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AGRICULTURAL LIMESTONE RESOURCES OF UNION, JOHNSON, LAMAR, J.E.
ALEXANDER, PULASKI, AND MASSAC COUNTIES
Ms. 76
J.E. Lamar

MINERAL RESOURCE
RECORDS DIVISION
ILLINOIS STATE
GEOLOGICAL SURVEY

(To accompany map)

UNION COUNTY *

The east part of Union County possesses extensive resources of agricultural limestone. The west part of the county contains only limited resources.

Green areas-numerous outcrops of limestone occur, many of which will yield considerable amounts of limestone under less than 10 feet of overburden. The composition of the limestones varies but many of them have a C.C.E. over 85 per cent. The bedrock in this area is mantled by silty clay and many deposits will be found having only this clay as an overburden. Other deposits have a combination bedrock and clay overburden, but usually considerable amounts of stone can be secured with thin overburden by quarrying along the outcrop, or, subsurface mining may be resorted to. In the areas near Reynoldsville limestone occurs in the lower part of the valley wall of an unnamed creek.

For chemical analyses of samples see:

Ill. Geol. Sur. Bulletin 61, p. 148, Sample L20.

In the Orange areas thick deposits of limestone underlie silty clay except along the northeast margin of the area where shale or sandstone overlies the limestone at many places. Outcrops are

* See also Union County, Bull. 46, Ill. Geol. Sur., pp. 277.

relatively numerous along streams and locally in sink holes and sites for small quarries are comparatively common. Most of the limestone has a C.C.E. over 85 per cent although cherty limestone formations in the west part of the major Orange area may locally have a lower C.C.E. Good outcrops are visible in the major Orange area along Kratzinger Hollow in sec. 13, T. 12 S., R. 2 W., and sec. 18, T. 12 S., R. 1 W., about 1 1/4 miles northwest of Anna; in the vicinity of Jonesboro; at Tunnel cut along the M. & O. R.R. about 3/4 mile south of Kaolin in the SW. 1/4 NW. 1/4 sec. 2, T. 12 S., R. 2 W.; and along the I. C. R.R. between Dongola and Balcom. The Anna Stone Company operates a quarry in Orange area at Anna.

The Orange area east of LaRue in northwestern Union County contains thick deposits of very pure limestone with which are associated very cherty less pure limestone.

For chemical analyses of samples see:

Ill. Geol. Sur. Bull. 46, p. 330, "Union County"

" " " " 61, p. 140, Sample DS9

p. 148, " D2, U66, L1 and W285

The Yellow area contains in some places outcrops of limestone which is usually less than 25 feet thick and is associated with shale and cherty formations. No data are available on the chemical composition of limestone but some deposits containing over 85 per cent C.C.E. are probably present. As there are thicker limestone deposits in Orange area to the east, the limestones of the Yellow area are probably not generally important.

The White area is generally devoid of limestone having a C.C.E. greater than 85 per cent. That portion of this area lying west of the Yellow area and east of Clear Creek in the south part of the county and the I. C. R.R. in the north part is underlain by chert and cherty limestone. The latter is described on pages 31-38 of Bulletin 61 with analyses on page 61, Samples La7, NF10, NF91, NF93, and NF94. Similar impure cherty limestones may be found in other parts of that portion of the White area under discussion.

JOHNSON COUNTY *

Johnson County contains numerous limestone outcrops capable of supplying agstone. The Charles Stone Co. operates a quarry at Whitehill near Joppa Junction. The agstone resources in the Green and Orange areas are generally the same as in Union County.

For chemical analyses of samples see:

Green area - Bull. 46, p. 318, samples K29, W308, D16, D17
(top two samples numbered D16 and D17)

Bull. 61, p. 148, samples T1, T5, L100

Orange area - Bull. 46, p. 318, samples D16, D17 (bottom 2 samples so numbered), last analysis on p. 318, and first 6 analyses on p. 320.

* See also Bull. 46, p. 266

ALEXANDER COUNTY *

Limestones having a C.C.E. over 85 per cent are limited to the west portion of the uplands of Alexander County. In the Green areas limestone outcrops ^{mostly} low in the bluffs of Mississippi River and along tributary valleys. Some of the limestone in these areas probably exceed 85 per cent C.C.E., however, impure limestone is also present. Associated with the limestones are shale and sandstone. No chemical analyses available.

The Orange areas include two principal limestone formations, the Kimmswick and Girardeau limestones. The Kimmswick limestone outcrops in the beach of Mississippi River south of Gale and in a similar position and in cuts along the C. & E. I. R.R. near the center of the W. 1/2 SE. 1/4 sec. 17 about 1 mile south of Thebes. Favorable sites for agstone quarries are present.

At Rock Springs, near the center of the W. 1/2 sec. 21, about two miles south of Thebes the Girardeau limestone outcrops in the creek bed, and in cuts along the Missouri Pacific Railroad and the wagon road south of the springs. It is a dark gray limestone. Favorable quarry sites are present.

Elsewhere in the Orange area thin limestones associated with shale occur in a few places. An outcrop of such limestone too small to be shown on the map occurs in the lower part of Rocky Hollow near the center of the SE. 1/4 sec. 28, about 3 miles southeast of Thebes.

* See also Bull. 46, p. 257.

For analyses of samples see:

Kimmswick limestone - Bull. 46, p. 313, Alexander County

Bull. 61, p. 142, Alexander County

Girardeau limestone - Bull. 61, p. 142, sample L37

Impure cherty limestone occurs locally in that part of the White area of Alexander County lying north of the C. & E. I. R.R. and east of the Missouri Pacific R.R., although most of this upland area is underlain by chert. The cherty limestone in the northern part of the county is discussed in Bull. 61, pages 31-38. An outcrop in the southern part occurs along the concrete road in the village of Olive Branch. The C.C.E. of these cherty limestones is thought to be generally less than 85 per cent.

PULASKI COUNTY *

Pulaski County has but limited agricultural limestone resources. North of Cache River are areas where limestone formations underlie the surface materials with the best exposure in an old quarry near the center of the E. 1/2 of sec. 14, about 1 3/4 miles north of Ullin. Rock can readily be quarried in this vicinity. Small outcrops of limestone generally thought to have a C.C.E. greater than 85 per cent occur in low hills along the south side of Cache River, in the southeastern part of the county along Post Creek cutoff at its intersection with the Metropolis to Grand Chain road and along the beach of Ohio River in the same general region. The Post Creek cutoff

* See also Bull. 46, p. 275.

outcrop could supply only small amounts of stone; the raised water level resulting from the construction of Dam 53 may have obscured the outcrop in the river beach. The nature of the other outcrops south of Cache River is not known in detail.

For chemical analyses see:

Bull. 46, p. 326, sample D47

" 61, p. 148, " L10

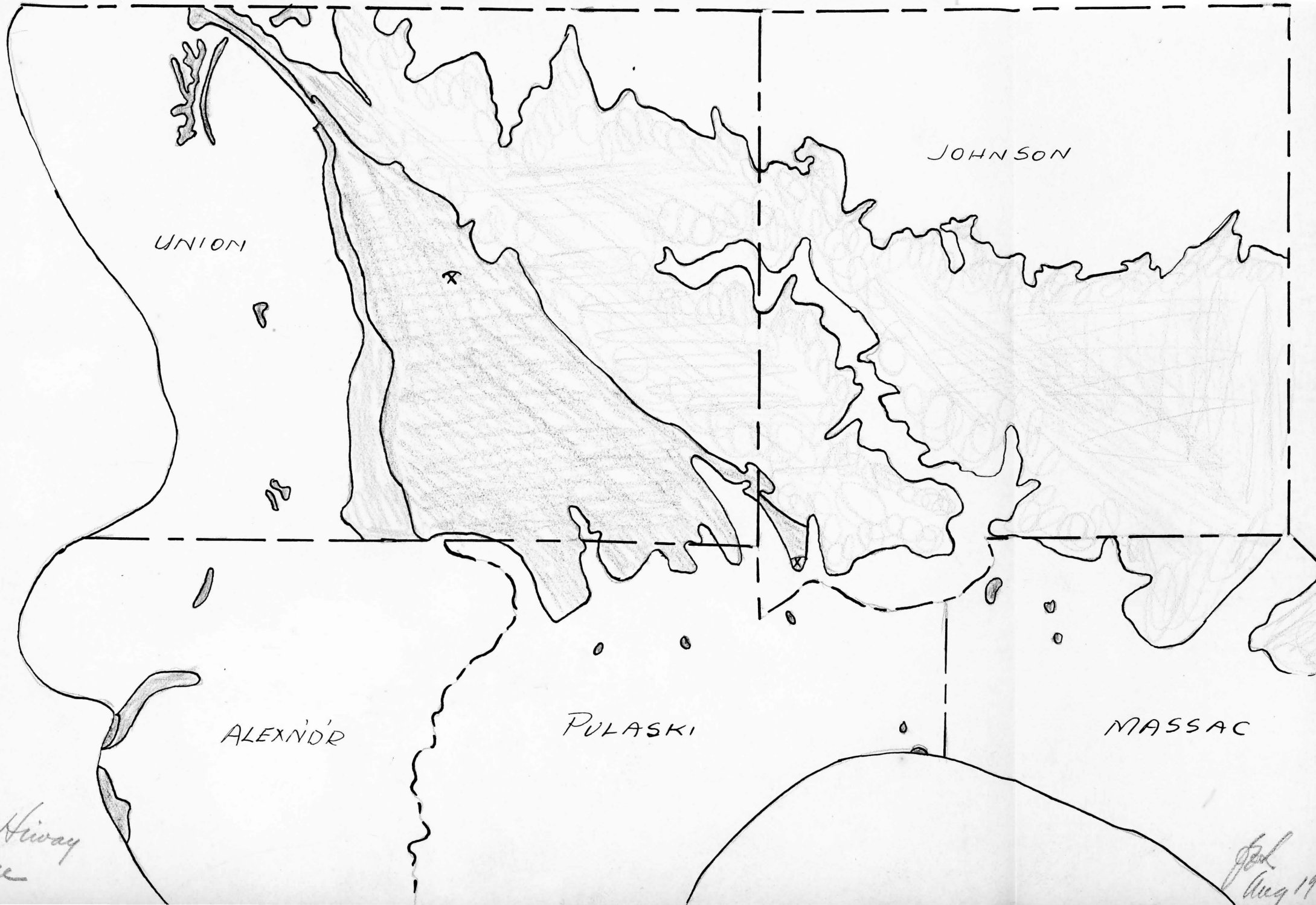
MASSAC COUNTY *

Massac County's agstone resources are limited. The three outcrops colored Orange are described in Bull. 46. The Green area in the vicinity of New Columbia is largely underlain by sandstone but along its margins limestone outcrops in places beneath the sandstone. In the area northeast of Round Knob limestone outcrops are relatively few but occur in some places.

No chemical analyses of Massac County limestones are at hand, but the rock in the Orange areas probably has a C.C.E. over 90 per cent.

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* See also Bull. 46, p. 273.



UNION

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