CORPORATE

profile...

World's largest boron producer and a leading domestic producer of potash—that's U. S. Borax & Chemical

In the oil business, dry wells don't pay off. But sometimes, wildcatters admit, oil isn't the only good thing that comes out of the ground.

In the summer of 1925, the Snowden & McSweeney Co., prospecting for oil on public lands near Carlsbad, N.M., drilled into a salt formation at 700 feet. Core tests showed the entire layer, which went down to nearly 2000 feet, to be laced through with dark red streaks. The thin, red veins were first thought to be polyhalite, a slightly soluble mixed sulfate of potassium, calcium, and magnesium, which usually assays about 15% K_2O equivalent. Analysis, however, showed these crystals to be sylvinite, a sodium-potassium chloride; the raw ore assayed 20 to 22% K_2O—higher than some of the best European ores.

Realizing the great need in this country for a domestic source of potash, Snowden & McSweeney continued explorations, and late in 1926, through company counsel Paul Speer, organized the American Potash Co. (This name was changed to United States Potash Co. in 1929.)

A mine shaft was started midway between two core-test sites which had showed high potash content. This shaft location provided immediate returns to the struggling new company by permitting direct sales of crushed run-of-mine ore to the fertilizer trade. (The "manure salts" boasted a relatively high K_2O content and water solubility, of recognized value to fertilizer producers.)

Through the financial and technical assistance of Pacific Coast Borax Co., which had bought a half interest in the new organization, a 120-ton-per-day refinery was put on stream in June 1932. From $300,000 the first year the shaft was open (1931) and $500,000 the second, net sales—sparked by the high quality of the refined salts—jumped to over $2.5 million in 1933. By 1937, sales had climbed to more than $3.3 million, and they have risen consistently.

Just a year ago, U. S. Potash merged with Pacific Coast Borax Co. (then a division of Borax Consolidated, Ltd., a British organization) to form U. S. Borax & Chemical Corp., a new American company. Frederick A. Lesser, managing director of Borax Consolidated, became chairman of the new corporation; James M. Gerstley, formerly president of Pacific Coast Borax, was elected corporation president. Dean R. Gidney, vice president and sales manager of U. S. Potash, became a vice president of the corporation and general manager of the U. S. Potash Co. division. The corporation's offices are in Los Angeles, but headquarters of the U. S. Potash division remain in New York City.

This merger has united two important producers of raw materials for agricultural chemicals. Pacific Coast Borax Co., the senior producing division of the new corporation, is the world's largest borate miner and refiner. An important part of its production goes to help fulfill agriculture's needs for boron chemicals in plant foods and herbicides. An increasingly successful herbicidal development has been the use of borates for control of annual and perennial weeds, where a period of soil sterility is no handicap. Besides straight borates and borate/chlorate compounds, new mixtures of sodium borate complexes plus organics—2,4-D acid or 3(*p*-chlorophenyl)-1,1-dimethyl urea—have been introduced by the company, and are finding their way into the field.

U. S. Borax & Chemical's research division has just moved into its new million-dollar laboratories in Anaheim, Calif. Here agricultural and industrial uses of boron products are being extensively studied. U. S. Potash's own laboratory in New Brunswick, N. J., is working on new chemical uses of potash and on pilot-plant development of improved processes for fertilizer manufacture. Within the next few months, the potash division will move its research to Anaheim, where all research is being centralized.

Processing

Since the start of its refining operations, U. S. Potash has used solution-refining in preference to flotation. The solution process requires more capital equipment, but provides 62 to 63% K_2O-equivalent (up to 99% KCl) in the first refining run. The raw, crushed ore is dissolved in hot mother liquor and Higrade muriate of potash is separated from sodium chloride by fractional crystallization through vacuum evaporation.

Increasing preference for granular materials in the fertilizer industry—which takes about 94% of U. S. Potash's production—has led the company into novel processing methods. Just this month, Higrade Granular muriate of potash has been officially placed on the market by U. S. Potash. New equipment permits slow crystallization into primarily 10/20-mesh granules, with no decrease in production rates. Total annual output of all grades of refined muriate is now about a half-million tons (K_2O basis).

Lower-content granular material has been produced for many years by a tabling separation at the mine-site, and today "60% granular" accounts for about one-fifth of tonnage sales. Ma-