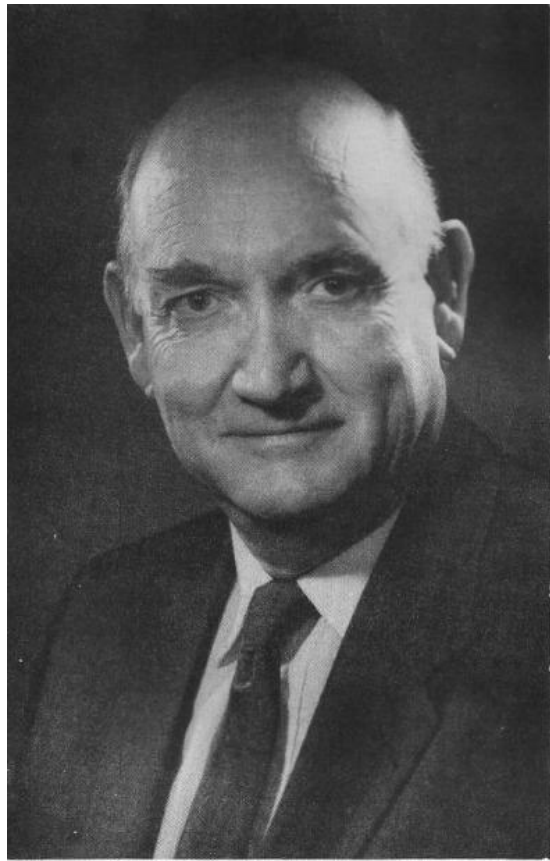


An Interview With  
Donald Simpson

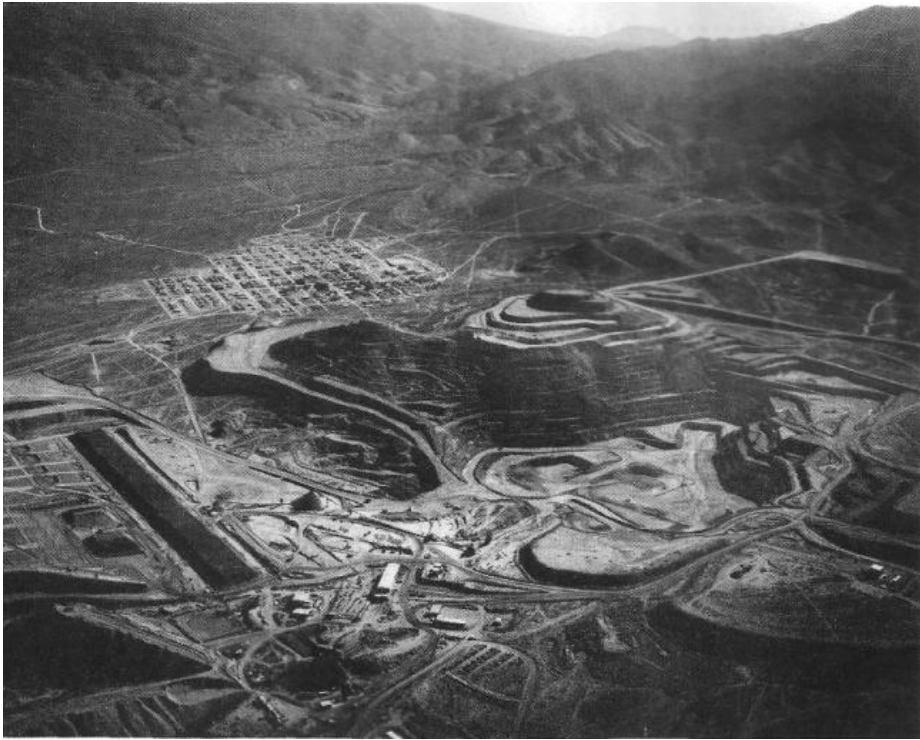
An Oral History conducted and edited by  
Robert D. McCracken

Nye County Town History Project  
Nye County, Nevada  
Tonopah  
1990

COPYRIGHT 1991  
Nye County Town History Project  
Nye County Commissioners  
Tonopah, Nevada  
89049



Don Simpson  
1987



Aerial view of Round Mountain, Nevada, and the Round Mountain Gold Corporation's open-pit gold mining operation - c. 1986

## CONTENTS

### Preface

### Acknowledgments

### Introduction

#### CHAPTER ONE

Same information on Don's parents, Edward and Alta Grimwood Simpson; childhood and youth in Oklahoma and Arizona; education as a mining engineer and service in the Korean Conflict; work in Arizona, Canada, then Arizona again; the various corporations and companies involved in the development of the present-day Round Mountain operation; Hadley Case's role in developing Round Mountain; the Round Mountain operation as it was in 1977; a description of the cyaniding process; accepting the job as operations manager at Round Mountain; the complexity of leaching copper; making some changes in operations at the Round Mountain mine; Louisiana Land as the operator at Round Mountain.

#### CHAPTER TWO

Changing the drilling strategy at the Round Mountain mine; the geology of the Round Mountain gold deposit; contributing to the community of Round Mountain; the Round Mountain operation is sold to Echo Bay; other Echo Bay properties; present-day underground mining.

#### CHAPTER THREE

The current ownership structure for the Round Mountain operation; thoughts on the economics of gold; Nevada as a gold-mining state; the gold market; improvements in the Round Mountain work force –the value of husband-and-wife teams; mining and environmental concerns; the state of Nevada as a regulator of mining; the mining company's relations with Round Mountain residents.

#### CHAPTER FOUR

Establishing a town board system of government in Round Mountain; building the town of Hadley; the expansion of the Round Mountain mine in the late 1980s; Echo Bay's Manhattan operation; moving to Reno, then to Denver; health care in Round Mountain.

#### CHAPTER FIVE

Memories of some of the people who worked on the development of the Round Mountain operation.

### Index

## 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 Tan 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.

All material for the NCTHP was prepared with the support of the U.S. Department of Energy, Grant No. DE-FG08-89NV10820. However, any opinions, findings, conclusions, or recommendations expressed herein are those of the author and do not necessarily reflect the views of DOE.

--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 marry.

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 as 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 maybe 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 Don Simpson at his home in Denver, Colorado, February 8, 1990.

## CHAPTER ONE

RM: Don, why don't we start by you telling me your name as it reads on your birth certificate?

DS: It's Donald Leroy Simpson.

RM: Amid where and when were you born?

DS: I was born in Hereford, Texas, December the 29th, 1929.

RM: What was your father's name?

DS: It was Edward Harley Simpson.

RM: And do you know where and when he was born?

DS: He was born in Bethany, Missouri, on February the 22nd, 1892.

RM: And do you know when and where your mother was born?

DS: Yes - her name was Alta Nellie Grimwood, and she was born in Fort Scott, Kansas, on August the 10th, 1892.

RM: And what was your father's occupation?

DS: For most of his life he was a farmer in Oklahoma. I had some brothers who had come to Arizona in the early 1930s, and he moved to a mining town in Arizona at the advent of World War II - in 1942 - and that's where I got started in my association with mining.

RM: Is that right? What town was that?

DS: Ajo. It's a copper mining town.

RM: Is that where you grew up?

DS: I went to high school there. I was about 12 years old when we moved from Oklahoma to Ajo in 1942.

RM: Whereabouts in Oklahoma did you live before you moved to Ajo?

DS: Immediately before then We were in the town of Caddo, which is in southeastern Oklahoma, and before that, in a town in western Oklahoma - Mountain View. In those early days - that was the Dust Bowl - there were sate very tough times for the family. My folks had 7 kids and it was a rough go for them.

RM: And so he followed his sons out to Arizona?

DS: Yes, 2 of them moved to Arizona in about 1934.

RM: Are you the youngest of the children?

DS: Yes, I was.

RM: What did your dad do in Ajo?

DS: Be was a shovel operator in the open pit mines.

RM: And you went to high school there, and what did you do then?

DS: I went to high school and then I went to the University of Arizona. I'd been at school a couple of years when the Korean War started, so I went in the service for a couple of years and then came back and finished. I changed majors a couple of times and came back and finally finished - got a degree in mining engineering - in 1956.

RM: Were you drafted, or did you volunteer?

DS: I volunteered for the draft. [laughs] I went in under the terms of the draft, for a 2-year hitch.

RM: Did you serve in Korea?

DS: Yes, I did. I was there for a year. I was with the 210th Counter-intelligence Detachment. We were attached to the 10th Corps, and I was a corporal.

RM: And then you came back and went back to college. Had you been thinking about a career in mining, or what kind of pushed you in that direction?

DS: Well, I grew up in a mining town and I enjoy the West; I made that decision sitting on a bunk in Korea one day.

RM: How did that decision come about in your mind?

DS: Well, just going through, first of all, what part of the world you think you'd like to live in, and what do you like doing, and it just all fell into place - that mining was it. I've certainly never regretted it or ever really looked back.

RM: What did you do when you graduated?

DS: Went to work for Kennecott Copper at Ray, Arizona. I worked there from then until 1970. Then we took all our 6 kids and went to Toronto, and I worked for an engineering construction group there for about 5 years. Then we came back to Casa Grande, Arizona, and I worked with Hecla Mining Company for about 3 years at their Lake Shore project, which is about 30 miles south of Casa Grande. When the copper prices in the mid-'70s and everything kind of went to pot, in July of 1978 I came to Round Mountain as the operations manager.

RM: How did you happen to get that position?

DS: A fellow by the name of Gordon Miner, who was a vice-president of Hecla, was talking to a friend of his here in Denver . . . and this was with Louisiana Land and Exploration Company.

RM: That was the name of the company?

DS: Copper. Range and Louisiana Land; yes.

RM: Were they 2 separate entities, or was it one company?

DS: Louisiana Land purchased Copper Range in about February or March of 1977.

RM: I see. And what had Copper Range been involved in?

DS: Copper Range, as a company, was the big White Pine Copper Company at White Pine, Michigan. That was a property that was developed in the mid-'50s - a very successful, large, underground copper operation - it's still running today. Copper Range had an exploration arm called Copper Range Exploration Company. They were out looking around the world for things and came upon Round Mountain

RM: How did they happen to come on Round Mountain?

DS: I'm not really sure of that, but the people who preceded them to Round Mountain Back in the early 1900s this area [belonged to] a whole group of little companies, and the Nevada Gold Porphyry Group finally got the whole thing together.

Then there was a fellow by the name of Dietrich who had an option to purchase it. He then made a deal with a group of airline pilots from Los Angeles called Ordrich Gold Reserves and they picked up the Dietrich option and held that. They did a lot of work in trying to put something together, but they couldn't do it. And then Copper Range came on the scene, and

Ordrich made a deal with Copper Range whereby Copper Range would spend a little bit more money, which they did.

And they looked very hard at a placer operation; the Fluor Company did a study for them in about 1972. The conclusion of their study was that there was no economic way to put a placer operation in. But they suggested in the study that the lode gold in the surrounding country might have some value.

RM: Now, how did Copper Range acquire the property from Ordrich?

DS: Well, at the end of that period Copper Range looked at the lode potential and decided it was sufficient to justify the risk. So they exercised the Dietrich option with Nevada Porphyry and bought the property. As I recall, they paid \$1 million for Round Mountain initially. This was in 1972. Now, Ordrich didn't have any money; so they didn't participate financially. But what they held then was an 18 percent net profits royalty payable after the participating partners had reclaimed their investment from operating profits. It was kind of a strange agreement, but that's what it worked on.

Then Copper Range started to develop it. They didn't do any drilling and hardly any exploration; they based the whole thing on some sampling that was done in 1935 and 1936 of about 12 miles of underground workings. The A. O. Smith group had come in and very professionally and very carefully channel sampled. They took an 8-inch-by-2-inch sample along both of the walls of all these drifts. They took a sample 5 feet long every 5 feet - thousands of samples, obviously - and then had all of the material analyzed and then developed maps. Those maps were lost for a long time, but somebody finally found the guy who had done the work, and he had it all. (I can't remember the name of the gentleman who had it, but I'm sure someone knows.)

Based on those maps they blocked out a reserve of ore in place of about 12 million tons, and they expected the grade to be about .06 ounces of gold per ton of ore.

RM: Is that right?

DS: Well, 12 million tons is pretty small; it was not a very big pit. And it had a 1-to-1 stripping ratio. That is, they had to move 12 million tons of waste in the process of mining 12 million tons of ore, initially.

RM: Is that a good ratio, in the mining business?

DS: Oh, it's excellent. And of course, the richer the ore the more stripping that you can tolerate. But at that time it looked pretty good. Actually, though, all of their economics and everything were based on \$70-per-ounce gold.

RM: Now, what year was this?

DS: This was going on, now, to about 1974, when they did some test work with the ore body and finally made a decision to go ahead and build a plant and open a mine. Copper Range didn't

have any money, either, by this time so they went out looking for partners. They had a fellow by the name of Hadley Case on their board of directors, and at one point Copper Range was ready to abandon and forget all about Round Mountain.

RM: Is that right - because they didn't have any money?

DS: Well, they didn't have any money - didn't have anything - but Hadley reckoned as how if they were going to give it up, he'd like to pick it up. And somebody thought, "Well, if Hadley wants it, there must be more there than we're thinking about it." So they stayed in.

But when it came down to it, they needed some help. So Hadley had a company, at that time called Essex Royalty Company, which is now called Case Pomeroy and Company. That's his company; he privately owns it. And Case Pomeroy put up 25 percent of the money. Then he had another company that he owned about 45 percent of, which was Felmont Oil Company, and Felmont put up 25 percent and Copper Range put up their 50 percent. So Copper Range ended up as the operator and developer, and these other 2 companies had a financial interest, and then Ordrich was on the outside with their big 18 percent royalty.

RM: I see. Could you talk a little bit about Hadley Case, and who he was and where he came from?

DS: I don't know all of the history of Hadley, but he is a geologist. Early on in his career his father, who had founded the Essex Royalty Company, died. Hadley took over the operation of that company and he's essentially been in New York ever since. But Hadley is kind of a gold bug, and he had enough belief in this thing . . . he was really the prime mover, when it comes down to it, for the whole thing getting started out there. When it finally came down, he was associated with all 3 companies. He was on the Copper Range board, he owned the company that had 25 percent and he had half ownership of the other company.

RM: I see. He was the integrating figure, wasn't he?

DS: Right.

RM: How old of a man is Hadley Case?

DS: He has to be very close to 80 now. He was out at Round Mountain last fall when we dedicated our new facility there. In the 8 years that I was there, he was never on the property. I think that was the first time he had been back to Round Mountain since about 1975.

In 1974 they made the decision to go ahead, and they commissioned the engineering company of Mountain States Engineering in Tucson to design and build what was then one of the first heap leaching carbon absorption plants in existence. And they did, and they started this thing up in early 1977.

RM: How much did the plant cost - do you recall?

DS: The initial investment, including some mining equipment, the crushing plant, and everything that they did, was about \$20 million. The first gold was poured in April 1977, and it sold for \$145 an ounce.

RM: Is that right? So all those projections were done on the basis of that price of gold?

DS: Well, actually, earlier, it was based on about \$70 gold.

RM: Could you say a bit about what the plant looked like at that time?

DS: There was an open pit mine. The equipment consisted of 2 drills, an electric shovel, 2 or 3 10-yard loaders, 9 50-ton haul trucks and 2 or 3 dozer tractors.

There was a crushing plant that had a 42-inch gyratory primary crusher, a 7-foot standard crusher and 2 7-foot shorthead crushers to crush about 6000 tons of ore per day to about 1/2-inch size.

They built an all-asphalt leach pad that was about 280 feet wide and a little over 2500 feet long. It was essentially 4 separate leach pads –each to hold about 40,000 tons of ore - and they only stacked the material about 10 to 13 feet high. And they had wide roadways in between all this. They'd pile the ore up, it pipes and sprinklers on it, sprinkle the cyanide solution on it, and it would percolate through down to the asphalt. And it was sloped to one side and there was a ditch there.

And with the ditch, it went down to a sump and it was pumped in through a plant that had large carbon columns. The solutions were sent through the activated carbon and the gold would be absorbed on the carbon. After it built up enough gold on the carbon, it was transferred to a stripping section, where they used a hot solution through the carbon to take the gold off the carbon (this was about a 72-hour process). The solution went from there through some electro-winning cells where the gold (actually, gold and silver - dore) was electrolytically precipitated on steel wool cathodes. And after a period of time the cathodes came out. The gold and silver sludge looked like mud on the cathodes.

All this was melted with some silicious flux and other materials to flux off all the iron and leave, then, the gold and silver that would settle to the bottom of the conical shaped mold and make a button. That was basically the process.

RM: Did the solution just make one pass over the muck, or did it keep circulating before it went on the carbon?

DS: Well, the way we operate it now, you give it 2 shots - you actually build it up. But early on it was just a one-shot affair

RM: Don, where did that heap leaching technology come from? Apparently it was kind of new when you began . . .

DS: What made it work most was the associated carbon technology that was developed at the Bureau of Mines in Salt Lake City.

RM: So they'd known for a long time about the cyanide?

DS: Oh, cyanide's been around for a long time. But the normal method of recovering gold out of solutions with cyanide is what is called a Merrill-Crowe process. In that, you take the solution and clarify it through clarifying filters and then de-aerate it by putting it through a vacuum to get all the air out of it. Then you add zinc powder to the solution. The zinc has the property that the gold will precipitate and replace the metallic zinc. The zinc goes into solution and the gold, then, settles out as the sludge. Then it goes to filter presses and it's filtered and gold then collects on the press. After a period of time, when they load up, you open the presses and take that filter cake out and then melt it. A Merrill-Crowe plant is harder to operate than a carbon plant; it's a little more sensitive. The carbon is very robust - very easy to operate.

RM: Initially, when they started this operation, where were they working on the mountain and where did they see the values?

DS: They were just following the old underground workings, which had followed a series of high-grade veins, and they were just working around it. They didn't do any new drilling - it was all based upon sampling of these underground workings. So necessarily, their pit was designed right around those workings. They had what was called an E-shaped ore body. It had 3 major veins going kind of northwest and southeast, and then one major one across, truncating one end of it, so it made a big E.

RM: How big was that E in terms of dimensions?

DS: Oh, it was probably 1500 feet in the 2 dimensions - not much more than that.

RM: I see. Roughly square, then?

DS: Yes, overall. It was irregular in shape, but basically it was about that big. And the bottom elevation was probably about the 6000-foot level, which would be about 200 feet below the existing surface, at the bottom of the mountain

RM: And what was the vertical height of the pit?

DS: Well, it was probably about 400 or 500 feet. And the first operations were pretty scruffy, because it was a very marginal operation at that time.

RM: Why was it marginal?

DS: The price of gold was still pretty low, and the ore body was never as they had expected it to be. We never really had an ore body that was .06 ounces; it wasn't there.

RM: Oh. How did that misconception come about?



DS: Well, all of these assays and all of these samples came from the rocks very close to the veins, and that was where the higher grades were.

RM: Yes, because the drifts were on the veins.

DS: The drifts were on the veins. And when they sampled those, they were in a higher-grade portion. Now, they made some attempts to correct for that, but they missed it a little bit. But instead of finding 12 million tons of .06, ultimately we found, probably, 300 million tons of .035 or something. That's what the characteristics of the present ore body are.

RM: I see. So they constructed the new processing plant and everything in '74 - is that right?

DS: Yes. It actually came on in late '76 and early 1977, by the time they completed it.

RM: And then what year did you say you came on the scene?

DS: I came in July of 1978.

RM: What were the circumstances that led you there?

DS: Well, the Lake Shore project of Hecla's in Arizona shut down at the end of June in 1978. We had actually not been operating for about a year and a half, because of the low copper prices and problems with that particular project - with the mine. And as I said, this fellow, Gordon Miner, from Hecla had talked to a gentleman by the name of Beckerdite who was the president of Copper Range Company at that time - here in Denver. It turned out they were looking for somebody to go to Nevada and help with that operation out there; things were not going too smoothly. And so I got a call one day from someone in their personnel division - a guy by the name of George Jones - asking if I was interested, and I said sure.

I came to Denver and we talked for about a half hour and Beckerdite said, "Before you take this job, you'll have to go out and look at the site."

And I said, "Well, I'll do that." So I flew up from Las Vegas and looked at the place and met people up there, went home and told my wife, "I've always taken you every place that we were going, but I'm not going to take you this time. Imagine how bad it could be, and it'll be worse than that." [laughter] Round Mountain wasn't much in those days. RM: It was a big contrast to Arizona, wasn't it?

DS: Yes, it was. But looking at the whole thing, it was kind of a new venture. I'd never been involved with a gold mine before.

RM: Was the switch from copper to gold a big change for a mining man?

DS: Not really. Gold is really simple from a metallurgical standpoint. There's not much you can do to it, and most of the plants are not particularly complex. So compared to what we were doing down there, this was technically a real piece of cake.

RM: What was it you were doing down there that was complicated?

DS: I was the general metallurgical superintendent at this Lake Shore property. And there we had a copper concentrator and a roasting plant and fluid bed roasters. We burned the concentrates, basically. Made sulphuric acid from the gases and took the calcines, or the burned concentrate, and leached those and took the copper out of the concentrates in solution. The copper then went to an electrolytic tank house where we made cathode copper from it. The residue, after we leached the copper from these, was filtered and sent to a sponge iron plant where we pelletized the material, reduced it in a long rotary kiln and made metallic iron. And then we ground that . . . And there was also an oxide ore body there. We had a big vat leaching project where we were crushing oxide copper ores and leaching that with the sulphuric acid that we were making when we were leaching that. As that solution came off, containing the copper, we put the sponge iron back in it, which precipitated the copper. And we filtered that:

RM: Then, it was a highly complex process, and this was duck soup, wasn't it?

DS: Oh, yes. The other plant was down and this was a challenge.

RM: What was your assessment of what was required at Round Mountain?

DS: Well, at first, as I said, I came out as the operations manager, and I worked at that first period for a general manager named Frank Girucky, who was an old Copper Range hand who had come out from White Pine.

RM: Why don't you say a little bit about the operations manager's job?

DS: Well, I reported to the general manager - Frank Girucky; he was more of an administrative type. I took over all the operations - the mine and the maintenance groups, the crushing and the ore processing. Those were the areas that I focused on. As I said, this was one of the first plants like this that had been built, and there were some fundamental errors that had been made. We just went to work, correcting a few things.

And it was a pretty dismal winter - about the coldest Nevada winter anybody had ever recorded. I remember that that January - of 1979 - the plant, all month long, produced 1000 ounces of gold. It produces 1000 ounces a day, now. [chuckles]

RM: Was that poor production for that time period or was it just because of the weather?

DS: Well, we were just not equipped at all to handle cold weather. By the next year, we had a facility to heat the leaching solutions during the wintertime. And we still do that.

RM: What keeps them from freezing on the dumps?

DS: Well, if you don't do anything to it, they do just that. But we now have 2 systems. In our recent expansion, we're using geothermal heat from hot water wells in one area. We have water in wells at about 190 degrees. And using heat exchangers, we transfer that heat into our leach solutions.

RM: I see. But it seems as if they would cool down really quickly when they hit that cold rock.

DS: Well, the leach pads are a big mass, and once you get them heated up they hold the heat. But back in those early days, they were still trying to produce .06-ounce ore. And in a mining situation, if you want to produce .06, then you can't handle much lower-grade ore. You've got to raise the cutoff. They had the cutoff up to .045 ounces per ton, and there was just very little material of this higher grade. And they had convinced themselves they couldn't make roomy unless they got that grade.

I got out there the first week and we had some problems with the crusher. A contractor came in to do some repair work on it, and it was going to be down they said for 5 days. My assessment was that it was going to be down for 2 weeks, which it was. We had about 400,000 tons of lower-grade material crushed and just sitting in a stockpile and the crusher was not running, and we had finished leaching the ore on one of the pads and the leach pad was just sitting there, empty. I asked the question, "Why don't we put some of this crushed lean ore on there?"

And they said, "Oh, we can't make any money doing that."

And I said, "You want to bet?" We started leaching that crushed ore and got the rate up and made a lot of money, and we've never really looked back.

RM: How did you know that you could make money doing that, whereas they didn't?

DS: Well, one you've got it crushed you've already spent most of the money. There's not much involved in putting it on the leach pad and leaching it. If you get any gold out of it at all, it is going to pay for it. Some of the guys didn't understand the economics of how things really work.

And they had pumps that were misapplied - the wrong kind of pumps. As fast as they could repair one pump they'd put another one on. They'd actually had a 2-week period when they had no pumps left; they ran out. I called a guy I know in the pump business and told him what the application was and told him to get us some. In a leaching operation the pump is like your heart - it's the lifeblood of the operation. You don't go out and buy a cheap pump to do this sort of work.

RM: Were they buying cheap pumps?

DS: Well, no - they were just misapplied. We had to go back and do some redesigning of the whale piping system so the other pumps could work. But We did that, too.

You have to have operating time. You can't afford down time. All the expenses go on, so you need to keep operating. But we started just working on a bottleneck here and a bottleneck there, and eliminating them.

I was out there about a year, and Louisiana Land was working on some coal properties in Montana. They needed someone up there to work in the permitting field - a very complex permitting. And this really fitted Frank Girucky expertise better than operating a mine. So he was reassigned up there and I took over as the manager at Round Mountain in July of 1979.

RM: Is Louisiana Land a mining company?

DS: No, they're an oil company. Actually, when they bought Copper Range for the White Pine property, they hardly even knew that Round Mountain existed. It was looked on as more of a liability than an asset at that time.

RM: When did they buy Copper Range?

DS: It was in 1977.

RM: So their operation was going at that time.

DS: Yes. It was just getting started.

RM: And they didn't even know they had it when they bought it, then?

DS: It was not looked upon as a major asset; it was such a small thing. It was on the books, I guess, for about \$10 million.

RM: What other things did Copper Range have, besides the mine in Michigan?

DS: That was about it. There was some exploration property, but they didn't have anything other than Round Mountain

RM: Where are Louisiana Land's oil operations?

DS: They're in the Gulf Coast. They were mostly just land holders; they controlled the land and leased it out to people like Texaco and others. They still do quite a bit of that. But then they determined to become an operator on their own, too, so they bought into White Pine, which was owned by the Copper Range Company. Copper Range was a public company and they bought up, then, all of the stock and made it a wholly-owned subsidiary of Louisiana Land.

## CHAPTER TWO

RM: Did Hadley Case come in before Louisiana came in, or after?

DS: Oh, he was involved in the late 1960s, when Copper Range first made their contacts with Round Mountain

RM: What was the next stage of development, after you came in?

DS: As I said, it was a pretty scruffy operation, and it wasn't really making much money. Generally, in the cold winter months you went into the red; and then maybe, if you worked hard, by the end of the summer you'd break into the black and coast through and hopefully make a little profit for the year; that was kind of the way it ran.

But in the fall of 1978 one of the things that was pretty obvious was that we needed more ore reserves - we needed more ore.

RM: Because you thought you just had 12 million tons.

DS: Right. And we were mining it at a rate of about 2 million tons a year, so it was looked at as a 5- or 6-year operation. We had a drilling budget, in the fall of 1978 (this was right after I came on the scene), of \$24,000. That was their exploration budget in 1978. So we hired a local guy - Bruce Young, who's still there - and he did some drilling and found a little more gold, enough to help a little, but it was pretty hard to put together.

RM: Where did you drill?

DS: Well, we were drilling just adjacent to where the other [digging was] - in the E-shaped ore body. We were drilling the spaces in between. And we found lowgrade material, but most of it was pretty lean. We did some drilling right under the bottom of the existing pit and it looked pretty good - that was the best drilling we did that year. But all we were drilling was 300-foot holes. It didn't make any difference if they were up on the side of the mountain or wherever.

RM: Was it core drilling?

DS: No, it was a rotary drill - with [compressed] air.

RM: How big was the hole?

DS: It was about a 6-inch hole.

RM: And then you just take the cuttings . . .

DS: Yes, the air blows the cuttings out; we'd take the cuttings and analyze them. (That works fine until you get underwater - then you start having troubles with that.)

RM: How do you know what depth you're at, Don? I mean, it's blowing this stuff out - how do you know that it didn't come from the 50-foot level rather than the 100?

DS: Well, if you're in bad rock, you don't know. But if the rock is good and competent - and you're making a good clean hole - you don't have that problem. But it is a problem. And if it is, sometimes you have to take core [samples], in some cases, or case the hole and do lots of things to prevent contamination or salting of the samples. But in this case he was drilling 300-foot holes, and the holes were dry.

And then early in 1979 we got some more funds - quite a bit more -to do more drilling. And we started moving out, but still just drilling 300-foot holes. I was looking at this, and as I said, whether we were up on the mountain or down in the flat, we were just drilling 300 feet. I couldn't make much sense of it, so I asked Ray Leone, our chief geologist, to change our method and drill to some base elevation so we could start getting a little more information out of the drilling. We had drilled our first hole in 1979 to 300 feet and quit. I remember very clearly - it was Hole Number 38, and it didn't have much in it. Then we moved over and that's when we got together. The elevation of the collar of the new hole was about 6400 feet and I suggested we drill all holes at least to 5700 feet elevation so we'd start getting a picture. So Hole Number 39 was about a 700-foot hole. It went to elevation 5700 and it had about 400 feet of good ore.

RM: Wow. That they were missing, because they weren't . . .

DS: Well . . . I found out later that their vision of the gold at Round Mountain (and this is from some papers left by some pretty good geologists) was that all the gold was supergene. In other words, it had settled from the weathering of the rocks above and was all within the first couple of hundred feet of the surface.

RM: You mean, it had been precipitated down?

DS: Yes. That was their picture of it. So we were just drilling short holes.

RM: Oh. They thought there was nothing lower. Did the old-timers think that, too?

DS: Pretty much, because they were looking at the placer materials. Over the years we found out a lot about that, obviously. But that was the first hole into what we now consider to be the big ore body - the discovery hole. And it was made just because I said, "Drill deeper." [laughs]

RM: Is that right - nobody had thought of that before?

DS: Well, nobody'd done it, anyway.

RM: And the old workings didn't go down into that ore body?

DS: No, they didn't. This went well below the water table. The water starts at about elevation 6000, so we got down . .

RM: Could you talk a little bit about the geology, as you understand it now, of the deposit?

DS: The Round Mountain rocks are a series of volcanic flows. The old Mount Jefferson there was a big volcano, and Round Mountain is right in the edge of what's called the Jefferson Caldera. That is, there'd been a collapse there when the area cooled. You see, several things had happened. There was the mountain-building, and then some range front faulting - there was faulting along all those ranges. And then [there was a series of] later volcanic flows. The volcanic rocks at Round Mountain are about 25 million years old, but the gold and the mineralization is about 19 million, so they came later. And a lot of faulting had gone within [the volcanics]. Then there was an intrusion, somewhere in there, that brought these later gold-bearing solutions into that system.

There are 4 different sequences of rocks in the [deposit]. The bottom rocks, that were there before the volcanoes started, are a series of sedimentary rocks that have now been metamorphosed to quartzites and shales and that sort of material - and that's in the bottom. Then there's the first volcanic ash flow, which came early, and we call it a "clastic" unit, in that it has chunks of other rocks in it. It's a volcanic tuff with chunks of all kinds of material, because it was going along the ground and just picking up what was there.

Then on top of that unit is what we call a "poorly welded tuff." When it discharged, it was - in relative terms - fairly cool. And as it was deposited, it solidified just like it was. It has pumicites - pieces of pumice - and lots of open space - gas bubbles and such. So it's a fairly porous rock. And then on top of that one is another sequence that obviously came out very hot, because it came out, and then from its own weight it solidified and became very densely welded. For instance, instead of having pumice, it'll have a little glassy fragment where the pumice has collapsed . . . So you have those 4 units. The top one - which is a densely welded material - then fractured and broke up.

RM: Oh - because . .

DS: Because it's a hard rock, and it broke from the faulting and jointing and so forth. It has a lot of fractures in it. The unit underneath it has much less fracturing. It's kind of tough, and it stayed there. There were some major faults along this, and the gold-bearing solutions came up through them. As they came up through this basement into the porous set of rocks, they just ran out. And as the solutions cooled off, the gold was deposited. It [spread out] over a large area and it's fairly uniform in grade and . . . In other words, it had just spread out in the poorly welded tuff. And then as it came on up, it just followed some fractures and got up into the top unit, where it developed these high-grade veins that the old-timers mined, and then kind of spread out. But it's always just on the surface of the rocks in the cracks and the crevices. So it's a different kind of mineralization, and it works differently and treats differently.

RM: So the old-timers were working in the densely welded tuff? DS: Yes, in some high-grade structures there.

RM: Then the E, that they initially worked in, was in the same structure?

DS: Yes; that was still all in that upper structure.

RM: Then when you had them drill that hole, you drilled down into the other tuff?

DS: That's the first time we saw any of that. And then the unit below it, the first volcanic flow, and the pre-existing rock are mineralized also.

RM: Do these different flows and the pre-existing rock, have names? And what's the over-all thickness of the densely welded tuff?

DS: Well, we call the first one Type 1. [laughs] The next one's Type 2 and the next one's Type 3 and the next one's Type 4, so . . . I guess the maximum thickness of the Type 1 is . . . you know, everything gets thicker as it goes to the west. These things have moved out from the top of what was Round Mountain, and they're faulted down. So there's probably - oh, at least 1000 feet from where the Type 1 was on top of the mountain to the bottom of it in the pit.

RM: Wow. And then what's the thickness of the loosely welded tuff -Type 2?

DS: Oh, that's another 400 or 500 feet.

RM: Now, what's under the loosely welded tuff again?

DS: In places, there's this other type - what we call Type 3. It came in and actually ran in and filled a big hole out there. In some areas we've never gotten out of it yet; it's very deep.

RM: And that's gold bearing too?

DS: Well, some of it. We have some holes out there that are . . . we have an ore column of over 1000 feet, but it's very isolated - we're drilling right down some structure.

RM: What about the ore in the metamorphics?

DS: There is some. We have some very high-grade little veins. We're underground at Round Mountain just to look at that, because we have some very spectacular assays from the metamorphosed area.

RM: Is that right? Is it distributed through the rocks, or is it in veins, too?

DS: It's very much vein controlled - little veins.

RM: Do you think you can take the whole metamorphic structure?



DS: Well, it's pretty-much in the contact area - it's not deeply into the metamorphic rock. But ultimately, a lot of that will come out of the open pit. There'll be a very large open pit there.

RM: What happened, that caused so much gold to be deposited there?

DS: I don't know, but it's a world class gold deposit.

RM: A few years ago, I heard that it was the largest deposit of gold in North America.

DS: Well, not quite. [Laughs] The Carlin deposits of Newmont are bigger. And look - over the years - at Lead, South Dakota. Homestake has been mining there for 100 years and has produced more than 30 million ounces of gold. So, it's considerably bigger. Round Mountains of the 1.0 million-ounce class. But that's big.

RM: Do they know why these rich solutions come up and make a deposit like this?

DS: Well, no. [laughs] Well, we kind of understand the mechanism - how it happened - but why it's here and not down the street . . . Maybe it all started from an asteroid or something [chuckles] some billions of years ago. In the theory of the Big Bang it was all a mess 15 billion years ago and somehow or another it got together so . . .

RM: Yes. So you drilled into the loosely welded tuff and that opened up new horizons, didn't it?

DS: Well, then we got busy and started drilling around that area and drilled more holes there. We found we were able to put enough together to make it pretty obvious that there was more gold in the system. Now, I get a little hazy on exactly what the dates were, but I think by the end of 1979 we had an additional 18 million tons or something . .

RM: So you more than doubled the original . . .

DS: Yes, we had more than doubled the original. And that was enough for us, then, to put together a program in 1980 to expand the mine. We bought some more trucks, some more loaders - more equipment - and expanded the mine . . . We had enough ore blocked out to justify buying a few more trucks. And so that started in 1980.

Previous to this time, because it was such a marginal operation, the official policy was that we really did nothing for the people out there. Everybody was pretty much on their own.

RM: You mean, for the townspeople?

DS: For the employees and townspeople - everybody. We had half-a-dozen homes at the mine that were for the top crew there, and that was pretty much the extent of it.

RM: And that was because you just didn't see that much of a future there?

DS: There just wasn't any justification. You couldn't spend money if you didn't have any. But when we expanded the reserve, we went after 2 things. We took some land in Round Mountain and started developing some mobile home sites - that's what they now call the Golden Heights area that kind of surrounds the old town. We had to hire some more people, and there wasn't any place for anybody to live out there.

RM: How many employees did you have when you started there?

DS: There were about 120.

RM: In the meantime, Louisiana Land must have been happy because suddenly you've doubled the ore reserves.

DS: Well, they didn't think much of what was going on. It was still pretty small potatoes then. We made about 40,000 ounces in 1978 and 1979 - it was still a pretty small deal, but we were getting it pulled together.

But in 1980 we got some money to build some more places for homes, and we got approval to make loans to people to help them finance a home I got approval [on a proposal] that we would supply homes to our salaried people, and then help other people buy their own. At that time we were giving them flat 10 percent financing. When the interest rates were up to 20 percent, that was pretty good. It's no big shakes now, but it was then. And we kept everybody under cover for a lot of years. We had \$1 million. We lend up to \$20,000, and as people pay it off, we put it back in the fund and keep it going. And that's still working. But the other thing we did - that had more impact, I think, on the town - was the store. There was a little convenience store there that was run by Bob Haitrup, our comptroller. We bought it from him and expanded it and named it the General Store.

RM: That meant people didn't have to go clear into Tonopah for a bottle of milk or something; yes.

DS: Well, you could always get a bottle of milk or something, but everybody, on their weekends off, had to drive either to . . . well, Tonopah didn't have much, as you know - Coleman's was about all that was there. And so it was go to Fallon or Ely or Elko or whatever. So we really put in a first class store. I don't know if you've been in it? RM: Yes, I have. Yes, it's a good store.

DS: So we did that. The other thing [that happened] that same winter was the construction of the gymnasium. It was put together by the county and the school district and the mine. I don't remember what the numbers were, but they came down to the end of it, and they were short by about \$100,000. We got approval to provide the \$100,000 to get it finished.

RM: Is that right? And that's up by the school.

DS: Yes. And that's been a super facility out there. That pretty well all happened in that late '79-1980 period.

RM: After you discovered these new ore reserves.

DS: Yes, right.

RM: Don, when a company like that wants to buy trucks and things like that, how do you finance it? Do you pay cash?

DS: Oh, yes. We had the cash and . . . as far as the dealer is concerned, he's going to see cash. How the company itself finances and generates the funds . . . there are all kinds of devices that can be used.

RM: Which ones did you use in this expansion?

DS: Well, at that time I think it was a small enough amount . . . we needed about \$10 million to buy the equipment and everything. And none of the companies would have a hard time, at that point, in getting that - \$5 million from Louisiana Land and \$2-1/2 million from . .

RM: That just wasn't that much money to them?

DS: No, it wasn't. That was easy enough to do. Then we kept drilling and kept finding more reserves there. And of course we'd gone through the big hump with the high gold prices. At the end of 1980 the price was up around \$800 for a while, and in '81 the average price was about \$650. Then, of course, it drifted down. But in our heap leaching we only get about 70 percent recovery of the gold. And with higher gold prices, there's certainly a justification for spending money and building a more effective recovery process - a mill. We had some big visions of building a big mill, and we did a lot of work in 1982 and '83 - we drilled some large - 6-inch diameter - core holes to develop a large sample of the material. We brought it to Denver to the Colorado School of Mines Research Institute and went through some milling scenarios and developed an expansion scheme. Then the price of gold kept going down and it got too low, so that wasn't going to work for us.

RM: Was the ore that this expansion scheme was based on the same - in this loosely welded tuff - that you had initially discovered with that first hole?

DS: Yes. And we'd had some concerns about being able to leach that, because some of the material that we had in the early holes was sulfides, and it didn't leach very well. As it subsequently has turned out, those sulfides are a pretty minor portion of the total ore body. So that's what we have developed - a big leaching operation. But at that time, we were very concerned that we might have some problems with that - that we still needed to have a mill. But that was going to be a big project and was going to cost a lot of money.

And in about early 1983 the investment community got on Louisiana Land and were criticizing them very much for their being involved with the White Pine copper operation. Because copper turned into a disaster. So Louisiana Land wanted to sell Copper Range. They were shopping it around, but at that time the copper deposit really wasn't worth that much, and Round Mountain wasn't that great shakes either, but we were caning. So there were a lot of people over the next couple of years . . . probably every gold mining company, and every company, in North America came through and looked at the whole thing. And a lot of companies just saw it as a very high risk.

RM: Why did they see it as high risk?

DS: Well, because we weren't mining that large [of an] ore body, and we kept talking about the mill, because we were still convinced that the ore needed to be milled. And a big investment was going to have to be made for that mill and that turned a lot of people away from it.

RM: And this was in '83?

DS: In '83 and into '84 - right. Well, several people were making bids on it by this time, but Echo Bay came upon the scene sometime in the fall of 1984. And their view was that they'd make a bid on it - not a lot of money, but they were willing to take the risk that you could probably leach this deeper material.

RM: Why-were they willing to do that? What did they see, that . . . ?

DS: Well, they looked at it, and it was a good bet. It was fairly low grade, but they thought it would work. And they made an offer to Louisiana that was ultimately accepted.

RM: What was their offer?

DS: I think it was \$55 million, and Louisiana has an on-going royalty. The royalty kicked in this last year - in 1989. It's 3 percent of the net smelter return - not the net profits, the net smelter returns. It will remain 3 percent until that fund grows to \$75 million, and then it drops to, I think, 1-1/2 percent.

RM: So Louisiana came out all right on the deal?

DS: Well, they did all right, but they sold an asset that, within the last 2 years, has been valued at probably \$500 million. They sold it for \$50.

RM: Ten-to-one - I wonder what they think about that.

DS: Oh, I think they were glad to get out of it. They really didn't understand the mining; I'm sure they're more comfortable out of it.

RM: Now, Echo Bay is a Canadian company, isn't it?

DS: Yes.

RM: Where are some of their other operations?

DS: When they bought Round Mountain they only had one other, and that was the Lupin Mine in the Northwest Territories, in Canada

RM: Is it a gold mine?

DS: Yes.

RM: Is it a big one?

DS: They produce about 200,000 ounces a year there; it's an underground mine.

RM: How could they afford to buy out Louisiana Land with only one other mine?

DS: Well, they had a mine up there producing gold and a good operation. They didn't have cash. They financed the Round Mountain acquisition [by doing 2 things]. They borrowed, from a bank, 100,000 ounces of gold. They sold that gold for \$311 an ounce (gold was pretty low at that time) and that raised about \$30 million. They also, then, issued common shares - stock. I think it was about 3 million shares, that went for a little over \$8 a share. And that raised another \$25 million, and those 2 put together the \$55 million. And then every month - and that transaction will be completed this year - they have been repaying that bank in kind - gold - that they're mining from their mine. That was probably one of the first gold loans anybody had ever heard of.

RM: Are they common now in the gold business?

DS: Yes, everybody has got on the bandwagon.

RM: So it was pretty innovative financing in those days?

DS: It was at the time; yes. And it makes a lot of sense. But they had to have the Lupin Mine.

RM: Yes, because that was the one that would produce the gold, if this one failed.

DS: It gave the bankers the security that the gold would actually be there. So it's not something anybody could do.

RM: Yes - you have to have a producing mine.

DS: Right.

RM: One thing that's kind of an aside: When you are leaching the gold, is the gold that you get from the cyanide pure gold, or is it gold and silver mixed?

DS: It's gold and silver mixed - dore.

RM: And what does it run?

DS: About 50-50, 60-40, in that range. The carbon is strange. Carbon will preferentially load gold. And if you have enough gold in the system, it'll push the silver off and load the gold. But if you get into a period of time like the wintertime or something, and your system is depleted of gold, then the silver will load. So our dore changes over the year. Sometimes in the winter it gets up to 50-50 and it's pretty white. And then in the summertime, when there's lots of gold, it gets back and gets yellow again. [chuckles]

RM: So in the summer, you're getting more of the gold out of the rock than you are in the winter - is that right?

DS: Yes. In cold weather, like any chemical reaction, it slows down a little bit.

RM: What other properties is Echo Bay working now, besides the Lupine Mine and the Round Mountain mine?

DS: We have the big mine at Battle Mountain; we call it the McCoy Cove operation now.

RM: Is it as big as Round Mountain?

DS: It's not quite as big. It's bigger for Echo Bay because we own 100 percent of it - we only have 50 percent of Round Mountain. But as far as an operation, it's not quite as large. It will have a few more people, but actually, the ore processing operation is a little smaller. It's a combination of open pit and an underground operation.

RM: So there still is underground mining going on?

DS: Oh, yes. You'll see more of it in the future, because there's deeper ore under all these shallow deposits.

RM: You mean, under these big open pits there is deeper ore that you can only get with underground mining?

DS: Yes.

RM: Do you have a hard time finding underground miners?

DS: Yes. It's like all good technical people - they're hard to find and keep. Actually, we seem to find enough; we haven't had any problem. But you have to work at it.

RM: Has underground mining changed a lot from, say, 20 or 30 years ago, or do you basically use jacklegs and jumbos and mucking machines and . . . ?

DS: Yes, but the equipment is . . . now they have what they call "trackless mining," so you don't see little 1-yard mucking machines. What they're in there mining it with is 5-yard and 8-yard scoops.

RM: Oh - and you get huge drifts.

DS: Yes. The normal size of a drift is, oh, 12 feet high and 16 feet wide or something like that.

RM: So you're taking huge blocks of ore rather than following veins? DS: Well, you're actually going wide because you have to have that room for the equipment to work. Then when you get into the veins or whatever . . . our veins are 50 or 60 feet wide. [chuckles]

RM: Oh. And what do they run?

DS: A quarter of an ounce of gold per ton.

RM: And then that's leached?

DS: Well, you put it in a mill and grind it, and then leach it in a vat.

RM: Oh, you don't heap leach it.

DS: No.

RM: Now, meanwhile, Echo Bay buys out Louisiana's interest, but the Case companies still have their interest? Is that right?

DS: Yes. And actually, in July of 1984, the Felmont Oil Company, which was half-owned by Hadley Case, was bought - lock, stock and barrel - by Homestake Mining Company. And in that transaction, Hadley Case became the largest single stockholder of Homestake, so he's still there.

RM: And he still has Case Pomeroy.

DS: That's still there. So Homestake became the other player. Now, this is interesting - Homestake was sitting there, and they had all the access to buy the rest of this property from Louisiana Land. But they tried to steal it. They told Louisiana Land that there wasn't even an ore

body at Round Mountain; they really played it down. I figured I was going to get fired because the guys from Louisiana Land thought that we'd been misleading them all along. But Homestake overdid it, and they tried to trade some off-shore oil leases that Felmont had in the Gulf for Round Mountain, per se.

RM: Is that right - Louisiana just . . .

DS: Louisiana Land knew the value was much more than was being offered by Homestake.

RM: But they could've had Echo Bay's part?

DS: Yes, with any reasonable offer. They should have been able to do it.

RM: Why did they do that? Did they think they were really stupid, or what?

DS: Well, I don't know. I really can't answer that, because looking back, why did they buy Felmont Oil Company? Obviously, it was to get a shot at Round Mountain, because Felmont wasn't that great. And Homestake is not in the oil business. (And subsequently, they have sold off all of the oil operations.) I don't understand why they did what they did.



### CHAPTER THREE

RM: So as of '84, the Round Mountain mine still had 3 owners - Echo Bay and Homestake and Case Pomeroy.

DS: Right.

RM: Now, who manages it, and how does each partner have a say in the management of a big operation like that?

DS: Well, Echo Bay is the 50 percent owner and the operator, so they do all the fundamental work out there. We do have a committee - a participants' group - [made up of] some of the senior management from each of the companies. They get together once a quarter and review results and make decisions. In developing a large project, it takes time and you're obligated to cooperate. And this contract has a killer of a deadlock clause. If you have a deadlock, and if you decide to part ways, one partner sets the price and other one decides whether he'll buy or sell.

RM: So everybody has an incentive to cooperate.

DS: Yes, very much so. And as far as the financing and such, the product goes to market and then it's split, and each partner takes their share and handles it however they want to. We send out monthly requests for funds based on our expected expenditures. Those are balanced up, and Echo Bay is kind of the banker, and pays all the bills. But the partners all contribute their share.

RM: The partners all put funds into a pool that you use to pay the bills with .....

DS: Right.

RM: And then do the checks go out from the sale of the gold?

DS: Well, no - actually, the gold is sold separately by each partner. Echo Bay, actually, pays all the bills. Everything is done under the name of Round Mountain Gold Corporation, which is a wholly owned subsidiary of Echo Bay Mines. But in our joint venture, it's also the operator of a joint venture. So the partners contribute their share of the operating money, and it comes to Echo Bay, goes into a Round Mountain Gold account and then it pays the bills.

RM: And then the gold is divided up?

DS: Well . . . yes, it goes to a refinery and the refiner keeps an account. He has the gold and he'll ship out so much an . . .

RM: And he ships 50 percent to Echo Bay and 25 to Case Pomeroy and .

DS: Yes. You're not out there sawing the bars or anything like that, but it's a large amount of gold, and you have a pot there that it all comes out of.

RM: How is the gold disposed of when it's sold?

DS: Well, it can go to an investment bank that is buying gold for customers. It can go to metal traders - people who take gold and put it in shape for jewelry and such. It's a commodity on the market. It's one of the easier things to sell - you never have much of a problem selling gold. You may not be happy with the price you get, but you can always sell it.

RM: Do you sell it on long term contracts, or how does that work?

DS: Echo Bay has a policy that about 30 percent of the gold is sold forward or hedged or [is used as] part of a gold loan or something. But we like to keep about 70 percent of the gold that's really, essentially, sold on spot price. That gives the investor a means to play with the gold market by buying Echo Bay stock - every time the price of gold goes up, Echo Bay stock will go up, and vice-versa. So it gives the investor the gold play and . . .

RM: And then how does the hedge work?

DS: It is the current price plus an interest rate. So if we produced gold today that we sold 2 months ago, we'll get the higher price for it.

RM: I see - it's like buying gold on contracts.

DS: Right. It's like playing the commodities.

RM: Do you have people who are analyzing the price of gold all the time and trying to figure out what's going to happen and so forth?

DS: Not really. We watch all the famous metal-gold gurus and everybody, but we don't believe anybody. We look at the current price, and most of our decisions are made in that light.

RM: What do you think drives the gold market? I mean, what makes it tick at present?

DS: There are 2 things - greed and fear. [laughter]

RM: Primal motivations, aren't they? [laughs]

DS: You know, we thrive on bad news.

RM: Yes. For instance, it's \$420 today, I think, and it was about \$360 a few months ago.

DS: Not too long ago - right.

RM: What's been the bad news?

DS: Well, it's not "bad" news; it's uncertainty - we thrive on un- certainty. As good as the news is from Eastern Europe and [many other] places, there's a lot of uncertainty. And when people are uncertain, they'll take their money out of other vehicles and put it into gold.

RM: How do you see the future of gold production - particularly in the state of Nevada? Why is Nevada such a heavy gold producer? Did nature just put more gold there?

DS: That's part of it. The other part of it is that, historically, Nevada has been a very good state for mining from a regulatory - a legislative - standpoint. It's been a friendly state. That's changing, but it . . .

RM: They're tightening up?

DS: Yes. And it's reasonable, because there's a lot of mines out there, and let's face it, people aren't out there for their health. They'll only do what they're forced to do in the way of taking care of things, normally.

RM: Yes. Is gold easier to find in Nevada? It's such a broken state, with its basin and range topography.

DS: Well, there's no question that the geology is correct. And new methods of treatment - and also new assay-methods - have made it possible for us to handle these very low-grade deposits.

RM: But why aren't they finding lowgrade deposits in Montana or Colorado or New Mexico . . . ?

DS: Oh, they find a little bit, but basically, it isn't there.

RM: Nature didn't put it there?

DS: Nature didn't put it there; no.

RM: But we don't know why it put so much in Nevada?

DS: No, it's just . . . they looked at that land and said, "Boy, anything that looks that bad has to have something." [laughs] Actually, you know, that desert beauty is in the eye of the beholder.

RM: That's right - all beauty is.

DS: That's some of the nicest country in the world, as far as I'm concerned. Smoky Valley and all those . .

RM: Isn't it; yes. There are not very many places more picturesque, with those 2 big mountain ranges and all.

How do you see the future, in terms of technology and gold? Do you see them to the time when they will be mining - economically - .02 ounces to the ton?

DS: Gee, I hope so, because we're very much involved with . . . We have a joint venture in Ely - we have a company out there called Alta Bay. In this case, they're the operators - they have 60 percent of the operation and we have 40. Alta Gold is their name - it used to be Silver Ring Mines; now it's Alta Gold. The combination of Alta Gold and Echo Bay makes Alta Bay, so . . . [chuckles]

RM: Oh, OK. Where is the mine?

DS: It's the old Kennecott operation at Ely.

RM: Oh, really - the pit?

DS: Yeah, that's where we're mining.

RM: There's gold there?

DS: Oh, yes - lots of gold. They produced a lot of gold all the time that they were mining copper there, as a by-product. Three million ounces came out of that property.

RM: Oh really. And you're mining the rock that the copper's in? Is it an extension of the ore body that was there?

DS: Yes. There's still some copper there. And, actually, we've mined some of the old dumps. But the over-all grade there is about .02.

RM: And can you do that economically, now?

DS: Yes; you can do it now.

RM: Do you foresee a day when they'll take .01?

DS: At both Ely and Round Mountain our cutoff is about .01.

RM: Where does the whole thing end, in terms of extracting gold from ore?

DS: Well, take .01; at \$400 gold, the rock, then, has a gross value of \$4. And down in those low ranges, about all you can expect to get out of it is half of that, so, what you sell is going to be about \$2. Well, you can't afford to do much with that, except if you have to mine that material anyway, then there are no mining costs associated with it. If you can build a leach pad where

you don't crush it, you don't fool around with it, you just dump it - you essentially just make a mine dump and leach it as a by-product, so there's very little cost associated with it and you can make some money on it.

RM: Do you foresee a day when they go in and can mine an ore body at .02 or even .01 with technological change?

DS: Well, not so much technology, but with economics - when gold's \$2000 an ounce.

RM: Do you see the gold market as eventually being glutted?

DS: No, I'll give you a little speech on the gold market, if you will . .

RM: I'd like it; yes.

DS: Almost all of the gold that's ever been mined is still with us. It's still out there - it's out there at a price. It'll come out of the banks (most of it is in the banks and vaults, etc.). Our annual production is just a little slice of the total gold supply, so, we're not over-running it; no.

RM: I read some time ago that half of the gold that is mineable has been mined or something. Is that . . . ?

DS: Oh - who knows that?

RM: Yes, that's a function of technology, isn't it?

DS: Sure, and it's a function of finding it.

RM: What are the problems that a mining company such as Echo Bay faces in working in a remote area like Round Mountain?

DS: When we went to Round Mountain, the place had a lot of problems. It had problems with ore reserves and it had a problem with people, because under the circumstances that it was developed, it was very hard to attract and keep good, qualified people. So as soon as we had some reserve base to work from we started really looking at what we could do for the people to attract and get some good people. As soon as I could I went out and hired some people. I had some good luck. Some people came around who were excellent, and they called on some friends, and we put together a good operating core staff.

And in the 1980 expansion, there was a lot of activity in mining. Copper was going great and everything, and we hired anything that would walk up the road. We really got some wild bunches out there at that time, but as time went on we became much more selective.

[tape is inadvertently turned off for a few minutes - the family dog accidentally unplugged the recorder - and some material was lost]

RM: We were talking about the value of husband and wife employees . .

DS: Yes. We justified getting into the child-care business because it VMS designed to make it possible for us to have husband and wives working. Because if you have a husband and wife working, that only requires one house instead of two. And in some way or another, we're involved, out there, in the housing. With the husband and wife, you only have one family medical bill, where otherwise you'd have two. And probably the most important factor is that with the husband and wife working, between the two of them, they make a good income and they can set up a good standard of living for themselves. And they're much happier than they are with, especially, a husband working and a wife just sitting at home. That's deadly, in [a remote area] - the wife who has nothing to do. So we've gone into it in a big way.

And as I say, today we have about 120 kids that we take care of. It's a 3-shifts-a-day, 7-days-a-week operation. It takes a lot of people, and we subsidize it pretty heavily.

RM: Is that right - that's got to be unusual, for a day-care operation.

DS: Yes. And it's as clean as a pin. The lady who started has retired with her husband, and they have gone back to Arizona. (Her husband became ill.)

RM: Who's taken it over now?

DS: A great lady by the name of Carrie Powers. She's a registered nurse. And since she has taken it over, it has just taken off. She's a real fireball.

RM: What has been your policy - aside from the advantages of hiring husband and wife teams - of hiring women? I know there used to be a taboo in the mines - that it was bad luck for a woman to go underground.

DS: Well, our basic philosophy is that we try to disregard sex. There are a few jobs - perhaps because of their physical stature - that most women can't do but we have gals out there who can do anything that anybody can do. [chuckles] We really try not to do any discrimination, but I'm sure we do, because I think it's a very difficult thing for us to get over. It still is pretty much a man's work. But we have at least 2 women supervisors in the mine, and we have many operators - equipment operators, shovel operators, truck drivers . . . I don't believe the women want to run the dozers; I think that's a little rough.

RM: Is that right - the bounces?

DS: I think the bouncing may be a little rough on them. Not that we would keep them from doing it, but I think it's one thing they don't . . .

RM: Is this a trend in the mining industry nationwide?

DS: Oh, I think it's a trend in all industries - the barriers are pretty much down. And they're as good and as bad as anybody. A lot of places say they really like those women, because they really take care of the trucks, but most of the trucks I can remember with the wheels sticking up in the air.....[chuckles] It just happened they were some of the gals. But that's not being sexist or anything, that was more of a coincidence than anything.

RM: Could you talk a little bit about the problems that a modern miner has in dealing with the environmental issues of the day?

DS: The overall public consciousness of the environmental problem has just been growing by leaps and bounds. And we do have some major environmental problems. Every city in the West, in the wintertime, has its brown cloud. But even out in the open-air areas, we have very active environmental groups - Greenpeace and the Sierra Club and all of those people. And they really want to shut us down. They want us out of business.

RM: How do you view that? I mean, do you see them as one-sided in their thinking, or think that they don't understand you?

DS: They don't understand anything. They drive their Cadillac cars around and all of these things and espouse all of this anti-mining [philosophy], not realizing that without mining our civilization as it women want to run the dozers; I think that's a little rough.

RM: Is that right - the bounces?

DS: I think the bouncing may be a little rough on them. Not that we would keep them from doing it, but I think it's one thing they don't . . .

RM: Is this a trend in the mining industry nationwide?

DS: Oh, I think it's a trend in all industries - the barriers are pretty much down. And they're as good and as bad as anybody. A lot of places say they really like those women, because they really take care of the trucks, but most of the trucks I can remember with the wheels sticking up in the air.....[chuckles] It just happened they were some of the gals. But that's not being sexist or anything, that was more of a coincidence than anything.

RM: Could you talk a little bit about the problems that a modern miner has in dealing with the environmental issues of the day?

DS: The overall public consciousness of the environmental problem has just been growing by leaps and bounds. And we do have some major environmental problems. Every city in the West, in the wintertime, has its brown cloud. But even out in the open-air areas, we have very active environmental groups - Greenpeace and the Sierra Club and all of those people. And they really want to shut us down. They want us out of business.

RM: How do you view that? I mean, do you see them as one-sided in their thinking, or think that they don't understand you?

DS: They don't understand anything. They drive their Cadillac cars around and all of these things and espouse all of this anti-mining [philosophy], not realizing that without mining our civilization as it exists isn't here. I challenge any of them to name anything - any product - that doesn't have some mining behind it; and they can't, because it's such a fundamental thing.

Mining and agriculture are the two really basic industries, and we have to have them. It doesn't mean that we can go out and rape the land - our standards of what's acceptable are getting tighter and tighter all the time. And I don't have any big problem with that, as long as it's reasonable. For instance, with Round Mountain: When we get through with that place, there'll be a lot of dumps out there that'll be contoured and the sagebrush will come back and grow, and it'll be like it was. But we're also going to leave a big lake. And as far as I'm concerned, it'll be a great recreational lake. I don't, frankly, see any big problem with it. But . .

RM: Looking into the future, do you see the environmentalists shutting you down?

DS: Oh, everything has its cycles. There will be a cycle where they will shut things down, pretty much, and then the other part of the cycle will change when the politicians won't be able to tolerate the unemployment that's been caused by it. Because we can't all live by doing each other's laundry. We have to have basic industries - mining, agriculture - you still have to generate some new wealth. These financial engineers trading money up here are not contributing a thing. It's only the farmers and the fishermen and the miners who are building something, who are creating something that wasn't there.

The politicians will have their day. They want to claim that, "Well, you're raping the world because that was there, and you're just taking it." Well, it wasn't "there" - there was nothing there until we . . . it didn't just happen that that mine is out there.

[It was] a lot of sweat and tears and guts and taking some risks and doing some things that made it . . . And you have to have an incentive for people to do that. But as I say, there will be cycles; there's no doubt about it. And right /now the environmentalists are really living in a heyday. And it'll get worse.

RM: Could you say a little bit about what it's like for a modern mining operation such as you have now to work with the various entities of government, starting from the federal down to the state and the county government?

DS: Over the years, we have never had any big problems with any of those agencies. The federal government is responsible, through the Bureau of Land Management and the Forest Service, for management of the land. And I think they've done a good job. They're equally balanced - we live in great harmony, as far as we're concerned, with the ranchers. We've never had any problems with the ranchers - we help them, they help us. We've never had any big issue there.

The Mines Safety and Health Administration (MSHA), as far as I'm concerned, is a professional group. They do their job and if you're doing something wrong, they come down



hard. But we have never really had any basic problem with them and we get more help than anything, really. So that hasn't been an issue.

The state, historically, has been very, very sympathetic to mining –and helpful. And for many years out there, we had kind of the best of all worlds. If we wanted to do something, we would go in and talk to the environmental people - the water people or whatever - and explain our problem. They'd tell us what to do and we'd go do it, and in so doing we didn't have particular problems. But with the size of the industry - the numbers of mines out there - that's no longer even practical or feasible, because there's just such a volume of work. So now they're having to move toward becoming a strict regulator, follow the rules to the letter. It makes it more difficult, but you have to learn the new rules and work by them. But we still don't have any big problem with the state, and certainly not with the state government in any way.

The county government, as far as really affecting the mining operation, has never bothered us and has never been an issue as far as the physical mining and such are concerned. The way they treat . . . and how it impacts on our people, though . . . Initially we had a tough time with a group there. We contributed a lot of money into the gymnasium, and a local group there, of old-timers, got together with the school and they got control of the gym. And they got a group that just represented a very small part of the population. We wanted the gym to be used as many hours as it was possible to be used, and for everybody to use it. Well, the school had to do this and that . . . it really got to be an issue. And they said, "Well, we'll appoint a committee to run the gym." And there was not one person in the mining operation on the committee who got chosen, and that kind of irritated us. So we got to looking in the law, and found out that there was the wherewithal to have a town board that . . .

## CHAPTER FOUR

DS: A town board is composed of 5 members from the local community, and they have all of the responsibilities and authority for operation in that town that county commissioners have for the rest of the county. It was strange that there was not one town in the state of Nevada that was using that type of government, but it was there in the statute - it was available - so we got a lawyer and went to work, and we established a town board at Round Mountain, and it has been operating since about 1982 or whenever we began. And it has worked very well for us. And since that time we've gotten along fine with the county. Really, we never had any basic problem - actually, it had to do with the way some of our people were being treated. But you know, you can't run roughshod over anyone. And we've never tried to do that.

RM: Could you talk a little bit about the development of the town of Hadley?

DS: When the final decision was made in 1987 that we were going to expand the operation and essentially double the size of everything, we knew we had to have more housing . . .

RM: And the decision to expand was based on the fact that you had found increased reserves.

DS: Yes - we had reserves and we'd gone through a lot of testing programs and decided we could leach the material and so forth, so we were going to spend something over \$100 million.

Well, I had made an option several years before with Ingvard Christianson for the ranch where Hadley is located. Christianson owned what they called the ICT Ranch.

RM: And did he get that on Desert Land Entry, or did it go back farther? DS: I don't know how he got it initially, but he had some Desert Land Entry surrounding it. We also got options on those, but it was something we couldn't exercise because you can't do that with Desert Land Entry.

But when we were in the expansion planning, I made a real push to include the development of a new townsite, because Round Mountain is out of space. The people in Round Mountain have had a fight with the Bureau of Land Management for years and years, because nobody really owns the land they are living on. It's federal government land, and we have unpatented mining claims on it, which we can't give up - because if we did, somebody else would move in on it. But we don't have any problem with the BLM - we understand that. The problem is between the county and the people and the BIM - that trio. Everybody would come out and say, "Oh, you guys and your terrible Round Mountain problem." I said, "We don't have a problem; everybody else has a problem."

Well, we wanted to be able to relieve that; to give our people a place to live where they could, eventually, buy the land. But one of our partners thought that most of the Round Mountain residents and employees would prefer to live in Tonopah and commute to work. That generated the first study that we did. Do you remember that?

RM: Yes.

DS: We were trying to find out what people really wanted to do. Well, it was overwhelming - they wanted to stay out in the valley. But our partners wouldn't accept that. We argued about that for about a year and a half or 2 years before we finally got the approval for Hadley. But once we did, we played around with various locations and things, and we got some guys to help us and we laid out a town.

RM: Why did you put it there, as opposed to somewhere else?

DS: That was the only fee land - and it has water. You can't believe how much water there is in that country.

RM: Do people own their own lots?

DS: No, we're still leasing them. We will maintain control there until the mining operation's over. But at some point we'll be able to sell the land. And I really believe that it will develop into a long-term community where people will retire. The only thing it will lack will be a medical facility.

RM: Do you see stores and shops and things there?

DS: Well, we've just finished construction of a new store building - we will move our store from the present store in Round Mountain to Hadley; that'll happen within the next month or so. We've got a junior olympic enclosed pool, and it's top-notch. This summer we'll finish a 9-hole golf course, we've got multiple tennis courts, a park and . . . it's a great place. It'll be the gateway to the Arc Dome Wilderness Area.

RM: Could you talk a little bit about the expansion that you decided to go for in '87?

DS: We just commissioned it last summer, in midsummer. It took 2 years to build it.

RM: What happened with the mire, in terms of the expansion?

DS: Before we expanded we were mining around 60,000 tons of total material a day.

RM: What was the waste-to-ore ratio?

DS: At that time it was about 3-1/2- or 4-to-1, something like that. Early on it was 1-to-1, and then it was up around 3- or 3-1/2-to-1. And then by expansion, we've got it back now to roughly about 2-to-1. We're mining 130,000 tons of material a day out of the primary mine. We're leaching 45,000 tons of ore now, every day, and previously we were leaching about 15,000.

RM: Wow. You mean, before the expansion.

DS: Yes. We did some other things and expanded our operations along with it, even before the expansion project was completed. We increased our leaching time from about 50 days to 100 days.

RM: You mean you run the solutions on it 100 days?

DS: Yes. That's one of the things about this deeper ore - it is harder to leach than the other material.

RM: Oh. So you've got more pads.

DS: Oh, we've got a lot more pads. We built 2 new leach pads; each of them is 4000 feet long and 375 feet wide. We built a huge crushing complex with a big 60-inch gyratory crusher. I'm sure it's as big as anything in the state. And we also built a fine crushing plant and a big materials handling system to load the new 4000-foot-long pads. You take the material out on conveyors to a stacking mechanism that walks on top of the pad.

RM: Oh - you don't dump it on there with trucks, then?

DS: We don't dump it on with trucks. We'd been dumping at the base and pushing it up with dozers for a lot of years, but now it's all [automated]. We do keep a little tractor up there to help keep it level, but . . .

RM: How thick is the asphalt pad?

DS: It's about 9 inches of asphalt.

RM: And the solutions make 2 passes?

DS: Yes. At present we're pumping a little over 10,000 gallons a minute on this particular area. And we're putting about half of that - a little over 5000 gallons - through [for] operating the plant, so we're recycling.

RM: How many ounces of gold do you project a year?

DS: They'll make about 400,000 ounces this year.

RM: Wow. How does that compare with other mines in the state?

DS: That will make it the second largest mine. The Newmont operations at Carlin - and the gold quarry by itself . . . I don't know exactly what it makes, but all of the Newmont operation up there will make it about 1.2 million.

RM: But that's not coming out of a single mine.

DS: No. But I suspect that the gold quarry might be 600,000 or something - it's big.

RM: So Round Mountain is probably the second largest in the state.

DS: Right.

RM: What are your projections in terms of how much reserves you have?

DS: We have about 8 million ounces of reserves, and at our present rate of production that's about 15 years. But we will increase those reserves - we haven't closed it off. We're at a point now where it's really too expensive to do the deep drilling and the amount of drilling it takes for something that you're going to do 20 years from now. It really doesn't make much sense. But there will be more reserves developed there as time goes on.

RM: Do you think there are extensive reserves that you haven't recognized?

DS: I don't think . . . well, there'll be some surprises - yes. We've got, now, close to 1500 drill holes in the ore body, but there's still a lot of the drilling to do. I initially chose that 5700-foot elevation, and there's an awful lot of country underneath those areas that we wish was drilled another few hundred feet deep.

RM: What's the elevation level that you've drilled into now?

DS: Oh, the bottom of our pit, now, is designed down to about 5300. So to do that, we're drilling, basically, at probably the 5000-foot level and below.

RM: Is that right - and there's ore. Is it still going down?

DS: Yes, there are areas where it's still there.

RM: You have an operation at Manhattan, too, don't you? Could you say a little bit about that?

DS: In '86 we purchased all of the precious metal assets of the Tenneco Corporation, which included Manhattan and an operation at Hawthorne -Borealis - and the McCoy Mining Company at Battle Mountain

RM: Can you say what you paid for it?

DS: We paid \$130 million for the Tenneco . .

RM: And that's Echo Bay?

DS: That's 100 percent Echo Bay.

RM: And what is involved in the Manhattan operation?

DS: Well, Manhattan was always kind of a little scruffy mine, and it still, to a certain extent, is. Actually, we have pretty much completed mining there. We expanded the mill there, and did some major test work on our McCoy operation. Within a month after we completed the Tenneco deal, we found a major new ore body at the McCoy property near Battle Mountain. To test the material, we did some things at the Manhattan mill and brought quite a bit of ore down for test milling. We've got an 8000-ton-per-day mill operating at the McCoy Mine now.

They've always had a mill in Manhattan, but they never really had the grade. So right now, what we do is take the best grade - the higher-grade materials - from Round Mountain, and upgrade them by screening and haul them the 15 miles or so down to Manhattan and run the little mill down there. It's working very well. We also built a big heap leach at Manhattan this last year. It's fairly short-lived, although the only reason we would shut it down would be if we built a big mill at Round Mountain. Then it would become uneconomical to run the small one at Manhattan.

RM: So you're running your high-grade because the heap leaching can't really get all the gold in the high-grade.

DS: That's right. And the high-grade is generally coarse gold, and leaching doesn't work too well on that.

RM: How do you separate out the high-grade to mill?

DS: Well, in our mining process we have to drill and blast the ore. We drill a hole about every 18 feet in both directions, so we drill these big clusters. We assay all of those holes. And based on those assays, we can block out where the high-grade is and go in and selectively mine that out and put it in a separate stockpile.

RM: I see - and then truck it down there and mill it. How big is your mill?

DS: It's only about 800 tons a day . . .

RM: That's a huge mill from my background. We had an 8-ton mill. [laughter] Is it running 24 hours a day?

DS: Yes.

RM: And is it mainly running ore from Round Mountain?

DS: There's a little bit of material from Manhattan, but almost all of it now is coming from Round Mountain.

RM: But you're not really digging in Manhattan.

DS: No, I think we're through mining in Manhattan.

RM: What mine did you buy there?

DS: It was the old Manhattan Mine there. It was developed initially by Houston Oil and Minerals, which was the old Summa Corporation - Houston bought all those properties from Summa.

RM: It wasn't an old mine that dated back to the '30s or '20s - it was a new mine?

DS: It was a new mine.

RM: Was it a big deposit?

DS: No, it was a lot of little pods. There are still a few down there - maybe we can mine some of them and heap leach them.

RM: Do you have any idea how many tons, over all, you took out of the Manhattan mine?

DS: A few million tons; it's not a rich . . .

RM: Well, Don, then the company transferred you from Round Mountain. What year did you Trove up to Reno?

DS: I left in 1986 - when we purchased the Tenneco property. Then instead of just having Round Mountain in the state, we had Round Mountain, Manhattan, Borealis and McCoy. I moved to Reno as the group vice-president in charge of the Nevada operation.

RM: And how long did you stay in Reno?

DS: Three years - till just last fall.

RM: This last fall - 1989? And then they moved you to Denver?

DS: Right.

RM: And what is your position now?

DS: I'm Vice-President of Mining and Special Projects for Echo Bay.

RM: What does your job consist of now?

DS: My principle job right now is working with the Alta Bay joint venture out at Ely. It was a very small company that's grown to be a big company in a hurry, and we're helping them over some pretty rough humps.

RM: Is it going to be a really big operation?

DS: It could be - yes.

RM: Well, in comparison to Round Mountain

DS: As a gold operation it'll probably never be as big as Round Mountain, but the joint venture has an option to purchase the whole property from Kennecott - right now it's just a lease. We have an option to purchase that, and we're working on due diligence on it right now. But if we develop the copper deposit out there, it could be a good-sized operation.

RM: And that's mainly what you're dealing with now?

DS: Yes - that and some corporate things.

RM: I'm about running out of questions. I imagine you're getting tired, too, aren't you? [laughs]

DS: [chuckles] Well, I never have any problem talking about this. I love it. The greatest thing I've ever done in my life was what we put together and did at Round Mountain

RM: People who know the mine there say that it wouldn't be the mine it is today if it weren't for you. I've heard that more than once.

DS: Well, that's not true. But in an isolated area like that, I was able to look at people and do some things with people, and for people, that I've always wanted to do, and never really had the opportunity to do until we got there. It was always very rewarding to see that group pull together and really do something.

RM: Do you miss being on the site?

DS: At times, yes. It was hard on the family - it always is. But we had all kinds of fun. We had a flying doctor who used to come in for a while - Dr. Borgen. And we got a chance to get Hank Hayes to come back and work for us.

RM: Why don't you say a little bit about that? We're talking about an area that's remote from health care.

DS: Yes. When I got out there we had an ambulance in the valley. And there was a gal and her husband - Carlene and Bill Weisner - who came from Casa Grande. Carlene went to work as an accountant for us, and Bill took charge of the warehouse. They had only been there a few



months and right after lunch one day, old Bill came in and sat down and had a massive heart attack. We called the ambulance and one of the Berg boys drove it up from the valley. He was not a driver, he wasn't an EMT or anything. We had just hired Bill Weiss from Tucson to run our lab. He was the only one who really knew what to try to do. Our safety director went running off to find a resuscitator. He got it and sat down there, trying to read the instructions and find out how to operate it. It was a disaster.

RM: Did your accountant die?

DS: Oh, yes. He was dead at the time. It was a massive thing; there wasn't any chance of saving him. But it made us realize how bad off we were. So we sponsored and got some EM training going. We wanted to get a dozen or 20 people trained in the community, and we wanted them scattered throughout shifts so there would always be somebody on the site as well as people off the site. We paid for anyone who would go through training. We raised their wages 25 cents an hour on an on-going basis, as long as they stayed active in the program. That still goes on. We set up the EMT group and got them trained. That helped a lot.

I forget how we made our initial contact with Dr. Borgen, but he came up one day and he wanted to fly in once a week from Fallon. And if we could provide him a space to work, he'd do that. So - sure. We had a place, and we set him up. He started coming in once a week, and then we made it twice a week. He charged for when he came in, but we also paid him a flat stipend to do that. And that was certainly better than everybody having to go to Tonopah for everything. And it worked pretty well. But it was still just once or twice a week.

Dr. Peterson came up one day, and I think he brought Hank Hayes with him. Hank had left Tonopah and had been in Hawthorne for 3 or 4 years, and he really wanted to get back in the Smoky Valley country.

RM: And he was a physician's assistant?

DS: Yes. And Peterson wanted to put him out there, and we thought that was a great idea. But I said, "We have a deal with Dr. Borgen, and I'd like to still continue having Dr. Borgen come in and work with Hank and just put the whole thing together."

Peterson wasn't real happy about that, but he finally agreed to do it. So then we got Borgen in, and he wouldn't have it. It was either his completely, or he wasn't going to do anything. We had a big fight. We let Dr. Borgen work out his contract and then cut him loose. But we got Hank, and Hank is a very extraordinary person, as you know if you've been around Tonopah.

RM: I've heard a lot about him; yes.

DS: He's out there all the time now.

RM: And he's on the company payroll?

DS: Oh, yes. We built him a clinic - he's got 2 or 3 treatment rooms, and he has a medical practitioner and a clerk. And the 3 of them see up to 50 or 60 people a day.

RM: Is that right!

DS: If they get a good flu epidemic caning through . . . [chuckles] And then Dr. Vasquez comes out once a week and goes over everything.

RM: He's out of Tonopah?

DS: Yes.

RM: Dr. Peterson is gone?

DS: I think Peterson may be back, but he's not working with Hank. But Hank is just a super individual.

RM: And then what do you do in emergency cases?

DS: Well, if we have an emergency, we're able to pretty well stabilize a guy at the site, between Hank and our EMS-. We had an incident - a guy got hit with a drill pipe, and pretty badly wounded on the site, and it took 45 minutes to get an ambulance to him. One of the guys headed for Carver's on his motorcycle to get the ambulance, and his motorcycle broke down and he was stuck out there without any communication. We said, "Well, that's enough of that." We got our own ambulance, which is dedicated for the mine. But there's still a county ambulance which takes care of all the outside people. We can stabilize somebody there, get than to Tonopah, were they're further looked at, and if they're serious they go by air ambulance - generally to Reno.

## CHAPTER FIVE

RM: Don, you have any further things you want to add?

DS: Yes. I'd just like to make clear that in all the things we were able to do at Round Mountain over the years, we have always had the whole-hearted support of our companies and their management I think it's important that people understand that - this wasn't something Simpson did out there on his own - he had a lot of help and there are an awful lot of people out there who deserve fully as much credit for anything that's happened out there as I do.

In those early years, guys like Pete Kesl, who's the operations manager out there now . . . he came down as the maintenance guy and really turned that aspect around.

Art Lefler came out as the operations manager in 1980, and we just methodically went through, getting rid of one bottleneck after another. Those guys were very, very helpful. Shortly after we were out there, the personnel manager who was there left, and I asked a lady who at that time was working in our maintenance operation to consider taking that over. That's Carol Stonier - she's just done an exemplary job over the years taking care of people and keeping things on the go.

Andre Douchane and Gary Crane, along with Pete Kesl, keep the operation going now. Ken Pohle, who was with us for a while, came from New Jersey Zinc. But he went back to White Pine, Michigan, and became a part owner and just recently-became very wealthy when that whole operation was sold to Metallgesellschaft, the German mining company. What I especially want to say is that it was a real team effort, and it continues today. We had some problems along the way. We took a hard line on pilfering and the use of alcohol or drugs on the job. We did random screening with a polygraph operated by a very experienced and exceptional person. As a result, we eliminated pilfering and use of alcohol or drugs on the job - and did it without upsetting the great majority of employees. We can't use the polygraph anymore, and it's too bad.

We do drug screening on all new employees but probably should be doing random testing on all employees - that's what creates the real deterrent.

RM: I forgot to ask you - how many employees do you have now?

DS: About 600 - that's at Round Mountain and Manhattan, combined.

[Tape is turned off for a while.]

RM: Don, you were just describing what you thought when you first went to Round Mountain.

DS: Well, after we got into it, it became pretty apparent that it wasn't just a small mine and that it was really going to have to be operated and run like a big mine. It really becomes a material handling exercise in learning to mine and move and treat large tonnages very efficiently, and that's what we try to do.

## INDEX

A.O. Smith Co  
Ajo, AZ,  
Alta Bay Co.,  
Alta Gold Co  
ambulances,  
Arc Dome Wilderness Area  
Barden, Dr  
Battle Mountain, NV,  
Beckerdite, Dean,  
Berg, Roger,  
Bethany, MD  
Borealis mining operation,  
Carlin deposits,  
Carver's Station, NV,  
Case, Hadley  
Case, Walter S.,  
Case Pomeroy & Co  
child care program,  
Christianson, Ingvard,  
coal  
Coleman's Grocery Store,  
Colorado School of Mines Research Institute,  
community assistance,  
copper  
Copper Range Co  
Copper Range Exploration Co  
Crane, Gary,  
cyanide (also see heap leaching),  
Denver, CO,  
Desert Land Entry,  
Dietrich, Elwood,  
Douchane, Andre,  
(the) Dust Bowl,  
Echo Bay Mines Ltd.,  
Ely, NV,  
environment,  
Essex Royalty Co.,  
Fallon, NV,  
Felmont Oil Co.,  
Fluor Co  
Fort Scott, KS,  
Girucky, Frank,

gold,  
gold, financing of production,  
gold market,  
gold, price of  
gold, processing (also see heap leaching),  
gold, values in ore,  
Golden Heights (subdivision),  
Greenpeace,  
gymnasium,  
Hadley, NV,  
Haitrup, Bob,  
Hawthorne, NV,  
Hayes, Hank,  
health care,  
heap leaching,  
Heckla Mining Co.,  
Hereford, TX, 1  
Homestake Mining Co.,  
Houston Oil & Minerals Corp.,  
husband & wife employees,  
ICT Ranch,  
(Mount) Jefferson, NV,  
Jefferson Caldera,  
Jones, George,  
Kennecott Minerals Co  
Keel, Pete,  
Korean War,  
Lake Shore project (AZ),  
Lead, SD,  
Lefler, Art,  
Leone, Ray,  
Louisiana Land & Exploration Co.,  
Lupin Mine,  
Manhattan Mine,  
Manhattan mines,  
McCoy Mining Co.,  
Merrill-Crowe process  
Metallgesellschaft,  
milling,  
Miner, Gordon,  
mining,  
Mountain States Engineering,  
Mountain View, OK,  
Nevada,

Nevada Gold Porphyry Group,  
New Jersey Zinc,  
New York, NY,  
Newmont Mining Co.,  
Northwest Territories, Canada  
Nye County, NV  
oil,  
Ordrich Gold Reserves  
Peterson, Dr.,  
Pohle, Ken,  
Powers, Carrie,  
Ray, AZ,  
Reno, NV,  
Round Mountain, NV,  
Round Mountain Gold Corp.,  
Round Mountain mines,  
Round Mountain mines (expansion of),  
Round Mountain mines (geology of),  
Round Mountain town board,  
school,  
shopping,  
Sierra Club  
silver,  
Silver King Mines, Inc.,  
Simpson, Alta Nellie Grimwood,  
Simpson, Edward Harley  
Simpson, Maria,  
Simpson brothers,  
Simpson children  
Smoky Valley, NV,  
Stonier, Carol,  
stripping ratio,  
Summa Corp.,  
Tenneco Corp.,  
Tonopah, NV,  
Toronto, Canada,  
Tucson, AZ,  
210th Counter-Intelligence Detachment  
U.S. Bureau of Land Management,  
U.S. Bureau of Mines  
U.S. Forest Service,  
U.S. Mines Safety & Health Admin.,  
University of Arizona,