

# TIMBERLINE

August 2007 • Volume 13, Number 08

INDUSTRY NEWS & MACHINERY

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## Al-Tom Benefits from Optimized Head Rig

JoeScan Scanners, Nelson Brothers Engineering Optimizer Behind Gains in Yield, Production

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RICHTON, Mississippi — Sometimes improving profitability isn't about growing a business; it's about improving efficiency.

That's the case with Al-Tom Forest Products in Richton, Mississippi, where the addition of a new carriage plus optimizing technology for the head rig has meant more efficient use of timber, less waste — and a more profitable bottom line. At the same time the company installed a new carriage, it added JoeScan scanners and a Nelson Brothers Engineering optimizer.

Al-Tom Forest Products did not start out as a mainstream forest products business. In fact, it began because its owners needed lumber for another, different industry.

"My father, T. O. Kelley, and my uncle, E. L. Kelley, had been in the oilfield construction business since 1955 as Kelley Brothers Contractors," said Tommy Kelley, President of Al-Tom Forest Products. "They needed a source of lumber for that business. This sawmill was already here, but the owners had shut it down because of a bad market. So my dad and my uncle bought it in 1980 as a source of lumber for the oilfield construction business."

Within three years, however, the oilfield construction industry declined, and the brothers needed to find new markets for the lumber produced by their sawmill. "So in the mid 1980s, we started cutting timber for flooring plants and furniture plants," Tommy said.

Southern Mississippi, where the mill is located, has a lot of sawmills, but by tracking market trends and paying attention to what customers wanted, Al-Tom was able to compete with other mills. For a couple of



*JoeScan scanners behind the carriage capture data from the back of the log (pictured).*

years they cut lumber just for the flooring and furniture industries, but before long they also began cutting some low-grade lumber for the pallet industry, too.

"We started out as an all green mill," Tommy said. "In the mid-1990s, we started air drying lumber. By the late 1990s we built our first dry kiln, and later we added a second one. We expanded that part of the operation last year with a third dry kiln and also added a planer and a rough line for the pine lumber that we produce."

Today, Al-Tom cuts about 60% hardwood and 40% Southern yellow pine. "On the hardwood side, we cut probably 80 percent red oak, and the other 20 percent is a mixture of white oak, poplar, and some

other mixed woods," Tommy said. Most of the company's hardwood lumber production is sold rough, dry, although some is surfaced. "The pine we cut primarily for the millwork industry."

The company's markets have changed significantly. "That part of our business actually has changed a lot," Tommy said. At one time Al-Tom produced a lot of lumber for the furniture industry. "Probably 85 percent of what we cut now is flooring, and only about 15 percent of it goes to the furniture industry," said Tommy.

Logs are put onto a (brand name) rosser-head type debarker in the yard prior to being moved into the mill. Inside the sawmill, logs go onto the new Salem



*JoeScan scanners above the log deck infeed capture data from the front of the log.*

carriage with linear positioning. The head saw is a Salem 6-foot airstream bandmill, which is used to open two faces. The two-sided cants are processed next by a Salem gang-edger.

“Boards go to a McDonough 5-foot bandmill with a line bar attachment,” Tommy said. “Then we have two board edgers in the mill, and pieces that need edging go through them.”

Finished boards proceed through a drop trimmer and then are graded and packaged or put in temporary storage to be kiln-dried. “We dip the higher grades, and they go to an Irvington-Moore lumber stacker that’s for lumber that goes to the yard,” Tommy said. “Some of the green lumber then goes onto trucks and is shipped out. The other lumber is stacked in our air drying yard and eventually goes through our dry kilns.”

Slabs, edgings, trim ends and other wood scrap is collected by a vibrating waste conveyer and moved to a Progress 70-inch chipper. Chips are sold to any of three paper mills. Sawdust and bark are used for fuel for boilers and also sold for boiler fuel.

Al-Tom added the new Salem carriage and carriage drive last year and equipped the head rig with JoeScan scanners. It was the first time the company partnered with

JoeScan and Nelson Brothers.

“We’ve always worked closely with Salem Equipment on equipment purchases, and we knew we wanted a Salem carriage in the mill,” Tommy recalled. Salem recommended the JoeScan scanners and the



*Sawing a red oak log at Al-Tom Forest Products on new Salem carriage; head saw is a Salem 6-foot airstream bandmill. The head rig was optimized with JoeScan scanners and Nelson Brothers Engineering optimization system.*

Nelson Brothers optimizer. “We talked to other people who are running this system and made the decision that this would be a good way to go.”

Managers have seen an improvement in efficiency since the new carriage, scanners and optimizer were added. “We’ve been happy with the Nelson Brothers and JoeScan equipment,” said Coby Crager, operations manager. “I’ve been impressed with the technology. It’s doing a great job for us so far.” Coby previously worked in the oilfield construction business with the original Kelley Brothers Contractors and arrived at Al-Tom shortly before it added the new equipment.

Yield has increased with the new carriage, scanner and optimization system. It has been noticeable in two ways. Chip production is down, which means the mill has reduced the amount of wood waste and scrap going to the chipper. “At the same time, our high grade lumber has increased,” said Coby.

“It’s also a lot easier to train a sawyer now that we have the Nelson Brothers optimization equipment in place,” Coby added. “It takes a lot of the decisions off the sawyers, and it’s a lot easier to get a new guy in there and get him trained.”

The optimizer system, with the log data gathered from the JoeScan scanner, makes the decisions about the opening face of the log. “So it doesn’t take as much

technical training to show someone how to run the carriage now,” Coby explained. “The equipment makes a lot of the decisions that a trained sawyer would have to make in the past. So once we show him how to run the carriage, he doesn’t have a lot of other decisions to make. That’s been a big help for us, because trying to find skilled labor is starting to be a problem.”

From a dollars and cents standpoint, Tommy and Coby have a hard time quantifying exactly how much difference the new equipment has made, although production has increased about 10%.

However, Coby and Tommy know the new JoeScan scanning technology and Nelson Brothers optimizing system have helped increase yield. “We know we’re doing a better job of making decisions about opening up the log and getting the best grade out of the log,” said Coby.

In recent years the mill has cut about 11 million board feet of lumber a year, although both Tommy and Coby expect that to increase with the installation of the new equipment and optimized controls at the head rig.

“Plus, we have another mill where we just had the carriage that had been at Al-Tom rebuilt and installed the JoeScan scanners and Nelson Brothers optimizer with it,” said Tommy.

The other sawmill is Kelwood Products in Enterprise, Miss., about 80 miles away. Kelwood cuts 100 percent hardwoods with all lumber production sold green to the flooring industry and pallet industry.

Over the next few years, Tommy believes the timber supply is going to become tighter. “We were really affected by Hurricane Katrina here,” he said. “Our amount of timber standing in the forest went down considerably.” Al-Tom will have to go farther afield to find merchantable timber. “We’re going to have to increase our timber find radius,” Tommy said.

Another partial solution is the yield the company has gained from the new head rig, scanners and optimizing system. “One of the reasons we bought all this equipment is to maximize the amount of lumber we can get out of the logs,” Tommy said.

Another big challenge is going to be labor. “We’re always trying to be sure we’re competitive on the rates we pay our laborers,” Tommy said. The company also offers an array of benefits to attract labor and reduce turnover. Benefits include paid vacations and holidays, health insurance and a retirement savings program.



*View of the interior of the sawyer's cab with computerized controls. 'It's a lot easier to train a sawyer now that we have the Nelson Brothers optimization equipment in place,' says operations manager Coby Crager. 'It takes a lot of the decisions off the sawyers.'*

“We use a lot of immigrant workers,” said Tommy “Hispanics have come into our area pretty heavily, and that’s helped us. We usually have some of them who speak some broken English, and once they know what to do, they show the other guys... They mostly handle and stack lumber, and that’s the labor area we have most problems with.”

Like the original ownership of Al-Tom, the company still is owned by T.O. Kelley’s sons. Tommy and his two brothers, Jerry and Terry, are the principal owners. Tommy is 48, Jerry, 45, and Terry, 44. Jerry’s children are involved in the business as well, making a third generation of family leadership.

The Kelley family has diversified business interests with over 300 employees. In addition to Al-Tom and Kelwood, Kelley Brothers Contractors is still in the oilfield construction business after almost 52 years. Another division is Kelley Oil Co., which is a brand name distributor of gasoline and diesel fuel, oil and propane gas and also operates several convenience stores. Another business is Complete Environmental & Remediation, which provides industrial maintenance, in-plant services, tank cleanings, UST removals, remediation ser-

VICES and emergency spill response.

All the companies working together create a unique synergy that is vital to the success of the Kelley Companies.

“Our main philosophy,” said Tommy, “is to have clear divisions of authority...so that employees don’t have three different people telling them three different ways to do something. With a good chain of command, employees know what they need to do. We like the diversity of the businesses so if something starts going badly, we have something else going well to offset it.”

Tommy said it’s hard to predict the future of the company because of changes in the industry as a whole. “However,” he said, “in the next five years, I’d definitely like to see us upgrade more technology in the sawmill, particularly in edging and trimming, and maybe add a sorter and stacker.”

JoeScan and Nelson Brothers will have an opportunity to be involved in those upgrades, they indicated. “We’d definitely like to get an optimized edger with scanning on it,” Coby said. “Maybe we can optimize the gang also. All of that will improve our efficiency.”

And in today’s marketplace, that’s what it’s about: improving your efficiency to add dollars to your bottom line.