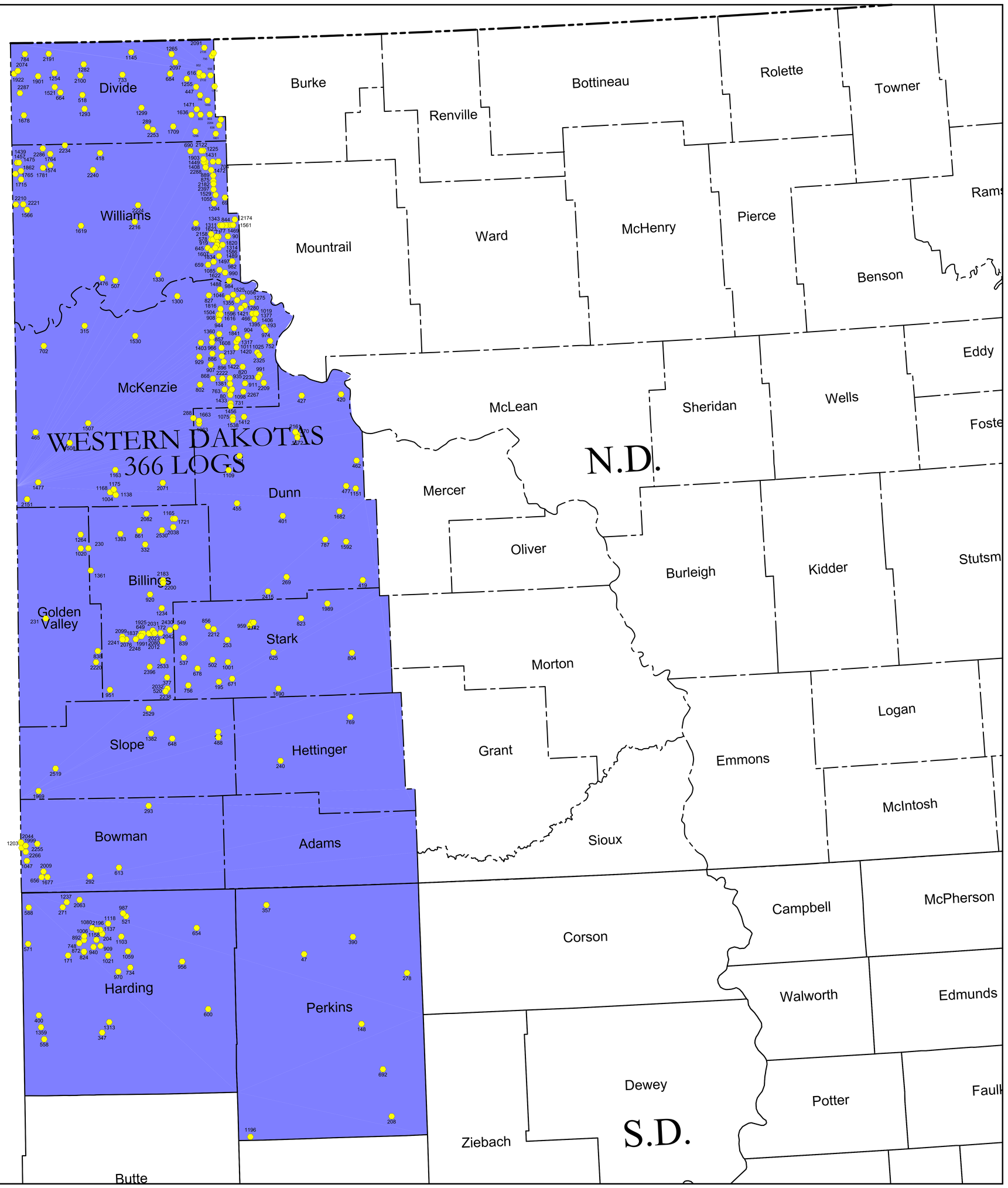
THE NORTHWEST GEOLOGICAL SERVICE SAMPLE LOG COLLECTION FOR WELLS IN WESTERN NORTH DAKOTA AND NORTHWESTERN SOUTH DAKOTA

The Northwest Geological Service was founded by geologists Paul Lewis and Herb Hadley in 1952 in Billings, Montana. During the next fifteen years the company described well cuttings and core samples from over 2, 500 wells stretching from eastern North Dakota to northwestern Montana and as far south as southwestern South Dakota. Many of the wells that the N.W.G.S. reviewed were the discovery wells for important oil and gas fields in Montana and North Dakota. Significant deep tests and exploratory wildcats across the three state region were also analyzed. A valuable component of most of the logs is a discussion of the stratigraphic setting of the sedimentary section seen in the well. Additional data preserved on the logs are core descriptions, drill stem test information, and completion work done on each well. The Northwest Geological Service geologists that performed the sample work were doing so during the drilling booms in the Williston Basin and Central Montana during the 1950's. This was a time when our understanding of the stratigraphic framework of these areas was being assembled, and it was through the efforts of men such as Paul Lewis and Herb Hadley that this irreplaceable data resource was built and preserved. Those of us in the geological profession owe these gentlemen our thanks.

This joint project of the Montana Geological Society and the Northern Rockies Geologic Data Center is being undertaken with the belief that this log collection is a valuable asset to any geologist studying the stratigraphic succession of the northern Great Plains. We have conducted this project in order to preserve a rapidly deteriorating paper archive, to make the information in this collection more readily available to the public, and to raise operating funds for both non-profit organizations. The Rocky Mountain Section Foundation of the American Association of Petroleum Geologists provided the initial funding for this project. Members of the Montana Geological Society donated their time and efforts to this project, and the Northern Rockies Geologic Data Center provided the logs. Our thanks go to Ms. Pamela Woodward, the daughter of the late Paul Lewis, for donating the log collection to the Center.

The majority of the logs were scanned from black and white prints at a resolution of 200 DPI. They were saved as Tagged Image Format Files (TIFF). For those logs that were unavailable in black and white we have scanned the available hand colored prints at 200 DPI and saved them as JPEG files. Either type of file can be viewed with a variety of raster image viewing software programs found on most desktop computers. We chose to scan most of the logs in black and white in order to reduce data file sizes and computing overhead. We recognize that in a short time advances in computing technology will make these concerns unimportant. If in the future the funding is available and the geological community expresses an interest in adding more color prints to the digital data set we may add all of the available color prints and provide an updated data set to purchasers of the log collection.