

An interview with
DALE BERG

An Oral History conducted and edited by
Robert D. McCracken

Nye County Town History Project
Nye County, Nevada
Tonopah
1990

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Dale Berg beside a drilling rig used by the Round Mountain Gold Corporation, Round Mountain,
Nevada
1990

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PREFACE

The Nye County TOWn History Project (NCTHP) engages in interviewing people who can provide firsthand descriptions of the individuals, events, and places that give history its substance. The products of this research are the tapes of the interviews and their transcriptions.

In themselves, oral history interviews are not history. However, they often contain valuable primary source material, as useful in the process of historiography as the written sources to which historians have customarily turned. Verifying the accuracy of all of the statements made in the course of an interview would require more time and money than the NCTHP's operating budget permits. The program can vouch that the statements were made, but it cannot attest that they are free of error. Accordingly, oral histories should be read with the same prudence that the reader exercises when consulting government records, newspaper accounts, diaries, and other sources of historical information.

It is the policy of the NCTHP to produce transcripts that are as close to verbatim as possible, but some alteration of the text is generally both unavoidable and desirable. When human speech is captured in print the result can be a morass of tangled syntax, false starts, and incomplete sentences, sometimes verging on incoherency. The type font contains no symbols for the physical gestures and the diverse vocal modulations that are integral parts of communication through speech. Experience shows that totally verbatim transcripts are often largely unreadable and therefore a waste of the resources expended in their production. While keeping alterations to a minimum the NCTHP will, in preparing a text:

- a. generally delete false starts, redundancies and the uhs, ahs and other noises with which speech is often sprinkled;
- b. occasionally compress language that would be confusing to the reader in unaltered form;
- c. rarely shift a portion of a transcript to place it in its proper context;
- d. enclose in [brackets] explanatory information or words that were not uttered but have been added to render the text intelligible; and
- e. make every effort to correctly spell the names of all individuals and places, recognizing that an occasional word may be misspelled because no authoritative source on its correct spelling was found.

ACKNOWLEDGMENTS

As project director, I would like to express my deep appreciation to those who participated in the Nye County Town History Project (NCTHP). It was an honor and a privilege to have the opportunity to obtain oral histories from so many wonderful individuals I was welcomed into many homes--in many cases as a stranger--and was allowed to share in the recollection of local history. In a number of cases I had the opportunity to interview Nye County residents whom I have known and admired since I was a teenager; these experiences were especially gratifying. I thank the residents throughout Nye County and Nevada--too numerous to mention by name--who provided assistance, information, and photographs. They helped make the successful completion of this project possible.

Appreciation goes to Chairman Joe S. Garcia, Jr., Robert N. "Bobby" Revert, and Patricia S. Mankins, the Nye County commissioners who initiated this project. Mr. Garcia and Mr. Revert, in particular, showed deep interest and unyielding support for the project from its inception. Thanks also go to current commissioners Richard L. Carver and Barbara J. Raper, who have since joined Mr. Revert on the board and who have continued the project with enthusiastic support. Stephen T. Bradhurst, Jr., planning consultant for Nye County, gave unwavering support and advocacy of the project within Nye County and before the State of Nevada Nuclear Waste Project Office and the United States Department of Energy; both entities provided funds for this project. Thanks are also extended to Mr. Bradhurst for his advice and input regarding the conduct of the research and for constantly serving as a sounding board when methodological problems were worked out. This project would never have become a reality without the enthusiastic support of the Nye County commissioners and Mr. Bradhurst.

Jean Charney served as administrative assistant, editor, indexer, and typist throughout the project; her services have been indispensable. Louise Terrell provided considerable assistance in transcribing many of the oral histories; Barbara Douglass also transcribed a number of interviews. Transcribing, typing, editing, and indexing were provided at various times by Jodie Hanson, Alice Levine, Mike Green, Cynthia Tremblay, and Jean Stoess. Jared Charney contributed essential word processing skills. Maire Hayes, Michelle Starika, Anita Coryell, Jodie Hanson, Michelle Welsh, Lindsay Schumacher, and Shena Salzmann shouldered the herculean task of proofreading the oral histories. Gretchen Loeffler and Bambi McCracken assisted in numerous secretarial and clerical duties. Phillip Earl of the Nevada Historical Society contributed valuable support and criticism throughout the project, and Tam King at the Oral History Program of the University of Nevada at Reno served as a consulting oral historian. Much deserved thanks are extended to all these persons.

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--Robert D. McCracken
Tonopah, Nevada
1990

INTRODUCTION

Historians generally consider the year 1890 as the end of the American frontier. By then, most of the western United States had been settled, ranches and farms developed, communities established, and roads and railroads constructed. The mining boomtowns, based on the lure of overnight riches from newly developed lodes, were but a memory.

Although Nevada was granted statehood in 1864, examination of any map of the state from the late 1800s shows that while much of the state was mapped and its geographical features named, a vast region--stretching from Belmont south to the Las Vegas meadows, comprising most of Nye County-- remained largely unsettled and unmapped. In 1890 most of southcentral Nevada remained very-much a frontier, and it continued to be for at least another twenty years.

The great mining booms at Tonopah (1900), Goldfield (1902), and Rhyolite (1904) represent the last major flowering of what might be called the Old West in the United States. Consequently, southcentral Nevada, notably Nye County, remains close to the American frontier; closer, perhaps, than any other region of the American West. In a real sense, a significant part of the frontier can still be found in southcentral Nevada. It exists in the attitudes, values, lifestyles, and memories of area residents. The frontier-like character of the area also is visible in the relatively undisturbed quality of the natural environment, most of it essentially untouched by human hands.

A survey of written sources on southcentral Nevada's history reveals some material from the boomtown period from 1900 to about 1915, but very little on the area after around 1920. The volume of available sources varies from town to town: A fair amount of literature, for instance, can be found covering Tonopah's first two decades of existence, and the town has had a newspaper continuously since its first year. In contrast, relatively little is known about the early days of Gabbs, Round Mountain, Manhattan, Beatty, Amargosa Valley, and Pahrump. Gabbs's only newspaper was published intermittently between 1974 and 1976. Round Mountain's only newspaper, the Round Mountain Nugget, was published between 1906 and 1910. Manhattan had newspaper coverage for most of the years between 1906 and 1922. Amargosa Valley has never had a newspaper; Beatty's independent paper folded in 1912. Pahrump's first newspaper did not appear until 1971. All six communities received only spotty coverage in the newspapers of other communities after their own papers folded, although Beatty was served by the Beatty Bulletin, which was published as a supplement to the Goldfield News between 1947 and 1956. Consequently, most information on the history of southcentral Nevada after 1920 is stored in the memories of individuals who are still living.

Aware of Nye County's close ties to our nation's frontier past, and recognizing that few written sources on local history are available, especially after about 1920, the Nye County Commissioners initiated the Nye County Town History Project (NCTHP). The NCTHP represents an effort to systematically collect and preserve information on the history of Nye County. The centerpiece of the NCTHP is a large set of interviews conducted with individuals who had knowledge of local history. Each interview was recorded, transcribed, and then edited lightly to preserve the language and speech patterns of those interviewed. All oral history interviews have been printed on acid-free paper and bound and archived in Nye County libraries, Special Collections in the James R. Dickinson Library at the University of Nevada, Las Vegas, and at

other archival sites located throughout Nevada. The interviews vary in length and detail, but together they form a never-before-available composite picture of each community's life and development. The collection of interviews for each community can be compared to a bouquet: Each flower in the bouquet is unique--some are large, others are small--yet each adds to the total image. In sum, the interviews provide a composite view of community and county history, revealing the flow of life and events for a part of Nevada that has heretofore been largely neglected by historians.

Collection of the oral histories has been accompanied by the assembling of a set of photographs depicting each community's history. These pictures have been obtained from participants in the oral history interviews and other present and past Nye County residents. In all, more than 1,000 photos have been collected and carefully identified. Complete sets of the photographs have been archived along with the oral histories.

On the basis of the oral interviews as well as existing written sources, histories have been prepared for the major communities in Nye County. These histories also have been archived.

The town history project is one component of a Nye County program to determine the socioeconomic impacts of a federal proposal to build and operate a nuclear waste repository in southcentral Nye County. The repository, which would be located inside a mountain (Yucca Mountain), would be the nation's first, and possibly only, permanent disposal site for high-level radioactive waste. The Nye County Board of County Commissioners initiated the NCTHP in 1987 in order to collect information on the origin, history, traditions, and quality of life of Nye County communities that may be impacted by a repository. If the repository is constructed, it will remain a source of interest for hundreds, possibly thousands, of years to come, and future generations will likely want to know more about the people who once resided near the site. In the event that government policy changes and a high-level nuclear waste repository is not constructed in Nye County, material compiled by the NCTHP will remain for the use and enjoyment of all.

--R.D.M.

This is Robert McCracken talking to Dale Berg at his home in Smoky Valley, Nevada, February 19, 1990.

CHAPTER ONE

RM: Dale, why don't we start with you telling me your name as it reads on your birth certificate.

DB: My name reads Dale Henry Berg.

RM: And where and when were you born?

DB: I was born the 15th of September, 1931, in a little railroad town called Nugget in Wyoming. That's very close to Kemmerer in the southwest part of Wyoming.

RM: What was your father's name and where was he born?

DB: My father was Vernon Maynard Berg, and he was born in North Dakota in a small farming town just south of the Canadian border.

RM: Do you know when he was born?

DB: Yes, he was born in December, 1905.

RM: And what about your mom? What was her maiden name and where and when was she born?

DB: Her name was Helen May Hampton. She was born in Roaring Springs in Pennsylvania and her father was a coal miner until he came out West and started in the old Coeur d' Alene mines in about 1915. He worked there until about 1917, I think, and then he went over and bought an unimproved homestead in Libby, Montana, which is in the very northwest part of the state. And then he more or less worked off and on in some of the local gold and silver mines that were there. But after about 1937 there wasn't much activity anymore, and none after the war started, and he just pretty much homesteaded. It was a self-sufficient farm, you might say.

RM: What was your father's occupation?

DB: Well, he and my mother got married in 1929 down in Denver, Colorado, and then they went up and he went through various things, finding jobs. He worked for the railroad a little while and then he went up and worked with a great-uncle of mine - my mother's uncle - on a hog farm up in Pardee, Idaho. From there they went to Diamond, Washington, and then they migrated over to Libby.

The first year he was there, he worked in the gold mine with my grandfather and my other uncle, and after that he basically went to work for the J. Niels Lumber Company, which was the local lumber mill - they were some loggers from Minnesota. He worked there until the

war started and then he went into work as a sheet metal technician doing sheet metal layout and everything. And that's what he did until he died, which was April 20, 1950.

RM: And where did you spend your early years?

DB: Well, I traveled a lot until I was 5 years old - that's when we ended up in Libby, Montana.

RM: Would you tell us just a little bit about Libby and what it was like when you were growing up there?

DB: It was a lot smaller than it is now, that's for sure. Libby sits in a valley - the Kootenai Valley - at about 2000 feet elevation. Basically it got started through gold placer mining and the original town was somewhat south of where it is now. It was settled about 1896 or 1898 and then they moved it to the vicinity of the Kootenai River, which is a very large river. And about that time the J. Niels Lumber Company came in. And for many years, and even now (although under a different name), J. Niels has been the primary supporter for, basically, Lincoln County, along with a lot of logging. There used to be a lot of gyppo logging.

And probably around the time of World War I or shortly before that, there was a vermiculite mine that was developed about 7 or 8 miles out of Libby that was probably a very small mine by [present] standards. In the Depression [it employed] about 30 guys, and nowadays, probably about 100. It's steadily winding down because the primary use for vermiculite (or Zonelite, which is a trade name) was as insulating material and now they've got so much stuff that's so much better. They've had a lot of layoffs. It's not much anymore, really.

RM: They must have had a huge deposit of vermiculite there.

DB: A couple of mountains of it, and [a lot] still left.

RM: I'll be darned. Would you explain the term gyppo logging?

DB: Gyppo logging is where a private individual, by himself or by hiring others, gets contracts on certain blocks of timber that are let out by the Forest Service to be cut and logged.

RM: Oh. So he logs and then sells it to a sawmill, or does he have his own sawmill?

DB: He sells directly, normally, to a sawmill, though there have been some people who have bought tracts of log material who have had their own sawmill. Then they just saw it out and sell it to either the mill or to somebody who's interested in it.

RM: Is there much logging going on in the Libby area now?

DB: Well, there still is a fair amount of logging, except that the logging company now does not maintain a woods crew any longer. It's been 5 or 6 or 7 years since they've had a logging crew, and mostly they buy from gyppos. They even have some shipped in now. There's still a lot of

material around Libby but there have been a lot of hassles since they went to clear-cut logging and the environmentalists and forest problems and . . . For years, the mill used to hire about 1000 to 1200 guys. Now in the last 6 to 8 years, since it's been owned by Champion, they're down to less than 600 people to operate the mill, because the mill is all computerized, and with modern methods of milling . .

RM: How far did you go in school in Libby?

DB: I went to school in Libby through the sixth grade, and then my dad went over to Worley, Idaho, and we were there about less than a year. The war was going good and he had a call from the guy he originally worked with to go back to Spokane to go into the sheet metal business, which he did. So we later moved to Spokane - I think in 1944.

RM: And then you went to school there?

DB: Yes. I stayed around Spokane until I finished the tenth-and-a-half-grade. I was 16 years old and it was difficult for a 16-year-old to get much of a job, although I did work for Western Union in late '44 and '45, up until about '46, I guess. But it only paid 65 cents an hour and I had illusions of grandeur - big money.

RM: [chuckles]

DB: Anyway, I was basically a high school dropout and I was truant a couple of times and got picked up for it. And that made my mind change to the degree that I thought, "Well, I'll go in the army," which is what I did. I think I was 16 years and 5 months old when I went in the service.

RM: And where did you serve?

DB: Well, I did my basic training and then they sent me right to Korea. At that time, nobody even knew where Korea was. I stayed over there for a year until the United Nations withdrew the troops from Korea in June of 1949. They sent most of the people that had over a year in Korea to Japan; everybody else basically went over to reopen Schofield Barracks in Hawaii.

RM: And which were you?

DB: I went to Schofield Barracks.

RM: So you were in Korea before the Korean War?

DB: Right.

RM: I'll be darned. Did people over there see any hint of what was coming?

DB: I don't think so, although there was communist activity. There used to be an outfit that we called the Green Armed Bandits. They wore a green armband and they were reputed to be a communist organization that would infiltrate over the border - the 38th parallel - and apparently try to politically influence people, like around Seoul, Weijambu and some of the smaller towns. At that time I just never paid a great deal of attention to them. I don't think - at least I don't recall - anybody thinking that the North Koreans would ever invade South Korea.

RM: Is that right?

DB: I think it was a big surprise all the way around.

RM: What part of the army were you in? I mean, what was your job?

DB: WW1, I was in the infantry.

RM: And then you went to Schoffield in Hawaii.

DB: Right. I got in Schoffield in June of 1949 and I stayed there. My father died the 20th of April in 1950 and I got sent home with a great deal of effort. They weren't going to send me home because back in those days the theory was that if the person is already dead there's nothing you can do to help him. The only thing that helped me was that I was the oldest of 5 kids. So I got home on basically a dependency thing - like your mother needs you or . . . and as soon as I got home I went to work for the old Kaiser plant, and then I wrote a letter and was given instructions to go to Fort Lewis where I received a discharge on dependency reasons. And then the war started - I think it was in June, the month I'd got out. But I couldn't get back in because I was classified dependent and had to stay out of the service for a year. I did work various jobs and I was not too stable. Finally I decided to go back in the service in August of 1951, which I did. And of course, that was another free ticket back to Korea.

RM: How long were you in Korea?

DB: Well, at that time I was in Korea for 15 months, I think.

RM: Were you on the front lines?

DB: Yes. I was with the Second Infantry Division and I was in the Ninth Infantry D Company - Dog Company - which was a heavy weapons company.

RM: What did you think about being back there?

DB: I guess I never really gave it a lot of thought. There were times I wished I wouldn't have gone back, but basically I was very young and I think that I didn't think about a lot of things that I think about now. RM: Did you get wounded there or anything?

DB: No. I was lucky.

RM: Did a lot of guys around you get . . .

DB: It wasn't like a massacre or anything like that; it was rather intermittent. We were basically, most of the time, in holding positions and doing a lot of patrolling and it wasn't all that eventful. A lot of people have misconceptions about being in combat. They think that you're fighting all the time. Fortunately, it isn't like that at all. There's an awful lot of waiting, and rumors, and missed meals. And at that time, of course, there wasn't a lot of cold weather gear and it was pretty cold over there.

RM: Was it miserable?

DB: It was miserable, yes. I remember that. But as far as fighting for your life constantly, it just isn't like that, you know. There's an awful lot more waiting than there is anything else - boredom.

RM: And then what happened after your 15 months were up?

DB: Well, they had 4 available shipments of people who had accumulated enough points to go home (they were still on the point system then). There were 5 of us who were eligible to go but there were only 4 vacancies, and it was between a good friend and me. He was like fourth and I was fifth or whichever, so we had to split a deck of cards to see who got to go first, and I won. But I got sent back by ship and he got the next available shipment and that was an aircraft shipment, so he got back to the states about a week before I did. But I still have contact with him. To this day we visit back and forth.

RM: Is that right. What's his name?

DB: Jack Larson. He was from Spokane but he's living in Reston, Washington, which is a suburb out of Tacoma. He's lived there about 15 years now.

RM: And what happened when you got shipped back?

DB: Well, Jack and I got together because we were from the same home town. We didn't have much money in those days, so we got a job hauling apples.

RM: Had you mustered out?

DB: No, we were both on furlough, because we were both being sent to the same outfit in Fort Lewis, Washington. Then we went to Fort Lewis and stayed there until Jack got discharged. In the meantime I'd gotten married and reenlisted, and the long and the short of it is that I got sent back to Korea again in January of '56.

RM: But the war was over then, wasn't it?

DB: Oh yes. The war was over. But I had 4 tours of duty there; I put in 6 years total, I think, over there.

RM: Who did you marry?

DB: I married a girl from Spokane the first time - Marion Sharp was her maiden name. We had one girl and she now lives in Tacoma, herself.

RM: But all this time you were in the service?

DB: Oh yes. I never had a break in service after I enlisted again in August of '51 till I got out February the 1st, 1971. I had 4 tours in Korea and then the last time I got sent back to the states was in '57. They it me on orders to go back overseas again and it was going to be Korea again, but this time I kind of wanted to go someplace else. What had happened was, during the first tour, they called that United States Armed Forces Far East, which was USAFFE, then the next time it was coded in the military records as Ryukyus Command . . . and each successive time they changed the name of the command, you see. So the new draftee clerks and people unfamiliar with this jargon didn't know that I'd been to the same place under all these different names. I went to see the personnel sergeant and he got it straightened out, so I was due to go overseas but he gave me a choice of whether I wanted to go to Germany or go to Alaska. I was always a great reader of Jack London and James Oliver Kerwood and I'd always wanted to go to Alaska, so I went up there and stayed up in Fairbanks for 5 years.

RM: How did you like that?

DB: Actually, I liked it quite well. It was a good tour of duty.

RM: The cold didn't bother you?

DB: Not really. They teach you how to dress for it. I suppose the highlight of my whole tour up there was that I learned to ski military style cross country, which I've always been thankful to the military service for.

RM: What was special about the skiing?

DB: Well, number one, military-type cross country skiing is really a form of self-survival. They teach you to go anywhere in the world on skis - as long as they've got snow. It's quite a method that they use -they are able to move a whole battalion or a whole regiment, basically by skis.

RM: Do you still ski today?

DB: I do when I have enough snow. I just found a pair of NATO type military cross country skis that I've got hanging upside down in the garage, but I haven't had enough snow in the last couple of years around here to utilize them.

RM: Did you stay there until you mustered out?

DB: No, I came back from Alaska and they sent me to Fort Carson, Colorado. I think I had 19-1/2 years in then and the Vietnamese War was still going pretty good. I applied for and received recruiting duty and they sent me to Albany, New York.

While I was there they sent me to the Military Recruiting School in Indianapolis, Indiana, and when I got back that weekend, the next morning when I reported in, I had orders to go to Vietnam. I originally was assigned to go to a Vietnamese Arvin Battalion - infantry battalion. Luckily, when I got to Cam Ranh Bay, my name was called out at flight operations, and there was a colonel there who asked me if I would change my original assignment (which came out of Washington, D.C.) and go to work for MACV, which stood for the high military command in Saigon. I went to work for what they call a tactical support element (TASE) and GLO, which was Ground Liaison Operations, because I held an Infantry Intelligence Operations (MOS) job number at that particular time. I took that assignment and ended up spending a day short of a year up in the Phan Rang Air Base, which was one of the larger air force military bases RM: In your mind, was there a sharp contrast between Korea and Vietnam? DB: Yes, it was totally different. Basically, the weather in Korea was extremely severe and the U.S. Government was not geared up, equipment-wise, to deal with that. Whereas in Vietnam, you could have gotten by in most places in your underwear - it was that hot.

RM: Did you come under any fire in Vietnam?

DB: Yes. But it was a little bit different than the normal because I flew as an observer for most of my career over there. Basically my job, besides flying convoy cover, was doing forward air control work - flying with Spooky, which was the Vulcan gun airship that gives support fire to the troops at night . . .

RM: That sounds highly risky.

DB: It was kind of high risk, I guess, if you get hit. Some did get hit, of course. And some of the forward air control got shot down. I really never worried too much about it. I guess I got used to it - or complacent. But my primary job was to brief the fighter pilots who were with the 35th Tactical Fighter Group. They were flying the F-100s, and what I basically did, in addition to my other duties - in the evenings, particularly - was to brief them on the enemy ground situation. For instance, if they had new types of ground-to-air weapons in the area they were going to operate in. Actually, I had a quite a varied tour over there - I didn't do any one thing a lot. It kind of kept me from getting bored.

RM: A lot of veterans from the Vietnam War have had trouble adjusting - apparently that didn't affect you. What do you make of all that?

DB: Well, I can't really say. I'm sure that any time you're in the front lines - and you had a fairly high rate of kills on both sides over there . . . If I'm not mistaken I think over 60,000 troops were killed in Vietnam over a period of approximately 10 years, and in Korea, if I'm not mistaken, it was something like 56,000 in about 3 years. So Korea was much more detrimental to your health, basically, than Vietnam was. But anytime you're in a front line combat situation, you're going to have, if not complete trauma, some severe afterthoughts. The only other comment I could make about it is that I'm afraid that I believe, as a personal opinion, that a lot of this was brought on due to the incidence of drug taking amongst front line troops.

RM: Oh really?

DB: I'm sure of it.

RM: What makes you sure of it?

DB: Well, I know there was a lot of dope usage. Marijuana and cocaine were so readily available in Saigon and anyplace in Vietnam. Plus when they'd go on their rest and recuperations to Thailand, Japan, Hong Kong . . . all that stuff was readily available.

RM: And you think that this contributed to the poor adjustment of many people there?

DB: I think it has a great deal of bearing on a lot of it. I wouldn't say that this is true in every case. I suspect that the drug ordeal has a lot to do with the posttrauma problem that a lot of veterans are experiencing today.

RM: There were no drugs in Korea, were there?

DB: If there were, I never knew about it. As a matter of fact, I really never found out about drugs myself. It wasn't until 1964 - on my last tour over to Korea - that I became aware that there were drugs running around. I was kind of known to be a redneck, and I was also a non-commissioned officer so, of course, nobody offered me any of that stuff. RM: But you think there were other people using them in Korea?

DB: Oh, I know there were.

CHAPTER TWO

DB: At that time I was a battalion communications chief. My first inkling of direct contact with dope or substance abuse, whatever you want to call it, was when, on a Monday morning, my radio repair chief failed to show up. Of course I had to make note of this and when I approached my first sergeant about it he informed me that this fellow had been picked up over the weekend in a town south of us for using and/or selling whatever it was. I never did know what he was dealing in.

RM: Do you think this was a common problem in Korea?

DB: I know marijuana was a common problem. I went into various tea houses, as we tensed them, which were basically beer drinking establishments, meeting establishments. And you just about always could smell the smoke. But as for cocaine, I don't really have any idea of how much cocaine use there was.

RM: Do you think drugs were more common in Vietnam?

DB: Oh, I'm sure they were. I observed that personally on the air force base. The day rooms were always full of people who didn't look right and there was a lot of blue smoke and marijuana smell in those places.

RM: What do you think of all that? Here you were, a mature career soldier and basically these were a lot of kids, weren't they?

DB: I don't know exactly; I've always been against drug use. I don't think I ever thought it was very military to become involved in drugs. However, I was at least a generation ahead of all my counterparts, and the people I worked with, of course, were basically all young people. I never knew as much about it as I could have if I'd have been a younger person who didn't have any rank where people would talk to me or where I was around those people. But in my position I wasn't really exposed to it. They hid it from me, to be honest.

RM: How long did you stay in Vietnam then?

DB: I was there one day short of a year. Then they sent me back to the states and back to recruiting duty.

RM: And what year was that?

DB: 1969.

RM: So you were in Vietnam in the earlier years.

DB: Basically it was President Johnson's big buildup in 1968 after the Tet Offensive.

RM: And then they sent you home and you were in recruiting, which is what you were going to go into before they sent you there.

DB: Yes. I was assigned as a station commander at Everett, Washington, and I stayed in recruiting until I retired February 1, 1971.

RM: So you retired with 20 years.

DB: Yes; 22 years.

RM: And what did you do then?

DB: Well, I got out of the army and I bought a bar - myself and my uncle - and I lasted in that about 1-1/2 years; I was unsuccessful as a bar owner. In the meantime I'd developed a shake mill for cedar shakes for houses.

RM: Where was the bar, Dale?

DB: In Libby, Montana - I went back to Libby And then the Forest Service cut down on what we call green slip sales. That's where you could go out and buy cedar logs that were just lying there and offer a price for them compared to what you might think you could make. It was ,pretty good in that business up until that time but after that it went nowhere. So I went to work one season with the Forest Service as a fire fighter, which was rather enjoyable. And again, I worked with a bunch of young kids (I didn't notice any substance abuse among those people, though.) Then I got a job working for the Grace Corporation, which owned and operated that Zonelite mine in Libby. I worked there for about 2-1/2 years and I became dissatisfied there because there wasn't anywhere to go. You had to have about 7 to 8 years seniority just to work in the mine. So I quit there and went to playing music and tending bar for about 6 months.

RM: Did you have a band?

DB: I played in a band.

RM: We should mention that you're a banjo player and

DB: Well, I've been called that and worse.

RM: [chuckles] When did you take up the banjo?

DB: Oh, I started in about '57.

RM: When you were in the military?

DB: Yes.

RM: And so then you were in a band . . .

DB: It was just a little country bend at Libby, playing in the bars and things like that.

RM: And then what happened?

DB: Then I got dissatisfied with that. It's not a great life.

RM: How long did you do that?

DB: Oh, about 6 years.

RM: And that was your main source of . . .

DB: Well, no. For a long time I had to work my band dates in with my working dates. But most all the time I was in Libby I played in a band. I started out in my own bar, to save money on a bass player. That's how I got into it, really.

But then after my Libby tour, I think in 1977, I went up to Fairbanks, Alaska, to work for my ex-brother-in-law for about 5 months for A.C.E. Construction up there, but it was starting to get to be bad weather and we had to wait a long time in between jobs for the equipment to work with. We were putting Golden Valley Electric Company electric substations in subdivisions there. I grew tired of that after a while and I came back to the states and I looked for a drilling job because I had done about 1-1/2 or 2 years of drilling for Zonelite. But jobs at that time were pretty few and far between so I got pretty low on money and I had to go pull a hose for a winter.

RM: What's does "pull a hose" mean?

DB: Well, we were pumping stove oil and fuel around Spokane. They had a big winter snow that time and one guy couldn't do it. I worked for that outfit for about 8 or 9 months until I read an ad in the Spokesman Review that they were looking for drillers down here at Round Mountain.

RM: Now what's the Spokesman Review?

DB: That's the old newspaper that's been around Spokane since Spokane was Spokane.

RM: And what year was that?

DB: That was 1978.

RM: So you saw this ad, and what did you do?

DB: I just called them up to see if they were for real, and they were. They said, "Do you have any experience?"

And I said, "Yes, I do."

And they said, "Well . . ." They didn't even ask me whether it was good experience or bad experience. And they told me that if I wanted to come down and go to work they would send an authorization for a physical to me in Spokane. And if I passed the physical then they would give me a letter of guarantee as a driller down here at the mine. And that's how I got here.

RM: You were heading into a new territory, weren't you? What did you think when you got to Round Mountain?

DB: I guess I was kind of shocked. I'd never been in Nevada before and I really hadn't ever seen this kind of country before, and I knew right away that it was different. I somehow got the idea that I probably wouldn't last over a year or so around here, but it didn't work out that

RM: Why did you get that idea?

DB: Well, it was rather sparse. Number one, there was no place to live. I had brought a tent down with me just in case, but I was lucky - they had a guest room on the property that I used for about 2 weeks until a friend of mine - a newly acquired friend - went down to Tonopah and married a girl down there and I got his apartment over here at the C&H Trailer Court. I stayed there about a year, until I bought my own trailer.

RM: What was your job when you got here?

DB: When I first got here they put me right onto running a drilling rig. I did that from about the 1st of October until the 1st of December and they asked me if I would start doing the blasting for them.

RM: Why did they ask you to do that?

DB: Well, I had some experience in the mine previously, plus I had military experience in explosives and I was older.

RM: They figured you were more reliable, or . . .

DB: Well, either that or they couldn't get anybody else. But anyway, I did that and we didn't shoot very much in those days, so a lot of times we shot all of our shots by noon. If I didn't have anything to do in the afternoon then I'd go out and drill, so I was classified as powderman driller. I did that until August of '81 and the party got a little bit bigger and they decided to split the blasting and the drilling section up and they offered me the job of drilling supervisor, which I readily accepted.

RM: Oh. Because the drilling supervisor then doesn't have to run the drill rig, does he?

DB: Oh no.

RM: So that took you off the rig and gave you a supervisory job, didn't it?

DB: Yes.

RM: Were they using the same drill equipment then as they are now?

DB: Basically the equipment was the same, except the drills were different. We now have a new fleet of drills that are all the same kind, whereas before we'd get a hodgepodge.

RM: Would you describe some of the drilling rigs that you were using?

DB: When I first came here they were using an Ingersol Rand T-4-type drill which was using about a 6-3/4-inch tri-cone bit and they were using the down hole hammer at that time. That's a percussion instrument that batters its way down in the drill hole, pretty much. And that was a wheel-mounted rig - it didn't have a cab on the outside.

RM: So you were out in the weather.

DB: We were out in the weather and I spent 2 winters at least part-time out on the back of that thing, which wasn't great.

The other drill we had at the time was a new SK-40 Reed drill. That was a little bit bigger rig. Although I've never cared for the Reeds, it did do a good job. And we had those 2 drills until we decided that we needed more drilling capability. At that time we were under Louisiana Land [and Exploration Company]. When we applied for more drill rig capability, they sent us a giant BE, which is Bucyrus-Erie 45 rig, which was run by a diesel motor which ran an electric generator and supplied all the electricity for running everything. It had some air on it, of course, and it had some hydraulics, but electricity was the main mode of operation. But it was too huge of a rig to properly utilize out here, although we did use it for about 5 or 6 years.

And then we were blessed with a shipment from Alabama of a wheel mounted RT-60 Jay. It's quite a large drill; we used that thing for probably 5 or 6 years also. But it really wasn't suited for what we needed out here.

And I'd always talked up the concept of going to one type of drill so that we could reduce our inventory, for one thing. If you have a lot of different drills, you not only have an inventory problem, you have a training problem with people. So eventually, at the beginning of last year - in April '89 - they delivered the last of the 4 track-mounted DM-50 Ingersol Rands, which are what we're using now.

RM: Would you describe what they look like and how they operate?

DB: Basically they sit on a tank-like chassis to start with, and then they throw the top of the tank away and they put a big flat platform on top and then they mount their engine, they mount their compressor, they mount the radiators on it, they mount the tower to the rear end and they mount the cab. Contained within the tower is a hydraulic motor-driven power head that supplies the power to turn the steel with.

RM: OK. So it turns the steel in the hole.

DB: Yes. And then attached to the end of the steel is a sub to take the wear off the bottom of the first steel. The bit is attached to the bottom of the sub. And of course, as you go down, if you need more length for your hole you add another steel. Each of the steel lengths is 25 feet.

RM: What is your starting length - 25 feet?

DB: Yes. When you go down to your first steel (because your deck is sitting up off the ground), counting the bit and the sub, by the time your steel tap gets even with the top of the deck, that gives you your 25 feet in the ground. Then if you want to go anywhere more, from 26 feet up to 50 feet, you add one more steel.

RM: Is that done by hand?

DB: Yes, it's done by hand. Then we have various tools that we use to accomplish the steel changing.

RM: Do you have to change the steel with every hole?

DB: Oh, yes.

RM: Do you have a guy out there doing that?

DB: No. The driller does that all by himself, even though he prefers to have a helper to assist when he needs it.

RM: Do you have one man on a rig?

DB: Yes. One man per drill.

RM: And you have 4 drills?

DB: Right.

RM: Do you have a 4-man crew?

DB: Well, on one shift I have 4 people per crew. There are 2 shifts, so I have 3 crews, because they're rotating.

RM: Is the mechanism that turns the drill electric or air?

DB: It's hydraulic. There are 2 hydraulic motors sitting on the power head that cause the steel to turn.

RM: I see. What is the air compressor used for?

DB: It is used to remove the cuttings from down in the bottom of the hole as it's drilling.

RM: Oh, they're blown out?

DB: As it's drilling, yes.

RM: Does it make a big cloud when it comes up?

DB: Well, no. We use dust suppression which is built into the drill system. We introduce water into the air in an amount enough to keep the dust from clouding

RM: OK. What comes out of the hole then?

DB: As you're drilling, you'll find that you have cuttings coming out that will reach a height of up to the bottom of the deck and out around the hole for about 3 feet.

RM: I see. Are they a little bit damp?

DB: Well, they're normally just a little bit damp - enough to keep the dust down.

RM: What is the size of the holes you typically drill?

DB: It's an 8-inch hole, 42 feet deep. We're drilling a 35-foot bench and we have a subgrade of 7 feet, so normally we'll be drilling 35 feet and that's where the sample stops. Then we go 5 more feet into the new level to get a subgrade, basically.

RM: And what's that subgrade for?

DB: Well, it's to insure that you don't have hard toes as you . . .

RM: Oh, OK. Sticking out with the tires with . . . You sample from the hole cuttings, don't you?

DB: Yes.

RM: Why don't you tell us about that process.

DB: There are various methods of sampling a hole, but here we do it from the drill deck. About 2 years ago they asked me to institute a new type of system to catch the cuttings so that we could assure uniformity between drillers in collecting samples - to make sure that everybody did it the same way. Under the old systems there was never any consistency between people in collecting samples. And sampling is a very important aspect of drilling out here.

RM: Yes, it's a key to your operation, isn't it?

DB: It's the real key to the operation. I always call my drillers driller samplers.

RM: How does your sampling process work?

DB: I have a circular hole cut through the deck, which is the working platform and which the forward part of the steel goes through. Eighteen inches back from the steel, I have a circular hole cut through the deck that allows a device that I had built to hold a bag - which is a sample bag - so that as the sampler is put to the bottom, it rests on the ground to start with. Then as the drill drills, the cuttings fly up and a certain amount of the cuttings come back and settle into the sample bag. The sample bag weighs about 12 to 14 pounds when it's full, and normally that's about the amount of cuttings you'll get from one 35-foot hole for the sample.

RM: But you're getting more cuttings than that.

DB: Oh yes. Sometimes you'll get almost 3/4 of a yard out of your hole.

RM: So basically, this sampler takes a random sample of the cuttings from a 35-foot hole.

DB: Right.

RM: How far apart are you drilling your holes?

DB: Well, it'll vary a little bit. If we have real tight, hard rock, and it's difficult to blast it into small material, than we'll close into, for instance, a 16-foot pattern so that on centers it would be 16 feet apart each way. As it gets into less dense and easier material, we'll go from 16 to 18 or to 20 in alluvial [soil].

Incidentally, on this sampler we had certain criteria we had to meet. We tested it for 18 months before we put it into use. We were taking 2 samples all of that time and measuring one against the other; our goal was to be able to come within plus or minus 2-1/2 percent, I think it was, before they would accept my new system.

RM: That's pretty good reliability, isn't it?

DB: Yes. This way we know we get more consistency now. And I think the sampling procedure here is increased over what it was.

RM: OK, what happens next? The guy's got a 14-pound bag of cuttings, and what happens to it then?

DB: Well, there are 2 numbers on a tag that is stapled to the stake which is at each hole. The driller tears off one and puts it in the bag, then he takes the stake and the other number that's left and plants that in the cuttings as he leaves the hole. So the hole and the sample are identified. From there they go to the sampling laboratory.

RM: Is that on the premises?

DB: Yes, it is. We do all of our own analysis right there.

RM: And then do they run an assay on that?

DB: Yes.

RM: And what do they run it on?

DB: Well, for the silver and gold content, basically - nothing else.

RM: They don't run it for a sulphide or anything like that?

DB: No. Not to my knowledge.

RM: How long does it take a driller to drill a hole?

DB: Well, in soft material he can normally get a hole in 8 to 10 minutes and it takes anywhere up to about 45 minutes if you get in extremely hard rock.

RM: Do you have much of that rock here?

DB: Yes, probably 20 percent of our drilling is in extremely hard materials.

RM: Could you talk a little bit about the drill bits that you use?

DB: Basically we use a tri-cone bit that was developed by the Hughes Tool Corporation back in the late '50s, if I'm not mistaken. It is 3 triangular-shaped cones that are affixed to the bottom of an extremely hard and sturdy metal body and it has any number of configurations insofar as teeth are concerned. Some of the teeth for the soft material would be merely cast metal that would be carbonized for hardness and in different configurations. There are long tooth, short tooth, scoop tooth, chisel tooth . . . a lot of different methods. As the ground gets harder they

add harder material to the tri-cones for drilling capability all the way up to almost ball-bearing shaped tungsten carbides. They're very, very hard material. And they have any range of configurations and hardness in between the soft and the hard range.

RM: What does a typical drill bit cost? What's the range, I should say.

DB: Oh, for the size of drill bit we're using the price is anywhere between \$1100 and \$1160 per bit.

RM: That's not a very wide range for some of the tungsten carbide bits.

DB: Well, that's for the type of bit that we use which is medium to hard. If you want to drop down to a very low-grade bit, then you're talking probably about \$650 on up to, if you buy the real hard one, probably \$1800.

RM: OK. But you don't use those here because you don't have a need for them.

DB: Right.

RM: How long does a drill bit last you, typically?

DB: Right now I'm averaging 6000 feet per bit, although it does change with the materials being drilled.

RM: That's a lot, isn't it?

DB: I figure I get about 150 holes per bit. At least, that's what I look for. I don't always get it. Sometimes I get a lot more.

RM: How many holes does a driller get in a typical day?

DB: About 20. I was looking at that today and that's what we're right at. And that's with 3 to 4 drills per shift (we've had one drill out of action for 10 days). So we've been drilling with 3 drills per shift or 6 drill shifts per day.

RM: Now, in underground mining they have what they call the 5-hole burn and the toe-cut and the hammer-cut and all that. What would be analogous to that? Do you have any pattern that you set down for blasting?

DB: No. As a matter of fact, all of the patterns are designed by the engineering department.

CHAPTER THREE

DB: The engineering department sets the design of the drilling pattern in accordance with the weekly mining plan: In other words, what we need in types of ore, lean ore and waste material.

RM: So the engineers have an idea before you start drilling of where the ore is and where the waste is.

DB: Oh yes - as a result of past exploration and geological excursions throughout the pit by geologists.

RM: Oh. So they make a weekly plan based on their needs and their understanding of the ore body.

DB: Right - for X number of tons of this and tons of that.

RM: And then what do they do?

DB: Basically they go out and actually lay in the patterns according to that design.

RM: OK. They spot them in.

DB: Yes. They do all the layout work.

RM: I see. And then you guys go in there with your drilling rigs and drill where they've spotted?

DB: Right.

RM: How many holes are in a typical pattern that you're going to blast?

DB: Well, 150 holes would be more or less average. It will range anywhere from a 40-hole pattern for something like a trim shot to straighten up the pit a little bit up to as high as 350 holes per pattern. Sometimes they keep adding on because there is no other place to drill. One shift will give me about 60 to 80 holes a shift.

RM: So you can drill a pattern in anywhere from a half a shift to a full day, then?

DB: Yes. Just depending on multiples of 20 holes per drill . . . Mostly it'll be from a half shift for a small pattern if I have 2 drills on it, up to anywhere like . . . I have spent almost a week between one and two drills per each shift trying to get a pattern drilled out.

RM: Then how often do you blast then?

DB: Normally they'll blast 2 shots per day.

RM: Are you typically only drilling in one place or are you drilling in several places on the pit?

DB: We drill in more than one spot. Right now we're drilling on 3 different levels. Seldom ever is it on only one area. We normally work at least 2 levels.

RM: I see. Is there any particular time of day that you blast?

DB: Yes. The blasts are all scheduled to go off within 10 seconds of each other at 3:50 each day.

RM: And that's the only time you blast?

DB: Normally that's the only time.

RM: And why is that?

DB: Well, that's the way their schedule is set up - it comes at the end of the day shift. We clear the pit out at 3:45 every day. That's their going home time, so we can get that blast shot and cleared before the new shift comes on.

RM: Is there any problem with gas and fumes from the blast?

DB: No. We don't have that problem.

RM The blasting crew is separate from your crew, isn't it?

DB: Yes, it is.

RM: What do you blast with?

DB: Basically we're doing what they call ANFO. That's ammonium nitrate and fuel oil, and it's the same basic consistency as ammonium nitrate for fertilizer. The only difference is that our fertilizer, or ammonium nitrate, has what they call a diatomaceous outer coating which is kind of a clay material and it's all a uniform thickness. The commercial fertilizers have different thicknesses on the outside of the prill itself that allow it to time release.

RM: I see. And yours doesn't time release.

DB: No.

RM: Do you just pour this down the holes and . . . ?

DB: Yes. To load a hole, you have to design your shot before you ever go to shoot it. This means you have to be able to time the shot for the best product you can get after the shot's done. In other words, you want to get the material to lie out right and you want to be able to make sure that it fractures right because you have so many different geological formations, even within one shot, that you have to pay some attention to that. So each of the caps that go down the hole are of a different time length, ranging from about 25 milliseconds up to 400 milliseconds. You design your hole so that you know which hole is going off at any given time all the way down the progression of the shot. You do all that and then, of course, you get all your materials out, and these are laid to the appropriate hole.

To start the load of the hole, we use a 1-pound TNT booster that's about the size of a beer or coke can. It has a cap well down through the side, and the detonation cord has the cap attached to the end of it. You take your cap and insert it through the cord well up on the bottom; you'll stick it right up in the cap well that's in the very bottom middle of the charge. This is then lowered to the bottom of the hole and the truck comes along. As he dispenses the prill, we have a 7 percent mixture of diesel oil that goes with it. Then this is sent down the hole on top of the booster to anywhere from a 50 percent to a 75 percent amount in the hole.

RM: Oh. You mean the hole is 50 to 70 percent filled with blasting material and diesel.

DB: Right. And then, of course, all this time you're making sure that you get ahold of the det (detonation) cord so it does go down in the hole, and you tie it off on a stake. Then after they get the prill loaded into the hole they'll have either a little bobcat or a wheeled loader that will come in and cover the hole up, or else you do it with shovels by hand. You just put the cuttings back in until you fill the hole up.

RM: That helps confine the charge down there, doesn't it?

DB: Yes. After you do all of these holes, then you go along with what they call a trunk line, which is another detonation cord, but it's a larger size than what goes down in the hole. You tie this thing in so that you always have 2 ways to fire any one hole in case you have a cutoff in the trunk line.

RM: Yes. But the key here is that the holes are fired in a predetermined sequence.

DB: Yes. That's for blast control.

RM: How can you determine which way the muck is going to fly and lie and break and all of that?

DB: Experience. And there are many textbooks put out on it by the various powder companies. There's a lot of theory, but unfortunately it takes some years of experience. And generally experience in the same place and in the same formations until you know just about exactly what's going to happen according to the way you've designed your shot.

RM: Yes. Well, let's say you've got a formation there that's part waste and part ore. Do you try to separate them out in the shot, or how does that work?

DB: No. There's no way that you can separate that stuff because once the shot is initiated, it's all going to go someplace. The theory behind a good shot is to raise the material straight up and let it fall straight down where you can. And in many cases this does happen out here. We have good ground control.

Of course, the primary reason for doing it that way and not scattering it around is because immediately after the shot, the engineers will come in. They know, as a result of the samples, which holes contain ore, which holes or areas contain waste and so on throughout the shot. Then they'll come in and mark that with long stakes. They have a white flag for waste, a red flag for ore and a yellow flag for lean ore. The operator down below who is operating either the shovel or the front-end loader will be able to look up at the top of the pile and he'll know exactly where he is. And besides, each one is accompanied with a digging plan. So when they're sent to an area they've got a little map that tells them exactly what's where and they can correlate their map with the stakes that are up on the top of the muck.

RM: So they've got a blasting plan and then they've got a digging plan after they blast it.

DB: Right.

RM: I'll be damned. To a layman it seems that it'd be really hard. You have a big pile of muck there - what's the ore and what's the waste? Be just does it by these stakes?

DB: Yes. The stakes put out by the engineers show the operator just what area of material he's into. As he loads one section out and then moves to the next section, through the use of horn signals he will tell the truck drivers . . . 1 horn goes to ore, 2 horns it's lean ore stockpiled or 3 horns means it'll be waste.

RM: And what kind of equipment do you have for loading the muck?

DB: We have some front-end loaders. I think we've got about 4 on the property more or less. We don't use them too often, but we do if the big shovels go down. The large shovels that we have are what they call D-Mags; they are bought and shipped over from Germany. And they're basically a huge bucket excavator. The buckets on them are 23-yard buckets which would give you in the neighborhood of 32 tons per bucket.

RM: Oh my God.

DB: And a yard of material almost weighs a ton, normally.

RM: Do they know how long it takes the shovel operator to load one truck?

DB: Well, it depends on the material - how well it's broken and how fast the trucks are moving in and out. But it's quite fast; they normally load a truck in about 3 minutes

RM: And how much does a truck hold?

DB: About 150 tons.

RM: That's mind boggling. They load a 150-ton truck in 3 minutes?

DB: Right. That's a good operator. As I said, if the material is difficult, it'll take them longer. But if they're in good material they can . . .

RM: How big is the bucket on a loader?

DB: The bucket on the loader is somewhat smaller, but it's about big enough to put a pickup in. The yardage on them is about 13 yards.

RM: Is there any goal in terms of breaking the muck to a certain size?

DB: Yes. Basically, we like to think that our crusher is out in the pit as a result of a good blast. However, our old crushing primary will take a 3-foot-by-3-foot rock in a cone crusher and it will break that rock.

RM: OK. So you don't want it bigger than 3-by-3.

DB: Right. Preferably much smaller, but it would handle a 3-by-3.

RM: What would you prefer in terms of size?

DB: Foot size. Actually a 2-by-2-foot rock is fine.

RM: And it doesn't tear up the equipment or anything?

DB: No.

RM: OK, then ore goes to the crusher?

DB: Right, it goes to a primary - a huge cone crusher.

RM: Do you know its capacity?

DB: Well, the old crusher has a top capacity of 18,000 tons. So 6000 tons per shift is what it's about capable of.

RM: Almost 1000 tons an hour.

DB: Almost. I think it's 800 tons an hour.

RM: Is that the one you're using now?

DB: We're using that one and it's going to be on line, I think, for another couple of years until they go to the new one which has been in operation since last year.

RM: And then you'll have a bigger one, or . . .

DB: Well, we have it now. You see, we have the new crushing system that was put in as a result of the expansion last year. This one makes our other crusher look rather small because it's rated for about 5000 tons an hour. It'll almost do in an hour what the old crusher would do in one shift.

RM: And this one is on line?

DB: It's been on line now for almost a year. That was part of the expansion.

RM: Do they ever break down?

DB: Oh, they break down frequently.

RM: What happens then?

DB: Well, we have stockpiles and we hope that we can get the crusher fixed before the stockpiles run out.

RM: OK. Where does the truckdriver take his load?

DB: They stockpile that also.

RM: Does it have to be handled again before it can go into the crusher?

DB: Yes; it has to be retrucked to the primary.

RM: Is the crusher run with electricity?

DB: Yes.

RM: It must be an incredible motor to run that.

DB: They've got a lot of motors all through the different stages. First of all you've got to break your materials down at the primary to about a 5-inch rock, theoretically. From there it'll go to a secondary which further breaks it down to about a 2-1/2-inch rock.

RM: Oh, I see. When you gave me the figures of the primary crusher, that's just the first one. And there are other crushers on down the line that are giving this 5000 tons an hour.

DB: That's right.

RM: So it's going over screens and grizzlies and everything as it comes in - is that right?

DB: Well, pretty much. The materials go from the primary to the secondary - I don't think they have a screening system for that - and it's in a cone crusher setup also. They do have screens, and in the old system they have screens that will take off - it's called a scalping system - so that you don't have to rerun undersized material through the secondary and the tertiary. It's pulled off at the secondary and it's bypassed. I think the new system is the same setup on that.

RM: Oh. So that when the truck driver dumps, everything goes into the front end - everything goes into the primary.

DB: Right. But it's uneconomical to have all of your undersize go through all the other stages so they just take it right off.

RM: And then is it conveyed out to the [leaching] pads?

DB: Yes. On the new system, it's totally conveyed right onto the pad through the use of the automatic stacker.

RM: Dale, why don't you tell us a little bit about exactly what your job consists of?

DB: Well, basically my job consists of producing as many holes as I can. I take care of time cards and records administratively for the people and I also have to make sure that the people are not held up, waiting for patterns and that everybody has a job to do when they're able to do it. Of course, there is a lot of maintenance involved in the system also. We have to provide for weekly maintenance, and then 250-hour major maintenance where they go through and do a lot more. And I have to coordinate drills with the maintenance section so that we don't bump heads and everything goes smoothly. And if I have people who have any types of problems I try to take care of the problems at that level rather than taking them anywhere else.

RM: How many drillers do you have on your crew?

DB: Right now I've got 13.

RM: What does a driller make?

DB: They're paid by the hour and we have 2 grades of driller. A Driller One is the top driller; he makes \$16.40 an hour. The driller helper, what we call Driller TTwo, makes about \$14.00 an hour.

RM: Does he help Driller One, or does he run a drill for himself?

DB: He actually runs a drill himself. Occasionally he will do a drill helper's job if he doesn't have a drill. Or if we have an extra man on the crew, as we have now, he runs the drill service truck.

RM: Does the drill have to be serviced every day?

DB: Yes, they have to do the refueling, checking the oil levels, checking hydraulic levels . . . he checks all the working components to see that everything is in order, makes sure that after he starts his drill he doesn't have any leaks or fires or anything. Basically he makes sure his drill's in operating condition before he starts drilling.

RM: And you use Ingersol Rands?

DB: Yes. Ingersol Rand Drillmaster 50.

RM: And how many do you have?

DB: Four of them.

RM: And what is one of those worth?

DB: Appropriately tooled, with all the tools and everything, we're probably talking about \$340,000.

RM: And your crew works a rotating shift?

DB: Yes, they do. Days and swing are each 10-hour shifts.

RM: What time do they go on?

DB: The day shift goes on at 5:30 in the morning and they get off at 2:50 in the afternoon. And then the swing shift comes on at 4:00 and they usually get off at about 1:20, because they're allowed a half-hour lunch and 2 10-minute breaks.

RM: Do they eat their lunch in the machine?

DB: Yes - that's why they get off earlier.

RM: And they're not out in the open when they're drilling, are they?

DB: Oh, no. They have a heated cab and in the summertime, when we're lucky, it's air conditioned, too.

RM: Now, who's your boss?

DB: My boss is a fellow by the name of TM Shirley - he's the drilling and blasting foreman.

RM: How many people are on the blasting crew?

DB: The blasting supervisor and 5 people.

RM: Five people for each shift?

DB: No, they only work one shift. You can't have any blasting activities after dark It has to be all light. That's for MSHA, and OSHA.

RM: Would you describe some of the other jobs in the mine?

DB: Basically in the mine department you have a mine superintendent, and he's in charge of all the mining operations.

RM: Who is that now?

DB: His name is Fred Bauchowitz. Under him he has what they call a general mine foreman who is his assistant - that's Warren Woods. In the old days you might have known him as a truck master; he would take care of all the trucks. But now he's the general mine foreman and he basically is in charge of the 4 mine crews which are also rotating shifts.

RM: Now those are the guys who are running the shovels and driving the trucks?

DB: The guys who are doing the mining. And you have 4 shift supervisors, and then each shift supervisor has an assistant shift supervisor, plus they've got almost another assistant shift supervisor who fills in when either one of the other two guys is gone. And then of course you have shovel operators, bucket operators, front-end loader operators and a myriad of truck drivers. We've got a lot of trucks. I forget the number but I suppose we're talking what, Shirley, 26 operating trucks on a shift? Shirley Ann Lofthouse: Oh, at least.

RM: And they're all in big 85 and 150 ton things.

DB: Most of them. We do have some of the old 85s.

RM: So you've got 26 of these huge trucks running around at any one time?

DB: At least that many.

RM: How many shovels do you have going at any one time?

DB: We try to have 4 going on each shift.

RM: Four shovels can keep 30 trucks going?

DB: Right. And then there's always a little area they maybe cleaning up or doing something to or hauling tails, and they'll have a front-end loader - he'll be loading out a couple of trucks himself. And this could be in more than one place. Then in addition to the truck operators we have at least 2 wheeled dozers that have a cat blade on each shift. They can zip around the pit and keep the roads all clean and keep the spilled rocks off.

RM: Oh. I see.

SL: They're rubber tired.

DB: Yes. Then they have about 2 grader operators who will be handling around the pit pretty much doing the same thing or building berms, improving the roads.

CHAPTER FOUR

RM: Where do the engineers who are telling you where to drill and so forth fit in?

DB: We have the mining department, and then we go to the various different departments; engineering is one department by itself, even though they work in conjunction with us. And then, of course, they have the geologists and they have the ADR. department.

RM: And that's what?

DB: Absorption and Deabsorption.

RM: OK. Those are the guys who are getting the gold over there.

DB: They're the guys who are getting the gold out.

RM: Who handles the crushers and all that?

DB: ADR handles that.

RM: So it's one giant processing department.

DB: Right. And the crusher's a part of that.

RM: Do those crushers take a lot of handling?

DB: Well, they're pretty much automated. I think they have 2 operators per shift on each of the crushers plus a guy down on the stacker. And then of course during the day they have their laborers.

RM: The stacker is the guy who's putting the ore on the [leaching] pad.

DB: Yes. It's run out on the conveyor that runs back and forth feeding that pad.

RM: Yes. And do they have a guy down there looking after that?

DB: Right. And then during the daytime they've got what they call a labor crew with 3 or 4 or 5 people at any one time on it. It goes to various trouble spots and mucks out what the belts spilled, or something like that.

RM: By hand?

DB: Yes, by hand.

RM: So there are shovels in this mine.

DB: Oh yes.

RM: [chuckles]

DB: Incidentally, I think there are 3 or 4 women on that right now and it has been that way for some time.

RM: Is that right?

DB: And they wouldn't have it any other way.

RM: They like it?

DB: They do.

RM: Boy. I take my hat off to anybody that likes shoveling. I've done a fair amount myself, and I hate it.

DB: Right.

RM: I've worked in mines where you couldn't find a shovel underground that had a full handle on it - guys would break them.

DB: I know it.

RM: And then you've got a group who are in charge of the solutions?

DB: Yes. That's the ADR section.

RM: And they're monitoring the cyanide solution and processing it and getting the actual gold.

DB: Right.

RM: Is the gold that you get and ship dore, or is it pure gold?

DB: Oh, it's dore. It's around 66/33 [66 percent gold, 33 percent silver] - in that range.

RM: And you guys don't make an effort to purify that.

DB: No, we ship it out for that.

RM: When people come here, are they experts at the jobs that they're applying for or do they get on-the-job training or do people work their way up?

DB: Well, particularly in the past there were a lot of people who were not experienced at the jobs they were applying for, particularly in the mine department. Now in some of the other areas like engineering, normally you'd have to be experienced to some degree. Geology of course is specialized.

RM: Sure.

DB: But in ADR and in the mining, they have quite an apprenticeship program. They've hired a lot of people who had absolutely no experience. They basically train that into the field that they're expecting to get into. They've done this in the electrical department - they will take a guy who looks good and they'll put him through a 4-year apprenticeship program. And the company basically pays for that. When he receives his final papers he's upped to journeyman electrician. And we have at least one of them guys out here, Mike . . .

SL: Two.

DB: Two of them? And they do this with mechanics also. They'll take a young guy . . . we have had some who haven't had very much experience at all and they've worked up through the levels to where they're fairly decent mechanics.

RM: And then of course, you've got a big maintenance shop, don't you, with all this heavy equipment?

DB: Yes. That's where all the mechanics work - in one of two maintenance shops - the regular maintenance shop and the field maintenance.

RM: If a machine breaks down out in the field, do they try to get it into the garage?

DB: Well, first they try to fix it right on the spot. If that's impossible, and if they can 'move it, they'll try to get it to the shop. And if they can't (of course, with shovels there's no way), they just repair them on the spot.

RM: Are they down for quite a period sometimes?

DB: It mostly depends on parts availability.

RM: Do you try to keep all the parts here?

DB: They do try to keep as many parts on hand as they can to meet those emergencies.

RM: Who makes your big 150-ton trucks?

DB: They're made by Caterpillar.

RM: And who makes the 85-ton one?

DB: I think those are Cats too - or do they still have some of the others?

SL: Don't they have some Wabcos?

DB: Yeah, that's right - we've got 5 Wabcos. Wabco is made by Westinghouse Airbrake Company.

RM: Are the big trucks electric?

DB: No. We did have some, but they got rid of them. They had bad luck with them for whatever reason.

RM: They did? But they operate on the same principle as a small truck, don't they? I mean, they've got a drive line and a transmission and a differential and . . .

DB: Oh yes. You know, the way I remember it, they've got the diesel engine that runs the motors that actually drive each wheel.

RM: So electric motors are driving the wheels.

DB: Right. But as I said, they got rid of them. It's been quite a while since we had them; I can't remember their name.

RM: But the big Caterpillars are not that way?

DB: No, they're standard They're like a small truck, basically, but they're just huge.

RM: What do the people who operate those big trucks make per hour?

DB: About \$15-something - I think it's about \$15.40 an hour.

RM: What happens when a big shovel breaks down in the pit and it's going to be down a week or so and they've got to blast above it?

DB: Well, they always try to figure out a way to move that, if it's possible. If it isn't possible then we'd have to hold the shots up.

RM: Do they pull in a dozer or something to help pull it out of there?

DB: I don't think a dozer will pull them. They occasionally will pull a drill away, but nothing bigger.

RM: What do your drill rigs weigh?

DB: They weigh 40 tons.

RM: OK. And then you've got a front office department with the overall boss of the operation. What is his position called?

DB: Well, Andre Douchane is the general manager. And he's in charge, of course, of the whole operation. He has 2 fellows who are underneath him. One is Pete Kessell, and he's generally in charge of mining and production; he's just about in charge of everything. And the other guy would be Gary Crane. Gary Crane is the other counterpart to Pete Kessell, the second guy underneath Andre. He's in charge of everything that's got to do with gold extraction and I think he's also in charge of engineers and geology.

SL: Pete is over maintenance and your department.

DB: Yes. His side of it is mining and maintenance.

RM: And then the other one is in charge of crushing and all that?

DB: Yes.

RM: And then how do they get the muck off the pads?

DB: Well, they take it off by front-end loaders and they load it on trucks and take it out to the waste pile.

I think that fairly well covers everything other than getting into the nitty gritty of the actual extraction of the gold, which is basically out of the water that's collected from the leaching system.

RM: There's a very low turnover with the company, isn't there?

DB: Now there is very little turnover. Ten years ago there was 200 percent plus turnover.

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