

RADIOACTIVE FALLOUT AT VERMILLION, SOUTH DAKOTA, FROM CHINESE NUCLEAR EXPLOSION IN OCTOBER, 1964 *

Gottfried I. Moller
University of South Dakota

Measurements of airborne fission product radioactivity have been continued at Vermillion, South Dakota since 1958 and have been reported earlier (1, 2). Methods of sample collection and detection were described in these earlier reports.

On October 16, 1964, a single Chinese nuclear explosion occurred. The first detection of debris from this explosion was made at Vermillion on October 26 with peak activities on October 28 and October 31. Beta activity returned to pre-explosion levels November 4. Peak levels were 5.19 and 5.33 micro-micro curies per cubic meter of air compared with pre-explosion levels of less than 1.0 micro-micro curie per cubic meter.

The detection of fallout from this Chinese test followed a pattern very similar to that observed after the September 1961 Russian test in the delay time between explosion and detection but the magnitude of the Russian fallout was much greater (2).

LITERATURE CITED

1. Jensen, J. D. and Moller, G. I., "A Study of Airborne Radioactivity at Vermillion, South Dakota from October 28, 1958 to April 1, 1959." Proc. S. Dak. Acad. Sci., Vol. 38 (1959), 174-177.
2. Moller, G. I., "A Study of Airborne Radioactivity at Vermillion, South Dakota, from September 1, 1961 to March 31, 1962." Proc. S. Dak. Acad. Sci., Vol. 41 (1962), 159-161.

*This work was supported by Northern States Power Company.