

- 176 Significance of Radioactivity in Water Supply and Treatment. H. A. Bevis.
J. Am. Water Works Assn. 52, 841-846 (July 1960).

The increasing number of sources of radioactive contamination of water supplies is discussed along with a general review of the biological effects of alpha particles, beta particles, and gamma rays. The removal of radioactive materials from surface and ground waters was studied. Removals of 46% by coagulation and settling were increased to 70% with the addition of filtration. With lime-soda ash softening, removal efficiencies were increased to 90 to 95%. In mixed beds containing both cation and anion resins, removals in excess of 99.99% were obtained. Special units to decontaminate water supplies were developed. In one unit containing beds of steel wool, clay pellets, activated carbon, and cation-anion-exchange resins in series, removals of 99.99% were obtained.

-- Nuclear Sci. Absts.

- 177 Radiochemical Determination of Plutonium in Urine. H. V. Weiss and W. H. Shipman.
Anal. Chem. 33, 37-39 (Jan. 1961).

An improved method was developed for the determination of plutonium in urine. Plutonium was cocrystallized with potassium rhodizonate from urine. It was then purified from interfering substances by coprecipitation with lanthanum salts and by ion exchange. Finally, the radioelement was electrodeposited onto a tantalum disk and alpha counted. The average recovery was $91.3 \pm 5.0\%$ and the analysis time 5 to 6 hours. -- Authors' summary

ENVIRONMENTAL MEASUREMENTS

- 178 The Distribution of Dust and Gas by Sutton's Method. R. Trappenberg.
Intern. J. Air Poll. 2, 27-41 (July 1960).

It is possible to calculate the pollution caused by emission from a chimney by means of Sutton's equations. As the direction of wind is variable and the pollution therefore distributed over an area, the author calculated the mean concentration of gas and deposition of dust over an area of 1000 by 500 meters. The theoretical maximum point is in the center of this rectangle and the longer side is parallel to the wind direction. The results for dust deposition as function of meteorological conditions and height of chimney are given. From the figures and tables given it is possible to estimate the pollution to be expected from an industrial plant with a known emission provided the following factors are known: wind speed and its variation and height, wind direction and its range, frequency, duration, and amount of rainfall. A comparison of the calculated dust deposition with that measured by Diem gave satisfactory agreement. Similar tests of gas and air-borne dust concentration have not as yet been carried out, but there is a need to make such tests in order to confirm the calculated results.

-- APCA Absts.

- 179 The Concentrations of Oxidant (Ozone) and Nitrogen Dioxide in the Air of Cincinnati, Ohio.
J. Cholak and L. J. Schafer. Am. Ind. Hyg. Assn. J. 21, 452-458 (Dec. 1960).

The reactions between hydrocarbons and nitrogen dioxide producing "photochemical smog" and oxidant have become increasingly clear in the past few years and are generally accepted as accounting for Los Angeles smog. Interest in "photochemical smog" and the need for a variety of reasons, for establishing trends in pollution have resulted in several investigations of the occurrence of oxidant and nitrogen dioxide in the atmosphere of a number of communities. Investigations starting in 1954 in Cincinnati and in several other cities in the eastern section of the country were generally of such brief duration or they were made during such times