OFFICIAL PUBLICATION OF TIGERCAT INDUSTRIES INC.

BETWEEN H BRANCHES

ISSUE 61 OCTOBER 2024

Monarchs of the WOODS

6040 Carbonizer



6900 GRINDERS in FLORIDA

STEEPER and SAFER

Tigercat | TCi.



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BETWEEN<mark></mark>≝BRANCHES

ISSUE 61 OCTOBER 2024

IN THIS ISSUE

TCi Dealer in Poland4
Support News5
Product News6
544 First Impressions
What's Your Job?13
Chilean Forest Classroom 16
Monarchs of the Woods22
Forest to Sawmill in Chile 28
Road Lining in New Zealand 32
Buckwild with Bubbarudy 37
Steeper and Safer in Chile42
The Daily Grind in Florida 48
Tidewater Demo Day54

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FROM THE Editor

B etween the Branches often champions the champions of the forest harvesting industry. Much of the content in this issue relates in some way to the power of advocacy work, and the new tools that social media has provided to promote forestry as a positive force in the world.

On the more traditional front, we spoke to Australian contractor, Adan Taylor about advocacy. Adan is Managing Director of GMT based in Imbil, Queensland. He says joining the board of the Australian Forest Contractors Association provides him the opportunity to interact with other industry professionals to further improvements in safety, productivity and stewardship. With an accounting background, Adan also gains satisfaction in helping fellow contractors with costing and contractual negotiations.

Next-generation loggers are promoting the industry online. Levi Spring created a brand with his *Buckwild with Bubbarudy* social media channels. As a day-in-the-lifer, the young teen picks out everyday occurrences in the world of logging in Mississippi rather than trying to sensationalize the job for more views. His tens of thousands of followers tend to agree that sometimes real life can be more interesting. Taking real life a step further is professional operator trainer Francisco Sandoval who works for Chilean forestry giant, ARAUCO. Francisco shares his deep operational knowledge with his 7,000 followers on his Facebook page, *Tips Forestales*. His efforts promote safety and professionalism in the world's forests.

This issue has lots more interesting content focused on how contractors solve problems. During regular visits to forestry operations, it is easy to take for granted the road networks that access working forests. Learn about road lining in New Zealand with the 180 swing yarder. Dan Mouatt discusses the challenges associated with opening up corridors to develop new haul roads in remote areas with difficult topography.

A long way from the North Island of New Zealand, Keith and Glen Jung talk about the complexities of land clearing, grinding, landfill operations, and recycling in urban Florida. Two Chilean loggers talk about steep slope harvesting, and vertically integrating harvesting and sawmilling. And on top of all that, the Tigercat | TCi 2025 calendar.

– Paul Iarocci

COMMUNICATIONS MANAGER AND DEALER DEVELOPMENT

Do you have something to say?

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TCi IN POLAND Aurox Forestry Machinery to represent the TCi equipment brand in Poland.

igercat Industries Inc. is pleased to announce that Aurox Forestry Machinery has been appointed as the TCi distributor for Poland. Aurox is dedicated to delivering efficient and comprehensive solutions and systems for the Polish forestry industry that address effective forest management, sustainability, and environmental protection.

Aurox Forestry Machinery, established in 2022, grew from the harvesting and land management business, Elitelas, established in 2006. Elitelas currently operates a large fleet of harvesters, forwarders, mulchers, and aerial device machines conducting power line right-of-way maintenance, as well as traditional tree harvesting and extraction operations. In 2022, company owner, Krzysztof Madej launched Aurox Forestry Machinery to sell and service the Kershaw Skytrim machines, Serrat mulching heads, as well as agricultural attachments.



Currently operating out of a small service facility in Durdy, the company hopes to complete construction on a new, modern service centre in Tarnobrzeg, 10 km (6 mi) northeast of Durdy by the end of 2024. Aurox also has a fleet of mobile service vans suitably equipped for servicing heavy equipment. Aurox is well positioned to serve the Polish forest equipment market with extensive hands-on harvesting experience, strong service capabilities and close contact with other Polish harvesting companies and state-run operations.



Jake Peters

Additional Product Support in Australia

Tigercat announces an additional Australian factory representative team member, Jake Peters, based in Garfield, Victoria.

"Jake brings with him a deep understanding of forestry machines and the expectations of our industry's customers. His vast knowledge of forestry products will greatly benefit our team," states District Manager Glen Marley.

Jake, along with Glen Marley based in Gundagai, NSW, Steve Green based in Launceston, Tasmania, and Damien Ambrose based in Tumut, NSW, form the Australian product support team. Tigercat has been successfully supporting the Australian dealer network and customer base for the past 24 years.

"I'm looking forward to joining the team supporting Tigercat products, our dealers and customers in Australia," adds Jake.



Brady Lizotte

Product Support Grows in Western US

Brady Lizotte joins the western US Tigercat product support team. Brady is a heavy equipment professional based in Powell Butte, Oregon. Over the past nine years, he has worked in various industry sectors across the United States, including forestry, construction, oil and gas, agriculture and mining. His roles have included shop mechanic, field service technician and service manager.

"We are thrilled to welcome Brady Lizotte to our Field Product Support Team," says Service Director Martine Léveillé. "His skills and enthusiasm make him a perfect fit for this dynamic group. With our expanding team, our dealers and customers will continue to benefit from outstanding support as the machine population grows."

Originally from Maine, Brady is well-versed in forestry equipment and Tigercat. He recently moved to central Oregon and will work with Regional Service Manager Damien Donoher to support the western US dealer network.

"I am very pleased that Brady is joining the Tigercat product support team," states Damien. "He is an extremely skilled and valuable addition who brings hands-on technical skills that will help us support our dealer network and further grow our customer base in the west."



Éric Boulanger

More Canadian Product Support

Éric Boulanger has been appointed as a product support representative for Quebec and northeastern Ontario. Based in Rimouski, Quebec and with over 30 years of experience in the forestry industry, Éric brings excellent product knowledge, unmatched tenacity, and a constant thirst for learning.

"I have known Éric for many years. His reputation precedes him," says Service Director Martine Léveillé. "His extensive experience with our machines since their debut in Quebec will undoubtedly benefit Tigercat, our dealers, and our valued customers. I am thrilled to welcome him to the team."

Éric's mandate will involve supporting and developing Tigercat products and the dealer network alongside Bruno Villeneuve, Keith Gauvreau, and Yannick Lapointe. "I'm really happy that Éric is joining our team," says Bruno. "Even though he worked for the competition, we always maintained an excellent relationship. It was always a pleasure to collaborate with him during deliveries. His experience with harvesting heads will definitely be a plus."

Most recently Éric worked for Logmax in the role of product support representative. Prior to that he worked as a field technician for a series of dealerships in Quebec, following the Tigercat brand as distribution switched from Garage Morneau to Strongco, and then to Wajax.

Éric looks forward to meeting Tigercat customers in the field. "I'm delighted to embark on another challenge with Tigercat, Canada's leading forestry equipment manufacturer, as a product support representative."

PRODUCT NEWS

TELEMATICS FIRMWARE Update

Upgrade to Tigercat's latest telematics firmware for added functionality, improved user interface, and to take advantage of the latest advanced engine diagnostics capabilities.



New functionality

The update offers enhanced features for a more comprehensive telematics experience.

For instance, a new display has been added to the information tab that displays information reported from TPMS, the Tire Pressure Monitoring System. This update is available for all wheeled machines.

Advanced diagnostic tools

Tigercat has developed more advanced and comprehensive tools for troubleshooting.

The LogOn[™] interface provides easy-to-understand steps to diagnose issues, directly referencing the appropriate section of the service manual. Several diagnostic tests can be initiated directly from LogOn to further diagnose the underlying reason for the fault code.

Compression, runup, and highpressure rail engine diagnostic tests have been added to this important new update.

Improved user interface

A more intuitive and userfriendly interface facilitates easier navigation.

For example, colour coding has been added to the Engine Diagnostics reporting screen to make it easier to comprehend the status of the test. This applies to all the tests available in Engine Diagnostics.

Bug fixes

The firmware update resolves known issues and improves overall system stability.

Scan the QR code for detailed upgrade procedure instructions.



LogOn version 2.9 or lower to version 3.X



LogOn version 3.0 (only) to version 3.X

NEW 4054-20 MULCHING HEAD



Tigercat releases a smaller class mulching head well suited to niche applications like fire mitigation and remediation.

esigned for the Tigercat 470 mulcher, the 4054-20 provides a complete endto-end Tigercat mulching solution for narrow swath applications and lower horsepower carriers. The 4054-20 head has a smaller diameter drum, a two metre (79 in) mulching swath and a lighter weight, more compact design. Key applications include fire mitigation and remediation, as well as right-of-way and site preparation projects requiring a smaller, more agile machine.

The smaller size and lighter weight of the 4054-20 means it can work

on carriers with less attachment power, while retaining similar recovery performance to larger heads equipped on larger carriers.

Various carbide tools and hardened steel knife tools are available to suit a range of applications. The Tigercat designed bolt-on tool system is available for both the open face rotor and the feed control rotor.

Manufactured to Tigercat's high standards for robustness and quality, the 4054-20 mulching head offers excellent durability and reliability. Carbide welding on the skis provides extra protection from wear. The robust housing with reinforced side covers adds to the heavy duty build quality and structural integrity.

The drive system efficiently transfers power with no belt slip and reduced belt tension maintenance. Large, heavy duty bearings and shafts ensure long life and high uptime.

Numerous removable access covers allow easy maintenance of wear items and service points. The wear liner can be serviced in the field and does not require welding or rotor removal.

TIGERCAT RELEASES 6040 CARBONIZER



igercat Industries is very pleased to announce the official release of the 6040 carbonizer. This long awaited product replaces the 6050 carbonator that Tigercat marketed for a brief time after acquiring the product through the purchase of ROI in 2019. The mobile onsite wood conversion system is once again available in the marketplace after a comprehensive, ground-up redesign.

The 6040 is one of the most environmentally friendly wood debris reduction and conversion systems available on the market. The machine inputs woody debris and produces a high quality organic carbon with up to 90% material reduction. It is an ideal solution for converting unwanted logging and agriculture residue into a useful, high grade organic carbon that can be left onsite as a soil additive or marketed for many different commercial uses. The process captures 20 to 30 percent of the available carbon in the feedstock and sequesters it for thousands of years, furthering the goals of greenhouse gas (GHG) reduction. The innovative conversion process operates at high throughput levels and produces very low emissions because the gasses are combusted in the controlled combustion zone.

The 6040 redesign addresses performance related issues experienced in the original design and represents the knowledge of the applications that Tigercat engineers and field support personnel have gained over the past five years.

Great care has been taken to create a machine that allows modular replacement over time. For instance, the grates in the carbonizing chamber are now made up of seven different sections that can be rotated 180 degrees to balance wear and extend life. Individual sections can be replaced as required. The undercarriage, auger trough, and conveyor system are all bolt-on sections to the main carbonizing chamber frame. Everything can be separated for service and replacement if required. The modular bolt-on design also allows for differing expansion rates of these major components.

The replaceable thermal-ceramic panel seal plate design has been improved, reducing panel wear. The composition of the panels has been altered to decrease back-face temperature while storing and utilizing more of the heat energy produced during the carbonizing process. This provides a more stable and sustained temperature within the carbonizing chamber. The result is increased efficiency, higher infeed rates, reduced emissions, and a greater yield of higher quality organic carbon.

The auger trough is designed for minimal air leakage, assisting with under-air efficiency, further defining the secondary combustion zone, while reducing hotspots that could form from an inefficient base pressure or vacuum. Unlike the 6050, the auger trough, where the quenching process takes place, is entirely sealed. Once the organic carbon drops through the grates, it is fully quenched by the water bath. An onboard hydraulic water supply pump and integrated automatic water level control system reduces water consumption by about 50% compared with the 6050. Automated water fill, level control, and water retention provides the operator a window of time to replenish the water supply if required.

The adjustable conveyor simplifies handling and management of the organic carbon product. It pivots 105 degrees from side to side and can be raised or lowered. The conveyor easily folds for transport and does not have to be detached from the machine frame.

Temperature control sensors are located throughout the machine. This, coupled with the Tigercatdesigned operating software and telematics system, improves data access and customer support. The 6040 development also emphasized parts commonality among other Tigercat products including pumps, motors, valves and filters, simplifying parts inventory management at the dealer and end user level. The overall machine weight has been reduced from 43 550 kg (96,000 lb) to 37 650 kg (83,000 lb). Extended track frames improve load distribution on the trailer and reduce soil compaction on the ground.



Tigercat-designed operating system provides a simple, intuitive interface for an excellent operator experience.



Specially formulated thermal-ceramic panels store and utilize the heat energy produced from the carbonizing process.



BTB visited the operations of Les Forestiers J.M.G. Inc. based in Desbiens, Quebec to check in on the prototype 544 harvesting head.



Pierre-Vincent and Maxime Fillion.



Les Forestiers J.M.G. harvests multiple species in mixed diameter stands in the Lac Saint-Jean region of Quebec.

Pierre-Vincent Fillion started working in the bush when he was twelve years old. He, along with brothers, Nicolas and Maxime, and father Martin are the owners of the 26-year-old harvesting company Les Forestiers J.M.G. Inc. The company operates in the beautiful region of Lac Saint-Jean. Pierre-Vincent manages the forestry operations and machine maintenance. Maxime manages construction and road maintenance. Nicolas manages trucking.

Les Forestiers J.M.G. purchased the prototype 544 harvesting head,

installing it on one of its existing H855D carriers. At the time of the site visit in July 2024, the head had acquired over 500 hours in its first six weeks of use. The harvester is double shifted, operating 22 hours per day, four days per week.

The Fillions have been using Tigercat machines in their harvesting operations since purchasing a 1075B forwarder in 2012. They also purchased the prototype 1085B forwarder. Along with the H855D, they currently own two 1085C forwarders and an H855C harvester. The durability and performance of the machines combined with top level support over the years from Quebec dealer Wajax's Saint-Félicien branch provided the confidence to purchase the prototype head.

The 544 is the first head produced by Tigercat that suited the company's requirements. The size is well matched to the stem profiles and 10 to 60 cm (4-24 in) diameter range that Les Forestiers J.M.G. typically encounters in mixed species stands where the machine harvests spruce, fir, jack pine, poplar, aspen and birch.

BTB: How has your experience with the 544 been so far?

Pierre-Vincent: So far, cutting, feeding and delimbing performance has been excellent, and more efficient than the other heads that we have used. The geometry is similar to the Waratah 415, but the 544 head is bigger and tougher. This is what we were looking for because the 415 was not strong enough for the type of hardwood we are processing. The top saw was also a very big improvement for us. The two brands we have run previously didn't have a top saw. Especially in hardwood, it is very useful.

It is consuming about two litres of fuel per hour less than our previous head. It's a heavier head with the top saw which is usually supposed to consume more. So that is a big improvement. The hydraulic system and the electronic system are really well balanced with the machine to achieve that.

BTB: Aside from your past experience and confidence in the Tigercat brand, what attracted you to the 544 head?

Pierre-Vincent: We have done a lot of modification to our heads in the past to strengthen the areas in the frame or to fix problems we were having. With Tigercat, we really expect durability. Just looking at the construction of the head, that is a big part of what made us decide to purchase it. We think it's one of the best features. And if there is anything that needs to be modified or any improvement to be made, we know Tigercat will be looking at it and will be behind us. We work as a team.

BTB: Tell us about the D7 control system.

Pierre-Vincent: From what I've seen so far, it's easy to navigate and everything is also intuitive and very easy to self-learn. The operating screen is really well made. The way everything is placed on that. The interface is very good. The size of the screen is nice too. It's not too big.

BTB: What is your opinion of the wireless communication to the head?

Pierre-Vincent: The wireless communication doesn't have any lag at all. The wireless system came with the through-tip hose routing. And so, the fact that we can have the through-tip routing with 360 degree continuous rotation and wireless communications – it's way less downtime. The hoses aren't in the way. There are less problems that can happen over time, less maintenance. It's a very, very good feature.

BTB: Any final thoughts?

Pierre-Vincent: With all the new development that was done on it, we just put it into the bush and it works... and it works great. So that's really amazing that you achieved that with this head.



Scan to watch video.

The 544 harvesting head is achieving excellent production, performance, and efficiency straight out of the gate.



WHAT'S YOUR JOB?

Tigerca

Jon Cooper VICE PRESIDENT, ENGINEERING, CUT-TO-LENGTH SYSTEMS

Chris McMillan's feature covers roles, responsibilities and contributions of various Tigercat team members. This time around we look at the career of veteran Tigercat designer, Jon Cooper.

"Success comes from timing, hard work, and luck," says Jon Cooper, Vice President, Engineering. "And when I look back on my career, it has been very much that way." In June 1987, straight out of college, Jon Cooper started working at MacDonald Steel as a production planner. At the time, the fabrication company was supplying components to many well-known mobile equipment manufacturers. Jon held different roles and worked on various projects at MacDonald Steel until owner Ken MacDonald hired Tony Iarocci with the aim of starting a new company to produce forestry equipment.

At that point Jon became the second

official employee of Tigercat. As Ken and Tony were doing market research, Jon was creating layout drawings to help visualize and document their ideas. "I drew many machines that we were considering like forwarders, feller forwarders, wheel harvesters, skidders, threewheel and four-wheel feller bunchers." Nearly 35 years later,



Jon Cooper and John Kurelek check out an early 726 feller buncher.

Jon still has printed copies of these drawings.

In early December 1991, Ken decided that the first Tigercat machine would be a drive-totree feller buncher. Tony, Jon and industry pioneer John Kurelek worked on designing the 726. In April 1992, the prototype machine debuted at a logging exposition in Tifton, Georgia.

Jon's roles would soon expand and multiply as the Tigercat 726 gained popularity and dealer representation throughout the southern US. Aside from working on the design side, Jon also took care of other job functions until additional people were hired. Jon recalls, "When machines started shipping to dealers, I was travelling extensively teaching service technicians how to set up and troubleshoot the machines, basically service training. When I was doing service training I had a card for service manager, and then when I would go to talk to people in the parts department, I was parts manager. I would also talk to suppliers, so I had a card that said engineering on it. I did that until we hired people for those positions."

Jon eventually became product manager for the wheel feller buncher group where he would work on designing and releasing the smaller 720 buncher. When it was decided that Tigercat would enter the skidder market, Jon led the engineering team that developed the original 630, released in 1996. The 620, 635, and 640 clambunk models would soon follow.

Cut-to-length

In 2000, Tigercat purchased the assets of Hemek, a Swedish company that manufactured a line of forwarders and wheel harvesters. This would mark the entrance of Tigercat into the cut-to-length market. Along with the skidder product manager role, Jon took on the integration and development of the forwarder product line. Wheel harvesters were added to his list of responsibilities soon after.

The company and product offering continued to grow at a brisk pace and Jon handed off the skidder product group to Shawn Pette. Jon focused on developing CTL products and later, for several years, managed the Tigercat AB cut-tolength sales team located in Hede, Sweden. Gradually the Hemek designed machines were replaced with Tigercat machines like the 1018 and 1014 forwarders, and the 1135 harvester.

In July 2015, Jon transitioned into his current position as Vice President, Engineering for cut-tolength (CTL) systems. Engineering VPs manage Tigercat engineering teams to create and support the product lines, from the initial concept stage through design, development and testing, and then ongoing support throughout the product's life cycle. Jon's area of responsibility includes all forwarder, harvester, and related harvesting head models, and assisting the sales managers with market and dealer development for CTL products.

Along with Ben Blackman, VP Engineering, full tree systems, Jon oversees the many engineering technical groups. These specialized groups work across product lines to create engineering standards and best practices in such areas as electrical, hydraulics, fluid conveyance, product compliance, welding development, finite element analysis, control systems, and design systems.

When asked to sum up his time at Tigercat, Jon replies, "I have had an extraordinary experience working here. It started with a strong foundation in manufacturing, which led to an incredible career of product development. Ken's choice to develop forestry machines, Tony's decision to join in the endeavour, then having the opportunity to learn from Tony and John Kurelek was truly a combination of good timing and good fortune. With Tony and John's extensive experience



Jon Cooper looks at the original 1991 concept drawings he created of what would be Tigercat's first machine.



Jon checks the controls on an 1185 harvester.

in forestry machine development, I received a highly condensed education in how to engineer premium forestry machines. Just being part of the growth of Tigercat from nothing to what it is today has been an extremely unique experience that not many people get to be part of. It has kept me highly engaged for a very long time and has been a tremendous opportunity that I truly appreciate."



FOREST CLASSROOM

igerca

TOR MAN

BTB met with Francisco Sandoval, a shovel logger instructor from Chile, to learn about a logging training program and how Tigercat machines have become a valuable learning tool for future Chilean machine operators.

– Jorge Victoria

RAUCO is a vertically integrated global forestry company based in Chile. Francisco Sandoval is a shovel logger instructor at Academia Forma Arauco, the company's inhouse training centre. The academy was born from the need to respond to the new demands of the forestry industry and with the aim of training and educating workers to achieve a high standard of safety, quality and productivity. It is a pioneering industry training program in Chile. Since the academy launched three years ago, it has trained 1,000 people in timber harvesting, environmental protection, heavy equipment maintenance, road building and transportation. Currently, the program has 70 specialist instructors.

Francisco's career path started with a technical degree in industrial maintenance. After graduating, he joined a forest harvesting company as a mechanic. He worked for two years performing scheduled maintenance and basic repairs on processors, feller bunchers, skidders and loaders. But his curiosity, and desire to learn and grow in his job led him to ask his supervisor for the opportunity to operate a processor. From that moment on, he didn't want to get out of the seat. After a few months of training, he began his career as a forestry equipment operator in 2016.

For the past three years Francisco has been working as an instructor. He has experience with a range of forestry machines beyond the shovel logger, having operated everything from harvesters and processors to loaders and feller bunchers. However, his preference is the shovel logger. "I love the machine," he says. "It's a very dynamic job, involving a lot of strategic thinking."

Chile's geography presents challenges for timber harvesting, constantly encouraging harvesting professionals to be creative and resourceful, to traverse the cutting edge of forestry technology. "The main challenges I have encountered are related to the different types of conditions on the hill that we are presented with," says Francisco. "You don't just have to know how to approach a steep slope and cut trees, you have to study the hill – you have to have an overall plan to be able to harvest in the different scenarios that arise. Every hill is different. There have been cases where, regardless of my experience, I have had to stop and do a much more rigorous study of the slope, and based on this, rework my strategy."

Training process

The training program that Francisco delivers includes both theoretical and practical elements related to the operation of shovel loggers equipped with directional felling heads. The program trains students on falling and shovelling to roadside, pre-bunching for a cable assisted skidder, and line falling for a yarder. Students learn the basic movements of the machinery, winch assist equipment, felling and shovelling techniques, and work strategies. Each group of students is assigned to an ARAUCO forestry operation where they participate in what are referred to as training tasks.

Since the training is carried out within an active forestry operation, the study and planning of the slopes and terrain are exhaustive and governed by an assist table that sets out decision rules based on slope, soil conditions and other factors. Francisco explains that it is essential to have a slope plan, contour maps and a general plan of the harvest area. The next step is to do a tour of the sector. Based on this preliminary study, the harvest plan is created. Once these steps have been completed, the team proceeds with the harvesting operation. "The most important challenge for me personally is strategy. There comes a point where the slope can be very steep, but that is the machine's habitat, its normal environment. If the machine meets the conditions to be able to climb

well, it makes our work much easier," says Francisco.

The training phase does not have a set duration. Depending on the previous experience of the students, it may last anywhere from three to nine months. Once completed, the students move on to the productive stage where they become employees of ARAUCO and are assigned to the harvesting machinery they used during training. Although moving on to the productive stage means the training program has ended, the instructors come back sporadically to visit the former students to check on their work, offering support, assistance or further training as required. Francisco summarizes the program cycle. "ARAUCO buys new machines, and a new site is set up. As instructors, we come in, we teach people how to operate the equipment until they have learned it thoroughly and then they can continue harvesting on their own,

autonomously. And so, we follow that cycle."

Instilling confidence

Francisco reveals that, although working with a shovel logger on a steep slope used to make him a little nervous, this was mostly eliminated once he had the opportunity to get on a Tigercat LS855E. "Since I've been on a Tigercat, a lot of my nerves have gone away. Being able to see the two tracks while going down a 100% slope gives me a lot of peace of mind. I can see stumps and obstacles, and I can easily avoid them. The swing power is impressive compared to other brands. The fact that the joysticks are hydraulically controlled means they feel different in my hands. I can make more precise, smoother movements. Inside the machine is also quite ergonomic. It's quiet inside. It is fun to work with the machine. The fact that it reduces

my nerves and entertains me makes it a very positive piece of equipment," Francisco emphasizes.

Francisco highlights that the winch assist anchor point on the LS855E has several advantages compared to other brands. "I think it's great that the anchor point comes from the factory. It comes with three holes for different types of assists, for either one or two cables. The other thing I think is great about this machine is that the anchor point is removable because it comes with bolts. So, if the anchor has some play, some wear, you don't have to take the whole machine to a workshop to have it repaired. You just remove the anchor, take it to be repaired and then bring it back and continue working."

Francisco says that the cab's visibility is excellent, and the cameras also allow him to observe the position and movement of the assist cable. He says that factors such as the stability of the machine and the power of the tracks provide him with a sense of safety and peace of mind while operating. "Tigercat machines are very safe, dependable and durable. They're very reliable to work with. They're intuitive. They're very comfortable, very ergonomic. It's state-of-the-art technology."

Forest classroom

Francisco tells us that throughout his career as an instructor, he has been able to observe certain characteristics that turn a student into a good operator. "I really value the maturity of the person. There are people who don't have a lot of experience with machines, but they are quite mature and that's a good positive point. A shovel operator has to be a calm person, someone who thinks things through, who is constantly analyzing the situation to be able to do the job safely,

LE STAN ASSISTANT

"THERE COMES A POINT WHERE THE SLOPE CAN BE VERY STEEP, BUT THAT IS THE MACHINE'S HABITAT, ITS NORMAL ENVIRONMENT. IF THE MACHINE MEETS THE CONDITIONS TO BE ABLE TO CLIMB WELL, IT MAKES OUR WORK MUCH EASIER."

– Francisco Sandoval



The challenging terrain makes initiatives such as Academia Forma Arauco an important and valuable endeavour.

"A SHOVEL OPERATOR HAS TO BE A CALM PERSON, SOMEONE WHO THINKS THINGS THROUGH, WHO IS CONSTANTLY ANALYZING THE SITUATION TO BE ABLE TO DO THE JOB SAFELY, PRODUCTIVELY AND WITH QUALITY RESULTS... AND YOU MUST CONSTANTLY PLAN AND ADJUST YOUR WORK STRATEGY. SO, THERE COMES A POINT WHEN THE MIND IS VERY FOCUSED."

productively and with quality results."

Concentration is another very important characteristic for a shovel logger operator – the ability to evaluate multiple factors simultaneously. "You have to be very focused," Francisco explains. "Which side are you going to cut the tree from? How steep is the slope? What tension should you apply to the assist cable to be able to attack that slope? How is the shape of the hill changing? And you must constantly – Francisco Sandoval

plan and adjust your work strategy. So, there comes a point when the mind is very focused."

Francisco has taken on the responsibility of his role as an instructor with enthusiasm. His desire to produce well-trained operators and promote good practices in the trade led him to create a Facebook page called Tips Forestales in 2021. The page, with more than 7,000 followers, is where Francisco shares what he has learned over the years in Chilean forestry operations. Professionals like Francisco Sandoval and programs like the Academia Forma Arauco move the industry forward. "Thanks to the academy, we can train people, since in the past there was no such thing as training. Many people learned purely from their own efforts. Nowadays, there is constant training. It's a university in a forest," Francisco concludes.



Scan to watch video.



The LS855E assigned to Francisco's training task was equipped with the Tigercat 5195 directional felling saw, versatile for felling, shovel logging, bunching, stacking and sorting.

Francisco (centre) along with students Milton Jara (left) and Cristopher Roca (right).



of the VOODS



The last

Adan Taylor, Managing Director of GMT. Adan agreed to let us drag him out of the Gympie Bioeconomy Forum in April for an interview.

GMTLOGGING

alnable Timber Harvesting

Queensland contractor GMT evolves safe, efficient and flexible steep terrain Tigercat harvesting system to tackle the state's sustainable hoop pine plantations. Managing Director Adan Taylor takes us through the history of a family business and talks about advocacy and strategic thinking.

A raucaria cunninghamii, commonly known as hoop pine, is a rainforest species endemic to the Australian states of northern New South Wales and Queensland. Although radiata pine and various eucalyptus species get most of the press regarding the working forests of Australia, Araucaria has been adapted to commercial plantations in southern Queensland for the better part of a century. It is a hearty species with excellent drought and disease resistant properties.

The straight, cylindrical trunks yield a high-grade solid sawn clear wood well suited to floorboards, joinery and furniture construction. Other key uses include plywood, veneer, mouldings and speciality uses such as the manufacture of musical instruments. The interior walls of the Melbourne Recital Centre, a 1,000 seat auditorium, are finished with Araucaria plywood, a choice that takes advantage of both the outstanding acoustical and aesthetic properties.

HQPlantations (HQP) manages 40 000 hectares (100,000 acres) of hoop pine in southeastern Queensland near the towns of Gympie, Imbil and Blackbutt. HQP has a well-developed fire management program that includes fire-suppressing rainforest vegetation buffers and a network of fire breaks. Ideally growing on 40-50 year rotations, piece size is

– Paul Iarocci

typically around two tonnes. Many of the plantations occupy steep terrain.

In April 2024, we visited an HQP plantation with harvesting operations conducted by Imbilbased contractor GMT Logging Pty Ltd. Amid the soaring hoop pines anchored to steep slopes was a full Tigercat harvesting system – LS855E shovel logger with feller director boom and 5195 directional felling saw, LH855E harvester equipped with the rugged Tigercat 575 harvesting head, and a 1075C forwarder – plus an excavator base for loading haul trucks.

GMT was formed in 1992 by Geoff Taylor. "GMT Logging stands for Geoff and Marina Taylor. That's my parents' initials," explains Managing Director Adan Taylor. "I bought out the business in 2014 after my father had run it since he started up. He began in forestry in 1978 as a hand faller. That was back when the hoop pine plantations were mostly thinning."

Adan grew up in the town of Imbil, northeast of Brisbane. He explains that a large sawmill was constructed by a company called ACI in the early nineties, and sold a year later to Hyne Timber, one of Australia's largest producers of structural timber products. Established in 1882, the family-owned company has a long record of innovation in the lumber products sector. "Hyne bought this mill, and after a few months, they asked Dad if he would take on the principal contracting role. So, he basically purchased or consolidated all the harvesting that was going on at the time. That's when GMT came about." By this point the hoop pine plantations had matured to the point that clear fell operations were commencing.

Hoop pine isn't really a pine at all. In 1824 a botanist and explorer by the name of Allan Cunningham travelled up the Brisbane River, scientifically describing the species for the first time. He colloquially referred to the trees as "monarchs of the woods." Cunninghamii comes from Cunningham. Interestingly the genus, Araucaria, is derived from the word Arauco, a region in central Chile where the majestic Araucaria araucana - commonly referred to as a Chilean pine or monkey puzzle tree – grows on the volcanic slopes of the Andes. (Arauco of course is also the name of one of the largest and most progressive forestry companies in Chile, a company that has found its way into the pages of this publication many times over the years.)

Back to Queensland in the 1800s, intensive logging of the native hoop pine forests eventually set off alarm bells. By 1920 the first trial plantations were established. Aside from a few years during the Second World War, hoop pine plantings have occurred every year, contributing to a sustainable industry that adds to the Queensland economy in a meaningful way today.

Evolution of a system

Initially GMT employed a motormanual harvesting method, hand falling the trees and extracting to roadside with skidders or dozers in the typically steep terrain. In the late nineties the mill changed its log specification from 14-metre lengths to shortwood. "So we bought our first processor in 2001, a Komatsu 30-tonne excavator with a big old 624 Waratah on it," says Adan. "We followed that up with a second one so we could have a second crew, and eventually we ended up with three crews. As we started to mechanize more, the option came up to mechanically fell the trees. We didn't want to do that because we had eight or nine really good hand fallers employed at the time."

Manually falling hoop pine is challenging. "When it hits the ground, the crown shatters and it loses most of its branches. If we



Safety Manager, Dan Sweitzer (left) along with (married) operators Jason and Alison Crumpton.

fall them downhill, that's where they'd all end up, right down at the bottom. If we fall them uphill, we are putting the hand faller in danger because the tree could come back down on them. So we used to have to hand fall on the contour."

GMT's first leveling feller buncher was a Valmet 445 with a Rosin felling head. "We found it to be a game changer mostly because we could fall uphill, which meant that the top of the tree was now 40 metres [130 ft] up the hill," Adan explains. At about the same time, new environmental rules had come into place that prevented GMT from skidding downhill. "We bought some excavators and used them to pick the trees up and snig them uphill – sort of what you would call shovelling - but we started out with crab-grab style fixed heads. Quite often we would fall uphill and nearly be at the road, and the excavator could just lift the felled tree and spin it round. It started to save us a lot of time."

Geoff managed to convince a couple of hand fallers to transition into machines and the company carried on for a while with both manual and mechanized falling. However, health and safety legislation in Australia tightened up, the hand fallers began to retire, and GMT came to rely less and less on manual felling. "We slowly replaced all our hand fallers with feller bunchers, always preferring the [directional] felling head to a fixed one," says Adan.

Eventually in 2009 GMT purchased its first Tigercat, an LH845C fitted with a Waratah HTH622B from Forest Centre, the original Tigercat dealer for Australia. In 2012 GMT purchased its first 855 base, an LH855C unit equipped with a Satco 630 directional head, from current dealer Onetrak. (Onetrak established a presence in Queensland in 2018, further solidifying parts and service support for the region.) The company has purchased sixteen Tigercat units over the years, including three LS855 units with 5195 directional felling saws. This carrier ticks all the boxes for Adan – a heavy duty, full tail-swing leveling carrier with good stability, along with a head that can fell and shovel into large piles at convenient infield locations for processing.

"As hoop pine is a unique, slow growing species, we have to process trees into a lot of products, up to twelve, and they all need to be kept separate," Adan explains. "There's a lot of merchandising. Our primary product, probably 40% of what we cut out of a hoop pine, goes to the one sawmill based here in Imbil, as a partially pruned butt or a saw log. This mill produces timber for furniture, doors and cabinet componentry as well as internal mouldings. Due to its long internode spacing, hoop is mostly sawn into appearance grade timber. The clear pruned butts are the most valuable part, a log that is peeled to produce a really high-quality veneer. After that, below 20 cm [8 in], are all the various condiments. We go hunting for whatever we can find for the various other mill customers including some export markets." The remainder includes landscaping poles, fencing and a pulp log that is used by MDF plants. "They like the hoop pine because it's dense. Mixing it with exotic pine chips from other HQP plantations lifts the strength rating of the plywood."

Prior to adding the Tigercat harvesters, GMT used excavator

bases for processing. "We made good use of those excavator conversions for many years, but all they can do is sit at the end of that pile of logs and cut them up," says Adan. Switching to a purpose-built leveling harvester added many benefits to the operation. "For starters, the dedicated hydraulics are more productive and efficient. It has also made the operators more productive because they are sitting nice and level in the optimal position to cut up trees into neat stacks." Another big advantage is it can fill in for the falling machine if it goes down. The purpose-built carrier also adds flexibility. On a small or lower production tract, Adan can split off a harvester and forwarder, creating a traditional two-machine CTL system.

Adan and his operators like the strength and feed force of the LH855E/575 combination. "There's plenty of grunt to pull the trees



The 1075C unloads in front of a native hardwood fire buffer zone.



Jason Crumpton fells, shovels and pre-bunches large piles in locations within the cut block suited for infield processing. Adan has virtually eliminated hand falling from GMT's operations with good felling machines and strategic use of winch assist.

through, even if they are downhill slightly." We watched operator Zane Jensen tracking from one heap of trees to another, all neatly shovelled and bunched by LS855E operator Jason Crumpton. Zane routinely processes 500-600 tonnes per day.

Ever since the Imbil mill switched to shortwood intake, GMT has run forwarders. Adan keyed into the Tigercat 1075 series and at this point the company has owned five B and C models. "The forwarder operators need to be very organized and very good at keeping track of all those different log sorts," Adan explains. "They need to know how much stock we've got of each product, to be able to respond when a truck comes in and wants a particular log."

1075C forwarder operator Alison Crumpton is married to Jason. "They're brilliant. We are lucky to have found them," says Adan. "Initially Jason and his father joined our business. Then Graham retired and Jason said, 'Well, you know what? My wife is interested.' So Graham and Jason trained her and she joined the business. Alison is the glue that holds that crew together. It's just such a great working group."

GMT's three identical Tigercat harvesting systems are flexible and adaptable, resembling the full tree-CTL hybrid model popular in eastern Canada – where a harvester follows behind a feller buncher, processing infield. The system has built in redundancies. Every machine can perform two different functions, mitigating risk of production stoppage. In the event the loader is down, Jason and the other LS855E operators are quite handy using the grapple tongs on the 5195 head to load trucks. The harvester can act as the primary falling machine. Even the 1075C forwarder can do double duty loading trucks in a pinch.

The last piece of the puzzle for Adan was rethinking the company's tower yarding crew. Because the yarder could only extract about 150 stems per day, Adan couldn't justify mechanized felling and so for several years he took it on himself. "It's the most dangerous hand falling situation you can possibly be in. It's steep, and there is a lot of undergrowth, the worst of the worst. That's why I did it for so many years, because I didn't want to ask someone else to go and do it."

In 2016 Adan embarked on a project to replace the Thunderbird tower yarder. "I heard about this Harvestline in New Zealand. It had a carriage and grapple so we wouldn't need a choker man. And I saw that the cycle time was only a couple of minutes. I thought if it can pull three or four hundred stems a day, now I can machine fall."

GMT took delivery of the machine and it made a huge difference. "80% of hand falling was gone,



LH855E equipped with the 575 harvesting head. It is challenging processing, with tough terrain, large, heavy timber and up to twelve sorts.

but we still had pockets that we couldn't get the feller bunchers on to. Then we found the tethering machines. And we thought that this might get us that last little bit." The cable system can be strategically deployed to any of the three ground-based crews, eliminating hand falling and men on the ground, while adding flexibility in choosing deck locations to optimize hauling.

Advocacy

Adan trained as an accountant and spent twelve years in public practice. His transition into the family company began in 2004 when he took over the books. His first operational role was as a choker man on the yarding operation. From there he trained as a hand faller, and then a forwarder operator. "That was pretty nice after all that manual work. In 2006 we decided to establish our own workshop and so I left the bush to take a more managerial role and support my brother-in-law Adrian Hartwig, to build GMT Heavy Mechanical up to the stand-alone business that it is today. No doubt anyone in our line of work would understand that without Adrian and his team of mechanics, we wouldn't be where we are today."

Adan enjoyed his new working life but very much missed the client interaction from his accounting days. "I got the opportunity to join the board of the Australian Forest Contractors Association in 2014. I found that quite interesting. I enjoy doing what I can to help other contractors. A lot of it revolves around contractual negotiations and helping contractors to understand what their costs really are. The client interaction that I missed, I filled that hole with a bit of advocacy work."

Adan acknowledges that getting buried too deeply in the day-to-day operations risks losing sight of the big picture. "It's really important for our business to know what's coming and to understand what others are doing in the same space as me. I learned when I was an accountant that the best businesses were those that had a strategic outlook." For Adan this means figuring out what the customers' problems are and solving them.

Adan appreciates the industry interactions and understands the importance of keeping up to speed on what is happening in other regions. "You don't always know if what you are doing is right. So you have to get on a plane sometimes. I find it's such an amazing industry and contractors are generally so open." He sums up the industry well. "We're just really practical people. There's a job that has to be done and it's got to be done whether it's raining or hot as hell. It doesn't matter. You've just got to get out and do it and I find that that's a really resilient attitude."

FOREST

BTB travels to the Maule region of Chile to learn about the success story of forestry company Rumasal, told by Forestry Operations Manager, Pablo Ignacio Muñoz Müller.

TRUMA



With more than 11,000 hours under its belt, the Tigercat 604 skidder is still producing on Rumasal's logging operations.

BTB: Tell us a little about yourself and Rumasal's history.

Pablo: I studied business administration in Santiago. I graduated eight years ago and decided to return to Maule to work in Rumasal's forestry operations, starting out as a harvester operator.

Rumasal was founded in the municipality of Constitución in 1990 by my father, Mauricio Muñoz Rojas. My father has a technical degree in forestry from the Catholic University of Maule in Talca. He started from scratch, working with oxen and seven workers. Rumasal began as a sawmill and grew from there. Eight years ago, we wanted to implement timber harvesting internally as it was previously done by contractors from outside the company. I decided to start working on our own harvesting in forests owned by the company. That is how it all started; with a harvester, a three-wheeler and a Tigercat 604 skidder. I started to build everything up from there.

This is when I became familiar with Tigercat machines, and I fell in love with them. As we grew, we decided to buy more Tigercat machines. We are really happy. Eight years after starting our own forest harvesting, not only are our forestry operations more productive, but they are also safer. There are now more than 200 workers at Rumasal, distributed between the sawmill, forestry operations and transport. The Rumasal sawmill is located in Constitución.

BTB: How does Rumasal stand out from other companies in the forestry sector in Chile?

Pablo: Rumasal's work starts in the forest with harvesting and continues to the sawmill. We are one of the few companies in Chile that performs its own harvesting, transport and sawmilling to produce and market the timber. Of the products we sell, 60% are for the domestic market and the remaining 40% for export. We produce different products with Radiata pine including green lumber, dry lumber, engineered lumber, dimensional lumber, impregnated wood, visual grades GS, G1 and G2, with machine grades C16 to C24.

Rumasal's growth can be explained by the fact that we have efficient production that responds to the needs of the timber market. We make our strategic decisions with the long term in mind, which has allowed us to secure alliances with our customers. We pay close attention to the way in which forestry companies work in other parts of the world, and we develop our projects by importing firstrate machinery. This allows us to place the best Maule timber on the market.

BTB: What was the first Tigercat machine purchased by the company?

Pablo: Our first Tigercat machine, and the reason why we like Tigercat, was the 604 skidder. We worked with the 604 skidder for



635H skidder working at a Rumasal operation near San Nicolás, Ñuble Region in Chile.

two years with no problems at all. That's when we realized we had to start learning more about the brand and incorporate more Tigercat products into our operations. We now have five Tigercat machines in total: the 855 feller buncher, the H855E harvester with the 570 head, the 635H and 620H skidders, as well as the 604, which already has more than 11,000 hours of operation.

BTB: What is your opinion of the Tigercat 570 head that you recently added to your operation?

Pablo: Since we didn't experience any problems with the Tigercat machines, we started looking at options to incorporate a Tigercat harvesting head into our operations. That's when we became aware of the 570 head, which we went to Uruguay to see, because it wasn't available here in Chile. Ours was the first 570 head to arrive in Chile. I really like this head because it offers excellent delimbing capability and is extremely powerful. It processes more than 500 cubic metres per day. Compared to other heads, I find the 570 to be much stronger and suitable for working with thick diameter logs. Although it's very good for cutting, we have the 570 solely for processing, as we found it to be very robust and with high processing power. We have the feller buncher for cutting, which is enough for our production.

BTB: What is the production volume of your current forestry operation?

Pablo: When we first started, we were harvesting 300 cubic metres a day, which is equivalent to ten trucks a day. Now, after purchasing the Tigercat machines, we harvest around 30 truckloads per day, which is equivalent to more than 1 000 cubic metres. We work ten hours per day on site for five days. We cut more than 60 hectares (150 acres) and produce 20 000 cubic metres each month, which are sent to our Rumasal sawmill.

BTB: How have you found the support provided by Latin Equipment?

Pablo: I have found Latin's support to be excellent. I like it a lot compared to the competition, as I find that Latin is more like a family business, which is what we need. We have been working with Latin and Tigercat machines for over eight years now. Latin has really treated us well. We also like Tigercat machines because they are productive and our operators are very comfortable in them. They feel safe and happy, which also makes us happy.

BTB: How do you see Rumasal's future?

Pablo: As a company, we have forests to be harvested for over ten years. We want to continue growing as a company with Tigercat and Latin. We like new challenges at Rumasal. We are focused on evolving according to market needs and as a result we are constantly renewing and reviewing our production processes. Our approach has allowed us to become an efficient company and to be at the forefront of the domestic timber industry.

Protecting the environment is one of our concerns and our challenge is to continue contributing to the development of the municipality of Constitución. An essential aspect of Rumasal's ethos is to have a good working environment and to work as a team. We are a family of 200 people and, together, we want to make an active contribution to the community.

The LH855E equipped with the 570 head is used by Rumasal solely for roadside processing due to the high performance of the package and the superior feeding, delimbing, and measuring of the 570.





Dan Mouatt (front) with brother Dave Mouatt, the primary operator of the 180 swing yarder.

Dan Mouatt tackles tough terrain and steep slopes on New Zealand's North Island with both conventional ground-based and cable logging crews, while overcoming the added challenges associated with road lining.

– Paul Iarocci

n early 2023 Bay Forest Harvesting purchased the first Tigercat 180 swing yarder to reach the shores of New Zealand. Dan Mouatt is the owner of the Napier based company. Dan got his start in New Zealand's forestry sector over 30 years ago. He initially worked for his older brother Dave, then for Ribbonwood NZ, before purchasing a used yarder from Ribbonwood and ultimately founding Bay Forest Harvesting in 2006. Since 2017, Bay Forest has been contracting to Forest Management New Zealand. Dan operates a conventional ground-based crew as well as the yarding side. Both crews are underpinned by Tigercat 855 series leveling carriers for most of the felling operations. Dan estimates 10% is handled by contract hand fallers.

The ground-based crew worked on Cyclone Gabrielle salvage and clean-up near to Taupo for a solid year after the devastating February 2023 storm. The four-machine system consists of a shovel logger, loader and skidder, along with the Tigercat LH855E. Equipped with a Satco harvesting head, the LH855 falls and delimbs infield for half of the day. The shovel logger and skidder work together to perform tree-length extraction. The LH855 carrier then processes logs on deck for the other half of the day. Dan says that this unique system produces around 300 tonnes daily.

Dan's LS855E shovelling timber in broken ground.





Dan says that the 180 gives the company a wider scope of the sort of jobs it can take on. He adds that the machine falls into its own category in between an excavator base and a swing yarder.

Dan's brother Dave has operated yarders throughout his working career and is currently the primary operator of the 180. He also operated the excavator-based Harvestline system that the 180 replaced. The yarding operation is a four-machine system – falling machine, yarder, processor and loader – along with a QC man on the ground, and a sixth man who moves the backline and fills in gaps as required.

When Dan first won the yarding contract with Forest Management New Zealand, it was exclusively for road lining services. Bay Forest was tasked with opening up greenfield plantations – falling and extracting the timber required to push in and build the roads and landings. It is very challenging work from a planning and operational perspective because there is no existing infrastructure to work with. Later, the contract was extended to cover the regular harvesting as well.

The LS855E, equipped with a directional felling head, fells and bunches in a line for the yarder and occasionally shovels up to 60 metres (200 ft) or more depending on the topography, either to the line or the landing in order to extract timber that the yarder cannot directly access. Dan says that in regular harvesting operations there is not much need for shovelling. In road lining it often becomes a necessity. When we visited Dan's yarding operation in April the crew was working on a road lining job. Once the road and pad construction is complete, the crew will go on to log the entire 160 hectare (400 acre) site.

There are a lot of challenges associated with road lining. The falling machine clears and bunches a swath of timber that is yarded back to a landing accessible to haul trucks. Then the road crew comes in and performs all the road construction for the segment. After that, the yarder essentially hopscotches from one landing to another, extracting the timber to facilitate the next stage of road construction. The yarder moves much more frequently compared with a regular logging operation and there is a lot of planning and timing involved in coordinating



Bay Forest Harvesting purchased the first Tigercat 180 swing yarder to reach the shores of New Zealand.

with the road building crew. The processed timber can't be hauled until the newest segment of road is truck worthy. However, controlling both the road lining and main harvesting contracts adds synergies. "Sometimes while they are building the road, we will go over and log another piece," says Dan. He explains that with careful planning, the logging crew will never have to yard trees over, and consequently damage, one of the newly constructed roads.

The terrain is not straightforward. There are hills, ridges and valleys and the slopes run in many different directions. As the 180 moves along the road line, it will be doing both downhill and uphill yarding. However, Dan and Dave both articulate that the job is made easier with the 180, especially in this type of ground.

Dan says that the 180 is a big benefit on this type of operation compared to a larger, traditional swing yarder because it is so much quicker and easier to move. Dan's previous yarder, a small excavator base was even more manœuvrable but lacking in pulling power, making it difficult to produce in low deflection situations.

"Everyone wants to know the difference between the 180 and the Harvestline, but it is not really comparing apples to apples," Dan explains. "The 180 pulls more wood and does more ground – more distance. It has more lift to get the drag above the ground and pull over little bluffs. It has more line speed, and it can pull further out. It is pretty manœuvrable but not as manœuvrable as the Harvestline. To me the 180 is as advertised. It is in between an excavator base and a swing yarder and there is not really another machine that I am aware of that is in that category."

The company has put 2,000 hours on the machine in around twelve months. Although the crew has had 500 tonne days, average production is around 320 tonnes. "We have learned a lot. Like any log extraction with a grapple, if you can bunch it and feed it properly, the production jumps." Fuel consumption ranges from 18-25 L/hr (4.7-6.6 gph). The low end of the range is normally

"TO ME THE 180 IS AS ADVERTISED. IT IS IN BETWEEN AN EXCAVATOR BASE AND A SWING YARDER AND THERE IS NOT REALLY ANOTHER MACHINE THAT I AM AWARE OF THAT IS IN THAT CATEGORY."

– Dan Mouatt, Owner, Bay Forest Harvesting

being observed when the crew is shotgunning (not running the haulback line).

Dan himself has put between 200 and 300 hours on the machine. "It was daunting to start, with the movement in the [high] cab. Once I was used to it, it was good." Cable logging expert and Tigercat western US field representative Kushiah McCullough travelled to New Zealand to conduct training and assist with the start-up. He, along with the AB Equipment support team, and Tigercat product support representative, Warren Nolan have been instrumental in the success of this first 180 yarder placement in New Zealand. Warren, in addition to assisting with start-up, has provided ongoing operational and service support. "We got good support from the factory. My only complaint is that Kushiah didn't stay long enough," Dan remarks with a laugh.

On occasion Dan uses guylines to stabilize the yarder. "You can feel it right away if you are going to need to tether the machine," he says. "It is not really pulling on the guylines, so much as just a bit of extra security. The machine feels very stable once you are used to it." Dan says the only exception is soft ground. "On hard ground, you put the blade down and it is really stable. When it is wet and boggy, you really want the guylines."

Dan says the Acme grapple carriage maxes out at about a fivetonne payload. "You can't really overload the machine with that grapple." Maximum haul distance is 600 metres (1,970 ft), and the machine is productive up to 400 metres (1,315 ft).

Dan's older brother Dave, with 48 years of cable logging experience on every type of yarding system used in New Zealand, says the 180 is relaxing to operate. "It took time to get used to it. A big advantage of the small excavator-based yarders is how quick and easy they are to move," Dave explains. The 180 retains that advantage with the added benefit of a whole lot more capability. "It takes two to three hours to shift to the next site. You would lose a lot more time on a big swing yarder in comparison," says Dave. "The shifting is brilliant."

As for the way the machine operates, Dave says that it is much

the same as the excavator base but with significantly more lift capacity in the skyline. "It has more lift than any tower I've operated," says Dave. "The skyline gets loaded up." 200-300 metre (650-985 ft) haul distances are optimal, although often the site layout dictates that the skyline is a lot further beyond the actual extraction zone. "It is hard to get the lift in the back with other machines, but the 180 does it all really well. It can clear stumps even in the back."

Dan adds that the 180 gives the company a wider scope of the sort of jobs it can take on. "We did a really difficult piece before Christmas. Windthrow everywhere. Hard terrain, not enough deflection. We wouldn't have had a chance to do it with a small yarder. It was slow going, but we did it."



BTB travels to southern Mississippi to meet with social media personality, Levi Spring. He talks about his goals, promoting logging to young people, and his passion for Tigercat equipment.

– Jorge Victoria

evi Spring is a curious kid from Bogue Chitto, Mississippi. His good manners, unbreakable smile and infectious positivity make him a pleasure to be around. A normal day in Levi's life starts at 5:00 am. He does his home schoolwork and feeds his animals. Then along with his mom, Jessica Spring, he goes to the family's logging operation, bringing lunch to his father, Josh and older brothers, Jackson and Dillon. After lunch Levi runs equipment and films videos with his GoPro. He says that logging doesn't really run in the family, but after his dad started doing it, the family stuck with it.

Since he was nine years old, Levi has been making and posting social media videos on his channel, Buckwild with Bubbarudy. Levi decided to start making forest industry related videos after growing disappointed with a logging TV show he was watching at the time, in which everything seemed staged. "I wanted to make something that was real and just show people how real logging works. My mama bought me a GoPro camera, and I figured out how to film. Mama figured out how to edit. And I went out, and I just filmed my family running equipment," Levi recalls.

Fast forwarding to today, Levi has amassed 57,000 followers on Facebook and 12,000 on Instagram. However, he is not your typical social media influencer. With a solid upbringing and an undeniable passion for logging and heavy equipment, he wants to promote the industry by showing the real side of logging, with a humorous spin only he can bring.

You might wonder why his channel is named Buckwild with Bubbarudy. Levi explains, "Well, my daddy called me Bubbarudy since I was old enough to listen to him. So we just said, 'Let's use Buckwild with Bubbarudy.' Because we're getting buckwild in the woods all the time."

Levi's process for making videos is simple. He goes out to the woods, plans on what he wants to film, sets up his camera, and then he talks while filming. After he's done, he hands over the footage to Jessica for editing. Most of his content is related to logging, but he also makes videos about fishing and hunting.

Levi operates the 620H skidder at a logging operation near Greensburg, Louisiana.





The Spring family. (L-R) Josh, Jessica, Levi, Dillon, Jackson.

"THAT'S THE BIGGEST PERK OF ALL OF IT. WE MIGHT GET FRUSTRATED WITH EACH OTHER EVERY NOW AND THEN, BUT WE GET TO SPEND TIME AND TALK TO EACH OTHER. WE GET TO HAVE THAT FAMILY RELATIONSHIP ALL THE TIME."

– Josh Spring

Jessica has been instrumental to Bubbarudy's social media growth. As the creative mind behind the Bubbarudy brand, she had to learn and navigate the everchanging digital landscape, picking up skills such as video editing, social media algorithms, graphic design, advertising and digital marketing.

Jessica recalls how everything started. "Levi came up to me and Josh when he was nine years old and he said, 'Mom and daddy, I want to have a YouTube channel.' And we said, 'Okay. What do you want to film?' And he said, 'Well, I'm just going to go out and feed the cows, and when we go to the woods, I'll film some stuff. I just want to make videos.' And so I got him a GoPro, and he went from there." Today, Buckwild with Bubbarudy videos average over 100,000 views a day on social media, and the channel is steadily gaining followers.

Twin brothers, Jackson and Dillon, are proud of what their younger brother has accomplished, and have been very supportive and helpful when he's filming in the woods. "If I see something that I think would be good, I'll get him to bring his camera and mess with it," says Jackson.

As he gets older, Levi has been making more technical focused videos, explaining how machinery works, sometimes with an unexpected level of detail and knowledge for a fourteen-yearold. Levi's ability to understand and excel with technology and equipment at an early age perhaps can be attributed to his upbringing – a method that has been passed down from generation to generation in the Spring family. Levi recognizes this and is thankful for it.

"Some of the stuff we do seems a little harsh, but it helps to learn stuff," Josh explains. "You get pretty much thrown in the deep end and figure it out yourself. And that lesson stays with you a lot longer than watching somebody else doing something. Once you live it and figure it out, it sticks with you."



Levi flying a drone in one of his early videos.

Family business

Josh Spring, owner of Spring Timber Corporation, has been logging since 2000. Starting out, he spent the first six months hand falling and extracting the timber with an old Clark skidder. As he slowly added and upgraded equipment, the company took off. Today, including spares, Spring Timber has eight forestry machines, eight logging trucks and produces fifteen loads a day. Among the fleet are five Tigercat machines: 234 and 234B loaders, a T234 loader, 620D and 620H skidders, plus a new TCi 920 dozer. The company has a long-standing relationship with B & G Equipment and relies on the dealership for its Tigercat equipment requirements. "The best benefit with Tigercat over all the others is the service. The support from B & G has been great. I've known them since I was born. If you brought them a frame, they could build an entire skidder with the stock that they have there," jokes Levi.

The Springs are a united family with strong values. They work well together, operating a true family business. Josh runs the cutter. Jackson operates the 234B loader and Dillon drives the 620H skidder. Jessica is the bookkeeper. "What I love about it is I spend time with my family," say Josh. "At the end of the day, if I'm on my deathbed, I won't have to say I wish I'd have spent more time. That's the biggest perk of all of it. We might get frustrated with each other every now and then, but we get to spend time and talk to each other. We get to have that family relationship all the time."

Going viral

Levi tells me he was two years into making videos when he realized he was on to something. "I didn't think that when I was walking around at a logging show that I would have so many people come up to me and say, 'You inspire my children,' or 'I love watching your stuff." Being recognized at logging shows was a bit of a shock for him. "I went to a logging show, and somebody asked for my autograph. I have never had that happen before, but I loved it," Levi recalls.

When asked what people like about Levi's videos, Jessica replies that viewers love Levi's work ethic and the family focus. She says that older folks like the videos because they relate Levi's upbringing to how they were raised. It seems like there is almost a nostalgic element to it even though Levi is a young teenager. She says parents love it because they don't have to worry about what their kids are watching. It's wholesome content.

Jackson tells me it was strange to witness Levi's growing popularity. "I guess I realized it was starting to take off when we went to a logging show in Starkville. He was walking with me, and people were stopping him and saying he's so interesting. He's so cool. It blew my mind," says Jackson. "Probably the weirdest thing for him to get used to is people walking up and talking to him like they know him."

"I WANTED TO MAKE SOMETHING THAT WAS REAL AND JUST SHOW PEOPLE HOW REAL LOGGING WORKS."

– Levi Spring

Josh is the proud dad. "It's just amazing to see 50-year-old men looking at him like he's Elvis or something because they've watched his videos. He's a really likable young man. I'm proud of him." Josh feels that the exposure to social media has made Levi more confident and focused on his work. "It's taught him to have tough skin because no matter what you do, somebody's going to have something ill to say about it. And I told him just do what you know is right and keep on trucking. If they don't like it, that'll be fine, too."

Levi's recognition has travelled far beyond the borders of his native Mississippi and his videos are now viewed worldwide. Fans from many countries send messages of support, letting him know how much they like his videos. "Yeah, it's just amazing the people that approach us and really appreciate his videos and the impact he has on people from young to old. They all love Levi. He's got such a charming personality. He's funny, he's smart and he does work really hard," says Jessica.

Promoting logging

Levi has been passionate about Tigercat from a very young age, and frequently features the machines in his videos. He adds that of all the equipment Spring Timber owns, Tigercat is the toughest and the most well-built. His favourite is the skidder. "They're really strong. They're tough. They're easy to work on. Just a good skidder overall." Levi tells me he learned to operate a skidder when he was eight. Today, he can run any forestry machine except for a harvester.

Levi argues there are two reasons why young people should consider a career in logging. First, it pays well, without the need for a college degree. Second, operating equipment is fun. "The machines, they're so nice now that it's basically not work. They're so comfortable. They've got good air conditioning and good seats. They're quiet. As long as you can handle bouncing around all day, you got it," says Levi. He has a simple, concrete message for the younger segment of his audience, "For any young people out there watching, y'all need to look into logging. You just got to put in effort. That's all you got to do."

Levi wants to keep improving on both the quantity and quality of his videos. He doesn't contemplate a future that doesn't involve his entire family. "I want to be able to work with my family. Because that's the best thing you can do."

He isn't shy to voice his concerns about general misunderstanding of the timber industry. "Something about logging that not many people understand is that you can't have paper without logging. You can't have a house frame built without logging. People don't understand that, and they need to learn that. Logging is very sustainable. Every year, when we cut a tract of timber like this, we plant back more wood than what was out here. We're just like farmers, just got a longer crop rotation."

Levi's foray into social media is one way to change the narrative so that the next generation grows up understanding the value and importance of logging, as well as the viability of the sector to provide good careers in the future.

STEEPER and SAFER

Owner of Forestal Corte Alto Limitada, Gerardo Giroz and his sons talk about steep slope harvesting in Chile and explain how Tigercat and Latin Equipment have helped the company develop safer and more productive operations.

– Jorge Victoria

erardo Giroz is a Chilean forestry engineer who has devoted a large part of his life to forest harvesting on steep slopes. He graduated as a forestry technician from the University of Concepción in 1972, and then as a forestry engineer from Austral University in 1980. He joined a harvesting company where he held positions in various areas such as forest fire prevention and control, forest management and finally forest harvesting. On one of his many trips to carry out highmountain forestry operations, he

passed through a small town called Corte Alto (high cut in English). From that moment, he knew that the forestry company he dreamed of starting would bear that name. So, in 1992 Gerardo went his own way and bought a small Koller 501 yarder, leading to the creation of Forestal Corte Alto Limitada, a company that specializes in harvesting on steep slopes using yarders.

Forestal Corte Alto currently has around 100 employees with headquarters in Los Ángeles, Chile. It also has a machine shop in Coihue, 25 km (15 mi) from Los Ángeles. Gerardo works with two of his three sons. Pablo Andrés is the operations manager and José Manuel is the maintenance manager.

Gerardo's operation evolved from a motor-manual cable yarder system utilizing chainsaw operators and choker setters to a fully mechanized system. In the early years, the accident rate was an issue that Gerardo wanted to address urgently. Seeking to mechanize

(L-R) Ignacio Manzano Benavides (Site Supervisor), José Manuel Giroz Risco (Maintenance Manager), Gerardo Giroz Giraud (Owner/Manager of Forestal Corte Alto Limitada), Pablo Andrés Giroz Risco (Operations Manager).





625H skidder working in a steep slope extraction near the town of Nacimiento in central Chile.

his operations to improve safety and productivity, in 2013 Gerardo travelled to Europe and Canada to watch forestry machines working in the field. It was in Canada that Gerardo first saw the Tigercat LS855C shovel logger.

"I felt that this was the right machine for the Chilean forests, due to the weight of the trees. Our trees are a little heavier than European trees. That was one big reason why I didn't believe that European machines would be suitable," Gerardo explains. He purchased an LS855C, and Tigercat trainer and support representative, Gary MacDonald helped to develop the new system and train the operators. Gerardo says that the initial assistance and training provided by Gary was instrumental to the success of the transition.

The mechanization of his operations led to a substantial reduction in the

number of workers and accident rates. "I went from having 300 employees to working with 100 people today. The vast majority are operating machines. This led to a leap in productivity. And because everyone was working in a machine, we were able to significantly improve safety rates," Gerardo says.

Inheriting a legacy

The knowledge and experience gained by Gerardo over fifty years has been inherited by Pablo Andrés and José Manuel, his two sons. Gerardo stresses that they themselves decided, with absolute freedom, to continue with the trade.

José Manuel studied electrical civil engineering. After graduating, he completed an internship in northern Chile at a mining operation. He missed being in the forest and decided to return home to join the family business, taking over machinery maintenance. Passionate about working outdoors with machines, his job is very hands-on. He is the first line of defence when a problem arises. He oversees a team of mechanics and coordinates the procurement, maintenance and rotation of machinery, as well as the purchasing of spare parts. "Every problem poses a new challenge," says José Manuel. "This work allows us to keep innovating. We've developed our own systems to overcome the various problems we have faced." He has a strong understanding of machine availability and uptime. "I think that Tigercat machines are really well built. Working in maintenance, I've had to make some adjustments to them after 16.000 hours and that's normal. Machines of other brands do not last that long. It's the structural design that I like the most about this brand," says José Manuel.

"ONE THING MY FATHER TAUGHT ME IS THAT OUR EMPLOYEES ARE OUR BIGGEST ASSET, AND WE MUST ALWAYS TREAT EVERYONE WITH RESPECT AND HONESTY."

- Pablo Andrés Giroz Risco, Operations Manager

Meanwhile, Pablo Andrés studied industrial civil engineering at the University of Bío-Bío. After graduating in 2003, he joined the family business, holding various positions before taking on the role of operations manager. His main responsibilities are contract administration and implementing and operating safe, productive harvesting operations. For Pablo, employee welfare is a key focus. "Working on steep slopes is complex, but one thing my father taught me is that our employees are our biggest asset, and we must always treat everyone with respect and honesty."

Two extraction systems

We visited a steep slope crew working on a CMPC contract with a monthly volume of 14 000 cubic metres. The contract supplies predominantly Monterey pine to CMPC-owned sawmills and pulp mills. Two Tigercat machines, an LS855E shovel logger equipped with the 5195 felling head and a 625H skidder are a part of the operation. To meet the volume target, the equipment needs to achieve a 90% availability rate. Pablo tells us that the 19,000-hour LS855E operates daily, falling for both the skidder and the yarder.

Site supervisor, Ignacio Manzano says that prior to commencing harvesting on a new site, Forestal Corte Alto's operators need to know essential information such as slope angles, ground conditions, and the potential risks. The safety protocol dictates that on slopes greater than 35%, regardless of the ground conditions, cable-assist equipment must be used.

The company uses two extraction machines, a varder and a skidder. The decision on which to use falls on the planning team. Decision factors include slope and extraction distance. "The slopes we work on range from zero to 100%," Gerardo explains. "In preliminary planning, depending on the slope, we decide whether we are going to work with a skidder or a yarder. The skidder generally works on slopes between zero and 35%, unassisted. With cable assist, we can also use a skidder on steeper slopes. Up to 50% is possible, depending on how saturated the soil is with water. But from 50% upwards it is not a good idea to use a skidder and, generally, on this terrain we mainly work with varders."

According to Gerardo, optimal skidding distance tops out at 300-350 metres (985-1,150 ft). However, the yarder can efficiently extract up to 550 metres (1,800 ft), and at times, even more. On average the skidder produces a monthly volume of 8 000 cubic metres, while the yarder yields 6 000 cubic metres. The skidder can work more hours per month, averaging 270, while the yarder, accounting for set up changes, operates for 240 hours per month.

The LS855E arranges the felled trees to suit whichever extraction method is used. With yarder extraction, accurate positioning under the line and angle of the felled trees is vital for easy picking with the grapple carriage. For skidder extraction, the LS855E fells and accumulates optimally sized skidder bunches.

Instrumental partners

Gerardo has worked with Latin Equipment Chile (LEC) since he started as a logger. He stresses that LEC has been instrumental to Forestal Corte Alto's operations. "Latin has provided us with a great service, and a reliable service. They've been a great partner for us during the many years we've worked with them."

"The thing we like about Latin and Tigercat is that we get transparency from both sides. We're also transparent with them," adds Pablo Andrés. "They don't just sell you a machine and then forget about it after they've sold it to you. Tigercat and Latin's after-sales support is always available, and we like that."

Meanwhile, José Manuel remarks that the support and assistance provide him with confidence to continue working with Tigercat and LEC. "The good thing about Latin and Tigercat is that our problems "TIGERCAT HAS BEEN THE BEST POSSIBLE PARTNER FOR MECHANIZATION ON STEEP SLOPES. I BELIEVE THAT THE LS855E SHOVEL AND THE SKIDDER ARE MACHINES THAT CHANGED THE WAY WE WORK IN CHILE."

– Pablo Andrés Giroz Risco

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are relayed back to the factory. In other words, our issues are actually reported, and we get a response. Our technicians train with Latin technicians or they perform maintenance together on our machines, which is great. We have a really good relationship with Latin's maintenance department."

Pablo Andrés says that Tigercat is a machine you can trust. He tells us that his employees feel safe on Tigercat machines. They feel that there are continuous innovations to enhance their comfort. The operators say that the capacity of the LS855E is unmatched by the competition. "Tigercat has been the best possible partner for mechanization on steep slopes. I believe that the LS855E shovel and the skidder are machines that changed the way we work in Chile. We are proud to have these machines and proud to have people come and see them."

For his part, Ignacio Manzano tells us that power is a feature of the Tigercat machines that makes their work easier, allowing access to areas where no one else can reach. "We are a company that specializes in working on steep slopes. You need a lot of power to do this work, and Tigercat equipment delivers it. So, the results have been great."

Safety and productivity

Pablo Andrés tells us that the company's focus has not been on growth and expansion but on performing safer and more productive logging operations. Mechanization and training have contributed greatly to this. "As a company, our biggest challenge is to ensure that our forestry operations are safe and accident-free. Our rates have improved greatly. Our operation has been accident-free for eight years. But we are aware that an accident in this type of operation can be fatal, so we must not be complacent. Although extensive mechanization has helped, we must be very vigilant, and that is our daily challenge – to provide safe conditions for everyone."

For Gerardo, seeing how his operation has changed over the years fills him with pride. "When we were working with chainsaw operators, although they would try to fall the tree in the direction to suit the yarder, it didn't always work. In the end, what you have is a tree salad, all tossed together, one tree on top of the other. By working with a machine which can turn the tree over, and also leave it laid out for the yarder, you save time and you improve safety. It's a win-win situation," concludes Gerardo. The partnership between Tigercat, Latin Equipment and Forestal Corte Alto reflects a shared commitment to safer, more productive logging operations adapted to the requirements of Chile's terrain.



Scan to watch video.

Accurate positioning. The LS855E fells and shovels 14 000 cubic metres per month. The timber is extracted to landing via two different methods, a skidder and a yarder.



A Tigercat

Keith and Glen Jung on a work site in Orlando, Florida.

Florida-based land clearing and recycling company with two decades of organic material processing experience purchases two Tigercat 6900 grinders.

– Paul Iarocci

eith and Glen Jung are brothers and owners of 4 Jays Recycling C&D Landfill and 4 Jays Land Services. They are based in New Smyrna Beach, Florida. Their parents, Ed and Marion started the land clearing business in 1983 and the two brothers purchased the company in 2004, having worked alongside their father since they were teenagers.

Keith explains that prior to 1983 Ed was a homebuilder. High interest rates and a severe recession in 1982 disabled the Florida housing market. In parallel, an especially brutal winter wreaked havoc on the Florida citrus industry. Countless acres of orange groves were destroyed by sustained freezing temperatures. In the midst of the economic and weather carnage, Ed saw an opportunity. As Keith recalls, "Dad saw all these frozen orange groves and he decided to buy this old loader. I think it was seven thousand dollars. We fixed it up and he started clearing orange groves. When I turned sixteen, I'd run it after school. We worked that loader six to seven days a week clearing and burning citrus groves."

4 Jays established itself as a land clearing company and recycling landfill facility, operating in that space since 1994. In 2004 when Glen and Keith bought the company from their parents, they were excited and highly motivated to grow the business. "We were already well experienced at land clearing, maximizing the loads, and taking them to our landfill," says Glen. "Adding the grinding just fell into place." Grinding may have fallen into place, but it came with a steep learning curve with respect to both the markets and the operational aspects.

Glen and Keith purchased their first grinder that same year and put it to work on a storm clean-up contract at the Orlando airport and the city of Deltona. "When we bought the

Keith and Glen Jung purchased two 6900 grinders. They were impressed with the design of the machine and the support offered by Tidewater Equipment.





The large diameter head pulley allows the use of a more durable three-ply discharge belt.

The tilting frame allows the operator to build higher piles and adds versatility to change the infeed angle if required.

first one, we didn't even know what we would do with the material," says Keith. They managed to find an outlet, distributing the mulched material around municipal parks in Deltona.

As Glen and Keith started to gain an understanding of the mulch market, they leveraged the yard space at the landfill facility and expanded into coloured mulch production, investing in screening and colouring machinery. Today, 4 Jays has two main material outlets. About 20% of the first grind material is hauled to the company's own yard. Along with material brought to the recycling facility by outside customers, it goes through a secondary grind process, then is screened, coloured, and marketed in bulk. The other 80% is hauled directly from land clearing worksites to large-scale mulch production plants and bagging facilities, ultimately supplying the retail market.

4 Jays takes on new development land clearing contracts within a 80 km (50 mi) radius of New Smyrna Beach. The working range optimizes hauling, allowing 4 Jays' trucks to run at least two trips per day between the job site and the processing facilities. Responsibilities are divided up by function. Glen manages land clearing and hauling; Keith oversees grinding and recycling operations. The truck payload is 100 yards and the trucking side can haul anywhere from 15-24 loads per day. Glen explains that working outside of the radius is challenging - too far to economically haul to their yard and difficult to find additional outlets for the material. "Normally each yard already has enough product for their own mulch production," says Glen.

"WE LIKED THE STRUCTURE OF THE MILL, THE TOP FEED ROLLER, THE YOKE CONSTRUCTION, AND THE AGGRESSIVENESS OF THE TEETH ON THE TOP ROLLER. THE SIZE OF THE MILL SHAFT AND BEARINGS, AND THE SUPPORT OF THE MILL BEARINGS ARE IMPRESSIVE. IN OUR EXPERIENCE, MILL BEARINGS HAVE BEEN THE BIGGEST CAUSE OF DOWNTIME."

– Keith Jung

The two brothers continued to innovate, always on the lookout for operational efficiencies as well as seeking out new products to produce and new markets to supply. Without getting in way over my head on the technical aspects of operating a landfill, airspace is the volume of space on a landfill site permitted for disposal of solid waste. There are a few ways to maximize airspace. Glen and Keith first focused on mining the wood and soil waste portion. "We mined the landfill and recycled a lot of the material. We processed whatever we could," says Keith. They produced topsoil, creating a new product and market while increasing the airspace, and doubling the lifespan of the landfill.

A second common strategy is to divert all recyclables. "Our goal is to extend the life of the recycling landfill as long as possible," says Keith. "We are trying to process everything and now we are looking forward to composting and processing other sustainable materials."

Challenges

There are three distinct mulch seasons that the company must work around. The outlet for the material is not constant or consistent. In fact, in talking to Glen and Keith, the issue of outlets for the ground material comes up again and again. The material can only be stockpiled for a maximum of four months before it loses its value as a raw material for mulch production. There are also space constraints at 4 Jays' landfill and recycling yard that limit how much material can be stockpiled between seasons.

Rainfall, soil types and ground conditions add constraints for the land clearing operations, and in Florida, palmetto is a particularly noteworthy challenge for the grinders. It is notoriously difficult to process and there isn't really a market for the material at this time.

While Glen maintains excellent relationships with the site development contractors and project managers, the vagaries of project permitting mean that the land clearing phase of development site projects is rarely scheduled more than three to four months out. There is ongoing logistical manœuvring related to scheduling land clearing jobs, ensuring consistent and reliable outlets for the ground material, and maintaining trucking efficiency. Because 4 Jays has control over the land clearing, grinding and hauling, the company is well-equipped to provide a seamless service to its clients.

New iron

Earlier this year 4 Jays decided to purchase two Tigercat 6900 grinders. With the company's twenty years of grinding experience using many different brands, we were eager to understand the factors that went into the purchase decision and how the machines are performing so far.

Keith says that Jake Desrosiers, industrial sales representative at Tidewater Equipment's Tampa branch, was a great resource throughout the procurement process. He has a strong background and familiarity with

Typical feedstock includes hardwood and softwood timber, root mass, stumps, brush and palm.

grinders having worked with the machines for many years in a family business prior to joining the Tidewater team.

"Jake described the machine and answered the questions right," says Keith. "He didn't seem like a salesman but more of a resource. He gave me existing customer names for references and talked a lot about support and parts supply from Tidewater, which is critical for us. When I asked to see a machine, he took us to see the grinder with the most hours. The machine was holding up really well. It looked like it had 1,300 hours, not 3,500 hours." Throughout this process, Keith admits that his goal was to use his own knowledge to prove Jake wrong. "But I couldn't."

Keith also mentions that he gained a better appreciation for the people behind Tidewater and Tigercat while attending the Tidewater Demo Day in April. "Part of it was meeting people and just seeing how much fun everyone was having," says Keith. 4 Jays' initial growth spurt after Glen and Keith purchased the company resulted in a massive increase both in capital investment and the complexity of the operations. The employee count reached approximately 60. Then the Great Recession and the US real estate crash came along in 2008. Development projects in Florida hit a brick wall. The brothers were forced to reimagine a vastly different company during and after the recession. Keith says that it was during this period that he learned the most about the intricacies of grinding. "At that point out of necessity, we were hands-on with the grinders and we realized there is a lot involved with a grinder." Keith explains. "We ran lots of different brands and I learned them all myself first." Keith says that this direct experience running and maintaining the machines every day helped to shine a light and gain a perspective on operational issues. "To be able to figure out things like why we are not getting the production or performance. The experience also made it easier to train new operators. That's why I like Jake, because he has that same level of experience." The knowledge gained through that difficult economic period was invaluable. And when it came around to making the decision to purchase the Tigercat machines, "the whole equation came together. All the pieces - service, parts, personalities, and machine qualities," says Keith.

Currently, the company runs three grinders including the two new 6900 models. "The thickness in the steel plate in the infeed floor and the side walls of the infeed, and all the areas where the actual work is done is really important," says Keith. "We liked the structure of the mill, the top feed roller, the voke construction, and the aggressiveness of the teeth on the top roller. The size of the mill shaft and bearings, and the support of the mill bearings are impressive. In our experience, mill bearings have been the biggest cause of downtime."

"I was also impressed with the drive sprocket. The idler end of the feed chain is a nice, simple design. It's not over-engineered. It is easy to look after, and we think it will last a long time. Another important feature is the three-ply belt along with the large diameter head pulley on the discharge. When the belt is not working around a tight diameter, it allows you to run three-ply instead of two-ply which is going to improve life. The computer control feed system is an intelligent design that contols all the set functions for maximizing production and efficiency. It takes all the guesswork away and the operator's need to handle the remote, and leaves him hands-free in control of keeping the 6900 fed with materials to grind. It's the first horizontal grinder I've ever used or seen that can grind palm trees as easily without getting clogged," says Keith.

Keith also stresses the importance of layout and accessibility to facilitate efficient maintenance routines. How user-friendly it is to the operator? Does it have good, accessible cleanouts? "We aim for 30 hours of productive work per week. That is for a 40-hour work week and includes five to ten hours of maintenance for the grinder and the supporting equipment."

One of 4 Jays grinder operator's comments, "There is a fine line between a compact design and an accessible layout." He also mentions the service mode is a big advantage for him. The service mode allows all machine functions required for service to be actuated without the need to start the engine. An auxiliary electric pump powers the top feed roll, both the feed and discharge conveyors, grate frame extend and retract, and virtually every other function except for the track drives for safer, quieter maintenance routines, fuel savings and reduced engine hours.

Keith and Glen explain that land clearing sites rarely come with level ground. Good belt clearance and ground clearance are advantages in muddy conditions and uneven ground. The 6900 has a unique tilting frame that pivots on the undercarriage. It allows the operator to build higher piles and adds versatility to change the infeed angle if required. The operator can traverse over uneven ground and adjust the pivot to create additional ground clearance or heights to discharge products into trucks.

All in the family

Today, 4 Jays employs approximately 34 people. Keith's wife Laura and Glen's wife Jennifer both work in office roles. Very well organized and disciplined, they are critical to the ongoing success of the company. The strong business management frees up the guys to focus on operations. "We try to treat the company like a family team and use each other's strengths and weaknesses," says Keith. 4 Jays has many employees that have been with the company for over ten years. These long-term employees are versatile, possessing a wide skillset that allows them to fill in and work in multiple areas of the operations. It makes for a more resilient and flexible company that can react to problems and opportunities quickly. "We don't strive to be the biggest, we strive to be our best," says Glen.

TIDEWATER DEMO DAY 2024

Tidewater Equipment Company hosts spectacular Demo Day 2024 in southern Georgia this past April.

idewater Equipment's third demo day was the culmination of years of careful planning. The event took place on a beautiful spring day at the Langdale Farm outside Valdosta, Georgia, a key region where Tidewater has a strong support presence and a high concentration of forest industry customers.

Following previous demo days in 2015 and 2017, this was Tidewater's largest and best attended ever. 1,600 visitors attended the oneday event that featured an all-Tigercat live demonstration, 21 Tigercat machines on static display, food trucks, and games and entertainment aimed at men, women and children of every possible age group.

The live demonstration was operated by Tidewater Equipment customer Sandlin Forest Products and featured a 620H skidder, 234B and T250D loaders, a 720G feller buncher and a 6900 grinder. In addition to the feller bunchers, skidders and loaders common to the US South, the static machines on display included the TCi 920 dozer, a 480B track mulcher, and the 865 and 875E loggers. The Tigercat simulator, with its new track feller buncher program, was a big draw at the event and saw a constant flow of traffic by attendees of all ages.

Tigercat brought 57 people to the event including field representatives, product managers, designers, and key senior-level management personnel. It was an excellent opportunity to interact directly with customers, as well as Tidewater sales and technical representatives. Nothing beats firsthand feedback and an exchange of ideas in a relaxed and welcoming setting. "I congratulate the Tidewater and Tigercat crews who worked diligently to set up this event, and of course, first and foremost, our customers," says Tigercat Founder and President, Ken MacDonald. "Without them, there is no reason for the rest of us.

There was something for everyone at the Tidewater Demo Day.

This is simply the best way to meet and get to know our customers."

The event was tied to Tidewater's 77th anniversary celebration and awards of distinction were presented during the employee appreciation dinner held the evening prior to the demo day. Tidewater President Jamie Young comments, "The turnout has been spectacular. The weather has been spectacular. It's been a blessing to Tidewater and our customers, and we are very grateful to have the turnout we have. It was critical for us to show not only customers that we are different, but also show our own team. We are trying to be the best dealer we can possibly be."

After the day's activities, Tidewater hosted a large-scale customer appreciation dinner. The backdrop of country music livened up the conversations and kept the energy level high. "A venue of this magnitude takes years to plan, and I'll say the Tidewater group certainly hit a homerun. Visiting and spending time with the team from one of our largest business partners and Tigercat customers from the five states they represent all at one venue was invaluable. This demo was probably the most impressive event I have attended in my 25-year career at Tigercat. Thanks to the Tidewater team and our customers for making the demo a memorable event and a huge success," says Tigercat US Sales Manager Kevin Selby.

Scan to watch video.

The TCi 920 dozer always attracts a lot of attention.

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