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Twins under the skin

Two different jobs, two very different Kobelco SK500 excavators

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How do we find more log truck drivers?

NEW ZEALAND **TIMBER**

A sawmill that doesn't need logs

KLC is logged onto timber

Story Hayley Leibowitz
Photos: Hayley Leibowitz & KLC

A TIMBER MILL WITHOUT TIMBER? Not quite, says KLC's Project Engineer, David Lewis. Just not in the form of logs.

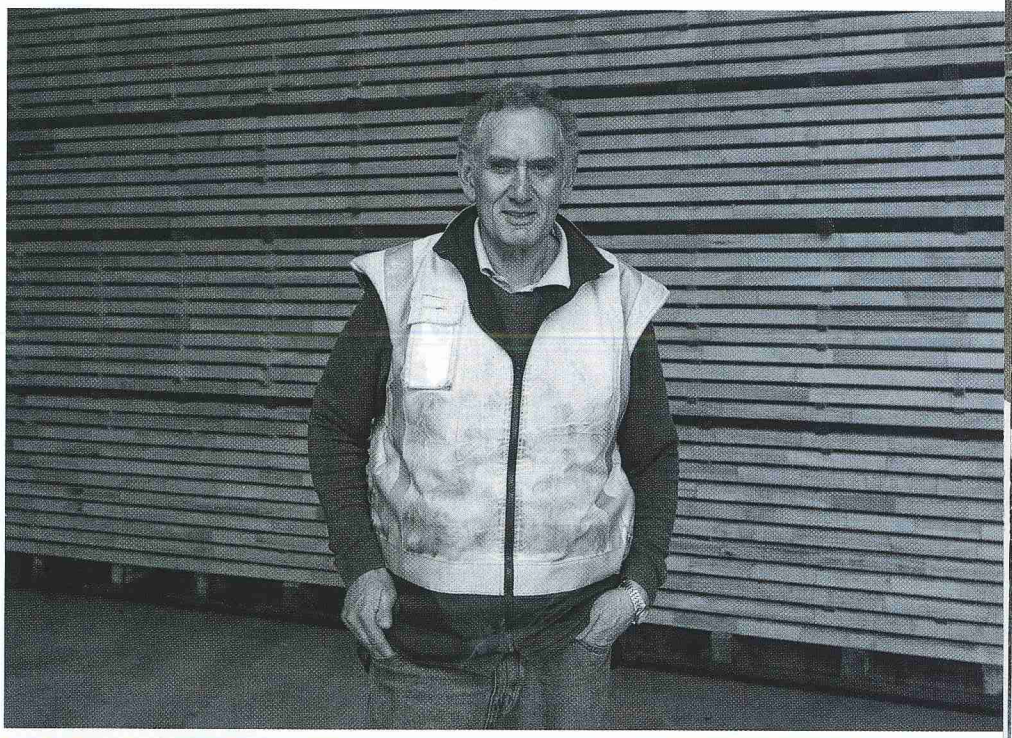
KLC, one of New Zealand's largest timber treatment and re-manufacturing operations starts its process with kiln drying, skipping the saw milling altogether. The Radiata pine arrives as green sawn lumbar, still wet, in its rough sawn state.

"It comes from various sources depending on what we need," says David, son of Managing Director and company founder, Kevin Lewis. "We dry it and develop it into a finished product. So we don't do any saw milling. No logs come onto our site."

He explains that with huge capital expenditure put into local sawmilling to cut logs by the likes of Sequal, Panpac, Tenon, CHH, Pacific Pine and Tregoweth, the company strategy at this stage is to buy sawn lumber from those companies and focus on the remanufacturing side.

"Both strategies have their pros and cons," he says, "the main pro for us is getting the grades we want and not having to deal with the out-turn of the whole log."

The result is a wide range of



Top: The KLC production site is based at the old Forest Service main workshop in Kaingaroa.
Above: KLC founder and Managing Director, Kevin Lewis.

Left: KLC's Generation 2 weatherboard fascia cladding system is among the company's most successful product lines.

Above: Perfectly formed – newly made weatherboards emerge from the KLC production line.

Below: David Lewis, KLC's Project Engineer.

weatherboards, fascia and dressed boards produced at the five-hectare Kaingaroa village site, which at first glance, appears to be a maze of buildings and warehouses. It's clear on a walk through the plant that this is a very well structured maze, which makes use of an unusual space.

In the heart of the Kaingaroa Forest, just south of Rotorua, the buildings were originally the NZ Forest Service Headquarters' mobile plant workshop site. Once a thriving forestry town, changes to cutting rights ownership and the advent of new harvesting methods in the 1980s, took a toll on local employment opportunities. The village had been gifted to the local tribe and the site had been abandoned in 1987, just before the Forestry Service was disbanded. It was left desolate for 10 years except for the workshop, where David's grandfather had set up a carpentry shop.

"The timber buildings here are all original Forest Service buildings built in the 1950s," says David.

"A lot of the timber was the first rotation of logs coming out of the Kaingaroa forest, so when the first rotation came through in the '50s they had sawmills around the place. There was one actually sited not far from here and they milled a lot of the logs and built a lot of these sheds from that original rotation. We've adapted to what we've got."

With individual sheds for different processes, the space has its challenges, particularly when it's raining, having to transfer dry timber between sheds.

"But in general, it's quite a good way of doing it and we've tried to keep our whole process flexible," says David.

"Companies often make a line or machinery single-product orientated and we've tried to stay away from that. We've tried to make sure that all of our stations can adapt to the products

Above: A forklift pushes sawn timber into one of the Windsor drying kilns.
Below: Pipiana Te Paa feeds shook into the HS200 horizontal finger-jointer.

that we're making at the time."

Another challenge the site brings with it is isolation. Being half-an-hour's drive from Rotorua brings with it both advantages and disadvantages, says David, pointing out that it's no different from driving somewhere in Auckland but is perceived differently being further out. Plus, while the site is "as noise-friendly as possible" much of the noise they do make wouldn't be possible in a built-up area.

When Kevin Lewis saw the abandoned site in 1997, he had a vision for its development. The rest, as they say, is history. KLC now has close on 10 managing staff and employs 100 people on the ground. Starting with five hectares, KLC has slowly expanded into the site. Two shifts daily see the kilns running six days a week, 24 hours a day. KLC pays a lease on the land and owns all the buildings on site. Employees come from neighbouring villages or Rotorua and are "skilled up".

"There's socioeconomic challenges with the workers and we're here to try and help with that. There'd be no factory without the people working in it. People go through Competenz training, so they get offsite training as well as on-the-job training," says David.

To begin with, Kevin set his sights on the export market, developing strong business ties in the United States with a distribution

system via a warehouse set up in Portland, Oregon.

So, by 2003 the company was well set up to be heavily involved with the clear board and finger joint market in the United States, says David, adding: "We were moving all our stock to the States. They had a lot of untreated material going there.

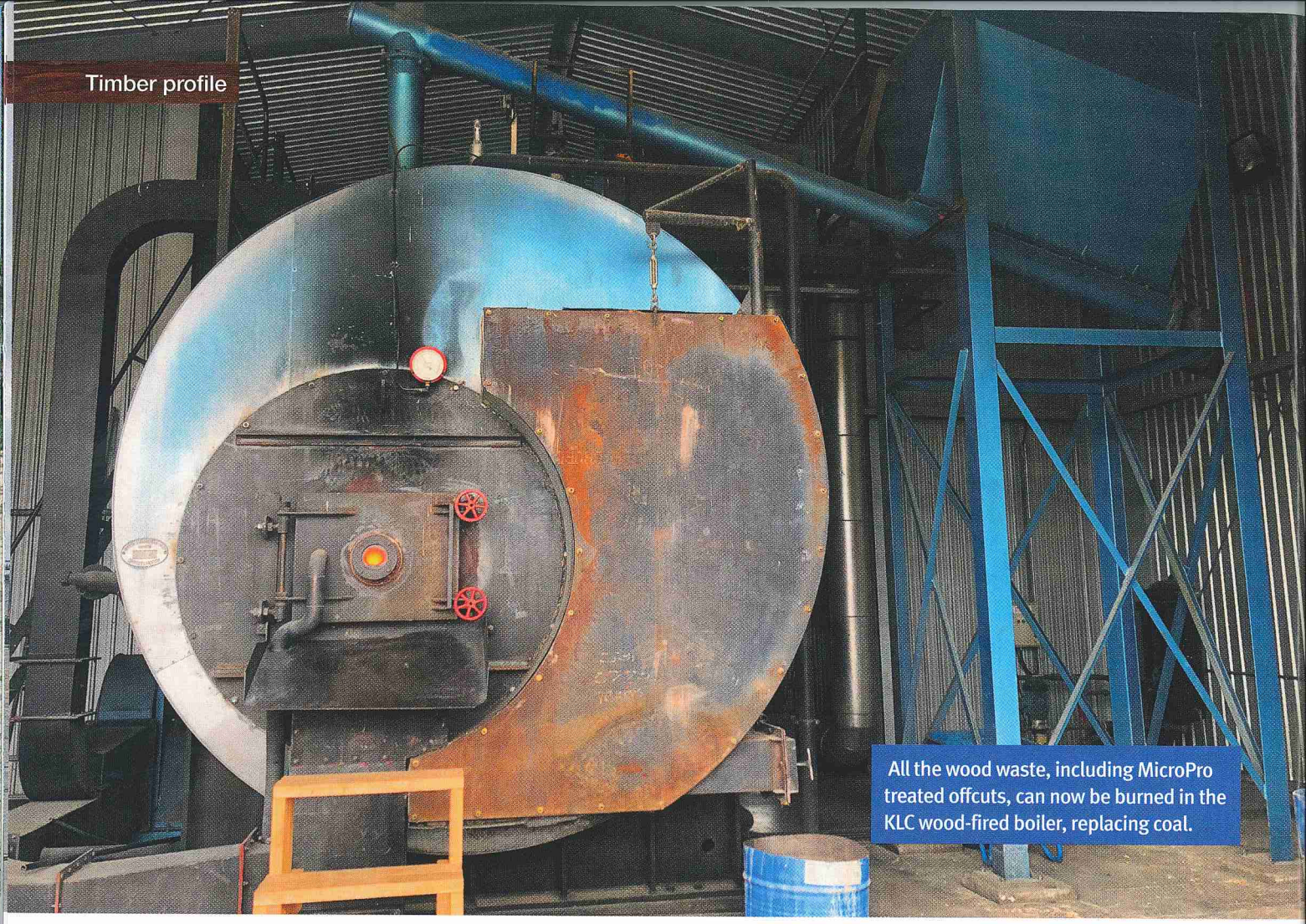
"But the decision was made that we could probably do better if we were to treat it, so we looked at establishing a treatment plant for LOSP for the US market. About that same time we upgraded our optimising saw from our chalk marking line and put in our first scanners.

"We fed the wood through the scanner and docked it up for shook and for DIY components for the States."

At that stage the DIY market in the US was KLC's bread and butter, producing finger-jointed products and DIY boards for the likes of Home Depot.

"From there it was finger-jointed, LOSP

Right: The modern production line is speedy and accurate.



All the wood waste, including MicroPro treated offcuts, can now be burned in the KLC wood-fired boiler, replacing coal.

treated and preprimed with acrylic primer, which anyone that's been in that market knows is very tricky to get right," David adds. The resin in the timber combining with the white spirit-based treatment of the LOSP could cause an unwanted reaction.

"We don't use acrylic paint anymore, rather oil-based," he says. "It's just not robust enough to handle the job. So there were a lot of learning curves." Learning from those curves grew KLC's export market to include, not only the US but also Asia Pacific and Australia.

Then came the Global Financial Crisis (GFC) in 2007/8, which, David says "basically killed America overnight for us, so our market there disappeared".

Add to that the Australian market for treated pine being cannibalised by cheap imports from South America and KLC had to reinvent itself overnight. Turns out the export market's loss was New Zealand's gain.

"We were close on 95% export-based and had no real domestic presence," says David.

"We sort of flew under the radar in terms of manufacturing, didn't promote ourselves as anything on the domestic front. Basically, we had to turn to that. Exchange rates around the world were stuffed so we had to find somewhere to sell, so decided to have a great crack at the local market."

He adds that people were shying away from LOSP treatment and its accompanying problems and customers were wanting a higher grade of treatment. So, in 2008/2009 KLC converted its treatment plant to be dual process.

"When we built the LOSP plant we had a vision that it would be a water-based treatment plant as well at some stage in the future," he says.

"For LOSP you don't really need a lot of pressure so they aren't built very robust. It's just a real low pressure vacuum cycle. When we built it, we built it with the vision that it would one day be a water treatment plant so we built the cylinder and everything with the foresight that it could handle high pressures. We had made our working tanks and everything slightly bigger to accommodate water-based treatment as well."

The company has grown and changed over the years, keeping in line with market demands and environmental awareness. It has grown organically as each new process built on the previous one. Three Windsor Kilns were the first to be installed, the practically-named Kilns One, Two and Three, which are still in use. The old boilers ran on coal brought in by the truckload to be burnt to dry the wood.

"That's how we first started making any money," David adds. "We would just bring in the wood, dry it and send it back. I think about a year later we put in a small amount of processing – two Weinig planers."

This formed into a manual docking line, docking the timber, machining it through planers and cutting high quality board to length. That extraction system was then paired with the boiler, which was converted to being able to burn both coal and waste wood – "when we could supplement our coal with wastewood our fuel costs went down which was good."

Next came an optimising saw, another small planer and even a new shareholder in 2000.

"With that injection of capital, we purchased another planer, another extraction system and a Grecon finger jointer and optimising saw," says David. "So then we starting cutting our own shook. After that came an acrylic paint line for pre-priming."

He points out that the highs over the years have always been when KLC has installed new gear or increased its capacity in any way. Woodworking machines are all by Weinig, monitored by the parent company in Germany.

Apart from cutting logs into sawn lumber, the site allows for the entire process. Drying

right through to pre-priming, is done on site.

David says: "A lot of companies have to farm out work. They'll send the drying somewhere and then they'll send the finger-joining somewhere else, or they might have to do the treating or painting elsewhere, but we've got it all in the one site, so we can monitor every step of the way. We even do the laminating ourselves."

A game changer for KLC was a new process called MicroPro, which had been used successfully in the United States in the phasing out of CCA (Chromated Copper Arsenate).

Micropro gives H3.2 and H4 levels of treatment. It has environmental certifications including the Global Green Tag, meaning it has passed fit-for-purpose tests, and is safe, healthy and better for the environment.

"We were right on the cusp of that happening," David says. "So we converted our plant to MicroPro, which was just a small upgrade but we had to upgrade the way we handled the chemicals going into the plant. That's when we became MicroPro treaters, as our customers in Auckland wanted something better."

Mike Liddington overses the infeed to the Powermat 2500.

There's no green mill at KLC – the company's focus is on taking sawn timber and producing final products.

The dual LOSP/MicroPro treatment plant.

That was also the beginning of KLC's Generation 2 weatherboard fascia cladding system. With a 50-year guarantee it "hit the mark in terms of what we wanted". Well above building code regulations for cladding, the product is fit-for-purpose. 2011 saw another upgrade of the entire plant.

"We added a 250m² building to house a new Weinig planer, Luxscan scanner and Dimter optimising saws. Also, both of our finger-jointing machines were replaced with the latest technology that Weinig/Grecon could offer," says David.

Now as environmentally-friendly as possible, KLC no longer uses coal and David says: "We're completely self-sufficient with fuel. Being MicroPro we have consent to burn the shavings. If it was any other treatment, like CCA, we wouldn't be allowed to."

He adds that it's taken "that long, from about 2011 until now, to really get market presence and awareness". Whilst the emphasis is currently on the domestic market, KLC has stepped back into the States and Australia in a small way and now produces around 75% domestic and 25% export.

In terms of volume, KLC sees around 3,000m³ come in each month, with 2,000m³ going out. Still expanding, David says the company is bringing in another finger jointer this year to try and push that out to 4,000m³ coming in and 2,700m³ going out.

As to the future, David points out that the market's been 'pretty solid' for the past few years domestic building-wise.

"Auckland's been really good for a wee while," he says. "The whole country really – Hamilton, Tauranga – seems to still be moving along quite well. We're still pushing our brand and brand awareness.

"Basically, we want to make people aware of what they should be putting on the outside of their house and show them that there is a choice that they can make. We think timber's the better option." NZL

Lorosio Yabakidrau (left), Solomone Kaitani (centre) and Marina Warren feed the Hydromat 2000 with MicroPro-treated finger-jointed blanks.