to the ratio of centrifugal to gravitation acceleration (based on inlet velocity and maximum cyclone diameter) and (3) ration of cylinder body area to inlet area. The separation factor as here defined has not proved to be a satisfactory index of cyclone efficiency, nor does the author suggest a method for selecting an approximate value of the cylinder to inlet area ratio on a rational basis.

M. W. First, Boston.

Atmospheric Pollution. Louis C. McCabe, Indust. & Engin. Chem. **42**:77A (Oct.) 1950.

Final Progress Report: Harvard University AEC Contracts No. AT-30-1-Gen-238. Leslie Silverman, Melvin W. First, G. S. Reichenbach Jr. and Philip Drinker, New York Operations Office—1527, Feb. 1, 1950, 65 pages.

Results of basic laboratory research on methods of increasing particle size and aggregation by condensation from sprays or other suitable means are reported. Data and techniques used for a limited number of field studies of performances of various dust and fume collectors are included. Twenty-eight references are given.

Nuclear Sc. Abst.

Method for Determining the Mercury Content of Air. H. van Suchtelen, N. Warmoltz and G. L. Wiggerink, Philips Tech. Rev. **11**:91, 1949.

The method is based on the fact that the Hg atom absorbs radiation of the wavelength 253.7 mμ which is one of its resonance lines. Radiation of this wavelength is obtained by low pressure Hg lamp with a Bläckström filter consisting of a quartz tube, 2 cm. thick, filled with a solution containing 12.4 per cent $NiSO_4$ and 9.64 per cent $CoSO_4$. This filter allows only ultraviolet rays of 210-330 mμ to pass. This radiation is directed through a test tube into which the air to be tested is passed and is then "picked up" by a photocell. If the air contains Hg vapor, this photocell will produce a weaker current than does another photocell exposed to pure air. To get an apparatus which will register the small differences which have to be measured, two photocells are used with a semitransparent mirror set at an angle of 45 degrees to the optical axis so that the transmitted radiation falls on one photocell after it has passed through the above-mentioned test tube, but the reflected part of the radiation falls directly on the second cell. The two photocells are taken up in a compensating circuit, and the magic eye is used as zero indicator. Two methods are described for calibrating the instrument. Hg concentrations from 1 to 200 per cent of the limit dangerous for human beings can be determined. This detector of Hg vapor is sensitive to other vapors, such as those of xylene, chlorobenzene, aniline, toluene, benzene, acetone, trichloroethylene and benzine, all of which are dangerous to man if present in too high concentration. A table is supplied which gives these limits. Tobacco smoke and O_3 also are indicated. Aqueous vapor, CCl_4, MeOH, EtOH, AmOH, $CHCl_3$, EtOAc, $C_2H_4Cl_2$, and MeCl do not interfere with the Hg test.

W. T. Hall [Chem. Abst.].

A Study of the Contamination Potential of Polonium Static Eliminators. Louis B. Silverman and Fred A. Bryan, UCLA-84, 15 pages, Aug. 1, 1950.

A study of P.-coated metal strips for the elimination of static electricity supplied by two manufacturers has been made in respect to alpha-emitter contamination in air and following normal handling. The results indicate that strips produced by the same company are not identical in their contamination possibilities. It also has been found that without definite handling techniques a real health hazard can exist. The study reveals that P.-coated static eliminators can be used in industry provided careful health-physics regulations are maintained.

Nuclear Sc. Abst.