CHEMISTRY

New Process for Freeing Uranium Frees Security

➤ URANIUM is now being stockpiled in the United States on such a large scale that all processes for extraction and preparation of the vital raw material have been declassified, thanks to two recent developments.

Until now, uranium production has been "critically slow" and processes for extracting the metal from its ores have been classified as secret, Dr. Victor K. La Mer, professor of chemistry at Columbia University, New York, told a meeting of the New York section of the American Chemical Society.

The recent developments that have improved this country's uranium position, as cited by Dr. La Mer, are discovery of rich ore sources on the Colorado Plateau, and development of extremely efficient flocculating agents that improve extraction processes and, effectively, up-grade poor quality ores.

Drs. La Mer and Nina Syniawsak, Columbia University, and Dr. Robert H. Smellie Jr., professor of chemistry at Trinity College, Hartford, Conn., paved the way for development of the new flocculating agents which improve separation of tiny ore particles from the water liquor in which the ore was pulverized.

Most uranium extraction processes involve grinding the ore in water until a "slime" is formed. This effectively separates valuable metal-bearing parts of the ore from rock and other useless material.

Although the methods produce the desired separation, the particles formed are too small to be recovered by usual processes of filtration, Dr. La Mer said.

Flocculating agents, long used by chemists to cause small particles to group together, or coagulate into larger particles, provided the answer to the problem.

Although the particles produced by grinding are too large to be considered as dissolved in solution, the colloidal particles, as they are known, are too small to be trapped by sieves for recovery.

Flocculating agents based on fundamental research by Dr. La Mer and his associates are added to the slimes to coagulate the colloids into particles large enough for efficient recovery.

Science News Letter, March 29, 1958

Do You Know?

Within 48 hours *milk* may be moved from Madison, Wis., to Miami, Fla., with the temperature rising only one or two degrees.

A reasonable estimate of the area of *inland waters* in the U. S. is 48,000,000 acres.

The largest *hailstone* on record was five and a half inches in diameter and weighed a pound and a half.

Statistics show that half the nation's mentally ill are suffering from *schizophrenia.*