For a long period he managed the famous "Sons of Gwalia" mine in West Australia, having succeeded to Mr. Herbert Hoover's interest in that property in 1908.

**Lease on the Quartette Mine.**

The formerly great Quartette Mine is inoperative, although during our visit a lease on some of the property was taken by Mr. E. L. Peters, who is at present in charge of the Duncan Mine in El Dorado Canyon.

**EL DORADO CANYON DISTRICT**

On June 2 we drove from Searchlight to El Dorado. The first stop was made to see the open stopes of the old Wall Street Mine, a rich producer of the 60's. Large caverns were stoped out to the surface. In places the vein was 12 feet wide or more with fairly good footwall, but a poorly defined hanging wall. The large open stope, 300' long and 85' deep, is supported by a few ore pillars. The vein is very flat, dipping 35° SW, with a strike of N 60° E. The ore is a slightly silicified breccia of the country rock which appears to be quartz monzonite, and it was no doubt a difficult matter to differentiate ore from waste. This ore body was taken out completely and no continuation of the veins were found. It was terminated by faults on the bottom and to the north.

**El Dorado Empire Mines Co.**

G. E. L. Gresh, Manager, was greeted at the mine on the Black Hawk Claim. Mr. Gresh has discovered some new ore at the surface within a few feet of the 300 foot shaft on his property. He is of the opinion that a N & S fault with a westerly dip has cut off the adjacent Wall 29.
Street ore body, and hopes he may have encountered the extension of it or a parallel vein. Additional development will be necessary to prove up this theory. Mr. Gresh is running cross-cuts to the west from the 100-foot level of his shaft to see if he cannot open up the long lost Wall Street vein continuation.

**El Dorado Rand Mining Co.**

From the Eldorado Rand we proceeded southerly up a small crooked canyon tributary to Eldorado Canyon. Soon the sound of the Eldorado Rand mill came to us as we wound around a narrow, curving road to the mine.

There we met the manager, Mr. P. L. Williams, Jr., and his assistant and mill superintendent, Mr. Davidovich. Mr. Williams conducted us through the Quaker City Mine workings, from which mine all of the ore is now being obtained, for at present no work is being done on the adjacent Rand Mine, from which ore was formerly obtained.

The Quaker City vein is quite flat, having a 30° dip to the north. It has a width of from 5 to 8 feet, and stands well with but little timber. The ore is a brecciated and silicified monzonite. The walls are well defined. Twenty tons per day are being mined and put through the mill from newly blocked out ore. The grade of the ore was not stated, but the values are in gold and apparently of fair grade.

Water for the milling operation is pumped up from the 450 level of the Rand Mine. A 3" pipe line is now being laid from the Wall St. Mine, a distance of 5700 feet with a 500 foot lift, which will supply additional water for all purposes.
The Duncan Mine.

The next stop was at the Duncan Mine in Eldorado Canyon, which is equipped with a 10-stamp mill and cyanide annex, which includes Don classifiers, tables and Oliver filter. This mine was formerly a part of the El Dorado Grande Mining Co. It is now idle, but work is afoot for resumption. The mill last ran in 1919, having first begun in 1914. In all about 22,000 tons are said to have been milled from the Duncan Mine, and also 5,000 tons from the Eldorado Rand prior to the construction of the Rand mill, previously mentioned. All of the ore is said to have averaged $22. per ton.

Mr. G. A. Duncan, many years principal owner and in charge of the property, died in December, 1930, It is now under option to the United Exploration Co., Ltd., of Calif., office E. Clem Wilson Building, Los Angeles. The new company plans to continue work sinking the 550' shaft to the intersection of the Flagstaff and Rober veins, both of which have been productive, are from 4 to 12' wide, values $15. to $100. per ton. They expect to intersect at the 650' level. The mine was re-opened last November by J. B. Stapler, field engineer for the United Eastern Mining Co., and it is stated that in five months of work since then he had blocked out $50,000 worth of ore. On April 1st, 1931, the property was transferred to the United Exploration Co.

At the time of our visit, Mr. E. L. Peters, who is in charge, was keeping the water down below the 450-foot level, pumping 10,000 gals. per day, gasoline power.

Techatticup Mine.

Continuing down Eldorado Canyon toward the Colorado River, we reached the well-known Techatticup Mine, which is now idle. This mine was opened in 1863, and a 15 stamp mill built there. It is credited with
a production of over $1,700,000. In 1919-20 it was the largest producer in the district, then was idle until 1924, in which year it produced $21,000; in 1935, $35,000.

It is equipped with a 50-ton cyanide mill, using Dorr's machinery. For a period of 7 years, up to a year or two ago, it was operated by Stiles Bros., Lessees, who are credited with having earned a substantial profit. Subsequently the owners, Girard Trust Co. of New York, Administrator for the Jos. Wharton Estate of Philadelphia, under lease and bond, to A. T. Simons of Los Angeles, who is said to be negotiating a sale to New York interests.

An inspection was made of some of the workings on the 100-foot level, found to be in first class condition. The vein is 6 to 10 feet wide, strikes E & W, dips 70° N., and has good walls. The ore shoots on the 100 foot level were wide, average 6', and were mined to the surface. Very little timber was left in the workings. The west drift extends 100 feet beyond the ore and vein.

Stiles Bros. are said to have extracted the most of their ore from above the 350' level. The main shaft, which is an incline, goes to the 600' level, but very little deep mining has been done. The large production of the ore, finely disseminated lead, zinc and iron sulphides in a brecciated, silicified monzonite, as well as the strong fissure, would indicate a continuance of both vein and values at depth. A careful geological study might disclose where to look for new substantial ore bodies.

**BIG FOUR PROSPECT**

Adjoining the Techatticup on the northwest is the Big Four, owned by W. J. McDonald and H. O. Johnson of Las Vegas. On it is a 60'
shaft on a 30° vein leaving an E & W strike and 55° dip to the north. Similarity to the Tecatticup and presence of low gold values in a sample taken by us at the bottom of the shaft lend interest, and additional work may be repaid by ore discoveries.

Goodsprings District.

A night drive brought us again to Las Vegas on June 2nd, and on the morning of June 3rd we departed for Goodsprings with Mr. Warren Richardson for Las Vegas, in his automobile. At Goodsprings we were joined by J. A. Fredrickson, and proceeded to the Shenandoah Mine in the western part of the district, and west of Shenandoah Peak.

This mine is owned by J. A. Fredrickson and F. H. Springer, Jr. of Goodsprings, and a large fine showing of lead-silver ore has opened up. It is located high on a precipitous west mountain side, and is reached by a steep, wide, long, winding trail, over which considerable ore has been hauled out by burros. The vein averages about 6 feet wide, and is a replacement in limestone along a flat, nearly horizontal bedding plane, which shows evidence of movement by the presence of breccia. Near the end of the tunnel a chamber of ore is opened up 9 feet high and 10' wide, and a drift run 30' SE from this point along the vein is entirely in high grade lead ore. The ore consists of cerussite, galena and wulfenite in a limestone and calcite gangue. The percentage of wulfenite (lead molybdate) is apparently high, but no payment is made by the smelters on the molybdenum content of the ore that has been shipped. The wulfenite occurs as loosely consolidated yellow crystals in the seams and cracks. This mine could be shipping steadily now, if silver and lead prices were better.