ORAL HISTORY PROGRAM

Ronald L. Parratt: Striking Gold

2025

PREFACE

The following oral history is the result of recorded interviews with Ronald Parratt conducted by William Wilkinson on February 25th, 2022. This interview is part of the AIME Oral History Program.

ABSTRACT

With an early interest in rocks, Ron Parratt, found his fascination with geology at Purdue University. An explorationist for over 40 years, Parratt built a career full of discovery. Striking gold in Nevada, Parratt started his own gold exploration company, uncovering Carlin-type and low-sulfidation-type gold deposits. The technical and economic challenges of the mining industry have driven his passion for exploration. Parratt notes passion as the foundation of his great career and highlights the importance of the mining industry in the development of society. Former President of SME Parratt's involvement with SME has been a continuous string of committees, papers, and meetings. Joining in 1974, Parratt values the exposure to technical knowledge and networking with industry that SME has provided. Parratt commemorates his successful career by acknowledging the support he has received over the years from his relationships with mentors, colleagues, and family.

Readers are asked to bear in mind that they are reading a transcript of the spoken word rather than written prose. The narrator has reviewed, edited, and approved the following transcript.

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00:00:14 Introduction

Wilkinson:

This is consulting geologist William Wilkinson, and I'm here at the 2022 annual meeting of the Society for Mining, Metallurgy, and Exploration in Salt Lake City. This is February 25th, 2022, and I am with consulting geologist Ronald L. Parratt. I've known Ron for 30-plus years. We met back when I first moved to Nevada, so we've been friends for quite a while. And I'm very honored and privileged to be able to interview him today. This recording is a part of AIME's Oral History Capture Program. Ron, you've had a distinguished career, as we'll see as we go through this interview, but let's go back to the beginning. Tell me about where you grew up.

00:01:00 Growing Up in the Midwest – A Passion for Geology and Attending Purdue University

Parratt:

Wow, that is a while back. Well, I was born in Northern Indiana, and my first home was in a small community surrounded by steel mills and oil refineries. Typical of that part of Northern Indiana. I lived there until I was about ten years old and then had a sister and younger sister, and my family decided to move my mother and father, to move to Illinois and to the suburbs of Chicago. That's where I lived then for the next ten years until I ended up going off to college and then moving out to the West.

Wilkinson:

Okay, all right. You are a Midwesterner. During your growing-up period, who or what influenced you to become a geologist?

Parratt:

Well, it's an interesting question for that part of the country. I, as a kid, liked to hike and go out walking in the fields and around the lakes that were there. And occasionally, I'd find a fossil or a rock that looked interesting, sometimes Indian artifacts. I kind of liked archeology, but it was more just a curiosity for me, really, at that point in time. But I never forgot that. And then, through early school and into high school, I had a couple of Earth Science classes, part of a science program, and it was really very interesting. But I guess, as you'll get to in the questioning when I did go off to school, I focused on engineering, to begin with. But then decided I'd take a turn and got involved in geology, which has been a passion of mine, I guess, for these last many years.

Wilkinson:

Okay, hopefully, we'll hear what caused that turn. But out of high school, then, what universities did you attend?

Parratt:

Well, I attended Purdue University. I applied there and two or three other schools and was accepted at all of them. But Purdue is well known to me. It's in Indiana and wasn't very far. A well-known school for

its engineering program, especially and sciences, and as well the company that my father worked for had scholarships for sons and daughters of employees to go to Purdue specifically. You couldn't get the scholarship and go wherever you wanted to. They were directing those at Purdue, and although going someplace else sounded a little more exotic, I think the financial considerations of the scholarship and nearness to a home, that's where I ended up going, and I've never regretted it.

Wilkinson:

Practical decision.

Parratt:

Yeah.

00:03:31 How A Geology Elective Turned into My Major – Finding Fascination in Being a Geologist

Wilkinson:

Yeah. Good. You touched on a little bit about this. You said you started in engineering. What was it that made you switch to geology?

Parratt:

Well, through high school, I was always good in math and science and chemistry and all those disciplines. In thinking about college, I was kind of steered into an engineering program, and chemical engineering was the one I kind of settled on. I thought that was good, and I'll say it was a little bit, from an economic point of view. Chemical engineers were usually the fellows at the top of the food chain as far as compensation went, and that sounded good to me. So, I enrolled and started in the chemical engineering program at Purdue. I completed my first year, second year, and half of my third year, and I needed some technical electives. I was looking through a course guide, and I saw some geology classes, and I thought, what? That should be interesting and fun. I went, and I took those courses, and I found them just fascinating, and I just felt very comfortable with geology and the way geology worked.

So I went over and I had a long discussion with the department head of the geoscience department for a couple of hours. He was a former industry guy and had gone into academia later in his life, and he spent 2 hours telling me what it was like to be a geologist: the traveling, the things you'd get to do, the challenges you'd face. For me, it would have been in exploration and looking for different minerals and commodities, and it sounded like a fascinating career. At the end of my junior year, I left the College of Engineering and went into the College of Science in the Geosciences Department. I finished my senior year with mostly geology classes and some others, and had an undergraduate degree then in geochemistry, utilizing all the chemistry I had taken for the Chem E program along with geology. That seemed to be a good fit for me. So that's kind of where I got there. It worked out well.

Wilkinson:

You were able to do that in four years?

Parratt:

Yeah.

Wilkinson:

Impressive. Yeah. So this professor, this head of the department, then I suppose you would consider him a mentor since he kind of made you change your direction.

Parratt:

Oh, absolutely. It was funny. I went in to see the head of the chemical engineering department to get him to sign the paperwork needed for me to leave the College of Engineering. And he said, "Gee, Mr. Parratt, I thought I had made you into a chemical engineer." But it was Dr. Pullen who was really the mentor that convinced me that there was something else out there that was very attractive and very interesting. And for me, not for everybody, but for me, it was, I thought, a very good fit. Something that looked like it would be a lot of fun and interesting.

00:06:36 Stauffer Chemical Company – My First Professional Job in Resource Deposits

Wilkinson:

So you're in the Department of Geosciences for a relatively short period of time. Were there any classmates that influenced you during— into staying there and then finishing?

Parratt:

Well, there were several in the coursework I took those two years, basically a year and a half, that I've kept in touch with, who have ended up, surprisingly, in mining exploration, gold, molybdenum, and other metals. So they've been peers that I've kept in touch with over the years. I did stay, though. I started the grad program at Purdue, which you might ask about at some point, but I had a first-year program that I completed there and got to know some other fellows. And then, jobs were kind of hard to find in 1971, so I opted to take a job offering I had and go to work, which I did for three years, and then went back to Purdue and finished a Master's in Economic Geology in 1975.

Wilkinson:

Okay, Ron, that kind of preempts this next question. But, now that you've graduated and you know you wanted to be a geologist, what was your first professional job, and what did you do?

Parratt:

Well, my first job in leaving Purdue was to move from the cornfields of Indiana to the West Coast, to the Bay Area. And I went to work for a large chemical company. They had a number of operations, mining operations in the western US for materials that were to become feedstocks for various chemicals that they produced, things like phosphate rock that was used for fertilizers of all kinds. Soda ash that was used for manufacturing glass, detergents, and other things. They mined fluorspar (fluorite), which they used to make hydrofluoric acid, boring things like that—industrial minerals.

Wilkinson:

Where did you have this job?

Parratt:

I was based in Richmond, California, which is in the north part of the East Bay. That was where Stauffer had their Western Research Center, and that's where the geologist team was housed at that point in time. The sites I worked at were mostly in Wyoming, [Utah, and Idaho]. Wyoming is where I met my future wife, Connie. The work in Utah and Idaho involved phosphates. I also worked at a soda ash operation in Wyoming., I also worked in Searles Lake in southern California, which is a big saline dry lakebed that has sodium borate and other minerals in fluids under that dry bed lake that they were processing. So, a number of locations around the western US.

Wilkinson:

Did you, at some point, go to San Francisco?

Parratt:

After about seven years, including one year in the middle when I went back to Purdue to complete a master's, at that point, I left Stauffer and went to work for a company named the Southern Pacific Land Company. The Land Company was a subsidiary of a much larger company called Southern Pacific. It was a railroad company. Most people know it by that business, but they also had significant amounts of land in California, Nevada, and Utah and had a natural resource division where they managed hundreds of thousands of acres of timberland, for instance.

Wilkinson:

Okay. Ron, it sounds like in those first few years, you had a pretty diverse set of opportunities.

Parratt:

Yeah, it was. I was really pretty lucky. And if I hadn't mentioned it before, both of these positions that I ended up with, one was first with Stauffer and then with Southern Pacific, came about through contacts with the geology department head at Purdue. He had been in industry before and was well known to the gentlemen running the geology programs for those respective companies. He gave them my name both times when each of them called, and each of them hired me. It was pretty fortunate for me.

00:11:04 Returning to Purdue – A Master's Degree in Ten Months and Researching Impurities in Coals

Wilkinson:

So then, after that, you went back to Purdue for your Master's?

Parratt:

Yeah, it was during the time I was with Stauffer. I was there for about the first three years and requested

a leave of absence, which interestingly and fortunately was granted to me. I went back to Purdue for ten months, completed my Master's, and went back to work for Stauffer again for another three years before leaving to go to Southern Pacific.

Wilkinson:

That Master's was in economic geology.

Parratt:

Yes.

Wilkinson:

That was pretty quick to complete it—in ten months.

Parratt:

Well, I already had one year in. So that was the second year. It was a two-year degree program.

Wilkinson:

Okay. Essentially, in two years, you received your Master's Degree?

Parratt:

Yes.

Wilkinson:

Tell me a little bit about what your master's was, what research you did, and what project you worked on.

Parratt:

Well, I worked on two. One was based on some funding that I received by my advisor from NSF, and that was to study sulfide minerals in Indiana coals. Interestingly, they were not studied extensively, but the amount of pyrite and other sulfides in coal was becoming increasingly important. Coals were being crushed and washed to remove heavy minerals like pyrite to lessen the CO2 content of emissions. And so I was given an opportunity to study those coals. I had a two-week trip down in southern Indiana, sampled quite a number of mines, came back, made polished sections from all of those, studied the sulfide minerals using reflected light- the usual thing, and identified, interestingly, some pyrite. But it turned out that in most of the coals I sampled, most of the sulfides were marcasite, which is, as you would know, very similar to pyrite but just forms under a different set of conditions.

I did find some sphalerite and some galena in very limited quantities, but they were there, as well. So, I did that, spent a lot of time in the lab going over those sections. And then, secondly, I carried some work forward that I had been doing for Stauffer in one of the Trona mines. I was mapping underground a

series of interesting features that looked like dikes, except these are not igneous rocks or sedimentary rocks, but these were vertical features in horizontal ores, if you will. The trona forms in lakebed-like occurrences. And these dikes, once I mapped a broad enough area, it turned out that they formed a polygonal network, if you will. The interesting part of that was that it led to the recognition that the trona deposits had formed as these lakebed-type occurrences. They were then exposed subaerially and dried, and as they dried, they contracted and left polygonal fractures. And then, when further water came into the lakebed in that basin, it dissolved some of the material. And, of course, it slumped down into these cracks that had formed in the Trona, which is pretty interesting stuff, I thought.

Wilkinson:

Yeah. So those were essentially mud cracks.

Parratt:

Yes. And they were on the order of, oh, from as little as six feet to 12 feet vertical cracks that penetrated down through the beds of trona.

Wilkinson:

It must have been exciting.

Parratt:

It was fun.

00:15:11 Southern Pacific Company – Expanding My Career in Nevada

Wilkinson:

Yeah. Good. So I know that was Stauffer and you had a lot of history with them. But I also know that you worked for some other companies. Can you kind of outline what those were?

Parratt:

Well, as I said, I left Stauffer, and that was in— forty-five years ago, '78, and started working in downtown San Francisco. That was Southern Pacific Land Company. And as I said, they were a very large landowning group and, at that point, had a policy of not really trying to explore their own lands. They had spent a lot of time in the sixties cataloging and inventorying mineral resources on these lands, but they were only engaged in leasing. After about two years there, getting a little bit of experience in geothermal, some oil and gas, and certainly some in minerals, it seemed to me that there was more opportunity available to them than they were taking advantage of. And so I proposed to my boss at that point in time that we hire a couple more geologists and that we begin to conduct exploration. And if you think back to that point, then about 1980, the price of gold was going up significantly, and there were new gold deposits being found in Nevada. And some of those, it turned out one, in particular, was on some land that that Southern Pacific Land Company owned. And I think that all worked as an incentive. I won't go through the whole story, but there is a little more to it as well.

Some people were pushing from the top within the company to do this, and with my pushing from the bottom, I got approval and was transferred to Reno. I hired a number of geologists and began a gold exploration program there. And that's really where I've worked for the last 40-plus years. I was with Southern Pacific Land Company until 1983. At that point, SP Land Company, the parent Southern Pacific, merged with Santa Fe Railroad Company. And when they did, Santa Fe had an operating company in New Mexico exploring for uranium and coal, but interestingly, also gold in Nevada. And through that merger, they kept me in my position of managing the team in Nevada and I worked for them. Then, going forward, as I said, they were Santa Fe Pacific Minerals at that point. But within about six years we had made gold discoveries big enough to go ahead and make a gold company, create a gold company, which we did. Now, that company was known as Santa Fe Pacific Gold, and I was with them until they were bought by Newmont in 1997. So, quite a number of years in those roles. When Santa Fe was bought, I was, by that point, in the Albuquerque office; I was the Vice president of exploration for the company.

After Santa Fe, I took a job with Homestake Mining Company back in Reno. I worked for them in gold exploration for the next five years. I had responsibilities for activity in Latin America, the US, and Canada, again exploring, of course, primarily for gold. And like Santa Fe had been bought by Newmont, it turned out in the end, that Barrick ended up buying Homestake Mining Company in 2002— let's get the dates right, yes, in 2002. At that point, I had a lot of time in the gold business, and I decided that it was maybe time to start a company on my own. Going the Canadian junior route, which I did, I became acquainted with a good brokerage firm in Vancouver that did that sort of thing. They liked our story, and they took the company public in 2004. I ran that company for 10 until it was sold to another group, a larger junior company than we were. We created a spin-out company named Renaissance Gold. After 10 years, that company ended up merging with another Canadian junior about three years ago. And at that point, I considered myself to be mostly retired.

00:19:57 Striking Gold – Developing Gold Deposits and Discovering 15 million Ounces of Gold

Wilkinson:

Back up into the southern Pacific time. Were there any discoveries you were associated with?

Parratt:

Yes, there were. They were a lot of fun. They were fortuitous; and they really became the basis largely of why Santa Fe created the Gold Company. The first one of these of merit was a deposit we called the Rabbit Creek Deposit. This was a Carlin-type gold deposit. And it's an important point because the Carlin-type gold deposits were relatively unknown until the early sixties. At that point, Newmont found the original Carlin deposit, which was [named for the nearby town of Carlin]. But there really wasn't too much exploration in the sixties or in the early seventies. But activity really took off in the late seventies to eighties. Everyone was looking for the new type of gold deposit, the Carlin-type deposits.

They were a bit unique in that if you went into the field to sample rocks, you'd never find pieces of visible gold or nuggets of gold in Carlin-type systems. The gold was disseminated in the rock, literally down to the atomic scale, sometimes hosted in grains of pyrite. Other times just disseminated in the limestone rocks that they were formed in. But the important point there was that through almost a century before that of prospectors coming through Nevada, they would be looking for gold and they would be panning in the various creeks that were there. And, of course, this gold being so fine, you

couldn't pan it. And so many of these deposits, like the original Carlin deposit and then the Rabbit Creek Deposit and others were finally found based on geochemical rock sampling that we did.

But anyway, Rabbit Creek was the first deposit. It was a large gold deposit, many millions of ounces. Second came the Long Tree gold deposit, which wasn't too far away. That as well became about a four- or five-million-ounce gold deposit. Trenton Canyon was a smaller one, about a million-ounce deposit. Along that path, Santa Fe acquired Goldfields' US assets, which at that point in time included the Chimney Creek mine that was north of our Rabbit Creek deposit. They had found that about three years before we found Rabbit Creek. And as well they had the Mesquite mine in Southern California. So, the collective impact then of all of these deposits was great enough that by 1996, Santa Fe was producing about a million ounces of gold a year. Which, in those days, that was a pretty good-sized gold company. And that's what triggered both Newmont and Homestake to try to buy Santa Fe, with Newmont ending up being the winner of the bids.

Wilkinson:

Significant discoveries. 15 million ounces is pretty significant. But I know there's one more recent discovery.

00:23:27 Director of Exploration – Turning A Hole in the Ground into A Profiting Mine

Parratt:

As background, continuing to answer your question, I worked again for Santa Fe until the end of 1997, at which time Newmont bought Santa Fe. Newmont Santa Fe was producing about a million ounces of gold a year from the properties we had at that time. Newmont wanted to grow, and as happens, many times, companies can explore to find new deposits, or they can buy companies to get those. And they chose to buy Santa Fe to get their relatively young mines to carry forward.

So I left there, and I went to work for Homestake Mining Company as Director of Exploration for them in the Americas. The next thing that happened that I had pretty direct involvement in was the discovery of the Gold Hill property, which sits about five miles to the north of the Round Mountain mine. It was interesting in that it was known to be a small deposit, about 200,000 ounces, and it was a hole in the land position of Round Mountain at that time. I asked the fellows on-site, what's this hole in the property position? And they said, well, that's a property we used to have a number of years ago, and the general manager got the owner upset, and so they had to give up the property, and it's been a hole in the property ever since. No one would talk to the owner about it.

So, I asked more questions about the geology, age of mineralization, style of mineralization, what data we have? Looked at that, and it seemed to me it was a very obvious exploration target for something significant. Everybody agreed, and we went ahead and dealt with the property owner, devised a program, a number of deep holes initially, about ten. Drilled that program and made a significant discovery, low-grade like Round Mountain, but ended up being a many million-ounce gold deposit that was put in production subsequently and still is producing, I believe right now. That was probably the highlight of the five years with Homestake. And again, as happens, Homestake ended up being purchased by Barrick. That was in early 2002 when the deal closed.

00:25:59 The Long Canyon Discovery – Starting My Own Gold Exploration Company

Parratt:

I consulted after that for a little bit, and in early 2003, I decided that rather than taking a job with another large company, I'd start a company myself. A gold exploration company. Another fellow from Homestake joined me and started the company. We completed an IPO in the late ‘04 – ‘05 time period, and that embarked me on the junior mining side, the junior sector side in exploration. Getting to an answer to your question, probably in a personal sense, the most significant discovery was the Long Canyon Discovery. Interesting case because the property had been known to have some gold anomalies and some things of interest.

But in the late nineties, when the price of gold fell, the owners weren’t able to put any more money into it. They couldn’t invest further in it. The owner shopped the property to Homestake; I actually looked at it then. That’s why I knew of its existence. But they took it to Newmont and Barrick, Placer Dome, all the companies, large companies at that time, and they all turned it down because it was located in the wrong part of the state. It had the wrong rocks.

Wilkinson:

But no trend.

Parratt:

It was off the trends. When I had looked at it initially, I thought the chemistry, the alteration, and the rocks, it looked like it was probably a Carlin-type mineral system that was trying to work. But at that point, it didn't look all that great because the host rocks were different than the Carlin trend, for instance. Instead of being these shelf facies rocks that are nice and porous and reactive, these were more massive lower plate or early Paleozoic rocks, relatively massive carbonates, relatively low porosity., But you couldn't deny the chemistry, and there was some gold there, and that's why our company acquired the property. We spent several months on the ground doing some new mapping and a little bit of sampling, and it ended up generating a new idea to target gold exploration on the property. As it can happen sometimes, the first program had seven holes drilled, six of them had plus .10 to .40 ounce per ton intercepts. And it was a shock and a surprise for everybody.

Wilkinson:

Very unusual.

Parratt:

And so, for the next few years, both initially through ourselves, we continued drilling. There was a property that the deposit was trending toward. We did a joint venture with another company. They became the operating partner. We ran it for the first year in that JV, and then they took over after that. The deposit got to the point of just over 3 million ounces, and our partner bought us out, which was a nice payday for all the shareholders in our little company. And today, it's an operating mine for Nevada Gold Mines, who, of course, took over Newmont’s positions in Nevada. About a three-million-ounce deposit. Nice material found in an area where, again, Carlin deposits weren't suspected of being present. A lot of fun. So that's probably more material, personally.

Wilkinson:

Persistence in thinking out of the box.

Parratt:

Yeah.

00:29:31 Technical Challenges and Discovery – Exploration and Economic Issues

Wilkinson:

Yes. So, what would you consider some of the biggest technical challenges you experienced? You kind of alluded to it there, but it's not the right place, not the right rocks, but–

Parratt:

Well, I think, I think in exploration, always the challenges to me boil down many times to economics. You can be exploring a new property and you'll end up with two or three intercepts that look interesting. Then you look at the grades, you look at the depth, you look at the strip ratios, you look at the metallurgy, and you go, this just isn't going to work. Especially if it's refractory, in other words, it takes an autoclave or some other form of preprocessing before you can recover the gold. Or if it's lower grade, it's too deep; you can't heap leach it because you can't afford the 6 or 7, or 8 to 1 stripping ratio. So there are a lot of commercial issues that you have to resolve all the time as you make decisions about whether you continue to put money into an exploration project or not. If there's still a reason that you think it can be made into something, it could be economic; sure, you want to pursue it. But economic issues are always a challenge.

Another one we face today in the industry broadly is where can we go to explore? There's so much land that's been withdrawn now from mineral entry, from staking claims, that you've got to be careful and pick the areas you go carefully. Even though it might be open today, there could be issues of proximity to a town or tribal lands that could be a potential problem. Today with sage grouse all across the western US. So those are issues you have to address and think about ahead of time before you commence staking land acquisition and positioning yourself. Probably more, but those are two good ones.

Wilkinson:

Well, you shared some significant contributions to the industry. Is there anything you left out that you would like to add?

Parratt:

Well, there's a new discovery now in Southern Nevada near Beatty that I can't say that our junior company discovered, but we staked the property, acquired it, and did all the legwork to define the target. It's one that AngloGold Ashanti just announced, actually just a few days ago. It's a brand new, just over three-million-ounce gold deposit. And kudos to our team. We identified the area. It was open

ground. We staked it. We did all the groundwork in the way of mapping, sampling, and some other work to define the target on the property, But times were tough. We needed money.

It's a junior company, and so we sold the property to Anglo for $3 million and a royalty. They got on the ground, went in their first round of drilling, and hit significantly as things can be. So that company, by the way, that we had, has now been merged with another junior company into a royalty company. So, this royalty on the Silicon property is going to be a major asset for that company going forward.

00:32:59 SME President and Awards – The Dreyer Award, An Honor for Explorers

Wilkinson:

Okay, good. Well, congratulations. So, lots of discoveries, lots of ounces of gold. Have you received any honors or awards in your career?

Parratt:

I have some. I received the Saunders Gold Medal from AIME. That was quite a surprise and quite an honor. One that was special to me was the Dreyer Award for Excellence in Exploration for Metals. I was on the original team that was identifying candidates for the Dreyer Award years ago. It's a prestigious SME award. The first person we identified and awarded that to is David Lowell, one of the most spectacular explorers of our time, and to have the same award that David had received is quite an honor. So that was wonderful. I received some other awards from SME, time with the M&E Division. I was the chair of that division for a time. I have also been very involved in the American Exploration and Mining Association called AEMA. I was president of that organization a number of years ago and received two or three awards from them, actually one most recently for the discovery of the Long Canyon gold deposit. So I've been fortunate. They've been nice things.

Wilkinson:

So we were talking about one honor that you didn't mention, it will probably come up a little bit later, but you are the incoming president of SME, correct?

Parratt:

That's true.

Wilkinson:

President-elect.

Parratt:

President-elect is the correct terminology. That was quite a surprise for me. Well, about two years ago, when Dave Kanagy and Hugh (Fisher) Miller?? brought me out of a strategic committee meeting to talk to me in the hallway. I thought, now, what did I do wrong here? And Hugh blurted out, "The nominating committee's picked you. We have to have you. You've got to be president." And I was just shocked, very surprised, and incredibly honored to be considered, let alone to be offered that opportunity, which

obviously I took. And I've gone through my year as elect, and only a few more days. I think I get a pin at the meeting, the president's pin, on Sunday, and then I get to close the meeting, I guess.

Wilkinson:

You get to close on Wednesday night. You get the gavel on Wednesday night.

Parratt:

So yeah, quite an honor. I'm thrilled. That's for sure.

Wilkinson:

Congratulations.

Parratt:

Thank you.

00:36:04 Geologic Detective Work – Discovering Silica Deposits Using Geologic Tools

Wilkinson:

Going back to the Silicon discovery a little bit. So, it sounds like there might have been– chatting with you a little bit; it's another one of those that didn't stick out like a sore thumb. So, what was it that got your company interested in it?

Parratt:

Well, as time goes on in the industry, near-surface deposits, those that are outcropping where the geologist can go into the field and find a rock outcrop that he likes, break off a piece, assay it, and it's ore grade, are rare. Today, a lot of discoveries are being made deeper. You're using geology, geophysics or some other data that you trust that tells you there might be something present in an area. Certain types of gold deposits, especially the low-sulfidation epithermals, I like to explore because they have a fingerprint that's pretty well understood. Mineralogically. Geochemically. They're commonly hosted in volcanic rocks, which show alteration patterns nicely. One of our staff who had worked in the area around Beatty years ago knew of an area that had intense alteration at the surface but no gold in surface sampling.

There was just chalcedonic silica, some clays, and some old mine workings for mercury in one area. Not significant ones, but nonetheless, they were there. As we got out on the ground, it looked as though what we could see on the surface matched pretty well with what you might expect to find over the top of an epithermal deposit. So, we spent the next year or so conducting work to quantify that, looking at the mineralogy of the rocks, the chemistry that we could find in arsenic and mercury, and other metals. In the end, we did find some very subtle gold anomalies to the far east of the area that turned out to be the prime target. I don't know today if that falls within the discovery that Anglo made or not. But that, to me, that was very encouraging because it indicated that the system, the mineral system working, may have had a budget for gold at depth.

So, the idea came together as we defined a major fault. We also defined the alteration assemblage. But over the top of the primary target area, there was no gold. We shopped the property to everybody we could. It was at a difficult time in the industry. Our business model was to find things like this, bring in a partner, and let them put up the money to explore. And given that there was no gold at the surface, most people were not that interested. They didn't trust the concept, the geologic concept, to drill deeper. It's not a trivial one to drill. Deeper holes would be required than would be for something shallower. At least as far as targeting goes.

00:39:12 A Deal with Anglo – An Agreement Turning into Royalties

Parratt:

Finally, Anglo got interested in it, and we began talking with them. They looked at the property, and I think they got the idea. So, we started to talk further about a joint venture with them, and they declined to want to enter into a joint venture agreement. But they said, if you'll enter into a sale agreement, we'll give you $3 million, and I think, as I mentioned earlier, and a royalty. We needed the money, so we thought, well, that will be fine. They'll probably drill for a year or two, nothing significant will blossom, and we'll get it back, and hopefully, we can do it again. Well, we sold it to them, and their initial drilling program was right on the target that we had defined. They hit very nice gold intercepts in a lot of the first holes. They were off to the races, and they advised us that we were not going to get the property back.

Wilkinson:

But you get the royalty.

Parratt:

But, yeah, we have a royalty. The way the deal was structured, at such a time as they would have withdrawn and left because the results were not encouraging enough, we would get all the data. But during the time they held the option to purchase, we were not allowed to get the hard data from them. So, we kept bugging them to get information as they continued to drill, and they didn't provide it. But I think, in my estimation, it turned out that they were also interested in what a company named Corvus Gold was doing in the district. They had a large land position. They had a known resource. The North Bullfrog property had a million or two million ounces of leach-grade material shallow, and they had a new discovery in a place called Mother Lode that was pretty interesting.

I always thought that Anglo had the potential to acquire Corvus with the idea that if they had something significant at Silicon, and they had the properties of Corvus, that could be critical mass for a new significant mining operation. And I guess, in hindsight, that's more or less what happened. Corvus was just acquired by Anglo. And, of course, I didn't think that Anglo would release any data from Silicon with their interest in buying Corvus because if they were to release results in a new significant gold find, it would probably increase the value of Corvus' shares. Make it less attractive perhaps for Anglo to buy them. So, as soon as they closed the deal to buy Corvus, it was a very short time, they released data on the Silicon property. So, it's moving forward. It's going to be a new– I think, a new major district for years and years to come.

Wilkinson:

Wow. Great geologic detective work.

Parratt:

Well, again, porphyries, porphyry coppers, or many mineral systems that we've studied well enough that we understand them to a degree. We don't know everything. But we have certain guides we can use: mineral zoning, geochemistry, and mineralogy of the ore zones and of surrounding zones. And sometimes, you have to trust the model. You don't bet the bank on it necessarily, but you're going to test the model. And if you confirm the model, you start to see what you want to see, then you might want to continue. And that's what happened on this one.

Wilkinson:

Again, congratulations.

00:42:42 Opportunity to Explore Again – Gold Price Increase & New Technology

Wilkinson:

What milestones in the industry do you think have had the biggest impact on the industry as a whole?

Parratt:

Well, speaking about gold, if you look back to Nixon taking the US off any kind of gold standard, any kind of precious metal standard. That, combined with what was going on elsewhere in the world, led to an increase in the price of gold. I think, as we all know, the price of gold had been held at $35 an ounce since the thirties. We had a fairly vibrant mining industry at that point for gold. But as time went on, gold mines were shutting down in this country, and they were because the price of gold was fixed for decades. But costs were not, and costs were continually increasing. And every two or three years, another mine would shut down to the point where when you get to the, let's say, the early seventies, mid-seventies, the Homestake mine was still operating, struggling though a bit, but there were hardly any other mines producing. Well, when the price of gold was freed to move and increased, it went up, I think, in December of 1980, it hit $800 an ounce, which was a shocker. And I think that drew people into the industry to take advantage of this fact, and now an opportunity to explore again.

In addition to that, in the seventies, there was a new processing technology devised by the US Bureau of Mines called heap leaching, which was used at a number of properties, small properties in Nevada during that time. Cortez or Round Mountain actually started as small heap leach projects, and they confirmed that the model would work well, that the technology could work well leaching gold from appropriate deposits, and that was working out pretty good. So, instead of having a cutoff for a mill, that would be three grams or two grams of gold per ton, now, you could treat ores that contain a gram per ton, or even a little bit less, and you could treat those economically. So combined metal price increase, combine that with a new technology, and you had a fertile opportunity.

00:45:16 Nevada's "Invisible Gold" – The Hub for Carlin-type Gold Deposits

Parratt:

But there was one more thing on top of that, which was more fundamental from a geologic point of view, and that was the discovery of the first significant, Carlin-type gold deposit. Carlin-type deposits, I know you know well, but those are gold deposits that are relatively unique in the world. There are some similar occurrences in other countries, but the best location in the world for these is in Nevada.

When all the old timers, if you will, came across Nevada going to the gold fields of California, they walked over the top of many of what we know today as Carlin-type gold deposits. The unique characteristic of those is that the gold that's contained in the rock and the ore that you mine is microscopic. The particles of gold are literally angstroms in size. The gold is atomically placed in the crystal lattice of arsenic-rich pyrites. When those ores get supergene oxidized, the gold is freed from the pyrite lattice, but it's still very finely divided. If you try to take a pan, take a sample of that rock, put it in a pan, and try to pan it as a prospector would do, you'll never see a piece of gold. So, we have this new kind of gold deposit that's turned up. We have a new technology, and we have an increasing price environment.

That led to Nevada going from maybe a few hundred thousand ounces of gold in 1980 to producing eight or nine million ounces of gold in the mid-90s. An incredible surge in production. From my point of view- I was transferred to Reno in 1980 to look for gold; what an opportune time. I was so fortunate to be put in charge of a gold exploration program in an area where there were these new deposits being found. There was heap leaching available for the lower-grade deposits. A price environment that was conducive to development. So just a great time to be in Nevada and be in gold. And I benefited from it greatly. It was wonderful.

Wilkinson:

Great.

Parratt:

I think— I guess, in summary, those three factors, I think, were very important in terms of, this last big gold rush that we've had in gold. It's hard for me to realize now that it's been over 40 years that we've been in this gold rush. And Nevada is still producing 5 million ounces of gold a year. And prospects look good for that to continue to get for a long, long time.

00:48:11 Passion for My Work – The Thrill of Drilling Holes and Discovering Ore Deposits

Wilkinson:

And when you love your job, time goes really fast.

Parratt:

Well, I call it a passion. I mean, there are days that are a little bit difficult. Your pack is heavy. It's raining; you're stuck in the mud— all these little things. Rattlesnakes abound, but most of the time, it's just so exciting. And the search, you know, the hunt, and you generate ideas, and you get to test those ideas. In exploration, most of the time, we fail. You don't find a big ore deposit or even maybe a little one, that

often. And little ones are failures because they're not big enough to be economically developed. But when you have the chance to get involved in a really big discovery, where you're drilling holes that are hundreds of feet thick of very high-grade material, you know, it's going to be a mine that goes on and on. They're bigger and bigger. There's a tendency to think, oh, this is the way it always is. We're going to go on forever like this. And I've had several times over those years to counsel my geologists and tell them, “Guys, enjoy it today.” This thrill that you get about drilling holes like this and defining a large ore deposit, it doesn't come along every day. You're lucky that you're involved in this. I'm lucky that we're involved in this and enjoy it, because you might go several years, maybe a career, before you find another one.

Wilkinson:

Very fortunate indeed.

Parratt:

Yeah.

00:49:53 SME Involvement – A Continuous String of Committees, Papers and Meetings

Wilkinson:

So, since this is an AIME oral history, let's talk a little bit about AIME and SME. When did you first hear about AIME and or SME, and how did your involvement progress over the years?

Parratt:

Good question. Well, I mentioned my days with Stauffer Chemical, and the man that I worked for was a man named Larry Manion, who was, as I said, a Stanford PhD geologist, and Larry was an SME member. And shortly after I joined Stauffer, he suggested that I might want to consider joining SME as well. And I didn't know about SME before that. Purdue did not have a student chapter for SME, so I thought that sounded good. So, it was sometime in ‘74 that I joined, established membership, and Larry was involved in soda ash, as I mentioned, one of the commodities. He had been writing the annual review for the Industrial Minerals Review in Mining Engineering magazine, the annual review for soda ash. Shortly into that, he said, "Well, Ron, why don't you help me write the next article for soda ash for the Industrial Minerals Review?” And I thought, wow, that'd be kind of nice. So, I said, “Sure.” I did it that year and maybe one more year. And then he said, “Well, no need for me to be involved. Why don't you just start doing it?” And so, I did. It wasn't a long period because I left Stauffer not too long after that.

But then the last thing I did in soda ash was to organize a session at an SME annual meeting. I got speakers, I was a session chair, introduced the speakers. That was my first introduction to the annual meeting environment of giving papers and running sessions. And it was a lot of fun. But again, I left Stauffer. I joined Southern Pacific, and fortunately, my boss there was supportive, and I continued that and kind of went on. I started giving papers on gold deposits and did one on the Rabbit Creek and the Lone Tree deposits. I gave one talk at the Las Vegas meeting on sampling problems in Carlin-type gold deposits due to groundwater tables and high groundwater flows, but a continuation that in giving papers and being involved. And then that led to other things. I got on the executive committee for the M&E Division, courtesy of you, Will.

Wilkinson:

Good Choice

Parratt:

I'll never forget Will telling me, "Well, we think we'd like to get you involved in this, but you have to understand that you have to show up. You know, you don't join the committee and then not be involved." And I said, "Count on me; I'll be there." And so that was a five or six-year stint going through that. And that led to other committees. Well, when you're on the board, I guess, at that point, in those days, the chair of the divisions went on to the old board for a time. So, I got a little bit of exposure to the board. And then, shortly after, that changed, and we formed the newer board, and I was asked to be on a strategic committee, at that point, I think the Strategic Finance Committee; served there for three years.

I served then on the Structure and Governance Strategic Committee. I think I was off shortly, and then I think I was on one more committee before I was asked to be on the board, the new board. And then, right at the end of the new board, I was asked to be president. Through that time, I was on quite a number of award committees. As I mentioned earlier, the Dreyer Award Committee and several others. As time has gone on, the Jackling Award, I was on that committee for a few years, which was a lot of fun. So it's just been kind of a continuous string of committees and involvement, papers, sessions, really all these years for me on SME. I found it to be just a natural thing of great value. And I really enjoyed it.

Wilkinson:

Willingness to commit and be involved.

Parratt:

Yeah.

00:54:31 Value of SME – Exposure to Technical Knowledge and a Greater Sense of Industry

Wilkinson:

So that kind of leads to this next one. So, how has membership, SME membership, benefited you in your career, and how do you see societies benefiting people in the industry today?

Parratt:

Well, as far as value goes at SME, I've been thinking about this a bit lately as I think over the years I've been involved, there's been a continuous effort to add more value to an SME membership. The annual meeting is a great value if you take advantage of it; if you come. The sessions, the technical knowledge, you can learn. It's amazing what's there if you care to listen and be involved too. I know, the chemist in me or the chemical engineer in me, I've always liked metallurgy and the process side of our business. And you can get that in spades at that meeting and learn. I mean, not all gold deposits are alike. Some require a different processing technique. Well, what kind of a processing technique? What should I be

aware of as an explorationist that would give me an understanding of how the potential ore might be treated because it has big cost implications if you have a refractory ore versus an oxide ore, for instance? So, you'll learn a lot by going to those meetings.

You meet peers, you know, others who do what you do that you might not have the chance to if you just stayed within the confines of the organization that you work for. But it's not just geologists. You get to meet mining engineers. You get to meet metallurgists, permitting people. All of those, the full breadth of the industry, are there. And it gives you such a greater sense of what the industry is and what it's about. It's really good. The exhibit hall, if you need leads on new equipment, something from a simple question on pumps to new processing equipment, it's usually all there. And you can get ideas for new processing approaches to ores you have, new techniques for exploration, satellite imagery, different things like that that have become significant in the last few years that weren't 30 or 40 years ago. So I think there's great value for anyone that they can gain from being a member. Mining Engineering Magazine, the new journal. There's just all kinds of stuff. One Mine, all kinds of data that's available. And I think in time, we'll see even more of that.

00:57:15 Supplying Metals for the Planet – Mining Industry's Key Role in the Development of Society

Parratt:

So, how does that benefit society? Well, you know, our industry plays a key role. It always has in the development of society. Most things that we have today and take for granted come from a mine someplace. They're not all gold mines. We have copper mines; we have cadmium mines; we have nickel mines; we have palladium mines. All of these materials are used in everyday society, in automobiles, and in all kinds of applications. Those deposits get harder to find. So these new technologies and new things we can learn through membership there. Talking to the experts, meeting with experts allows us to look for and find deposits that we couldn't have found perhaps years and years before that. You learn quite a bit in that regard.

Today, with the new green energy economy that we're marching down the road to fulfill, we find ourselves in an interesting position in that the metals that we need, other than metals too— we're not producing enough. We're having a hard time finding deposits and building mines. But we find ourselves in a position where with copper, a very important metal, there's nowhere near enough copper being produced in the world today to sustain the growth in electric vehicles, for instance, that we want to have. So what are we going to do? Either we have it, or we don't. If we're not going to change and get away from internal combustion engines, we're going to build electric vehicles. And not just for automobiles, but think of mine trucks. You know, think of everything. We use big 18-wheelers that haul freight all over. If we're going to electrify society to get away from releasing CO2 into the atmosphere, we're going to need a lot more copper, a lot more lithium for the batteries, nickel, cobalt for those systems, and other metals that are used in all of these systems.

A friend of ours, John Price, commonly quotes the amount of neodymium that's needed for every wind turbine that's built. And it's not 10 pounds; it's 1,000 pounds. It's an awful lot of it that's needed in each of those. Well, we don't really produce independently any neodymium in this country. We do have one lithium mine, and we have the chance to produce several more if the permitting can be completed. But there would be big challenges ahead. So I think there may be some changes in permitting and other aspects of what we do. But there's not going to be a lesser demand for the things we produce in the years going ahead. As we gain more knowledge and ability to find these things, improve as we can or

need to, for mine permitting, for mine shut down, at the end of the day, reclamation. It's going to be there because we're going to need it. Getting metals from space may happen at some point in the future, but it's not something probably in the next ten years; probably not in the next 30 or 40 years. So we need to supply all these things for the work we can do on this planet.

01:00:49 Mining, The Ultimate Treasure Hunt – A Career Full of Fascination and Discovery

Wilkinson:

Good. If you were to recommend, and I suspect you have, your member society to a new graduate, what would you tell him or her about it that you already hadn't hit on in that last series?

Parratt:

Well, I think it's a very honorable career. I think it's one that we get beat up for a lot. We have historically. And I think it's for historic reasons. It's not for modern current reasons. We're a very sophisticated and technology-driven society and going to be more so going forward. Obviously, you may need to work in small, remote areas in different parts of the world at different times. Travel. That's not all bad. You get to experience some fabulous new cultures, new settings, and new geography. It's good. You might have to work in some small towns. I know that many of the robotics equipment that's in use now, some of it's operated by people in an office, in an inner-city area, that can be done remotely, just like we fly drones all over the planet from Indian Wells down in Las Vegas. They're good careers. They're good-paying careers. And again, I think if you have an interest in things like this, in metals, it's fascinating work. And when you have a passion for it, you'll have a great career. You'll wake up at times and say, "It's already 5:00? I still have stuff I want to get done. This is kind of cool. It's kind of fun." I know it's been that way for me. It's just been very challenging. Very interesting. Finding a big deposit is the ultimate treasure hunt.

Wilkinson:

Yeah.

Parratt:

It's fun to succeed in it if you can.

01:02:55 Attracting Young People to Mining – An Industry Offering the Opportunity to Explore

Wilkinson:

Yes, sharing the passion is a big thing with, I think, new graduates. Yeah. I suspect this will be part of your upcoming year, but in your opinion, what can we do to attract more young people to the industry?

Parratt:

Well, that's something that I know we're working on now. We've actually worked on it for a long time. Clearly, one thing that I've kind of mentioned in part, and I'll say again, is the value that's here in this industry for you. SME is a great resource. It's a great organization to be a member of because you can

learn so much. Again, the compensation in this industry is pretty good. You can live in a variety of places anymore compared to what maybe a lot of us had to do in the past. But on the other hand, it may not be for everybody. I've had geologists that I've interviewed over the years who I was offering jobs to and they just didn't want a job that was in central Nevada someplace. They wanted to work in an urban location. In the past, those opportunities haven't been too common. Today, they are a lot more common. So, I think you have to have your eyes open to consider what the job is going to be and where. Good work, good people, very honest people. It's been great. It's great for a lot of us right now, and it can be continued.

01:04:34 The Challenge and Community – What Makes Working in Mining Meaningful to Me

Wilkinson:

So great, wrapping up, what's made working in this field meaningful to you? Or what's been your favorite part of working in this field? I think you've probably already hit on it, but summarize?

Parratt:

Well, I've been an explorationist for gold for something over 40 years. And it's been an incredible challenge. And you're always looking for new ideas, new techniques, and new technologies that can help you. And occasionally, they come along, and they can help. But we still don't have that one tool that tells you to dig here. There's a big gold deposit here. I can't see down 400 feet underground, and trust me, it's there. I just don't think those things are here yet. So, I guess it's been the challenge, and it's been the opportunity to have been so fortunate to see some success in this and to see some discoveries being made. Some are easier than others. Some are a little more challenging technically. Some are more challenging from a permitting point of view. Some are more challenging from an economic point of view. And again, it's all of those that have to be handled and dealt with to end up with an economic ore deposit. I had a boss at Santa Fe, Dick Zitting, president of the company. Dick had a favorite saying. And that is that it takes, and it does, a team to build a mine. Similarly, it takes a team to find a deposit that can become a mine. But you have to realize you have a role in it. You transfer what you learn to the next group of guys coming in, and it's that team working together, permitting people, metallurgists, and engineers that are going to go through all the steps necessary to build a mine. And when you see that from the beginning to producing property, it's a pretty cool feeling. It's really pretty nice.

I know, now up at the Twin Creeks operation, I think that mine's on its, maybe its third owner at this point. But down in the foundations and the deeper levels of galleries underneath all the working mills, there's a big brass plate cemented into the concrete that says Santa Fe Pacific Gold. And on here, it's been there through several companies. And when you see things like that, and you get to participate in seeing these major economic enterprises get built, it's very gratifying. And, you know, I've always seen it, too, as job creators. I mean, when you build a mine, you make a discovery, and you build a mine, you probably put five or 600 people to work in high-paying jobs. But that translates into other things, you know, scholarships to colleges, kids getting piano lessons. It gives them a good life. When you see a lot of brand-new pickup trucks in Elko, so, it's a good career. And they're not three-year jobs; if you stay with it, everything continues. We used to think that gold mines had a relatively short life, but boy, the ones that we're developing lately have decade and multiple decade-long lives, and they're doing this. They're good for the communities. They're good for the states, they're good for our country in producing the materials that we need, and they provide people with good jobs and good lives along the way.

01:08:18 "I'd Do It All Again" – A Gold Explorationist for Over 40 Years

Wilkinson:

So, do you have any regrets regarding the career that you've chosen or where it's taken you, or anything you wish you had done differently?

Parratt:

Well, the only regret, I guess I could say right now, is that instead of the age I'm at, I'd like to be a bit younger to be starting my next company to continue doing this. It's really a lot of fun. And, you know, the big company career I had, 25 plus years, taught me a lot. I learned a lot as I started as a green geologist, and I don't know how I got along at times, but I got through that. You learn a lot. And after going through the buyouts, you know, you get to the point where I did, where I thought, well, I can do this myself, and started a company. And that worked out fine. And we did okay— no question about it. I'd like to do it again. I'd like to do it more. I still have involvement in the industry. I intend to continue that for a while yet. But more time would be really nice. You know, I've thought several times about what my life would have been had I completed a degree in chemical engineering. And I jokingly say, well, I probably would have been the plant manager for a sulfuric acid plant. And I think that would have been awfully boring.

Wilkinson:

Doesn't sound very exciting.

Parratt:

Compared to the life I've had exploring for gold.

Wilkinson:

Cool.

Parratt:

So, no real regrets.

01:09:58 A Word of Advice – Work Hard, Be Patient, and Always Continue Your Education

Wilkinson:

So, can you sum up your career in two or three words?

Parratt:

Ooh! Yeah…

Wilkinson:

I'll give you four.

Parratt:

Yeah, well, I mean, I could use a quaint line, and that is, right place, right time. I mean, I've been blessed to have the opportunity to work, or I have, with the support, financial support, that the companies gave me and the teams of people that I had the privilege to work with. So many good people. I get credit, have, for discoveries that have been made, and I'm glad to take my share of that credit. But I fully realize that there are a number of other people who were intimately involved in building those ideas into gold deposits. I could say luck; in the right place? No. Right times. But aside from that, my old boss at Santa Fe wouldn't agree with that. He'd say, Ron, there is no luck in this business. I like to say no; I do the right things, the right technology, hopefully, go to better places more often than the others, and then get lucky at that point.

Wilkinson:

So, what advice would you have for today's young leaders in the engineering profession, engineering broadly for us as geologists?

Parratt:

Well, realize you don't know it all. Work hard. Be patient sometimes. Always continue your education. There's so much for you to learn. Getting out of school with a great degree or degrees from any school prepares you for a career. But there's a lot you still have to learn. And I'd say be involved in your industry. Know other people. You'll learn from them as well. And as a geologist, I'd say in exploration to tour every mine you can. You can't see enough mines. Get on site, look at properties, benefit from them, and remember what you see. Work hard, and hopefully, you'll have a great career.

01:12:26 Commemorating My Successful Career – Support and Special Relationships

Wilkinson:

Excellent. Is there anything else you'd like to discuss? Anything that I may have overlooked or didn't ask?

Parratt:

Well, it seems to me that we've covered it pretty well. I've been very fortunate to be in the business I'm in, working with and for the people that I have. Great teams of people, great successes economically for shareholders and families and other people, and, like I said, the country. It's just been a lot of fun. It's turned out to be a passion. I have to say that there's more I could have done, I guess, with my kids as they were growing up. More time could have had with my wife through these years. They've supported it. They've allowed me to do what I've done over these years because, as an explorationist, you're gone quite a bit. You can't do the job in total from your office. You have to be out in the field and get your feet on the rocks. I've spent a lot of time, of course, in Nevada, but I've also worked in Mexico and a lot of time in Chile, Argentina, and Brazil. And you don't go down there for two or three days at a time. You go down for longer stints than that. So, without their understanding, it would have been much harder

for me to have done all the things I've been able to do and been blessed with. But it works. It can work for a lot of families, a lot of people.

Wilkinson:

Takes special relationships.

Parratt:

Yeah. Yeah.

Wilkinson:

Ron, what a fascinating and amazing career and life you've had. It is a great pleasure for me to be here and spend this time with you and actually learn quite a bit more about you that I didn't know over these 30 years. Thank you so much again for your willingness to share your story with AIME, and I know there is more to come for you.

Parratt:

Well, thank you very much. It's been an honor to sit here and chat with you and talk about all this. I don't do that all the time. You know me, I think, well enough in that regard. Don't toot my own horn.

Wilkinson:

No.

Parratt:

Thank you very much.

Wilkinson:

Congratulations.