

# BEDROCK GEOLOGIC MAP OF LEE COUNTY, IOWA

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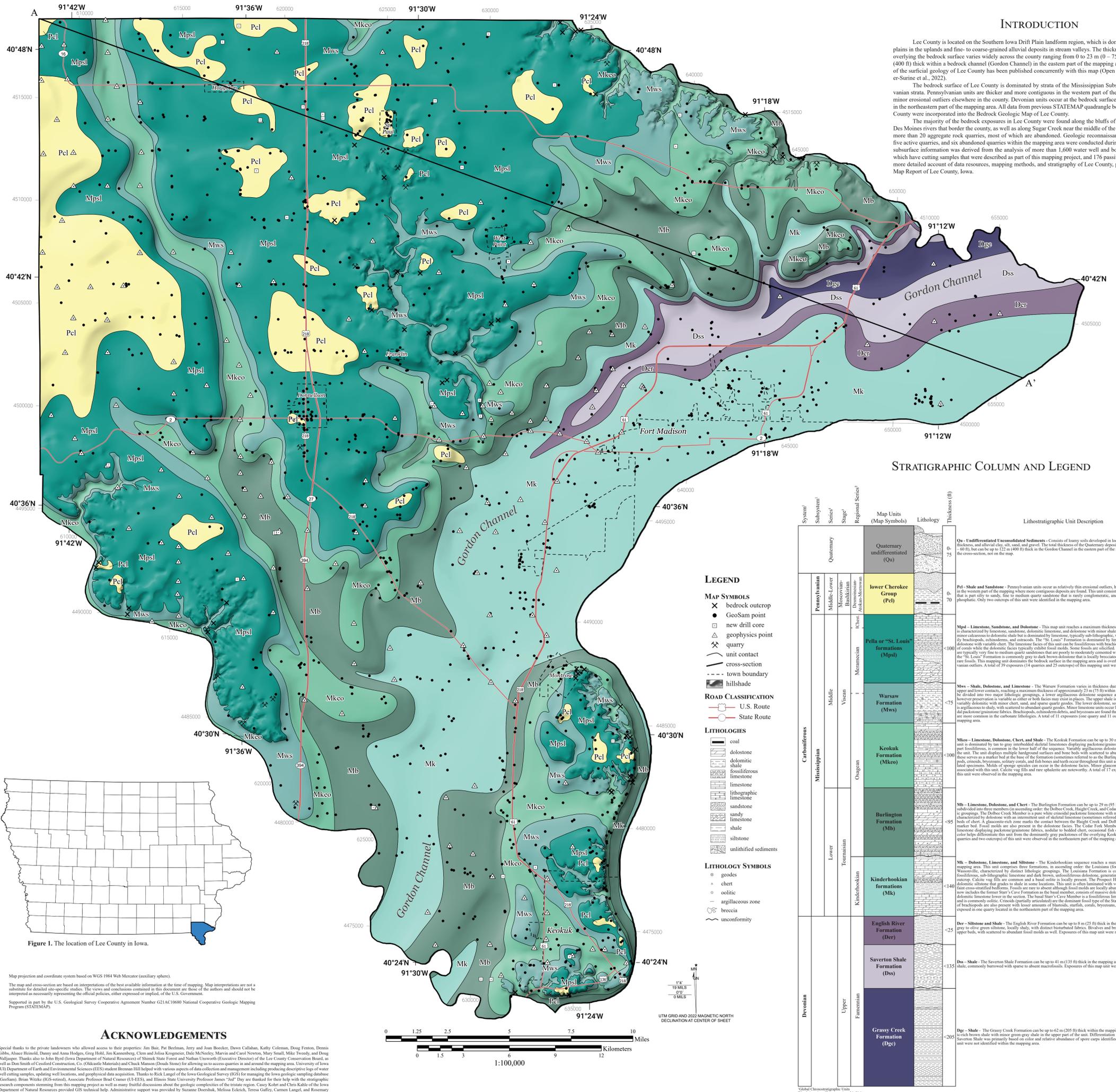
Open File Map: OFM-22-1  
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## INTRODUCTION

Lee County is located on the Southern Iowa Drift Plain landform region, which is dominated by loess-mantled till plains in the uplands and fine- to coarse-grained alluvial deposits in stream valleys. The thickness of Quaternary materials overlying the bedrock surface varies widely across the county ranging from 0 to 23 m (0 – 75 ft), but can be up to 122 m (400 ft) thick within a bedrock channel (Gordon Channel) in the eastern part of the mapping area. An accompanying map of the surficial geology of Lee County has been published concurrently with this map (Open File Map OFM-22-2; Tassier-Surine et al., 2022).

The bedrock surface of Lee County is dominated by strata of the Mississippian Subsystem overlain by Pennsylvanian strata. Pennsylvanian units are thicker and more contiguous in the western part of the mapping area and occur as minor erosional outliers elsewhere in the county. Devonian units occur at the bedrock surface within the Gordon Channel in the northeastern part of the mapping area. All data from previous STATEMAP quadrangle bedrock geologic maps in Lee County were incorporated into the Bedrock Geologic Map of Lee County.

The majority of the bedrock exposures in Lee County were found along the bluffs of the Mississippi, Skunk, and Des Moines rivers that border the county, as well as along Sugar Creek near the middle of the map area. Lee County hosts more than 20 aggregate rock quarries, most of which are abandoned. Geologic reconnaissance of 44 bedrock outcrops, five active quarries, and six abandoned quarries within the mapping area were conducted during field activities. Additional subsurface information was derived from the analysis of more than 1,600 water well and borehole records, over 100 of which have cutting samples that were described as part of this mapping project, and 176 passive seismic data points. For a more detailed account of data resources, mapping methods, and stratigraphy of Lee County, please refer to the Summary Map Report of Lee County, Iowa.



## STRATIGRAPHIC COLUMN AND LEGEND

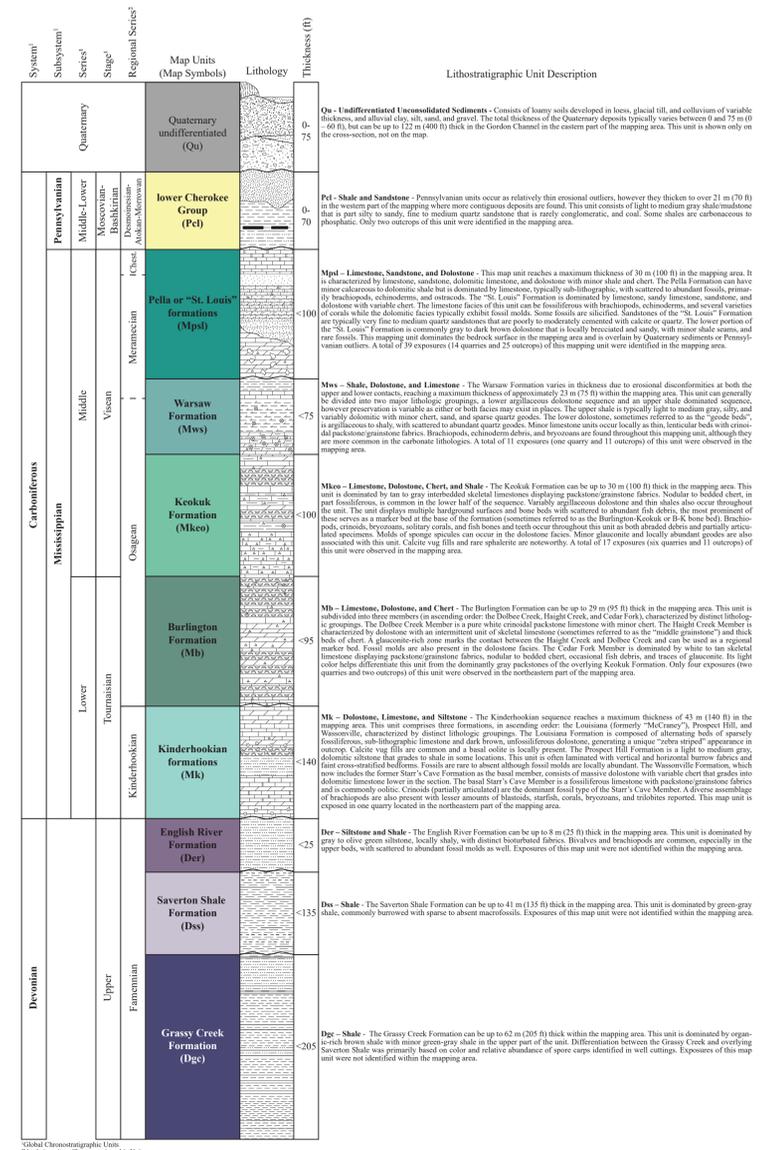


Figure 1. The location of Lee County in Iowa.

Map projection and coordinate system based on WGS 1984 Web Mercator (auxiliary sphere).  
The map and cross-section are based on interpretations of the best available information at the time of mapping. Map interpretations are not a substitute for detailed site-specific studies. The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Government.  
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## GEOLOGIC CROSS-SECTION A-A'

