156
Item 23

BETTY O'NEAL MINES

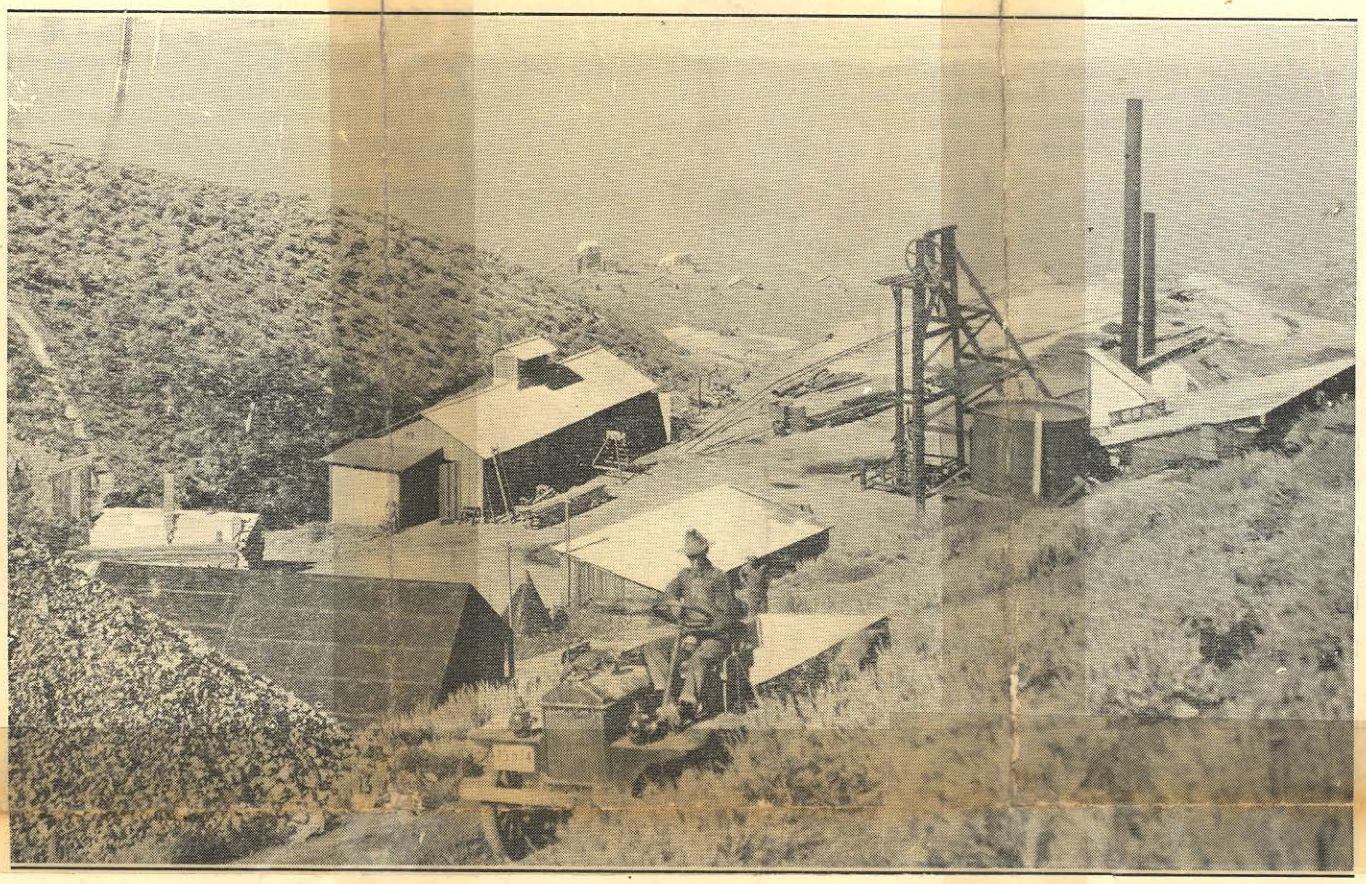
2790 0023

The properties of the Betty O'Neal Mines comprise the Betty O'Neal group of mines in Nevada and the Cash Mine near Prescott, Arizona.

The Betty O'Neal group comprises the Betty O'Neal and Estella mines, to which has been added the adjacent ground acquired from the Battle Mountain Mining Company and others, in all totalling 1,460 acres and covering the apex of the veins for 6,000 feet. 760 acres are held by United States patent and the rest by location.

This property is situated in the Lewis district, near Lewis Canyon on the west slope of the Shoshone Mountains, twelve miles southeast of Battle Mountain Station on the main line of the Southern Pacific Railroad. It is in a great mineralized section which within a comparatively short radius, has produced from its mines more than $300,000,000. It is about a half mile south of the old mining camp of Lewis, which at one time had a population of 1,000. The elevation of the mine is 5,350 feet. The Pittsburgh district in which are situated the old Dean Mines and the Hilltop Mine, adjoins the Lewis district on the east.

These properties were acquired by the Betty O'Neal Mines by the advice and under the management of State Senator Noble H. Getchell of Nevada. The Betty O'Neal Mine has been claimed by J. Carlton Bray, M. E., of Reno, Nevada to possess the largest body of high-grade base-silver ore in the State of Nevada, and other competent mining engineers who have examined the property have declared that it is destined to become the State's most important producer.



Surface Works at Shaft: Flotation Mill in Distance.

The Betty O'Neal mine is located on a wide deposit of limestone and quartzite which has been tilted and fissured by intrusions of granodiorite and quartz-porphyry. The ore is a white sugary quartz, tinted a light pink in places by manganese. The principal metal is silver, occuring as primary sulphide in the form of argentite and stephanite. The ore carries a small percentage of lead and some copper, tetrahedrite, the miners "gray copper", being of common occurrence in the shoots of high-grade. The ore makes as replacement of the quartzite and limestone and in places reaches wide dimensions.

The mine was re-opened in June, 1920. A 100 ton mill was built and put into operation at the end of October, 1922. The first dividend of 15 cents per share was paid in February, 1923. Two dividends aggregating $117,056.10 were paid from earnings of the 100 ton mill while silver was selling at the Pitman Act price. Then the management decided to increase mill capacity to 250 tons per day in anticipation of the expiration of the Pitman Act and with the design of earning as much at the increased rate of production on the open market price of silver as was formerly earned under the Pitman Act.

Present operations indicate that the earnings at capacity will be better than anticipated. During the last quarter of 1924 the mill was operated at only 25 percent of capacity and the greater part of the underground force was kept on development work in anticipation of increasing mining operations to mill capacity. Nevertheless, earnings during that period were at the rate of more than 40 cents per share per year. A new air compressor that

will more than double the supply of air, a grizzly that will send only the ore needing crushing to the crusher, and a new automatic dryer to insure greater efficiency and economy in the drying of concentrates, will shortly be added to the equipment, with the design of bringing operations up to mill capacity during the Spring of 1925; earnings should be approximately proportionately increased.

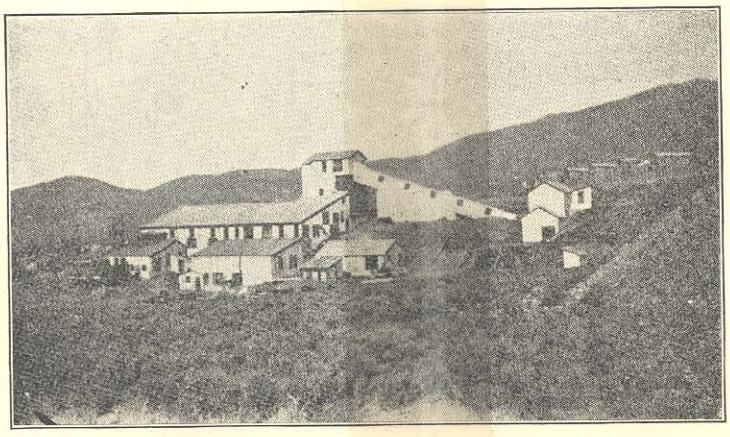
The lowest point where ore has been exposed on the property is in the Getchell tunnel and from this point to the highest point where ore is found in place on the property is over 1,600 feet. Ore is exposed in workings at many points along this distance.

Exhaustive tests on the ores resulted in the selection of Flotation as the most suitable process for the extraction of values. Tests were conducted and the mill designed by the A. H. Jones Company of Salt Lake City in consultation with metallurgists of the Minerals Separation Corporation. The plant was constructed in two units with a combined capacity rated at 250 tons per 24 hours with an indicated extraction of 95%. Concentration is about 18 tons into One.

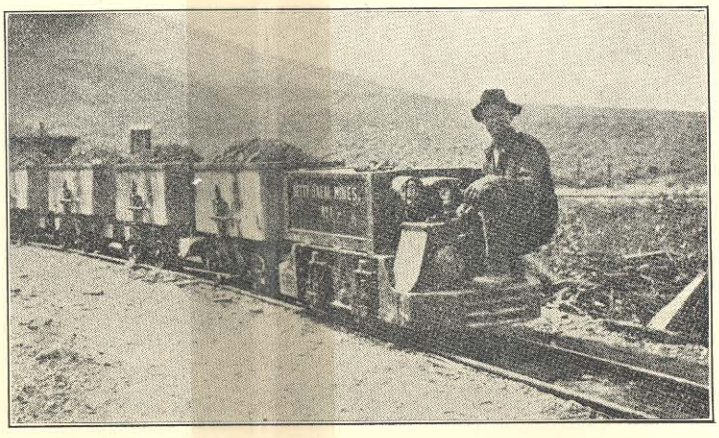
The ore from the mine after being passed from upper levels to the Getchell Tunnel is hauled to the mill, a distance of 2,100 feet, by a train of twelve Matteson improved 1.25-ton side dump cars and a Mancha storage battery locomotive.

Electric power for mine and mill is generated by two 300 H. P. 6 cylinder, type Y Fairbanks-Morse semi-Diesel engines directly connected to two 250 KVA Fairbanks-Morse alternators supplying current at 460 volts, 60 cycles. Alternating current at this voltage is used in the various motors throughout the plant. For lighting the voltage is reduced by transformers. The oil used for fuel is a distillate of 27 deg. Be. It costs 5.25c. per gallon at Battle Mountain and $5 per ton for transportation to the mine. Each engine requires about 17 gallons of oil per hour. Power costs $6 per H. P. per month.

Ore from the mine is weighed on track scales in the coarse crushing plant and dumped into a 50 ton bin feeding to a No. 4 Allis-Chalmers gyratory crusher. The ore crushed to one inch size is carried by a 125 ft. belt conveyor to a 300 ton bin at the top of the fine grinding plant, thence by belt feeder to the ball mills. The grinding is done in four Joshua Hendy Ball mills, two being 4 x 5 ft., one 5 x 6 ft., and one 5 x 8 ft. The ball mills are operated in series in closed circuit with Dorr classifiers. The overflow from the classifiers is fed to two Minerals Separation subaeration machines. In No. 1 unit an 18 inch, 12 cylinder machine is used. In No. 2 unit an 18 inch, 14 cylinder machine has been installed. The agitators in the cells have been operated at 380 r. p. m. After passing the flotation cells a portion of the tailings is cut out of the stream and passed over a Wilfley table which acts as a pilot showing the condition of concentrates, so that any deviation which may occur, being detected at once, enables the operator to make necessary corrections. In the drying house the concentrates are dumped into a large shallow bin heated by an oil burning furnace. After drying they are sacked, weighed and shipment is made to the United States Smelting, Refining and Mining Company's smelter at Midvale, Utah.



The 250 Ton Mill at Betty O'Neal Mine



Electric Locomotive and Train of Ore Cars.

The Betty O'Neal mill is a model in arrangement and of excellent construction. From the time the ore enters the top floor of the crushing plant until the finished product leaves the drying bin the operation is automatic. Foundation, floors and retaining walls are of reinforced concrete. The buildings are covered with corrugated iron. The power plant is in a separate building below the mill. All the machinery in the mill is driven by individual motors of Fairbanks-Morse manufacture.

New and extensive ore bodies not hitherto encountered underground have been opened up in recent months as evidenced by the following messages from the Manager of the mine:

"Twenty-five feet of north cross cut from winze face continues in solid ore proving up forty thousand tons and continuity of large north side stope. This is less than one tenth of reserve being developed from one fifty level to north five."

"Have opened up eight feet of ore running two hundred ounces silver in new ground north of number eight stope giving us over four hundred feet of backs. This is without doubt the largest strike yet made in the mine."

"Number five level south crosscut at a point two hundred feet in the footwall of the Estella vein is cutting high grade ore vein that is possibly the Nebraska. Inasmuch as backs are over eight hundred feet you can readily appreciate the importance of this discovery."

"Everything at the mine is going along nicely—the more development we do the more we find. The Betty is without question one of the most wonderful mines ever opened up in the West."

The Betty O'Neal mine is opened by a vertical shaft 336 feet deep and by a series of tunnels above the shaft, of which No. 4 and No. 3 are connected with each other and with the shaft workings. The central power plant for the mine is located at the shaft, which is used for hoisting and lowering mine employees, timbers, powders, etc. The underground workings are connected with the Getchell haulage tunnel, which strikes the shaft at the bottom level, by ore-passes through which the ore is dropped to loading chutes.

Equipment at the shaft consists of a hoist and two Chicago pneumatic air compressors of 309 cubic feet each. The air compressors have engines attached and supply air for machine drills and blowers and for operation of the hoist. The hoist in future will receive electric power from the mill plant. There is a well equipped blacksmith shop with drill sharpener, a carpenter shop with power saws for cutting timbers and making wedges, with lumber piled at a convenient point, and an assay shop.

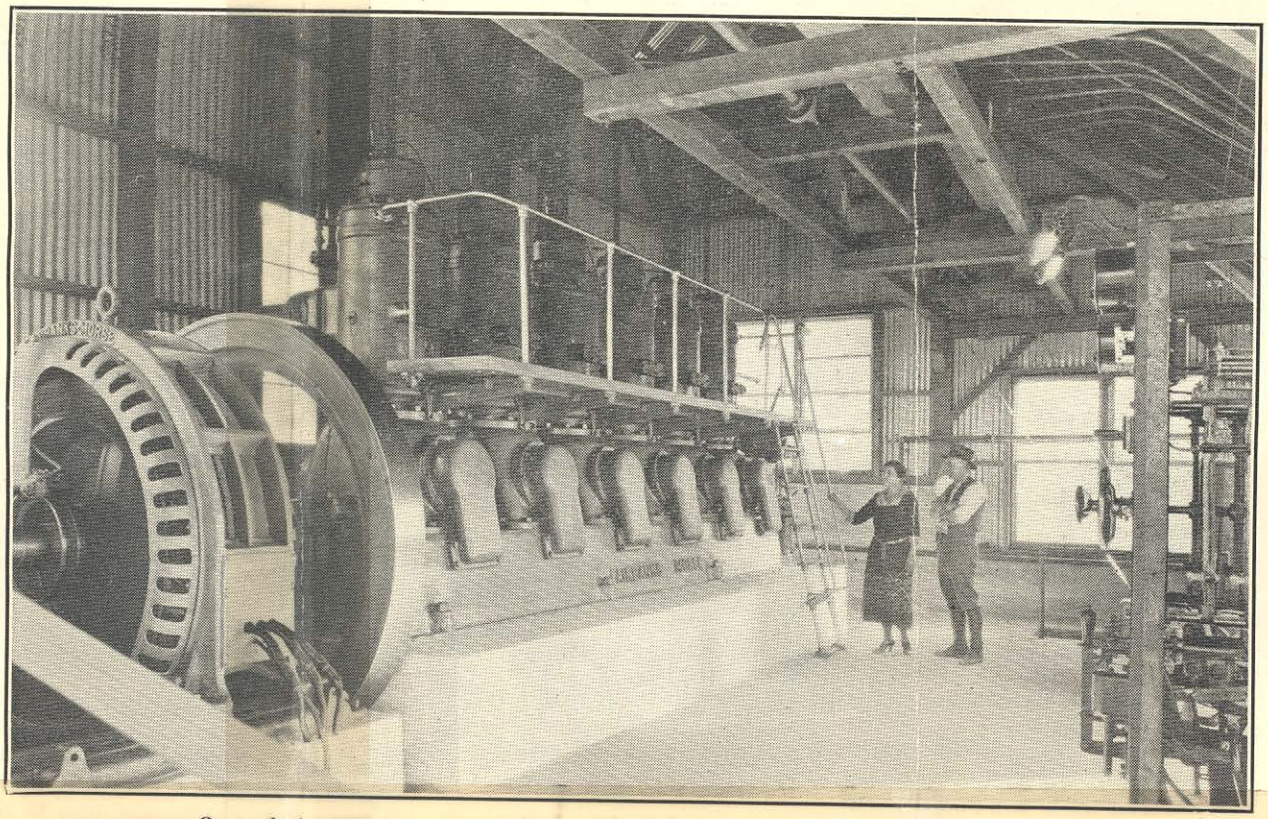
"The development to date has proven a large amount of ore and has located the various veins at a minimum of cost, and at the same time provided adequate workings for its extraction."

"The ores are easily crushed and the values are easily extracted by the flotation process, producing an extremely high grade concentrate which commands a ready market at the smelters. These facts are fully shown by the tests made by the Mineral Separation Company at San Francisco and by the A. H. Jones Company of Salt Lake City, Utah."

"The development is all within an area of less than ten acres. It is probable that further development to the North, East and South will develop many unknown veins and greatly extend the life of the property, while further sinkings as necessary will work to the same end. All the claims except four warrant development on their surface showing and if as many as half of the claims develop ore bodies, the production will be enormous."

"The outstanding feature of the Betty O'Neal is an abundance of 20-oz. milling ore. There are more than 4,000 feet of workings in the mine in ore of this grade at the present time."

It is recognized that the most important factor in the operation of any enterprise is the human element. Without an able staff maximum efficiency at minimum costs cannot be accomplished. In this respect the Betty O'Neal Mines is particularly fortunate. Noble H. Getchell, manager of the property, started life as a miner at Austin, 75 miles from the Betty O'Neal under his father, Lysander W. Getchell, who was general superintendent of the Ward & Austin Consolidated, one of the leading mines of that noted silver camp. He worked his way to the top by diligence and natural ability, supplementing his knowledge gained underground by book lore, and covering a wide field in 25 years' experience as miner and mine operator; and realizing the importance of a capable and loyal staff, he has surrounded himself by men of recognized ability in their chosen lines.



One of the 300 h. p. Semi-Diesel Engines Direct Connected to Generator.

The Betty O'Neal Mines is an Express Trust created in Boston, Massachusetts, April 8, 1920 with 1,000,000 shares of a par value of $5 per share. There are now outstanding or in accordance with the present plans of the Management presently to be issued 450,000 shares.

The trustees of the Betty O'Neal Mines are: George W. Sias, Boston, Massachusetts, President; Frank E. Nye, Boston, Massachusetts, Secretary and Treasurer; and Noble H. Getchell, of Nevada, Vice President and General Manager.

We unqualifiedly recommend the shares to investors as a sound investment of great merit with most attractive possibilities and we shall be glad to execute your orders.

GEO. W. SIAS & CO.,
(Est. 1900)
68 Devonshire Street,
BOSTON, MASS.

April, 1925.

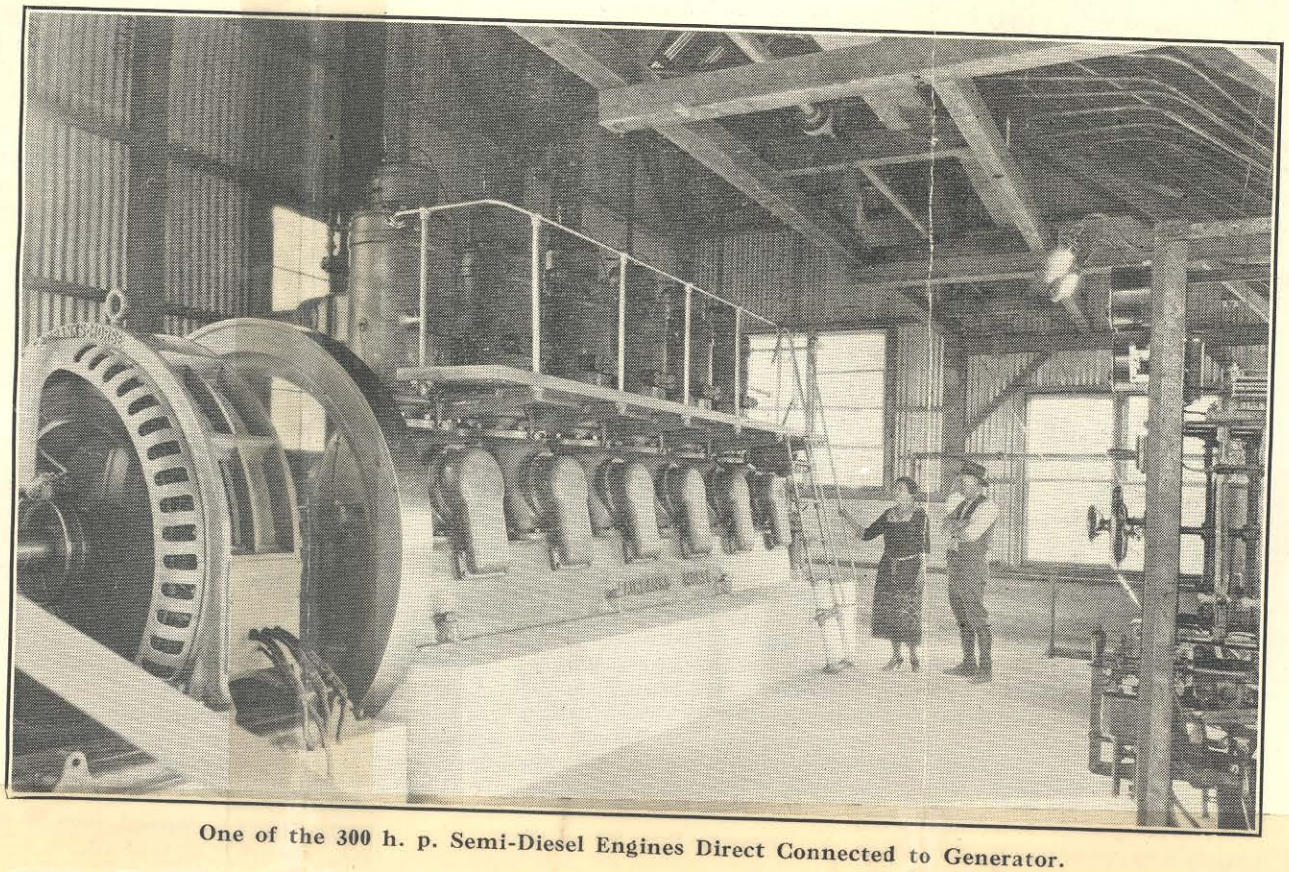
"The development to date has proven a large amount of ore and has located the various veins at a minimum of cost, and at the same time provided adequate workings for its extraction."

"The ores are easily crushed and the values are easily extracted by the flotation process, producing an extremely high grade concentrate which commands a ready market at the smelters. These facts are fully shown by the tests made by the Mineral Separation Company at San Francisco and by the A. H. Jones Company of Salt Lake City, Utah."

"The development is all within an area of less than ten acres. It is probable that further development to the North, East and South will develop many unknown veins and greatly extend the life of the property, while further sinkings as necessary will work to the same end. All the claims except four warrant development on their surface showing and if as many as half of the claims develop ore bodies, the production will be enormous."

"The outstanding feature of the Betty O'Neal is an abundance of 20-oz. milling ore. There are more than 4,000 feet of workings in the mine in ore of this grade at the present time."

It is recognized that the most important factor in the operation of any enterprise is the human element. Without an able staff maximum efficiency at minimum costs cannot be accomplished. In this respect the Betty O'Neal Mines is particularly fortunate. Noble H. Getchell, manager of the property, started life as a miner at Austin, 75 miles from the Betty O'Neal under his father, Lysander W. Getchell, who was general superintendent of the Ward & Austin Consolidated, one of the leading mines of that noted silver camp. He worked his way to the top by diligence and natural ability, supplementing his knowledge gained underground by book lore, and covering a wide field in 25 years' experience as miner and mine operator; and realizing the importance of a capable and loyal staff, he has surrounded himself by men of recognized ability in their chosen lines.



One of the 300 h. p. Semi-Diesel Engines Direct Connected to Generator.

The Betty O'Neal Mines is an Express Trust created in Boston, Massachusetts, April 8, 1920 with 1,000,000 shares of a par value of $5 per share. There are now outstanding or in accordance with the present plans of the Management presently to be issued 450,000 shares.

The trustees of the Betty O'Neal Mines are: George W. Sias, Boston, Massachusetts, President; Frank E. Nye, Boston, Massachusetts, Secretary and Treasurer; and Noble H. Getchell, of Nevada, Vice President and General Manager.

We unqualifiedly recommend the shares to investors as a sound investment of great merit with most attractive possibilities and we shall be glad to execute your orders.

GEO. W. SIAS & CO.,
(Est. 1900)
68 Devonshire Street,
BOSTON, MASS.

April, 1925.