STATE OF ILLINOIS
William G. Stratton, Governor
DEPARTMENT OF REGISTRATION AND EDUCATION
Vera M. Binks, Director

1957

CHEMICAL ANALYSES OF ILLINOIS LIMESTONES AND DOLOMITES

Compiled by
J. E. Lamar

REPORT OF INVESTIGATIONS 200

ILLINOIS STATE GEOLOGICAL SURVEY
JOHN C. FRYE, *Chief*
URBANA, ILLINOIS

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Compiled by

J. E. LAMAR

ABSTRACT

More than 700 chemical analyses of Illinois limestones and dolomites, compiled from both published sources and unpublished data in the files of the Illinois State Geological Survey, are presented in a table to afford information on all the major limestone and dolomite formations of the State.

INTRODUCTION

Chemical analyses of Illinois limestones and dolomites appear in many diverse publications, some of which are relatively old and out-of-print and therefore no longer readily available. In addition, many unpublished analyses are on file at the Illinois State Geological Survey. The table of analyses herein was compiled to meet a recurring need for a single report consolidating all the aforementioned data.

The purpose of the table is not to show the chemical composition of the commercial products of the stone-producing plants of the State. Rather, its objective is to present information regarding the various rock formations for use in evaluating the chemical character of the limestone and dolomite resources of Illinois. A number of the samples whose analyses are given are from quarries that are now filled with water or debris. Other samples are from outcrops or from roadcuts or railroad cuts that were well exposed at the time the samples were taken but have since been obscured by earth or other materials to the extent that their composition cannot now be determined satisfactorily. The table serves to preserve information regarding these deposits that will be of significance in the evaluation of their possible future use.

Almost all the previously unpublished analyses in the table have been made of samples taken from quarry faces, natural outcrops, road or railroad cuts, or, more rarely, from diamond drill cores. The samples from quarries do not represent commercial grades of stone being produced by the quarries at the time of sampling. Further, from the dates indicating when the samples were taken, it is evident that the samples then analyzed from operating quarries do not represent current commercial products because lateral expansion and/or deepening of the quarries has since brought new parts of their deposits into production, and at some places eliminated other parts from production.

Analyses are given from some quarries for stone that is impure and never has been a part of the commercial production of the quarries. These samples generally were taken to determine use limitations and potentials of the impure stone.

All analyses bear a date indicating when they were published, or, in the case of previously unpublished analyses, when the sample was taken. Many analyses carry the names of the operators of quarries from which the samples analyzed came. A number of the companies identified in connection with some of the older analyses no longer exist, either because they have gone out of business or have been superseded by newer concerns. The older names are carried in the table, however, because of their historical significance.

A large number of analyses is available for some deposits. In some such cases a selection of analyses has been made to avoid duplication. Where the geographic locations given for certain samples analyzed could be more accurately stated, this has been done. Obvious typographical errors in some published analyses likewise have been corrected.

Many analyses report either only CaO and MgO, or $CaCO_3$ and $MgCO_3$. In order to make data available for both pairs of compounds, the missing figures have been calculated.

Much of the compiling and checking of the chemical data was done by Mrs. Miriam Hatch and Mrs. Mary Cecil, and their valuable and painstaking assistance is gratefully acknowledged.

CHEMICAL FORMULAS AND SYMBOLS

A number of chemical formulas and symbols are used in the table of analyses. Their meanings are indicated below:

Al_2O_3	—aluminum oxide (alumina)
CaO	—calcium oxide (lime)
$CaCO_3$	—calcium carbonate
CO_2	—carbon dioxide
FeO	—ferrous oxide (iron oxide)
Fe_2O_3	—ferric oxide (iron oxide)
K_2O	—potassium oxide (potash)
L. on ign.	—loss on ignition
MgO	—magnesium oxide (magnesia)
$MgCO_3$	—magnesium carbonate
MnO	—manganese oxide
Na_2O	—sodium oxide
P	—phosphorus
P_2O_5	—phosphorus pentoxide
R_2O_3	—oxides of trivalent metals, chiefly Fe_2O_3 and Al_2O_3
S	—sulfur
SO_3	—sulfur trioxide
SiO_2	—silicon dioxide (silica)
TiO_2	—titanium dioxide (titania)

CALCIUM CARBONATE EQUIVALENTS

The "Calcium Carbonate Equivalent" (CCE) of limestone and dolomite commonly is determined by a special analytical technique rather than from the data provided by chemical analyses such as those given in the table. However, an approximate value for the CCE usually may be calculated from the data in the table by multiplying the percentage of $MgCO_3$ by 1.187 and adding to the resulting product the percentage of $CaCO_3$.

GEOLOGIC NAMES OF FORMATIONS

More than 75 names of geologic formations are used to identify the rock units represented by the samples in table 2. In the case of the published analyses these names were applied by the sampler at the time the samples were taken and indicate geological usage then current. The professional stratigrapher will recognize certain obsolete names but, if questions arise, the latest information on nomenclature can be obtained by addressing the Illinois State Geological Survey. For other users of the table all "formation" names used herein are listed alphabetically in table 1 and the geologic system of rocks to which they belong is indicated. The sequence of the systems, from youngest to oldest, is as follows:

Pennsylvanian system
Mississippian system
Devonian system
Silurian system
Ordovician system
Cambrian system

TABLE 1.—Correlation of "Formation" Names and Geological System.

"Formation"	*System*
Backbone	Devonian
Bailey	Devonian
Bainbridge	Silurian
Brereton	Pennsylvanian
Burlington	Mississippian
Burroughs	Pennsylvanian
Caprock No. 6 coal	Pennsylvanian
Caprock Blair Coal	Pennsylvanian
Cedar Valley	Devonian
Centralia	Pennsylvanian
Chester	Mississippian
Chouteau	Mississippian
Cincinnatian	Devonian
Clear Creek	Devonian
Clore	Mississippian
Decorah	Ordovician
Divine	Ordovician
Edgewood	Silurian
Fredonia	Mississippian
Galena	Ordovician
Galena-Platteville	Ordovician
Girardeau	Silurian
Golconda	Mississippian
Guttenberg	Ordovician
Hanover	Pennsylvanian
Hamilton	Devonian
Joachim	Ordovician
Joliet	Silurian
Keokuk	Mississippian
Kankakee	Silurian
Kimmswick	Ordovician
Kinderhook	Mississippian
Kinkaid	Mississippian
Knobby	Pennsylvanian
LaSalle	Pennsylvanian
Livingston	Pennsylvanian
Lonsdale	Pennsylvanian
Macoupin	Pennsylvanian
Magnesian (lower)	Ordovician
Maquoketa	Ordovician
Marigold	Mississippian

"Formation"	*System*
Maxwell	Pennsylvanian
McLeansboro	Pennsylvanian
Menard	Mississippian
St. Louis	Mississippian
New Scotland	Devonian
Niagaran	Silurian
Middle Richmond	Ordovician
Okaw	Mississippian
Onondaga	Devonian
Osage	Mississippian
Paint Creek	Mississippian
Plattin	Ordovician
Platteville	Ordovician
Pontiac	Pennsylvanian
Port Byron	Silurian
Prosser	Ordovician
Quarry Creek	Pennsylvanian
Racine	Silurian
Renault	Mississippian
Richmond	Ordovician
Salem	Mississippian
Ste. Genevieve	Mississippian
St. Louis	Mississippian
St. David	Pennsylvanian
Seville	Pennsylvanian
Sexton Creek	Silurian
Shakopee	Ordovician
Shoal Creek	Pennsylvanian
Spergen	Mississippian
Stewartville	Ordovician
Trempealeau	Cambrian
Vienna	Mississippian
Wapsipinicon	Devonian
Warsaw	Mississippian
Waukesha	Silurian

TABLE OF LIMESTONE AND DOLOMITE ANALYSES

(p. 6–33)

FOOTNOTES

a U. S. Geological Survey, 1912, Mineral resources of the U. S., Part II, 1911, p. 663–665.
b Bleininger, A. V., Lines, E. F., and Layman, F. E., 1912, Illinois State Geological Survey Bull. 17, p. 97 to 100.
c Emley, W. E., 1913, U. S. Bureau of Standards Technologic Paper 16, p. 120.
d U. S. Geological Survey Bull. 340, 1907, p. 394; same data in Illinois State Geological Survey Bull. 8, 1907, p. 355.
e Geological Survey of Illinois, vol. I, 1866, p. 61, 99, 108, 134–136, 148, 256, 374.
f Geological Survey of Illinois, vol. IV, 1870, p. 40.
g Geological Survey of Illinois, vol. III, 1868, p. 117, 573, 574.
h U. S. Geological Survey Bull. 522, 1913, p. 144.
i Illinois State Geological Survey Bull. 8, 1907, p. 133.
j Twentieth Ann. Rept. U. S. Geological Survey, Part 6, 1899, p. 377, 378, 544.
k Illinois State Geological Survey Bull. 46, 1925, p. 312–33.
l Analysis by Illinois State Geological Survey.
m U. S. Geological Survey Prof. Paper 218, 1952, p. 156–57.
n Analysis for Illinois State Geological Survey by Chemistry Department of the University of Illinois.
o Illinois State Geological Survey Bull. 61, 1934, p. 57–64, 118, 142–155.
p Illinois State Geological Survey Rept. Inv. 17, 1929, p. 13–16.
q Illinois State Geological Survey Rept. Inv. 90, 1943, p. 88–89.
r Analysis for Illinois State Geological Survey by Illinois State Highway Testing Laboratory.
s Illinois State Geological Survey Bull. 4, 1907, p. 179–183; calcium and magnesium carbonates estimated.
t Illinois State Geological Survey Bull. 51, 1925, p. 33–34.
u Illinois State Geological Survey Rept. Inv. 23, 1931, p. 17.
v Illinois State Geological Survey Inf. Circ. 4, 1933, p. 4–6.
w Eckel, Edwin C., 1905, Cements, Limes, and Plasters, p. 204, 314, John Wiley and Sons, New York.
x Illinois State Geological Survey Rept. Inv. 161, 1952, p. 4.
y Illinois State Geological Survey Bull. 77, 1952, p. 76.
z U. S. Geological Survey, 1913, Mineral Resources of the U. S., Part 2, p. 1558.
aa Cement Mill and Quarry, 1922, v. 20, no. 9, p. 20.
bb Illinois State Geological Survey Bull. 55, 1928, p. 105.
cc Rock Products, 1931, v. 34, no. 11, p. 56.
† Not detectable in five grams.
Figures in *italics* are calculated from other data in the analysis.

TABLE 2.—CHEMICAL ANALYSES OF

Sample No. and Source	Formation	Thickness	Near	Location						Chemical						
				¼	¼	¼	sec.	T.	R.	$CaCO_3$	$MgCO_3$	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	R_2O_3
																Adams
C17[b]	Salem	3′	Mendon	—	—	NW	11	1N	7W	79.33	1.96	12.26	—		3.92	—
C16[b]	Keokuk	—	Quincy	—	—	SW	26	1S	9W	86.32	1.42	9.66	—		1.54	—
C15[b]	Burlington	30′?	Quincy	W. side			11	2S	9W	77.47	1.76	19.78	—		1.94	—
e	Burlington	—	Quincy	—	—	—	—	—	—	94.68	4.31	—	—		0.20	—
e	Burlington	—	Quincy	—	—	—	—	—	—	71.00	24.00	—	—		4.00	—
j	Burlington	—	Quincy	—	—	—	—	—	—	92.77	6.75	—	—		0.27	—
j	Burlington	—	Marblehead	—	—	—	—	—	—	95.62	0.82	0.47	—		2.18	—
a	Burlington	—	Marblehead	—	—	—	—	—	—	97.40	1.40	0.40	—	0.68	0.12	—
a	Burlington	—	Marblehead	—	—	—	—	—	—	97.51	1.30	0.50	—	0.52	0.12	—
z	Burlington	—	Marblehead	—	—	—	—	—	—	98.45	1.28	0.21	—	0.04	0.10	—
c	Burlington	—	Marblehead	—	—	—	—	—	—	98.97	trace	0.36	—		1.22	—
k	Burlington	20±	Marblehead	—	—	—	—	—	—	97.59	0.96	0.39	—		— —	1.00
																Alexander
NF449[l]	Bainbridge	24′ 6″	McClure	SW	SE	NW	12	14S	3W	*95.00*	*1.44*	2.82	0.13	0.90	0.35	—
D42[b]	Kimmswick	35′	Thebes	—	—	—	17	15S	3W	99.77	1.18	0.27	—		0.32	—
D42[s]	Kimmswick	35′	Thebes	—	—	—	17	15S	3W	97.25	—	—	—		0.32	—
e	Kimmswick	—	Thebes	—	—	—	17	15S	3W	98.01	1.59	—	—	0.20	trace	—
NF450[l]	Middle Kimmswick	26′	Thebes	SE	NW	SE	17	15S	3W	*99.69*	*0.71*	0.16	nil	0.20	0.09	—
L57[l]	Kimmswick	22′	Thebes	—	—	SE	17	15S	3W	97.44	0.38	0.20	—	0.10	0.25	—
L58[l]	Kimmswick	28′	Thebes	—	—	SE	17	15S	3W	96.90	0.60	0.90	—	0.36	0.10	—
L63A[l]	Kimmswick	20′	Thebes	—	—	SE	17	15S	3W	98.54	0.55	0.32	—	0.32	0.10	—
L37[n]	Girardeau	25′	Thebes	—	NE	NW	21	15S	3W	90.86	4.60	3.72	—	—	—	1.40
																Boone
DS79[o]	Edgewood	10′	Belvidere	—	SW	NW	14	43N	3E	*44.82*	*30.90*	12.66	—	6.35	1.52	—
43[q]	Prosser & Stewartville	17′	Belvidere	NW	SE	NE	8	44N	3E	54.16	42.67	1.58	—	0.52	0.51	—
o	Galena	38′?	Belvidere	—	SW	NE	34	44N	3E	53.43	43.00	2.39	—	—	—	0.92
a	Galena	—	Belvidere	—	—	—	—	—	—	52.27	44.67	1.87	—	0.98		—
a	Galena	—	Belvidere	—	—	—	—	—	—	54.59	41.33	2.90	—	0.85		—
																Brown
R143[l]	St. Louis	13′	Cooperstown	—	NW	NW	20	1S	1W	*86.55*	*1.00*	10.34	0.20	0.43	1.30	—
C28[b]	St. Louis	7′ 6″	Ripley	—	—	SW	4	1N	2W	88.89	2.51	5.86	—		2.42	—
C26[b]	Salem	5′	Cooperstown	SE cor.			15	1N	2W	78.90	7.81	8.36	—		3.92	—
C27[b]	Salem and St. Louis.	8′	Cooperstown	—	SE	SE	15	1N	2W	87.43	3.01	6.62	—		2.64	—
R142[o]	Spergen	13′ 6″	Cooperstown	SE	NE	SE	15	1S	2W	*46.61*	*15.24*	30.78	0.00	2.15	2.60	—
R200[l]	Keokuk	12′	Varders Bridge	SW	NW	NW	31	2S	2W	*87.16*	*1.07*	9.82	0.00	0.67	0.77	—
C25[b]	Salem	3′	Versailles	—	NE	SE	3	2S	2W	69.59	20.07	5.80	—		3.98	—
C18[b]	Salem	3′	Mt. Sterling	SE corner			6	2S	3W	94.39	1.34	2.96	—		1.46	—
C22[b]	Salem	—	Surratt Hollow	—	—	—	17	2S	3W	82.36	1.17	13.54	—		3.10	—
C23[b]	Salem	—	Surratt Hollow	—	—	—	18	2S	3W	86.82	1.25	8.78	—		2.40	—
C19a[b]	Salem	4′	Mt. Sterling	—	—	NW	18	2S	3W	43.36	18.56	26.46	—		10.36	—
C19c[b]	Salem	20′	Mt. Sterling	—	—	NW	18	2S	3W	89.39	0.79	7.26	—		2.40	—
C24[b]	Salem	—	Marden	—	—	NE	20	2S	3W	90.18	1.25	6.44	—		1.90	—
C21b[b]	Salem	9′	Versailles	—	NW	SE	20	2S	3W	80.86	1.05	15.40	—		3.10	—
C20[b]	Salem	13′	Versailles	—	—	NW	26	2S	3W	78.30	1.13	16.90	—		3.06	—
																Bureau
E15a[b]	LaSalle	7′ 6″	Marquette	—	—	—	31	16N	11E	60.42	6.19	23.30	—		8.64	—
Dx17[o]	LaSalle	17′	Spring Valley	—	NW	SW	33	16N	11E	*57.3*	*5.0*	26.4	—	4.8	2.7	—
Dx17A[l]	LaSalle	17′	Spring Valley	NW	NW	SW	33	16N	11E	*53.16*	*6.91*	29.07	—	5.13	3.34	—
Dx17B[l]	LaSalle	10′	Spring Valley	NW	NW	SW	33	16N	11E	*57.29*	*5.02*	26.4	—	4.8	2.7	—
C11a[b]	LaSalle	8′	Spring Valley	—	SW	NE	33	16N	11E	51.42	11.16	26.18	—		11.00	—
C11b[b]	LaSalle	—	Spring Valley	—	SW	NE	33	16N	11E	55.67	5.89	22.76	—		11.10	—
																Calhoun
R105[l]	Silurian	7′	Kampsville	SE	SW	SW	2	9S	2W	*95.35*	*0.84*	2.28	0.00	0.42	1.00	—
R4[m]	Joliet	16′														
	Sexton Creek	6′	Hamburg	NW	NW	SE	35	9S	3W	*95.4*	*1.84*	2.71	—	0.38	0.62	—
R20[m]	Chouteau	15′	Hardin	NW	NE	SE	27	10S	2W	*78.95*	*2.74*	14.90	—	2.02	1.24	—
R15[m]	Burlington	70′	Hardin	NW	SE	SE	28	10S	2W	*96.00*	*1.53*	2.64	—	0.14	0.46	—
NF455B[l]	Kimmswick	24′	Batchtown	NE	NE	SE	31	11S	2W	*99.12*	*0.75*	0.42	—	0.14	0.12	—
NF455C[l]	Kimmswick	21′	Batchtown	SW	SW	NW	32	11S	2W	*98.90*	*0.86*	0.52	—	0.11	0.15	—
NF403[l]	Decorah	7′	Batchtown	NE	SE	NE	6	12S	2W	*80.74*	*3.49*	9.80	—	1.83	0.41	—
NF455A[l]	Kimmswick	18′	Batchtown	SE	NE	NE	6	12S	2W	*98.96*	*0.54*	0.90	—	0.14	0.09	—

Footnotes appear on page 5.

ILLINOIS LIMESTONES AND DOLOMITES

Analysis						Miscellaneous	Remarks	Year sample taken or analysis published	Sample No.
CaO	MgO	Na_2O	K_2O	CO_2	Loss on ignition				
County									
44.46	0.94	—	—	—	37.24			1912	317b
48.38	*0.68*	—	—	—	39.90			1912	C16b
43.42	0.84	—	—	—	35.10			1912	C15b
53.06	*2.06*	—	—	—	—	Insoluble matter 0.05.		1866	—
39.79	*11.48*	—	—	—	—	Insoluble matter 1.00.		1866	—
51.99	*3.23*	—	—	—	—	Insoluble 0.37	F. W. Menke Stone and Lime Co.	1899	—
53.59	*0.39*	—	—	—	—	Undetermined 0.91	Marblehead Lime Co.	1899	—
54.58	*0.67*	—	—	—	—		Marblehead Lime Co.	1912	—
54.64	*0.62*	—	—	—	—		Marblehead Lime Co.	1912	—
55.17	*0.61*	—	—	—	—		Marblehead Lime Co.	1913	—
55.46	Trace	—	—	—	—		Marblehead Lime Co.	1913	—
54.65	*0.46*	—	—	—	—	Average 5 analyses of chert-free limestone		1925	—
County									
53.23	0.69	0.04	0.22	41.95	41.99	MnO 0.044; P_2O_5 0.005	0–24½′ above base of Bainbridge	1949	NF449
55.91	*0.56*	—	—	—	—	P–0.036		1912	D42
54.50	—	—	—	—	—	Insoluble matter 0.27		1907	D42
54.92	*0.76*	—	—	—	—	Insoluble matter 0.06; moisture 1.07		1866	—
55.86	0.34	0.06	0.01	43.53	43.44	MnO 0.038; P_2O_5 0.034	Total	1949	NF450
—	—	—	—	—	—		Lower part	1928	L57
—	—	—	—	—	—		Middle part	1928	L58
—	—	—	—	—	—		Upper part	1928	L63A
50.82	*2.20*	—	—	—	—			1928	L37
County									
25.11	14.78	—	—	38.39	39.47			1934	DS79
30.34	21.10	—	—	46.09	—			1943	43
29.92	*20.55*	—	—	—	—	Average 2 analyses		1934	—
29.29	*21.36*	—	—	—	—		Electric Stone Co.	1912	—
30.59	*19.76*	—	—	—	—		Electric Stone Co.	1912	—
County									
48.50	0.48	Trace	0.40	37.52	38.12	S 0.04		1930	R143
49.82	1.20	—	—	—	41.02			1912	C28
44.22	3.74	—	—	—	40.04			1912	C26
49.00	1.44	—	—	—	40.82			1912	C27
26.12	7.29	0.31	0.50	30.00	30.88	S 0.06		1930	R142
48.84	0.51	0.00	0.00	39.16	39.18	S 0.07		1931	R200
39.00	9.60	—	—	—	42.20			1912	C25
52.90	0.64	—	—	—	42.70			1912	C18
46.16	0.56	—	—	—	37.26			1912	C22
48.66	0.60	—	—	—	39.62			1912	C23
24.30	8.88	—	—	—	30.84			1912	C19a
50.10	0.38	—	—	—	40.10			1912	C19c
50.54	0.60	—	—	—	40.74			1912	C24
45.32	0.50	—	—	—	36.40			1912	C21b
43.88	0.54	—	—	—	35.98			1912	C20
County									
33.86	2.96	—	—	—	32.38			1912	E15a
32.1	2.4	—	—	—	30.7			1934	Dx17
29.79	3.30	—	—	27.38	29.41			1932	Dx17A
32.1	2.4	—	—	—	30.7			1932	Dx17B
28.82	5.34	—	—	—	29.56			1912	C11a
31.20	2.82	—	—	—	32.78			1912	C11b
County									
53.43	0.40	—	—	41.33	42.03			1930	R105
53.36	0.88	—	—	—	41.82	SO_2 0.15		1952	R4
44.23	1.31	—	—	—	36.28	SO_3 0.12		1952	R20
53.79	0.73	—	—	—	42.17	SO_3 0.19		1952	R15
55.54	0.36	0.10	0.02	43.59	43.67	P_2O_5 0.097	25′6″ to 49′6″ above base of formation	1950	NF455B
55.42	0.41	0.10	0.02	43.53	43.56	P_2O_5 0.085	49′6″ to 70′6″ above base of Kimmswick formation	1950	NF455C
45.24	1.67	—	—	36.63	41.04			1936	NF403
55.45	0.26	0.07	0.03	43.35	43.34	P_2O_5 1.72	0–18′ above base of Kimmswick	1950	NF455A

TABLE 2.—

Sample No. and Source	Formation	Thickness	Near	Location ¼	¼	¼	sec.	T.	R.	Chemical $CaCO_3$	$MgCO_3$	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	R_2O_3
Calhoun																
R29[m]	Kimmswick	37′	Batchtown	—	NW	SE	17	12S	2W	*99.10*	*0.88*	0.74	—	0.28	0.62	—
R19[m]	Plattin	50′	Batchtown	—	NE	SE	19	12S	2W	*86.41*	*11.19*	2.19	—	0.72	0.46	—
R18[m]	Joachim	60′	Batchtown	—	SW	SE	19	12S	2W	*61.19*	*34.27*	3.54	—	0.60	0.94	—
R35[o]	Niagaran.	22′	Meppen	—	SW	SE	23	12S	2W	*52.00*	*40.29*	4.82	—	1.15	1.71	—
R34[m]	Hanover and Brereton	8′	Brussels	—	SW	SW	14	13S	2W	*96.91*	*1.32*	1.53	—	0.22	0.62	—
R33[m]	St. Louis.	39′	Fruitland Landing	—	NE	SW	6	14S	1W	*94.98*	*1.23*	3.23	—	0.44	0.62	—
NF172A[l]	St. Louis	24′ 6″	Fruitland Landing	SE	NE	SW	6	14S	1W	*89.09*	*1.92*	6.79	—	1.64	0.52	—
NF172B[l]	St. Louis	18′ 4″	Fruitland Landing	SE	NE	SW	6	14S	1W	*88.93*	*3.99*	4.85	—	1.44	0.76	—
NF172C[l]	St. Louis	16′ 2″	Fruitland Landing	SE	NE	SW	6	14S	1W	*78.02*	*10.96*	5.80	—	1.68	3.37	—
Carroll																
M1[q]	Waukesha	35′	Savanna	SE	NW	NW	2	24N	3E	55.39	42.63	0.16	—	0.25	1.37	—
33[q]	Stewartville	12′	Lanark	NE	NE	NE	1	24N	5E	53.71	43.28	1.29	—	0.47	0.60	—
35[q]	Waukesha	30′	Mt. Carroll	SW	SW	NW	25	25N	5E	54.66	43.42	0.33	—	0.29	0.64	—
[a]	Galena	—	Mt. Carroll	—	—	—	—	—	—	54.06	43.68	1.62	—	1.12		—
Clark																
[k]	McLeansboro	—	West Union	—	—	SE	19	9N	11W	97.22	—	1.59	—	1.10		—
S9[b]	Quarry Creek	15′	Casey	—	—	NE	28	10N	14W	91.46	1.38	4.04	—	2.94		—
S51a[b]	Quarry Creek	8′	Marshall	—	—	NW	6	11N	11W	94.46	1.11	1.74	—	2.26		—
S51c[b]	Quarry Creek	6′	Marshall	—	—	NW	6	11N	11W	95.00	1.44	2.12	—	1.56		—
S52a[b]	McLeansboro	5′	Marshall	—	—	NW	29	11N	11W	96.10	1.15	1.46	—	1.62		—
S52b[b]	McLeansboro	5′ 6″	Marshall	—	—	NW	29	11N	11W	82.11	4.10	6.26	—	5.50		—
Coles																
S3[s]	Livingston	18′	Charleston	—	—	—	—	—	—	93.53	0.53	—	—	1.56		—
S3[b]	McLeansboro	18′	Charleston	—	—	NW	5	12N	10E	93.67	2.46	3.91	—	1.56		—
B10[k]	McLeansboro	—	Charleston	—	—	—	—	—	—	59.95	10.05	—	—	5.08		—
Cook																
24[q]	Racine	10′	Chicago Heights	NE	SE	NE	22	35N	14E	54.41	42.36	1.20	—	0.52	0.38	—
NF409[q]	Racine	50′	Thornton	—	NW	SE	28	36N	14E	55.69	42.76	0.11	—	0.30	0.19	—
F1[q]	Racine	—	Thornton	—	NW	SE	28	36N	14E	54.57	44.30	0.06	0.00	0.25	0.02	—
F2[q]	Racine	—	Thornton	—	NW	SE	28	36N	14E	55.17	44.30	0.12	0.03	0.19	0.01	—
NF58[o]	Niagaran.	40′	Thornton	—	NW	SE	33	36N	14E	*46.95*	*36.59*	14.6	—	—	—	4.3
NF59[o]	Niagaran.	30′	Thornton	—	NW	SE	33	36N	14E	*53.19*	*40.77*	2.4	—	—	—	1.8
[d]	Niagaran.	—	Thornton	—	—	—	—	—	—	54.04	42.96	1.23	—	0.55	0.37	—
[d]	Niagaran.	—	Thornton	—	—	—	—	—	—	33.50	27.95	27.27	—	5.63	1.62	—
[a]	Niagaran.	—	Thornton	—	—	—	—	—	—	52.44	43.66	2.35	—	0.85		—
[a]	Niagaran.	—	Thornton	—	—	—	—	—	—	52.67	43.57	2.10	—	0.85		—
22[q]	Racine	15′	Sag Bridge	SW	SE	SW	13	37N	11E	54.71	44.09	0.27	—	0.25	0.19	—
Dx5[o]	Niagaran.	15′	Lemont	—	NE	SW	21	37N	11E	*31.22*	*24.99*	41.08	—	2.01	1.88	—
Dx4[o]	Niagaran.	10′	Lemont	—	NE	SW	21	37N	11E	*41.04*	*31.39*	24.84	—	1.13	1.85	—
NF297A[l]	Niagaran.	27′	Lemont	—	SW	NW	21	37N	11E	*53.47*	*43.37*	2.33	—	0.65	0.47	—
NF297B[l]	Niagaran.	22′ 6½″	Lemont	—	SW	NW	21	37N	11E	*47.67*	*38.88*	11.00	—	1.88	0.61	—
[d]	Niagaran.	—	Lemont	—	—	—	—	—	—	36.00	41.00	17.30	—	1.33	0.96	—
NF96[o]	Niagaran.	—	Spoil Bank Sag Channel	C E line		SW	35	37N	13E	*35.01*	*28.44*	26.95	—	6.45	1.36	—
A1-A10[o]	Niagaran.	11′	Blue Island	NW	SE	SW	36	37N	13E	*42.30*	*34.92*	16.8	—	4.2	1.8	—
A11-A19[o]	Niagaran.	5′ 6″	Blue Island	NW	SE	SW	36	37N	13E	*25.52*	*22.79*	37.1	—	9.0	2.2	—
A20-A33[o]	Niagaran.	12′	Blue Island	NW	SE	SW	36	37N	13E	*39.97*	*33.46*	20.4	—	5.2	2.0	—
A34-A47[o]	Niagaran.	9′ 6″	Blue Island	NW	SE	SW	36	37N	13E	*22.66*	*22.59*	40.2	—	8.8	2.4	—
A48-A56[o]	Niagaran.	7′ 6″	Blue Island	NW	SE	SW	36	37N	13E	*38.01*	*32.62*	20.8	—	5.1	2.1	—
NF59a[o]	Niagaran.	—	Blue Island	—	NE	SW	36	37N	13E	*30.61*	*28.44*	28.86	0.31	7.39	0.84	—
NF60[o]	Niagaran.	—	Blue Island	—	NE	SW	36	37N	13E	*31.59*	*26.98*	31.2	—	9.15	1.95	—
NF61[o]	Niagaran.	—	Blue Island	—	NE	SW	36	37N	13E	*43.68*	*35.07*	15.40	0.20	4 00	0 58	—
[g]	Niagaran.	—	Blue Island	—	—	—	—	—	—	31.60	22.24	—	—	—	1.20	—
23[q]	Racine	9′	Chicago	SW	NW	SW	1	37N	14E	54.16	42.46	1.19	—	0.58	0.42	—
NF294A[l]	Niagaran.	31′ 6″	LaGrange	SE	NE	NW	10	38N	12E	*52.81*	*41.03*	4.88	—	0.81	0.26	—
NF294B[l]	Niagaran.	24′	LaGrange	SE	NE	NW	10	38N	12E	*55.38*	*42.35*	1.27	—	0.48	0.22	—
NF294D[l]	Niagaran.	12′	LaGrange	SE	NE	NW	10	38N	12E	*53.50*	*44.00*	2.97	—	0.99	0.27	—
NF294E[q]	Racine	30′	LaGrange	SE	NE	NW	10	38N	12E	54.92	43.05	0.28	—	0.37	0.31	—
NF295B[l]	Niagaran.	12′	LaGrange	SE	NE	NW	10	38N	12E	*53.02*	*44.19*	3.53	—	0.56	0.36	—
NF295C[l]	Niagaran.	19′	LaGrange	SE	NE	NW	10	38N	12E	*54.45*	*44.73*	1.16	—	0.22	0.30	—

Footnotes appear on page 5.

Continued.

Analysis						Miscellaneous	Remarks	Year sample taken or analysis published	Sample No.
CaO	MgO	Na_2O	K_2O	CO_2	Loss on ignition				
County—Cont.									
55.52	0.42	—	—	—	42.67	SO_3 0.10		1952	R29
48.41	5.35	—	—	—	43.01	SO_3 0.26		1952	R19
34.28	16.39	—	—	—	43.83	SO_3 0.14		1952	R18
29.13	19.27	—	—	—	43.99	SO_3 0.10		1934	R35
54.29	0.63	—	—	—	42.80	SO_3 0.05		1952	R34
53.21	0.59	—	—	—	41.98	SO_3 0.10		1952	R33
49.92	0.92	—	—	40.42	40.19		Herter Quarry, 0–24′6″ above base.	1934	NF172A
49.83	1.91	—	—	41.04	41.09		Herter Quarry, 24′8″–43′0″ above base	1934	NF172B
43.72	5.24	—	—	39.91	40.24		Herter Quarry, 43′0″–46′1″ and 50′0″–63′1″	1934	NF172C
County									
31.03	20.93	—	—	46.61	46.71			1943	M1
30.09	21.08	—	—	46.21	—			1943	33
30.62	21.19	—	—	46.70	—			1943	35
30.30	*20.89*	—	—	—	—			1912	—
County									
53.28	Trace	—	—	—	43.80		Illinois Limestone Co.	1925	—
51.26	0.66	—	—	—	41.92			1912	S9
52.94	0.53	—	—	—	43.18			1912	S51a
53.24	0.69	—	—	—	43.16			1912	S51c
53.86	0.55	—	—	—	43.16			1912	S52a
46.02	1.96	—	—	—	40.78			1912	S52b
County									
52.41	*0.25*	—	—	—	—	P 0.032; insoluble material 3.90		1907	S3
52.49	*1.18*	—	—	—	—			1912	S3
33.60	*4.81*	—	—	—	—	Insoluble matter 24.48 Phosphorus 0.45		1925	B10
County									
30.48	20.74	—	—	46.04	—			1943	24
31.20	20.45	0.06	0.00	47.05	47.87	SO_3 0.10; P_2O_5 0.00† MnO 0.015	Material Service Corp., north quarry	1943	NF409
30.57	21.54	0.11	0.01	47.12	47.74	FeO 0.07	Material Service Corp.	1943	F1
30.91	21.60	0.20	0.03	47.38	47.17	FeO 0.08	Material Service Corp.	1943	F2
26.3	17.5	—	—	—	38.5			1934	NF58
29.8	19.5	—	—	—	46.9			1934	NF59
30.28	*20.54*	0.19	0.14	—	—	MnO 0.03; SO_3 trace	Brownell Improvement Co.	1907	—
18.77	*13.37*	0.02	2.94	—	—	MnO 0.02; SO_3 trace	Brownell Improvement Co.	1907	—
29.39	*20.88*	—	—	—	—	Organic matter 0.60	Brownell Improvement Co.	1912	—
29.52	*20.84*	—	—	—	—	Organic matter 0.72	Brownell Improvement Co.	1912	—
30.65	21.47	0.02	0.00	47.07	—	FeO 0.08; P_2O_5 0.00† MnO 0.015; SO_3 0.02		1943	22
17.49	11.95	—	—	—	25.91		Basal 10′	1934	Dx5
22.99	15.01	—	—	—	34.67		Top 15′	1934	Dx4
29.96	20.74	—	—	45.98	46.13	SO_3 0.32	Consumers Co.; extending 29′ up from base of quarry	1935	NF297A
26.71	18.59	—	—	40.94	41.11	SO_3 0.22	Consumers Co.; total exposure on south face of quarry	1935	NF297B
20.17	*19.61*	—	—	—	—		Western Stone Co.	1907	—
19.62	13.60	2.32	—	—	30.28			1934	NF96
23.7	16.7	—	—	35.7	36.3	S 0.2		1934	A1–A10
14.3	10.9	—	—	21.2	22.4	S 0.2		1934	A11–A19
22.4	16.0	—	—	33.6	34.0	S 0.3	From boring	1934	A20–A33
12.7	10.8	—	—	19.7	20.8	S 0.3		1934	A34–A47
21.3	15.6	—	—	33.0	33.0	S 0.3		1934	A48–A56
17.15	13.60	0.10	2.09	25.81	28.20	FeO 1.17; S 0.29; SO_3 0.07		1934	NF59a
17.7	12.9	—	—	—	27.1			1934	NF60
24.47	16.77	0.06	0.69	36.32	36.88	FeO 0.98; S 0.26; SO_3 0.16		1934	NF61
17.71	*10.64*	—	—	—	1.30	Clay and soluble matter 43.56 Soluble silica 0.16		1868	
30.34	20.80	—	—	45.98	—			1943	23
29.59	19.62	—	—	44.53	44.83		Material Service Corp.; 0–31′6″ above base	1935	NF294A
31.03	20.25	—	—	46.44	46.82		Material Service Corp.; 31′6″–55′6″ above base	1935	NF294B
29.98	21.04	0.00	0.00	45.28	45.52		Material Service Corp.; 67′–79′ above base	1935	NF294D
30.77	21.63	0.10	0.00	46.62	47.09	MnO 0.010; P_2O_5 0.00† SO_3 0.09	Material Service Corp.; from 79′–109′ above base	1935	NF294E
29.71	21.13	—	—	45.11	45.27	SO_3 0.25	Material Service Corp.; diamond drill core; from 106′–118′ from top	1935	NF295B
30.51	21.39	—	—	46.20	46.74	SO_3 0.27	Material Service Corp.; diamond drill core; from 118′–137′ from top	1935	NF295C

TABLE 2.—

Sample No. and Source	Formation	Thickness	Near	Location						Chemical						
				¼	¼	¼	sec.	T.	R.	$CaCO_3$	$MgCO_3$	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	R_2O_3
																Cook
NF295D[l]	Niagaran. . .	21′	LaGrange . . .	SE	NE	NW	10	38N	12E	*50.88*	*41.97*	5.84	—	1.29	0.38	—
NF295E[l]	Niagaran. . .	22′	LaGrange . . .	SE	NE	NW	10	38N	12E	*49.86*	*40.55*	7.33	—	1.86	0.48	—
NF295F[l]	Niagaran. . .	30′	LaGrange . . .	SE	NE	NW	10	38N	12E	*51.82*	*42.54*	4.77	—	1.08	0.57	—
NF62[o]	Niagaran. . .	10′	LaGrange . . .	—	NE	SW	10	38N	12E	*49.98*	*41.19*	7.9	—	—	—	4.2
G1[q]	Racine . . .	—	LaGrange . . .	—	NW	NW	10	38N	12E	54.98	43.65	0.36	0.03	0.26	0.12	—
[d]	Niagaran. . .	—	LaGrange . . .	—	—	—	—	—	—	59.40	39.80	0.40	—	—	0.40	—
[d]	Niagaran. . .	—	LaGrange . . .	—	—	—	—	—	—	53.41	45.22	0.70	—	—	0.90	—
104[q]	Racine . . .	15′ 6″	McCook	—	SW	NE	15	38N	12E	54.37	43.86	0.40	—	0.47	0.16	—
NF296A[q]	Racine . . .	10′	McCook	—	—	SW	15	38N	12E	53.91	44.51	0.84	—	0.42	0.38	—
NF296B[l]	Niagaran. . .	14′ 6″	McCook	—	—	SW	15	38N	12E	*52.90*	*43.21*	3.55	—	1.02	0.39	—
NF296C[q]	Racine . . .	19′	McCook	—	—	SW	15	38N	12E	54.35	44.14	1.02	—	0.12	0.33	—
NF296D[q]	Racine . . .	21′	McCook	—	—	SW	15	38N	12E	54.05	43.36	1.62	—	0.47	0.38	—
NF296E[q]	Racine . . .	29′ 6″	McCook	—	—	SW	15	38N	12E	54.15	44.34	0.32	—	0.46	0.30	—
J2[q]	Racine . . .	—	McCook	—	SW	SW	15	38N	12E	54.91	43.84	0.68	0.02	0.25	0.09	—
Avg. 36[d] analyses	Niagaran. . .	—	McCook	—	—	SW	15	38N	12E	54.82	43.13	1.04	—	0.86	0.80	—
Avg. 6[d] analyses	Niagaran. . .	—	McCook	—	—	—	—	—	—	55.38	43.93	0.28	—	0.31		—
[a]	Niagaran. . .	—	McCook	—	—	—	—	—	—	55.30	43.95	0.36	—	0.20		—
[a]	Niagaran. . .	—	McCook	—	—	—	—	—	—	55.12	44.27	0.30	—	0.36		—
[a]	Niagaran. . .	—	McCook	—	—	—	—	—	—	55.30	43.95	0.28	—	0.30		—
[a]	Niagaran. . .	—	McCook	—	—	—	—	—	—	55.65	43.61	0.26	—	0.30		—
[a]	Niagaran. . .	—	McCook	—	—	—	—	—	—	55.61	43.95	0.24	—	0.36		—
20[q]	Racine . . .	6′	Hinsdale . . .	SW	SE	SE	19	38N	12E	54.67	44.14	0.27	—	0.21	0.16	—
NF293A[l]	Niagaran. . .	20′ 6″	Hillside	—	SE	NE	17	39N	12E	*46.97*	*38.12*	12.37	—	1.96	0.53	—
NF293B[l]	Waukesha . .	37′ 6″	Hillside	—	SE	NE	17	39N	12E	*44.04*	*35.87*	17.37	—	2.13	0.46	—
NF293C[l]	Niagaran. . .	32′ 10″	Hillside	—	SE	NE	17	39N	12E	*44.45*	*36.22*	18.64	—	1.63	0.34	—
NF293D[l]	Niagaran. . .	11′ 8″	Hillside	—	SE	NE	17	39N	12E	*53.66*	*41.49*	3.97	—	0.74	0.34	—
NF293E[q]	Racine . . .	15′ 6″	Hillside	—	SE	NE	17	39N	12E	54.69	44.30	0.49	—	0.15	0.33	—
R1935[x]	Waukesha . .	—	Hillside	—	SE	NE	17	39N	12E	*46.15*	*37.41*	13.58	0.13	1.85	0.17	—
NF299A[l]	Niagaran. . .	34′	Chicago	—	NE	SW	25	39N	13E	*53.22*	*44.48*	1.82	—	0.72	0.43	—
NF299B[q]	Racine . . .	40′	Chicago	—	NE	SW	25	39N	13E	54.39	43.76	0.36	—	0.42	0.34	—
NF292B[q]	Niagaran. . .	30′	Chicago	—	NE	SE	29	39N	14E	54.84	44.36	0.22	—	0.25	0.29	—
NF292C[q]	Niagaran. . .	76′	Chicago	—	NE	SE	29	39N	14E	54.84	43.47	0.69	—	0.22	0.34	—
NF292D[q]	Niagaran. . .	59′	Chicago	—	NE	SE	29	39N	14E	55.01	44.24	0.29	—	0.16	0.27	—
NF292E[q]	Niagaran. . .	40′	Chicago	—	NE	SE	29	39N	14E	55.10	43.34	0.56	—	0.06	0.35	—
NF292F[q]	Niagaran. . .	11′	Chicago	—	NE	SE	29	39N	14E	55.12	44.03	0.12	—	0.47	0.27	—
NF300A[l]	Niagaran. . .	14′	Chicago	—	NW	SE	19	39N	14E	*47.61*	*39.38*	9.56	—	1.91	1.07	—
NF300B[l]	Niagaran. . .	13′	Chicago	—	NW	SE	19	39N	14E	*39.89*	*33.34*	22.00	—	3.06	1.22	—
NF300C[l]	Niagaran. . .	14′	Chicago	—	NW	SE	19	39N	14E	*39.69*	*33.86*	19.91	—	4.53	1.66	—
NF300D[l]	Niagaran. . .	8′	Chicago	—	NW	SE	19	39N	14E	*29.64*	*26.73*	27.96	—	6.42	3.43	—
[j]	Niagaran. . .	—	Chicago	—	—	—	—	—	—	54.99	44.04	—	—	0.58		—
[j]	Niagaran. . .	—	Chicago	—	—	—	—	—	—	52.75	44.28	—	—	0.55		—
[j]	Niagaran. . .	—	Chicago	—	—	—	—	—	—	53.70	42.34	—	—	1.04		—
[j]	Niagaran. . .	—	Chicago	—	—	—	—	—	—	52.07	42.18	—	—	1.78		—
[j]	Niagaran. . .	—	Chicago	—	—	—	—	—	—	52.08	37.54	—	—	—	—	—
[j]	Niagaran. . .	—	Chicago	—	—	—	—	—	—	52.76	45.04	—	—	1.48		—
[a]	Niagaran. . .	—	Chicago	—	—	—	—	—	—	54.21	44.65	0.12	—	0.66		—
[a]	Niagaran. . .	—	Chicago	—	—	—	—	—	—	52.75	44.28	0.60	—	0.55		—
[a]	Niagaran. . .	—	Hawthorne . . .	—	—	—	—	—	—	*54.86*	*47.28*	1.05	—	0.67	0.35	—
Avg. 18[d] analyses	Niagaran. . .	—	Hawthorne . . .	—	—	—	—	—	—	54.73	42.79	1.12	—	0.91	0.83	—
[a]	Niagaran. . .	—	Summit	—	—	—	—	—	—	*53.93*	*41.20*	2.58	—	1.33	0.36	—
[a]	Niagaran. . .	—	Gary	—	—	—	—	—	—	53.09	43.82	1.42	—	1.96		—
[a]	Niagaran. . .	—	Gary	—	—	—	—	—	—	*55.68*	*42.79*	0.94	—	0.43	—	—
Top strata[aa]	Niagaran. . .	—	Gary	—	—	—	—	—	—	*54.00*	*44.54*	0.42	—	0.61	0.26	—
Avg.27[d] analyses	Niagaran. . .	—	Gary	—	—	—	—	—	—	54.68	42.84	1.10	—	0.93	0.86	—

Footnotes appear on page 5.

Continued.

Analysis						Miscellaneous	Remarks	Year sample taken or analysis published	Sample No.
CaO	MgO	Na_2O	K_2O	CO_2	Loss on ignition				
County—Cont.									
28.51	20.07	—	—	43.74	44.04	SO_3 0.27	Material Service Corp.; diamond drill core; from 137′–158′ from top . . .	1935	NF295D
27.94	19.39	—	—	42.66	42.74	SO_3 0.40	Material Service Corp.; diamond drill core; from 158′–180′ from top . . .	1935	NF295E
29.04	20.34	—	—	44.28	44.40	SO_3 0.47	Material Service Corp.; diamond drill core; from 180′–210′ from top . . .	1935	NF295F
28.0	19.7	—	—	—	42.2				
30.80	21.56	0.09	0.05	46.96	46.93	FeO 0.13	Material Service Corp.	1943	G1
33.29	*19.03*	—	—	—	—	P trace; S 0.04. . .	Federal Stone Co.	1907	—
29.93	*21.62*	—	—	—	—	. . . . .	Federal Stone Co.	1907	—
30.46	21.40	0.06	0.07	46.80	47.25	SO_3 0.09	Consumers Co.; top of middle bench, NW face	1943	104
30.20	21.59	—	—	46.94	46.96	SO_3 0.30	Dolese and Shepard Co. 0–10′ up from above base	1943	NF296A
29.64	20.66	—	—	45.08	45.23	SO_3 0.22	Dolese and Shepard Co., 10′–24′6″ above base	1935	NF296B
30.45	21.53	—	—	46.94	46.85	SO_3 0.27	Dolese and Shepard Co., 29′6″–48′6″ above base	1935	NF296C
30.28	21.25	—	—	46.40	46.46	SO_3 0.25	Dolese and Shepard Co. 48′6″–69′6″ above base	1935	NF296D
30.33	21.92	0.00	0.03	46.96	47.14	MnO 0.015; P_2O_5 0.00† SO_3 0.11	Dolese and Shepard Co., top . . .	1935	NF296E
30.76	21.32	0.15	0.07	47.03	46.85	FeO 0.18	Dolese and Shepard Co.	1943	J2
30.72	*20.62*	—	—	—	—	. . . . .	Dolese and Shepard Co.	1907	Avg. 36 anal.
31.03	*21.01*	—	—	—	—	. . . . .	U. S. Crushed Stone Co.	1907	Avg. 6 anal.
30.99	*21.02*	—	—	—	—	. . . . .	U. S. Crushed Stone Co.	1912	—
30.89	*21.17*	—	—	—	—	. . . . .	U. S. Crushed Stone Co.	1912	—
30.99	*21.02*	—	—	—	—	. . . . .	U. S. Crushed Stone Co.	1912	—
31.19	*20.85*	—	—	—	—	. . . . .	U. S. Crushed Stone Co.	1912	—
31.16	*21.02*	—	—	—	—	. . . . .	U. S. Crushed Stone Co.	1912	—
30.62	21.32	—	—	47.08	—	. . . . .	. . . . .	1943	20
26.32	18.23	—	—	39.73	40.19	. . . . .	Consumers Co. upward from base 20′6″	1935	NF293A
24.68	17.15	—	—	37.20	—	. . . . .	Consumers Co. 20′6″–58′ above base	1935	NF293B
24.91	17.32	—	—	37.12	37.71	. . . . .	Consumers Co. 58′–90′10″ above base	1935	NF293C
30.07	19.84	—	—	44.88	45.34	. . . . .	Consumers Co. 90′10″–102′6″ above base	1935	NF293D
30.64	21.74	—	—	47.17	47.18	SO_3 0.12	Consumers Co. 102′6″–118′ above base	1935	NF293E
25.86	17.89	0.10	0.95	39.16	—	FeO 0.25	Hand specimen	1952	R1935
29.82	21.27	—	—	45.83	45.88	SO_3 0.22	House of Correction 0–34′ above base	1935	NF299A
30.47	21.91	—	—	46.76	46.72	SO_3 0.17	House of Correction quarry, abandoned, 34′–74′ above base	1935	NF299B
30.72	21.45	—	—	47.27	47.43	SO_3 0.40	Material Service Corp. 15′–45′ above base	1935	NF292B
30.72	21.28	—	—	46.81	46.95	SO_3 0.42	Material Service Corp. 45′–121′ above base	1935	NF292C
30.82	21.58	—	—	47.28	47.24	SO_3 0.30	Material Service Corp. 121′–180′ above base	1935	NF292D
30.87	21.32	—	—	46.85	47.19	SO_3 0.40	Material Service Corp. 180′–221′ above base	1935	NF292E
30.88	21.45	—	—	47.22	47.23	SO_3 0.02	Material Service Corp. 221′–228′, 232′–237′ from base	1935	NF292F
26.68	18.83	—	—	40.86	40.70	SO_3 0.92	Chicago Union Lime Works; core 360–374′ below floor of quarry. . .	1935	NF300A
22.35	15.94	—	—	—	34.27	SO_3 1.47	Chicago Union Lime Works; core 374′–387′ below floor of quarry . .	1935	NF300B
22.24	16.19	—	—	33.72	34.27	SO_3 1.82	Chicago Union Lime Works; core 387′–401′ below floor of quarry . .	1935	NF300C
16.61	12.78	—	—	26.66	28.88	SO_3 3.77	Chicago Union Lime Works; core 401′–409′ below floor of quarry . .	1935	NF300D
30.82	*21.06*	—	—	—	—	Insoluble 0.87 . . .	Union Lime Co.	1899	—
29.56	*21.17*	—	—	—	—	Insoluble 0.60 . . .	Stearns Stone and Lime Co. . . .	1899	—
30.09	*20.25*	—	—	—	—	Insoluble 1.28 . . .	Artesian Stone & Lime Co. Average of quarry	1899	—
29.18	*20.17*	—	—	—	—	Insoluble 4.00 . . .	Artesian Stone & Lime Co. Lumpy layer	1899	—
29.19	*17.95*	—	—	—	—	. . . . .	Stony Island Ave. quarry	1899	—
29.57	*21.54*	—	—	—	—	Insoluble 0.21 . . .	Chicago Union Lime Works . . .	1899	—
30.38	*21.35*	—	—	—	—	. . . . .	Chicago Union Lime Works . . .	1912	—
29.56	*21.17*	—	—	—	—	. . . . .	Stearns Lime & Stone Co.	1912	—
30.74	22.61	—	—	44.54	—	SO_3 0.036; P_2O_5 .004	Dolese and Shepard Co.	1912	—
30.67	*20.46*	—	—	—	—	P 0.005; S 0.04 . .	Dolese and Shepard Co.	1907	Avg. 18 anal.
30.22	19.70	—	—	45.74	—	SO_3 0.059; P_2O_5 0.007	U. S. Crushed Stone Co.	1912	—
29.75	*20.95*	—	—	—	—	. . . . .	Dolese and Shepard Co.	1912	—
31.20	20.46	—	—	46.58	—	Fe 0.36; S 0.031; P 0.004	Dolese and Shepard Co.	1912	—
30.26	21.30	—	—	47.11	—	P 0.005; S 0.026; moisture 0.009 . .	Dolese and Shepard Co.	1922	Top strata
30.64	*20.49*	—	—	—	—	. . . . .	Dolese and Shepard Co.	1907	Avg. 27 anal.

TABLE 2.—

Sample No. and Source	Formation	Thickness	Near	Location ¼	¼	¼	sec.	T.	R.	Chemical $CaCO_3$	$MgCO_3$	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	R_2O_3
DuPage																
19q	Joliet	7′	Naperville	SE	SE	SW	13	38N	9E	54.85	42.86	0.97	—	0.38	0.29	—
46q	Racine	50′	Elmhurst	NW	SW	NW	2	39N	11E	54.14	43.26	0.84	—	0.57	0.20	—
NF298A[l]	Niagaran.	23′	Elmhurst	—	SW	NW	2	39N	11E	*45.42*	*37.83*	15.58	—	1.89	0.47	—
NF298B[l]	Niagaran.	14′	Elmhurst	—	SE	NW	2	39N	11E	*45.88*	*38.12*	14.12	—	2.17	0.51	—
NF298C[l]	Niagaran.	8′ 3′	Elmhurst	—	SW	NW	2	39N	11E	*48.02*	*40.55*	7.99	0.00	3.19	0.51	—
NF298D[l]	Niagaran.	4′	Elmhurst	—	SW	NW	2	39N	11E	*51.54*	*42.64*	5.84	—	1.30	0.42	—
NF298E[l]	Niagaran.	6′	Elmhurst	—	SW	NW	2	39N	11E	*53.50*	*42.70*	1.97	—	0.83	0.43	—
Edgar																
S50a[b]	McLeansboro	6′	Baldwinsville	—	SE	NE	10	14N	11W	95.96	1.21	1.52	—		1.74	—
S50c[b]	McLeansboro	6′	Baldwinsville	—	SE	NE	10	14N	11W	82.61	2.82	8.02	—		5.52	—
Bu2[b]	McLeansboro	—	Cherry Point	—	—	NE	3	15N	12W	92.62	2.97	2.66	—		2.34	—
Fulton																
142-1d[l]	Seville	4′	Marietta	NE	NE	SE	22	6N	1E	*65.16*	*3.30*	16.53	—	2.07	9.61	—
Greene																
R110[o]	Burlington	61′	Eldred	—	SW	NE	28	10N	13W	*95.23*	*4.16*	1.27	0.00	0.08	0.32	—
g	St. Louis.	—	Thompkins Mill	—	—	—	—	—	—	30.70	16.31	—	—		2.75	—
g	St. Louis.	—	Carrollton	—	—	—	—	—	—	44.90	25.44	—	—		5.21	—
Grundy																
u	Divine	4′	Divine	cen. N. line			34	34N	8E	*95.88*	*1.90*	0.94	—		1.14	—
v	Divine	28′	Divine	NW cor.		NE	34	34N	8E	74.6	22.8	—	—	—	—	—
v	Divine	26′	Divine	SE	SW	NE	35	34N	8E	69.5	26.3	—	—	—	—	—
v	Divine	26′	Divine	SW	SW	NE	2	33N	8E	71.6	25.0	—	—	—	—	—
v	Divine	8′	Divine	SW cor.		SE	22	34N	8E	66.3	27.6	—	—	—	—	—
Hancock																
C38[b]	Keokuk	9′	Hamilton	—	—	—	30	5N	8W	69.16	4.18	23.24	—		3.34	—
C42[b]	Keokuk	5′	Nauvoo	SE cor.		—	12	6N	8W	74.66	5.23	16.24	—		3.80	—
SL15, 16[l]	Salem	35′	Pontoosuc	NE	NE	NE	17	7N	7W	*46.50*	*27.88*	18.27	—	2.83	3.10	—
C40[b]	St. Louis.	6′	Niota.	—	—	NW	14	7N	8W	95.67	0.79	2.62	—		1.48	—
C41[b]	Keokuk	4′	Niota.	—	—	SE	16	7N	8W	86.08	1.21	10.20	—		2.36	—
a		—	Niota.	—	—	—	—	—	—	53.93	36.59	4.69	—		2.65	—
e		—	Nauvoo	—	—	—	—	—	—	82.48	—	—	—		2.10	—
W81[k]	Keokuk	—	Warsaw	—	—	—	—	—	—	92.89	1.92	4.18	—		0.93	—
Hardin																
K[v][k]	Fredonia	—	Shetlerville	—	—	—	35	12S	7E	83.20	8.31	5.54	—		2.41	—
NF176A[l]	Ste. Genevieve	10′ 7″	Shetlerville	—	E½	SW	35	12S	7E	*50.54*	*3.93*	39.07	—	6.28	1.54	—
NF176B[l]	Ste. Genevieve	17′	Shetlerville	—	E½	SW	35	12S	7E	*94.10*	*3.12*	2.43	—	0.25	0.78	—
NF176C[l]	Renault	12′ 7″	Shetlerville	—	E½	SW	35	12S	7E	*81.68*	*2.94*	13.17	—	2.16	0.72	—
NF176D[l]	Renault	5′ 4″	Shetlerville	—	E½	SW	35	12S	7E	*94.99*	*2.99*	1.95	—	0.11	0.81	—
NF177A[l]	Ste. Genevieve	16′ 6″	Shetlerville	S½	N½	SE	35	12S	7E	*98.28*	*1.08*	1.13	—	0.51	0.31	—
NF177B[l]	Ste. Geneveive	22′ 1″	Shetlerville	S½	N½	SE	35	12S	7E	*99.58*	*0.23*	0.59	—	0.32	0.26	—
NF177C[l]	Ste. Genevieve	32′ 5″	Shetlerville	S½	N½	SE	35	12S	7E	*88.80*	*5.10*	4.84	—	1.59	1.04	—
NF177D[l]	Ste. Genevieve	11′ 4″	Shetlerville	S½	N½	SE	35	12S	7E	*95.49*	*3.28*	1.73	—	0.54	0.56	—
W322[b]	St. Louis.	50′	Elizabethtown	—	—	SW	27	12S	8E	80.43	7.56	9.10	—		2.14	—
NF453A[l]	Ste. Genevieve	9′ 7″	Cave in Rock	NE	NE	NW	12	12S	10E	*90.57*	*7.09*	1.34	—	1.00	0.27	—
NF453B[l]	Ste. Genevieve	14′ 5″	Cave in Rock	NE	NE	NW	12	12S	10E	*98.47*	*1.13*	0.03	—	0.63	0.13	—
NF453C[l]	Ste. Genevieve	10′ 7″	Cave in Rock	NE	NE	NW	12	12S	10E	*95.73*	*1.46*	1.73	—	0.97	0.31	—
NF453D[l]	Ste. Genevieve	12′ 7″	Cave in Rock	NE	NE	NW	12	12S	10E	*92.37*	*2.36*	3.86	—	1.11	0.29	—
NF453E[l]	Ste. Genevieve	14′ 5″	Cave in Rock	NE	NE	NW	12	12S	10E	*82.23*	*5.58*	8.86	—	2.17	0.67	—
NF453F[l]	Ste. Genevieve	16′ 7″	Cave in Rock	NE	NE	NW	12	12S	10E	*96.07*	*1.99*	1.77	—	0.51	0.25	—
NF454A[l]	Ste. Genevieve	38′ 4″	Cave in Rock	NE	NW	NW	12	12S	10E	*91.39*	*5.90*	2.12	—	0.54	0.31	—
NF454B[l]	Ste. Genevieve	12′ 4″	Cave in Rock	NE	NW	NW	12	12S	10E	*92.98*	*2.40*	3.91	—	0.65	0.26	—

Footnotes appear on page 5.

Continued.

Analysis						Miscellaneous	Remarks	Year sample taken or analysis published	Sample No.
CaO	MgO	Na_2O	K_2O	CO_2	Loss on ignition				
County									
30.73	21.06	0.01	0.07	46.49	—	FeO 0.13; P_2O_5 0.00† MnO 0.040; SO_3 0.04		1943	19
30.33	21.23	0.00	0.10	46.39	47.23		Elmhurst-Chicago Stone Co. quarry, west face	1943	46
25.45	18.09	0.03	0.49	38.38	38.75		Elmhurst-Chicago Stone Co.; upward 23′ from base of exposure	1935	NF298A
25.71	18.23	0.08	0.77	38.80	39.13		Elmhurst-Chicago Stone Co.; 23′–37′ above base	1935	NF298B
26.91	19.39	0.16	0.42	—	41.80		Elmhurst-Chicago Stone Co.; 37′–45′ 3″ above base	1935	NF298C
28.88	20.39	—	—	43.24	43.70		Elmhurst-Chicago Stone Co.; 45′3″–49′3″ above base	1935	NF298D
29.98	20.42	—	—	45.94	45.98	SO_3 0.10	Elmhurst-Chicago Stone Co.; 49′3″–55′3″ above base	1935	NF298E
County									
53.78	0.58	—	—	—	43.18			1912	S50a
46.30	1.35	—	—	—	38.98			1912	S50c
51.90	1.42	—	—	—	42.00			1912	Bu2
County									
36.51	1.58	—	—	33.31	33.44			1936	142–1d
County									
53.35	1.99	0.01	0.16	—	43.52	S 0.06; chert not included	Lower beds	1934	R110
17.20	*7.80*	—	—	—	0.49	Clay and insoluble matter 48.53		1868	—
25.16	*12.17*	—	—	—	—	Clay and insoluble matter 23.49		1868	—
County									
53.73	0.91	—	—	—	43.57	SO_3 0.07		1931	—
41.8	*10.9*	—	—	—	—		Diamond drill core	1933	—
38.9	*12.6*	—	—	—	—		Diamond drill core	1933	—
40.1	*12.0*	—	—	—	—		Diamond drill core	1933	—
37.2	*13.2*	—	—	—	—		Diamond drill core	1933	—
County									
38.76	2.00	—	—	—	33.40			1912	C38
41.84	2.50	—	—	—	35.98			1912	C42
26.05	13.34	0.16	0.71	35.36	35.84			1948	SL15, 16
53.62	0.38	—	—	—	42.48			1912	C40
48.24	0.58	—	—	—	38.94			1912	C41
30.22	*17.50*	—	—	—	—		Fort Madison and Appanoose Stone Co.	1912	—
46.22	—	—	—	—	—	Insoluble matter 12.50		1866	—
52.07	0.92	—	—	—	—			1925	W81
County									
46.63	*3.97*	—	—	—	—			1925	Kx
28.32	1.88	—	—	22.48	22.76		12′4″–22′11″ from base	1934	NF176A
52.73	1.49	—	—	42.31	42.30		22′11″–39′11″ from base	1934	NF176B
45.77	1.41	—	—	36.51	36.80		39′11″–52′6″ from base	1934	NF176C
53.23	1.43	—	—	42.53	42.47		52′6″–57′10″ from base	1934	NF176D
55.07	0.52	—	—	42.57	43.15	MnO 0.02; SO_3 0.07; P_2O_5 0.020	P. R. Brown Stone Co. 0–16′6″ from base	1934	NF177A
55.80	0.11	—	—	43.47	43.42	MnO 0.008; SO_3 0.15; P_2O_5 0.009	P. R. Brown Stone Co. 16′6″–38′7″ from base	1934	NF177B
49.76	2.44	—	—	41.25	41.03		P. R. Brown Stone Co. 38′7″–72′10″ from base	1934	NF177C
53.51	1.57	—	—	42.93	42.81		P. R. Brown Stone Co. 72′10″–84′2″ from base	1934	NF177D
45.08	3.62	—	—	—	40.18			1912	W322
50.75	3.39	0.08	0.06	43.09	43.34	P_2O_5 0.023	Rigsby and Barnard; 0–9′7″ above base	1950	NF453A
55.18	0.54	0.07	0.03	43.51	43.74	P_2O_5 0.010	Rigsby and Barnard; 9′7″–24′0″ above base	1950	NF453B
53.64	0.70	0.10	0.11	42.57	42.68	P_2O_5 0.017	Rigsby and Barnard; 24′0″–34′7″ above base	1950	NF453C
51.76	1.13	0.11	0.13	41.45	41.78	P_2O_5 0.031	Rigsby and Barnard; 36′11″–49′6″ above base	1950	NF453D
46.08	2.67	0.24	0.36	38.57	39.12	P_2O_5 0.053	Rigsby and Barnard; 49′6″–63′11″ above base	1950	NF453E
53.83	0.95	0.20	0.06	42.75	43.08	P_2O_5 0.029	Rigsby and Barnard; 63′11″–80′6″ above base	1950	NF453F
51.21	2.82	0.14	0.06	42.85	43.07	P_2O_5 0.035	Okerson Quarry Co. 1′8″–40′0″ above base	1950	NF454A
52.10	1.15	0.14	0.11	41.76	42.02	P_2O_5 0.043	Okerson Quarry Co. 43′9″–56′1″ above base	1950	NF454B

TABLE 2.—

Sample No. and Source	Formation	Thickness	Near	Location						Chemical						
				¼	¼	¼	sec.	T.	R.	$CaCO_3$	$MgCO_3$	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	R_2O_3
																Hardin
NF454C[l]	Ste. Genevieve	13′ 4″	Cave in Rock	NE	NW	NW	12	12S	10E	*81.79*	*4.83*	10.41	—	1.89	0.75	—
NF454D[l]	Ste. Genevieve	15′ 2″	Cave in Rock	NE	NW	NW	12	12S	10E	*92.39*	*3.68*	2.89	—	0.88	0.42	—
W330[b]	Ste. Genevieve	37′	Rosiclare	—	—	SW	5	13S	8E	85.82	2.21	7.78	—		4.10	—
e	St. Louis	—	Rosiclare	—	—	—	—	—	—	90.86	3.18	—	—		1.06	—
																Henderson
C39[b]	Burlington or Keokuk	—	Lomax	—	—	—	22	8N	6W	96.71	0.71	2.30	—		1.12	—
SL11, 12, 13[l]	Burlington	16′ 11″	Lomax	SE	NE	SE	30	8N	6W	*92.27*	*2.49*	5.13	—	0.46	0.25	—
SL26-30[l]	Burlington	16′ 2″	Gladstone	NW	NW	SE	11	10N	5W	*96.21*	*1.34*	2.79	—	0.32	0.22	—
SL1&3[l]	Burlington	8′	Gladstone	SW	SW	NW	15	10N	5W	*82.18*	*13.81*	3.45	—	0.50	0.55	—
SL2[l]	Burlington	6′	Gladstone	SW	SW	NW	15	10N	5W	*92.57*	*2.36*	4.87	—	0.48	0.26	—
																Jackson
NF68[l]	Caprock No. 6 coal	4′	DeSoto	—	—	NE	35	7S	2W	*76.74*	*4.39*	11.7	—	6.43	2.37	—
L80[k]	Chester	14′ 8″	Crain	—	NW	NW	34	8S	4W	93.30	2.28	2.27	—		1.73	—
L53[n]	Backbone	45′	Grand Tower	—	E½	E½	23	10S	4W	91.36	1.57	2.12	—	0.21	0.47	—
L90[k]	St. Louis-Salem	—	Grand Tower	cen sec.			24	10S	4W	96.48	1.83	0.98	—		0.70	—
L91[k]	St. Louis-Salem	—	Grand Tower	cen sec.			24	10S	4W	94.76	1.83	1.71	—		1.34	—
L92[k]	St. Louis-Salem	—	Grand Tower	cen. sec.			24	10S	4W	94.66	2.60	1.34	—		0.97	—
k	St. Louis-Salem	53′	Grand Tower	—	—	—	24	10S	4W	95.30	2.09	1.34	—	—	—	1.00
S5[b]	Onondaga	15′	Grand Tower	—	—	NE	25	10S	4W	93.21	2.63	3.08	—		1.12	—
S57[a]	New Scotland	48′	Grand Tower	—	—	NW	25	10S	4W	93.93	4.89	0.86	—		0.72	—
																Jersey
NF404[l]	Edgewood	9′	Grafton	—	NE	SW	10	6N	12W	*56.54*	*38.33*	2.13	—	1.36	0.81	—
80[q]	Silurian	16′	Grafton	SE	NW	NW	14	6N	12W	54.75	42.55	1.26	—	0.68	0.36	—
R13[o]	Sexton Creek	8′	E. Hardin	—	SE	NE	29	8N	13W	*96.27*	*1.25*	2.10	—	0.48	0.32	—
R14[m]	Cedar Valley	13′	Hardin	SW	NE	NE	29	8N	13W	*88.48*	*1.05*	9.92	—	0.54	0.46	—
e	Niagaran	—	Grafton	—	—	—	—	—	—	47.79	42.86	—	—		1.40	—
g	Niagaran	—	Grafton	—	—	—	—	—	—	50.15	42.20	—	—		2.10	—
g	Hamilton	—	Grafton	—	—	—	—	—	—	59.30	16.08	—	—		1.00	—
																Jo Daviess
NF442[l]	Edgewood	22′	Hanover	SW cor.			28	26N	2E	*40.51*	*32.35*	21.66	—	3.07	1.41	—
L4[q]	Stewartville	21′	Galena Jct.			cen.	1	27N	1W	55.17	43.13	0.98	—	0.40	0.85	—
DS72[o]	Niagaran	25′	Rodden	—	NW	SE	14	27N	1E	*41.48*	*34.08*	19.66	0.38	4.27	1.56	—
NF98A[o]	Niagaran	25′	Elizabeth	—	SW	SW	19	27N	2E	*42.01*	*31.20*	27.11	—	1.48	0.55	—
36[q]	Stewartville	45′	Elizabeth	NW	NW	SW	23	27N	2E	54.71	42.13	1.36	—	0.50	0.41	—
NF99[o]	Maquoketa	15′	Apple River	SW	NW	NW	22	29N	3E	*31.66*	*25.53*	29.76	—	7.95	2.82	—
37[q]	Stewartville	20′	Warren	SW	SW	NW	28	29N	5E	53.96	42.17	1.80	—	0.59	0.63	—
																Johnson
K29[k]	Kinkaid	—	Bloomfield	S cen.			16	12S	3E	91.45	3.10	4.74	—		0.74	—
Wills1-6[l]	Kinkaid	9′	Simpson	E½	SW	NE	23	12S	4E	*87.21*	*3.76*	6.56	0.10	1.44	0.73	—
W308[b]	Chester	30′	Vienna	Middle		W½	16	13S	3E	95.57	1.55	0.96	—		1.76	—
T1[o]	Menard	7′	Flatwoods	—	SE	NW	1	13S	4E	*87.29*	*3.74*	5.50	—	3.19	1.53	—
T5[o]	Menard	34′	Flatwoods	—	SE	NW	1	13S	4E	*77.50*	*5.71*	12.30	—	1.53	1.79	—
L100[n]	Vienna	20′	Grantsburg	—	—	E½	12	13S	4E	75.52	7.49	13.02	—	0.57	1.33	—
D16[s]		18′	Belknap	—	—	—	1	14S	2E	90.31	1.40	—	—		1.32	—
D17[s]		15′	Belknap	—	—	—	1	14S	2E	92.36	—	—	—		0.83	—
D16[b]	Ste. Genevieve	18′	Belknap	—	—	—	1	14S	2E	90.17	4.33	6.00	—		1.32	—
D17[b]	Ste. Genevieve	15′	Belknap	—	—	—	1	14S	2E	93.11	2.37	5.33	—		0.83	—
D16[s]		18′	Belknap	—	—	—	—	—	—	90.31	1.40	—	—		1.32	—
D17[s]		15′	Belknap	—	—	—	—	—	—	92.36	—	—	—		0.83	—
W304[b]	Ste. Genevieve	60′	Whitehill	—	—	SW	5	14S	2E	94.07	3.14	2.04	—		1.22	—
NF175A[l]	Ste. Genevieve	10′ 2″	Whitehill	SW	SE	SW	5	14S	2E	*82.40*	*13.78*	3.18	—	0.81	0.46	—
NF175B[l]	Ste. Genevieve	24′ 5″	Whitehill	SW	SE	SW	5	14S	2E	*94.39*	*1.53*	3.51	—	0.57	0.35	—
NF175C[l]	Ste. Genevieve	11′ 2″	Whitehill	SW	SE	SW	5	14S	2E	*64.82*	*21.21*	13.78	—	2.03	0.66	—
NF175D[l]	Ste. Genevieve	56′4″	Whitehill	SW	SE	SW	5	14S	2E	*97.10*	*2.42*	1.44	—	0.37	0.28	—
NF175E[l]	Ste. Genevieve	25′5″	Whitehill	SW	SE	SW	5	14S	2E	*88.84*	*3.74*	6.81	—	1.46	0.64	—
k	Ste. Genevieve	—		—	—	—	—	—	—	94.96	1.58	1.73	—		1.50	—
k	Ste. Genevieve	—		—	—	—	—	—	—	81.38	1.74	13.16	—		4.05	—
k	Ste. Genevieve	—		—	—	—	—	—	—	95.70	2.04	1.28	—		0.80	—

Footnotes appear on page 5.

Continued.

Analysis						Miscellaneous	Remarks	Year sample taken or analysis published	Sample No.
CaO	MgO	Na_2O	K_2O	CO_2	Loss on ignition				
County—Cont.									
45.83	2.31	0.19	0.42	37.97	38.61	P_2O_5 0.067	Okerson Quarry Co. 56′1″–69′5″ above base	1950	NF454C
51.77	1.76	0.18	0.20	42.10	42.45	P_2O_5 0.038	Okerson Quarry Co. 72′5″–87′7″ above base	1950	NF454D
48.10	1.06	—	—	—	39.72			1912	W330
50.92	*1.52*	—	—	—	—	Insoluble matter 2.72 Moisture 0.15		1868	—
County									
54.20	0.34	—	—	—	43.06			1912	C39
51.69	1.19	0.11	0.13	41.45	41.47		C. J. Moore Quarry, 0-17′ from base	1948	SL11, 12, 13
53.90	0.64	0.11	0.05	42.52	42.34		Basal 16′2″	1948	SL26–30
46.04	6.61	0.11	0.07	42.93	43.03		0–3′ and 9–14′ above base	1948	SL1 and 3
51.86	1.13	0.13	0.06	41.51	41.54		3–9′ above base	1948	SL2
County									
43.0	2.1	—	—	—	35.4			1932	NF68
52.29	*1.09*	—	—	—	—			1925	L80
51.16	*0.75*	—	—	—	—			1928	L53
54.07	*0.88*	—	—	—	—			1925	L90
53.10	*0.88*	—	—	—	—		McCann Bros.	1925	L91
53.05	*1.24*	—	—	—	—		McCann Bros.	1925	L92
53.37	*0.99*	—	—	—	—		Average L 90, 91, 92	1925	—
52.24	1.26	—	—	—	42.62			1912	S5
52.64	2.34	—	—	—	43.92			1912	S57
County									
31.68	18.83	—	—	45.26	45.18		Total Edgewood	1936	NF404
30.67	20.70	0.12	0.15	46.29	45.63	SO_3 0.02	Keller Quarry Co. quarry bottom	1943	80
53.93	0.60	—	—	—	42.70	SO_3 0.14		1929	R13
49.57	0.50	—	—	—	39.23	SO_3 0.12		1929	R14
26.78	*20.50*	—	—	—	—	Insoluble matter 5.60		1866	—
28.10	*20.18*	—	—	—	—	Insoluble matter 5.15		1868	—
33.23	*7.69*	—	—	—	—	Clay and insoluble matter 23.13. Alkalies, loss, etc., 0.49		1868	—
County									
22.70	15.47	0.19	1.06	—	34.08		Lower 22′ in quarry	1945	NF442
30.91	20.66	—	—	46.77	46.90			1943	L4
23.24	15.30	—	—	33.76	34.60			1934	DS72
23.54	14.92	—	—	—	33.45			1934	NF98A
30.65	20.53	0.06	0.11	46.05	—	FeO 0.20; P_2O_5 0.02; MnO 0.045; SO_3 0.05	Seeley Construction Co.	1943	36
17.74	12.21	—	—	—	27.15			1934	NF99
30.23	20.59	0.06	0.11	45.74	—	FeO 0.19; P_2O_5 0.02; MnO 0.050; SO_3 0.04		1943	37
County									
51.25	*1.48*	—	—	—	—			1925	K29
48.87	1.80	0.11	0.24	39.64	39.90	MnO 0.032; P_2O_5 0.030	5–14′ above quarry floor	1950	Wills 1–6
53.56	0.74	—	—	—	43.20			1912	W308
48.90	1.79	—	—	—	—			1934	T1
43.42	2.73	—	—	—	—			1934	T5
42.29	*3.58*	—	—	—	—			1928	L100
50.61	*0.67*	—	—	—	—	P 0.038; insol. matter 6.0		1907	D16
51.76	—	—	—	—	—	P 0.023; insol. matter 5.33		1907	D17
50.53	*1.75*	—	—	—	—			1912	D16
52.18	*0.96*	—	—	—	—			1912	D17
50.61	*0.67*	—	—	—	—	Insoluble 5.996 Phosphorus 0.038		1907	D16
51.76	—	—	—	—	—	Insoluble 5.328 Phosphorus 0.023		1907	D17
52.72	1.50	—	—	—	43.34			1912	W304
46.17	6.59	—	—	42.99	42.71		Charles Stone Co. 0–10′2″ from base	1934	NF175A
52.89	0.73	—	—	42.43	42.00		Charles Stone Co. 10′2″–34′7″ from base	1934	NF175B
36.32	10.14	—	—	37.06	37.67		Charles Stone Co. 34′7″–45′9″ from base	1934	NF175C
54.41	1.16	—	—	43.42	43.09	SO_3 0.22	Charles Stone Co. 45′9″–102′1″ from base	1934	NF175D
49.78	1.79	—	—	39.24	40.19		Charles Stone Co. 102′1″–127′6″ from base	1934	NF175E
53.22	*0.76*	—	—	—	—			1925	—
45.61	*0.83*	—	—	—	—			1925	—
53.63	*0.98*	—	—	—	—			1925	—

TABLE 2.—

Sample No. and Source	Formation	Thickness	Near	Location ¼	¼	¼	sec.	T.	R.	Chemical $CaCO_3$	$MgCO_3$	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	R_2O_3
																Johnson
k	Ste. Genevieve	—		—	—	—	—	—	—	94.58	2.73	0.28	—	2.25		—
k	Ste. Genevieve	—		—	—	—	—	—	—	93.82	1.25	1.85	—	2.60		—
k	Ste. Genevieve	—		—	—	—	—	—	—	86.56	3.99	4.66	—	3.80		—
k	Ste. Genevieve	—		—	—	—	—	—	—	94.00	1.67	2.26	—	1.45		—
																Kane
NF30o	Niagaran.	12′	Batavia	SW	NE	NE	22	39N	8E	*49.80*	*43.74*	6.75	0.09	0.56	0.21	—
NF31o	Niagaran.	14′	Batavia	SW	NE	NE	22	39N	8E	*51.77*	*41.61*	6.7	—	—	—	2.5
L157k	Niagaran.	—	Batavia	—	SE	NE	27	39N	8E	48.28	38.00	6.34	—	4.52		—
NF28o	Niagaran.	4′6″	Batavia	NE	NW	NE	27	39N	8E	*44.02*	*36.68*	14.71	0.14	3.04	0.76	—
NF29o	Niagaran.	7′6″	Batavia	—	NW	NE	27	39N	8E	34.09	28.23	29.7	—	6.88	1.52	—
NF37o	Niagaran.	14′6″	Batavia	NW	NW	NE	27	39N	8E	*49.62*	*40.57*	9.5	—	—	—	2.2
NF38o	Niagaran.	9′	Batavia	NW	NE	SW	27	39N	8E	*48.18*	*38.68*	11.8	—	—	—	3.4
NF40o	Niagaran.	7′	Batavia	NW	NE	SW	27	39N	8E	*47.46*	*38.47*	10.06	0.13	2.44	0.64	—
R1930x	Joliet	—	Batavia	—	SE	NW	27	39N	8E	*51.33*	*40.28*	6.19	0.13	1.17	0.22	—
NF41o	Niagaran.	12′	Elgin	NE	NE	NE	9	40N	8E	*52.66*	*42.45*	4.8	—	—	—	1.5
NF46o	Maquoketa	6′6″	Elgin	—	NW	NW	10	40N	8E	*29.6*	*24.3*	29.4	—	10.58	2.92	—
g	Niagaran.	—	St. Charles	—	—	—	—	—	—	40.86	43.54	—	—	—	1.40	—
																Kankakee
NF95o	Niagaran.	5′6″	Aroma	—	SE	SW	28	30N	13W	*40.14*	*32.52*	21.02	—	5.41	1.70	—
L108k	Niagaran.	—	Irwin	—	—	NW	7	30N	14W	51.7	40.8	—	—	1.2		—
11q	Racine	4′	Bradley	SW	SE	SW	21	31N	12E	54.71	44.43	0.09	—	0.23	0.11	—
70q	Racine	40′	Kankakee	NE	NE	NW	31	31N	12E	54.57	43.03	0.65	—	0.43	0.25	—
NF154o	Niagaran.	3′	Manteno	Cen. S. line			15	32N	12E	*29.46*	*24.07*	34.47	—	7.62	2.03	—
L107k	Niagaran.	—	Manteno	—	SE	NE	20	32N	12E	44.50	35.13	11.36	—	6.10		—
NF419q	Racine	12′	Manteno	NE	SE	SE	28	32N	12E	54.60	44.57	0.20	0.05	0.18	0.21	—
j	Niagaran.	—	Kankakee	—	—	—	—	—	—	*54.34*	*42.87*	3.00	—	2.50		—
a	Niagaran.	—	Kankakee	—	—	—	—	—	—	46.18	35.05	10.78	—	4.28	1.19	—
a	Niagaran.	—	Kankakee	—	—	—	—	—	—	50.80	40.40	—	—	5.50	3.00	—
a	Niagaran.	—	Kankakee	—	—	—	—	—	—	47.73	35.86	10.30	—	4.35	1.12	—
a	Niagaran.	—	Kankakee	—	—	—	—	—	—	51.07	40.62	5.00	—	1.48	1.64	—
1bb	Niagaran.	—	Kankakee	—	—	—	—	—	—	50.8	41.6	—	—	1.2		—
2bb	Niagaran.	—	Kankakee	—	—	—	—	—	—	53.8	41.2	—	—	1.4		—
3bb	Niagaran.	—	Kankakee	—	—	—	—	—	—	50.4	39.5	—	—	1.2		—
																Kendall
44q	Prosser and Stewartville	20′	Plano	SE	NW	SE	4	36N	6E	55.53	41.61	0.83	—	0.37	1.58	—
																Knox
NF245l	Brereton	3′	Farmington	—	C	SW	31	9N	4E	*75.67*	*4.39*	12.51	—	4.38	2.84	—
																LaSalle
L180k	LaSalle	8′	Deer Park	—	—	NW	6	32N	2E	89.71	1.13	4.14	—	4.44		—
C3al,b	LaSalle (roof rock)	6′	Deer Park	—	—	—	6	32N	2E	95.14	1.57	1.98	—	1.56		—
C3bl,b	LaSalle (upper part of lower bed)	6′	Deer Park	—	—	—	6	32N	2E	85.68	1.42	7.94	—	4.80		—
C3dl,b	LaSalle (lower part of lower bed)	6′	Deer Park	—	—	—	6	32N	2E	85.15	2.74	8.24	—	3.40		—
C12al,b	LaSalle	10′	Oglesby	near cen. sec.			6	32N	2E	93.36	1.21	2.66	—	1.90		—
C12bb	LaSalle	4′	Oglesby	near cen. sec.			6	32N	2E	74.12	2.38	15.24	—	7.58		—
l	LaSalle (upper bed)	—	Oglesby	—	—	—	6	32N	2E	*93.37*	*1.21*	2.66	—	1.96		—
l	LaSalle (lower bed)	—	Oglesby	—	—	—	6	32N	2E	*74.13*	*2.38*	15.24	—	7.58		—
V1l	Galena-Platteville	60′	Lowell	—	S½	N½	5	3N	2E	*83.0*	*12.8*	—	—	—		—
V2l	Galena-Platteville	80′	Lowell	SE	NE	SE	8	32N	2E	*87.3*	*12.1*	—	—	—		—
l	LaSalle	—	LaSalle	—	—	NW	11	33W	1E	*85.38*	*1.38*	6.72	—	5.92		—
C9b	LaSalle	22′	LaSalle	—	—	NW	11	33N	1E	85.36	1.38	6.72	—	5.92		—
W82o	Shakopee	—	Utica	—	SE	SE	7	33N	2E	*49.72*	*39.96*	7.74	0.0	1.39	1.05	—
l	LaSalle (upper bed)	—	LaSalle	—	—	—	14	33N	1E	*92.41*	*1.44*	2.88	—	2.24		—
l	LaSalle (upper part of lower bed)	—	LaSalle	—	—	—	14	33N	1E	*82.23*	*4.10*	8.78	—	4.76		—
l	LaSalle (lower part of lower bed)	—	LaSalle	—	—	—	14	33N	1E	*81.34*	*2.89*	10.34	—	4.40		—

Footnotes appear on page 5.

Continued.

Analysis						Miscellaneous	Remarks	Year sample taken or analysis published	Sample No.
CaO	MgO	Na_2O	K_2O	CO_2	Loss on ignition				
County—Cont.									
53.00	*1.31*	—	—	—	—			1925	—
52.58	*0.60*	—	—	—	—			1925	—
48.51	*1.91*	—	—	—	—			1925	—
52.68	*0.80*	—	—	—	—			1925	—
County									
27.90	20.92	0.03	0.09	43.44	43.85	FeO 0.18; S 0.10; SO_3 0.07		1934	NF30
29.0	19.9	—	—	—	43.5			1934	NF31
27.06	*18.17*	—	—	—	—			1925	L157
24.66	17.54	trace	0.18	37.51	38.52	FeO 0.26; S 0.12; SO_3 0.08		1934	NF28
19.1	13.5	—	—	—	28.9			1934	NF29
27.8	19.4	—	—	—	41.8			1934	NF37
27.0	18.5	—	—	—	40.2			1934	NF38
26.59	18.40	0.07	0.53	40.27	40.82	FeO 0.60; S 0.21; SO_3 0.08		1934	NF40
28.76	19.26	0.13	0.69	43.38	—	FeO 0.40	Hand specimen	1952	R1930
29.5	20.3	—	—	—	43.9			1934	NF41
16.6	11.6	—	—	—	25.8	$Na_2O + K_2O$ as K_2O 3.2		1934	NF46
22.90	*20.82*	—	—	—	—	Clay and insoluble matter 11.60; alkalies, loss, etc., 2.60		1868	—
County									
22.49	15.55	—	—	—	38.80			1934	NF95
28.97	*19.51*	—	—	—	—	Insoluble matter 6.1		1925	L108
30.65	21.71	—	—	47.25	—			1943	11
30.57	21.16	0.06	0.06	46.46	47.06			1943	70
16.51	11.51	—	—	—	25.70			1934	NF154
24.94	*16.80*	—	—	—	—			1925	L107
30.59	21.52	0.07	0.00	47.27	47.38	MnO 0.015; SO_3 0.03; P_2O_5 0.00†	Total	1943	NF419
30.45	20.50	—	—	43.54	—	P 0.006	Kankakee Quarries Co.	1899	—
25.88	*16.76*	—	—	—	—	H_2O and loss 2.50; P 0.02; S. trace		1912	—
28.47	*19.32*	—	—	—	—	H_2O and P 0.30	Lehigh Stone Co.	1912	—
26.75	*17.15*	—	—	—	—			1912	—
28.62	*19.42*	—	—	—	—		Lehigh Stone Co.	1912	—
28.5	*19.9*	—	—	—	—	Insoluble matter, 6.3	Lehigh Stone Co.	1928	—
30.2	*19.7*	—	—	—	—	Insoluble matter, 3.7	Lehigh Stone Co.	1928	—
28.2	*18.9*	—	—	—	—	Insoluble matter, 8.3	Lehigh Stone Co.	1928	—
County									
31.11	19.90	—	—	46.20	—			1943	44
County									
42.41	2.07	—	—	34.41	—		Total	1934	NF245
County									
50.27	*0.54*	—	—	—	—			1925	L180
53.32	0.75	—	—	—	42.66		Marquette Portland Cement Co.	1907	C3a
48.02	0.68	—	—	—	39.48		Marquette Portland Cement Co.	1907	C3b
47.72	1.31	—	—	—	38.90		Marquette Portland Cement Co.	1907	C3d
53.32	0.58	—	—	—	42.66			1907	C12a
41.54	1.14	—	—	—	35.58			1912	C12b
52.32	0.58	—	—	—	—	Volatile matter 38.54		1907	—
41.54	1.14	—	—	—	—	Volatile matter 38.80		1907	—
46.5	6.1	—	—	—	—	Acid insoluble 4.1	Versenate analysis	1953	V1[1]
48.9	5.8	—	—	—	—	Acid insoluble 1.2	Versenate analysis	1953	V2[1]
47.84	0.66	—	—	—	—	Volatile matter 40.20		1907	
47.84	0.66	—	—	—	40.20			1912	C9
27.86	19.11	0.02	0.80	42.15	42.73			1934	W82
51.78	0.69	—	—	—	—	Volatile matter 42.06		1907	—
46.08	1.96	—	—	—	—	Volatile matter 39.26		1907	—
45.58	1.38	—	—	—	—	Volatile matter 37.88		1907	—

TABLE 2.—

Sample No. and Source	Formation	Thickness	Near	Location						Chemical						
				¼	¼	¼	sec.	T.	R.	$CaCO_3$	$MgCO_3$	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	R_2O_3
																LaSalle
Dx20[o]	LaSalle	24′	LaSalle	—	SE	NW	14	33N	1E	*71.83*	*4.07*	16.83	—	4.32	2.06	—
E1a[l,b]	LaSalle (upper bed)	6′6″	LaSalle	—	SE	NW	14	33N	1E	90.14	1.86	4.92	—	3.08		—
E1c[l,b]	LaSalle (upper part of lower bed)	6′6″	LaSalle	—	SE	NW	14	33N	1E	65.34	3.99	22.26	—	6.86		—
E1d[l,b]	LaSalle (lower part of lower bed)	5′	LaSalle	—	SE	NW	14	33N	1E	65.38	5.06	17.76	—	9.56		—
C2a[b]	LaSalle	5′	LaSalle	—	—	—	15	33N	1E	92.39	1.44	2.88	—	2.24		—
C2c[b]	LaSalle	6′	LaSalle	—	—	—	15	33N	1E	82.22	4.10	8.78	—	4.76		—
C2d[b]	LaSalle	4′	LaSalle	—	—	—	15	33N	1E	81.33	2.88	10.34	—	4.40		—
E6a[b]	LaSalle (upper bed)	6 to 20′	Oglesby	—	—	SE	25	33N	1E	91.57	1.23	4.32	—	2.86		—
E6b[l,b]	LaSalle (lower bed)	5′	Oglesby	—	—	SE	25	33N	1E	82.22	1.55	9.62	—	5.56		—
C13[b]	LaSalle	4′	Peru	—	—	SW	30	33N	1E	44.64	13.17	21.18	—	16.36		—
NF506[l] (32–36)	Shakopee	5′	Utica	—	—	S½	6	33N	2E	*44.45*	*36.20*	13.36	—	3.09	1.10	—
NF506[l] (11–17)	Shakopee	14′	Utica	—	—	N½	7	33N	2E	*43.94*	*35.61*	16.04	—	2.24	0.84	—
Dx18[o]	Shakopee	26′	Utica	—	SE	SE	7	33N	2E	*42.93*	*29.23*	16.10	—	6.57	1.60	—
Dx19[o]	Shakopee	40′	Utica	—	SE	SE	7	33N	2E	*42.36*	*33.94*	23.05	—	1.64	1.64	—
C14a[b]	Shakopee (upper cement rock bed)	6 to 8′	Utica	SW. cor.			8	33N	2E	45.32	26.13	15.02	—	8.20		—
C14b[b]	Shakopee (lower cement rock bed)	12 to 14′	Utica	SW.cor.			8	33N	2E	46.61	20.53	14.42	—	11.34		—
DS57[o]	Shakopee	60′	Utica	—	SE	SW	8	33N	2E	*45.37*	*39.50*	12.65	—	1.58	1.18	—
DS56[o]	Shakopee	11′	Utica	—	—	NE	17	33N	2E	—	—	11.59	—	1.77	1.24	—
L179[k]	Shakopee	30′	Utica	—	NW	NW	18	33N	2E	81.50	11.14	3.76	—	3.36		—
E3[b]	Lower Magnesian	—	Utica	—	—	—	—	—	—	50.60	38.25	4.58	—	3.72		—
e	Shakopee	—	Utica	—	—	—	—	—	—	43.50	30.07	—	—	—	—	—
1[w]	Shakopee	—	Utica	—	—	—	—	—	—	*43.54*	*21.81*	12.22	—	9.39	3.90	—
2[w]	Shakopee	—	Utica	—	—	—	—	—	—	*58.62*	*17.67*	17.01	—	3.35	2.39	—
3[w]	Shakopee	—	Utica	—	—	—	—	—	—	*43.47*	*29.93*	—	—	—	2.00	—
4[w]	Shakopee	—	Utica	—	—	—	—	—	—	*42.22*	*31.83*	—	—	—	1.12	—
5[w]	Shakopee	—	Utica	—	—	—	—	—	—	*46.97*	*25.30*	14.15	—	6.37	2.35	—
W80[o]	Galena-Platteville	13′	Ottawa	—	NE	SE	21	33N	3E	*78.06*	*17.38*	0.80	0.00	1.19	1.67	—
b,l	LaSalle	—	LaSalle	—	—	SE	34	34N	1E	*77.56*	*2.43*	11.10	—	7.84		—
C10[b]	LaSalle	19′6″	LaSalle	—	—	SE	34	34N	1E	77.55	2.42	11.10	—	7.84		—
h	Probably LaSalle	—	. . . . .	—	—	—	—	—	—	*79.31*	*2.34*	17.11	—	1.97		—
h	Probably LaSalle	—	. . . . .	—	—	—	—	—	—	*75.01*	*3.22*	18.54	—	3.91		—
h	Probably LaSalle	—	. . . . .	—	—	—	—	—	—	*74.51*	*2.53*	19.49	—	3.71		—
w	LaSalle	—	LaSalle	—	—	—	—	—	—	*88.27*	*1.90*	6.06	—	3.92		—
w	LaSalle	—	LaSalle	—	—	—	—	—	—	88.16	1.78	8.20	—	1.30		—
n	LaSalle	—	LaSalle	—	—	—	—	—	—	*81.32*	*9.19*	7.54	—	3.43		—
w	LaSalle	—	LaSalle	—	—	—	—	—	—	*86.18*	*7.65*	5.06	—	2.32		—
w	LaSalle	—	LaSalle	—	—	—	—	—	—	*81.93*	*2.09*	13.89	—	2.61		—
w	LaSalle	—	LaSalle	—	—	—	—	—	—	*92.83*	*2.32*	5.43	—	1.43		—
																Lee
30[q]	Prosser (lowermost)	16′	Dixon	SE	SE	NE	12	21N	8E	54.84	43.61	0.26	—	0.29	0.37	—
31[q]	Stewartville	12′	Palmyra	NE	SW	NW	33	22N	8E	54.55	41.46	1.30	—	0.51	1.15	—
C6[b]	Platteville	7′	Dixon	—	—	NE	18	22N	9E	65.98	23.45	4.50	—	4.60		—
L188[k]	Platteville	50′	Dixon	—	SE	SW	21	22N	9E	56.60	42.18	0.84	—	2.10		—
C5a[b]	Platteville	5′	Dixon	—	—	SW	27	22N	9E	88.54	1.42	5.52	—	3.66		—
C5b[b]	Platteville	8′	Dixon	—	—	SW	27	22N	9E	87.29	4.14	3.44	—	3.88		—
S46c[b]	Platteville	4 to 6′	Dixon	—	—	—	27	22N	9E	86.50	1.25	7.56	—	3.54		—
S46d[b]	Platteville	10′	Dixon	—	—	—	27	22N	9E	81.79	9.57	5.10	—	2.58		—
S46e[b]	Platteville	9′	Dixon	—	—	—	27	22N	9E	83.93	5 02	4.78	—	4.44		—
29[q]	Guttenberg	15′	Ashton	—	SE	NW	27	22N	11E	54.23	42.42	1.59	—	0 58	0.37	—

Footnotes appear on page 5.

Continued.

Analysis						Miscellaneous	Remarks	Year sample taken or analysis published	Sample No.
CaO	MgO	Na_2O	K_2O	CO_2	Loss on ignition				
County—Cont.									
40.25	1.95	0.26	0.60	32.94	33.93			1934	Dx20
50.52	0.89	—	—	—	41.06		German American Portland Cement Co.	1907	E1a
36.62	1.91	—	—	—	33.28		German American Portland Cement Co.	1907	E1c
36.64	2.42	—	—	—	34.36		German American Portland Cement Co.	1907	E1d
51.78	0.69	—	—	—	42.06		German American Portland Cement Co.	1912	C2a
46.08	1.96	—	—	—	39.26		German American Portland Cement Co.	1912	C2c
45.58	1.38	—	—	—	37.88		German American Portland Cement Co.	1912	C2d
51.32	0.59	—	—	—	41.92		Chicago Portland Cement Co.	1912	E6a
46.08	0.74	—	—	—	39.16		Chicago Portland Cement Co.	1907	E6b
25.02	6.30	—	—	—	32.14			1912	C13
24.91	17.31	0.12	1.76	38.03	38.43		Upper cement rock, 46′ above base outcrop	1953	NF506(32–36)
24.62	17.03	0.14	1.36	37.65	38.07		Lower cement rock, 11′ above base of exposure	1953	NF506(11–17)
24.05	13.98	—	—	37.19	37.43			1934	Dx18
23.73	16.23	—	—	—	34.85			1934	Dx19
25.40	12.50	—	—	—	38.54		Illinois Hydraulic Cement Mfg. Co.	1912	C14a
26.12	9.82	—	—	—	38.80		Illinois Hydraulic Cement Mfg. Co.	1912	C14b
25.42	18.89	—	—	39.46	39.60			1934	DS57
26.56	17.88	—	—	40.05	40.37			1934	DS56
45.67	*5.33*	—	—	—	—		Utica Cement Co.	1925	L179
28.36	18.30	—	—	—	44.92		Illinois Hydraulic Cement Co.	1912	E3
24.38	*14.38*	—	—	—	—	Clay 20.00; potash 0.18; free silica 1.00; iron carbonate 2.00		1866	—
24.40	10.43	—	—	—	—	CO_2 plus H_2O 38.48	Natural cement rock	1905	1
32.85	8.45	—	—	—	—	CO_2 plus H_2O 34.12; SO_3 1.81	Natural cement rock	1905	2
24.36	14.31	—	0.18	35.35	—	SiO_2 and Al_2O_3 21.00; H_2O 3.00	Natural cement rock	1905	3
23.66	15.22	—	—	35.35	—	SiO_2 and Al_2O_3 21.12; H_2O 1.07	Natural cement rock	1905	4
26.32	12.10	—	0.18	34.70	—	SO_3 1.81; H_2O 3.23	Average of samples 1–4 above	1905	5
43.73	8.31	Trace	Trace	43.72	44.13	S 0.12		1934	W80
43.46	1.16	—	—	—	—	Volatile matter 37.38		1907	—
43.46	1.16	—	—	—	37.38			1912	C10
44.44	1.12	—	—	—	—			1913	—
42.03	1.54	—	—	—	—			1913	—
41.75	1.21	—	—	—	—			1913	—
49.46	0.91	—	—	—	—	CO_2 and water 39.06	Chicago Portland Cement Co.	1905	—
49.37	*0.85*	—	—	—	—		Marquette Portland Cement Co.	1899	—
45.57	4.36	—	—	—	—	CO_2 and water 39.57	German American Portland Cement Co.	1905	—
48.29	3.66	—	—	—	—	CO_2 and water 41.05	German American Portland Cement Co.	1905	—
45.91	1.00	—	—	—	—	CO_2 and water 36.82	German American Portland Cement Co.	1905	—
52.02	1.11	—	—	—	—	CO_2 and water 40.24	German American Portland Cement Co.	1905	—
County									
30.72	21.36	—	—	46.88	—		Gerdes Quarry, top	1943	30
30.56	20.29	—	—	45.63	—			1943	31
36.98	11.22	—	—	—	43.72		Sandusky Cement Co., Dixon	1912	C6
31.72	*20.17*	—	—	—	—			1925	L188
49.62	0.68	—	—	—	40.68		Sandusky Cement Co., Dixon	1912	C5a
48.92	1.98	—	—	—	41.70		Sandusky Cement Co., Dixon	1912	C5b
48.48	0.60	—	—	—	40.54		Sandusky Cement Co., Dixon	1912	S46c
45.84	4.58	—	—	—	41.94		Sandusky Cement Co., Dixon	1912	S46d
47.04	2.40	—	—	—	41.92		Sandusky Cement Co., Dixon	1912	S46e
30.38	20.77	—	—	45.99	—			1943	29

TABLE 2.—

Sample No. and Source	Formation	Thickness	Near	Location ¼	¼	¼	sec.	T.	R.	Chemical $CaCO_3$	$MgCO_3$	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	R_2O_3
																Livingston
P6p	Pontiac	3′	Ocoya	cen.	E. line		25	27N	4E	91.56	1.78	4.64	—	0.36	0.74	—
P8p	Pontiac	15′	McDowell	—	NW	NE	1	27N	5E	95.05	0.40	1.12	—	0.29	0.65	—
P2p	Pontiac	11′	Pontiac	—	SW	NE	16	28N	5E	93.50	0.28	1.33	—	1.39	0.64	—
P3p	Pontiac	3′	Pontiac	—	SW	NE	16	28N	5E	89.20	0.29	5.44	—	0.28	0.90	—
P4p	Pontiac	1′	Pontiac	—	SW	NE	16	28N	5E	68.75	0.90	25.34	—	1.13	0.51	—
p	Pontiac	—	Pontiac	—	SW	NE	16	28N	5E	42.13	3.36	36.64	—	11.80	2.20	—
p	Pontiac	10′	Pontiac	—	SW	NE	16	28N	5E	91.72	1.63	2.88	—	1.88	1.21	—
p	Pontiac	4′	Pontiac	—	SW	NE	16	28N	5E	61.58	3.99	21.23	—	9.47	2.53	—
p	Pontiac	12′	Pontiac	—	SE	NE	16	28N	5E	90.4	1.60	4.24	—	1.88	1.28	—
p	Pontiac	10′	Pontiac	—	SW	NE	16	28N	5E	88.45	2.26	5.77	—	1.71	1.48	—
p	Pontiac	4′	Pontiac	—	SW	NE	16	28N	5E	85.49	2.65	7.15	—	1.54	1.48	—
cc	Pontiac	—	Pontiac	—	—	—	—	—	—	94.88	1.68	1.70	—	—	—	1.30
																Logan
E28a[b]	McLeansboro	2′	Lincoln	Near	NW	cor.	5	19N	3W	90.28	1.71	4.70	—	2.66		—
E28b[b]	McLeansboro	6′	Lincoln	Near	NW	cor.	5	19N	3W	83.79	8.95	2.04	—	4.92		—
NF445[l]	Lonsdale	10′6″	Lincoln	W½	NE	NE	7	19N	3W	*92.32*	*0.94*	4.21	—	1.15	0.78	—
																Macoupin
NF103[y]	Burroughs	4′	Carlinville	NW	NE	NW	2	9N	7W	*58.77*	*4.35*	25.47	—	11.02		—
NF109[y]	Carlinville	4′	Carlinville	NW	SE	SE	30	10N	7W	*87.75*	*5.63*	2.13	—	0.83	3.07	—
NF107[y]	Macoupin	2′6″	Carlinville	SE	NW	NE	35	10N	7W	*75.95*	*6.38*	5.40	—	10.11		—
NF100[o]	Shoal Creek	7′	Carlinville	—	NW	NW	36	10N	7W	*88.75*	*3.12*	5.57	—	1.81	1.77	—
NF101[y]	Shoal Creek	4′	Carlinville	—	NW	NW	36	10N	7W	*64.96*	*3.79*	—	—	—	—	—
NF102[y]	Shoal Creek	1′	Carlinville	—	NW	NW	36	10N	7W	*76.92*	*6.44*	9.84	—	6.49		—
NF116[y]	Shoal Creek	3′	Nilwood	NE	NW	NE	16	11N	7W	*94.19*	*2.45*	—	—	—	—	—
NF114[y]	Carlinville	3′	Palmyra	SE	SE	NE	9	11N	8W	*79.88*	*7.38*	5.48	—	6.70		—
																Madison
NF170A[l]	Salem	13′10″	Alton.	—	—	SE	4	5N	10W	*85.82*	*9.75*	4.97	—	0.90	0.38	—
NF170B[l]	Salem.	22′	Alton.	—	—	SE	4	5N	10W	*91.00*	*6.13*	3.79	—	0.42	0.32	—
NF170C[l]	St. Louis.	20′4″	Alton.	—	—	SE	4	5N	10W	*62.28*	*17.61*	17.93	—	0.77	0.43	—
NF170D[l]	St. Louis.	27′1″	Alton.	—	—	SE	4	5N	10W	*82.82*	*9.31*	6.46	—	1.07	0.29	—
NF170E[l]	St. Louis.	19′6″	Alton.	—	—	SE	4	5N	10W	*75.61*	*19.72*	4.31	—	0.91	0.41	—
NF170F[l]	St. Louis.	31′11″	Alton.	—	—	SE	4	5N	10W	*86.71*	*9.14*	2.63	—	0.94	0.49	—
NF168A[l]	St. Louis.	16′11″	Alton.	SE	SW	SW	10	5N	10W	*96.66*	*0.06*	2.75	—	1.04	0.38	—
NF168B[l]	St. Louis.	28′5″	Alton.	SE	SW	SW	10	5N	10W	*95.01*	*1.99*	2.99	—	0.81	0.37	—
NF168C[l]	St. Louis.	21′10″	Alton.	SE	SW	SW	10	5N	10W	*98.17*	*0.06*	1.85	—	0.66	0.34	—
NF168D[l]	St. Louis.	7′	Alton.	SE	SW	SW	10	5N	10W	*83.81*	*nil*	16.62	—	0.37	0.28	—
NF168E[l]	St. Louis.	21′10″	Alton.	SE	SW	SW	10	5N	10W	*99.72*	*0.79*	0.40	—	0.37	0.24	—
NF169A[l]	St. Louis.	24′1″	Alton.	NW	SE	NW	10	5N	10W	*88.20*	*3.76*	5.72	—	1.46	0.37	—
NF169B[l]	St. Louis.	24′5″	Alton.	NW	SE	NW	10	5N	10W	*87.37*	*9.12*	3.00	—	0.88	0.39	—
NF169C[l]	St. Louis.	6′6″	Alton.	NW	SE	NW	10	5N	10W	*53.81*	*32.81*	10.87	—	1.81	0.74	—
NF169D[l]	St. Louis.	17′8″	Alton.	NW	SE	NW	10	5N	10W	*75.08*	*19.64*	4.14	—	0.78	0.68	—
NF169E[l]	St. Louis.	22′	Alton.	NW	SE	NW	10	5N	10W	*95.33*	*0.52*	3.09	—	0.71	0.27	—
NF169F[l]	St. Louis.	14′10″	Alton.	NW	SE	NW	10	5N	10W	*96.55*	*0.54*	2.25	—	0.53	0.29	—
a	St. Louis (?).	—	Alton.	—	—	—	—	—	—	97.53	0.44	0.48	—	0.16		—
a	St. Louis.	—	Alton.	—	—	—	—	—	—	98.20	trace	0.30	—	—	trace	—
a	St. Louis.	—	Alton.	—	—	—	—	—	—	92.35	1.00	6.52	—	—	trace	—
a	St. Louis.	—	Alton.	—	—	—	—	—	—	95.98	0.75	2.41	—	—	trace	—
a	St. Louis.	—	Alton.	—	—	—	—	—	—	97.30	0.21	1.00	—	—	trace	—
a	St. Louis.	—	Alton.	—	—	—	—	—	—	97.81	1.35	1.00	—	—	trace	—
a	St. Louis.	—	Alton.	—	—	—	—	—	—	98.09	0.94	0.50	—	—	trace	—
a	St. Louis.	—	Alton.	—	—	—	—	—	—	95.53	0.14	0.48	—	—	0.16	—
o	St. Louis.	—	Alton.	—	—	—	10-11	5N	10W	96.47	0.77	1.74	—	—	—	—
NF171A[l]	St. Louis.	16′5″	Alton.	NE	SW	NE	11	5N	10W	*95.94*	*2.04*	2.58	—	0.06	0.56	—
NF171B[l]	St. Louis.	16′5″	Alton.	NE	SW	NE	11	5N	10W	*95.08*	*1.38*	2.90	—	0.05	0.66	—
NF171C[l]	St. Louis.	9′2″	Alton.	NE	SW	NE	11	5N	10W	*55.77*	*40.38*	3.40	—	0.02	1.54	—
NF171D[l]	St. Louis.	25′2″	Alton.	NE	SW	NE	11	5N	10W	*97.47*	*0.71*	2.13	—	0.08	0.58	—
NF171E[l]	St. Louis.	10′9″	Alton.	NE	SW	NE	11	5N	10W	*98.24*	*1.13*	0.60	—	0.03	0.68	—

Footnotes appear on page 5.

Continued.

Analysis						Miscellaneous	Remarks	Year sample taken or analysis published	Sample No.
CaO	MgO	Na_2O	K_2O	CO_2	Loss on ignition				
County									
51.44	0.85	—	—	—	—		Bottom 3′ of exposure	1929	P6
53.40	0.19	—	—	—	—		Entire exposure	1929	P8
52.52	0.13	—	—	—	—		Bed 3, 4′2″–15′2″ from base	1929	P2
50.11	0.13	—	—	—	—		Bed 2, 1′2″–4′2″ from base	1929	P3
38.59	0.43	—	—	—	—		Bottom 1′2″ of exposure	1929	P4
23.61	*1.61*	—	—	—	—		Quarry floor	1929	—
51.53	0.78	—	—	—	—	P 0.020	Boring depth 6′ to 16′	1929	—
34.60	1.93	—	—	—	—	P 0.033	Boring depth 18–22′ below surface	1929	—
50.79	0.77	—	—	—	—	P 0.016	Boring depth 2 to 4′	1929	—
49.69	1.08	—	—	—	—	P 0.036	Boring depth 6 to 16′	1929	—
48.03	1.27	—	—	—	—	P 0.048	Boring depth 18 to 22′	1929	—
53.17	*0.80*	—	—	—	—		Pontiac Stone Co.	—	—
County									
50.60	0.82	—	—	—	41.86			1912	E28a
46.96	4.28	—	—	—	42.84			1912	E28b
51.73	0.45	0.15	0.20	41.10	41.42	MnO 0.07; SO_3 0.10; P_2O_5 0.043	Rocky Ford Limestone Co.	1947	NF445
County									
32.93	2.08	—	—	28.46	—	MnO 0.25		1952	NF103
49.17	2.69	—	—	—	41.79			1952	NF109
42.56	3.05	—	—	37.29	—	MnO 1.20		1952	NF107
49.72	1.49	—	—	—	40.16			1952	NF100
36.40	1.81	—	—	30.94	—		1–4′ above base	1952	NF101
43.10	3.08	—	—	36.90	—	MnO 0.11	Basal 1′	1952	NF102
52.78	1.17	—	—	42.99	—			1952	NF116
44.76	3.53	—	—	39.33	—	MnO 0.20		1952	NF114
County									
48.09	4.66	—	—	41.81	41.74		0–13′10″ from base	1934	NF170A
50.99	2.93	—	—	42.28	42.28		13′10″–35′10″ from base	1934	NF170B
34.90	8.42	—	—	37.19	37.21		35′10″–56′2″ from base	1934	NF170C
46.41	4.45	—	—	40.95	41.20		56′2″–83′3″ from base	1934	NF170D
42.37	9.43	—	—	42.58	42.93		83′3″–102′9″ from base	1934	NF170E
48.59	4.37	—	—	42.74	43.05		102′9″–134′8″ from base	1934	NF170F
54.16	0.03	—	—	42.51	42.25		Mississippi Lime Co.; 0–16′11″ from base	1934	NF168A
53.24	0.95	—	—	42.14	42.15		Mississippi Lime Co., 16′11″–45′4″ from base	1934	NF168B
55.01	0.03	—	—	42.83	42.67	SO_3 0.14	Mississippi Lime Co.; 45′4″–67′2″ from base	1934	NF168C
46.96	nil	—	—	36.78	36.43		Mississippi Lime Co.; 67′2″–74′2″ from base	1934	NF168D
55.88	0.38	—	—	43.62	43.35	MnO 0.013; SO_3 0.15; P_2O_5 0.011	Mississippi Lime Co.; 74′2″–96′0″ from base	1934	NF168E
49.42	1.80	—	—	41.11	41.14		Mississippi Lime Co.; 0–24′1″ from base	1934	NF169A
48.96	4.36	—	—	42.87	42.88		Mississippi Lime Co.; 24′1″–48′6″ from base	1934	NF169B
30.15	15.69	—	—	40.27	40.75		Mississippi Lime Co.; 48′6″–55′0″ from base	1934	NF169C
42.07	9.39	—	—	42.77	42.95		Mississippi Lime Co.; 55′0″–72′8″ from base	1934	NF169D
53.42	0.25	—	—	42.13	42.24		Mississippi Lime Co.; 72′8″–94′8″ from base	1934	NF169E
54.10	0.26	—	—	42.58	42.43		Mississippi Lime Co.; 94′8″–109′6″ from base	1934	NF169F
54.66	*0.21*	—	—	—	—		Alton Lime and Cement Co.	1912	—
55.03	*trace*	—	—	—	—		Harry Gissal Quarry Co., top layer	1912	—
51.75	*0.48*	—	—	—	—		Harry Gissal Quarry Co., No. 1	1912	—
53.69	*0.36*	—	—	—	—		Harry Gissal Quarry Co., No. 2	1912	—
54.53	*0.10*	—	—	—	—		Harry Gissal Quarry Co., No. 5	1912	—
54.81	*0.65*	—	—	—	—		Harry Gissal Quarry Co., north layer	1912	—
54.97	*0.45*	—	—	—	—		Harry Gissal Quarry Co., south layer	1912	—
53.54	*0.07*	—	—	—	—		Harry Gissal Quarry Co., building stone	—	—
54.02	*0.37*	—	—	—	—	Average 7 analyses		1934	—
53.76	0.98	—	—	42.21	42.27		Reliance Whiting Co., 0–16′5″ from base	1934	NF171A
53.28	0.66	—	—	42.21	42.42		Reliance Whiting Co., 16′5″–32′10″ from base	1934	NF171B
31.25	19.31	—	—	44.23	45.06		Reliance Whiting Co., 32′10″–42′0″ from base	1934	NF171C
54.62	0.34	—	—	42.54	42.75		Reliance Whiting Co., 42′0″–67′2″ from base	1934	NF171D
55.05	0.54	—	—	43.43	43.67		Reliance Whiting Co., 67′2″–78′11″ from base	1934	NF171E

TABLE 2.—

Sample No. and Source	Formation	Thickness	Near	Location ¼	¼	¼	sec.	T.	R.	Chemical $CaCO_3$	$MgCO_3$	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	R_2O_3
																Madison
NF171F[l]	St. Louis.	6′8″	Alton.	NE	SW	NE	11	5N	10W	*95.66*	*3.14*	0.42	—	0.05	0.56	—
a	St. Louis.	—	Alton.	—	—	—	—	—	—	95.79	0.38	2.01	—	1.41	0.41	—
a	St. Louis.	—	Alton.	—	—	—	—	—	—	*94.78*	*4.18*	0.30	—	0.68		—
j	St. Louis.	—	Alton.	—	—	—	—	—	—	97.72	0.00	1.01	—	1.10	—	—
																Marshall
E20b[b]	McLeansboro	5′	Sparland	—	SW	NW	14	12N	9E	55.78	1.84	31.74	—	8.92		—
E23[b]	McLeansboro	2′6″	Sparland	—	—	SE	14	12N	9E	92.36	1.50	3.42	—	2.36		—
																Monroe
NF167A[l]	Salem	35′	Columbia	SE	SW	SW	14	1S	10W	*97.37*	*1.07*	1.42	—	0.05	0.36	—
NF167B[l]	Salem	11′11″	Columbia	SE	SW	SW	14	1S	10W	*96.98*	*0.98*	1.91	—	0.12	0.30	—
NF167C[l]	Salem	14′2″	Columbia	SE	SW	SW	14	1S	10W	*98.55*	*0.82*	0.67	—	0.13	0.29	—
L66[k]	Ste. Genevieve	30′	Columbia	—	—	S½	17	1S	10W	91.60	2.51	4.33	—	1.28		—
L69[k]	St. Louis.	11′	New Hanover	cen. N. line		NE	18	2S	10W	92.50	2.97	1.32	—	2.74		—
U49a[b]	St. Louis.	30-40′	Columbia	—	NW	NE	23	1S	10W	89.79	2.63	5.42	—	2.24		—
NF327A[l]	Ste. Genevieve	7′6″	Waterloo.	NE	NE	NW	34	2S	10W	*71.87*	*1.09*	24.78	—	2.23	0.55	—
NF327B[l]	Ste. Genevieve	17′2″	Waterloo.	NE	NE	NW	34	2S	10W	*82.09*	*0.84*	16.91	—	0.90	0.37	—
NF90[o]	Osage.	35′	Valmeyer	—	—	SW	35	2S	11W	*71.8*	*3.1*	24.4	—	1.2		—
L67[k]	Okaw.	13′	Hecker	—	—	W½	21	3S	8W	95.70	2.50	0.81	—	0.85		—
NF89[o]	Decorah or Plattin	11′	Valmeyer	—	NE	SW	3	3S	11W	*56.0*	*1.6*	40.2	—	0.33	2.07	—
L68[k]	Kimmswick	—	Valmeyer	—	—	SW	3	3S	11W	95.70	3.46	0.08	—	0.74		—
l	Kimmswick	—	Valmeyer	—	NW	NE	10	3S	11W	*97.65*	*0.90*	2.22	—	—	—	0.34
L70[k]	Salem	—	Valmeyer	—	NW	SE	15	3S	11W	95.20	2.56	1.30	—	0.62		—
S21[l]	Warsaw-Salem	95′	Fults.	—	SE	SE	36	4S	10W	*89.46*	*2.22*	6.84	—	—	—	0.90
NF332A[l]	Salem	43′6″	Prairie du Rocher, 3 mi. N. W.				—	5S	12W	*97.80*	*0.77*	1.55	—	1.01	0.12	—
NF332B[l]	Salem	13′	Prairie du Rocher, 3 mi. N. W.				—	5S	12W	*75.29*	*1.67*	19.86	—	2.82	0.59	—
NF332C[l]	Salem	15′7″	Prairie du Rocher, 3 mi. N. W.				—	5S	12W	*94.83*	*1.19*	3.63	—	1.40	0.18	—
NF332D[l]	Salem	15′11″	Prairie du Rocher, 3 mi. N. W.				—	5S	12W	*95.90*	*2.51*	1.80	—	0.84	0.18	—
NF332E[l]	Salem	27′5″	Prairie du Rocher, 3 mi. N. W.				—	5S	12W	*96.60*	*1.32*	2.35	—	0.79	0.22	—
a	Salem	—	Millstadt.	—	—	—	—	—	—	98.43	*0.02*	1.12	—	—	0.44	—
																Montgomery
698[b]	McLeansboro	20′	Hillsboro.	—	—	—	2	8N	5W	93.53	2.15	2.06	—	3.45		—
L425[k]	Shoal Creek	10′	Litchfield	—	—	SW	2	8N	5W	96.40	0.76	1.76	—	0.28	0.43	—
DS34[o]	McLeansboro	1′6″	Litchfield	—	NW	NE	2	8N	5W	*63.37*	*9.89*	6.24	—	12.92	4.07	—
694[b]	McLeansboro	—	Hillsboro.	—	—	—	32	9N	4W	94.84	1.78	1.41	—	2.29		—
																Ogle
L190[k]	Platteville	40′	Grand Detour	—	NW	NW	8	22N	9E	76.36	19.16	3.10	—	2.30		—
41[q]	Prosser (middle)	16′	Polo	—	NW	NW	17	23N	8E	56.85	40.85	0.63	—	0.20	0.80	—
C7a[b]	Platteville	10′	Grand Detour	—	—	SE	27	23N	9E	86.36	11.41	1.38	—	1.56		—
NF128[l]	Galena	44′	Oregon	—	W½	NW	2	23N	10E	*53.70*	*42.35*	2.46	—	0.44	1.50	—
NF129[l]	Trempealeau	12′	Oregon	—	S½	NE	3	23N	10E	*48.60*	*37.52*	10.14	—	2.75	1.90	—
NF124[o]	Shakopee	6′	Oregon	—	SE	NW	6	23N	10E	*42.65*	*33.17*	22.10	—	1.81	1.10	—
NF124[l]	Shakopee	6′	Oregon	S½	SE	NW	6	23N	10E	*41.33*	*32.31*	—	—	—	—	—
NF126[l]	Shakopee	7′	Oregon	S½	SE	NW	6	23N	10E	*46.76*	*39.53*	—	—	—	—	—
NF125[o]	Shakopee	2′	Oregon	¼ mi. NW cen. of sec.			6	23N	10E	*32.55*	*24.11*	34.37	—	8.56	2.30	—
NF135[o]	Galena	50′	Mt. Morris	—	SW	SE	32	24N	9E	*54.76*	*42.24*	1.09	—	0.40	0.60	—
C8[b]	Platteville	10′	Oregon	—	—	NW	28	24N	10E	51.25	34.32	5.62	—	4.22		—
NF132[l]	Platteville	25′	Oregon	NE	SE	SW	34	24N	10E	*52.86*	*39.73*	3.99	—	1.17	3.18	—
NF133[l]	Platteville	25′	Oregon	NE	SE	SW	34	24N	10E	*72.04*	*22.69*	2.93	—	1.65	1.34	—
NF140[o]	Prosser (lower)	55′	Adeline	NE	SW	SW	21	25N	9E	*55.82*	*45.21*	0.23	—	0.07	0.44	—
NF139[l]	Platteville	22′	Byron	SW	SE	SW	32	25N	11E	*51.82*	*43.75*	3.93	—	0.64	1.09	—
k	Galena	—		—	—	—	—	—	—	44.67	31.00	21.20		4.00		—
																Peoria
DS55[o]	Lonsdale	15′	Peoria	SW	NW	SW	3	8N	7E	*80.57*	*1.63*	15.27	—	2.26	1.04	—
Bu9[b]	Maxwell (probably Lonsdale)	9′	Maxwell	SE cor.			10	8N	7E	80.83	0.96	14.24	—	3.98		—
E24a[b]	Maxwell (probably Lonsdale)	3′6″	Maxwell	—	—	SE	10	8N	7E	70.05	1.00	21.96	—	5.88		—
E24b[b]	Maxwell (probably Lonsdale)	6′6″	Maxwell	—	—	SE	10	8N	7E	73.83	1.17	21.04	—	3.70		—
E24c[b]	Maxwell (probably Lonsdale)	3′	Maxwell	—	—	SE	10	8N	7E	91.93	3.89	2.78	—	1.82		—
E26[b]	Pennsylvanian (probably Lonsdale)	10′	Princeville	—	—	SE	5	11N	7E	78.83	1.05	16.46	—	3.30		—
Bu8[b]	Maxwell (probably Lonsdale)	13′6″	Princeville	—	—	SE	5	11N	7E	83.40	0.88	13.36	—	3.24		—

Footnotes appear on page 5.

Continued.

Analysis						Miscellaneous	Remarks	Year sample taken or analysis published	Sample No.
CaO	MgO	Na_2O	K_2O	CO_2	Loss on ignition				
County—Cont.									
53.60	1.50	—	—	43.18	43.68		Reliance Whiting Co., 78′11″–85′7″ from base	1934	NF171F
53.68	*0.18*	—	—	—	—		Reliance Quarry & Construction Co.	1912	—
53.11	2.00	—	—	43.30	—		Reliance Quarry & Construction Co.	1912	—
54.76	0.00	—	—	—	—	FeO 0.20		1899	—
County									
31.26	0.88	—	—	—	27.74			1912	E20b
51.76	0.72	—	—	—	41.38			1912	E23
County									
54.36	0.51	—	—	43.22	43.26		Columbia Quarry Co., 0–35′ from base	1934	NF167A
54.34	0.47	—	—	43.06	42.97		Columbia Quarry Co., 35′–46′11″ from base	1934	NF167B
55.20	0.39	—	—	43.78	43.67	MnO 0.007; SO_3 0.09 P_2O_5 0.025	Columbia Quarry Co., 46′11″–61′1″ from base	1934	NF167C
51.33	*1.20*	—	—	—	—			1925	L66
51.84	*1.42*	—	—	—	—			1925	L69
50.32	1.26	—	—	—	41.16			1912	U49a
40.27	0.52	—	—	31.69	31.41		8½–16′ above quarry floor	1935	NF327A
46.00	0.40	—	—	35.77	35.91		10′–27½′ below top of quarry	1935	NF327B
40.2	1.5	—	—	—	32.5	Partly weathered		1934	NF90
53.63	*1.20*	—	—	—	—			1925	L67
31.4	0.8	—	—	—	—	L. on Ign. 110–400°C 0.0 L. on Ign. 400–1000°C 24.6	Middle of formation	1934	NF89
53.63	*1.65*	—	—	—	—		Columbia Quarry Co.	1925	L68
54.72	0.43	—	—	—	42.41	SO_3 0.01		1930?	—
53.35	*1.22*	—	—	—	—			1925	L70
50.13	1.06	—	—	—	40.38			1930	S21
54.80	0.37	—	—	42.67	42.71		0–43′6″ above base of exposure	1935	NF332A
42.19	0.80	—	—	32.92	33.70		43′6″–56′6″ above base of exposure	1935	NF332B
53.14	0.57	—	—	41.64	41.52		56′6″–72′1″ above base of exposure	1935	NF332C
53.74	1.20	—	—	42.69	42.81		72′1″–88′0″ above base of exposure	1935	NF332D
54.13	0.63	—	—	42.18	42.38		88′–115′5″ above base of exposure	1935	NF332E
55.16	0.01	—	—	—	—		Columbia Quarry Co.	1912	—
County									
52.42	1.03	—	—	—	42.26			1912	698
54.02	*0.36*	—	—	—	—	FeS 0.30	Kiggins Crushed Stone Co.	1925	L425
35.50	4.73	—	—	34.11	35.97			1934	DS34
53.15	0.85	—	—	—	42.98			1912	694
County									
42.79	*9.16*	—	—	—	—			1925	L190
31.85	20.21	—	—	46.32	—			1943	41
48.40	5.46	—	—	—	43.98			1912	C7a
30.09	20.25	—	—	45.24	46.00			1933	NF128
27.23	17.94	—	—	39.66	39.80			1933	NF129
23.90	15.86	—	—	—	35.44			1934	NF124
23.46	15.45	—	—	35.29	—		Upper bed	1933	NF124
26.2	18.9	—	—	39.74	39.6		Composite of different parts of exposure	1933	NF126
18.24	11.53	—	—	—	24.92			1933	NF125
30.68	20.20	—	—	46.35	46.89			1934	NF135
28.72	16.42	—	—	—	43.90			1912	C8
29.62	19.00	—	—	43.67	43.44		Lower (Blue phase)	1933	NF132
40.37	10.85	—	—	43.00	42.75		Upper 25′ (Buff phase)	1933	NF133
31.27	21.62	—	—	46.59	46.91		Total	1934	NF140
29.03	20.92	—	—	44.45	44.34			1933	NF139
25.03	*14.82*	—	—	—	—			1925	—
County									
45.15	0.78	—	—	—	35.86			1934	DS55
45.30	0.46	—	—	—	36.70			1912	Bu9
39.26	0.48	—	—	—	32.88			1912	E24a
41.38	0.56	—	—	—	33.70			1912	E24b
51.52	1.86	—	—	—	42.70			1912	E24c
44.18	0.50	—	—	—	35.92			1912	E26
46.74	0.42	—	—	—	37.94			1912	Bu8

TABLE 2.—

Sample No. and Source	Formation	Thickness	Near	Location ¼	¼	¼	sec.	T.	R.	Chemical $CaCO_3$	$MgCO_3$	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	R_2O_3
																Perry
NF69[o]	Caprock No. 6 coal	9′	Sunfield	NW	NW	SE	32	5S	1W	*84.06*	*2.71*	9.8	—	—	—	4.7
DS18[o]	Caprock No. 6 coal	15′	DuQuoin	—	NE	SW	21	6S	2W	*60.30*	*7.30*	23.31	—	5.67	2.32	—
NF73[o]	Caprock No. 6 coal	15′	DuQuoin	NE	NW	NE	29	6S	2W	*60.68*	*4.39*	26.9	—	4.92	2.08	—
NF77[o]	Caprock No. 6 coal	15′	Pinckneyville	—	—	NW	11	6S	3W	*54.1*	*5.6*	29.1	—	7.49	2.21	—
																Pike
R128[l]	Burlington	18′	Florence	SE	NW	NE	15	5S	2W	*92.23*	*1.17*	3.13	0.00	1.91	0.55	—
R100–101[o]	Burlington	150′	Pearl	—	SE	SW	10	7S	2W	*94.25*	*2.32*	2.70	—	0.23	0.58	—
R100[l]	Burlington	56′	Pearl	NE	SE	SW	10	7S	2W	*97.85*	*0.77*	0.39	0.00	0.33	0.33	—
R101[l]	Burlington	94′	Pearl	NE	SE	SW	10	7S	2W	—	—	4.10	0.00	0.16	0.72	—
f	Upper Kinderhook	—	Above village of Kinderhook	—	—	—	—	—	—	68.15	18.55	7.00	—	0.77	0.77	—
e	Niagaran	—	Quarry near mouth of Six Mile Creek	—	—	—	—	—	—	61.60	33.14	—	—	1.60		—
																Pope
W320[b]	Ste. Genevieve	15′	Herod	—	SW	SE	22	11S	7E	70.52	1.76	18.06	—	8.86		—
DS24[o]	Clore	5′	Simpson	—	NW	SE	19	12S	5E	*86.52*	*3.85*	6.79	—	1.47	1.18	—
W319[b]	Chester	15′	Golconda	—	—	—	19	13S	7E	86.43	3.34	7.04	—	2.36		—
W321[b]	Chester	—	Golconda	—	—	—	26	13S	6E	89.82	2.09	5.44	—	2.90		—
Bu20[b]	Chester	50′	Golconda	—	—	—	26	13S	6E	88.75	3.68	7.66	—	2.02		—
D48[b]	Chester	32′	Reevesville	—	—	NE	31	13S	5E	87.32	2.65	10.45	—	1.14		—
W311[b]	Chester	50′	Reevesville	—	—	—	31	13S	5E	87.72	2.47	7.90	—	2.74		—
k	Golconda	—	Golconda	—	—	—	—	—	—	91.52	2.26	6.32	—	1.92		—
																Pulaski
D47[b]	Warsaw-Salem	40′	Ullin	—	—	—	14	14S	1W	92.90	2.27	6.38	—	0.49		—
D47[s]	Warsaw-Salem	40′	Ullin	—	—	—	14	14S	1W	91.05	—	—	—	0.49		—
L10[n]	Warsaw-Salem	40′	Ullin	—	SW	NE	14	14S	1W	94.72	1.50	1.66	—	0.35	0.23	—
NF451A[l]	Warsaw-Salem	14′	Ullin	S½	SW	NW	14	14S	1W	*97.58*	*1.86*	1.12	0.00	0.20	0.07	—
NF451B[l]	Warsaw-Salem	24′6″	Ullin	S½	SW	NE	14	14S	1W	96.31	2.49	1.71	0.00	0.18	0.08	—
																Randolph
W254[b]	Chester (probably Okaw)	8′	Red Bud	—	—	NW	4	4S	8W	96.42	1.09	1.50	—	2.00		—
W253[b]	Chester (probably Okaw)	10′	Red Bud	—	—	SW	5	4S	8W	81.76	7.61	4.54	—	5.12		—
NF331A[l]	Salem	36′8″	Prairie du Rocher, 1 ¼ mi. NW.				—	5S	9W	*98.17*	*1.17*	0.65	—	1.43	0.09	—
NF331B[l]	Salem	22′	Prairie du Rocher, 1 ¼ mi. NW.				—	5S	9W	*96.67*	*0.82*	1.01	—	1.72	0.13	—
NF331C[l]	St. Louis	5′3″	Prairie du Rocher, 1 ¼ mi. NW.				—	5S	9W	*92.07*	*2.57*	4.59	—	1.66	0.32	—
NF331D[l]	St. Louis	6′7″	Prairie du Rocher, 1 ¼ mi. NW.				—	5S	9W	*75.99*	*21.25*	1.68	—	2.01	0.29	—
NF331E[l]	St. Louis	14′9″	Prairie du Rocher, 1 ¼ mi. NW.				—	5S	9W	*77.27*	*11.46*	1.90	—	1.89	0.16	—
NF331F[l]	St. Louis	15′9″	Prairie du Rocher, 1 ¼ mi. NW.				—	5S	9W	*97.27*	*1.10*	0.96	—	1.54	0.06	—
U47[b]	St. Louis	75′	Prairie du Rocher	—	—	—	20	5S	9W	97.85	1.38	0.58	—	0.56		—
K26[k]	St. Louis	—	At nose of hill about ¼ mi. NE Prairie du Rocher	—	—	—	—	5S	9W	95.89	2.12	0.90	—	1.06		—
NF330A[l]	Ste. Genevieve	13′7″	Prairie du Rocher, 1 mi. SE.				—	—	—	*98.69*	*1.03*	0.69	—	0.35	0.18	—
K9[k]	St. Louis	—	¼ mile N. of Prairie du Rocher	—	—	—	—	—	—	97.73	1.37	0.50	—	0.38		—
K24A[k]	Okaw	—	Roots	—	—	SW	4	6S	8W	84.95	2.48	10.84	—	1.54		—
S27[r]	Okaw & Lower	38′2″	Modoc	—	SW	NW	5	6S	8W	*90.71*	*3.47*	5.38	—	—	—	0.46
S24[r]	Okaw	—	Modoc	—	—	—	—	—	—	*94.37*	*2.3*	2.52	—	—	—	0.76
K23[k]	Okaw	—	Roots	—	—	NW	12	6S	8W	87.66	5.00	4.52	—	2.78		—
SL55[l]	Marigold	20′	Roots	—	—	—	—	6S	8W	*98.27*	*1.11*	0.73	0.00	0.22	0.28	—
K22[k]	Okaw	—	Reily Lake	—	cen.	SE	24	6S	8W	94.48	2.48	1.75	—	1.43		—
K12A[k]	Menard	—	Chester	—	cen.	NW	30	7S	6W	86.05	9.00	1.74	—	3.07		—
K13A[k]	Okaw	—	Chester	—	cen.	NW	30	7S	6W	94.98	2.12	1.52	—	1.20		—
K13B[k]	Menard	—	Chester	—	cen.	NW	30	7S	6W	93.27	2.98	1.04	—	2.84		—
K13C[k]	Menard	—	Chester	—	cen.	NW	30	7S	6W	91.23	2.71	3.77	—	2.10		—

Footnotes appear on page 5.

Continued.

Analysis						Miscellaneous	Remarks	Year sample taken or analysis published	Sample No.
CaO	MgO	Na_2O	K_2O	CO_2	Loss on ignition				
County									
47.1	1.3	—	—	—	38.3			1934	NF69
33.78	3.49	—	—	30.17	31.35			1934	DS18
34.0	2.1	—	1.4	—	29.8			1934	NF73
30.3	2.7	—	—	—	27.4	MnO 0.07		1934	NF77
County									
51.69	0.56	0.00	0.00	41.75	42.32			1933	R128
52.88	1.11	—	—	—	42.41	S 0.00		1934	R100–101
54.83	0.37	—	—	43.7	43.50		Lower beds	1933	R100
51.58	1.53	0.00	0.00	41.67	41.68		Upper beds	1933	R101
38.19	*8.87*	—	—	—	—			1870	—
34.52	*15.85*	—	—	—	—	Insoluble matter 3.35		1866	—
County									
39.52	0.84	—	—	—	33.72			1912	W320
48.47	1.84	—	—	39.25	39.55			1934	DS24
48.44	1.60	—	—	—	40.46			1912	W319
50.34	1.00	—	—	—	40.92			1912	W321
49.74	0.93	—	—	—	39.85			1912	Bu20
48.88	1.28	—	—	—	—			1912	D48
49.16	1.18	—	—	—	40.08			1912	W311
51.42	1.08	—	—	—	39.42			1925	—
County									
52.06	0.92	—	—	—	—			1912	D47
51.02	—	—	—	—	—	P 0.026; Insol. matter 6.39		1907	D47
53.04	*0.72*	—	—	—	—			1928	L10
54.68	0.89	0.00	0.05	43.21	43.14	MnO 0.002; SO_3 0.11; P_2O_5 0.045	Columbia Quarry Co., 65½–79½′ above base of quarry	1949	NF451A
53.97	1.19	0.01	0.06	42.91	42.90	MnO 0.002; SO_3 0.14; P_2O_5 0.055	Columbia Quarry Co., 41–65½′ above base of quarry	1949	NF451B
County									
54.04	0.52	—	—	—	42.72		Williams Quarry	1912	W254
45.82	3.64	—	—	—	41.26		Red Bud City quarry	1912	W253
55.01	0.56	—	—	43.16	43.03	MnO 0.002; SO_3 0.10; P_2O_5 0.010	8′9″–47′5″ above base of exposure	1941	NF331A
54.17	0.39	—	—	43.28	43.01		50′2″–72′2″ above base of exposure	1941	NF331B
51.59	1.23	—	—	41.48	41.28		72′2″–77′5″ above base of exposure	1941	NF331C
42.58	10.16	—	—	43.81	43.97		77′5″–80′4″ above base	1941	NF331D
43.30	5.48	—	—	43.30	43.06		84′–98′9″ above base	1941	NF331E
54.50	0.53	—	—	42.86	43.07	MnO 0.005; SO_3 0.05; P_2O_5 0.039	98′9″–114′6″ above base	1941	NF331F
54.84	0.66	—	—	—	43.98			1912	U47
53.74	*1.01*	—	—	—	—			1925	K26
55.30	0.49	—	—	43.30	43.47		32′–45′7″ above spring along bluffs of Mississippi River	1941	NF330A
54.77	*0.66*	—	—	—	—			1925	K9
47.61	*1.19*	—	—	—	—			1925	K24A
50.83	1.66	—	—	—	—			1930	S27
52.88	1.10	—	—	—	42.42	SO_3 0.05		1930	S24
49.12	*2.39*	—	—	—	—			1925	K23
55.07	0.53	0.00	0.05	43.29	43.07	MnO 0.016; SO_3 0.06; P_2O_5 0.045		1949	SL55
52.95	*1.19*	—	—	—	—			1925	K22
48.22	*4.30*	—	—	—	—			1925	K12A
53.23	*1.01*	—	—	—	—			1925	K13A
52.27	*1.43*	—	—	—	—			1925	K13B
51.13	*1.30*	—	—	—	—			1925	K13C

TABLE 2.—

Sample No. and Source	Formation	Thickness	Near	Location ¼	¼	¼	sec.	T.	R.	Chemical $CaCO_3$	$MgCO_3$	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	R_2O_3
																Randolph
K13D[k]	Menard	—	Chester	—	cen.	NW	30	7S	6W	95.09	2.38	1.42	—	1.16		—
S6[r]	Okaw & Menard	120′2″	Coles Mill	—	SW	NE	30	7S	6W	*87.89*	*2.91*	6.52	—	—	—	2.44
K17B[k]	Menard	—	Clores	near	cen.		33	7S	6W	90.44	2.38	6.06	—	1.26		—
S12[r]	Menard & Okaw	—	Menard	—	NE	NW	15	7S	7W	*87.05*	*2.51*	9.38	—	—	—	1.88
W208[b]	Menard	60′	Menard	—	—	NW	15	7S	7W	95.37	1.44	1.85	—	1.28		—
W209[b]	Chester	27′	Menard	—	—	NW	15	7S	7W	86.13	1.42	9.62	—	1.94		—
B6[b]	Chester	—	Menard	—	—	—	23	7S	7W	93.95	3.86	2.48	—	1.11		—
B8[b]	Chester	—	Menard	—	—	—	23	7S	7W	95.72	3.22	1.90	—	0.67		—
S1[r]	Okaw	73′	Menard	—	NW	NE	23	7S	7W	*87.03*	*2.11*	8.68	—	—	—	2.39
K8[k]	Okaw	40′	Menard	—	NE	NW	23	7S	7W	93.45	1.86	3.62	—	1.00		—
B9[s]	Okaw	—	Menard	—	—	—	—	—	—	89.40	3.07	—	—	1.40		—
B2[k]	Chester	—	Menard	—	—	—	—	—	—	77.12	—	—	—	5.82		—
B4[k]	Chester	—	Menard	—	—	—	—	—	—	61.09	—	—	—	2.72		—
B6[s]	Chester	—	Menard	—	—	—	—	—	—	93.81	1.15	—	—	1.11		—
B8[s]	Chester	42′	Menard	—	—	—	—	—	—	95.57	0.89	—	—	0.67		—
S7[r]	Menard	17′3″	Cora	—	NW	SE	17	8S	5W	*78.22*	*2.74*	15.22	—	—	—	3.31
S9[r]	Clore	67′	Rockwood	—	NW	NE	18	8S	5W	*87.23*	*2.13*	7.92	—	—	—	3.00
																Rock Island
Bu15[b]	Hamilton	20′	Milan	—	—	—	25	17N	1W	82.04	5.52	6.98	—	4.32		—
Bu16[b]	Hamilton	8′	Milan	—	—	—	25	17N	1W	96.67	1.21	1.66	—	1.16		—
NF459[l]	Wapsipinicon	39′4″	Milan	cen.	N ½		25	17N	1W	*95.26*	*4.31*	0.37	—	0.18	0.39	—
DS69[o]	Devonian	14′	Milan	—	SE	NW	25	17N	2W	70.15	7.84	13.42	—	5.13	2.41	—
a	Hamilton	—	Moline	—	—	—	—	—	—	98.04	0.44	1.46	—	0.66		—
a	Hamilton	—	Moline	—	—	—	—	—	—	*97.15*	*0.13*	0.65	—	—	—	—
a	Hamilton	—	Moline	—	—	—	—	—	—	79.34	1.93	11.00	—	7.43		—
NF286[q]	Port Byron	25′	Cordova	SW	SW	NE	1	19N	1E	54.39	44.09	0.38	—	0.12	0.30	—
																St. Clair
NF85[o]	Caprock Blair Coal	4′6″	Centerville	SW	NW	NW	3	1N	9W	*60.2*	*6.5*	23.6	—	5.13	3.87	—
NF84[o]	St. David	6′	Centerville	SW	NW	NW	3	1N	9W	*81.0*	*1.3*	15.3	—	—	—	3.1
NF163A[l]	St. Louis.	15′11″	Stolle.	NW	NW	NW	13	1N	10W	*85.66*	*12.53*	2.83	—	0.17	0.80	—
NF163B[l]	St. Louis.	2′11″	Stolle.	NW	NW	NW	13	1N	10W	*65.96*	*22.40*	9.68	—	2.94	1.42	—
NF163C[l]	St. Louis.	12′11″	Stolle.	NW	NW	NW	13	1N	10W	*92.51*	*5.75*	1.85	—	0.22	0.80	—
NF163D[l]	St. Louis.	20′7″	Stolle.	NW	NW	NW	13	1N	10W	*81.38*	*7.70*	9.40	—	0.70	0.41	—
NF163E[l]	St. Louis.	6′6″	Stolle.	NW	NW	NW	13	1N	10W	*55.60*	*39.88*	4.47	—	1.16	1.14	—
NF163F[l]	St. Louis.	11′6″	Stolle.	NW	NW	NW	13	1N	10W	*90.98*	*6.78*	3.21	—	0.39	0.72	—
NF163H[l]	St. Louis.	9′10″	Stolle.	NW	NW	NW	13	1N	10W	*95.16*	*2.99*	2.45	—	0.70	0.28	—
NF163J[l]	St. Louis.	14′ 5″	Stolle.	NW	NW	NW	13	1N	10W	*92.23*	*6.82*	1.29	—	0.06	0.52	—
NF163K[l]	St. Louis.	10′ 2″	Stolle.	NW	NW	NW	13	1N	10W	*92.10*	*0.23*	6.74	—	1.67	0.43	—
NF163L[l]	St. Louis.	12′10″	Stolle.	NW	NW	NW	13	1N	10W	*96.71*	*1.80*	1.16	—	0.02	0.54	—
NF163M[l]	St. Louis.	8′ 7″	Stolle.	NW	NW	NW	13	1N	10W	*90.23*	*0.75*	8.31	—	1.62	0.32	—
NF163P[l]	St. Louis.	25′ 2″	Stolle.	NW	NW	NW	13	1N	10W	*93.69*	*3.95*	2.86	—	0.04	0.64	—
NF160A[l]	St. Louis.	6′ 4″	Dupo.	SE	SE	NW	14	1N	10W	*58.71*	*31.96*	6.56	—	1.43	1.12	—
NF160B[l]	St. Louis.	8′ 6″	Dupo.	SE	SE	NW	14	1N	10W	*95.16*	*2.38*	2.15	—	0.41	0.86	—
NF160C[l]	St. Louis.	10′ 9″	Dupo.	SE	SE	NW	14	1N	10W	*87.52*	*10.26*	2.04	—	0.40	0.97	—
NF160E[l]	St. Louis.	11′ 2″	Dupo.	SE	SE	NW	14	1N	10W	*94.08*	*3.95*	1.67	—	0.21	0.70	—
NF160G[l]	St. Louis.	11′ 1″	Dupo.	SE	SE	NW	14	1N	10W	*97.58*	*0.38*	1.73	—	0.19	0.74	—
NF160H[l]	St. Louis.	6′ 8″	Dupo.	SE	SE	NW	14	1N	10W	*94.35*	*1.00*	3.70	—	0.25	0.74	—
NF162A[l]	St. Louis.	12′11″	Dupo.	SE	NW	SW	14	1N	10W	*94.26*	*0.31*	5.62	—	0.26	0.59	—
NF162B[l]	St. Louis.	15′ 2″	Dupo.	SE	NW	SW	14	1N	10W	*56.23*	*38.47*	4.45	—	1.29	0.99	—
NF162C[l]	St. Louis.	7′10″	Dupo.	SE	NW	SW	14	1N	10W	*93.76*	*2.46*	3.18	—	0.88	0.43	—
NF162D[l]	St. Louis.	13′10″	Dupo.	SE	NW	SW	14	1N	10W	*83.72*	*15.10*	1.70	—	0.30	0.46	—

Footnotes appear on page 5.

Continued.

Analysis						Miscellaneous	Remarks	Year sample taken or analysis published	Sample No.
CaO	MgO	Na_2O	K_2O	CO_2	Loss on ignition				
County—Cont.									
53.29	*1.14*	—	—	—	—			1925	K13D
49.25	1.39	—	—	—	40.67	SO_3 0.09		1930	S6
50.68	*1.14*	—	—	—	—			1925	K17B
48.78	1.20	—	—	—	39.04	SO_3 0.03		1930	S12
53.45	0.69	—	—	—	43.08			1912	W208
48.27	0.68	—	—	—	39.00			1912	W209
52.65	1.56	—	—	—	—			1912	B6
53.64	1.30	—	—	—	—			1912	B8
48.77	1.01	—	—	—	39.65	SO_3 0.11		1930	S1
52.37	*0.89*	—	—	—	—			1925	K8
50.10	*1.47*	—	—	—	—	Insoluble 4.92 Phosphorus 0.052		1907	B9
43.22	—	—	—	—	—	Insoluble 8.98		1925	B2
34.23	—	—	—	—	—	Insoluble 33.98 Phosphorus 0.05		1925	B4
52.51	*0.55*	—	—	—	—	P 0.041	S. Ill. Penitentiary	1907	B6
53.56	*0.43*	—	—	—	—	P 0.035	S. Ill. Penitentiary	1907	B8
43.83	1.31	—	—	—	36.60	SO_3 0.10		1928	S7
48.88	1.02	—	—	—	39.19	SO_3 0.15		1928	S9
County									
45.98	2.64	—	—	—	40.00			1912	Bu 15
54.18	0.58	—	—	—	43.38			1912	Bu16
53.38	2.06	0.09	0.00	43.76	43.72		Collinson Stone Co.; basal 29′4″ in quarry and 10′ in boring in quarry floor	1951	NF459
39.30	3.75	—	—	34.73	36.06			1934	DS69
54.94	*0.21*	—	—	—	—		Cady Stone Co.	1912	—
54.44	0.06	—	—	42.02	—	P_2O_5 0.083; organic matter, trace; SO_3 1.808; FeO 3.48	Moline Stone Co.	1912	—
44.46	*0.92*	—	—	—	—		Cady Stone Co.	1912	—
30.47	21.09	0.11	0.00	47.18	48.07	MnO 0.005; SO_3 0.06; P_2O_5 0.00†	U. S. Gypsum Co.	1943	NF286
County									
33.7	3.1	—	—	—	30.2			1934	NF85
45.4	0.6	—	—	—	36.1			1934	NF84
48.00	5.99	—	—	42.49	42.89		Casper Stolle Quarry & Cont. Co.; basal 15′11″ from base	1934	NF163A
36.96	10.71	—	—	38.01	38.61		Caspar Stolle Quarry & Cont. Co.; 15′11″–18′10″ from base	1934	NF163B
51.85	2.75	—	—	42.73	42.81		Casper Stolle Quarry & Cont. Co.; 18′10″–31′9″ from base	1934	NF163C
45.60	3.68	—	—	40.31	40.18		Casper Stolle Quarry & Cont. Co.; 31′9″–52′4″ from base	1934	NF163D
31.15	19.07	—	—	43.15	43.47		Casper Stolle Quarry & Cont. Co.; 52′4″–58′10″ from base	1934	NF163E
50.98	3.24	—	—	41.71	42.05		Caspar Stolle Quarry & Cont. Co.; 59′8″–71′2″ from base	1934	NF163F
53.32	1.43	—	—	42.80	42.46		Caspar Stolle Quarry & Cont. Co.; 71′2″–81′0″ from base	1934	NF163H
51.68	3.26	—	—	43.25	43.48		Caspar Stolle Quarry & Cont. Co.; 81′0″–95′5″ from base	1934	NF163J
51.61	0.11	—	—	39.54	39.96		Caspar Stolle Quarry & Cont. Co.; 95′5″–105′7″ from base	1934	NF163K
54.19	0.86	—	—	43.05	43.27		Caspar Stolle Quarry & Cont. Co.; 105′7″–118′5″ from base	1934	NF163L
50.56	0.36	—	—	39.41	39.55		Caspar Stolle Quarry & Cont. Co.; 118′5″–127′0″ from base	1934	NF163M
52.50	1.89	—	—	41.99	42.23		Caspar Stolle Quarry & Cont. Co.; 127′0″–152′2″ from base	1934	NF163P
32.90	15.28	—	—	41.55	42.51		East St. Louis Stone Co.;0–6′4″ from base	1934	NF160A
53.32	1.14	—	—	42.07	42.15		East St. Louis Stone Co.; 6′4″–14′10″ from base	1934	NF160B
49.04	5.03	—	—	42.84	43.16		East St. Louis Stone Co.; 14′10″–25′7″ from base	1934	NF160C
52.72	1.89	—	—	42.88	42.88		East St. Louis Stone Co.; 26′9″–37′11″ from base	1934	NF160E
54.68	0.18	—	—	42.83	42.79		East St. Louis Stone Co.; 39′11″–50′7″ from base	1934	NF160G
52.87	0.48	—	—	41.59	41.73		East St. Louis Stone Co.; 50′7″–57′3″ from base	1934	NF160H
52.82	0.15	—	—	41.39	41.46		Caspar Stolle Quarry & Cont. Co.; 0–12′11″ from base	1934	NF162A
31.51	18.40	—	—	43.87	43.77		Caspar Stolle Quarry & Cont. Co.; 12′11″–28′1″ from base	1934	NF162B
52.54	1.18	—	—	42.63	42.11		Caspar Stolle Quarry & Cont. Co.; 28′1″–35′11″ from base	1934	NF162C
46.91	7.22	—	—	44.58	44.01		Caspar Stolle Quarry & Cont. Co.; 35′11″–49′9″ from base	1934	NF162D

TABLE 2.—

Sample No. and Source	Formation	Thickness	Near	Location ¼	¼	¼	sec.	T.	R.	Chemical $CaCO_3$	$MgCO_3$	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	R_2O_3
																St. Clair
NF162F[1]	St. Louis.	6′10″	Dupo.	SE	NW	SW	14	1N	10W	*71.01*	*27.38*	2.77	—	0.25	0.48	—
NF162H[1]	St. Louis.	12′11″	Dupo.	SE	NW	SW	14	1N	10W	*96.90*	*1.51*	1.60	—	0.07	0.42	—
NF162J[1]	St. Louis.	19′ 8″	Dupo.	SE	NW	SW	14	1N	10W	*90.80*	*0.06*	7.74	—	1.32	0.53	—
NF162K[1]	St. Louis.	14′ 3″	Dupo.	SE	NW	SW	14	1N	10W	*97.31*	*1.3*	0.63	—	0.26	0.44	—
NF192[1]	Warsaw	7′ 9″	Dupo.	NE	SW	NW	34	1N	10W	*51.27*	*22.24*	17.01	—	4.11	2.17	—
NF80[o]	Caprock Coal No. 6.	4′ 6″	French Village	NE	NW	NE	24	2N	9W	*83.0*	*6.1*	7.0	—	—	—	4.8
NF83[1]	Caprock Coal No. 6.	lower 1′ 6″	French Village	SW	SW	SE	26	2N	9W	*49.25*	*15.27*	27.9	—	4.07	4.43	—
NF165A[1]	Salem	36′11″	Columbia	NE	NE	SE	10	1S	10W	*95.96*	*2.84*	1.26	—	0.49	0.28	—
NF165B[1]	St. Louis.	11′ 1″	Columbia	NE	NE	SE	10	1S	10W	*91.66*	*3.79*	4.59	—	0.64	0.58	—
NF165C[1]	St. Louis.	9′ 2″	Columbia	NE	NE	SE	10	1S	10W	*85.07*	*9.99*	4.81	—	0.79	0.60	—
NF165D[1]	St. Louis.	13′ 8″	Columbia	NE	NE	SE	10	1S	10W	*92.69*	*3.68*	3.93	—	1.04	0.62	—
NF165E[1]	St. Louis.	5′11″	Columbia	NE	NE	SE	10	1S	10W	*96.35*	*1.36*	2.62	—	0.57	0.34	—
NF165F[1]	St. Louis.	5′4″	Columbia	NE	NE	SE	10	1S	10W	*52.12*	*36.41*	8.39	—	2.02	1.51	—
NF165G[1]	St. Louis.	16′ 8″	Columbia	NE	NE	SE	10	1S	10W	*91.87*	*3.41*	4.21	—	0.87	0.56	—
a	St. Louis.	—	Columbia	—	—	SE	10	1S	10W	97.30	0.48	0.90	—	1.40		—
NF79[o]	Caprock Coal No. 6.	5′	Freeburg.	—	—	SE	4	2S	7W	*57.8*	*2.3*	28.5	—	6.18	2.92	—
																Saline
CaveHill 1 and 2[1]	Kinkaid	10′	Harrisburg	SE	SW	NW	3	10S	7E	*91.53*	*3.16*	4.17	0.05	0.73	0.48	—
																Sangamon
e	McLeansboro	—	Chatham.	—	NE	SE	2	14N	5W	68.73	5.07	—	—	0.70	14.62	—
																Schuyler
C32[b]	Salem or St. Louis.	—	Scott Mill	—	—	NW	7	1N	2W	75.76	2.80	15.04	—	6.44		—
C31[b]	St. Louis.	5′	Ripley	NW cor.			19	1N	2W	82.90	1.00	11.88	—	3.84		—
C30[b]	St. Louis.	4′	Ripley	—	—	SE	29	1N	2W	92.53	1.38	4.14	—	1.88		—
C45[b]	Pennsylvanian	8′	Frederick	—	NW	NE	5	1N	1E	95.32	0.92	2.66	—	2.18		—
C43[b]	Pennsylvanian	—	Rushville	near cen.		NE	28	2N	2W	70.19	3.59	18.62	—	7.24		—
C36[b]	Salem or St. Louis.	—	Camden	—	—	NW	11	2N	3W	77.11	5.68	11.30	—	6.16		—
C35a[b]	Keokuk	—	Camden	—	—	NW	17	2N	3W	85.61	0.88	9.30	—	4.54		—
C35b[b]	Keokuk	10′	Camden	—	—	NW	17	2N	3W	64.23	14.30	15.80	—	5.88		—
C34[b]	St. Louis.	8′	Camden	SW cor.			34	2N	3W	88.68	4.68	4.14	—	3.08		—
C46[b]	Pennsylvanian	15′	Frederick	—	NW	SW	32	2N	1E	94.78	0.92	3.10	—	2.14		—
C37[b]	St. Louis.	8–10′	Brooklyn.	—	—	SW	27	3N	3W	90.29	0.88	6.58	—	2.70		—
																Scott
R122[1]	Salem	25′ 8″	Winchester	NE	NE	SE	27	14N	13W	*75.49*	*16.63*	4.07	0.00	1.42	1.65	—
R130[o]	Knobby (Seahorne)	3′	Exeter	—	SE	SW	23	15N	13W	*95.48*	*0.63*	0.47	—	1.36	1.05	—
																Stark
E27a[b]	McLeansboro	4′	Bradford.	—	SW	SE	21	14N	7E	62.95	2.05	27.24	—	7.58		—
E27b[b]	McLeansboro	5′	Bradford.	—	SW	SE	21	14N	7E	79.44	1.50	15.40	—	2.80		—
																Stephenson
DS77[o]	Maquoketa	26′	Pearl City	—	SE	SE	6	26N	6E	*45.93*	*34.79*	11.74	—	4.82	1.29	—
56[q]	Prosser (uppermost).	16′	Freeport	SE	NE	SW	6	26N	8E	54.10	43.47	0.95	—	0.35	0.38	—
40[q]	Prosser (uppermost).	15′	Ridott	NE	SE	SW	4	27N	9E	54.03	43.55	1.12	—	0.33	0.63	—
DS73[o]	Niagaran.	30′	Waddams Grove	—	SE	SE	13	28N	5E	—	—	3.31	—	—	—	—
DS74[o]	Maquoketa	35′	Waddams Grove	—	SE	SE	13	28N	5E	*31.11*	*24.28*	29.66	—	—	—	13.14
DS75[o]	Galena	12′	Lena	—	SE	NW	29	28N	6E	—	—	—	—	—	—	—
38[q]	Prosser (lowermost).	15′	Rock City	—	SW	NW	22	28N	8E	53.21	42.77	2.20	—	0.58	0.40	—
C1a[b]	Platteville	2′	Winslow	—	NW	SE	22	29N	6E	46.71	33.90	14.02	—	3.52		—
C1b[b]	Platteville	33′	Winslow	—	—	—	22	29N	6E	54.99	39.05	1.68	—	1.54		—
C1c[b]	Platteville	—	Winslow	—	—	—	22	29N	6E	54.60	41.18	2.12	—	1.70		—
C1d[b]	Platteville	—	Winslow	—	—	—	22	29N	6E	53.35	38.59	3.22	—	2.76		—
C1e[b]	Platteville	—	Winslow	—	—	—	22	29N	6E	44.57	30.14	12.56	—	7.04		—

Footnotes appear on page 5.

Continued.

Analysis						Miscellaneous	Remarks	Year sample taken or analysis published	Sample No.
CaO	MgO	Na_2O	K_2O	CO_2	Loss on ignition				
County—Cont.									
39.79	13.09	—	—	44.41	43.92		Caspar Stolle Quarry & Cont. Co.; 53′–59′10″ from base	1934	NF162F
54.30	0.72	—	—	42.75	43.03		Caspar Stolle Quarry & Cont. Co.; 64′2″–77′1″ from base	1934	NF162H
50.88	0.03	—	—	40.08	39.75		Caspar Stolle Quarry & Cont. Co.; 77′1″–96′9″ from base	1934	NF162J
54.53	0.62	—	—	43.54	43.62	MnO 0.015; SO_3 0.10 P_2O_5 0.006	Caspar Stolle Quarry & Cont. Co.; 96′9″–111′0″ from base	1934	NF162K
28.73	11.59	0.93	1.08	34.02	34.71		Total face of old mine except lower 5′	1934	NF192
46.5	2.9	—	—	—	38.9			1934	NF80
27.6	7.3	—	0.7	—	27.8			1934	NF83
53.77	1.36	—	—	43.11	43.08		Columbia Quarry Co.; 0–36′11″ from base	1934	NF165A
51.36	1.81	—	—	41.24	41.26		Columbia Quarry Co.; 36′11″–48′0″ from base	1934	NF165B
47.67	4.78	—	—	41.37	41.69		Columbia Quarry Co.; 51′4″–60′6″ from base	1934	NF165C
51.94	1.76	—	—	41.43	41.46		Columbia Quarry Co.; 62′8″–76′4″ from base	1934	NF165D
53.99	0.65	—	—	42.18	42.14		Columbia Quarry Co.; 77′10″–83′9″ from base	1934	NF165E
29.21	17.41	—	—	40.96	41.60		Columbia Quarry Co.; 83′9″–89′1″ from base	1934	NF165F
51.48	1.63	—	—	41.46	41.72		Columbia Quarry Co.; 89′1″–105′9″ from base	1934	NF165G
54.53	*0.23*	—	—	—	—		Columbia Quarry Co.	1912	—
32.4	1.1	—	—	—	27.3	MnO 0.14; Na_2O & K_2O as K_2O 1.2		1934	NF79
County									
51.29	1.51	0.06	0.16	41.35	41.38	MnO 0.020; P_2O_5 0.030	Lower 10′ of quarry face	1950	Cave Hill 1&2
County									
38.52	*2.42*	—	—	—	—	Insoluble matter 10.27		1866	—
County									
42.46	1.34	—	—	—	35.66			1912	C32
46.46	0.48	—	—	—	37.76			1912	C31
51.86	0.66	—	—	—	41.46			1912	C30
53.42	0.44	—	—	—	42.48			1912	C45
39.34	1.72	—	—	—	33.82			1912	C43
43.22	2.72	—	—	—	38.06			1912	C36
47.98	0.42	—	—	42.12	38.84			1912	C35a
36.00	6.84	—	—	—	36.92			1912	C35b
49.70	2.24	—	—	—	42.04			1912	C34
53.12	0.44	—	—	—	42.22			1912	C46
50.60	0.42	—	—	—	40.66			1912	C37
County									
42.30	7.95	0.05	0.21	41.30	42.42	S trace		1930	R122
53.49	0.30	—	—	42.05	42.50	S 0.35		1934	R130
County									
35.28	0.98	—	—	—	29.66			1912	E27a
44.52	0.72	—	—	—	36.38			1912	E27b
County									
25.73	16.64	—	—	36.90	39.51			1934	DS77
30.31	21.15	0.03	0.05	46.48	47.09			1943	56
30.27	21.19	—	—	46.49	—			1943	40
—	—	—	—	43.62	—			1934	DS73
17.43	11.61	—	—	—	28.32			1934	DS74
—	—	—	—	45.53	—			1934	DS75
29.81	20.95	—	—	45.72	—			1943	38
26.18	16.22	—	—	—	40.78		Winslow City quarry	1912	C1a
30.82	18.68	—	—	—	47.00		Quarry 1 mi. N. of Winslow	1912	C1b
30.60	19.70	—	—	—	46.44		Quarry 1 mi. N. of Winslow	1912	C1c
29.90	18.46	—	—	—	45.68		Quarry 1 mi. N. of Winslow	1912	C1d
24.98	14.42	—	—	—	40.02		Quarry 1 mi. N. of Winslow	1912	C1e

TABLE 2.—

Sample No. and Source	Formation	Thickness	Near	Location						Chemical						
				¼	¼	¼	sec.	T.	R.	$CaCO_3$	$MgCO_3$	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	R_2O_3
																Union
NF91, 92[o]	Bailey	95′	Aldridge	—	SW	SE	4	11S	3W	*50.87*	*5.37*	39.46	—	3.59	1.11	—
NF91[o]	Bailey	45′	Aldridge	N½	SW	SE	4	11S	3W	*54.20*	*4.81*	37.25	—	3.21	1.12	—
NF92[o]	Bailey	50′	Aldridge	N½	SW	SE	4	11S	3W	*47.86*	*5.89*	41.44	—	3.93	1.10	—
La7[o]	Bailey	60′	LaRue	—	—	NE	21	11S	3W	58.14	4.75	33.58	1.03	1.21	—	—
NF444[l]	Backbone	40′	Wolf Lake	NE	SW	NE	23	11S	3W	*95.98*	*3.78*	0.68	—	0.30	0.10	—
L20[n]	Paint Creek	18′	Anna	—	N½	NE	8	12S	1W	87.56	4.00	7.34	—	0.42	0.64	—
D2[b]	Ste. Genevieve	20′	Anna	—	—	SE	17	12S	1W	91.55	7.82	1.99	—	0.36		—
D2[s]	Ste. Genevieve	—	Anna	—	—	SE	17	12S	1W	91.41	4.40	—	—	0.36		—
U66[b]	Ste. Genevieve	—	Anna	—	—	—	17	12S	1W	95.64	2.13	1.76	—	0.92		—
NF174A[l]	Ste. Genevieve	7′ 4″	Anna	SE	NW	NE	20	12S	1W	*97.30*	*1.33*	1.07	—	0.50	0.29	—
NF174C[l]	Ste. Genevieve	25′10″	Anna	SE	NW	NE	20	12S	1W	*93.10*	*5.44*	1.82	—	0.68	0.33	—
NF174E[l]	Ste. Genevieve	26′ 3″	Anna	SE	NW	NE	20	12S	1W	*93.98*	*4.83*	2.10	—	0.45	0.33	—
a		—	Anna	—	—	—	—	—	—	*93.09*	*3.28*	1.98	—	0.66		—
L1[n]	Salem	60′	Kaolin	—	—	W½	2	12S	2W	96.70	0.73	0.72	—	0.20	0.10	—
NF70[o]	Bailey	60′	Wolf Lake	SE	NW	NW	3	12S	3W	*56.22*	*6.06*	36.3	—	2.18	1.42	—
NF443[l]	Salem	50′	Mill Creek	NE	SW	SW	17	13S	1W	*99.10*	*1.46*	0.29	—	0.26	0.11	—
W285[b]	Warsaw-Salem	40′	Jonesboro	—	NE	SE	1	13S	2W	92.46	2.97	3.30	—	1.48		—
NF93[o]	Bailey	30′	Reynoldsville	C	N½	N½	20	13S	2W	*61.66*	*3.45*	31.53	—	2.96	1.07	—
NF94[o]	Bailey	100′	Reynoldsville	C	N½	N½	20	13S	2W	*59.27*	*6.06*	31.81	—	2.64	1.74	—
NF93, 94[o]	Bailey	103′	Reynoldsville	—	N½	N½	20	13S	2W	*59.83*	*5.46*	31.75	—	2.71	1.59	—
																Vermilion
TR1-18[l]	Livingston	18′	Fairmount	SE	SW	SW	21	18N	13W	*96.42*	*1.17*	1.25	—	0.49	0.77	—
																Warren
NF372[l]	Burlington	4′	Monmouth	SE	NE	NE	7	11N	2W	*67.42*	*18.02*	12.95	—	1.03	0.64	—
NF373[l]	Burlington	5′	Monmouth	SE	NE	NE	7	11N	2W	*93.64*	*1.00*	4.78	—	0.62	0.52	—
NF374[l]	Keokuk	11′ 6″	Monmouth	SE	NE	NE	7	11N	2W	*41.50*	*18.73*	35.70	—	2.30	1.80	—
																Whiteside
H1[q]	Racine	20′	Albany	SE	NE	SE	24	21N	2E	55.89	43.63	0.10	—	0.25	0.21	—
K1[q]	Racine	26′	Morrison	NW	SW	SE	7	21N	5E	55.95	43.22	0.24	—	0.19	0.25	—
63[q]	Racine	18′	Fulton	NW	NW	SW	36	22N	3E	55.26	43.07	0.10	—	0.24	0.41	—
D1[q]	Waukesha	40′	Fulton	NW	NE	NW	19	22N	4E	56.83	42.48	0.18	—	0.63	0.36	—
																Will
NF395[l]	Divine	4′	Wilmington	SE	SE	SE	26	33N	9E	*89.30*	*2.99*	4.80	—	1.50	1.12	—
L126B[k]	Niagaran(?)	5½′	Rockville	—	NE	SW	26	32N	10E	76.58	19.86	2.12	—	1.75		—
DS97[o]	Kankakee	12′	Wilmington	—	NE	NE	31	33N	10E	—	—	—	—	—	—	—
L117B[k]	Edgewood	4½′	Wilmington	cen. N. line		NE	31	33N	10E	91.20	5.33	2.62	—	1.02		—
k	Edgewood	—	Wilmington	—	NW	NE	31	33N	10E	86.3	4.6	8.11	—	3.51		—
NF394[l]	Kankakee	12′	Wilmington	W½	NE	NE	31	33N	10E	*84.23*	*10.10*	4.24	—	1.21	0.71	—
k	Maquoketa	—	Wilmington	—	—	—	—	—	—	76.9	5.2	13.58	—	2.38		—
L125[k]	Niagaran.	—	Wilton Center	—	SE	SE	20	33N	11E	54.15	39.69	3.80	—	2.70		—
NF401[l]	Niagaran.	16′	Elwood	NW	NW	SW	19	34N	11E	*50.56*	*40.95*	6.82	—	1.47	0.67	—
NF402[l]	Edgewood	15′	Joliet	NW	NW	NW	28	35N	9E	*44.38*	*36.01*	14.55	—	2.75	1.42	—
NF388[l]	Edgewood	11′	Joliet	SE	SW	NE	35	35N	9E	*46.52*	*37.55*	12.40	—	2.59	1.15	—
NF390[l]	Edgewood	15′	Joliet	—	—	SE	35	35N	9E	*36.94*	*30.16*	24.80	—	4.64	1.75	—
NF393[l]	Maquoketa	6′	Joliet	—	—	SE	35	35N	9E	*43.56*	*33.61*	14.44	—	4.63	2.72	—
R1929[x]	Kankakee	—	Joliet	—	SW	SW	16	35N	10E	*52.77*	*42.16*	3.71	0.11	0.69	0.17	—
L111A[k]	Niagaran.	—	Joliet	—	SE	SE	17	35N	10E	47.76	39.0	9.46	—	3.90		—
L111B[k]	Niagaran.	—	Joliet	—	SE	SE	17	35N	10E	49.81	39.46	6.57	—	3.52		—
L111C[k]	Niagaran.	23′	Joliet	—	SE	SE	17	35N	10E	53.23	41.45	3.41	—	2.03		—
L112[k]	Niagaran.	40′	Joliet	—	SW	SE	20	35N	10E	52.76	42.78	3.08	—	1.74		—
NF54[o]	Kankakee	35′	Joliet	—	NE	SE	21	35N	10E	*50.87*	*40.77*	7.8	—	—	—	2.6
NF55[o]	Niagaran.	50′	Joliet	—	NE	SE	21	35N	10E	*53.55*	*42.45*	5.3	—	—	—	1.6
NF56[o]	Kankakee	1′	Joliet	—	NE	SE	21	35N	10E	*34.71*	*21.96*	33.4	—	9.01	1.99	—
L113[k]	Niagaran.	—	Joliet	—	NE	SE	21	35N	10E	54.67	42.90	—	—	0.12	—	—
A13[q]	Joliet	—	Joliet	—	NE	SE	21	35N	10E	54.84	43.30	0.98	0.10	0.00	0.06	—
R1926[x]	Niagaran.	—	Joliet	—	NE	SE	21	35N	10E	*49.47*	*39.23*	8.54	0.16	1.50	0.16	—

Footnotes appear on page 5.

Continued.

Analysis						Miscellaneous	Remarks	Year sample taken or analysis published	Sample No.
CaO	MgO	Na_2O	K_2O	CO_2	Loss on ignition				
County									
28.50	2.57	—	—	—	24.42			1934	NF91, 92
30.37	2.30	—	—	—	25.48		Lower 45′	1934	NF91
26.82	2.82	—	—	—	23.47		Upper 50′	1934	NF92
32.58	*2.27*	—	—	—	—			1934	La7
53.77	1.81	0.09	0.04	43.61	43.60	SO_3 0.04; MnO 0.030; P_2O_5 0.009	Total	1946	NF444
49.03	1.91	—	—	—	—			1928	L20
51.30	3.36	—	—	—	—		Union Stone & Lime Co., Anna	1912	D2
51.23	*2.10*	—	—	—	—	P 0.017; insoluble matter 1.99		1907	D2
53.60	1.02	—	—	—	43.28		Union Stone & Lime Co., Anna	1912	U66
54.52	0.64	—	—	43.28	43.06		Anna Quarries, Inc.; 0–7′4″ from base	1934	NF174A
52.17	2.60	—	—	43.69	43.04		Anna Quarries, Inc.; 20′6″–46′4″ from base	1934	NF174C
52.65	2.31	—	—	43.32	42.94		Anna Quarries, Inc.; 49′6″–75′9″ from base	1934	NF174E
52.15	1.37	—	—	—	43.62			1912	—
54.15	*0.35*	—	—	—	—			1928	L1
31.5	2.9	—	—	—	26.7			1934	NF70
55.53	0.70	0.07	0.02	43.42	43.23	MnO 0.005; SO_3 0.15; P_2O_5 0.046	Jonesboro Stone Co.	1946	NF443
51.82	1.42	—	—	—	42.32		Swan Creek Phosphate Co.	1912	W285
34.55	1.65	—	—	—	27.99		Lower 30′	1934	NF93
33.21	2.90	—	—	—	28.35		Upper 100′	1934	NF94
33.52	2.61	—	—	—	28.27			1934	NF93, 94
County									
54.03	0.56	0.08	0.01	43.06	42.92		Material Service Corp.	1952	TR1-18
County									
37.77	8.62	0.00	0.00	—	39.07		Monmouth Stone Co.; basal 4′.	1935	NF372
52.46	0.48	—	—	—	41.39	Total alkalies calculated as sodium oxide 0.06	Monmouth Stone Co.; from 4–9′ above quarry floor	1935	NF373
23.25	8.96	—	—	—	28.00		Monmouth Stone Co.; from 9–20½′ above quarry floor	1935	NF374
County									
31.31	20.99	0.00	0.00	47.35	47.57	SO_3 0.04; P_2O_5 0.00†; MnO 0.015		1943	H1
31.35	21.52	0.00	0.00	47.16	47.13	SO_3 0.04; P_2O_5 0.00†; MnO 0.010		1943	K1
30.96	20.60	0.04	0.00	46.96	47.31			1943	63
31.84	20.59	0.00	0.00	47.16	46.97	SO_3 0.02; P_2O_5 0.00†; MnO 0.25		1943	D1
County									
50.04	1.43	—	—	40.55	40.40			1936	NF395
42.92	*9.50*	—	—	—	—			1925	L126B
—	—	—	—	41.84	—			1934	DS97
51.11	*2.55*	—	—	—	—			1925	L117B
48.32	2.19	—	—	38.54	38.54			1925	—
47.20	4.83	—	—	42.09	41.77		Barr quarry	1936	NF394
43.05	2.51	—	—	36.99	36.99			1925	—
30.35	*18.98*	—	—	—	—			1925	L125
28.33	19.58	—	—	42.98	43.08			1936	NF401
24.87	17.22	—	—	37.97	38.24			1936	NF402
26.07	17.96	—	—	39.56	39.77			1936	NF388
20.70	14.42	—	—	31.58	32.05		0–15′ from top	1936	NF390
24.41	16.07	—	—	35.97	36.36		34–40′ below top of section	1936	NF393
29.57	20.16	0.10	0.34	44.89	—	FeO 0.29	Hand specimen	1952	R1929
26.76	*18.65*	—	—	—	—		Markgraf Stone Co., Joliet	1925	L111A
27.90	*18.87*	—	—	—	—		Markgraf Stone Co., Joliet	1925	L111B
29.83	*19.82*	—	—	—	—		Markgraf Stone Co., Joliet	1925	L111C
29.57	*20.46*	—	—	—	—		Lincoln Crushed Stone Co., Joliet	1925	L112
28.5	19.5	—	—	—	42.7			1934	NF54
30.0	20.3	—	—	—	44.8			1934	NF55
12.3	16.6	—	—	—	26.2	MnO 0.07		1934	NF56
30.64	*20.51*	—	—	—	—	Iron and silica 1.40 oxides 0.78	National Stone Co., Joliet	1925	L113
30.72	20.92	0.12	0.06	46.72	46.77	FeO 0.32	National Stone Co.	1943	A13
27.72	18.76	0.12	0.73	42.45	—	FeO 0.36	Hand specimen	1952	R1926

TABLE 2.—

Sample No. and Source	Formation	Thickness	Near	Location ¼	¼	¼	sec.	T.	R.	Chemical $CaCO_3$	$MgCO_3$	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	R_2O_3
																Will
R1927[x]	Niagaran. . .	—	Joliet	—	NE	SE	21	35N	10E	*53.70*	*42.43*	2.60	0.15	0.35	0.09	—
t	Niagaran. . .	—	Joliet	—	—	—	—	—	—	54.67	42.90	1.40	—	0.12	0.78	—
e	Niagaran. . .	—	Joliet	—	—	—	—	—	—	41.92	40.51	—	—	—	1.77	—
t	Niagaran. . .	—	Joliet	—	—	—	—	—	—	*47.68*	*40.70*	7.96	0.12	1.97	0.14	—
78-79[q]	Racine . . .	7′	New Lenox . . .	NE	SE	NE	17	35N	11E	54.19	42.38	2.04	—	0.37	0.35	—
L133[k]	Niagaran. . .	—	Lockport. . . .	—	SW	NW	26	36N	10E	45.30	31.73	14.40	—	6.70		—
L134[k]	Niagaran. . .	—	Lockport. . . .	—	SE	SE	27	36N	10E	47.44	36.81	11.66	—	3.84		—
L132[k]	Niagaran. . .	—	Romeoville . . .	—	NW	SE	25	37N	10E	46.01	36.15	14.20	—	3.52		—
17[q]	Joliet . . .	8′	Romeoville . . .	NE	SE	SW	35	37N	10E	54.80	42.54	1.29	—	0.40	0.50	—
Average anal.[d]	Niagaran. . .	—	Romeoville . . .	—	—	—	—	—	—	53.73	42.13	1.99	—	0.63	1.15	—
Average anal.[d]	Niagaran. . .	—	Romeoville . . .	—	—	—	—	—	—	52.61	41.84	1.90	—	0.64	2.08	—
																Williamson
NF76[o]	Caprock Coal No. 6. . . .	4′	Fordville. . . .	—	SW	SE	32	8S	2E	*76.8*	*12.13*	7.7	—	—	—	3.9
NF75[o]	Caprock Coal No. 6. . . .	2′	Spillertown . . .	—	SE	NE	12	9S	2E	*54.8*	*26.8*	9.0	—	—	—	8.8
																Winnebago
39[q]	Prosser (uppermost). . . .	25′	Seward	NW	NE	NW	28	26N	10E	54.66	42.13	1.16	—	0.45	0.51	—
k	Galena . . .	—	Rockford. . . .	—	SW	SE	15	44N	1E	53.00	43.00	2.00	—	—	—	—
55[q]	Prosser (lowermost). . . .	26′	Rockford. . . .	NE	SE	SE	29	44N	1E	54.32	43.44	0.94	—	0.40	0.32	—
a	. . . . .	—	Rockton	—	—	—	—	—	—	51.03	33.31	3.14	—	3.29		—
a	. . . . .	—	Rockton	—	—	—	—	—	—	*53.04*	*45.46*	1.96	—	0.44		—
a	. . . . .	—	Rockton	—	—	—	—	—	—	*54.81*	*45.55*	2.31	—	0.46		—
a	. . . . .	—	Rockton	—	—	—	—	—	—	*51.43*	*41.91*	3.90	—	0.56		—
a	. . . . .	—	Rockton	—	—	—	—	—	—	47.77	40.95	9.08	—	1.73		—

Footnotes appear on page 5.

Concluded.

Analysis						Miscellaneous	Remarks	Year sample taken or analysis published	Sample No.
CaO	MgO	Na_2O	K_2O	CO_2	Loss on ignition				
County—Cont.									
30.09	20.29	0.11	0.20	45.60	—	FeO 0.38	Hand specimen	1952	R1927
30.64	*20.61*	—	—	—	—		National Crushed Stone Co.	1925	—
23.49	*19.37*	—	—	—	—	Insoluble matter 14.73		1866	—
26.72	19.46	0.42	0.16	41.13	—	FeO 0.56; P_2O_5 0.91; MnO 0.07	National Stone Co.—bottom	1925	—
30.36	20.78	—	—	45.95	—			1943	78–79
25.39	*15.17*	—	—	—	—			1925	L133
26.59	*17.60*	—	—	—	—			1925	L134
25.78	*17.29*	—	—	—	—			1925	L132
30.70	20.44	—	—	46.30	—			1943	17
30.11	*20.15*	—	—	—	—	P 0.014	Joliet Flux Stone Co.	1907	Avg. anals.
29.48	*20.01*	—	—	—	—	P 0.012; S 0.054	Joliet Flux Stone Co.	1907	Avg. anals.
County									
43.0	5.8	—	—	—	39.8			1934	NF76
30.7	12.8	—	—	—	38.9			1934	NF75
County									
30.62	20.60	0.11	0.07	46.03	—	FeO 0.20; P_2O_5 0.02; MnO 0.045; SO_3 0.06		1943	39
29.70	*20.56*	—	—	—	—	Other ingredients 2.00	Hart & Page Co.	1925	—
30.43	21.20	0.02	0.04	46.56	47.03			1943	55
28.60	*15.93*	—	—	—	—	CO_2 & H_2O 6.28; Fe 1.25; S 1.26.	Rockton Lime & Quarry Co.	1912	—
29.72	21.74	—	—	46.42	—		Rockton Lime & Quarry Co.	1912	—
30.71	21.78	—	—	44.90	—		Rockton Lime & Quarry Co.	1912	—
28.82	20.04	—	—	46.77	—		Rockton Lime & Quarry Co.	1912	—
26.77	*19.58*	—	—	—	—		Rockton Lime & Quarry Co.	1912	—

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