And they had, maybe three crews making up brailes. You had not many men that was really good on logs, that would get on that floating logs. You just kept doing that until you got your eddy cleaned.

DB: How many people were in a log drive team?
DC: Well, we all used to have...we used to carry about 30, 34 peavey men. And on the Little River we had three boats, and when we got on the main river and we'd put on another boat...or two boats and we'd put on a third boat on the main river. Larger river.

DB: How many men were usually on the log camps?
DC: Logging camps?
DB: Logging camp.
DC: Oh, most camps had around 75, 80 men
DB: How many would be on a log team, working on an area?
DC: Well. Gypos, like, like if you were gypoing together, depended. If you were horse skidding there was usually two men to a team. You'd have one man swamping and dogging in the woods, and the other fellow bringing them down. And he'd knock the dogs out and roll them out on the landing. If he had to deck 'em, maybe you'd, there'd be three man team. The third man would be decking the logs on the landing, and if he had time maybe he'd run up and skip up the road. Which, if you were coming down, there's one log behind another, there happened to be a little dip, they'd start digging--and dig a big hole. So he'd run up and take, cut maybe, poles 16, 18 feet long, and he'd dig the upper end down into the ground, and the lower end, and make a trough across here. So, when the logs come down they'd ride these poles across--wouldn't dig. And, he'd skip up the road, and deck the logs, while the other fellows were skidding.

DB: How many sawyers were there in a crew?
DC: Well the sawyers were independent. They usually, they just went ahead and they put the saws, and they sawed the timber. The sawyers had no connection with the skidding crew.

DB: OK, so a crew, would be the people that got the logs from the woods to where it would be?
DC: To the chute, if they were taking it to a chute, or to a flume, if they were decking, rolling on the flume, skidding to a flume. And, usually they'd have a flood once a day. So, they'd have these men and when the flood hit, this teamster and this other fellow be down there and they'd roll their logs, that they'd skidded, in to the flume. And then go back and start skidding again.

DB: So how many sawyers would work together, at a time?

DC: Just...there were just two.

DB: Just two, with a cross-cut saw.

DC: With a cross cut saw, one on each end.

DB: Did they have different names for the saws? Did they call it anything, did they have a nickname for the saw?

DC: No, crosscut.

DB: Just cross-cut.

DC: Then there is the Batkin or Simmons; that is the names of the saws. The brand of the saws.

DB: So how would they cut the timber so it would be ready for the swamper to get ahold of it?

DC: The timber was fallen. On horse logging the timber has to be fallen straight up and down the hill. Hardly ever put a tree across. Unless, it had a lean so heavy that they can't. Because it is dangerous on a steep hill. Logs laying cross ways, a team comes up and starts pulling the logs out, another one might come down over the top. So, if you were...it's a woods boss, sometimes a saw boss...you always had a saw boss that looked after all the saws, he went and placed the saws, and he'd check on the log lengths, and see that they were cutting right. And he would, he kept the sawyers in line. And, he watched them when they finished a strip, he'd take them over to another strip. Place them, on another strip, as they called it. So, that's the way they handled the sawing of it. And some times like when we gypoed; we had our own saws they would...we'd gypo a whole canyon...this Ralph Smith and this fellow named Jimmy MacIntire and I. And, we had our own camp, and MacIntire's wife cooked for us, and his daughter flunkeyed...and we'd run the whole outfit. We looked after the saws, and done this logging all ourselves. So, we had our own camp, and our own teams. We didn't have our own teams but we rented the teams from the company.

DB: What would the swamper do?

DC: The swamper was in the woods. Like, when we were gypoing, the swamper and dogger were all together. He swamped the logs...

DB: The same thing.

DC: He'd go through and cut the windfalls out, and knock all the limbs off the trees, and the big logs you'd snipe off the ends--you'd cut the edges off so you wouldn't dig so much. And, then when the team come back, drive the dogs,
and work 'em out of the woods so'd the team got started, and then as soon as the team got clear, and gone to the landing, why you'd start in, just as hard as you could, swamp another trail out.

DB: And then the teamster was the one that took the horses and hooked them with the tongs and then dragged them down to the place?

DC: Dragged them down to the place. And then, he had...he pulled in on the landing; he'd have a landing. He'd pull in, and he'd knock the dog out, took the tongs out, and then they'd roll that log down onto the skidway. And then he'd go back, turn the team around...

DB: Is the skidway the same as a landing?

DC: The landing would be where your skidway, your skids roll out to the flume. Or whatever, to the chute or the flume.

DB: That must have taken quite a bit of talent, to get the horses to move the logs to a place where they would be ready to go down the chute?

DC: Well, once you're done with that, you'd roll out this landing and fill it right up. And when the chute was right there at the end of the skids, and right level with the skids. The edge of the chute. And, then you'd roll...when you take your chute...the logs right down the chute...roll it in the chute, you'd have a make-up horse. With a pair of these side tongs and he'd pull down and he'd come back with another log and he'd fill the chute up until as many logs as he could pull down the chute. And then, he'd take them off, and take them off and dump them unto a landing at the higher end of the dam, at the flume, or at the landing below the dam. If there wasn't room in the pond, if they wasn't sluicing through the pond.

DB: What was the average length of a chute?

DC: Well, usually, most chutes were anywhere from half... Have had chutes a mile and a half long. Usually they were about a mile, most length. And, ah...half a mile to a mile.

DB: So, you have the sawyers working on their job, and then you have the swamper and the dogger who's the same man, and then the teamster who brings them to the chute; were there any other occupations? What other jobs did they have out in the woods?

DC: Well, of course, you had your chute builders going out into the...

DB: Right, right.

DC: ...And if you had a flume, sometimes, you start logging at this one dam, and they'd have to build a flume above...maybe, another piece of flume above yet, so, you'd start logging below this one dam, that furnished water for the...getting rid of these logs and you still building flume up above and chute. And getting ready ahead, all the time.
DB: Did you have? How many teams of people, working out in the woods could a chute maker build chute for?
DC: Well, you always got your chute built pretty well ahead.
DB: Would they last year after year, sometimes?
DC: Oh yes, chute would last indefinitely. They'd last for 10 years if you got enough logs to come over 'em.
DB: I see. And, how about flumes, is that the same way with that?
DC: Flumes was that way. You had to put a little more repair on your flumes, occasionally. You had a man walking the flume to see if any boards would be wore through in the curves. The logs would chew into the side of the flume and if a board got wore, why you'd replace it.
DB: What were the kinds of timber outputs that they have up in the camps that you worked at, like millions of feet, a year?
DC: Well, usually on the horse camps they'd run 75, 80,000 a day. And then in the course of a year they'd, oh...eight or ten million.
DB: How about...when did jammers come in, the back jammers on back of trucks?
DC: Oh, they come in in the...the first ones that I ever worked around was in the...in the early '30s.
DB: Was the jammer basically a large winch?
DC: It was a large winch. So, if you'd lift a log you had a high boom.
DB: And what would they attach the end winch cable to, to get it...?
DC: The winch...of course they had guy lines on the jammer, you know. They had this boom sticking straight up. And they had the...another boom run out with a block on it, the line from the drum went through the block. And they had this main part of the rig had guy lines all...they tied three guy lines to that. Then they had one guy line to the end of the swinging boom. And this kind of swinging boom, it could swing out so far, and then they had this snub cable that would hold it. And when they brought the logs up, they'd bring it up, and then center out where they were decking these logs. They'd bring them up and put the logs on...
DB: Did they ever build a special kind of deck or just packed earth?
DC: To deck the logs?
DB: Hm-hm.
DC: They just decked them against trees along the bank, see.
DB: Which cable would the log be attached to?
DC: Right off the drum, the one that went up off the drum and through the block.
DB: What were some of the names for the pieces that you would hook around the log, to get the cable tied up to it?
DC: Oh, your guy line, guy trees. You use your guy lines.
And then did they have like a...what was the name of the man who did the job of wrapping the cable around the tree?

Well, your hooker done that.

You had three men on the jammer crew. You had the hoister, that's on the rig. And the...two men that would change off. One fellow'd stay on the deck, and hook the tongs, he'd hook the tongs, and then he'd drop them. One man'd unhook the tongs and chop any knots off that was on the logs. And, of course they had a haulback line...they had two lines on this jammer, you see. They had a haulback line that went back of...probably a 3/8 line, and the other was...be an inch cable...7/8, or something like that. Main line, all depends on the size of your timber. And it would go down...now this line...you'd take your haulback line and you'd have a block down in the woods. And they'd hook these two lines together and through the block. And your main line, one that down your haulback. You'd pull your haulback and you take your main line down with the tongs on it. And he'd hook on and then you'd hook on to the mainline and you raise your haulback and you bring your log up and your haulback would come back through the block and follow back up, and be attached to the end of your skidline.

So, what would you attach the tongs to that were coming down?

Your tongs were attached under the...to the choker on the end of the main line. And hung down and then. They hung ahead about, maybe eight or 10 feet long, so they could...and then when they got down he could pull this other line off sideways and hook logs off sideways, oh maybe, in the radius of 50 feet. And that's the width they'd take--50 feet. And then they'd move over and start in again and take another swath, clear down to the boundary line.

So, you could hook the tongs to a log and then roll it to a place where you put the cable on it, and drag it up?

Oh no. You just hooked, pulled your cable right over and it's hooked right onto your main line. You hook right on to it and as soon as you blew the whistle why that main line went up and away it went, up the hill.

Were the logs ever completely off the ground?

Oh yea. When it gets close to the boom up there it was off the...one end was off the ground, the other end was hitting the ground.

Was that called...did they have something like a highline?

Well, it actually wasn't a highline. The highline, of course, would be...the block would be in a tree down below so they lift the log completely up. These highlead that they're using now, they bring them up there...the log is off the ground part-time and part-time one end is hitting the ground. In the early days they used...they were
skidding only 16, 18...16s, 12, 14 foot logs, now it's 33s and double lengths.

DB: Is that what would fit on a tractor trailer, is that the idea?
DC: That's what they use to haul now. You very seldom see short logs going out any more.
DB: So, they had the log drives to start with, and then they did the splash damming, and ah...with the log drives, and then they had the horse skidding, and ah...back in the old days, how did they, other than the log drives, how would they get the logs out of the woods?
DC: Out of the woods? Well, of course, ah...up until the trucks come in, oh...in a few instances...there was instances they used horse trucks, you know. They loaded logs on wagons and take them out. There weren't very many, but they'd take them out.
DB: But before the trucks came in, it was mostly log drives to get them out?
DC: Yea, it was pretty near, it was all log drives.
DB: When did the first trucks come in this country?
DC: Well, the first trucks that I worked on was 1928.
DB: Were those the solid rubber tire trucks?
DC: Solid rubber tire.
DB: What kind of roads did they build for those trucks, back then?
DC: They built a lot of pole roads. Well, The ah...pole roads, most of the ones that I've seen, and I seen all over the country, they built. They usually...two logs, hewed lay them here and then they'd have a guardrail up, just the width of the wheels of the truck. And you had out there these two guardrails...and the truck went on these guardrails, between these two guardrails.
DB: How tall were these guardrails?
DC: What was that?
DB: How tall were these guardrails?
DC: Guardrails were probably, six inches.
DB: So, they would just go straight between the tracks?
DC: Right between the wheels of the truck.
DB: Was there a name for that road?
DC: Pole road.
DB: Pole road. What were the names for the road where the logs would be stacked side by side, going ah...sort of like a corduroy road; did they have a name for that?
DC: Oh they had corduroy road. We never used corduroy road much, only for little short pieces of crossing, muddy spots or something like that. Didn't put in too much corduroy road, otherwise there is the pole road. You lay it so much faster, and a lot less work.
DB: So, would you describe a pole road again to me, please, with the...?
DC: Well a pole road was, your...have maybe, two logs. Maybe be...it all depends on dual tires, had to be two and half, three feet wide on each side. And, then there was, on these...guardrails was up...you had pieces mortised in, so they couldn't push them in. And was rigid right there so no matter what the wheels, you might...if you swung hard enough, you might climb the guardrail, but he couldn't push it out.

DB: So was the guardrail facing right on the tire?
DC: Well, it was facing right on the out...on the edge of the, right along the edge of this...inside edge of the...
DB: Of the log...OK.
DC: Right on the inside edge of the pole. It was spiked down to it. And then there's braces across between the two guardrails.
DB: Where there many miles of that in the Coeur d'Alene forest?
DC: Well, not too many in the Coeur d'Alene forest. There was seven miles up on Skookum Creek, it was about mile and a half there. But that was pretty good ground. Now, over at Potlatch and that country, there was miles and miles of pole road, right down here in back of St. Joe city, up on the hill there, there is miles and miles of it up there.
DB: Why didn't they build it in the Coeur d'Alenes, do you think?
DC: They didn't do too much trucking in there, you see, it was all log drives.
DB: OK, so that was early...
DC: After I left they might have...then of course, the bulldozer come in and they built solid roads.
DB: When...so, they made the switch, from the log drives to the log trucks in many of these forests where they had the pole roads, when was that, in the late '40s?
DC: Well, the Coeur d'Alene wasn't on the...they did have some truck hauls on the Coeur d'Alene. Ah...it was in the...On the Coeur d'Alene River they never put in any big truck hauls. Up on the Little North Fork, when Ohio Match went to truck hauls, that was in the '40s.
DB: So, it was log drives till the '40s?
DC: '37 was the last one they took out of there. Of course, they had a railroad up there. Ohio Match had a railroad. And the railroad logged out the head of the Little North Fork. That's...they done that in 1923. But they used the same method of getting their logs, horses and chutes. They didn't have flumes then, they had the railroad.
DB: When did the caterpillars come in to build the bulldozer roads?
DC: The first bulldozer...the company that I had--Winton, was ah...oh, in the middle '30s. The first one I saw, was in around the first of the '30s, when the Forest Service come in with the old cleat track. That's the first bulldozer that come on the Coeur d'Alene River. The first Cats, that
Winton had was in 1923, they used them not where I was very much, but they used them to...
(BREAK IN TAPE)

DB: So, we were talking about the different kinds of ways that they got the logs out of the Coeur d'Alene, that you are familiar with. When did they start doing the extensive Caterpillarizing then?

DC: Well, we never done any over there much until we come up here, we moved. Changed from horses to caterpillars in '38 when we started logging up in Marble Creek. That was the Winton Lumber Company now, see Potlatch started before that. Over on around Bovill and that country. They started with Cats a few years before that. They had different types of ground.

DB: Is is a little flatter there?
DC: It was, at that time. But now they get, after we started logging up here on Fishhook with...we used Cats they...logged all kind of ground with Cats.

DB: What do you do, get a flat space that's up high, and then drag 'em up?

DC: No, we just...we logged a little different in those days, I guess, we built all Cat roads. The first they started out the Cats didn't have winches on 'em and you had to get up above and break down through—with the Cats. And you run into a lot of difficulty, you get to straddle the stumps, and one thing and another, with the Cat. Have a hard time getting it off the stumps. Then they put winches on the Cats and started building roads. And we skidded exclusively on truck...Caterpillars, up here.

DB: About what years did they use steam donkey engines?

DC: Use what?

DB: The donkey engines?

DC: Oh, the donkeys. Potlatch used those pretty early. Winton had one donkey on the Coeur d'Alene River, they used only for trailing on chutes.

DB: When was that?

DC: That started in 1920, but the...got an old cat here, 18 years old.

(BREAK IN TAPE)

DB: That's OK. About how late were the steam donkeys used?

DC: Well, the steam donkeys were used on Marble Creek, in this country up until 1927.

DB: What replaced them?

DC: Cats and other things replaced them. And dozer, and...

DB: How about the Coeur d'Alene, were there many donkeys there?

DC: Weren't many donkeys there, there were few little donkeys, on the main Coeur d'Alene that just used to trail on chutes.

DB: And they used horses there until '37?

DC: Well, they started...well, mostly they did, they had...they
started some skid jammers up there. And they were using the skid jammers. But usually it was horses up until the middle of the '30s.

DB: In the Coeur d'Alene area, what were some of the nuisances to timber, back then; diseases, and bugs and stuff like that?

DC: What?

DB: What were some of the nuisances to timber, like diseases or bugs?

DC: Bark beetle and the blister rust was one of them. Started in there, those days, early days.

DB: When did the ribes get started?

DC: Well, the ribes blister rust got started. The first, in the '20s they started a small campaign cutting down the...what they called the red top trees. That's the one the bark beetle hitting and peeling them. And trying to get rid of the bark beetle. And then they started the ribes, with the CC when they come in. Started blister rust control, but...it never worked too good, they weren't getting them all, they were pruning 'em.

DB: You said earlier, when you were working the log drive you were making five a day plus...

DC: Plus...

DB: Plus room and board. How were you paid when you worked for...when you worked in the log camps?

DC: Well, you get paid...when you were gypoing, if you're working for the...I gypoed most of the time after 1920. You were paid so much a day.

DB: Did you consider that you were working for the company you were gypoing for, or were you working for yourself?

DC: Well, we worked for ourselves. The harder you worked the more you made.

DB: Did you ever work for a large company after you were gypoing?

DC: Well, I mean...I worked and I...gypoed...I gypoed for Winton and I gypoed one Winter for the Potlatch. One Winter in '33.

DB: But that was all contract work, right?

DC: Contract work.

DB: Did you ever work exclusively for one company? What I mean exclusively, did you work...not contract but just be a salaried employee?

DC: I worked for Potlatch for 23 years.

DB: When did you start that?

DC: 1944. Till I retired in '66.

DB: And what were you doing with Potlatch?

DC: I was camp superintendent.

DB: Which camp was that?

DC: Up here in Fishhook.

DB: That would be near Marble Creek?

DC: That...down here right across Fishhook Creek, down here
about a mile. Back up in here we had two big logging camps, back in those days, ole camp 44 and new camp 44.

DB: At what time did men start getting married, some of the loggers, the people working the logging?

DC: In the early days, when I went first in the woods there was very few married fellows there in the woods. But ah...after the, after the '30s...they started having, to get more married men in the woods.

DB: Why do you think that was?

DC: Well, it was...it was opened up more and you'd get home often. And of course, the older lumberjacks they were a different type. They travelled, they'd go out and they'd work all summer and have a stake, and go in and get on a big drunk. They they'd get...I don't know how they'd bum around through the winters. Next spring they'd go out and it would take them the whole summer to pay their bar bills for the next year. They always had credit because they always paid.

DB: So, right about the '30s people started getting married.

DC: Started getting more married men in the woods. Before that it was, more or less, a bachelor type of fellow in the woods because you were isolated out there for four, five, six months at a time.

DB: How often did you get mail when you were out in the log camps?

DC: Well, you'd...oh, even in the logging camps, of course, you got your mail quite often. Even with the pack trains coming in to camp every day, bringing in supplies. They'd...

DB: So you would get mail every day?

DC: You wouldn't get it every day but you'd get it once or twice a week.

DB: And when did you get married?

DC: I got married in 1926.

DB: 1926.

DC: The first wife. And Thelma and I got married in 1950.

DB: What other kind of industry was in the Coeur d'Alene area besides lumbering?

DC: Well, along that particular branch there wasn't any other industry. Except down on the South Fork, were all the big mines are.

DB: Did you ever do any mining yourself?

DC: No I didn't.

DB: Did you ever do any farming, other than what you did when you were gardening when you were a child?

DC: No. I worked steady from 1917 till I retired in 1966.

DB: When you were gypoing all those years, what kind of work did you do basically?

DC: You done it all, as far, when you were gypoing. Of course, I shod horses, and done everything, when you were gypoing. You shoe your own horses and...
DB: Did you have your own blacksmith shop?
DC: I had a little shop there. Just a lean to, enough to get a horse under it.
DB: What kind of tools did you have in the blacksmith shop?
DC: Oh, you had regular tools: a forge and an anvil, and oh, different kind of tongs, for handling the metals.
DB: When you were gypoing, what did you consider the best job to do?
DC: Oh, the best job that I done, because it was...I swamped and dogged for a team, because seemed to get more logs out that way; that was what you get paid by, what logs you get out.
DB: So, was that one of the harder works?
DC: Well, just plenty hard. Because you swamped all the limbs and cut all the windfalls, and sniped the logs, and rolled them out in a line, and drove the big dogs. Drove those dogs in, and peavey kept them rolling so they wouldn't hook on a stump, or something.
DB: Did you work much as a sawyer?
DC: Only a little while in the Spring. When we'd come in, and we were gypoing, and we didn't have enough timber to start, the teams going. My partner and I'd jump in and saw for a week, or so.
DB: Would the sawyers be contract sawyers, also...would they be gypo sawyers?
DC: Yea.
DB: What is the difference between...did they have gypo sawyers, and then gypo swampers, and doggers and...?
DC: Well, like, mostly they went, as I was saying...they'd go in teams. Like, in those days you had, maybe you had eight or ten teams in a camp, and each team would have a...a crew was always...it was all gypo. There was very little day work as far as the camp was, outside of rolling in the flume, or something like that, went on...getting rid of the logs on some...on some of the deals there. But, pretty near every team was, it was two or three men, depending on the size of the log and the way they had to handle it. so, it was pretty much all gypo.
DB: So you weren't in the direct employ of the Winton Company, but you were contracting with them.
DC: I was contracting from them.
DB: From 'em. Did the sawyers do the same thing, contracting from 'em?
DC: Oh, yes--they'd contract from 'em.
DB: So the entire camp would be contracting from them?
DC: From the Winton Lumber Company. The lumber Company run the camp.
DB: What employees there were direct employees of the Winton Lumber Company?
DC: Well, the camp foreman, and the saw boss, and the cooks and the barn boss, and that.
DB: What did the barnboss do?
DC: Looked after the horses at night, after the crew got in.
DB: What did the foreman do?
DC: He laid out, watched the crews, and set the gypo process, all that.
DB: Did they have, ah...did they have a blacksmith in the camp usually?
DC: Oh, yes.
DB: Were they good blacksmiths?
DC: You had to be pretty good, or you didn't stay?
DB: What would they do if someone wasn't good?
DC: Fire 'im and get another one.
DB: And then when things were broken down they'd take 'em to the blacksmiths?
DC: The blacksmiths in those days...there wasn't too much breakdowns. Oh, you might break a double tree. You would break a double tree once a year, a single tree. But there wasn't too much work...and dogs you had to put links in the dogs, you'd break a link in a dog. Or if you broke a dog off, once in a while, the dog would break off, and you'd have to take it in cut that link, put another dog on it, and weld it back together.
DB: There must have been millions of dogs out there in the woods. Can you still find them out there now?
DC: Well, I tell you, never did. You had to...you...all that stuff when you were gypoing, that was all charged to you. You had to bring it back.
DB: You had to turn it in when you were done with it?
DC: Oh yes. You had to account for all of it.
DB: What other tools did you have to return?
DC: You have your trail dogs. Usually have, like when we were gypoing, we had about, maybe 15 sets of trail dogs. You'd have ah...peavey, an axe, and a skip maw. Which is a skipmaw, to knock these dogs out with, when you come down to...
DB: So, what was that?
DC: It was a hammer with a long pointed bill. And these dogs you drove in, and right underneath the curve when drove into wood, drive that in there and flip it at the same time. Flip that dog out of there; that's when you got it to the landing, and uncoupling your logs.
DB: What other kind of tools did you have?
DC: You had a saw. I always carried...when I was swamping I always had a short one. A saw that had been broken in two. A short saw. When you come to a rather big windfall, you'd saw them a lot faster than you could chop them.
DB: There's a book that I've read called Logging in the North Woods, and it's got some vocabulary terms in the back. And, I was wondering if I could say something to you and then you could define them for me. Give me an idea of what they mean?
Different ways to look at it...different, different ways of speaking though. Some of them are pretty much standard.

DB: What's an apple knocker, did you ever hear that term?
DC: Oh, an apple knocker, he's, he's a farmer that come out in the woods. Fellow that be picking apples and come out to do some work in the woods--would be an apple knocker.

DB: How about barber chair?
DC: That's when a break...when sawing a tree and they'd have barber chairs, what you call it. It's a leaner and you don't corner cut it, when it starts to fall it would break up. And maybe break up about...when you saw it in here it would break clear, and your undercut is in here, break clear and leave a piece oh, that wide broken up and just like a chair.

DB: I see. Were those dangerous?
DC: Oh, they were dangerous. Buck would kick back and kick off sideways. You want to be clear. But there were lots of men killed with the barber chair.

DB: What's a bucker?
DC: It's a one man saw crew. Bucking. Bucks the trees. That's in the woods these trees they had just fallers and other fellows would come along and just saw 'em into logs. And they bucking them.

DB: So, that's on a big crew?
DC: It'd be on big timber. Yes.

DB: How about a bull?
DC: A what?
DB: A bull.
DC: A bull?
DB: Aha. Did you ever hear that term for...?
DC: Well, there was the bull of the woods. That was usually the foreman.

DB: The foreman? How about a chaser?
DC: A what?

(END OF TAPE 17; Side 1)