doi: 10.1255/tosf.118

Ian Devereux and the story of Rocklabs

Rocklabs has a rich and unique history. Originally established as a commercial laboratory specialising in geochemical analysis and fire assaying, Rocklabs became a world leader in the manufacture and supply of sample preparation equipment. Now part of the global automation and robotics company Scott, Rocklabs began as an Auckland-based operation, but the story of what led founder Ian Devereux to build such a game changing company starts at the bottom of the South Island of New Zealand. In 1956 Devereux, who was born and raised in Central Otago, finished high school and decided to study a science degree at the University of Otago the following year.

"When I came to Otago University I didn't know what I wanted to do but I had a general interest in science and took a science degree with a lot of different subjects. I thought I might end up in the agricultural world. I studied chemistry, physics, maths, geology and botany thinking somewhere among those would be a career. I liked chemistry and geology and did a masters in chemistry. With an interest in geology, for my master's degree, I did a thesis in the geology department."

"I heard a lecture given by a scientist from the DSIR about the work going on at a place called the institute of Nuclear Sciences, a geochemistry research laboratory in Lower Hutt. I went to work there in 1961 and in 1964 went to Auckland. Mind you, this was all to do with a woman who wanted me to come to Auckland! I couldn't get a job at the time, but by then I had a PhD from Victoria University. While I was working for the DSIR I studied for the PhD and the institute worked very closely with the university, so I was fortunate to be a full time student at the university while I was a full time scientist at the DSIR."

"In Auckland there were tough times as people wouldn't hire me because with the PhD they said I was overqualified. I met up with Dr Jim Sprott who was a forensic and industrial chemist. In 1969 we formed Rocklabs, specialising in geochemical analysis and fire assaying. Jim Sprott was involved in lots of things, most famously the Arthur Allan Thomas trials after the Crewe murders. In those trials he provided evidence about the planting of a cartridge while I gave evidence about the wire that was used to tie the bodies. That was an interesting part of my career."

"Apart from the drama of the forensic analysis, work in the laboratory involved analysing rocks and solids which had been crushed and pulverised using various sorts of preparation equipment. Geologists used to arrive with batches of up to 500 samples. I saw a future in establishing a laboratory which would cater just for this mineral exploration and so Rocklabs began. The samples were mainly for copper as gold was at a very low price. To get the raw material ready for analysis crushing and pulverising machines were needed, but there were long delays in getting them from Germany. It was decided to make them locally, at first just for Rocklabs use, but later to sell to others."

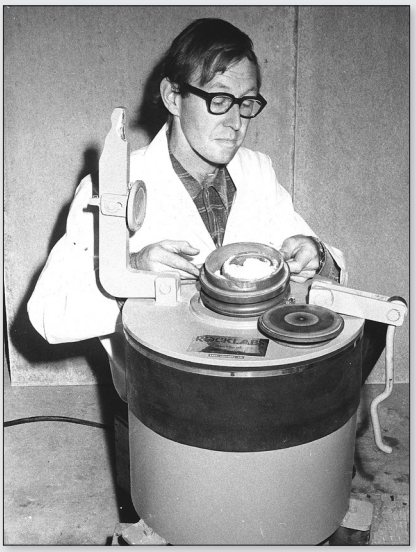
Ian Devereux heard of a one-man band engineering company called Gilco Products Ltd, run by Ian Gillies and showed him some equipment which had been imported by Auckland University. "Ian Gillies decided he could make a version of the pulverising machine, which was a new type, and a crushing machine for our laboratory. People came to the Rocklabs laboratory and asked for a pulveriser of the same type and Ian Gillies would make them." Between 1970 and 1975, Rocklabs ran the laboratory but also began to sell more equipment. Equipment was sold to visitors from places like Australia and Canada, so the company began exporting instead of just selling in New Zealand. All this was unplanned, originally done as favours to customers, but just six years later, under the success of the exports it had had since 1970, Rocklabs began making sample preparation equipment on a commercial basis.

Laboratory work was not growing, but there seemed to be a future in the equipment side of the business. There was not a market in New Zealand where there was virtually no mining, but Ian Devereux was confident that having sold some equipment without even trying then some real marketing work would bring success. His task was to convince the bank manager that there was a future in exporting. Faced with proof of the orders from overseas and that Rocklabs was the first company to be a specialist in this type of equipment, the bank approved a $5000 loan and a $5000 overdraft. Ian Gillies agreed to make the equipment and Ian Devereux undertook the selling. Three machines were made in the first batch. The plan was to sell ten machines in a year which would keep the business afloat, while the maximum might be twenty if the year went well.

In 1975 Rocklabs was going well, with orders approaching the maximum of 20 machines. The business was succeeding, in part because their competition was too slow. If a customer's machine broke down they wanted another one immediately, not in a year's time, as was standard with Rocklabs competitors, so Rocklabs kept a few machines in stock, always ready to send. The machine being made by Rocklabs prepared a sample for analysis but did no actual analysis. Sample preparation usually involved three steps. A sample was first dried in an oven at 100 °C then crushed using a rock crusher. Then a portion was pulverised into a powder and a sample of that was taken for the analysis.

The crushing was done with a normal jaw crusher made by Ian Gillies, a machine that has two jaws with a fixed and moving plate. However, in the early 1990s engineer Philip Boyd invented a new type of crusher and this was licensed to Rocklabs. Rocklabs called the crusher a Boyd crusher and it became the preferred crusher worldwide and the number one machine in Rocklabs catalogue.

"The pulverising machine was called a ring mill and consisted of a steel pot with concentric rings inside and a lid. The crushed rock was put in the pot with the rings and the lid was put on. This was called a head which went on a machine that had a sort of hula hoop motion with an out of balance weight and this hula hooping motion set up all the rings inside which pulverised the rock. It was very fast and very noisy but would pulverise very uniformly and very finely. This machine, which was very new in our early days has taken over almost every lab in the world for pulverising. Rocklabs still sells a ring mill but it's much different to what it looked like in the past. It used to stand on the floor, now it is in a soundproof cabinet with either mechanical or pneumatic clamps. We've broadened the range and now we sell mills, crushers and splitters. Then we developed those products into mechanised processes and automated



Ian Devereux with the pulverising machine.

processes. When we started one of those mills in a box was $500—now we've had orders up to $US3 million from one lab to automate a sample preparation procedure in a big gold mine. So our company has grown vertically and horizontally."

Rocklabs tried to keep things simpler than their competitors because the equipment was going into remote areas like 5000 m up the Andes in South America. Instead of robots, Rocklabs made mechanical devices like small conveyor belts with a small bin containing a sample. A container would be packed with the components and then the system would be installed once the container reached the customer. The container could be taken into very rough country and orders were delivered to Russia, Canada, the United States, Chile and many other countries. Distance has not been a problem for Rocklabs, but initially it made customers wary, as Ian Devereux recalls:

"Customers felt we were a long way away and they did not see New Zealand as a mining country. The distance was much more important to the customer when they thought of things breaking down, so we had to have a really good service. We'd get an order in the morning and within 24 hours it was on a plane. We built up a reputation around the world, people would say, 'Gosh, you can get stuff to our mine faster than we could get it from the hardware shop down the road'. When we started off most of our competitors came from Germany and a few in the United States, but the latter just seemed to fade away. They weren't developing new products and the mining industry was decreasing in the United States because of environmental issues. The lack of interest by the Germans was mainly from companies who made a whole range of products at that time. If you were starting up a mine you would go to one of these places and they could design you a whole mine, mainly coal mines, but they could do anything. So, you would buy diggers and processing equipment and ball mills right down to a laboratory. From their perspective, the lab equipment was very small and didn't cost much and no one was really interested in it. They would wait until they got ten or twenty orders and then they'd make a batch. The customer might wait a year and that was one of the reasons I thought we'd succeed because we were very small, specialised, flexible and energetic. We'd be on a plane and off to see someone right away and so we were in an ideal position to take over a lot of this business. It didn't take too long to do a job because we had machines in stock, we made that decision early on so we had it there when it was needed and spare parts stock as well in case something broke down and someone needed it in a hurry."

After a successful 30 plus years growing Rocklabs, Ian Devereux had begun thinking about retirement and wanted to sell the business to ensure Rocklabs would continue to grow and be successful on the global stage. He was looking to sell to a New Zealand company when he came across a newspaper article stating that Scott were looking to acquire companies. The background was suitable—engineering, automation and exporting. Nor was Scott Technology too big. Rocklabs had about 40 staff and Scott Technology about 160. The sale was soon accomplished:

"I decided after visiting lots of companies overseas to ring up Scott Technology and offer them the business. Chris Hopkins will remember the day because he was about to go out to lunch and Mary Aberhart at reception said, 'There's someone on the phone from Auckland who's got a business for sale. Could he please speak to someone?' He said, 'Oh, ok, I'll speak to him before I go to lunch', thinking it might have been some kind of lunatic. I gave him a quick rundown of the company and told him I'd decided to sell because I was getting stressed and didn't have any family members interested in the business. The business was growing rapidly and needed a different type of owner. I'd built the business up from sales of $10,000 in the first year to $20 million in my last year and wanted the very successful company to stay in New Zealand. Chris said, 'When can I see you? I'll be up in a couple of days to see.' I decided to sell to Scott Technology in 2008 and I stayed on for a couple of years as manager until I retired finally at Christmas 2011, roughly 40 years since I started."

Since its founding in 1969, Rocklabs has seen significant technological advancements and has had to adapt, growing and changing to meet their clients' needs in the timely and customised nature that their reputation is built upon. Rocklabs products have evolved from simple bench top equipment to complex end-to-end automated systems. The game changing Boyd double acting jaw crusher is featured in many of these advanced automated systems, however, an ongoing commitment remains for the supply and support of stand-alone sample preparation equipment to commercial labs, academic institutes and mining operators alike.

With such a successful 50 years under their belt, the future for Rocklabs looks bright. Rocklabs will continue to bring new and innovative disruptive technologies into the future with ongoing advances in safety, productivity and quality, as the world leaders in sample preparation.

In 2017 an excellent retelling of Ian Devereux's journey was published. *To Cut a Long Story Short* by Karen Jarvis is a vivid account of an inventor who followed his passion and believed in himself. From bullied farm boy to PhD scholar, to family man and founder of the highly successful, internationally acclaimed company, Rocklabs, Ian Devereux has lived a full and fascinating life.

Devereux gives a gripping account of his work as a forensic scientist on the Arthur Allan Thomas case. Anecdotes from business trips to politically unstable countries, including near death experiences, will engross readers. His unorthodox approach and willingness to take huge financial risks gave rise to a niche marketing business model that was revered by economists of the day.

Shining through this biography is Devereux's generous and trusting nature, formidable intellect and contagious sense of humour. Karen Jarvis's lively narrative will keep the reader engrossed to the end.

To order *To Cut a Long Story Short*, e-mail maria@lifestories.co.nz.