

Drs. Hasterlik and Lauer, Mr. Adley and I held a conference to decide on the quantitative procedures. It was planned that air analyses would be made, covering each phase of the work normally done by Dr. Hasterlik's patient. Mr. Adley suggested that particular attention should be directed to work with a cut-off saw where a beryllium alloy was used.

The beryllium analyses were to be made by the spectrochemical method of Cholak and Hubbard, of the University of Cincinnati.¹ In this procedure the sample is concentrated to a small volume, which is placed in an electrode cup. When the spectrograph is operated, the spectrum of the ingredients of the sample is recorded on film. The intensity of the spectral lines is in proportion to the amount present. The method is sensitive to 0.25 microgram. A microgram is one millionth of a gram.

As beryllium is known to be toxic in very small quantities, it was decided to sample at least 1 cu. M. of air for each operation. As shown by Mr. Adley in his paper, large quantities of air are preferably sampled by the filter paper sampler or the electrostatic precipitator.

The analyses of the air in the workroom where the cut-off saw was located were all positive for beryllium. Of most significance were the concentrations found in the breathing zone of the workman who operated the cut-off saw. Two samples showed concentrations of 6.3 and 4.8 micrograms of beryllium per cubic meter of air.

Small but significant quantities of beryllium were also found in the blood and urine samples. The spectrochemical method of Cholak and Hubbard was also employed for these analyses.

The methods employed in the interpretation of the significance of the quantitative analyses for beryllium in the air, blood and urine are discussed by Dr. Hudson.

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1. Cholak, J., and Hubbard, D.: Spectrochemical Determination of Beryllium, *Analyt. Chem.* **20**:970, 1948.