

# *My Experiences at One of King Solomon's Gold Mines*

By  
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To shed a little light on the history of Mahad Dhahab, I will ask you to use a little imagination. Think back four thousand-odd years ago, at the time of Solomon, to the trade between Africa and the land of Solomon. This trade was carried on through the land of Sheba, now Yemen, and what is now Iraq by means of caravans or camel trains moving across the Arabian Peninsula. Now imagine that one such train stopped on a warm day beside a black mountain to rest in what little shade the camel thorn trees provide. One member of the party, being more adventuresome than most, wandered up the side of the mountain. He espied rock in an outcrop of quartz which contained large bright yellow flakes. "Gold," he exclaimed, and Mahad Dhahab was discovered.

The ruling powers of that time immediately set up a slave-labor operation to recover the gold. The operation lasted some years, then, for reasons unknown, ceased. About AD 1200 the Turks, under the Ottoman Empire, resumed mining. The two periods must have lasted for some time. When Karl Twitchell, an American mining engineer, rediscovered the site, it included about three hundred thousand tons of tailings containing about three-quarters of an ounce of gold per ton. The ancients had recovered all the visible gold. Twitchell sold the American Smelting and Refining Company (ASARCO) on the idea of forming a syndicate to develop the property. Operations, which began in 1933, reprocessed the tailings while developing the mine.

The summer of 1948 found me employed in the metallurgical department of the Magma Copper Company at Superior, Arizona. I was number seven in the department when I joined after graduating from the university in 1941, and I was still number seven in 1948 when I received a call from a friend of mine who was superintendent for ASARCO at

Hayden. He asked me to come over on my next day off. I did, and he proposed that I apply for the position of mill metallurgist and chemist at his company's Saudi Arabian gold operation. He was so certain that I would that he had set up a physical exam for me before he had even talked with me.

I applied, and in late August I was offered the position. I accepted and resigned from Magma. I had to go to ASARCO's offices in New York City, where I was given the picture. They were making many changes in staff at the operation, as there were problems with results. The manager was to be replaced early in 1949. The company had sent a mining engineer out to become mine superintendent in November, and they knew the mill superintendent would be leaving early in 1949, by which time I would be in position to take his place.

### Saudi Arabia

I left New York on October 9, 1948, and arrived in Jeddah, Saudi Arabia, on the fourteenth, having flown all over the Mediterranean Sea en route because of restrictions on flying due to the Arab-Israeli war. A staff member of the Saudi Arabian Mining Syndicate (SAMS) met me and led me through customs and immigration. As I didn't speak Arabic, this was a big help.

After clearing all officials, I was driven to the company compound on the edge of Jeddah. Western personnel were restricted in their movements in Saudi Arabia, so housing facilities were enclosed in compounds at both the mine site and the company's facility at Jeddah. Jeddah was still a walled city, with various compounds, such as SAMS, the British embassy, and the American embassy, located just outside the wall. Jeddah is on the Red Sea, and as a result has high humidity, but no fresh water. Domestic water comes from a nearby wadi, supplemented by the product of a desalination plant.

I spent the night in the compound, and early

the next morning started the trip to the mine site. In the car were an Arab driver, an Arab soldier, and me. Neither of them spoke English, and, of course, I neither spoke nor understood Arabic, so it was a long, silent trip. Government rules specified that whenever a non-Arab was going to the mine he had to be accompanied by a soldier. The road, all two hundred and fifty miles of it, had been built and was maintained by the company.

At Wadi Hama, roughly half way, the company had a road camp. "Pop" Durham was road superintendent and the host for travelers at lunch. He had established a regular oasis, complete with a zoo. He had made pets of one of virtually every kind of wildlife found in the area. He had been in Arabia before Ibn Saud established the Kingdom of Saudi Arabia. Durham could tell stories of the development of the kingdom, as well as of other things, such that I hated to leave and resume the trip to Mahad.

We arrived at Mahad Dhahab just at dinner time. I was assigned a house—really just a bedroom and shower—and a house boy. My house boy, named Bedowi, was new to the job. The camp super thought that we could break each other in. As room and board were included in the pay and no women were allowed on site, meals were all served in a common dining hall.

The Mahad Dhahab operation employed a total of thirty-six non-Arab staff members and a thousand Arab employees at the mine complex, plus six non-Arab staff and fifty Arab employees at the company's Jeddah compound. The mine was an underground true fissure vein type. Ores averaged two ounces of gold per ton, but one stope from the 600-foot level to the 200-foot level ran eight ounces of gold per ton. The mine produced an average of three hundred tons of ore per day, operated seven days a week, and employed four hundred Arabs and twelve non-Arab staff.

After breakfast the next morning, I reported to the mine manager. He informed me that he had not wanted me hired, and that there was really no place for me in the operation. He said that the

New York office was disregarding local management's wishes, and that, at best, I was subject to dismissal at any time. This was a poor reception, to say the least. Then he said that, for the present, I would be assigned to the mill and should report to Lee Caldwell, the mill superintendent, immediately. The mill was at least a mile from the office and I figured that I would walk, but the mine superintendent said that he was going over to the mill and would take me.

At the mill I reported to Lee, and he asked Bill Browning, a shift boss, to show me around. While he was doing so, my house boy showed up and proceeded to lecture me. I didn't understand a word of it, but Bill told me what Bedowi had said. It seemed that I had neglected to lock my room when leaving and that Bedowi indicated that he could not be responsible if anything was stolen unless I did so. In Arizona I never locked the door, but I promised that I would, and I did. I wasn't really welcomed by the existing staff, who had figured that they all had lifetime jobs, but I did the work as laid out by the mill superintendent. I substituted for the assayer while he took a local leave in Jeddah to be with his wife.

### **Mill Superintendent**

On the first of January, 1949, Frank Cameron arrived with his wife to take over as general manager. His first action was to fire the mine manager and the two accountants at the mine. They had been running a racket by buying currency on the black market while charging the company the set price. Cameron then refused to renew the contract of the mine superintendent, replacing him with Dan Shaftner. Cameron also talked the Saudi government into allowing the wives of the staff to live at Mahad with their husbands without having to wear veils or other Muslim costume. Otherwise, things continued much as before, except that a group of us—including, among others, myself; Bud Hatch, the mine engineer; Thorston "Andy" Andersson, the mill general foreman;

Lloyd Jones, the assistant mine superintendent; and Dr. Nuwaddid, the company physician—convinced Cameron to order Alf Carter, the mechanical superintendent, to install water stills at the powerhouse to supply drinking water for the staff.

Lee Caldwell, mill superintendent, saw the writing on the wall and resigned. Mr. Cameron immediately appointed me mill superintendent, in January 1949. As such, I had a staff of 6 non-Arabs and 106 Arab employees. The number and pay of Arab employees was set by the Saudi government. I was responsible, as superintendent, for the operation of the mill, for tailings disposal, and for the water system. I was also charged with mill maintenance, and with ordering all of the supplies necessary for the plant.

The mill was a counter current decantation cyanide leach operation. The gold was finely disseminated so that it required a 100 percent minus 300 mesh grind for liberation. Besides gold, the ore contained silver, copper, lead, zinc, and iron in the form of pyrite. So the mill produced a copper concentrate and a lead-zinc concentrate in addition to recovering gold.

In the week after putting me in charge of the mill, Cameron called a meeting of the senior staff to discuss the future of the operation. The only items discussed were the possibility of increasing operating time and increasing the tonnage milled. I said that the mill was ready to produce full tonnage immediately. Dan said it would take the mine two weeks. Alf Carter said such production could not be achieved, as it would require that all three generators be run full time, leaving no standby in case of trouble. Mr. Cameron said we would run whatever was needed. So we prepared to run at full capacity and around the clock.

Since the Saudi government mandated the number of Arabs to be employed as 106, the mill had 112 persons on its payroll when I took charge. A comparable operation in the United States would not have employed over eighteen persons total. It was difficult to keep them all occupied.

We eventually set up a paint crew and had them paint the mill. Ours was probably the best painted mill in the world, as the painting became a constant job. I began reducing the size of the Arab workforce by not replacing those who left. When it got down to 86 we got a letter from the Saudi government warning that if we did not raise the number of Arab workers back to 106 we would lose our import-export license. So Cameron told me to begin hiring. We set up some physical standards, which slowed the hiring but satisfied the government.

The local emir, a youngster of seventeen, had life-and-death judgment over all of the Arabs in the immediate area; we were never sure about our status. He was a Sedarie, a Muslim prince, the son of the Emir of Medina and a nephew of Prince Fiesel's favorite wife. Cameron had hired Charles Nelson, an old buddy of his, to be the company's Jeddah superintendent. Every morning Cameron and Nelson would communicate by radio between Mahad and Jeddah, making remarks in Spanish about people in the government and especially about our emir. Of course many persons, especially in the government, listened to the broadcast, a great many of whom understood Spanish and thus knew what was said. This did not endear Cameron to local officials. I became friendly with the emir, however, and we would meet at his office for coffee. Officially he did not understand English and I did not understand Arabic, but we carried on conversation without benefit of interpreters.

In the spring of 1950 my contract was up. I had four months of vacation due, provided I agreed to come back for another term, which I did. Dan Shaftner and Lloyd Conklin, a mine shift boss, were also due to leave on vacation. We all agreed to meet in Reno, Nevada, on July 14, but they never showed. I had spent two weeks in El Paso, Texas, at ASARCO's Southwest Metallurgical Research Center working to find some way to reduce the high demand for cyanide in the mill circuit at the Saudi Arabian operation. So I

had accrued an extra two weeks of vacation, which I spent traveling between relatives and mining towns, and also visiting my college roommate and his wife in Potomac, Illinois.

When I got to New York, I found Shaftner there on his way back to Saudi Arabia. He had married and was taking his wife with him. I spent several days in the New York office being interviewed by the staff of the mining department, then flew back to Mahad by way of Beirut, Lebanon. The mill was short-handed, as one of the South African shift bosses had taken ill and gone home. We immediately asked New York to find us two new employees. I was surprised when they sent the Browning brothers, Bill and Jim, both of whom had been there before. Bill Browning was a big asset; I later made him general foreman when Andersson took leave. Jim was a disappointment in that he was not really interested in the job. He only stayed about three months and then quit.

In early October, King Ibn Saud, founder of Saudi Arabia, visited the mine. He was pretty much confined to a wheelchair, so wherever he wished to visit the company had to make accommodations. He expressed a desire to see the mill, so we rigged up a scheme to get him up to an operating floor. We built a platform—with railing so that he could not roll off—that we could lift with our winch. He was very interested in the operation as I explained it thorough an interpreter. Eventually, at least according to my interpreter, the king asked if I was married. When I replied no, the interpreter told me that Ibn Saud said that if I would convert to Islam, he would give me four of the most beautiful virgins in the kingdom to be my wives. I declined.

### **A Most Interesting Person**

One day at dinner the subject of employment came up. Most of those at my table had come through the New York office. Bill Browning asked me if I knew Miss King in the personnel office, and he wondered how old she was. Van Winkle,

the warehouse foreman, said she was stuck up, as she had refused him a date when he asked her out. I had never been in the personnel office, so I could not say anything about her.

By the time Andersson got back from his vacation, it was again time for me to go home for mine. When I left Jeddah about 7:30 on the morning of March 18, 1952, it was 97 degrees and 94 percent relative humidity. That night in London it was about freezing. From London to New York the plane was loaded with the U.S. Winter Olympic team. One girl on the ski team was from Middlebury College. When she found out that I worked for ASARCO she asked me if I knew Floralie King. Again, the answer was no, however that was soon to change.

I arrived in New York on a Friday, and by the time I got to the hotel it was getting late and I only had a few dollars to last me the weekend. I asked the bell captain about the closest bank, and he sent me down Forty-second Street to the National City Bank. I went in and asked for an officer and was sent to talk to a vice president. I explained my problem and volunteered to pay for a call to the bank in Superior, Arizona, where I had my account. He asked me how much I needed, and I said five hundred dollars. He told me to write out the check and that he would okay it. I guess that he thought that nobody would invent that kind of story to get only five hundred dollars.

On Monday morning I went to the company office to report to the mining department. I spent all day with various staff members, and was asked to come back the next morning. I was supposed to pick up a new car in New York and the papers had not arrived. Tuesday morning, after several hours, they had me go to the personnel department to talk to Miss King, who was working on a brochure on Saudi Arabia. I went down and introduced myself. She was the most interesting person. We talked about a great many subjects, and then I asked her to lunch. That evening we went to dinner and dancing. She showed me a lot of the city. As the papers on my car had not ar-

rived, I spent my evenings for the rest of that week with her. I asked her to marry me; she did not say yes, but neither did she say no.

I got my car and headed to Arizona. Two weeks later I returned to New York to see her. We had a good time, visited her folks on Long Island, and spent a weekend touring New England. Later we met in Salt Lake City for two weeks in the Tetons. We got engaged on June 25, 1952, married on July 12, and I started back to Saudi Arabia on July 16.

I flew to London, and then to Beirut. From Beirut I flew on Saudi Airlines to Damascus, where the captain announced that all passengers would have to deplane and wait for another aircraft to come and pick us up so that we could continue our flight to Jeddah, as the Crown Prince had requisitioned our plane to fly to Jeddah. As I was walking toward the terminal I met the royal party as it approached the plane. Among the party was the minister of mines, Fadel Kabanni. He stopped and asked where I was going and I told him. He then turned to the Crown Prince and spoke with him. Kabanni then said I was invited to join the royal party and fly to Jeddah, which I did. At Jeddah I cleared immigration and customs in record time, and then the prince sent me to the SAMS compound in a royal limousine.

Floralie joined me in Saudi Arabia in September. She was different from anything either the Arabs or the Western staff had ever seen. We swam in the powerhouse cooling tank and played pool in the mess hall at night. She undertook to completely reorganize the library so that one could find books where they belonged on the shelves. She was a big hit with the emir. He arranged picnics in the desert at night for the staff so that he could enjoy her company. Unfortunately in some ways but fortunately in others, these conditions changed when she became pregnant and returned to New York to have our baby.

### Managing and Mediating

While she was gone, I became acting manager at the mine. One night, at about 9 p.m., Mr. Cameron came to my door and said that he was going to Jeddah immediately, that I would be in charge, and that he would talk to me in the morning on the radio. Paddy Torley, a South African mine shift boss, had man-handled one of his workers, which was an absolute no-no. Torley had been sentenced to thirty days in jail, followed by deportation. Cameron was going to try to get the jail term lifted. A Saudi jail was no place in which you would want to spend time. There were no beds or sanitary facilities in your eight-by-eight foot cell, and if you wanted to eat you had to have someone bring you food.

The next morning I went to the emir, alone with no interpreter, to discuss the situation. He could not lessen the sentence, but he did allow me to have a bed installed, sanitary facilities arranged, food and drinking water supplied, and have the doctor come by each day to check on Torley. I was also allowed to have him removed from the cell every day for exercise periods and a shower at the hospital. After a few days I arranged to let him write letters home, as long as I read them to be sure that they contained no criticism of the government. My friendship with the emir was paying off. Just about the time that Torley's term was up, another young mine boss did the same thing. I was able to talk the emir into letting me send him home without a trial. So the morning after Torley was released I sent both of them to Jeddah to be shipped home.

Cameron asked me to come to Jeddah to appear with him before Abdullah Suliman, minister of finance, concerning a charge of import taxes on a shipment of diesel fuel we had bought from ARAMCO, the Arabian American Oil Company. They had assessed a 100 percent duty on it. We reminded the minister that our concession said that on things not produced in Saudi Arabia the duty would be 30 percent. He replied that,

yes, those were the terms of the concession, but as the diesel was produced in Saudi Arabia the duty would be 100 percent. We paid, but never bought from ARAMCO again.

Things seemed to have settled down, with no trouble among the employees. I was relieved. Then Lloyd Jones, mine superintendent, called the mine coffee boy a "black bastard" and was brought before the chief soldier at Mahad, known to us as Ibrahim, for a hearing. Ibrahim heard the complaint, and then asked the Arab, "what color are you?" The Arab replied "black." Then Ibrahim asked if he knew who his father was, and the Arab replied "no." Well then, said Ibrahim, case dismissed, but he told me to tell Jones that the next time he would be deported, no hearing or anything.

### Our Final Months at Mahad Dhahab

Floralie got back with Susanne in mid-September 1953. In early October Crown Prince Saud visited the mine. He came in a large caravan of vehicles which included several large mobile homes for his wives and concubines and several trucks outfitted for falcons used for hunting. It was quite a sight. Floralie left our house and came down to see the caravan. She had been sterilizing bottles and nipples for Susanne and, unfortunately, forgot to turn off the heat and melted all the nipples.

There was no way to replace them, but she called me at work to see what I could do. The only thing that I could think of was to teach Susanne to drink through a straw, of which none were available. I went to the lab and made some out of glass tubing. When we put one in the bottle of formula and then put the other end in Susanne's mouth, she immediately started sucking and the straws were a success.

One time the company had Prince Saud and his bodyguards to lunch. Floralie admired the scabbards of the knives that the bodyguards carried and expressed a desire to see one of the knives.

Prince Saud ordered one of the guards to draw his knife and show it to her. The guard drew his knife and immediately cut his finger as, by custom, the knife should never be drawn without blood being shed.

That evening, our emir hosted a dinner for the prince in a large tent. All of the local tribal leaders were invited, as well as the SAMS senior staff. At the dinner everyone sat on the floor, which was covered with rugs. The Arabs had no plates or utensils, the SAMS staff did. Down the length of the tent were thirteen whole sheep, roasted in a bed of rice. In front of each setting was a whole roasted gazelle, a bowl of stewed pumpkin, and many dishes of vegetables. As all were seated, servants removed the eyeballs of the sheep and presented them to the honored guests. Fortunately, I was too far down the list to receive any. Then they removed the tongues and presented them to the second tier of guests; again I was lucky.

In the fall of 1952 we had received instructions from New York to place orders for supplies and equipment to operate through July 1954, when the ore would run out. Fortunately, we had kept very complete records of use for everything in the mill, so it was not hard to produce the orders. I was not there to see how it turned out, but I heard from Andersson that he used the last of the zinc dust just as the last of the ore had been processed and that there was no cyanide or lime left, so we had guessed well.

My contract expired in January 1954, and as Carter had returned, and as senior superintendent would be acting manager, Floralie and I decided

that we should go home and look for employment in the United States. I worked at Mahad Dhahab from October 1948 to February 1954. During that time I had progressed from mill metallurgist to acting manager. As acting manager I assumed responsibility for the entire operation—including staff housing, dining hall operations, water supply, powerhouse operations, trucking, personnel, and accounting—whenever the manager had to be absent from the site.

Leaving was sweetly sorry; we had many happy memories. On the morning that we left Mahad, all of the house boys came up to say goodbye. When we went down to pick up our soldier, the emir, the chief soldier, and all of the other soldiers also came out to say goodbye, while the off-shift mill crews lined the road out of camp. We felt sad and yet happy to be leaving. We probably would not have taken a million dollars for our experiences, but would not go back for much less than a million. ■

*Frank Millsaps did find employment in the United States, eventually spending more than sixty years as a metallurgist, consultant, and manager, including over twenty-six years as a mill operator and manager. The Millsaps family lived in twenty houses in ten states, and eventually included daughters Susanne and Linda, son John, and foster daughter Bedi. The couple ultimately relocated to Salt Lake City, Utah, where they lived for about thirty years and where Frank established the consulting firm Millsaps Mineral Services. On July 12, 2009, Frank and Floralie celebrated their fifty-seventh wedding anniversary.*