Steffen, Robertson and Kirsten began their working partnership with each man already fairly busy — they moved what they were doing on their own into a shared environment and planned to grow as a result of synergy. Each brought clients into the partnership. Although the success of a specialised geotechnical services firm might not be assured, the men and their expertise were in demand from the moment they set up shop.
On the eve of starting with SRK in December 1973, Kirsten had been asked by the Rand Water Board (Rand Water) to assist with the repair of a 2.1-metre-diameter segmented concrete pipeline that had failed under pressure and washed away part of the highway in Edenvale.

The contract involved redesigning all the anchor blocks over several kilometres of pipeline, as well as redesigning the concrete spigot-and-socket joints at the bends. The work became an SRK project and lasted for months. Rand Water later sold the patent rights for redesigning the concrete spigot-and-socket joints at the joint to Kirsten designed to the French pipe supplier.

In 1969, Robertson formed SRK: Its first headquarters was in Johannesburg. SRK was so busy, Dirk was set to work immediately. He started off his practice (GEMS) on the civil side and they maintained really close ties between the mining engineers. After graduation, he worked for the Johannesburg City Council engineering department for a few years before joining Arup in their geotechnical division. He joined Arup in their geotechnical division and they were so busy that initially I started working on weekends with Hendrik in the field on the Rand Water project before I even officially booked into the office for Monday to Friday work. I spent the weekends inspecting the seven-foot-diameter pipes that had failed. I can remember spending many Saturdays walking up and down inside the pipeline.

When he finally arrived to work in the office, aside from the three principals, van Zyl found the secretary, Robbertze and Schwartz.

“It was dynamic,” van Zyl explains. “New things were happening all the time. Stellen, Robertson and Kirsten were already well known in the industry — Robertson not so much as Steffen in the mining industry, certainly, but he was very well established on the civil side. And they maintained really close ties with the other existing general consulting firms rather than treating them as competitors.”

The partners also constantly emphasised the need to be at the forefront of technology.


Karin Schwartz with Professor J. E. Jennings in WR.
“Even that first year, academics from England or elsewhere who knew Jennings would come through the office and give a seminar,” van Zyl says. “Right from the start, SRK decided it was going to take the lead and really push the envelope from the technical perspective, and we did.”

After his project with Kirsten, van Zyl worked with Steffen. “That’s when I got to work on my first tailings project. I saw what it was about and I thought, ‘Wow! This is what I want to do the rest of my life.’”

There was a lot of wow-factor in some of the early projects SRK took on — their scope, their impacts, their remote and difficult locations, their staggering size.

John Weaver was the first engineering geologist to join SRK. Jennings always insisted on an engineering geologist accompanying him on site visits and advised all geotechnical engineers to do the same. His collaboration over many years with Tony Brink — who also taught at Wits and wrote the definitive four-book series Engineering Geology of Southern Africa — was testament to that. The SRK partners agreed with that approach.

Later that first year, Robertson won a contract in Malawi (formerly the landlocked British-administered Nyasaland, surrounded by Zambia, Tanzania and Mozambique), one of the few African countries to maintain ties with South Africa in spite of apartheid. SRK was hired to do geotechnical work on a proposed 150-mile rail line from the capital Lilongwe to Zambia.

“It was a fantastic project, a very big one for SRK to land,” Schwartz says. “It was quite lucrative and did a lot to promote the company. It also indicated the kind of respect in which the three partners were held.”

That October, Schwartz headed into the remote Malawi wilderness to begin surveying. Vehicles were in short supply, so SRK bought a Toyota Landcruiser, which Schwartz and John Davies, a young Welsh engineering geologist and recent SRK recruit, drove to Lilongwe through Rhodesia (now Zimbabwe) and Mozambique. The drive was an unforgettable experience through some of the most rugged bush.

“The project was certainly a milestone in my career,” Schwartz recalls, “and it was a pretty big milestone in SRK’s life as well.”

The bush war had just escalated in Rhodesia and another war was just ending in Mozambique — this prevented SRK from trucking in drilling equipment, which was instead transported in a hired Hercules transport plane.
There were really no specialized mining consultancies in South Africa in those days. The mines had their own technical people and rarely used consultants — the near opposite of today where companies rely on consultants for technical expertise so that staff can concentrate on the operations. There also were not many open-pit mines in southern Africa and few people had the knowledge of soil and rock mechanics together with the technical expertise that SRK possessed. Their skill set differentiated the company and was a huge advantage.

“We were very lucky,” Robertson says of that first year. “I think we looked like we were too young to sue. South Africa wasn’t a very litigious society and provided you were enthusiastic and honest, there weren’t too many setbacks. We had good clients — the big mining houses included — and we offered cutting-edge technology.”

In short order, the contracts started to flow in, and with each new contract the company brought in more engineers and specialists. They relied on personal contacts and recommendations from Jennings. With their involvement at the university and Jennings as their mentor, promising students were quickly flagged. The first professional hires were much like Schwartz and van Zyl — most were friends, colleagues from a job or former students; all driven, like-minded engineers who believed in working hard and playing hard.

The professional staff who came aboard over those first few years — Dirk van Zyl, Ken Schwartz, Jack Caldwell, Richard Connelly, Rob Dorey, Rick Skelton, Brian Middleton, Mike Smith and Dick Stacey — were a critical first generation who embodied the vision of Steffen, Robertson and Kirsten.

Sadly and ironically, it was a major mining catastrophe that riveted public and industry attention on the new company’s skills and expertise, and underscored the need for its specialised insight.
The Bafokeng Disaster

The rolling grassland inhabited by the Royal Bafokeng Nation, “the people of the Dew,” lies about 150 kilometres northwest of Johannesburg. Tribal lore holds that the Bafokeng settled in the Rustenburg Valley, a dry bushveld, because of its heavy overnight dew, a proverbial promise of fertility and prosperity. The main occupation was farming until the discovery in 1924 of the Merensky Reef, an extensive mineralized zone up to a metre thick that contained one of the richest platinum finds ever.

The Impala Platinum Mine began operating in July 1969, producing 100,000 ounces of platinum a year. Production was stoked by the booming Japanese jewelry market and, more important, the introduction of global vehicle-emission laws that mandated the use of platinum-dependent auto-catalytic converters. By 1974, Impala had a contract with General Motors to supply up to 300,000 ounces of platinum a year. Production was stoked by the booming Japanese jewelry market and, more important, the introduction of global vehicle-emission laws that mandated the use of platinum-dependent auto-catalytic converters. By 1974, Impala had a contract with General Motors to supply up to 300,000 ounces of platinum a year.

The tailings ponds and mine-waste dumps from the operation were sprawling and, on the morning of November 11, 1974, a wall of the No. 1 tailings dam collapsed.

The embankment was 20 to 30 metres high, the pond nearly a kilometre square, and when the outer slopes gave way it unleashed a tsunami of muddy sludge. The tailings flowed across the landscape, scouring everything in their path — buildings and equipment were swept away, the shaft collar was engulfed, and 13 workers were trapped and drowned.

The wave of slurry cascaded down the Kwa-Leragane River valley. Four kilometres from the breach, the spreading fan was nearly 1 kilometre across and 10 metres deep. The Vaalkop Dam downstream was clogged with sediment.

“Jennings was immediately called in by Union Corporation, which owned Impala,” Steffen says, “because he was the expert in the country. He took me along, saying, ‘Let’s go have a look at this. I have no idea what’s happened.’”

They were overwhelmed by the devastation.

“It was a terrible scene,” says Steffen, who was on an annual retainer as a consultant to the builder, Fraser Alexander, South Africa’s biggest tailings contractor. He was responsible for reviewing their dams and providing technical advice. He couldn’t believe what he saw.

“We got there, the shaft was underwater and we knew there were people down below drowned. It was horrible. The whole valley was covered in tailings. It was a disaster.”

The tragedy underscored the previously unrecognized risk that tailings ponds and dams presented, and the need for geotechnical expertise. There were only rudimentary guidelines on their construction, and there were no requirements for regular inspections or maintenance.
Initially, no one could understand why the Bafokeng dam had collapsed. Some speculated that a leak occurred along a sandy layer in the wall, initiating “piping” erosion, the kind of seepage that often undermines levees; some insisted that a bulldozer sent to raise the perimeter wall caused vibration-induced liquefaction; still others believed that the bulldozer compressed the soft sand of the wall too much, allowing the water to spill over the top, triggering the breach.

Union Corporation asked Jennings and SRK to determine the cause.

Understanding Bafokeng

The mid-1970s were days of extreme security fears in South Africa as racial tensions within the country mounted. The mining houses were fortified. Armed security guards met the SRK consulting team. Each person’s name and affiliation were slowly and solemnly recorded in a black book by the officers; drawings were unrolled and inspected; if someone made the mistake of bringing a briefcase, it was opened, its contents unceremoniously dumped and each individual item scrutinised. Only then would the guards summon the person the team had come to see and allow them to be marched to the allotted meeting room.

Blackie Swart, the head mechanical consulting engineer for Union Corporation, liked to meet in the conference hall — a vast, wood-paneled room of solemn silence — to discuss the Bafokeng job. Through tall windows, you could see the sun sparkle off the glass of adjacent buildings. In the middle of the room stood a long, ornate conference table of imposing bulk. But there were no chairs. Meetings proceeded quickly, with consultants, engineers and managers standing around the table, rolling out drawings as needed, pointing to this or that, gesticulating as they spoke. There was no board to sketch on; everyone was expected to come prepared with acceptable drawings. Steffen made decisions rapidly, issued instructions with equal speed, and quickly dispatched the consultants with new orders.

Steffen was perfect in these meetings: calm, confident, fast with concepts and soothing when Swart raised budget questions — for the costs had spiraled quickly out of control. Steffen never cared a whit about the budget. It could always be increased, in his view, or hours trimmed from the bill. Get the right answer was Steffen’s only true mantra.

Back at the office, he emphasised to the team that the only thing that counted was the right solution. “We did a whole lot of investigation work to try and discover why suddenly the whole thing failed after we had been using the same technology for so many years without incident.”

Steffen and Jennings spent months in the soils lab building models and testing theories. They were convinced the failure was related to the layering of material as it had been deposited in the construction process. They believed there was a seepage path somewhere that allowed water to infiltrate and compromise the dam wall.

“In hindsight, the absence of maintenance programs, emergency planning and the other components of today’s best practices is obvious. The dam collapse tragically exposed safety risks that hadn’t been anticipated. As a result, the management of such facilities was changed forever. The disaster was considered “an act of God” by the coroner’s inquest — but it was understood to be the product of a widely used technology whose long-term effects and hazards had been only partially understood.”

Checking passbooks in the mid-’70s was as commonplace as the security obstacle course you had to run to enter the South African mining houses.

STEFFEN:

“WE DISCOVERED THAT IT WAS A PIPING FAILURE… PIPING HAD NOT BEEN IDENTIFIED AS A PROBLEM IN THE PAST”
PROJECT: Bafokeng Re-engineered

CLIENT: Impala Platinum Limited

SCOPE: Mining of the Bafokeng deposit, 15 kilometres north of Rustenburg in the vicinity of Phokeng, began in 1968, and construction of the first tailings disposal facility started the same year. In 1975, SRK was appointed to design a new tailings impoundment to satisfy all statutory requirements after the notorious catastrophic collapse of the initial tailings dam. Impala decided that the new dam had to be designed, operated and monitored in a way that the probability of loss of life due to a dam failure was less than one in 1 million. SRK was involved in the detailed design of the entire facility, including flowslide analyses and risk-based design; the preparation of tender documents and specifications; site supervision and construction management. The dam was designed to be operational until 2040. SRK has also been involved in ongoing monitoring of the facility, including the preparation of detailed quarterly reports; groundwater and pollution-control monitoring; and rehabilitation and revegetation program design and management.

OUTCOME: In 1977, the design of the Tailings Dam 4 complex was completed, and in 1978, building of the complex was initiated with the construction of Buttress Dams 5A, 5B and 5C. Deposition on Dam 4 began in 1981, and SRK was appointed to monitor the facility.

In 2003, during a routine geotechnical investigation, hard layers were encountered within the tailings facility. Two subsequent investigations, in 2004 and 2005, concluded that this was due to the high concentration of slag material at these levels. The main concern was whether the hard layers might affect the stability of the structure. An extensive geotechnical investigation was then carried out that provided valuable insight into the behaviour of the tailings dam and concluded the hard layers did not affect the overall stability of the structure.

The raising of the two 5.5-metre-diameter reinforced concrete penstock towers to 80 metres (from 40 metres) was completed during 2008. These towers are currently in full operation. Visual inspections of the two penstock pipelines have been carried out since 2005, and revealed some degradation. After nearly 30 years in service, it was decided that remedial measures were needed. Work began in 2013 on the northern pipeline, a 2,000-metre-long concrete pipeline under 70 metres of tailings with an internal diameter measuring 1.26 metres with access only from its ends (tower and outlet works). Design and specification commenced in 2011. The design specified an internal sleeve of epoxy-coated steel cylinder sections, 1.1 metres in diameter and 10 millimetres thick, with the annulus between the concrete and steel grouted to form a composite structure that could sustain the loads for the design life and beyond. Attention to detail during construction was critical and complicated by access from the outlet end only.

Construction began in early 2012 and the work was successfully completed by March 2013. The reconstruction is a unique feat of engineering. The final solution proposed by the contractor — Stefanutti Stocks — was to insert 10-metre-long steel cylinder sections into the concrete pipe using a specially designed motorised wheeled buggy. Initially only three or four sections could be installed per day, but with time, the distance decreased and the frequency increased.

In 2013, Impala opted to construct a new dam and gave SRK responsibility for its design, though construction at the moment is deferred.
Sierra Madre Occidental mountain range, Sonora, Mexico. Heap leach facility at Alamos Gold’s Mulatos Mine in the late 1800s. That facility is one of the many similar facilities that qualify for that exclusive list of man-made, potentially hazardous facilities. They share many common characteristics with heap leach facilities — the facilities are unique specialty — slimes dams and tailings impoundments, or as the Chamber of Mines called them, residue specialists. That expertise — slimes dams and tailings impoundments, or as the Chamber of Mines called them, residue specialists — is SRK’s expertise within mining, Mike Smith explained, and that expertise was learned over more than a dozen years, cyanidation turned South Africa into a gold producer overnight. Before that, cyanidation was a less effective process that dissolved far more gold from crushed ore than traditional mercury leaching. Within a few years, South Africa was the world’s leading gold producer. The drive into the area, Caldwell says, was “the only one in the country at that stage who had walked across platinum tailings and knew their properties.” The replacement dam Caldwell designed involved a series of smaller dams that created a set of steps around those parts of the impoundment’s 12-kilometre-long perimeter. It became a mainstay of the Jo’burg office tailings design work. “It was a fantastic time,” Caldwell says. “I was probably the only one at SRK who had walked across platinum tailings and knew their properties.” The dam was a major project for SRK, Caldwell says. “It became a mainstay of the Jo’burg office tailings design work as we annually inspected and reviewed it.” Schwartz and Caldwell headed to Botswana later in 1976 for a diamond project in Jwaneng, “a place of magic,” Schwartz recalls. The project was stumbled upon by an Australian mining company while scouting the area for a tailings impoundment site while Schwartz was undertaking a foundation investigation for the mine plant. The drive into the area, Caldwell recalls, was dust and sand, and more sand — an arid climate. Schwartz recalls. It became the richest diamond mine in the world.

Dick Stacey started on the same day as Jack Caldwell in January 1976. Born in Durban in 1943, he had grown up in Rhodesia before returning to South Africa for his university education. Mining was in his genes — his two great-grandfathers were mine managers in gold mines in Bendigo and Coolgardie, Australia. After completing his degree, Stacey ended up working for the Council for Scientific and Industrial Research. Dick Binnemans, head of rock mechanics for the CSIR, steered him toward postgraduate work in rock slope stability, the topic of his doctoral thesis. After completing his doctorate, Stacey moved to London to study engineering geology at Imperial College. In October 1974, Stacey returned to South Africa and joined DL Webb and Associates, a Durban consulting company. A year later, Kirsten invited him to consider joining “a group of keen, like-minded young men.” Stacey met SRK’s partners the following Saturday — and found everyone in the office wearing shorts. “We published a lot and it was very effective,” Stacey says. “The tailings impoundment in Jwaneng was hung around for a long time and a lot of people came to us after reading something we had written about a project or practice.” SRK also believed in maintaining close ties with professional organisations such as the South African Institute of Civil Engineering. Robertson and Stacey, and later Schwartz, were very involved with the geotechnical division of SAICE, which was a big benefit to SRK.

A Growing Band of Brothers

The vast majority of primary diamond mines in the world are kimberlite pipes. These pipes are formed when a huge cavalcade of magma, rich in carbon and the volatile elements associated with the magma, emerges to the surface. Kimberlites can be several kilometres deep and contain trillions of carats of diamonds. Kimberlites are formed when a large blob of magma is pushed up to the surface of the Earth, where it solidifies into a pipe-shaped body. Kimberlites are typically found in the form of pipes or dike swarms. Kimberlites are formed when a large blob of magma is pushed up to the surface of the Earth, where it solidifies into a pipe-shaped body. Kimberlites are typically found in the form of pipes or dike swarms. Kimberlites are formed when a large blob of magma is pushed up to the surface of the Earth, where it solidifies into a pipe-shaped body. Kimberlites are typically found in the form of pipes or dike swarms.

The wives of the founders — Marge Steffen, Yvonne Caldwell and Renée Robertson — were seldom in the office but were incredibly supportive of their husbands’ work. "We published a lot and it was very effective," Stacey says. "The tailings impoundment in Jwaneng was hung around for a long time and a lot of people came to us after reading something we had written about a project or practice."
Richard Connelly joined in January 1975, the first of a cadre of talented British expatriate professionals to gravitate to SRK. He was working for Geodata, a drilling and geotechnical services company, when he met Kirsten and Robertson on a job site while they still were only thinking about forming SRK. The three men were close in age and hit it off.

Connelly earned a BSc in geology from the University of Sheffield and an MSc in engineering geology from the University of Durham before going to work for Blue Circle Cement, a major cement manufacturing firm. Blue Circle sent him to do exploration and resource drilling in various parts of Southern Africa, primarily to find cement-making resources. Two and a half years later, he joined Geodata and began doing geotechnical site investigation and laboratory work. Geodata was hired by SRK as part of a big railway contract in Malawi, and Connelly worked there with Schwartz, which precipitated his joining the company.

“We effectively established an office in Lilongwe and took over the government laboratory to do the testing,” says Schwartz. “We were working in very remote regions, there was no support. It was exhilarating.” Connelly was delighted to be on the other side of the fence, working as the consultant rather than the contractor.

“It was really exciting,” Connelly says. “It was great to be working with such a young, enthusiastic and like-minded team, facing tremendous challenges and solving real problems in the field. And that was the nature of the work with SRK — that was what we all liked to do. More than that, SRK was a family enterprise.”

“In those early days, all three of the partners had very young children. Yet the single guys like me were encouraged to come to their homes — birthday parties, workaholic husbands. They fostered a “we’re-all-in-this-together” environment at SRK by inviting new recruits and single professionals home for dinners, hosting parties and ensuring everyone felt like a cherished member of the SRK family.

“People spent long hours working because they loved what they were doing,” Stacey adds. “It was almost like a brotherhood or a family at SRK. We had a Christmas party in Oskar’s home, a party in Hendrik’s home, a party in Andy’s home. We had a children’s Christmas party at my home.”

Richard Connelly: “More than that, SRK was a family enterprise.”
At the end of the Malawi project in 1975, Schwartz and Connelly everyone from Lilongwe in the Toyota Land Cruiser SRK had bought specifically for the job. The war in Mozambique had ended by then — though the journey itself remained hair-raising.

“Strangely enough, I still own that same Land Cruiser,” Schwartz says, 39 years later. “I bought it from SRK and I still use it quite extensively.”

Given Schwartz’s experience in Lilongwe, SRK created Geotechnical Engineering and Mining Laboratory Services, Gemlab. Schwartz became managing director of the separate company established to do soil mechanics and foundation-engineering work. John Yates, who had run the laboratory in Malawi, became its manager. SRK was thriving.

A mother-in-law Brit, with an engineering degree from the University of Glasgow, Bob Dorey responded to a newspaper ad around the same time. Dorey had arrived in South Africa to work on the construction of a nuclear weapons plant just outside of Pretoria. The contractor soon promoted him to running a nearby quarry. That was Dorey’s introduction to mining.

Nine months later, he joined SRK. Robertson interviewed him and thought he was terrific. But he warned Steffen, who was doing the hiring: “I’ve shortlisted two engineers for you. They’re going to come in and I don’t know either of them. I’m not sure they’re going to do the job, but they’re very different. The one guy is very conventional, a solid engineer. He’s going to walk in and do things the way you and me, he’s going to behave like you and me. But I don’t think he’s going to be very creative or innovative. He’s not lateral thinker.”

Robertson paused. “The other guy that’s going to come in,” he said, “there’s no question he’s a real lateral thinker. He doesn’t just think out of the box, he’s all over the box. ‘There’s no question he’s a real lateral thinker.”

They hired Dorey.

In a good-natured dig at SRK’s growing institutional intimacy, Dorey liked to quip that he was employee No. 7 — a very reference to The Prisoner, the short-lived 1967 British TV cult series starring Patrick McGoohan, who played a character trapped in a village called ‘The Village’.

“Oskar is probably the closest thing I’ve met in the process,” says Brian Middleton, who not only worked with Dorey, but was also a cousin of Jack Caldwell, joined in August 1977.

Born in Grahamstown in the Eastern Cape, Middleton had been reared in Johannesburg. After finishing his graduate degree — cum laude and taking the prize in soil mechanics — Steffen urged him to join SRK, but Middleton wanted to build things before considering a career in consulting. For the next few years, he worked on jobs such as the Vaal River bridge project in the Free State. In 1977, he was considering a job in Rhodesia, now Zimbabwe, but the country was aflame in civil war. He telephoned his cousin Caldwell: “Oskar offered me a job a number of years ago and I probably need to do some consulting now. How’s it looking?”

“Please, come on!” Caldwell told him. “I went in, had a chat with Euken and that was the start of it for me,” Middleton says.
New Growth Model

The three partners and the other professionals who joined SRK recognised that with more and more people on the payroll, the firm had to continue growing—and not just in southern Africa.

“We quickly came to the same view that we were not going to grow old in that status quo environment,” Steffen says. “We needed to expand the business. Otherwise we wouldn’t survive. That meant we had to play in the global field. That was imperative.”

It also meant that the three founders had to confront the conundrum of share-ownership.

“We saw what the other consulting firms were doing and we didn’t like their model,” Steffen explains. “We wanted the people with whom we were working as partners, so we developed a whole structure around shared participation for people coming in. Andy, Hendrik and I discussed that at great length and went through many options before deciding on the model.”

All three thought employee-ownership was imperative and firmly believed that such a business model meant everyone should have access to all the clients and assets.

“Andy came up with a suggestion that was very different from the way other consulting companies then worked,” Kirsten says. “Senior partners in consulting companies usually hog the big clients for themselves and don’t let any of the others get close, because if they control the client, they control the business. We didn’t do that.

“We sought to create a company structure that made it possible for people to grow their own practices, to be rewarded for their efforts, and to be supported in tough times from the ruthlessness of the ever-changing consulting marketplace here in South Africa and internationally.”

Kirsten said the rules were kept fairly simple:

All professional staff had automatic access to shares and qualified on promotion for increased levels of shareholding. Every case was dealt with on an individual basis within the scope of the guidelines. Members who joined as practicing professionals in their own right were invited to take shares commensurate with the extent, stature and value of their practice. Non-professional staff were invited on merit after substantial service to become shareholders.

All stock was to be sold back to the company when an employee retired or resigned to ensure it remained employee-owned. Access to stock was to be kept affordable.

“New shareholders could theoretically within seven years have the exact same number of shares as the founders,” Kirsten says. “We invited people to buy shares every year after their second year. We thought, you know, if we do this, there’s a really good chance they will stay, at least for a while.”

Still, most of the professional staff in the company were young and just starting their careers—few had much discretionary income.

“The encouragement to grow your practice and be part of the company was very different from almost all the other consulting companies,” Connelly says. “Most firms had a few old guys who stayed in the saddle forever and kept everybody else down.”

At the same time as they wrestled with the firm’s corporate structure, the founders also began to confront the growing social crisis in South Africa and its effect on SRK’s future growth. “When you factored in the turmoil of a country in the throes of apartheid, we knew the prospects of developing a large company domestically didn’t seem that good,” Steffen says. “We wanted to attract African people into the business and we couldn’t do that under apartheid. The prospects of growing within the country looked dim. We knew we had to look outside.”
In 1976, Wits alumnus Doug Piteau returned to South Africa from Canada to attend a major rock-engineering symposium organised by his old pals. Impressed by what his friends had accomplished in only two years, he suggested they should think about working together. The conversation coincided with the three SRK founders’ growth discussion. Piteau was in a partnership, Piteau, Gadsby, MacLeod Limited, and a tentative plan was formed that involved Connelly moving to Vancouver and establishing an SRK office with them. However, a few days before Connelly departed for Canada, that partnership broke up. In spite of that news, SRK’s leadership thought a practice with Piteau remained an opportunity. Connelly visited, but like Steffen before him, he returned with a lukewarm report.

In mid-1977, though, Piteau resurrected the idea. He wrote a letter to Robertson urging the move and called Steffen, pressing him to reconsider too. He insisted that SRK’s tailings expertise would be in great demand as North American mines were now considering the technology. “Oskar, you don’t know what’s going to happen with apartheid, so why don’t you come over and join me in Vancouver?”

Steffen was not personally going to make such a move. He had too many family ties in Swaziland. But he understood why strategically it made sense for the firm and recognised the business opportunity North America represented given SRK’s reputation in tailings.

Steffen told Piteau they’d talk it over. Robertson, the most entrepreneurial of the three partners, was very excited about giving the prospect another chance. He and his wife had always talked about traveling or doing something different once he finished his PhD. This was a great opportunity. There were now roughly 60 people working for SRK — about a quarter of whom were working on the Bafokeng project alone. After substantial discussion, the senior shareholders agreed the time was right to make a move into North America.

“We agreed to pay Andy’s fares across, and said ‘We’ll provide you with people as you need them,’” Steffen says.

SRK would acquire a 20 percent share of Piteau & Associates, and Robertson would set up a soils-and-tailings division to promote the technology in the North American market, especially given SRK’s profile with the Bafokeng work.

After the meeting, an excited Robertson decided he needed to get up to speed on tailings, fast. He hired a plane to fly over every tailings dam in the vicinity. Jennings and Caldwell went along for the cramming exercise. They discussed the designs, the successes and the failures as Robertson made extensive notes. He would be the conduit for transporting SRK’s expertise into North America.

“Tailings work was fairly new at the time,” Robertson says. “There wasn’t a lot of literature. The first international conference was in 1974 in Tucson, Arizona, so you can imagine, it was a pretty new thing. Some were designed just like water dams, with tailings behind them, which was one of the reasons they broke. But there was a true tailings technology.”

Fraser Alexander, which had built and operated many of the dams, including Bafokeng, provided Robertson with slides and a similar memory-dump. In return, Robertson agreed to represent them in Canada.

With Robertson barely in the air, Stacey reminded everyone about the staff at Geophysical Instrumentation to which SRK’s notorious workaholic founder devoted every weekend: “The two Peters — Peter de Haan and Peter van der Poel — will finally get a Sunday off!”

PITEAU:
“OSKAR, YOU DON’T KNOW WHAT’S GOING TO HAPPEN WITH APARTHEID, SO WHY DON’T YOU COME OVER AND JOIN ME IN VANCOUVER?”

A