

# CLUSTER OF NORMAL FAULTING IN THE NORTHWESTERN BLUEGRASS REGION OF KENTUCKY

WILLARD ROUSE JILLSON, SC. D.

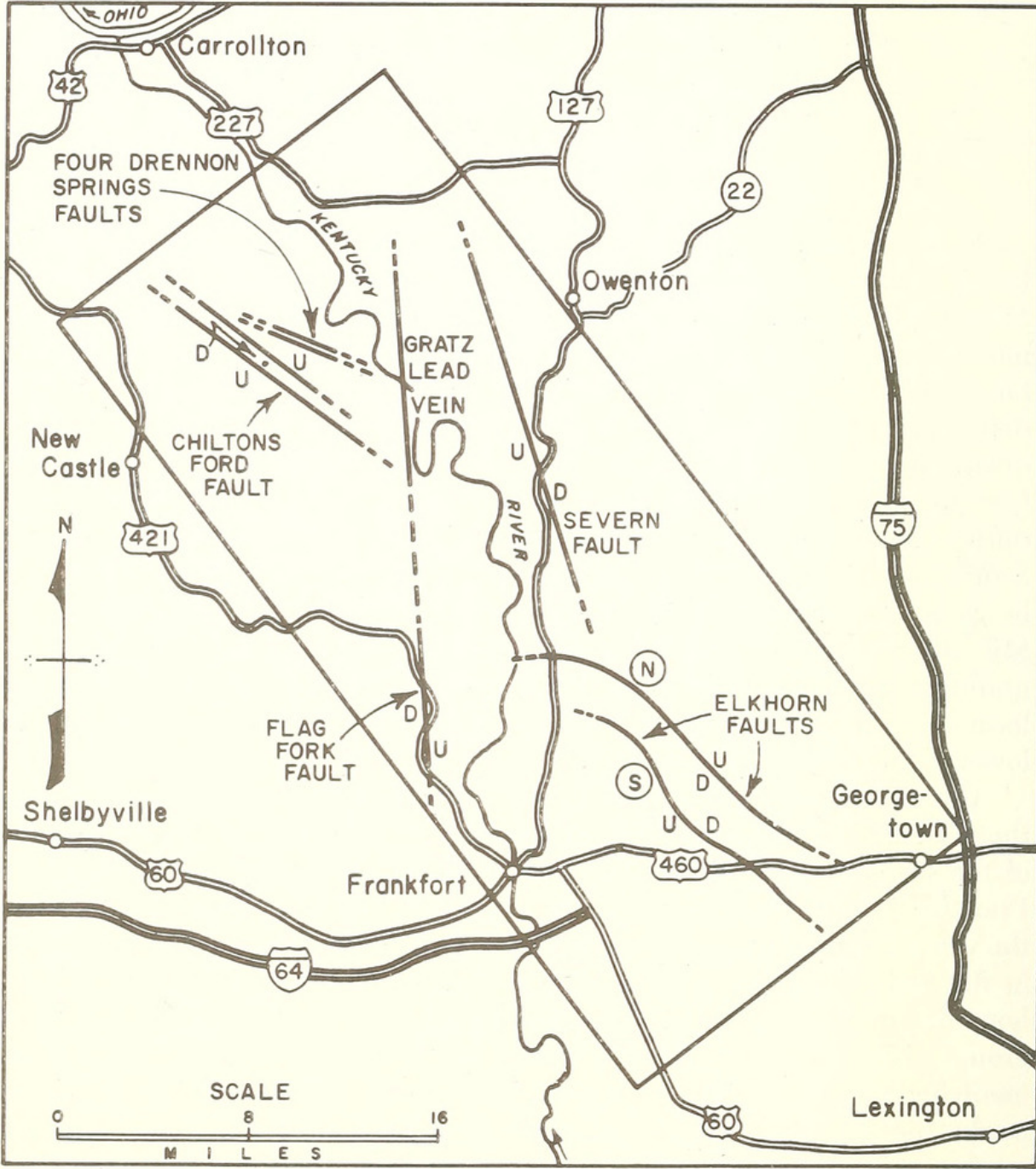
Frankfort, Kentucky 40601

Somewhat prior to and during the progress of the field work which brought about the discovery of the Flag Fork Fault (12) in northwestern Franklin County, Kentucky, in the early autumn of 1964, the writer was moved, time and again, to recall the fact and the figure of the paired normal faults of N. W.—S. E. strike which Professor A. M. Miller found and carefully delineated while mapping the areal geology of the Georgetown, Kentucky, quadrangle (1) during the summer of 1912 for the fourth Kentucky Geological Survey. Along with a careful review of Professor Miller's work during the following summer when he continued the plotting of the paired Scott County faults and their graben into northeastern Franklin County were he gave them termini in the valley of main Elkhorn in the vicinity of Peak's Mill, there came suddenly one day on the mid-waters of Flat Creek, a graphic mental picture of the several other normal faults not too distantly located to the northwest, well within the central drainage basin of the lower Kentucky River.

Closely following the completion of the field and manuscript work on the Flag Fork Fault, the writer turned to a precise plotting of each and all of the seven faults known to lie immediately to the north and northwest of Franklin County. When coupled with Professor Miller's two Elkhorn Faults, the writer's Camp Pleasant Branch Fault, which was discovered and mapped in the spring of 1962 as a northwesterly continuation of the northern Elkhorn disturbance, and the Flag Fork Fault, it was seen at once that this group of ten separate normal faults constituted a rectangular unit area involving parts of Scott, Franklin, Henry and Owen Counties. Owenton marks the boundary on the northeast, Frankfort and New Castle on the southwest, and Georgetown on the southeast. The imaginary rectangle embracing this highly disturbed Bluegrass area exhibits a length of 35 miles and a width of 10 miles. The total area thus demarked covers 350 square miles. The strike of the long boundary of the block is N. 38° W. A similar area of so intense and diverse normal faulting is not known to occur elsewhere in the Bluegrass area of Kentucky.

Beginning with Professor Miller's paired "Elkhorn Faults", each of the ten separate disturbances embraced within the rectangle as outlined, above, are listed below in the order of their discovery. They are also shown by name on the accompanying outline map of the area involved.





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IN THE  
NORTHWESTERN BLUEGRASS REGION  
OF  
KENTUCKY  
BY  
WILLARD ROUSE JILLSON  
GEOLOGIST AND ENGINEER  
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Fault	Described By	Year
1. North Elkhorn	A. M. Miller	1913
2. South Elkhorn	A. M. Miller	1913
3. Severn Fault	W. R. Jillson	1945
4. Camp Pleasant Branch	W. R. Jillson	1962
5. Chilton's Ford, Primary	W. R. Jillson	1965
6. Chilton's Ford, Secondary	W. R. Jillson	1965
7. Drennon Springs No. 1	W. R. Jillson	1965
8. Drennon Springs No. 2	W. R. Jillson	1965
9. Drennon Springs No. 3	W. R. Jillson	1965
10. Drennon Springs No. 4	W. R. Jillson	1965

The length, the stratigraphic offset and the computed displacement measured in feet varies, of course, with each listed fault. To avoid the tedious recitation of these prosy stratigraphic and structural details and other items of geologic importance appertaining, the following bibliography of primary sources is appended for the use of those whose interest in this subject exceeds the restricted measure of the outline given above.

### Bibliography

1. Miller, Arthur McQuiston. *Map of the (Geology of the) Georgetown Quadrangle*. Ky. Geol. Survey, Ser. IV. Frankfort, Kentucky. 1st Ed. 1913; 2nd Ed. 1917.
2. Miller, Arthur McQuiston. *Geology of Franklin County, Kentucky*. Ky. Geol. Survey, Ser. IV, Vol II. Frankfort, Kentucky, 1914.
3. Miller, Arthur McQuiston. *Geology of Franklin County, Kentucky*. Ky. Geol. Survey, Ser. IV, Vol II. Frankfort, Kentucky, 1914.
4. Miller, A. M., Wolford, J. J. and Withers, S. *Geological Map of Franklin County, Kentucky*. Ky. Geol. Survey, Ser. VI. Frankfort, Kentucky, 1931.
5. Wolford, J. J. and Miller, A. M. *Geological Map of Scott County, Kentucky*. Ky. Geol. Survey, Ser. VI. Frankfort, Kentucky, 1931.
6. Jillson, Willard Rouse. *Lead Mines of the Lower Kentucky River Valley*. John P. Morton and Co., Louisville, Kentucky, 1941.
7. Jillson, Willard Rouse. *Notes on the Discovery of a Faulted Area in Northern-Central Kentucky*. The Register, Vol. 43, No. 145, Ky. State Historical Society. Frankfort, Kentucky, 1945.
8. Jillson, Willard Rouse. *Geology of Owen County, Kentucky*. Roberts Printing Co., Frankfort, Kentucky, 1949.
9. Jillson, Willard Rouse. *Geology of the Camp Pleasant Branch Fault*. Roberts Printing Co., Frankfort, Kentucky, 1962.
10. Jillson, Willard Rouse. *Biangular Faulting in the Outer Bluegrass Region of Kentucky*. Roberts Printing Co., Frankfort, Kentucky, 1965.
11. Jillson, Willard Rouse. *The Geology of Henry County, Kentucky*. Roberts Printing Co., Frankfort, Kentucky, 1967.
12. Jillson, Willard Rouse. *Geology of the Flag Fork Fault in Franklin County, Kentucky*. Roberts Printing Co., Frankfort, Kentucky, 1967.



Jillson, Willard Rouse. 1968. "Cluster of Nonnal Faulting in the Northwest Bluegrass Region of Kentucky." *Transactions of the Kentucky Academy of Science* 29(1-4), 29–31.

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