

tain. It is stated that a new steam hoist will be erected. A good body of milling ore is developed on the property.

Other Mines.—The Silver Queen mine has been shipping ore spasmodically to the June Bug mill. The ore is said to run \$80. A mill run of 1000 lbs. of ore from the Neptune mine was settled for by the smelters at Pueblo, Colo., on a valuation of \$67 per ton. The ore was taken from a 3-ft. vein at a depth of 30 ft. On the Memphis, the vein is from 5 to 6 ft. wide and samples taken across the vein at an average of 22 ins. for a distance of 100 ft. in Tunnel No. 1 show an average of \$57. The June Bug mill treated some of this ore, recovering \$40. Pockets of high-grade silver sulphides were encountered in drifting on the vein in the intermediate tunnel at a depth of 150 ft. The Stella mine is being developed by an eastern company and should be developed into a paying mine.

Good Roads on a National Forest.

Progress in the district has been retarded by poor highways, and seeing the necessity of good roads before mining progress could be made in the district better roads would have to be made. Norman L. Faris is secretary of the Red River Good Roads Association.

Hydro-Power Plants of the Montana Power Co., Montana.

President John D. Ryan of the Montana Power Co. in a recent address before the banking men of Boston at the Exchange club, gave an interesting review of the Montana power situation. During the course of his talk, Mr. Ryan said:

"The Montana Power Co. now has 1470 miles of high-transmission lines extending over the state of Montana. By far the greatest part of this wire system is in the eastern part of the state, where are located the big mining sections, among them Butte, Anaconda and the smelting plants at Great Falls. On the other side of the state we have developed a plant at Thompson Falls, from which end we expect to take care of the electrification of the 430 miles of the St. Paul railway for which we have contracted. When this is completed we shall then hitch up all our lines in the state, and through such arrangement will have 13 different plants generating power and making it impossible to cause a breakdown in our system of operation, no matter in what part of the state we operate. With one part of the system out of order we can switch in on another.

"The St. Paul electrification is now about half completed. The company is under contract to take a given amount of power each year, and pays for 60% of this amount of power as a minimum whether used or not. We have now developed 250,000 hp., and plan an ultimate capacity of 350,000 hp. The territory now served would cover the entire New England states, yet we do

no business outside of the state of Montana. We sell at the state line for power delivered in other states, but do not operate these outside lines ourselves. We have developed a tremendous storage capacity, and even if a dry spell should last for months, through our system of dammed up reservoirs and storage lakes we could generate 115,000-hp. for 100 successive days without using a bit of the water now available in ordinary rivers, streams and channels.

"In our system we use water over and over again, making it serve seven different uses before it finally enters the Missouri river.

"We are working on a co-operative basis with many of the companies, towns and communities we serve. The Anaconda Co., for example, made a contract with us whereby we are to supply power for the life of the mine for \$30 on the average per horsepower. Previously the company paid the Missouri River Power Co. an average of \$53 per horsepower for electricity and \$85 additional average for the steam power used. Now it gets all this for \$30 per horsepower, a saving to the Anaconda of \$2,000,000 per year in power cost alone. Our compensation comes in that we have this contract for the entire life of the mine, which I anticipate none of us here will live to see terminated.

"Anaconda is using now about 40,000 hp. per year. It has a plant that can use 50,000 hp. per year, and never will drop below 20,000 hp. in a year.

"The St. Paul contract runs for 99 years. The company now is paying between \$125 and \$150 per horsepower for coal-generated power and we shall furnish it at a rate of \$35 per horsepower. When we finish our plant we shall have to charge up \$125 as the cost of each horsepower, this cost being the amount of bonds and preferred stock issued. Of every \$1 taken in by the company, 70 cts. will be left for dividend and interest payments. The railroads are lucky to save 20 cts. of each dollar and an industrial company from 10 to 15 cts. The company now controls 85% of the lighting business and 95% of the hydro-electric business in the state of Montana. Through our operations we will prevent being taken from the ground 1,000,000 tons of coal per year.

"The zinc industry is growing rapidly in Butte, and these companies now ship their product to Oklahoma for treatment, because the costs for treating ores there are low, due to the fact that natural gas is so easily available. But improved metallurgical treatments are being perfected and we shall soon be able to treat all this immense tonnage of zinc by electricity in Montana. This should add greatly to the revenues of the company."

Secretary Lane has entered into a contract with private interests to build a \$250,000 plant to handle the invention of Dr. Walter G. Rittman of the Bureau of Mines—a process for the manufacture of gasolene, dyestuffs and explosives.