containing $BaCl_2$ precipitate is deposited on a platinum or glass disk and treated with $H_2SO_4$ to give a uniform adhering deposit. The sample is then counted in a proportional or parallel-plate pulse chamber. An alternative step for removing interfering anions involves the use of a cation exchanger to adsorb the radium from the ashed solution, and subsequent elution of the radium with $HNO_3$.

NUCLEAR SC. ABST.

ENVIRONMENTAL CANCER AND PETROLEUM. S. J. M. AULD, J. Inst. Petroleum **36**:235, 1950.

Cancer due to contact with tars and oils has occurred in a limited number of workers in the light oils and waxes from shale, lubricating oil users, such as mule skinners, and users of cutting oils. Mule skinner's cancer has been avoided by the use of highly refined white oils. Certain cracked oils contain a small proportion of carcinogens; such compounds are apt to be concentrated in oil extracts, if this method of refining is used. Attention should be paid more to cleanliness and the avoidance of continuous contact with the oil than to the nature of the oil.

ADAPTED FROM CHEM. ABST.

PERSONNEL MONITORING. GERARD LEIFCHILD, X-Ray Technician **21**:337 (May) 1950.

A general discussion of x-ray personnel monitoring is presented. Chief reasons for this monitoring are that protective barriers may be inadequate, improper work methods may be used by laboratory technicians and helpers, and rank carelessness may occur on the part of the personnel. Three types of treatment are available for the measurement of ionization: electroscopes of the Lauritsen type (pocket meters and pocket chambers), ionization chambers with associated electronic equipment, and Geiger-Müller tubes with associated electronic equipment. The author confines his discussion to the first-named category. Several suggestions for the proper use and care of pocket meters and chambers are outlined: Always keep the meter charged when not in use; before use, determine the loss of charge due to ionization from cosmic radiation and other sources, and find out whether the instrument is operative or not; the instrument should be given reasonable care to preserve it from breakage.

FROM NUCLEAR SC. ABST.

BLOOD CHANGES IN LUMINIZERS USING RADIOACTIVE MATERIAL. ETHEL BROWNING, Brit. M. J. **1**:428 (March 12) 1949.

In a seven year study of 2,737 workers who used radioactive material (and 100 control workers), complete blood analyses were done while they were working, and 366 of them were followed up. Exposure was limited to small amounts by various precautionary methods and occurred from external irradiation by $\alpha$ particles, $\beta$ and $\gamma$ rays, radon inhalation, ingestion from hand contamination and inhalation of radioactive dust. Transient lymphocytosis and the presence of Türck cells, premyelocytes, and premature large mononuclear cells were found, as well as a rare occurrence of anemia. The author discusses the findings and concludes that the blood changes are due to a temporary slight hyperstimulation of the reticuloendothelial system.

ADAPTED FROM NUCLEAR SC. ABST.