

WORKS PROGRESS ADMINISTRATION

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MECHANIZATION IN PHOSPHATE MINING REDUCES LABOR REQUIREMENTS:
PRESENT SOURCES SEEN ADEQUATE FOR SEVERAL GENERATIONS

Productivity in the phosphate mining industry has improved during the last 50 years to the point where one workman today produces as much as 14 men did in 1880. Chiefly responsible for this development are a variety of mechanical improvements, the concentration of production in the largest, most mechanized mines, and the rapid growth in the use of mechanical power.

These are the principal facts established in a study of "Technology, Employment and Output per Man in Phosphate Rock Mining, 1880-1937" recently completed by the National Research Project of the Works Progress Administration in cooperation with the Federal Bureau of Mines and released for publication today by WPA Administrator Harry L. Hopkins.

With respect to the phosphate reserves of Florida - where 75 percent of the present production comes from - Corrington Gill, Assistant Administrator in charge of all WPA research, points out in his letter of transmittal that, "exhaustion is not likely to occur for several generations, even allowing for a sizable increase in the rate at which they are mined".

"Although known reserves of the Western states, and particularly of Idaho", he continues, "are many times greater than those of Florida,

these tremendous phosphate reserves have not been extensively tapped, partly because little fertilizer has been used on the agricultural lands of the West It is expected that increased consumption of fertilizer in those areas will be aided by achievements of the TVA and research conducted under other auspices in developing low-cost processes for manufacturing concentrated phosphatic fertilizers which have lower shipping costs per unit of plant food".

The report states that whereas 2,500 workers were employed in producing 210,000 tons of phosphate rock in 1880, only 3,500 men were required to produce 4,260,000 tons in 1937. "Technological improvements were primarily responsible for this more than fourteenfold increase in output per man", the report concludes, adding that during the next decade production will increase enough to offset further gains in productivity so that employment will average near its 1937 level.

The principal factors which are expected to make for increased production in the future, the report points out, are increased consumption of agricultural products resulting from population growth; continuation of the trend in our national diet that has brought greater demand for such agricultural products as fruits and vegetables which require large quantities of phosphate fertilizers; the expansion of fertilizer consumption to counteract the depletion of soil fertility; the probable decline in the price of fertilizers; and a considerable expansion in the non-agricultural uses of products obtained from phosphate rock.

The report is published as a booklet of 130 pages with numerous illustrations, charts and tables. It was prepared by A. Porter Haskell, Jr.,

and O. E. Kiessling of the Federal Bureau of Mines. Dr. Kiessling is in charge of the mineral technology studies of the National Research Project on Reemployment Opportunities and Recent Changes in Industrial Techniques directed by David Weintraub.

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