

PHYSICS

Quick Radioactivity Data

Scintillation probe developed to locate underground beds of radioactive ores more precisely. Ten times more efficient than Geiger instruments in reporting gamma rays.

► AN INSTRUMENT has been developed which detects underground radioactive ore, its quantity and quality, more quickly and more efficiently than comparable Geiger instruments, the Atomic Energy Commission announced in New York.

Called the scintillation probe, the instrument is a steel cylinder two and one-half feet long by two inches in diameter. It contains a detecting element sensitive to gamma rays and it can be lowered into drill holes at least 200 feet deep.

In practice, the scintillation probe has demonstrated many advantages over similar Geiger instruments. It is about 10 times more efficient in reporting gamma rays which strike its detecting element.

Also, it can locate the underground beds of radioactive ores between two and three times more precisely.

Furthermore, it can log drill holes (chart the radioactivity along the entire length of the hole) from five to 20 times more rapidly than Geiger tubes of the same statistical accuracy.

It can discriminate between gamma rays of different energies. That is highly important in determining whether the rays come from uranium or other radioactive materials. And that, in turn, helps determine ore reserves in the area.

It is more versatile than similar Geiger tubes. A single scintillation probe can measure radiation of different intensities whereas several Geiger tubes of different sensitivities would have to be used to obtain that same information.

Basically, the new instrument consists of a light-tight cylinder containing crystals of

sodium iodide near a photomultiplier tube. When gamma rays strike the chemical, their energy is converted to visible light which is detected by the photomultiplier tube. The output of the photo tube is amplified and sent to the earth's surface by a cable where it is pen-recorded on a moving sheet of paper.

The whole outfit is carried in a vehicle equipped with a reel capable of pulling the instrument out of drill holes at a fixed speed. Pen records made by the instrument have been found to agree satisfactorily with laboratory analyses of cores taken from the respective drill holes.

Dr. Phillip L. Merritt, who heads the AEC's exploration program, said he thought the new instrument would speed up the finding of underground deposits of uranium in the Colorado Plateau and in other western states.

Science News Letter, March 29, 1952

MEDICINE

Safer Blood Transfusions With Antihistamine Added

► SOME REACTIONS to blood transfusions may be prevented if an antihistamine drug is added to the whole blood before it is transfused. This suggestion comes from a study made at George Washington University Hospital, Washington, by Drs. Harry E. Ferris, Seymour Alpert and Charles Coakley.

The kinds of reactions that could be prevented are allergic, such as hives, and attacks of asthma or breathing difficulty.

Feverish reactions were also reduced when the antihistamine-treated blood was transfused, the doctors report.

Idea for using the antihistamine came from a theory of earlier investigators that susceptibility to allergies in patients receiving blood transfusions was caused by an increase in histamine brought about by the influx of new blood.

Pyribenzamine was the antihistamine used in the experiments at George Washington. Details are reported to fellow physicians in the journal *AMERICAN PRACTITIONER AND DIGEST OF TREATMENT*.

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