

Bill Pope interview

Bill's History

B: (1:20) I first met Tracy when he was working for the Bureau of Mines. He was a Ph.D. candidate then at the University of Utah, and I was finishing my Bachelor's degree in chemical engineering. We both worked at the Bureau of Mines laboratory to help us through school.

J: Where was that laboratory?

B: That was right on campus, and I think it still is. It was sponsored by Kennecott Copper. They get a lot of mining assessment and analysis all over Utah. So he joined BYU in 1957. I joined in 1958. He had gone to work for General Electric, and I had been working for seven years at Amoco, a refinery in Salt Lake City. I was very happy there, but BYU recruited me for three years starting in 1955. In 1958 I joined them. I was recruited by a man by the name of Ralph Cooper Hutchison from the University of Rochester—some university in the East. He wanted me to go to the Middle East—to Iran to start a graduate school. So I did that for three years and came back to BYU where Tracy was still teaching. I extended my leave for three years and came back in 1962.

(4:00)

Starting Megadiamond

In 1966 probably in Fall registration for the BYU students, we hadn't adopted the computer system yet. Each professor had an assignment at different times in a great hall where the students came. If they wanted your class, they pulled the cards for the department and registered by hand. It was interesting but boring, because we tried to help the students all we could. And this was an idle time. I was there with another professor, Dr. Duane Horton, I had been reading my chemical engineering magazine, which came weekly, and there was an article in there that said, "I have money, if you have a good idea, and I said, "Tracy Hall is over there, Duane. Let's go over and talk to him about forming a company in diamond. Would you like to do that?" And Duane said, "Yes." So we went over there and talked to Tracy, and we had no idea how we were going to form it, but we told Tracy that if we formed this company, he would have 50% of the stock, and Duane and I would each take 20k and we would put in the same amount of money. (5:45) I thought I could borrow \$20k dollars from my father, and Duane thought he could borrow \$20k from his father-in-law, who was a jeweler—a diamond

jeweler, and Tracy had \$20,000, so that was the initial capital of the company, and we talked about a name, and we finally decided on the name Megadiamond, which is still a good name. We had a struggle.

(6:23)

10 Years Later...David Comes In

We were professors in 1976. Ten years later, we had a net profit of a million dollars, and David was working for Ingersoll Rand, and he wanted to come back and join the company, which was fine with me. In the course of events, he talked Tracy into giving him proxy for his ??? . . . and so at that time, my son had got his mechanical engineering degree, I think in the same class that David did, and Louis had been working for the company in the machine shop and he knew quite a bit about how to build presses by then, and he said, "I want to join the company." We were looking for a plant manager, and I don't think Tracy knew Louis, but Duane did, and we decided that we'd give him a shot at it. He'd go half time to the MBA, and David was still working for Ingersoll Rand.

(8:20)

It was in 1978. So my son was the plant manager. In 1978 David came back, and he was interested in being plant manager, and he got Duane to go along with him, and I was president by then—David never wanted to be president. We wanted him to be president, but we all wanted to be in scientific, but somebody had to run the business. (9:00)

In the shareholder meeting, just out of the blue, David said, "Louis, you're fired, you no longer have a job. I'm the new plant manager. And Louis said, "Okay." And for a year he tried to make diamond drills, and then he decided he would form a company called U.S. Synthetic, so that's the origin of that. In 1978, we made a million dollars net profit and paid a dividend to the shareholders, which made [David] upset because he had to pay so much taxes.

(10:03)

About Tracy

Tracy and I always got along. I liked Tracy. He was a good man. And I learned that Tracy was not only a good chemist—he was a good engineer. He knew a lot about circuits and mechanical design. He designed several generations of presses starting at General Electric.

J: What was DBT?

(10:52)

The Jolles Brothers

While I was still president, I got a call from Diamond Distributors in New York. There were two brothers—the Jolles brothers. Both of them were fine fellows. They had diamond mines in Central Africa. They had a son there helping in the mining. They had unlimited, unsecured credit. And so they wanted to form a joint venture with us. (11:42) What we had advertised is the sintered diamond(11:48)—the process of taking diamond powder, putting it back in the high-pressure press where it was made, and getting it to bond—diamond to diamond bonding—and make it any shape we wanted. Diamond Distributors was interested in becoming a diamond tool company because they could supply diamond to us and we could press that powder into various shapes and cutters, wire dies, nozzles. (12:36) The number of things that could be made with diamond, better than any other material, is just unlimited. And even after all these years, I say the diamond industry is still in its infancy. The synthetic diamond industry.

(13:00)

But we sold 25% of the company to the **Jolases**. They made it possible for us to borrow money from First Security Bank. I signed for a \$100,000 loan, but neither Tracy nor Duane would sign for it. They were just too conservative for that kind of risk. In any case, when First Security Bank looked up the **Jolas** credit, it said, “unlimited, unsecured credit.” So they were able to help us quite a bit. They helped us get started in the tool business, and Megadiamond became, and still is, a supplier of cutting tools, I believe. I don’t have a relationship with that company, though I do talk with the manager from time to time.

Merger with Supercut

(14:26) We had some good inventions. Tracy was very creative. I felt like I was creative and Duane was a very hard worker. I’d say that we really made a good team until Dave came in and fired Louis, and they brought in a man by the name of Art Frigo. (14:57) Art Frigo had a company called Supercut. The company was a diamond wheel company, and we bought that company from the Platinum Company. We paid \$1.25 million. I arranged a loan from Citibank, and that’s where we first met [Art Frigo]. He was the president of the diamond wheel company we were buying. They were experts at making diamond wheels for edging all the windows in automobiles. That was a big

market. And it was a hard fraction to make. We invented a process of using graphite discs and metal discs in a slug, And that's how we made this diamond (16:50) They especially wanted this one cut, and we had good success with that and made quite a bit of profit. (17:03) Lou Worms became one of our customers, a man that we met at the Industrial Diamond meeting, and so we did have a profitable business in 1978, but that was a long struggle to come to profitability (17:24)

Once Louis was gone and started U.S. Synthetic, I was not too popular around there, though I had no stock in U.S. Synthetic. Louis said, "Dad, come over here," and so I left, and I think Duane became president then.

J: Do you remember what year you left?

B: I left in 1978. Louis left in April or May of 1978, and I joined him in November, and I retired from the university at the same time in 1978.

J: Were you working in the same department as Tracy?

B: No, our acquaintance started when we were both workers in the Bureau of Mines. And, then after I came back from Iran, I saw him all the time, and we used to talk. Tracy was the director for research for the university then. The administration job was not too pleasing to him. He was very happy to start this diamond company. And Tracy did all the mechanical design on our first press, and he did the electrical design. Duane and I helped put it together. My father, Louis A. Pope, was a mechanical engineer. He taught by correspondence while he was in the Navy. (19:55) He was the chief mechanical foreman at the refinery where I went to work. But he went with them down with them to Oklahoma to put the press together, and they finally got it together. It was a good old press, and I don't know if it is still in existence, or not. We called it "Big Bertha." (20:17) There was a lawsuit. Megadiamond sued for theft of trade secrets.

B: No, this was Megadiamond. After I left, about a year, they wanted to shut us down because we were making synthetic diamond. Actually, the original patents were still held by GE. Megadiamond had some patents. We used different catalysts. We tried to be as different as we could, and we learned there we could take scrap powder from the machine operation at Christensen Diamond and use that for our raw materials. And they gave it to us, so that really gave us an advantage. And, we became quite good at making synthetic diamond powder. But there were the Chinese who were coming in and the Germans. I think the Chinese had something like 350 little presses. And

remember when chairman Mao started the steel plants? But he had little steel plants all around the country. They were just making rotten material. But, they did the same thing with diamond. And they never prospered in the finer grades of diamond. They still have lots of little diamond companies. (22:27)

We (US Synthetic) became very good at making cutters for oil well bits (22:39), and so did Megadiamond. That's been a great market. I don't know what the total number of people working in Provo is now, and there's a plant in Salt Lake that David furnished with a press. (22:58) But it would be interesting to see what the total work force is now. I don't know what the size of Megadiamond is now—what will be there annual sales.

So we got Megadiamond, U.S Synthetic, Novatek, John Bunting has Precorp (22:26)

J: Is Christensen up here?

B: Christensen is not in the diamond business. They buy diamond. They moved to Houston, but there is a diamond plant in making ??? diamond. (23:50)

But the whole oil industry has changed because of Tracy's invention of synthetic diamond. It's clear to the American scientists, and the Swedish won't admit it, the Russians won't admit it. I'll tell you an interesting story. We had a friend in Russia. He wanted to come and visit Tracy. (24:34) And, he had received the Russian top medal in science for his invention of synthetic diamond. And, we had a dinner for him at my home. We took him to lunch first. He spent a day with us, and then left. But we took him up to the top of the Skyroom and he looked out and said, "Who owns those cars?" And I said, "They're owned by the students, but they can only bring one onto campus at a time." He couldn't believe it. He said, "I have two cars." (25:26) They served some pink sparkling punch that they called "Champagne Punch" at one time on the menu. He says, "Oh, champagne punch. I will have champagne punch." And they brought him this pink lemonade, and he took a big drink of that and says, "What kind of champagne punch is that?" We told him it was Mormon champagne punch because we didn't drink alcohol. But he thought we'd stabbed him. But then we had this dinner at my home, and after dinner—it was jovial conversation—and after dinner, Vereschagin (26:21) said—and he had all the badges for his scientific honors, and the Russians claim that they were the first to make synthetic diamond—and he said, "Tracy, they gave me the

big honor for being the first man to make synthetic diamond. You and I know different, don't we?" And they both had a big laugh. (27:00)

J: It's a pleasure to come down here. I've heard a lot about U.S. Synthetic, but I never put a location to the place.

B: We've got 630 employees now.

J: That's more than it says on your web-site.

B: How much does it say?

J: I think it says 250.

B: Yeah, that's two years ago.

J: So you guys are really developing.

B: Yeah, we're heading for 200 million dollar annual revenue.

J: I know you're leaving PCD distributor . . .

B: We say PDC. PDC is the diamond layer. PDC, for us, is the polycrystalline diamond compact. It's combined with a metal substrate. The metal has tensile strength. (28:33) The diamond has hardness. It's a brittle material, but the PCD, the diamond layer, is tougher than natural diamond crystal because you have the random orientation of the powder, of the tiny crystals, so that it doesn't have a cleavage. (29:02) So it's tougher.

B: I meant to tell you also that I was president here for quite a while (31:38) (32:03) Louis is president now, but I was president for twelve years. As soon as we became profitable, Louis said, "Dad, I'm ready to be president." I said, "You got it!" I don't want to be president. I like to do the scientific better than I do the business. And right now I'm putting PDC on prosthetics that will never wear out. We're quite far along on the . . . I've got 35 men working over here on another building of a separate company. The focus of this company here is really the oil industry. (32:56) It's a dangerous thing to be a one-product company, and so we're expanding. But it's been very interesting, and very good.

J: You must be employing people from the medical field.

B: I've got two people from the medical field. One is a Ph.D. from University of Utah who has spent eleven years on the spine. He's just thrilled at the idea of having a material like diamond. We've got three scientists at the University of Utah gathering the kinetic data on movement. I don't have a model here, but over there I've got 35 people. And this spine joint—if you move it with your finger there it will come back to a stable position. The technician up at the laboratory there said, "We tested lots of

substitutes for spinal joints, and this is really the only one that gives normal human motion.”

J: That’s exciting.

B: It’s very exciting.

(34:33)

B: Tracy was an icon. I never saw Tracy angry. I never saw him out of control. I never saw him anything but honest with great integrity.

(35:30) I think that he was misled a little bit. But it turned out to be a blessing for the Pope family that we did separate, but it wasn’t my idea.

B: Anyway, she said, “Well, just wake him up. So I woke him up and told him who was there, and he said he was glad to see me. We had a little conversation. It wasn’t too deep, but I reminded him of a few things, and he recognized that, and I was sure glad I did. (38:24) But I started to say, all through our history we’ve tried to help Megadiamond. They ran out of pyrophilite (38:37), and they wanted us to run some runs for them. We’ve been very cooperative with them.