

# BERNARD "BERNIE" BILLINGS

## Oral History Interview

Statewide Oral History Project, Abandoned Mines Reclamation Program  
Utah Division of Oil, Gas and Mining

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*This is Lee Bennett and I'm here this morning at Bernard P. "Bernie" Billing's home in Murray, Utah to interview him for the Statewide Oral History project. Also present is Jim Mattingly who will be recording the interview.*

LB: Tell me again, Bernie, your name, when you were born, and where you now live.

BB: My name is Bernard Billings and I was born on October 20, 1924. I currently reside at 5764 [South] Hanson Circle in Murray [UT].

LB: Tell me a little bit about yourself. Where were you born? Where else have you lived, and maybe more importantly, how you came to be in the mining industry.

BB: I was born in Delta, Utah, and was one of nine children. My father died when I was eight years old<sup>1</sup> and I went to live with my older sister because my mother couldn't support all of us children in our family. My sister's name was Nathalia and her husband's name was Michael Smith. He was running a dairy, which I worked in. I had to milk cows in the morning before school; I milked eight cows in the morning and at night. I went to school in Delta, Utah where I finished grade school, then moved on to high school and completed the tenth grade. I was then sent to another sister, Norma Billings in Park City, Utah; her married name was Pagano and they were an Italian family. When I was in Park City I went to work for my sister's husband who was a coal trucker. I delivered coal in Park City until 1940, when I moved to Tooele with my older sister and her husband. I went to work at the smelter [in Tooele]<sup>2</sup> at the age of 17 [about 1941] and I didn't like the environment there so I quit and went to work at the mine that was in Bauer,

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<sup>1</sup> His father died in August 1933 (Utah Death Register)

<sup>2</sup> Probably the International Smelting and Refining Company smelter, constructed by Anaconda in 1910 (History of Tooele County by Ouida Blanthorn, 1998, pg 170). Anaconda had closed its Utah smelters by 1972 (Don Strack, "International Smelter at Tooele, Anaconda in Utah" 2013 viewed at utahrails.net).

Utah.<sup>3</sup> I worked for Combined Metals<sup>4</sup> there until 1943, at which time I was drafted into the Navy.<sup>5</sup>

I served in the Navy as an aerial gunnery instructor and was later sent to Alameda, California, which was a center servicing aircraft carriers. I stayed at that place for a number of years, then I went to a gunnery school in Virginia. I also went to school on the Mark 18 site, which was a self-computing site for aerial gunners to site in turrets.

After I was discharged from the Navy I went back to Tooele and worked in the [Bauer] mine; they had held my job open while I was gone. I worked there until 1949, at which time I went to work at the US Smelting<sup>6</sup> mine in Bingham Canyon. I worked there until I was probably in my 30s, I'm not sure; I worked there as a miner. I did contract work with a partner, Leo Searle.

We contracted in that mine until 1953. Then I went to work for an outfit that hauled ore from Dolores, Colorado into the US Mill. I did for about a year, but when deer season came around they wouldn't give me time off so I quit. I then went to work for US Mining and Smelting<sup>7</sup> again for a short time. I left there and went to work at a mine for Anaconda in Bingham Canyon.<sup>8</sup> I worked there for a little while then went to down to Fry Canyon [San Juan County, Utah]. There were three of us that contracted a shaft and 2,000 ft of tunnel.

LB: That was uranium?

BB: Yes, that was uranium. I worked there then withdrew from the partnership and came to Salt Lake City and went back to work for Anaconda. I worked for Anaconda for a while before I decided to go into business for myself. I went to work for several contractors; I did drilling and blasting for roadwork, tunnels, water lines, sewers, and things like that. After that I went to work at the Hecla Mining Company in Little Cottonwood Canyon for a short while.

LB: The mine in Little Cottonwood Canyon that you worked for Hecla, do you remember the name of that mine?

BB: It was called the drain tunnel. They were running a tunnel from Big Cottonwood Canyon over to Carr Fork in Park City. They had a mine there. I worked there for a while in a shaft. Then my ex-partner talked to a boss I'd had about a chance to do some tunnel work for them, so we contracted the tunnel work at Banning, Montana, which was more or less a ghost town. We

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<sup>3</sup> Perhaps the Honerine Mine, which had been sold in 1906 to the Bullion Coalition who renamed the area Bauer after one of the company officials. The mine was dismantled in 1973 when the Anaconda Corporation acquired the property (History of Tooele County by Ouida Blanthorn, 1998, pg 123, 298).

<sup>4</sup> According to the Utah government web site, Combined Metals Reduction Company was first registered as a Utah business on Oct 6, 1923; registration expired on Feb 2, 2009 and the last corporate address was in Reno, NV.

<sup>5</sup> Bernie was inducted on Sept 11, 1943 at Salt Lake City, UT (Utah Military Records, 1861-1970, viewed at Ancestry.com).

<sup>6</sup> United States Smelting Refining and Mining Company was incorporated in Utah on Jan 22, 1918 and became the Mueller Brass Company in 1965 (Don Strack, "United States Mining Company" 2013 viewed at utahrails.net)

<sup>7</sup> United States Smelting Refining and Mining Company. This company appears to be the descendent of the United State Mining Company (ca 1899-1902) and the United States Smelting Company (1902-1906) according to www.geomineinfo.com "Bingham Canyon" data sheet, 2005.

<sup>8</sup> According to Salt Lake City Directories, Bernie worked in 1953 as a miner for US Mines, in the lab at Geneva Steel in 1956, as a miner for Apex Mining in 1957, drove truck in 1959, and as a miner again in 1960. He later explained that his employer in 1960 was McFarland and Hullinger.

put in 500 ft of tunnel there and then I came back to Salt Lake and went to work for an outfit that was blasting riprap for the Provo River.<sup>9</sup> I worked there for one winter; they could only work on that project during the time when the Provo River was way down. From that time I went to work for Whitney Hanson in Butterfield Canyon. I worked there for a couple of years before that company ran out of money. I went to work for McFarland and Hullinger at their mine in Ophir Canyon.<sup>10</sup> I worked in Ophir Canyon for two or three years. I was running a tunnel in real bad ground and I got in a cave-in and broke my right leg. So I left there and was in the hospital for quite a long time; I had a cast on my leg for a year. In the meantime, they shut that mine down so I decided to go into business for myself. I rented equipment and went to work for several different companies doing blasting for riprap and that type of thing. Then I decided I would buy some equipment and just do custom blasting for anyone who wanted that work. I did that until about 1978.<sup>11</sup>

At that time my son decided that he wanted to be a water well driller so I went to work for him for about a year. We didn't get along so I went back to my equipment. I went to work up in Idaho on drainage canals for flood control; I worked there for a little while before they shut down. Then the company that was doing the work [to whom Bernie had contracted his services] was doing a project at Cedar City, Utah, to see what effect blasting would have on ground water and to tell if there was oil underneath. I just worked a little while there before I got laid off because of cold weather. I came back to Salt Lake and went to work for McFarland and Hullinger again. They had a project at Winnemucca, Nevada; they were mining feldspar. They had an open pit and I worked there for about a year for McFarland and Hullinger [1974-1975]. When I got done with that job I came back to Ophir Canyon. They had a contract to furnish limestone to the smelter to use for flux. I worked there for about a year [1974/75-1976] until they didn't need any more limestone. I returned to doing custom work, drilling for basements up Butterfield Canyon; I did that for about three years [1975/76-1978]. My brother-in-law worked for Staker Paving and he said they needed somebody to do their blasting, so I stayed with that for 10 years. By then [1989] I was 65 years old, so I retired.

LB: That's an impressive list of experiences. Were you married at the time? Did your family go to all these different places with you?

BB: No, my family stayed here [Murray] and I just had to go by myself. I was glad to get home once in a while.

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<sup>9</sup> Possibly Thorn Construction Company of Provo, UT who was awarded a contract in November 1960 that included riprap and rock for use along the river ([www.gao.gov](http://www.gao.gov)).

<sup>10</sup> In 1949, McFarland and Hullinger operated the Hidden Treasure Mine under lease and shipped 5,519 tons of zinc-lead ore, 480 tons of lead ore, and 265 tons of zinc-lead-copper ore, according to the US Bureau of Mines Mineral Yearbook 1949 (pg 1588). In 1959, the company applied to the Defense Minerals Exploration Administration for financial assistance for the Ophir Mine (Index to the United States Minerals Exploration Assistance Records from the DMA, DMEA, OME Mineral Exploratio Programs, 1950-1974, USGS Open File Report 03-94, 2003). The Hidden Treasure and Ophir mines ceased production in 1971 (Carl L. Ege, Selected Mining Districts of Utah, Misc Publication 05-5, Utah Geological Survey, 2005, pg 12). Today the principal entrance to the Hidden Treasure Mine is plugged, but access can be had through the Buckhorn Mine near Ophir, via interconnecting tunnels of the Hidden Treasure, Buckhorn, and Ophir Hill mines ([www.mojaveunderground.com](http://www.mojaveunderground.com)).

<sup>11</sup> Billings Blasting and Rock Drilling, Inc, was registered in Utah on July 16, 1976 with Bernard P. Billings as the agent. The registration expired on Dec 29, 1978, according to the Utah government web site.

LB: When you were working away, where did you live? Did you live in a trailer house or at a mine camp?

BB: Most of time we lived in an abandoned house at the mine site.

LB: You mentioned working for US Mining and Smelting at Tooele and some other mines. What did they smelt, what were they processing?

BB: They were processing ore, which consisted of lead, silver, and copper. McFarland and Hullinger hauled their ore to the smelter, that's where I got acquainted with them.

LB: When you worked in Bingham Canyon were those open pit mines or were they tunnels?

BB: Underground, all underground work. Actually we were down under the pit. The mine there was 3200 ft deep.

LB: But you did work in an open pit mine later, is that right?

BB: Yes.

LB: What is the difference in mining techniques between an open pit and an underground mine?

BB: Underground mines follow the veins of ore, and the ore there is generally pretty high grade, high grade enough to ship to a mill or smelter right from the mine. They [the mill or smelter] grind it down and use reagents with it to remove the different metals. In an open pit mine they sample areas and if it has enough mineral contact, they go in and blast that and put it over a dump, then run acids and reagents through it; they can recover just traces of gold that way.

LB: In your experience in the Bingham Canyon mine, how was that different from your experiences at Fry Canyon?

BB: Oh, really it wasn't, it was about the same. You would do the same thing, work in a tunnel or maybe follow a vein, which was called stoping. A stope is on the vein going upward or downward, you follow the vein until it gives out or comes to the surface.

LB: How did the technology of mining change from when you first started underground mining to your later underground experiences?

BB: It changed quite a lot. When I first went to work I worked in a tunnel on a crew of three. After it was blasted, the next shift would set up a screwbar or jackbar, which was mounted with liners on it. These liners had a hand crank on them that you'd turn to make them go into the rock. Later on, they sent liners out that were automatic, you'd just set them and they'd drill by themselves. All we had to do was change steel. They would run changes of steel from a 3-footer up to a 5-footer then up to a 7-footer. When we first started the bits were forged on the steel,

they weren't detachable. You'd have to carry, maybe, four pieces each of the three changes of steel. When they were dull, you'd bring them out to the blacksmith and he'd sharpen them again. Still later, the steel was threaded and you'd put on detachable bits. This was a lot more convenient to drill this way. Later they made bits with carbide inserts and they'd go a long time between when they needed changed or sharpened. After that they returned to a bit that was fixed to the steel but it had a carbide insert; you'd just keep sharpening the steel. The drilling changed from jackbars to the jumbo, which had the machine mounted on. Instead of mucking while one was drilling, the two of you would muck the waste out and roll the jumbo in to drill; it was a lot faster. Me and my partner were the only ones in the US Mine that could cycle out, meaning muck out, drill, and blast, set up timber. The timber was set up on 6-foot centers.

LB: Meaning spaced about every six feet?

BB: Yes. They changed from the jumbo to the jackleg, which was a jackhammer with a leg on it. They were a lot of work! We had about 100 pounds of air pressure and then the cylinder was 3 inches; when the air hit that you ended up with about 300 pounds of push on the jackhammer. That made it easier than pushing the jackhammer in with your hands. When we were running tunnels we had to keep up. We had a sanitary ditch, water line, air line, and a vent line for ventilation; we had to put all of these in as we went.

LB: When you mucked out, where did you put that waste rock? How did you get it out of your way?

BB: We had a train of 12 mine cars and we'd fill all of the empty cars then take it out to the shaft. There they had a pocket where you'd dump the cars. The hoist would lift the waste up where it was hauled out to the dump outside the mine.

LB: So the hoist had some kind of receptacle on it, a pocket into which you dumped the waste?

BB: Every station had pockets, which was an area blasted out of the rock. There was a grizzly over the pocket that kept the big rocks from going into the pocket. They [the pockets] had gates on them. The mine hoist consisted of two cages, an upper cage and a lower cage, which would hold about eight miners. Underneath that was a skip that held about five tons of material. They never let them hoist waste with people in the cages; they had to do that separately.

LB: What did you do underground for lighting so you could see what you were doing?

BB: At first we had carbide lights, which was a light and a can of carbide you carried. Later they moved to electric lights with a battery to power the light; it would last eight hours. Every time you came out of the mine you handed the light to the Lampman who would service it and put it on charge. It was ready when you came back.

LB: In the coal mines when a miner goes underground they have a little brass tag that's their number. They put it in their shirt pocket or their pants pocket. When they come out of the mine

they give that back to the guy in the bathhouse so the mine operators know whether there's a miner left underground. Was there any system like that in the mines you worked in?

BB: No.

LB: How did they know that you got out?

BB: You had a little brass tag and when payday came around you'd show them that. If you made payday then they knew you were all right!

LB: What kind of training did you have before you went to work in the mines?

BB: I was an aviation ordnance man, and I went to school on explosives so that's where I learned how to use them.

LB: So the Navy taught you that?

BB: Yes.

LB: Tell me a little bit about working with explosives. What kind of explosives? Did you have to build your own charges and how did you do that?

BB: At first we used the gelatin, which had a certain percent of nitroglycerin in it, and an electric primer. Generally speaking, we planned a stick to the foot for the load. That worked pretty good. Later we used ammonium nitrate, which came in 50-pound sacks. We had a blowgun that sucked the nitrate out of the sack and put it into the hole. You'd first insert a primer, which was a stick of gelatin powder, then blow in the nitrate. We used electric primers. The ammonium nitrate cost about 25 cents for 50 pounds at first, but it got up to \$3 a bag.

LB: What was the reason for that price increase?

BB: I guess they wanted more money than they were getting! They would take ammonium nitrate and mix it. One company used used oil for fuel so the nitrate would explode. They add about 6% diesel fuel or oil to the ammonium nitrate so it will explode.

LB: When you were drilling out the face where you were going to set the charges, how many holes would you make?

BB: Generally about 28 or 29 holes.

LB: Where they in any particular pattern?

BB: Yes. We would use the burn cut, meaning nine holes about an inch apart. You'd only load the center ones. There were "relievers" around the center that would start the cut. Then rows of four across the face to take care of the rest of the rounds.

LB: And that stayed pretty much the same through time? It was the same pattern?

BB: Pretty much.

LB: The kind of explosive used didn't really impact that too much.

BB: It really did. There are different kinds of rock. At the US [Mine] we had "rubber lime" where you'd load all the holes and blast, but when you came back all you could see where the holes. Looked like it didn't do anything. But then you load it again and it would break it all out.

LB: Are you the one that set off the charges?

BB: Yes.

LB: Tell me about how you did that and how you kept yourself out of harms way.

BB: We had a lead wire and an electric line in the tunnel. We had a blasting switch that would be 400 or 500 ft away from where we were blasting. We'd hook that all up, and when it was blasting time we'd set it off.

LB: Was there some sort of signal to let other miners know there was an explosion going to happen?

BB: Generally we had a time of day set for explosions. They'd call it blasting time, which was usually about a half hour before you left for the outside. After you blast there is a lot of toxic smoke that collects in the mine, so you have to wait until that clears before you can go back in. The blast uses all of the oxygen out of the air.

LB: When you were in the mines and your shift ended, what did you do for recreation? Was there even time for recreation?

BB: Generally they have a change room at the mine. We'd come out in our "diggers," which were the clothes we wore when mining, we'd go to the dry house where we had our street clothes. We'd take a shower and put on our street clothes to come home. After eight hours of work in the mine the only recreation you wanted was a chair!

LB: How long were the shifts?

BB: Eight hours, portal to portal. When we first started they wanted you to spend eight hours right at your working place in the mine, so you traveled on your own time making it about a 10 or 12-hour day.

LB: How long did it take to get from the change house to where you were working?

BB: Well, that depended on the mine. When I worked at Tooele, the tunnel was about seven miles long. We would be an hour to get in to where you caught the cage to go to your working place.

LB: That's a long tunnel! What was the name of that mine?

BB: It was just Bauer. The US Mine would take about 10 minutes from the change room until we were at the hoist. They had air locomotives, they'd sound like one of these [engines] on the railroad track. They had charging stations in the tunnel to recharge the trains with high pressure air. Going in we'd have to stop twice to recharge the locomotive, but when we came out it must have been downgrade so the locomotive didn't stop at all until it was out.

LB: You'd ride one of the man cages out the hoist?

BB: They had a man train, a bunch of cars that held four miners, seats with two per side of the car.

LB: What kind of equipment did you learn to operate while you were mining? Obviously you operated the drills. Were there other types of equipment?

BB: The mucking machine.

LB: Tell me about that. What is it?

BB: The mucking machine is a loader that is overshot. It picks it up in front, then the bucket throws it up and over into the car. In the tunnel that I worked in at first, the second day in the mine they had me running the mucking machine. There were three of us that worked in the drift. We would set the jackbar up and the miner would start drilling. I was a helper on the machine and the guy that was supposed to run the mucking machine was drunk. We took the waste to an old worked out stope and dumped it there and he was so sick that he couldn't push the car, so the miner [guy on the drill] said, "If we're going to make any money, you're going to have to run that machine." So I did. I left the guy half asleep nursing his hangover, and I pushed the car back in. It took me a little while to load it but finally I did. I'd push it out alone. I was a lot stronger and healthier then than I am now.

LB: Sounds like hard work for sure.

BB: It was.

LB: Were there safety regulations that you had to follow?

BB: You had to wear a hardhat, have eye protection, and you had to wear hard-toed shoes.

LB: Did they train you on how to be safe underground?

BB: Nope. Generally the miner would go into a newly blasted area and use a bar or pick to take down all the loose stuff you can find. We had a water hose and let it run on the muck pile while we did this other work.

LB: What did a miner earn? What kind of money could be made?

BB: When I first went to work I got \$5.45 a shift.

LB: Was that good money at the time?

BB: Yes, it was. I had moved from picking up potatoes for 50 cents a bag, and I thought I had the world by the tail!

LB: If you think back on your experiences in mining, what was the most dangerous situation you ever found yourself in?

BB: I was working at the US Mine in a stope that was about 20 ft wide. We would put the timber in and one day we were working at the far end of the stope, it was about 100 ft long, and a guy we had running the slusher came running up and told us, "Hey, you guys better get out of here, this stope is caving in." Just then I was drilling with the stoper, it drilled straight up, and all at once it yanked it out of my hands. We had lost of whole set, 42 ft, and a big boulder came down. It was so heavy it took the timber out. We waited until we figured it had quit, then we took off running. There was a Mexican there who ran out to the station and told everyone we were all dead [laughter].

LB: What was your favorite part of mining?

BB: In the wintertime, it was going in out of the cold to where it was the same temperature all the time. The worst part was coming out with wet clothes on when it was cold!

LB: When you chatted around with your buddies, were there superstitions or stories about miners or things like that?

BB: You'd hear noises or hear a rock fall and they'd say, "Well, that's the Tommyknockers<sup>12</sup> at work." They claimed that the ground works at different times of the day. I don't know whether it does or not.

LB: What was the composition of the mining crew? Were they all of the same religion, members of the same ethnic groups, or were they mixed crews?

BB: They were mixed crews. There were different nationalities and each one of those had what they would do for recreation. Just about all the miners would drink or use tobacco or some other sort of vice.

LB: Did you get any days of the week off?

BB: Generally we would work five days a week.

LB: Were there any union organizers around? Were any of these mines unionized?

BB: Yes. When I worked at US Smelting and Refining we had our own union. One of the miners would be the president of the union. When we were in negotiations for a new contract, he is the one that represented us. Later on we got affiliated with United Steel Workers and they had a union called Mine Mill Union, which most mines belonged to.

LB: Did you ever get involved in union activities?

BB: I'm afraid so [laughter]. What the miners started doing instead of going on strike they would have a work slow-down. Some of them wouldn't do anything. My particular incident was when they sent a company man to write down everything you did all day long. He'd get in the road [in the way]. What he was trying to do was figure out something so when we said, "We've got to have more money for this," he could say, "Well, they don't need any more money because all they're doing is sitting around all day." I got blacklisted. I told the guy doing the monitoring that he'd better get out or I'd take the axe to him. So that was the end of my mining days at US Smelting and Refining.

LB: Were the other mines also unionized?

BB: All of them, just about.

LB: What about when you operated with your partners at Fry Canyon?

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<sup>12</sup> Tommyknockers, or mine spirits, reputedly watched over miners and could reward or punish them. Noises in the mines, according to some believers, were caused by these spirits and might lead miners to rich ore or foretell of danger. The root of this belief lies in medieval Europe (Carl Barna, "Tommyknockers: The Spirits of the Underground," The History Mystery Examiner Online at [www.blm.gov](http://www.blm.gov)).

BB: We had a superintendent that represented the company that was doing the work. It was a private company that was doing the work. They had to have somebody that was knowledgeable about finding directions and finding a certain place underground; that's what he was. He had a brother who thought he was our boss, but we'd tell him, "You've got to go to talk to your brother."

LB: Do you know the name of the mine that you worked in Fry Canyon?

BB: We just called it the Marty Coleman. I guess it was later it got the name of the Spook.<sup>13</sup> I tried to get back there in 1990 to look to see what was there. I couldn't even find the mine.

LB: Had it been reclaimed?

BB: Well, that was 50 years after I worked there. We started our shaft, it was just 12 feet above the bottom of the wash. We ran two shifts so the mine was running all the time. One night there was a flash flood and it came to within about a foot of the shaft. It was rolling boulders as big as a car down the wash; it was more or less a flash flood of mud. The company furnished us with a 4wd Dodge Power Wagon, that's what we rode to work, and we had to cross the bottom of the wash to get out and back to our camp. We lived in trailer houses. It was pretty scary getting across that flood. We had to follow the wash for 2000 ft before we could get out of it.

LB: Your camp was further up the canyon?

BB: The camp was in Fry Canyon and the mine was in Red Canyon. We had a set up where we had a shower, we had running water, we had our own sewer. We had a 34-ft trailer house to live in.

LB: You stayed there for how long?

BB: About two years.

LB: Did you like mining uranium any better or any worse than you like mining the hard metals?

BB: I didn't like uranium at all. I figured it was too dangerous. They wouldn't use timber support, they'd just have big open glory holes. While we were there several miners got killed because they got caved on.

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<sup>13</sup> The first uranium shipment from the Spook Mine was in 1954 and increased in 1956. COG Minerals operated the Spook, Bullseye, and Cove mines and constructed an upgrader mill in Fry Canyon to treat ore from these mines; the mill started production in 1957 and ran through the early 1960s. COG Minerals was the 3rd largest operator in the White Canyon Mining District in 1957 and slowed thereafter. In 1961 the Spook was leased by Texas-Zinc Minerals and in 1963 that company was bought by Atlas Corporation. During the mid-1960s the Spook was worked by COBO Mining Company (Cole and Bond) but apparently production stopped or greatly diminished by 1967 (William L. Chenoweth, The Geology and Production History of the Uranium Deposits in the White Canyon Mining District, San Juan County, Utah, UGS Miscellaneous Publication 93-3, 1993).

LB: Can you think of anything else you'd like to tell us about your mining experiences?

BB: Oh, I think that about does it.