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TYPE SECTION OF THE YANKEETOWN FORMATION

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ABSTRACT

A type section is designated for the Yankeetown, Fm. (Upper Mississippian), a predominantly clastic unit exposed in southwestern Illinois and southeastern Missouri. The type section consists of exposures in the SE 1/4 NE 1/4 NE 1/4 NE 1/4 Sec. 26, N 1/2 NW 1/4 NW 1/4 Sec. 25, and S 1/2 SW 1/4 SW 1/4 Sec. 24, T.4S., R. 9W., Monroe County, Illinois.

TEXT

The Yankeetown Formation was named by Stuart Weller (1913) from exposures near Yankeetown School in the southeast corner of Monroe County, Illinois. The Yankeetown Formation conformably overlies the Renault Formation, with which it interfingers in places, and is conformably overlain by the Paint Creek Formation. Weller (1913) described the Yankeetown Formation as a light buff to white, dominantly siliceous unit with lesser amounts of siliceous to sandy limestones and quartzitic rock. The Yankeetown Formation according to Weller and Weller (1939) consists largely of fine-grained sandstone that has been altered by long term weathering to a sandy chert or "quartzite". In addition, layers of shale are described and in places thin limestones are said to be present. The limestone is decribed by Weller and Weller (1939) as "varying from dense and siliceous to coarsely crystalline and arenaceous". The bedding of the Yankeetown Formation has been described as even to very irregular (Weller, 1913 and Weller and Weller, 1939). Willman, et al. (1975) describe the Yankeetown Formation as a sandstone-shale unit in southwestern Illinois.

Stuart Weller (1913) did not designate a type section for the Yankeetown but stated that "some excellent and typical exposures of the formation may be seen in the region about Yankeetown School". Yankeetown School was located in the NE 1/4 SE 1/4 SE 1/4 Sec. 26, T. 4 S., R. 9 W., Monroe County, Illinois (see Renault 15' Quadrangle map), although it is no longer present at that site. Weller and Weller (1939) stated that "the Yankeetown Chert is well-exposed along the road

northeast of Yankeetown School and also a half mile farther north in the northwest corner Sec. 25, T. 4 S., R. 9 W.". Willman, et al., (1975) give the type section as northeast corner SE 1/4 Sec. 26, T. 4 S., R. 9 W. However, there are no exposures of the Yankeetown at that location, which is, therefore, an inappropriate designation for a type section. The best exposures of the Yankeetown that we have been able to locate in the vicinity of the original site of Yankeetown School are in the northwest corner of Sec. 25, T. 4 S., R. 9 W., an outcrop mentioned by Weller and Weller (1939). The other outcrop of the Yankeetown Formation mentioned by Weller and Weller (1939) near the original site of Yankeetown School consists of only about three feet (one meter) of strata with neither the top nor the base of the formation exposed.

Since no adequate type section for the Yankeetown Formation has been described previously, it is appropriate to designate exposures in and along the northeast-flowing tributary to Horse Creek in the SE 1/4 NE 1/4 NE 1/4 NE 1/4 Sec. 26, N 1/2 NW 1/4 NW 1/4 Sec 25, and S 1/2 SW 1/4 SW 1/4 Sec. 24, T. 4 S., R. 9 W., Monroe County, Illinois (Ames Quadrangle) as the type section of the Yankeetown Formation (Fig. 1, 2). The exposures of the type Yankeetown include the basal contact with shales currently referred to the Renault Formation. Although the top is not exposed in these outcrops, it is exposed to the south at the type section of the Paint Creek Formation in the NE 1/4 SW 1/4 NE 1/4 Sec. 2, T. 5 S., R. 9 W., Monroe County, Illinois (see Fig. 1). At its type section the Yankeetown Formation included quartz-cemented sandstone, quartz-cemented siltstone, and sandy limestone, which are the most abundant rock types in it throughout the outcrop area. Small amounts of shale are present in the Yankeetown at other sites, however. The extent of quartz cementation is much greater than the amount found in any other clastic unit in the Illinois Basin, and is thus diagnostic for the Yankeetown. In spite of the lithologic variability of the Yankeetown, the diagnostic quartz-cemented, chert-like, clastic rock is consistently present in the southwestern Illinois outcrop belt.

REFERENCES CITED

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Willman, H.B., E. Atherton, T.C. Bushbach, C.W. Collinson, J.C. Frye, M.E. Hopkins, J.A. Lineback, and J.A. Simon, 1975. Handbook of Illinois Stratigraphy. Illinois State Geol. Surv. Bull. 95:261 p.

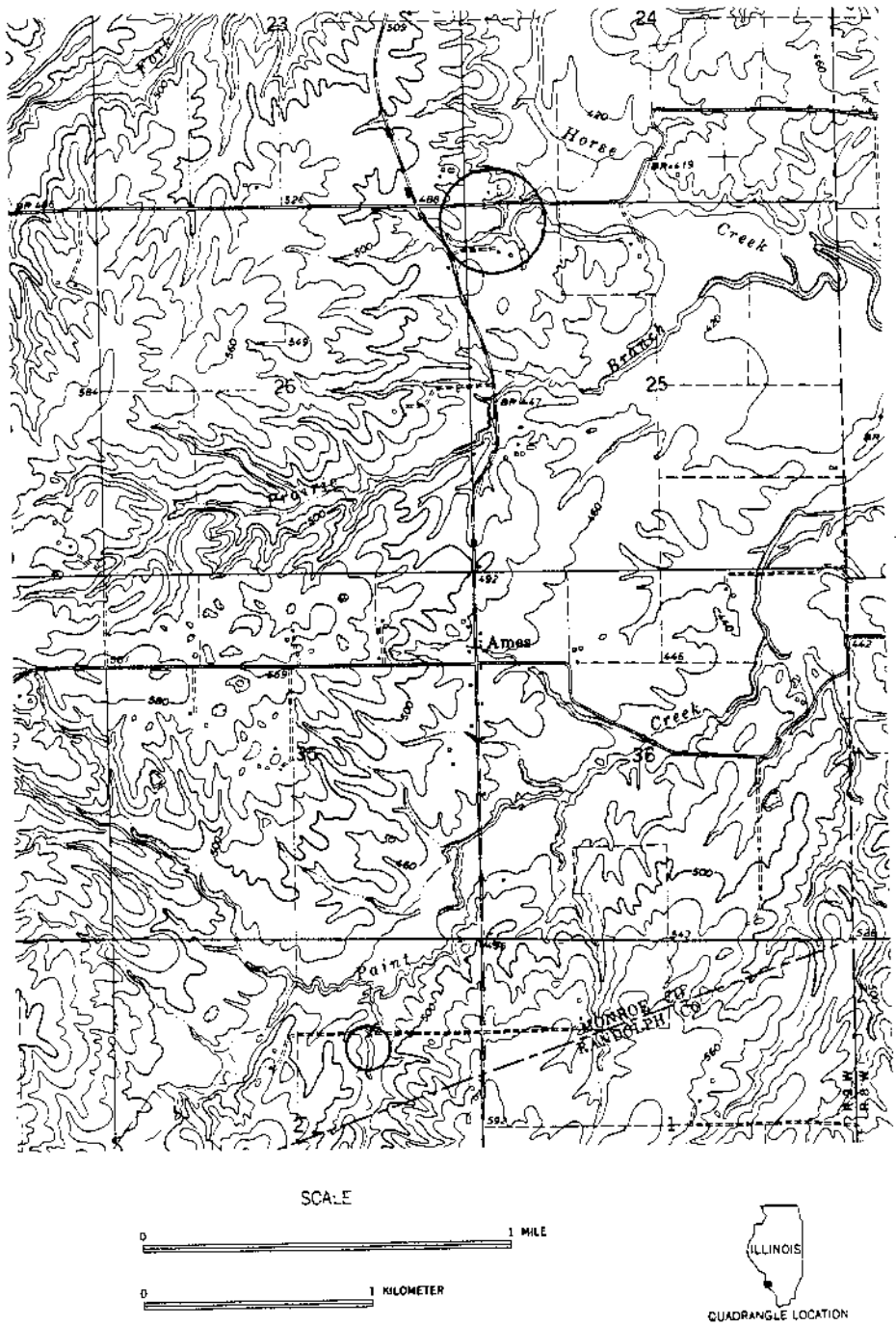

Figure 1. Part of the Ames Quadrangle. Large circle shows location of the type section of the Yankeetown Fm. Small circle shows location of exposures of the upper contact of the Yankeetown Fm. at the base of the type section of the Paint Creek Fm.

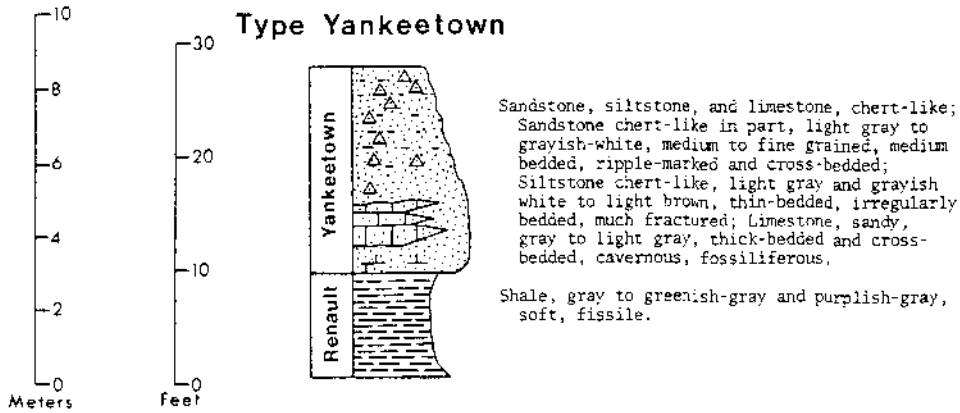

Figure 2. Geologic column of exposures at the type locality of the Yankeetown Formation in the SE 1/4 NE 1/4 NE 1/4 NE 1/4 Sec. 26, N 1/2 NW 1/4 NW 1/4 NW 1/4 Sec. 25, and S 1/2 SW 1/4 SW 1/4 Sec. 24, T. 4 S., R. 9 W., Monroe County, Illinois.