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Paul Dockweiler: Right Place, Right Time

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The Gold Report: Even though you've been in the field for only about 10 years, you're running a geological consulting firm based in the biggest gold-producing state in the U.S. Tell us a little about yourself and how you became a geological guru in Nevada.

Paul Dockweiler: I am not a geological guru, just a geologist working on a good project. While I was still in high school, my dad showed me an article on Mr. Chuck Fipki, a geologist who was first to discover diamond-bearing kimberlites in Canada. I remember the photo of the group associated with the project who became millionaires.

TGR: So that inspired you?

PD: Yes. I went to Michigan State University, studied geology and graduated in 2001. In 2003, Steve Craig, a geologist who's quite well known in the mining industry, invited me to work at Mineral Ridge for [Golden Phoenix Minerals, Inc. \(OTCBB:GPXM\)](#), about four hours northwest of Las Vegas. Part of my job was to find more gold and silver but, unfortunately, the price of gold was not as high. Our way of heap leaching wasn't the most effective way to process the ore, so the operation didn't survive.

Afterward, with the backing of an independent group, I was able to go out and claim all these areas that I had studied the previous two years, and that is how Silver Spartan LLC, eventually, came to be. I've been utilizing the skills and things I learned out on the hill ever since (*Editor's Note:* this "hill" reaches an elevation of 5,600 feet).

TGR: Apparently, Golden Phoenix was on the verge of bankruptcy in 2008; but it has come back to life and now has a joint venture (JV) going on Mineral Ridge. That's near Silver Peak, Nevada—a region where about 500,000 ounces (500 Koz.) of gold were mined between the mid-1800s and about the 1940s. Do you recall the gold price when you started mapping that area?

PD: It was hovering at around \$350/oz.

TGR: Did you even dream of anything like \$1,500/oz. gold at that point?

PD: No. We heard stories of when the price of gold hit \$800/oz. in 1980, and we could not imagine the heyday that must have been. We hoped the price of gold would climb up so that we would be profitable. It cost us so much to produce an ounce of gold at the time that, when the gold price ranged from \$300–\$350, the operation was not sustainable. Not many people foresaw such a high rise in gold as that which actually happened.

TGR: But with this ongoing bull run in the price of gold, how was Golden Phoenix able to claim almost an entire past-producing district?

PD: The company bought the Mineral Ridge mine in the late 1990s, when it was essentially in foreclosure,

so it already had the Mineral Ridge package. Around 2006, we were able to start claiming some of the satellite prospects around the mine. They were open; anyone could've picked them up. The price of gold was still low, however, and nobody was really looking out there at the time.

We were just kind of in the right place at the right time. We had a group of guys, including Sheldon Davis and my dad, which eventually formed a private company, Mhakari Gold Corp. They were the ones who were backing me while I was out claiming these showings. We put claim anywhere I noticed a structure, trend or actual outcropping mineralization.

TGR: What catches your eye as a boots-on-the-ground geologist when you're walking around such areas? What did you see that makes this area prospective for gold and silver?

PD: Well, there are probably a lot of answers to that question. Because of the geologic model there, you can walk around and find high-grade intrusions of quartz, sometimes pretty small, and see the minerals associated with a gold-and-quartz mineralized system. It's not too difficult when you can key in on the specific structure and understand how the geologic model works. When you see the model in one area, it opens your eyes to more evidence of the model as you walk around. Once you start to see it here and there, you notice things you might not ordinarily notice. Mineral Ridge is full of that evidence.

TGR: So, you saw mineralized granite intrusions outcropping at the surface?

PD: More specifically, the granitic intrusions brought with them these mineralized quartz bodies. At one time, when that quartz was in solution in the granite, it was going around as a heated solution, picking up metal, similar to the way water picks up metal from plumbing in your home. When that quartz found a hollow spot in a country rock or maybe in a detachment fault space, it would stop, cool off and solidify. As a result, metals, including gold and silver, would then precipitate out.

TGR: Fascinating. Have you taken some of those surface samples to have them assayed?

PD: Yes, actually my father, and others who are not trained geologists, took a majority of the samples as I was mapping and claiming the area. From this effort, we were able determine where mineralization was highest. This is important to note, as these samples were not high-graded but were more or less randomly chosen along the surface workings and road cuts.

TGR: What were some grades that came back from some of those assays?

PD: Around the Vanderbilt Silver and Gold Project, in particular, which is adjacent to Mineral Ridge property, the average assay value for the Vanderbilt Project was at that time over 3 grams per ton (g/t) Au and more than 70 g/t Ag. On two occasions, the assay value reached 2.4 oz. at 74 g/t Au and 70 oz. 2,173 g/t Ag. This was encouraging as the samples were randomly chosen at the surface.

TGR: Is the type of mineralization you've encountered more conducive to open-pit or underground mining?

PD: For the most part, this particular model is quite amenable to open-pit mining. A lot of the mineralization on the hill seems to be within the first 200–300 feet of the surface. There are exceptions, of course, some deeper deposits and maybe additional thrusting of other formations on top of some of these deposits. But once you're in the metamorphic anticline, usually there is only 200–300 feet until you hit the granitic dome below.

TGR: That's obviously cheaper than an underground mine.

PD: Probably several times cheaper in average costs.

TGR: Are these mineralized systems big enough to support a large open-pit operation?

PD: I don't know that we can say that yet, we're still in the grassroots—prefeasibility—stage. The beauty of the Vanderbilt and Coyote Fault is that we know there's mineralization because we see it at the surface. It's never been drilled, however, so we're talking about completely virgin ground. These two projects have the same model as a well-established mine in Mineral Ridge, but have never had a drill intercept through them to show what mineralization is present. An exciting part of the project will be trying to prove underground what we see at the surface.

TGR: Another positive is the fact that you're in mining-friendly Nevada, where roughly 80% of all U.S. gold mining is done. There's a trained labor force and infrastructure.

PD: Absolutely.

TGR: So, Silver Spartan LLC, your consulting firm, works with a number of companies. Let's go back for a moment to Golden Phoenix, where you started out.

PD: Golden Phoenix now owns 30% of the Mineral Ridge project in a JV with [Scorpio Gold Corporation \(TSX.V:SGN\)](#), which owns the other 70%. Mineral Ridge is fully permitted, and Scorpio is placing crushed ore on the leach pad to be in production in a few months.

TGR: But earlier you mentioned something about heap leaching not being particularly effective there. What's the story?

PD: A lot of the gold and silver is encapsulated in other minerals, especially in some of the metamorphic rocks. In other words, sulfides cover up those gold and silver molecules within the rock. The rock itself is not very porous in a heap-leach operation; you wash the surfaces of these rocks but you do not get much permeation into this rock. In that regard, it comes down to your grind size—how much surface area can you provide for that rock? And how much of that will wash away with your leach? From my understanding, Scorpio has further studied the ore and is focusing on the grind size to adjust its recovery plant and, hopefully, realize a higher yield. Smaller grind size is the key to higher recovery. Reportedly, the last truly profitable operation to mine the deposit was milling the ore.

TGR: Who was that?

PD: I believe it was Sunshine Precious Metals—now a part of [Formation Metals Inc. \(TSX:FCO\)](#). I think into the mid-1980s, it was taking ore from the top of the mountain over to a silver operation called Sixteen-to-One, where it had a mill; reportedly, it was realizing up to 95% recovery.

Steve Craig, my mentor who brought me to Nevada, said that the gold ores of Mineral Ridge consist of quartz veins with submicron gold particles, which are the small gold particles that really need a fine grind to liberate. Steve wrote that the gold ores consist of quartz stock works cutting the metamorphic rocks both above and below the main quartz vein and as minor replacements of sheared rock. So, the quartz runs through the original country rock, in this case limestone, where it filled in cracks, crevices and open areas. Early operations extracted the gold by a combination of milling and a process using cyanide, which was a tried-and-true method of economically extracting gold into the early 1990s. The last profitably extracted gold ore was trucked to the nearby Sunshine Mill, which had earlier served the Sixteen-to-One silver mine.

TGR: What's Steve doing now?

PD: He's vice president of exploration for [Gryphon Gold Corp. \(TSX:GGN; OTCBB:GYPH\)](#). He also spent 23 years with Kennecott, where he had been regional exploration manager for Nevada and California.

Steve has a lot of experience as a mineral exploration geologist.

TGR: And he was your mentor at Golden Phoenix, which has emerged from the ashes, as it were, metamorphosing into somewhat of a mining royalty play.

PD: The current management has done a good job of relieving some of the debt and getting Golden Phoenix back on its feet.

TGR: With the idea of securing gold and silver properties throughout the Americas and taking a percentage of any gold and silver mined?

PD: Yes. The royalty-mining model seems to be a good business model.

TGR: But until recently, there's been limited extraction from the Mineral Ridge complex.

PD: Since then, three companies—including the original Golden Phoenix— attempted heap leach with cyanide without milling. The most they realized was around 60% recovery. At that rate, considering the low price of gold then and the high cost of producing an ounce, it just didn't work. It's a different story now that we're looking at \$1,400 gold. If you can produce it at \$300/oz., you're probably okay. So, even though heap leaching is not the most effective way to extract this ore, you can still make a considerable profit based on the price of gold today; plus, Scorpio CEO Peter Hawley has a record of taking a difficult operation and making it profitable. It is my belief, once the operation is fully up and running, a milling operation will become part of the plan.

TGR: Scorpio is in the first phase of a drill program at Mineral Ridge this year. Can you tell us a little bit about that program's goals?

PD: I don't know what Scorpio's plans include, but number one is to find more gold and silver. Just last week, on April 12, Scorpio put out a release on the latest drill results, which look good. It was about 9.15 meters of 2.28 g/t gold. From what the press release said, I think that was even outside of the company's pit area. It appears Scorpio is discovering mineralization throughout the property—not just within the area identified in a previous open-pit feasibility study. As long as it keeps drilling, I think Scorpio is going to keep finding more and more of this. What its goal would probably include is developing some of the known satellite deposits within the property. These local satellite gold deposits just need more development and I think they're working on that, as well.

TGR: Any silver in the intercepts?

PD: There's always silver in with the gold at both Mineral Ridge and in all of the other deposits on the mountain—anywhere from a 60/40 mix around the Mineral Ridge Mine, down to maybe 90/10 with silver being primary.

TGR: Another part of the goal in drilling is always to get a greater understanding of the deposit, the mineralized system and how it all works. Will you get a chance to get a look at that core soon?

PD: I'd like to. It has certainly been a good working relationship between Golden Phoenix and Scorpio, and I'd imagine some future data sharing and mutual study to benefit all parties. I don't know that Scorpio's core drilling, though. According to the latest press release, it has been conducting reverse-circulation (RC) drilling mostly to fill in the data gaps. The company knows it has mineralization at points A and C. It needs to put a drill hole in between at point B. You don't need core for that; you can do it more affordably with RC drilling.

TGR: In addition to Mineral Ridge, Golden Phoenix is earning an 80% interest in the Coyote Fault Gold

Project, which, essentially, is next to Mineral Ridge; in fact, some believe that Coyote Fault is an extension of Mineral Ridge's mineralized system. Having studied the geology there, what's your view?

PD: I am a believer that Coyote Fault is a major geologic structure on the mountain. A lot of the western-flanking deposits at the Mineral Ridge Mine are associated with that fault structure. It also could be related to the nearby Silver Peak Caldera as a conduit for mineralization through epithermal veining. Coyote Fault was one of my areas of interest when we were claiming because I recognized that it continued on all the way through the entire mountain, and it was completely open from about the midway point to its northernmost extent.

TGR: You've also studied the nearby Vanderbilt project, which was once a producing mine, and where Golden Phoenix is also earning an 80% interest. Tell us a bit about what's going on there and about its potential.

PD: Past producers are always great, high-value targets—especially when those past producers quit sometime in the early 1900s. Combine that past-producer status with the mineral showings we've found in outcroppings and some of the numbers we've gotten back from sampling underground workings, and we see a lot of potential. By the way, Vanderbilt likely still stands as the second-largest producer of silver and gold in the district, behind only the Mary Drinkwater Mine, which is on Mineral Ridge.

TGR: So, what's next?

PD: Put a drill rig out there and start proving a resource. The surface evidence certainly tells us something's going on and we are planning to find out. The real attraction is that this property has never been drilled.

TGR: When will drilling get underway?

PD: Golden Phoenix is planning to drill this summer. Right now, we're putting all the data together with a pre-drilling study; that way, we know when we do put a rig out there, we're testing effective targets. It is very expensive to drill, and drilling can be the best thing or the worst thing for any project. We want to take our best shot when we put that initial drill hole in the ground; we want to hit gold and silver. Once we get the data together and the maps in place, we'll be ready.

TGR: The potential of what's going on at Mineral Ridge and these nearby properties has presumably drawn some interest from other companies. Who's been exploring in the area?

PD: I'm sure a number of prospectors are out looking. Some claims in the area have shown up and dropped within the same year. Right now, I think Mhakari is probably the number-one company still looking and exploring.

TGR: That's the Nevada-based company that's vended the 80% interest to Golden Phoenix. Who's involved in that?

PD: Mhakari Gold is a private Canadian-based company led by Sheldon Davis with a U.S. arm. A number of us are involved in Mhakari, including my father, Ron Dockweiler, and myself.

TGR: Your father explored in this area back in the 1990s, didn't he?

PD: No. He was always interested in the mining juniors, but I was the first Dockweiler to step foot in the district. In the 1990s, he was talking to different junior miners and trading their stocks. That's where I first gained my interest in exploration geology. As a part of Mhakari, he has come out and helped directly since I started claiming and mapping.

TGR: One characteristic of the junior mining sector is that a number of companies can rise together when they're involved in an area play. Could this be the early stages of an area play near Silver Peak?

PD: I think it is becoming one, especially compared to my experience in 2005 when no one had any interest in the area. Scorpio and Golden Phoenix are doing a great job managing these properties and creating outside interest as a result. They're coming out with positive news releases and increasing their momentum. Scorpio is planning to produce soon. The fact that three mining companies tried and failed in the past maybe gave the mountain a bit of a black eye, or made it a pariah in the eyes of the mining industry. But that is only the history; recent developments have changed that perception. From what we have discussed, you can see I am very positive on the potential of the mountain. We now have an opportunity to take it from good potential to a proven resource.

TGR: And \$1,400 gold provides a bit more margin for error.

PD: Exactly.

TGR: Thank you so much, Paul.

Paul Dockweiler, who holds a geology degree from Michigan State University, is the founder of consulting firm Silver Spartan LLC. He previously worked with Geologist Steve Craig at Mineral Ridge.

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