

Gary McGaughey
Interview 087a
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Becky Bailey, Interviewer
Retyped by Elaine Lawrence

Abstract: In this interview with Becky Bailey, Gary McGaughey talks about his career with Temple-Eastex, particularly at the Fiberboard Plant. Mr. McGaughey describes the process for creating fiberboard, from the woods to the finished project. He describes the equipment and various stages the products go through on their way out of the plant.

Becky Bailey (hereafter BB): Today's date is January 3, 1986. I'm interviewing Gary McGaughey at his home. My name is Becky Bailey.
Let's start off where you were born and when and all that good kind of stuff first.

Gary McGaughey (hereafter GM): Becky, I was born in Cherokee County in Jacksonville, 1949. I was raised in Alto, Texas, went to college at Kilgore, Jr. College and I went to work for Temple Industries then, which is now Temple-Eastex in 1970 for Creative Homes and was employed there for one year and was transferred to the fiberboard division of Temple Eastex in May of '70. I've been employed there ever since then, which is now '86.

BB: What was Creative Homes?

GM: Mobile Home plant, modular and mobile home plant.

BB: It's not still in operation, is it?

GM: No, it is now being converted to Sunrizon Mobile Homes.

BB: Oh, is that a branch of Temple, they own part of it or they just ---

GM: No, it's an individual corporation, as far as I know.

BB: Bought?

GM: Yes, the idea of fiberboard came from Mr. Temple. They were burning, or disposing of parts of logs that were being brought out of the woods and they did not have any use for them. He got the idea that they could convert them into a productive product that would eventually make money for them. He went to seek out possibilities of it and they found out there were other fiberboard plants making use of these wood chips, which were being burned up in the atmosphere here. He decided he would spend a little time and money on it. Now it has created a very productive industry for Diboll. I mean, very productive.

BB: That's one of the few that really makes money?

GM: It has consistently made money over the years, I mean, we've had our down falls, when the housing industry went down. I believe it was '82 when it got low, 1981, or '82 when it got low.

BB: When was the fiberboard started?

GM: The first sheet of fiberboard, in my best recollection, was in 1957, maybe '56. That was when No. 1 side, what we call side, No. 1 machine, board machine was in operation and they were producing 1/2" sheathing and 3/8" trailer board, and after these products were made fairly productive, they introduced a line of ceiling tile which stayed in style for quite some years.

BB: Are you talking about those little squares that you put up?

GM: Yes.

BB: Oh, I didn't know that was the same process.

GM: Now, this is hearsay information, I wasn't there at this time but they – this fell to the wayside. It was non-productive or something, I don't know. But somebody got the idea, you know, that other people started this MD siding, Medium Density siding, which is hardboard siding, just like you make clipboards, the back of clipboards. Some people started this and some people said "Well, if they can produce that, why can't we produce something thicker?" And they went to other industries and checked this out and we had the raw material, the perfect environment, the location and everything else to compete with them, the labor and labor force. Mr. Temple decided he wanted to try this so they expanded the mill: they put in – expanded it, put in No. 2 side, which is No. 2 board machine, No. 2 kilns. All right, in order to do this they had to buy new press equipment to press the board after it came out of the kilns.

BB: When was this, what year?

GM: This was in 19 – it started in about 1970 or '71.

BB: Just right after you got there?

GM: Yes, as soon as I got there, as a matter of fact. It started in about 1969 because they had all this there; they were just starting this operation up when I got there.

BB: Okay, now let me get it straight, which siding we are talking about. Now, that paneling like you have on your wall and I've got in my bedroom, now, is that the exterior?

GM: That's the exterior.

BB: And that's what they were making all along?

GM: Yes.

BB: From the very beginning they made that?

GM: Yes.

BB: Okay, and now this is hardboard what?

GM: It is medium density siding.

BB: Where does it go in a house?

GM: Goes on the outside, exterior siding, all of it is exterior siding. You can choose, put it on the inside if you want to. And it just adds more strength to your house. Because we've got laboratory tests run on it, it is very strong, it's comparable to –

BB: To sheetrock and stuff like that, I mean, not sheetrock but plywood?

GM: No, it is much stronger than sheetrock, it's plywood, yes.

BB: It is comparable to plywood?

GM: Yes.

BB: How does it weather?

GM: It weathers very fine, I believe we've got fifteen years warranty on it, fifteen or twenty-five, I forgot, fifteen or twenty-five year warranty.

BB: And that's just not painted or anything?

GM: It is primed in the plant and now we've got a new pre-finished paint line system installed which is, I do not know exactly the cost of installing it, it's in the thousands, possibly costs a million dollars, I would say. And they have hired this special lady from International Falls, Minnesota, that worked at Boise-Cascade, which they have closed down and she is supposed to be a paint specialist, Kate Oswalk. Before long I expect that our product will be one of the top lines with money.

BB: But yet, they compete, as far as price, with any of them. How many fiberboards are there in the country?

GM: There has been a downfall in the last five years, there's about four major plants, I know of, that's closed the doors. Sold all their equipment and we have bought some of their equipment. One of them is Boise-Cascade, another one was at Broken Bow,

Oklahoma, and I'm not sure about the other two, there are two more. There was one major one in the sheathing line, insulation sheathing line that was closed down that pretty well opened the doors for us on that market. This market was pretty well closed to us three years ago because the market was going down hill, nobody wanted it and now, all of a sudden, everybody wants it. The blackboard you see on the trucks going down the road, everybody wants that now.

BB: Do you make blackboard, at the fiberboard?

GM: Yes, and there are only one or two other plants, I think, in the United States that makes it.

BB: Why are they closing, just because the housing market had fallen?

GM: Yes, and they were, most of these were big companies, larger companies that could afford to close their doors. You know, their overhead was so high that they just couldn't stay in business, not like we could.

BB: Why, is the overhead particularly lower or just?

GM: Yes, we, I mean we stress the – constantly improve on quality, to keep the waste down.

BB: You just got through with having another, what do you call those people, efficiency experts, come in all the time?

GM: Yes.

BB: Was that last year or the year before?

GM: It was three years ago – four years ago. Yes, that helped a lot. That kept our labor cost down sufficiently, I'll guarantee you. And we've just completed about five hundred thousand dollars work on the kilns, the No. 1 kilns. Part of the parts we bought from Boise-Cascade and Broken Bow, that we had shipped down here, they were used parts but they work fine on those kilns, on those dryers, which, if we hadn't bought those we'd have had to spend three times that much money.

BB: How is the sheathing that you make now competing with the oriented strand board? Is there competition as far as – now isn't that the new coming thing over?

GM: It's a different product.

BB: It's just a different product. It's used differently?

GM: Yes, it's hard – I know that oriented strand board is something like wafer board. It's – chips that – it's process kind of like making particleboard. It's a wet press operation.

BB: Okay, so the first plant was made about thirty years ago. Was the board any different than it is now, after thirty years of what they first turned out, is it a different product, or is it basically the same?

GM: It's basically the same except we have increased our machine speed by one hundred percent, or maybe one hundred twenty-five percent.

BB: Okay – all right, why don't you start at the first and tell me the process for making fiberboard?

GM: The process starts with logs, Southern Pine logs, debarked. They are chipped up, and they are transferred here by different outside sources or inter-company chips.

BB: So you don't actually debark the logs?

GM: No, we have nothing to do with that. They are brought in to what we call the chip yards; they are stockpiled in piles. They are cured, for two weeks to a month. If they are piled up they cook themselves, their own heat. That's when you drive by the fiberboard plant you look at a pile of chips and steam coming off of them, they are cooking, their own fermentation. Okay, these chips are transferred to our digestive system, which consists of cylinders, large cylinders. All right, they are put in these cylinders by conveyers. They are pressurized like you would pressurize a roast or a piece of meat in a pressure cooker, for approximately six minutes under two hundred pounds steam pressure. The paper mill...

BB: How many pounds at one time, are we talking about?

GM: How many pounds? About two tons every six minutes in each cylinder. Two tons of chips in each cylinder, which – we've got four cylinders, four digesters. We use approximately one thousand tons of chips a day. Some paper mills use this process. Some of them use the caustic cooking system in which you use acid. After the chips are cooked, they are conveyed out to the refining process, which we've got twelve hundred horsepower motors with refining plant, which rotate opposite each other. As these chips fall through these plates, they are real sharp, they are like knives; they are real sharp. They will grind these chips up, keep grinding them until they make fibers of them. If you could pick a chip, a cooked chip, you know, if you could cook one in your oven or in a pot of boiling water for so many hours, or so many minutes, and pick the fine stuff out you would find little fibers, wood fibers, they are real soft.

BB: Do these chips have to be a certain size for you or any of that kind of stuff?

GM: They don't need to be any larger than maybe three inches long and maybe an inch wide, that's the ideal chip.

BB: Three inches long and an inch wide?

GM: Yes.

BB: How thick?

GM: A quarter of an inch,. These chips are ground down into fibers, wood fibers, all right, we've got a system of collecting what we call "stock chests" which are holding tanks, you might say, with agitators. It's like large boat propellers that keeps the pulp, it's pulpp now, mixed with chips and water, I mean the fiber is mixed with water, keep stirring it around and around. We've got pumps to pump it out of one chest into another and into another and into another.

BB: So you have four of them?

GM: Yes, we've got four on one side, four on No. 2 and five on No. 1 side. Part of this purpose is for deblocking. In other words, when you are grinding, these bundles of fibers tend to cling together, and as you agitate them they will spread apart and that's what you want, individual fibers and that's why you have so many chests. Another reason you have so many chests is for the purpose of retaining your bulk in case something happens – if you break down you'll have a backup system, you'll have so many gallons of pulp here and so many gallons of pulp there for a backup system. All right.

BB: Are they hot, are they kept hot or are they just room temperature?

GM: About one hundred and sixty degrees.

BB: So you really add heat to it?

GM: Yes, we don't add heat; it creates it's own heat, really.

BB: Oh, really, it's still fermenting?

GM: It's anywhere from one hundred, depends on whether it is summertime or wintertime, it's one hundred and forty to one hundred and sixty degrees.

BB: How much water do you use at that point, gobs?

GM: During a normal day's processing I believe we use a million and a half gallons of water a day.

BB: Where does that come from, from underground?

GM: We reuse our own water, same water over and over. If things are not just right we have to put some effluent to the irrigation field, which is Ryan's Lake Club Pasture.

BB: That real pretty green pasture, right?

GM: Yes, pretty green pasture, we fertilize the hay with it.

BB: And then you have to add fresh too?

GM: A little bit, not much. We use mostly pond water, which is brought back from Allen Lake, which is down at the club pasture, run off, we send it back up, it is fresh water...

BB: So they just don't use it out of the ground?

GM: We've got a process, which is evaporator now that distills the water. We sell the wood sugar, we evaporate the water, dirty water, make wood sugar out of molasses, sell it for cattle feed and bring the distilled water back into the plant to use, which comes back in the plant at about one hundred and eighty degrees; it's hot.

BB: And that's what feeds these vats then?

GM: Yes, we use it as make-up water. And –

BB: Okay, we're to that point. I got you off the track, we are in those five tanks, or four tanks.

GM: Okay, it is transferred from there through pumps, which pump the stock out of these chests to the board machines, the forming machines.

GM: Yes, it's brown. It flows out in an even flow, just like lava would.

BB: It's like paste, I mean, it's pretty thick?

GM: It's fairly thick, it's not as thick as paste would be, or lava, but it flows out in the same instance, you know. And as it flows out on this – we've got a wire mesh, plastic wire mesh screen, what we call wire, really, a screen. It's fourteen feet wide and one hundred and something wide and it runs over walls. The water drains out as it runs down through the board machine. Okay, it enters the press section, before it enters the press section though, we've got vacuum pumps that pull the water out, the remaining water out of the fiber, which stops the crushing process. In other words, crush, when you press so much on the board the water cannot leave and it squirts up through holes, just leaves holes in the board. Okay, and as it runs over this wire it will fall down and the water drains out and enters the press section. We've got four press rolls that weigh approximately ten thousand pounds apiece under one thousand pounds of hydraulic pressure mashing this.

BB: Just like a big iron, kind of?

GM: Yes, and they are rolling the same machine speed, the same direction the machine is going and they've got little perforation holes in them, so the water can – as it rolls it is mashing the water out, the water drains out and the stock is forming. The stock has already formed but it lays it down and mashes it, and after it comes out of the press section, some of it will mash back up. If it mashes up too much you've got bad board, I mean, that's all there is to it.

BB: Oh, you can't re-mash it?

GM: No, no.

BB: Once it comes out of there it's there for better or worse, huh?

GM: It's there for better or for worse, we have problems with this but –

BB: What makes it, too much?

GM: The refining process, most of all.

BB: Do you add any chemicals to it?

GM: Yes, we use ferric sulfate, on hardboard siding, we use ferric sulfate. We've got a wax solution that we use, linseed oil emulsion. The wax is for water resistance. The oil is for strength purposes, it tends to bind the fibers together.

BB: But you don't actually use a glue process at all?

GM: No, it is all natural, everything is natural and the ferric sulfate is to keep the wax and the oil in the board instead of running out with the water. It helps them combine with the fibers. Now, sheathing is another, I mean, it's the same operation but we use sodium laminate and asphalt emulsion. The asphalt emulsion adds strength and water resistance and the sodium laminate does the same thing that ferric does; it holds the asphalt in the board. The more asphalt you've got in the board, the stronger it is.

BB: How thick is that board?

GM: One half inch sheathing, that's the black board I was talking about a while ago. It's fairly strong, after it's coated, you know, it goes to the drying, after it goes through the kilns it is cut up, goes to drying where it is coated with hot asphalt which creates the black surface on it and that adds even more strength to it.

BB: That's something – okay, after it gets through those four rollers then what happens to the fiberboard?

GM: Okay, it's on the wet table, what we call the "wet" table, we've got a wet lap saw that is worked by switches that automatically cuts every length that we want, enters the kilns. The kilns consists of eight separate decks, which are running one eighth speed of the board machine. If you were to run – they're on top of each other, if you were to try to run one whole sheet to the kilns you would have to slow the kilns, you would reduce your speed by eight, you know.

BB: You'd have to have eight machines?

GM: Ten – twelve percent, no. Eighty-eight percent, so we got eight decks there. Okay, once it enters each deck at full speed it drops out of high speed. It never catches up to each other. It drops down, tipple, we got a tipple that works automatically.

BB: A what?

GM: A tipple.

BB: T I P P L E ?

GM: T I P P L E. Once the board enters the kiln entrance it hits a switch in there, that the tipple drops to the next deck, another mat comes in there hits that switch, drops down to the next deck.

BB: Kind of like an elevator?

GM: Sort of like an elevator, exactly, going from floor to floor. And these kilns are running one eighth of the speed of the board machine, all the time. They'd have to be or you will plug them up or something. But it takes – the kilns are approximately eighty yards long, about four zones, what we call "Zones". It would be just like if you took a cake out of one oven and put it in another one, had different heat in each oven. You graduate the heat, start out with high heat in the first zone, high heat in the second zone and graduate it down so the boards will not burn.

BB: That's because of the water content?

GM: That's right.

BB: What happens to all this – does it steam?

GM: Yes, very much. You've got dampers in the top of the kilns that they are supposed to be closed at all times. If something happens and one of them comes open, you will know it because the boards start burning bad. I mean, it's kind of like if you were baking a cake in the oven, if you open the oven door and you've had your burner on, the cake will get done on the outside but it wouldn't get done on the inside, same principle.

BB: That's happened to you – your board?

GM: But if everything works out right the board comes out of the kilns, it is cut up by the dry end, trimmer, we've got a No. 1 trimmer and a No. 2 trimmer.

BB: Okay, why do you do it again, why do you cut it again?

GM: Because when we cut it –

BB: Does it shrink or something?

GM: On the wet end, when we cut it, it is a mat, called a "mat". All right, when the dry end cuts it, they cut it into pieces, like 4 x 8, this is what you see on your house.

BB: What size is it when it comes out of the – what size is a mat?

GM: Well, we have different sizes, there is an eighteen foot mat, sixteen foot mat, 4 x 8, 4 x 9, like this blackboard, it comes in 4 x 8, 4 x 9 sheathing.

BB: Is there a certain amount of shrinking and like that in the thing, like that in the dryer, so it would make it where it wouldn't warp or have to be trimmed up?

GM: No, not that much, it has to be trimmed, yes. What is trimmed off of it is what we call "Hog". It's hog saw, which is blown back, it's used back in the process again.

BB: Right at the first of the process? Where were we? We're out of the dryers and you're cutting it up at the other end, the dry end.

GM: Okay, on the sheathing we are running half inch sheathing, it is cut up in 4 x 8 or 4 x 9 pieces and is transferred to the coating, the hot air coating system on the dry end, which coats it with a film of black, a weather proof coating, plus it adds strength to the board. It is transferred up to the cooling process which cools the asphalt which keeps from sticking when you put it in the stacker after it's –

BB: What is that usually a refrigerator system or what?

GM: No, it's – just has large fans blowing on it.

BB: Okay.

GM: Well, what it's called is wicket, but it's transferring wickets, one board stands straight up and goes through the cooling process, not air conditioner, just normal cooling process. It is stacked, bundled and hauled out to the yard for shipping.

BB: So that is ready?

GM: Yes, that one is ready. On the siding process, one of our mats, the wet end mat that leaves the kilns enters the dry end, is cut up in three pieces, 4 x 16 or 4 x 18. They are loaded, they are not coated with anything because they are in water, it keeps them from spontaneous combustion in the warehouse which is normal heating of a – just like you'd put wet hay in a barn. We have this problem all the time, they put water on them to cool them down, run them through a cooling system just like they do sheathing. They put them in loads, what we call loads, stacks, in other words, of board, and they store them in the warehouse to the press line. Here we go with the press line now. The press department consists of twenty or twenty-two press openings that this mat siding, this hardboard siding, pressed mat, not the sheathing, it is put into and, it is under two thousand pounds of water pressure, heated by, I want to say six hundred degrees of steam temperature. As this water pressure mashed this board plus the heat, it just hardens the fibers, it just keeps mashing it and mashing it, it starts out, the board starts out at $\frac{3}{4}$ of an inch approximately and ends up at $\frac{7}{16}$ of an inch.

BB: And they start at what – $\frac{3}{4}$?

GM: $\frac{3}{4}$ and ends up at $\frac{7}{16}$ of an inch which is – feels like a clip board, the back of a clip board.

BB: How long is it stored before it is run through this press line? I mean, is that a curing process or does it, is it just –

GM: No, it is not a curing process.

BB: It just stays behind.

GM: What it amounts to, the press line can press now more than we can run on one machine but they can't keep up with us running the same mat on both machines so they have to store it.

BB: Until you are going back to the other – and then they can catch up again. Oh, I see.

GM: We have to get out – matter of fact we run this siding on No. 1 machine, we never alternate on No. 2 machine, we never run sheathing on No. 2 board machine. We are always running siding, on No. 1 machine we run sheathing for ten days and siding for ten days. That keeps the press operating, the schedule operating all the time without having to shut down, plus we get our quota on sheathing.

BB: That you have to have. So you do more of the siding, twice as much as that black hardboard?

GM: Yes.

BB: Oh, okay.

GM: But we produce more black board than we do siding because we run faster.

BB: Oh, really?

GM: Yes, we run sheathing at sixty foot a minute and we run siding at twenty foot a minute.

BB: Sixty?

GM: Sixty.

BB: That's traveling on, sixty foot a minute?

GM: Sixty foot a minute, that's a million feet a day.

BB: So that board loses 5/16 of an inch when it is mashed, that's a loss of mashing, isn't it? Now, is that where the design comes in, that's on the board?

GM: Yes, they've got different designs, stainless steel plates that they put in there. They've got a stucco design, cypress design on the cedar tex and a plain smooth.

BB: Without any of the cracks like –

GM: The cracks come in later at finishing department, they've got different saws over there, this right before you get in shipping, the finishing where they cut the grooves and all that, they have different saw blades that does that.

BB: What style is that in the den?

GM: This is cypress.

BB: Cypress? I think that's what's in my bedroom.

GM: It's something like cedar-tex. Cedar, it's got a lot of knots in it.

BB: That's neat looking stuff. So after it gets through this pressing then it goes to the finishing or what?

GM: It would have to go – the funny thing about fiberboard, they want the wet end to dry the board, okay, we got to get it so dry, then after – when I was talking about going to the wet end, cutting it up, using a wet roll to wet it down. Okay, then it goes to the press line and it runs through a pre-heater before it goes to press to take the moisture out of it again. Then they press it and it's so dry that the amount of humidity and moisture in it is .5% or something like that. Then they run it up the conveyor and run it in the humidifier, I mean the bake oven, which bakes the rest of the moisture out of it. It's transferred over to the humidifier, which adds moisture to it internally. This is to keep it from warping,

supposedly on the side of the house, during the winter months especially. Like it restored, most of this is happening at the mobile home plant, warping and we just about solved that problem, by the time it leaves the plant they want 6% moisture back in the board.

BB: And by the time they finish it with paint and all that it is going to stay in there?

GM: Yes.

BB: What is the humidifier like? How does it add it internally?

GM: It's just like a steam bath or sauna bath, it's the same thing.

BB: It's just that it's so dry that it sucks it in at that point? And then it goes to the finishing saws first? Does this create a bunch of dust particles and that kind – I know when Steven was sawing that stuff it –

GM: All this is taken away by vacuum cleaners. There is no problem with that unless a line or hose or something stops up. But they've got a big dust bag outside the plant that sends it to the boiler which is used as boiler fuel. The whole – there's nothing wasted at the fiberboard, not much.

BB: Well, you've got the molasses and the –

GM: Yep, and not much is wasted.

BB: Okay, then it is painted at that point, after the sawing takes place?

GM: A few years back it only had primer surface on it but now they are getting into the – we're getting into the finished product and they've got, I believe, four different colors, integrated colors, I don't know what you'd say but it's real pretty, I don't know.

BB: What basically are they?

GM: One of them is tan, one of them is grayish, one is cedar colored.

BB: Kind of red, do you have a red?

GM: One of them is beige, four different colors right now.

BB: Do you do a certain amount of each one or do you have orders ahead?

GM: We're just getting started now, I don't know that much about it – all I know is once you get started in this business you've got to stay with your colors because you can't have a, like if you get two different loads from Temple-Eastex at one mobile home factory, you can't have two different loads on one side of the house, one of them, just one color and one the other. So that's a problem you have to work out.

BB: I see, how many people work there?

GM: At the fiberboard – I'd say three hundred and fifty people, approximately.

BB: How is it divided, as far as labor force, how many supervisors are there?

GM: In production?

BB: Just overall.

GM: I'd say thirty supervisors.

BB: Is that the normal chain of command, the supervisor's next level?

GM: I'm talking about the first line foreman, there's probably between twenty-five and thirty, I'd say thirty. Six second line supervisors and three first line supervisors.

BB: Then after that, it is management level?

GM: Management, top management.

BB: About how many people work in the office to keep it going then?

GM: Approximately ten people, maybe eight.

BB: Oh well, that's not bad, you know, being a good mix up there. What sort of problems do you get into? What will make bad board?

GM: What problems?

BB: Yes, what's your main – some of your main problems?

GM: Well, starting with the system, logs, there have been lots that are deadwood, blue wood, what we call blue wood, bug infested, because the steam, after they cook, they will cook quicker and turn to mush. We have problems with –

BB: Don't they go through a grading system? Or anything like that or can you tell? You can't tell by the time it gets to you?

GM: Other departments and Temple is supposed...

BB: Keep an eye on it for you, huh? Well, with the pine bark beetle so bad this year.

GM: I know it – it's been bad. Another major problem, sometimes it is chemicals in the board, we have trouble with some chemical companies. We'll get a good batch of chemicals in, like a sodium aluminate, we'll get one or two good batches in trucks in, two

good trucks in and maybe the next will crystallize on us and all our lines plug up and end up losing time over that. Mechanical breakdown causes some problems but that is normal problems in any mill operation. We did have a lot of kiln problems but I think that is going to be solved pretty quick because of the renovation of No. 1 kilns.

BB: Well, for a thirty-year-old plant, are you still right on top of the top of it, equipment wise, or do you think...?

GM: No, no, they are doing more work than what the mill is getting old. In other words, they are keeping it vitalized, keeping the vitality up in it, in my opinion, yes.

BB: With the other plants shutting down over the country, it looks like you've got a, you know.

GM: Yes, I think it is great. We just got to keep our good people in there and keep them doing the job.

BB: Do you have anything you want to add?

GM: No, I think that is about all I have to say.

END OF INTERVIEW