49	1.38	4.36	7,370	13,270
		D	.....	42.9	57.1	.....	5.01	5.69	82.75	1.58	4.97	8,415	15,150

UTAH.

CARBON COUNTY.

19680	3.2	A	6.2	40.8	48.5	4.55	0.37	5.57	71.47	1.37	16.67	7,040	12,670
		B	3.1	42.1	50.1	4.70	.38	5.39	73.79	1.41	14.33	7,270	13,090
		C	.....	43.5	51.7	4.85	.39	5.21	76.16	1.46	11.93	7,505	13,510
		D	.....	45.7	54.3	.....	.41	5.48	80.04	1.53	12.54	7,885	14,200
19711	2.2	A	6.0	38.8	49.1	6.1	.49	.....	.....	.....	.....	6,910	12,430
		B	3.9	39.7	50.2	6.2	.50	.....	.....	.....	.....	7,065	12,710
		C	.....	41.3	52.2	6.5	.52	.....	.....	.....	.....	7,350	13,230
		D	.....	44.2	55.8	.....	.56	.....	.....	.....	.....	7,855	14,140
19681	2.0	A	5.0	43.7	46.5	4.80	.41	5.83	71.93	1.31	15.72	7,125	12,820
		B	3.1	44.6	47.4	4.90	.42	5.72	73.39	1.34	14.23	7,270	13,080
		C	.....	46.0	49.0	5.05	.43	5.55	75.72	1.38	11.87	7,500	13,500
		D	.....	48.4	51.6	.....	.45	5.85	79.75	1.45	12.50	7,895	14,220
19712	.9	A	5.1	41.8	47.4	5.7	.55	.....	.....	.....	.....	7,080	12,740
		B	4.2	42.2	47.9	5.7	.56	.....	.....	.....	.....	7,145	12,860
		C	.....	44.1	49.9	6.0	.58	.....	.....	.....	.....	7,455	13,420
		D	.....	46.9	53.1	.....	.62	.....	.....	.....	.....	7,930	14,270

UTAH—Continued.

CARBON COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
19682	1.5	A	4.4	44.1	46.6	4.94	0.68	5.64	72.34	1.29	15.11	7,125	12,830
		B	3.0	44.8	47.2	5.01	.69	5.56	73.42	1.31	14.01	7,230	13,020
		C	.....	46.1	48.7	5.17	.71	5.39	75.68	1.35	11.70	7,455	13,420
		D	.....	48.6	51.4	.....	.75	5.68	79.80	1.42	12.35	7,860	14,150
19710	1.8	A	4.0	41.1	50.5	4.4	.65	.....	.....	.....	.....	7,250	13,050
		B	2.3	41.8	51.4	4.5	.66	.....	.....	.....	.....	7,385	13,290
		C	.....	42.8	52.6	4.6	.68	.....	.....	.....	.....	7,555	13,600
		D	.....	44.9	55.1	.....	.71	.....	.....	.....	.....	7,925	14,260
19702	.7	A	4.7	41.3	47.6	6.4	.41	.....	.....	.....	.....	7,015	12,630
		B	4.0	41.6	48.0	6.4	.41	.....	.....	.....	.....	7,060	12,710
		C	.....	43.4	49.9	6.7	.43	.....	.....	.....	.....	7,360	13,240
		D	.....	46.5	53.5	.....	.46	.....	.....	.....	.....	7,885	14,190
19706	.7	A	4.0	45.7	44.7	5.6	.54	.....	.....	.....	.....	7,175	12,920
		B	3.3	46.0	45.0	5.7	.54	.....	.....	.....	.....	7,225	13,000
		C	.....	47.6	46.5	5.9	.56	.....	.....	.....	.....	7,475	13,460
		D	.....	50.6	49.4	.....	.59	.....	.....	.....	.....	7,940	14,290
19843	1.3	A	3.7	42.8	48.2	5.31	.33	5.78	73.94	1.26	13.38	7,325	13,190
		B	2.4	43.4	48.8	5.38	.33	5.71	74.94	1.28	12.36	7,425	13,360
		C	.....	44.4	50.1	5.51	.34	5.58	76.78	1.31	10.48	7,605	13,690
		D	.....	47.0	53.0	.....	.36	5.91	81.26	1.39	11.08	8,050	14,490
19845	2.6	A	4.8	40.3	45.9	8.99	.65	5.61	69.62	1.35	13.78	6,945	12,500
		B	2.2	41.4	47.2	9.23	.67	5.46	71.48	1.39	11.77	7,130	12,830
		C	.....	42.3	48.3	9.44	.68	5.33	73.11	1.42	10.02	7,290	13,130
		D	.....	46.7	53.3	.....	.75	5.89	80.73	1.57	11.06	8,050	14,490
19844	1.3	A	3.8	44.7	44.4	7.09	.61	5.88	71.86	1.39	13.17	7,195	12,950
		B	2.6	45.2	45.0	7.18	.62	5.81	72.78	1.41	12.20	7,290	13,120
		C	.....	46.4	46.2	7.37	.63	5.68	74.71	1.45	10.16	7,480	13,470
		D	.....	50.1	49.9	.....	.68	6.13	80.66	1.57	10.96	8,075	14,540
19846	2.2	A	5.0	41.8	48.4	4.77	.47	5.76	73.10	1.38	14.52	7,255	13,060
		B	2.8	42.8	49.5	4.88	.48	5.63	74.75	1.41	12.85	7,420	13,360
		C	.....	44.0	51.0	5.02	.49	5.48	76.93	1.45	10.63	7,635	13,750
		D	.....	46.3	53.7	.....	.52	5.77	81.00	1.53	11.18	8,040	14,470
19847	1.9	A	4.6	42.3	46.9	6.16	.49	5.72	71.80	1.37	14.46	7,150	12,870
		B	2.8	43.1	47.8	6.28	.50	5.62	73.17	1.40	13.03	7,285	13,120
		C	.....	44.3	49.2	6.46	.51	5.46	75.24	1.44	10.89	7,495	13,490
		D	.....	47.4	52.6	.....	.55	5.84	80.44	1.54	11.63	8,010	14,420
19880	1.0	A	3.3	42.5	48.0	6.19	.40	5.60	73.22	1.35	13.24	7,260	13,060
		B	2.3	43.0	48.5	6.25	.40	5.54	73.99	1.36	12.46	7,335	13,200
		C	.....	44.0	49.6	6.40	.41	5.41	75.72	1.40	10.66	7,505	13,510
		D	.....	47.0	53.0	.....	.44	5.78	80.90	1.50	11.38	8,020	14,430
19879	.9	A	3.0	43.5	46.9	6.57	.47	5.67	73.25	1.41	12.63	7,290	13,120
		B	2.1	43.9	47.4	6.63	.47	5.62	73.93	1.42	11.93	7,360	13,240
		C	.....	44.8	48.4	6.78	.48	5.50	75.56	1.45	10.23	7,520	13,540
		D	.....	48.1	51.9	.....	.51	5.90	81.05	1.56	10.98	8,065	14,520
19881	1.3	A	3.6	45.6	45.4	5.38	.58	6.06	74.33	1.42	12.23	7,410	13,340
		B	2.3	46.2	46.0	5.45	.59	6.00	75.28	1.44	11.24	7,505	13,510
		C	.....	47.3	47.1	5.58	.60	5.87	77.07	1.47	9.41	7,685	13,840
		D	.....	50.1	49.9	.....	.64	6.22	81.62	1.56	9.96	8,140	14,650
19837	2.2	A	4.6	43.3	44.6	7.5	.76	.....	.....	.....	.....	7,065	12,710
		B	2.5	44.2	45.7	7.6	.78	.....	.....	.....	.....	7,220	12,990
		C	.....	45.4	46.8	7.8	.80	.....	.....	.....	.....	7,400	13,320
		D	.....	49.2	50.8	.....	.87	.....	.....	.....	.....	8,035	14,460
19838	1.8	A	4.1	41.3	45.9	8.7	.69	.....	.....	.....	.....	6,990	12,580
		A	2.3	42.1	46.7	8.9	.70	.....	.....	.....	.....	7,120	12,810
		C	.....	43.1	47.8	9.1	.72	.....	.....	.....	.....	7,285	13,110
		D	.....	47.4	52.6	.....	.79	.....	.....	.....	.....	8,015	14,430
19986	2.4	A	4.4	42.9	44.3	8.43	.55	5.78	70.43	1.42	13.39	7,050	12,690
		B	2.1	43.9	45.4	8.63	.56	5.65	72.13	1.45	11.58	7,220	13,000
		C	.....	44.9	46.3	8.82	.58	5.54	73.70	1.49	9.87	7,380	13,280
		D	.....	49.2	50.8	.....	.64	6.08	80.83	1.63	10.82	8,090	14,560

UTAH—Continued.

CARBON COUNTY—Continued.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
19987	3.9	A	6.0	42.9	46.2	4.93	0.85	6.03	71.80	1.52	14.87	7,190	12,940
		B	2.2	44.7	48.0	5.13	.88	5.82	74.72	1.58	11.87	7,485	13,470
		C	.....	45.7	49.1	5.25	.90	5.70	76.39	1.62	10.14	7,650	13,770
		D	.....	48.2	51.8	.....	.95	6.02	80.62	1.71	10.70	8,075	14,540
19990	2.8	A	4.9	42.2	44.7	8.15	.39	5.71	70.19	1.36	14.20	6,960	12,530
		B	2.2	43.4	46.0	8.38	.40	5.55	72.17	1.40	12.10	7,160	12,890
		C	.....	44.4	47.0	8.57	.41	5.44	73.80	1.43	10.35	7,320	13,180
		D	.....	48.5	51.5	.....	.45	5.95	80.72	1.56	11.32	8,005	14,410
19988	1.6	A	3.8	45.7	44.5	6.00	.36	5.88	73.12	1.35	13.29	7,260	13,070
		B	2.2	46.5	45.2	6.10	.37	5.79	74.33	1.37	12.04	7,380	13,290
		C	.....	47.6	46.2	6.24	.37	5.67	75.99	1.40	10.33	7,545	13,580
		D	.....	50.7	49.3	.....	.39	6.05	81.05	1.49	11.02	8,050	14,490
19989	2.8	A	4.9	42.8	46.2	6.07	.41	5.80	71.80	1.37	14.55	7,140	12,850
		B	2.1	44.1	47.5	6.25	.42	5.65	73.89	1.41	12.38	7,345	13,220
		C	.....	45.1	48.5	6.38	.43	5.53	75.50	1.44	10.72	7,505	13,510
		D	.....	48.1	51.9	.....	.46	5.91	80.64	1.54	11.45	8,015	14,430
MORGAN COUNTY.													
19799	8.7	A	18.1	[a]27.4	35.3	19.23	0.63	5.28	47.47	0.81	26.58	4,540	8,180
		B	10.3	30.0	38.7	21.05	.69	4.73	51.97	.89	20.67	4,970	8,950
		C	.....	33.4	43.1	23.47	.77	3.99	57.93	.99	12.85	5,545	9,980
		D	.....	43.7	56.3	.....	1.01	5.21	75.70	1.29	16.79	7,245	13,040
19800	6.4	A	17.5	[a]27.8	36.9	17.8	.46	.....	.....	.....	.....	4,755	8,560
		B	11.9	29.7	39.4	19.0	.49	.....	.....	.....	.....	5,085	9,150
		C	.....	33.7	44.7	21.6	.56	.....	.....	.....	.....	5,770	10,390
		D	.....	43.0	57.0	.....	.71	.....	.....	.....	.....	7,360	13,250
SUMMIT COUNTY.													
20894	0.2	A	2.3	38.5	48.9	10.31	5.16	4.98	69.10	0.99	9.46	6,970	12,550
		B	2.1	38.5	49.1	10.33	5.17	4.97	69.24	.99	9.30	6,985	12,570
		C	.....	39.4	50.1	10.55	5.28	4.83	70.72	1.01	7.61	7,135	12,840
		D	.....	44.0	56.0	.....	5.90	5.40	79.06	1.13	8.51	7,975	14,360
20895	.4	A	8.4	[a]32.1	45.0	14.54	.52	3.99	55.67	.96	24.32	4,930	8,870
		B	8.0	32.2	45.2	14.60	.52	3.96	55.90	.96	24.06	4,950	8,910
		C	.....	35.0	49.1	15.86	.57	3.34	60.74	1.05	18.44	5,380	9,680
		D	.....	41.6	58.4	.....	.68	3.97	72.19	1.25	21.91	6,390	11,510

VIRGINIA.

BUCHANAN COUNTY.

19833	3.2	A	4.1	31.7	61.2	2.98	1.07	5.36	80.91	1.51	8.17	8,035	14,470
		B	.9	32.7	63.3	3.08	1.11	5.17	83.58	1.56	5.50	8,300	14,940
		C	.....	33.1	63.8	3.11	1.12	5.12	84.33	1.57	4.75	8,375	15,080
		D	.....	34.1	65.9	.....	1.16	5.28	87.04	1.62	4.90	8,645	15,560
19834	2.7	A	3.5	31.9	60.9	3.73	1.48	5.32	80.89	1.53	7.05	7,995	14,390
		B	.8	32.8	62.6	3.83	1.52	5.16	83.14	1.57	4.78	8,215	14,790
		C	.....	33.1	63.0	3.87	1.53	5.11	83.84	1.59	4.06	8,285	14,920
		D	.....	34.4	65.6	.....	1.59	5.32	87.22	1.65	4.22	8,620	15,520
19735	2.0	A	3.4	28.2	61.4	6.98	.67	5.09	78.30	1.53	7.43	7,670	13,810
		B	1.4	28.8	62.7	7.12	.68	4.97	79.90	1.56	5.77	7,830	14,090
		C	.....	29.2	63.6	7.23	.69	4.88	81.06	1.58	4,56	7,940	14,290
		D	.....	31.4	68.6	.....	.74	5.26	87.37	1.70	4.93	8,560	15,410
19924	1.7	A	2.4	19.5	64.7	13.4	.71	.....	.....	.....	.....	7,310	13,160
		B	.6	19.9	65.8	13.7	.72	.....	.....	.....	.....	7,440	13,390
		C	.....	20.1	66.2	13.7	.73	.....	.....	.....	.....	7,490	13,480
		D	.....	23.2	76.8	.....	.85	.....	.....	.....	.....	8,680	15,630

[a] Volatile matter determined by the modified official method.

VIRGINIA—Continued.

MONTGOMERY COUNTY.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
19357	1.9	A	2.5	12.4	67.5	17.60	0.51	3.63	72.83	0.85	4.58	6,865	12,360
		B	.7	12.6	68.8	17.93	.52	3.48	74.21	.87	2.99	6,995	12,600
		C	.....	12.7	69.2	18.06	.52	3.44	74.72	.87	2.39	7,045	12,680
		D	.....	15.5	84.5	.....	.63	4.20	91.19	1.06	2.92	8,600	15,480
19358	1.1	A	1.9	12.3	66.8	18.97	.67	3.54	72.33	.85	3.64	6,755	12,160
		B	.8	12.5	67.5	19.18	.68	3.46	73.13	.86	2.69	6,830	12,290
		C	.....	12.6	68.1	19.33	.68	3.39	73.72	.87	2.01	6,835	12,390
		D	.....	15.6	84.4	.....	.84	4.20	91.38	1.08	2.50	8,535	15,360
22629	.4	A	1.6	12.3	68.1	18.0	.47	.....	.....	.....	.....	6,855	12,340
		B	1.2	12.4	68.4	18.0	.47	.....	.....	.....	.....	6,885	12,400
		C	.....	12.5	69.2	18.3	.48	.....	.....	.....	.....	6,970	12,540
		D	.....	15.3	84.7	.....	.59	.....	.....	.....	.....	8,525	15,340
22630	.6	A	1.9	13.5	69.8	14.8	.63	.....	.....	.....	.....	7,060	12,710
		B	1.4	13.6	70.2	14.8	.63	.....	.....	.....	.....	7,100	12,780
		C	.....	13.8	71.1	15.1	.64	.....	.....	.....	.....	7,200	12,960
		D	.....	16.3	83.7	.....	.75	.....	.....	.....	.....	8,475	15,260
22631	.8	A	1.8	11.8	53.5	32.9	.33	.....	.....	.....	.....	5,430	9,780
		B	1.1	11.9	53.9	33.1	.33	.....	.....	.....	.....	5,470	9,850
		C	.....	12.0	54.5	33.5	.34	.....	.....	.....	.....	5,530	9,960
		D	.....	18.1	81.9	.....	.51	.....	.....	.....	.....	8,315	14,970
19359	2.2	A	3.2	11.4	43.8	41.59	.33	2.89	47.98	.78	6.43	4,455	8,020
		B	1.0	11.7	44.8	42.53	.34	2.70	49.06	.80	4.57	4,560	8,200
		C	.....	11.8	45.2	42.98	.34	2.61	49.59	.81	3.67	4,605	8,290
		D	.....	20.6	79.4	.....	.60	4.58	86.97	1.42	6.43	8,080	14,540
19360	3.9	A	4.7	11.5	65.4	18.44	.56	3.66	70.19	.87	6.28	6,570	11,820
		B	.8	12.0	68.0	19.18	.58	3.36	73.01	.90	2.97	6,835	12,300
		C	.....	12.0	68.6	19.35	.59	3.29	73.64	.91	2.22	6,890	12,410
		D	.....	14.9	85.1	.....	.73	4.08	91.31	1.13	2.75	8,545	15,380
19403	.9	A	1.7	9.4	66.6	22.32	.71	3.19	69.24	.81	3.73	6,430	11,570
		B	.7	9.5	67.3	22.53	.72	3.12	69.89	.82	2.92	6,490	11,680
		C	.....	9.5	67.8	22.70	.72	3.05	70.42	.82	2.29	6,535	11,770
		D	.....	12.3	87.7	.....	.93	3.95	91.10	1.06	2.96	8,455	15,220

PULASKI COUNTY.

19431F	1.4	A	2.4	11.6	63.3	22.73	0.67	3.37	67.26	0.75	5.22	6,285	11,310
		B	.9	11.8	64.2	23.06	.68	3.26	68.24	.76	4.00	6,375	11,470
		C	.....	11.9	64.8	23.28	.69	3.19	68.89	.77	3.18	6,435	11,590
		D	.....	15.5	84.5	.....	.90	4.16	89.79	1.00	4.15	8,390	15,100
20722	1.9	A	2.5	10.8	63.1	23.6	.41	.....	.....	.....	.....	6,250	11,250
		B	.6	11.0	64.3	24.1	.42	.....	.....	.....	.....	6,365	11,460
		C	.....	11.1	64.7	24.2	.42	.....	.....	.....	.....	6,405	11,530
		D	.....	14.6	85.4	.....	.55	.....	.....	.....	.....	8,455	15,220

RUSSELL COUNTY.

19484	0.8	A	2.1	32.4	58.7	6.8	1.01	.....	.....	.....	.....	.....	.....
		B	1.3	32.6	59.2	6.9	1.02	.....	.....	.....	.....	.....	.....
		C	.....	33.1	60.0	6.9	1.03	.....	.....	.....	.....	.....	.....
		D	.....	35.5	64.5	.....	1.11	.....	.....	.....	.....	.....	.....
19528	1.8	A	3.2	33.1	57.7	6.0	.96	.....	.....	.....	.....	.....	.....
		B	1.4	33.7	58.8	6.1	.98	.....	.....	.....	.....	.....	.....
		C	.....	34.2	59.6	6.2	.99	.....	.....	.....	.....	.....	.....
		D	.....	36.4	63.6	.....	1.06	.....	.....	.....	.....	.....	.....
22345	3.5	A	4.7	30.8	59.4	5.14	.96	5.43	78.33	1.40	8.74	7,760	13,960
		B	1.2	31.9	61.6	5.33	1.00	5.22	81.18	1.45	5.82	8,040	14,470
		C	.....	32.3	62.3	5.39	1.01	5.15	82.17	1.47	4.81	8,140	14,650
		D	.....	34.1	65.9	.....	1.07	5.44	86.85	1.55	5.09	8,600	15,480
22346	1.1	A	2.5	34.2	50.7	12.6	.94	.....	.....	.....	.....	7,140	12,850
		B	1.4	34.5	51.3	12.8	.95	.....	.....	.....	.....	7,215	12,990
		C	.....	35.1	52.0	12.9	.96	.....	.....	.....	.....	7,320	13,170
		D	.....	40.3	59.7	.....	1.10	.....	.....	.....	.....	8,410	15,140

VIRGINIA—Continued.

WISE COUNTY.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
22277	1.4	A	3.0	35.9	55.5	5.6	0.78	.....	.....	.....	.....	7,760	13,970
		B	1.6	36.4	56.3	5.7	.79	.....	.....	.....	.....	7,875	14,170
		C	.....	37.0	57.2	5.8	.80	.....	.....	.....	.....	8,000	14,400
		D	.....	39.3	60.7	.....	.85	.....	.....	.....	.....	8,490	15,280
22278	1.3	A	2.9	36.1	56.2	4.8	.94	.....	.....	.....	.....	7,810	14,060
		B	1.6	36.6	56.9	4.9	.95	.....	.....	.....	.....	7,915	14,250
		C	.....	37.2	57.9	4.9	.97	.....	.....	.....	.....	8,045	14,480
		D	.....	39.2	60.8	.....	1.02	.....	.....	.....	.....	8,460	15,230
22279	1.1	A	2.7	36.3	54.5	6.5	1.37	.....	.....	.....	.....	7,690	13,850
		B	1.6	36.8	55.1	6.5	1.39	.....	.....	.....	.....	7,780	14,000
		C	.....	37.3	56.0	6.7	1.41	.....	.....	.....	.....	7,905	14,230
		D	.....	40.0	60.0	.....	1.51	.....	.....	.....	.....	8,470	15,250
22280	1.3	A	2.9	36.1	55.4	5.61	1.05	5.49	78.17	1.67	8.01	7,755	13,960
		B	1.6	36.6	56.1	5.68	1.06	5.42	79.19	1.69	6.96	7,855	14,140
		C	.....	37.2	57.0	5.77	1.08	5.32	80.46	1.72	5.65	7,980	14,370
		D	.....	39.5	60.5	.....	1.15	5.65	85.38	1.83	5.99	8,470	15,240

WYTHE COUNTY.

20721	5.2	A	6.1	11.1	49.7	33.1	0.32	.....	.....	.....	.....	4,975	8,950
		B	1.0	11.8	52.4	34.8	.34	.....	.....	.....	.....	5,245	9,440
		C	.....	11.9	52.9	35.2	.34	.....	.....	.....	.....	5,300	9,840
		D	.....	18.3	81.7	.....	.52	.....	.....	.....	.....	8,175	14,720

WASHINGTON.

WHATCOM COUNTY.

19722	2.6	A	4.4	7.4	76.0	12.23	0.96	2.97	77.75	0.98	5.11	6,995	12,590
		B	1.8	7.7	78.0	12.55	.99	2.76	79.79	1.01	2.90	7,180	12,920
		C	.....	7.8	79.4	12.79	1.00	2.60	81.30	1.02	1.29	7,315	13,170
		D	.....	8.9	91.1	.....	1.15	2.98	93.23	1.17	1.47	8,390	15,100
19723	3.2	A	5.5	6.9	77.7	9.9	1.02	.....	.....	.....	.....	7,115	12,810
		B	2.4	7.1	80.3	10.2	1.05	.....	.....	.....	.....	7,345	13,230
		C	.....	7.3	82.2	10.5	1.08	.....	.....	.....	.....	7,530	13,550
		D	.....	8.1	91.9	.....	1.21	.....	.....	.....	.....	8,415	15,150
19724	4.7	A	5.8	8.1	77.1	9.0	.91	.....	.....	.....	.....	7,205	12,970
		B	1.2	8.6	80.8	9.4	.96	.....	.....	.....	.....	7,560	13,610
		C	.....	8.6	81.8	9.6	.97	.....	.....	.....	.....	7,650	13,770
		D	.....	9.6	90:4	.....	1.07	.....	.....	.....	.....	8,455	15,220
19725	3.6	A	4.3	9.0	77.2	9.5	1.06	.....	.....	.....	.....	7,415	13,350
		B	.7	9.3	80.1	9.9	1.10	.....	.....	.....	.....	7,695	13,850
		C	.....	9.4	80.7	9.9	1.11	.....	.....	.....	.....	7,755	15,960
		D	.....	10.4	89.6	.....	1.23	.....	.....	.....	.....	8,610	15,500
19726	7.4	A	10.7	13.1	68.8	7.4	.94	.....	.....	.....	.....	6,610	11,900
		B	3.6	14.1	74.3	8.0	1.02	.....	.....	.....	.....	7,140	12,850
		C	.....	14.6	77.0	8.4	1.05	.....	.....	.....	.....	7,405	13,330
		D	.....	16.0	84.0	.....	1.15	.....	.....	.....	.....	8,080	14,540

WEST VIRGINIA.

CLAY COUNTY.

Laboratory No.	Air-drying loss.	Form of analysis.	Proximate.				Ultimate.					Heating value.	
			Moisture.	Volatile matter.	Fixed carbon.	Ash.	Sulphur.	Hydrogen.	Carbon.	Nitrogen.	Oxygen.	Calories.	British thermal units.
21816	1.0	A	2.5	35.6	54.9	7.0	0.86	.....	.....	.....	.....	7,595	13,670
		B	1.5	36.0	55.5	7.0	.87	.....	.....	.....	.....	7,670	13,810
		C	.....	36.6	56.3	7.1	.88	.....	.....	.....	.....	7,785	14,020
		D	.....	39.4	60.6	.....	.95	.....	.....	.....	.....	8,385	15,100
21817	1.5	A	2.9	34.8	54.1	8.2	1.09	.....	.....	.....	.....	7,470	13,450
		B	1.4	35.4	54.9	8.3	1.11	.....	.....	.....	.....	7,580	13,650
		C	.....	35.9	55.7	8.4	1.12	.....	.....	.....	.....	7,690	13,840
		D	.....	39.2	60.8	.....	1.22	.....	.....	.....	.....	8,400	15,120
21818	1.2	A	2.6	35.5	54.3	7.56	.98	5.33	75.89	1.48	8.76	7,530	13,560
		B	1.4	35.9	55.0	7.65	.99	5.25	76.84	1.50	7.77	7,625	13,730
		C	.....	36.4	55.8	7.76	1.01	5.18	77.95	1.52	6.58	7,735	13,930
		D	.....	39.5	60.5	.....	1.10	5.61	84.51	1.65	7.13	8,385	15,100
21892	1.5	A	3.1	36.5	54.4	6.0	1.49	.....	.....	.....	.....	7,670	13,800
		B	1.7	37.0	55.2	6.1	1.51	.....	.....	.....	.....	7,785	14,010
		C	.....	37.6	56.2	6.2	1.54	.....	.....	.....	.....	7,915	14,250
		D	.....	40.1	59.9	.....	1.64	.....	.....	.....	.....	8,440	15,190

NICHOLAS COUNTY.

21819	4.4	A	5.7	32.8	56.6	4.86	1.42	5.77	76.08	1.60	10.27	7,565	13,620
		B	1.3	34.4	59.2	5.09	1.49	5.53	79.62	1.67	6.60	7,915	14,250
		C	.....	34.8	60.0	5.15	1.51	5.44	80.70	1.70	5.50	8,025	14,440
		D	.....	36.7	63.3	.....	1.59	5.74	85.08	1.79	5.80	8,460	15,230
21820	3.2	A	4.5	33.7	56.7	5.11	.93	5.87	76.18	1.62	10.29	7,675	13,820
		B	1.3	34.8	58.6	5.28	.96	5.69	78.73	1.67	7.67	7,930	14,280
		C	.....	35.3	59.4	5.35	.97	5.63	79.81	1.70	6.54	8,040	14,470
		D	.....	37.3	62.7	.....	1.02	5.95	84.32	1.80	6.91	8,495	15,290

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