

PIERRE EARTHQUAKE OF 1961

Allen F. Agnew and Edward L. Tullis
State Geological Survey, Vermillion and School of Mines and
Technology, Rapid City

An earthquake with maximum intensity of 5 on the Modified Mercalli Scale occurred in Central South Dakota on December 31, 1961, at approximately 10:36 A.M.

The point of origin, called the focus, occurred at a depth of approximately 16 kilometers (10 miles), according to the U. S. Coast and Geodetic Survey. The Coast and Geodetic Survey office in Washington receives the daily records from many seismograph stations both in the United States and abroad.

Fortunately, a new seismograph station had been installed at the School of Mines in the Fall of 1961, and was operating when the quake occurred. This station houses six modern seismographs, and its record aided in establishing the location, depth, and time of the Pierre quake.

The point on the earth's surface directly above the focus, called the epicenter, was determined to be about six miles west of the Capitol Building in Pierre.

The quake was probably due to the adjustment of two adjacent masses of rock deeply buried in the earth's crust, as part of the continual process of isostasy. The quake of course bore no relationship to the large earthfilled Oahe Dam 3 miles to the northeast, whose weight has caused small landslides and other surface effects.

Although earthquakes of this magnitude are not common in South Dakota, eleven similar ones have been recorded in this general area during the past 90 years (see figure, next page).

