Large Staff Will Operate Pilot Manganese Plant

Present Mine Bureau Payroll to Be Quadrupled, Said

WASHINGTON, Oct. 16. (WNS)—When all units of the pilot manganese plant are in operation at Boulder City, the bureau of mines staff will be four times as large as it is now constituted, it was learned today.

It is believed that many of the additional employes will make their homes in Las Vegas because of the serious housing shortage at Boulder City reported by the bureau of reclamation. The bureau sought funds for the construction of additional houses, but was turned down by the bureau of the budget.

Civil Service Job

Officials of the bureau of mines said that the additional employes would be hired through the civil service commission from registers recently established. The increase in the employment, it was stated, will be gradual and will come as the units of the pilot plant are made available for operation.

Preliminary plans as prepared by Dr. J. Koster, in charge of the Boulder City station, and Dr. Reginald S. Dean, chief engineer of the metallurgical division at Salt Lake City, have been forwarded to Washington and are undergoing study for approval here.

According to Dr. Arno C. Fieldner, chief of the bureau's technical division, the P. M. Ambrose of the metals section, this work will go ahead as speedily as possible.

When completed the Boulder City plant will be the center of a widespread and comprehensive program to supply deficiencies in the nation's manganese supplies.

Several Phases

Work at Boulder City will cover several phases of the experiments. There will be an ore dressing plant, which will "skim off" as much ferro grade concentrate—which contains 50 per cent or more manganese—as possible. This will be done principally by the flotation method and will determine the manganese itself or the impurities can be floated.

Then there will be several new plants which by various methods will extract the manganese from the residue. Most of the United States' manganese reserves is found in this form. Less than 35 per cent of the United States manganese is high grade ferro.

Several of the pilot plants will "leach" or dissolve the ore preparatory to extraction, using chemical reagents. Chief among these are sulphur dioxide and sulphuric acid.

Use of the sulphur dioxide brings manganese sulphate, which is evaporated down to crystals. These are placed in a furnace and calcimined at a high temperature, leaving manganese oxide which is 50 per cent or more manganese and of the highest grade.

When sulphuric acid is used as the dissolving agent, electricity is passed through the solution to separate the manganese.

Pay Higher Price

Manganese so produced, according to Dr. Fieldner, under normal peace times is not expected to be in competition with ferro manganese, except for higher grade, low carbon steel alloys. The steel industry today is willing to pay the higher price for this manganese for such purposes.

During the present times when world conflagration threatens the normal manganese sources it has a very definite value to defense industries.

As a part of the program experiments will be undertaken in the field of special alloys. It is believed that an ally with copper produces a material which, like lead has no ring, but unlike lead is much stronger. This substance may have a great future to reduce noise in machinery. Makers of business machines are experimenting in the use of manganese for this purpose.

Success of these experiments will pave the way for commercial production of electrolytic manganese and will revive the market for low grade ores found in Nevada and other western states. At Boulder City ores from Nevada, South Dakota, Colorado, Washington, Arizona, California and possibly Arkansas will be studied.

Already, as a part of the program the bureau is making studies, through core borings, to determine the extent and quality of the known deposits in these and other areas.