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1992 Data Bank for Red Oak Lumber

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Abstract

The 1992 Data Bank for Red Oak Lumber is a collection of fully described FAS, Selects, No. 1 Common, and No. 2A Common boards (a total of 1,578 at present). The data bank has two unique features to aid in sample selection. The first feature is the double grading of FAS, No. 1 Common, and No. 2A Common boards to reflect the surface area in grading cuttings when grading with standard National Hardwood Lumber Association (NHLA) procedures and when using as many grading cuttings as possible under NHLA rules. The latter gives a more accurate predictor of the potential utility of the board. The second feature is the inclusion of quality levels for the No. 1 Common and No. 2A Common boards.

Written for researchers and industrial decision makers who may have only a limited knowledge of the NHLA grades, the data bank contains a limited description of factors affecting the grades. Included are a description of Realistic Grading System (ReGS), the computer program for grading lumber; some reasons why lumber users who buy kiln dried lumber may want to specify the Special Kiln Dried Rule; the effect of kiln-drying on soundness of knots; and the surprising finding that relatively few No. 1 Common and No. 2A Common boards contain any pith at all.

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Introduction

For reliable results, computer simulations of lumber processing procedures require accurate lumber data banks. A major limitation of most rough mill yield studies is that the specific quality level of each board is not known. What is generally stated is that each board was graded by a certified grader. What is generally ignored is that the grader looks only for the minimum requirements of the grade in question.

The National Hardwood Lumber Association (NHLA) hardwood lumber grades, 1990, are based on averages and assume that all levels of quality within a grade are present in the long run. But, that may not be true for the boards in a data bank. If data bank users unknowingly compare the high end of one grade with the low end of another, then incorrect conclusions can result.

We have developed a 4/4 red oak lumber data bank according to NHLA rules from which sample boards can be drawn upon to meet the needs of the user. Emphasis is on No. 1 Common and No. 2A Common lumber. A smaller FAS and Selects sample also is included. Each board was graded with computer program Realistic Grading System (ReGS) (Gatchell et al. 1992), a specially enhanced version of Hardwood Lumber Training program (HaLT2) (Klinkhachorn et al. 1992a). As no computer program currently available can correctly grade all boards according to the NHLA rules, the grades were checked against *to-scale plots* of the actual boards and corrected when necessary.

For each FAS, No. 1 Common, and No. 2A Common board, the percent of the board-surface measure found in the grading cuttings and the number of cuttings used to obtain this percent are given. For the first time, a user can plot the boards and evaluate the grading procedure. A user also can choose boards that best represent the quality levels of the No. 1 Common and No. 2A Common raw material being processed or anticipated. The range of quality within No. 1 Common and No. 2A Common has been divided into three quality subclasses. The user can thus draw samples to represent any chosen quality level in these grades.

The data bank size is not fixed. Additional boards will be added from time to time. Some No. 3A Common and some short, higher grade boards currently are being processed.

Procedure

Sampling

It appears that the width of the hardwood lumber resource has become narrower in the Appalachian region. In 1973, researchers (Lucas and Catron 1973), sampling from two mills in West Virginia and two mills in Virginia, failed to find enough wide No. 2 Common red oak boards to match the sampling schedule that Dunmire and Englerth used for hard maple in 1967. We, in turn, failed to find enough No. 1

Common and No. 2A Common wide boards at two West Virginia and one western Pennsylvania mill to match the results of Lucas and Catron. As a result, our sampling approach was to obtain as many wide boards as possible to enable the data bank user to draw boards as desired from the data bank.

From the first mill, in southern West Virginia, we found most of the boards to be 7 inches and narrower. This mill sawed for grade and resawed center cants. The second mill, in northern West Virginia, was visited to collect 7-inch and wider boards. This mill kiln-dried and graded boards from at least six surrounding sawmills. Even though the mill's 4/4 red oak kiln run took 2 weeks to grade and stack, we could not find sufficient numbers of wide boards. Some additional narrower No. 1 and No. 2A Common and some FAS boards were purchased. The third mill, in western Pennsylvania, was similar to the first in that it sawed for grade and resawed center cants. Emphasis here was on 8-inch and wider boards. Again, failing to find sufficient numbers of wide pieces, that order also was filled with narrower No. 1 Common and No. 2A Common and with FAS boards.

Selects boards were not purchased at any mill. They were discovered during the grading phase of the data bank development. Most of the Selects came from the boards sold to us as No. 1 Common.

Because we found so few boards that were narrower than 4 inches or wider than 13 inches, we deleted these widths from consideration. It is interesting to note that Lucas and Catron had 22 percent of their No. 2 Common red oak volume in boards that were 13 inches and wider and had an average board width of over 9 inches. They, in turn, found only 38 percent of the volume of 13-inch and wider material that Dunmire and Englerth had recommended a few years earlier for hard maple. Because of our sampling, no attempt was made to define the length-width distributions of boards available in West Virginia and western Pennsylvania. Instead, the data bank should be viewed as a source for samples of specific sizes and qualities of lumber.

Lumber Grading

The lumber from the first and third mills was purchased green and dried under a mild oak schedule in the Forest Service kiln at Princeton, West Virginia. The lumber from the second mill was purchased kiln dried. All dried lumber was skip-planed to facilitate the marking of defects but was still graded as rough lumber. NHLA's Special Kiln Dried Rule was used because it counts all the defects and treats each board as if it were air dried (1990).

Before the availability of computer grading programs, No. 1 Common and No. 2A Common boards were graded by a certified hardwood lumber inspector. The lumber from the first mill was graded "as is." At a later date, the No. 1 Common and No. 2A Common lumber from the second and third mills was remanufactured by end trimming, using the recommendations of the same inspector. About 12 percent of all No. 1 Common and No. 2A Common boards were end

trimmed to a higher grade and the inspector observed that this was typical of his experience. The grading by the inspector was used as an initial sort.

Each board, including those purchased as FAS, was graded with the ReGS computer grading program. ReGS is a specially enhanced version of HaLT2 that enables boards with taper or slight crook (1/4 inch) to be graded. The HaLT2 program, designed to be used primarily as a training tool, is limited to grading only boards that are true rectangles.

To overcome problems inherent in the computer grading program, the computer-derived grade of each board was checked against a to-scale plot of the actual board, and grading by hand was done when errors were detected.

The grading program is not always successful in selecting the proper grading face or interpreting the first-foot rules for FAS and Selects. Further, the grading program must ignore all 1/4-inch and smaller defects and count all 1/2-inch defects on the back or better face. Ignoring the 1/4-inch and smaller defects on the sound-face side did not cause a single board to be misgraded of more than 1,000 boards and counting all 1/2-inch defects caused an incorrect down grade in less than 2 percent of all boards. These limitations and the workings of the program are explained in greater detail elsewhere (Gatchell et al. 1992; Klinkhachorn et al. 1992a; Klinkhachorn et al. 1992b.)

An additional computer grading problem resulted from the method used to encode large defects. The grading program was based on the assumption that each defect, no matter how long or large, would be enclosed in a single rectangle. In this data bank, we stepped the long and large defects, such as splits and wane, up and down in a series of smaller rectangles. This defect encoding procedure is expected to yield results similar to those achieved by describing the defects as polygons (Klinkhachorn et al. 1992b).

The program analyzes each defect segment and adds lengths and areas as appropriate. It cannot, however, recognize a series of rectangles as a single defect. It will accumulate length and areas of contiguous segments of the same defect, as required. But, it will not take the widest width of a wane segment times the total length of wane to determine wane area as NHLA rules require. Nor will it calculate the slope of long end splits. Grading by hand from to-scale plots is necessary in such cases.

The use of ReGS provided an excellent base for determining the correct grade. Our to-scale plots showed on which face the defects occurred and allowed an easy regrade where a corrected solution to grading was needed.

Lumber Defects

Our data bank emphasizes naturally occurring defects (Table 1). In the NHLA rules (1990), paragraph 8 starts with the statement, "Lumber should be properly manufactured of good, average width and lengths." Defects from felling,

mechanical handling, or faulty machining must be accounted for in practice but are not included here.

Defect definition is not always objective. Huber and others (1990) discussed the lack of uniformity found in 46 U.S. wood products companies with respect to defining stain and decay and noted that there were no industrywide standards. Decisions on defects such as these seemed based more on visibility of the defect in the end product rather than on size or color limitations.

Stain is defined by NHLA as "...the initial evidences of decay." It is allowed in boards if it will surface out. And, it is allowed on the sound face of a cutting. Light stain that would not be objectionable under a clear finish was ignored. Sticker stain was not present in our samples and would have been ignored anyway because it is the result of poor drying practices and, therefore, would not meet our requirement for proper manufacture.

To minimize subjectivity, we eliminated stain as a separate defect. Any stain that would be objectionable under a clear finish was judged to be heavy stain and classified as incipient decay. But, rot or decay is not allowed on the sound face. This means that heavy stain is not allowed on the sound face of our grading cuttings. However, the reader may wish to allow it and may do so easily. Any incipient decay that ran into decay or rot was encoded as decay or rot. Very little incipient decay other than heavy stain was found isolated from decay. Thus, the user would introduce very little error by reclassifying defect 18 as an allowable defect and regrading those boards in which it occurs.

Table 1.—Board defects and code numbers

Defect	Code No.
Void ^a	2
Pith	3
Decay	4
Shake	5
Pith related tear or split	6
Wane and scant wood thickness, or both, owing to bark	8
Bark pocket	10
Unsound knot	12
Sound knot	15
Incipient decay and objectional stain	18
Bud trace with bark	20
Split	24
Worm holes:	
Grub and other holes 1/4" and over	11
Shot worm hole; greater than 1/16", less than 1/4"	111
Pin worm hole; 1/16" or less	211

^aThe space between the edge of the board and the smallest rectangle enclosing the board; caused by crook, taper, or differential shrinkage.

Checks and splits also are a problem. Both are defined as lengthwise separations of wood. Checks that will surface out (ordinary seasoning checks) are allowed in boards. The lumber we dried was purchased straight from the saw and dried under a mild schedule. Very few boards had any visible checks of any kind and most of those boards were below grade. To avoid confusion, we defined as a split any check that would not surface out.

Boards not containing pith but containing the juvenile wood that surrounds the pith often tear or split within this juvenile wood during drying. These tears or splits were identified separately to provide additional information on the location of the board within the log. All split-type defects were treated as shake and not allowed on the sound face of clear-face cuttings.

Entering Data

A detailed description of the data encoding procedures is found in Anderson et al. (In press). All defects were identified by number (Table 1) on both faces of the 4/4 kiln-dried and skip-planed red oak boards. The lower left and upper right corners of the smallest rectangle (to a minimum of 1/4 inch by 1/4 inch) containing each defect were marked. Worm holes smaller than 1/4 inch were identified by numerical code. Large, irregularly shaped, or diagonal defects were represented by a series of smaller, contiguous rectangles. The poorer or grading face was estimated: This estimate was confirmed or corrected during computer grading.

Data were entered with a Numonics Corporation 1224 Graphics Calculator.¹ A movable wand is positioned first at the lower left and then the upper right corners of the defect. These locations are translated into Y-X coordinates in 1/4-inch units. Historically, the Y coordinate has been recorded first and this data bank continues this procedure for compatibility with early computer programs. However, a version in which the X-coordinate is given first is available upon request.

Data Bank Format

The data format is explained in Figure 1. The headline contains the NHLA minimum grade, the board number, the NHLA maximum grade, and the number of defects. "Minimum" and "maximum" apply to FAS, No. 1 Common, and No. 2A Common. The minimum is the grade determined with computer program ReGS and is the first solution found that meets the requirements of the grade. The maximum grade results from using as many grading cuttings as possible under the NHLA rules and was calculated by hand from to-scale plots of each board. The headline concludes with the total number of defects.

¹The use of trade, firm, or corporation names in this publication is for the information and convenience of the reader. Such use does not constitute an official endorsement or approval by the U.S. Department of Agriculture or the Forest Service of any product or service to the exclusion of others that maybe suitable.

An "R" at the end of the maximum grade denotes No. 1 Common and No. 2A Common lumber from the second and third mills. Recall that about 12 percent of the original sample from these mills was upgraded by end trimming. The 2A "R" boards are the boards remaining. The No. 1 Common "R" boards are the No. 1 Common boards that were not remanufactured and those No. 1 Common boards resulting from the end trimming of No. 2A Common boards. While yield comparisons between "R" subsamples and log run No. 1 Common and No. 2A Common may produce useful information, it should be cautioned that an "R" does not mean that a specific board was remanufactured.

For No. 1 Common and No. 2A Common, the grade designation contains an M, Z, or P that are quality indices of the amount of board surface measure contained in the grading cuttings. These indices allow broad quality sorts to be made easily. M (minus) is the low end of the grade quality range and is 67 through 71 percent for No. 1 Common and 50 through 54 percent for No. 2A Common. Z (zero or midpoint) is the middle of the grade quality and is 72 through 78 percent for No. 1 Common and 55 through 61 percent for No. 2A Common. P (plus) is the high end of the quality range and is 79 percent and greater for No. 1 Common and 62 percent and greater for No. 2A Common. It should be recalled that the lumber grades specify only the minimum percentage required for each grade. There is no specific upper limit.

The second line in Figure 1 provides the measured board width in 1/4-inch units ("24" in the example), which is used to determine the board-surface measure. The percentage of the board-surface measure found in the grading cuttings and the number of cuttings used to determine NHLA minimum (first pair, 73-2) and maximum (second pair, 86-4) values also are provided for FAS, No. 1 Common, and No. 2A Common lumber.

Because of the way the Selects grade is specified, it was not analyzed to give the surface area in the grading cuttings. Instead, we report the rule used to determine the Selects grade (sound back or No. 1 Common back). Selects is always determined from the better face (rather than the poorer face as in FAS and the Common grades). Sound-back Selects have FAS cuttings on the better face or have 97 percent of the surface area of the better face in two full-width, sound-back cuttings of any length.

When Selects is graded with an FAS face and a No. 1 Common back, the locations of defects on one face relative to the other are ignored. This means that the back of the Selects grading cuttings may contain rot, wane, or other disqualifying defects used with the sound-back rules. So, the grading cuttings in Selects may have little utility for the user who needs clear-face material.

Even though ReGS looks first for sound-back cuttings, only 23 percent of our 209 Selects boards are sound-back Selects. The remaining 77 percent are No. 1 Common-back Selects. Most of the Selects boards came from the No. 1 Common lumber purchases.

GRADE	1 CZ ^a	BOARD NUMBER	544	1CPR ^b	TOTAL NUMBER OF DEFECTS	17
MEASURED BOARD WIDTH	24 ^c	GRADING:	73-2	^d 86-4	^e	
0- 0	25-769 ^f					
24-176	25-320	^g 1 ^h 2 ⁱ				
23-220	24-256	1 8				
22-256	24-287	1 8				
23-287	24-320	1 8				
0-426	5-477	1 8				
0-477	4-493	1 8				
0-493	1-540	1 2				
1-493	3-511	1 8				
1-511	2-531	1 8				
24-359	25-442	1 8				
0-539	1-597	1 2				
24-681	25-769	1 2				
12-727	14-729	1 12				
20- 0	21- 11	2 24				
11-161	12-162	2 12				
1-472	3-485	2 24				
3-485	4-496	2 24				

^aNHLA Minimum grade

^bNHLA Maximum grade--"R" indicates a board taken from 2nd or 3rd mill

^c1/4-inch units

^dPercent of board surface measure and number of grading cuttings-minimum grade

^ePercent of board surface measure and number of grading cuttings-maximum grade

^fLower left (left column) and upper right corner (right column) coordinates of rectangle enclosing the board (1/4-inch units); Y coordinate is first in each column set

^gDefect lower left and upper right corner coordinates; Y coordinate is first

^hBoard face: 1 = grading face; 2= back face

ⁱDefect code (Table 1)

Note: Grades are represented as follows:

OFS=FAS
OSL=Selects
1C= No. 1 Common
2C=No. 2A Common
P,Z,M (Grading-cuttings surface area):

	<u>No. 1 Common (%)</u>	<u>No. 2A common (%)</u>
M	67-71	50-54
Z	72-78	55-61
P	79 and above	62 and above

Figure 1.—Data bank format.

The third line in Figure 1 contains the Y-X coordinates (Y-coordinate first) in 1/4-inch units of the lower left and upper right corners of the smallest rectangle containing the board. For rectangular boards, the measured width given in the second line, and the upper Y right corner values will be the same.

Each succeeding line describes a specific defector defect segment. Given are the Y-X coordinates of the lower left and upper right corners of the defect, the face upon which it is found (face one usually, is the grading face and face two the back "or better face for FAS and the-Common grades), and the defect code. Data bank users will want to make certain that their data conversion programs properly handle the void defect (code index 2). Void occurs outside the board and will appear on both faces between the board and the enclosing rectangles. Void is only indexed on one face in the data bank since the void coordinates would be the same on the other face. This must be accounted for in grading and processing computer programs.

Data Bank Overview

The widths and lengths for all boards in each grade are summarized in Figures 2 through 5 and Tables 2 through 5 and are given in detail in the appendix. In the appendix, boards are listed by increasing widths and, for boards of the same width, increasing lengths. All measurements are to the nearest 1/4 inch.

The appendix provides lookup tables to enable the user to easily subsample boards. In addition to the NHLA minimum and maximum grades, the surface measure of each board is given. For successive boards that are halfway between the same consecutive feet of surface measure, NHLA procedures call for alternately rounding up and down. We always rounded down to obtain the highest grade possible. We felt that conservative research results would be obtained from boards so graded. For each board with a surface measure halfway between consecutive whole feet, the grade when the larger surface measure is used is also given.

The data bank contains 10,712 board feet in 1,578 boards separated into grades as follows:

<u>Grade</u>	<u>Number of boards</u>	<u>Board feet</u>
FAS	198	1804
Selects	209	1571
No. 1 Common	591	3729
No. 2A Common	580	3635

Width

The reader is cautioned that the width groupings used are not typical of those usually found in research papers. For example, a 5-inch width grouping usually would contain all widths from 4.51 inches through 5.5 inches. However, NHLA

rules deal in minimums. With exceptions, the minimum widths for air-dried lumber are: 6 inches for FAS, 4 inches for Selects, and 3 inches for No. 1 Common and No. 2A Common. To avoid confusion, we chose to base our width sorts on whole inch minimums. Therefore, our data banks start at 6 inches for FAS and the 6-inch class contains all boards up to 7 inches, the 7-inch class all boards up to 8 inches, and so on.

The reader who wishes to work with scant widths must examine the appropriate widths in the lower grades and regrade these, perhaps with the use of ReGS (Gatchell et al. 1992.) and to-scale plots. Ten percent of all boards in any sample can be 1/4-inch scant. When kiln dried, all boards can be an additional 1/4-inch scant.

The data supplied in the appendix will be useful in making an initial selection for scant width regrading. For example, if a sample of kiln-dried boards is to be developed, all 5.75-inch Selects could be reviewed. And, some of the better 5.5-inch boards might grade FAS. Up to 10 percent of a kiln-dried FAS sample may be 5.5 inches wide, according to the NHLA rules.

The median and average widths were 8.75 inches for FAS and 7.75 inches for Selects. The data were slightly skewed to the left and there was no clear mode (Figures 2 and 3). The No. 1 Common and No. 2A Common data were heavily skewed to the left (Figures 4 and 5). With average widths of 7.5 and 7.0 inches, respectively, and median widths 1/2 inch less at 7.0 inches for No. 1 Common and 6.5 inches for No. 2A Common, the mode for each was in the 5-inch-width class. The abundance of 5-inch-wide boards in these two grades probably is a result of the practice of resawing center cants.

It should be noted that the average widths of 7.5 and 7.0 inches for No. 1 Common and No. 2A Common are wider than the average of those available on the open market. Recall that the last two mills were visited to complete sampling for 7-inch and then 8-inch and wider boards, and that we took all the wider No. 1 Common and No. 2A Common boards that we could find. Boards with more than 1/4 inch of crook or 1/2 inch of taper were excluded from these data banks. Crooked and tapered boards were found in all width classes. We could not get as many wide boards as originally planned. On the other hand, a great many boards narrower than 7 inches were not even considered.

Length

Lengths shown in the appendix are measured to the nearest 1/4 inch. It is important to understand that all considerations of length under NHLA rules are in terms of standard lengths (4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 feet). To obtain the standard length of a board, ignore any length (in inches) over the standard length.

In the standard grades, odd lengths of 5, 7, 9, 11, 13, and 15 feet are allowed up through 50 percent of the total number of boards. This rule implies that odd lengths are

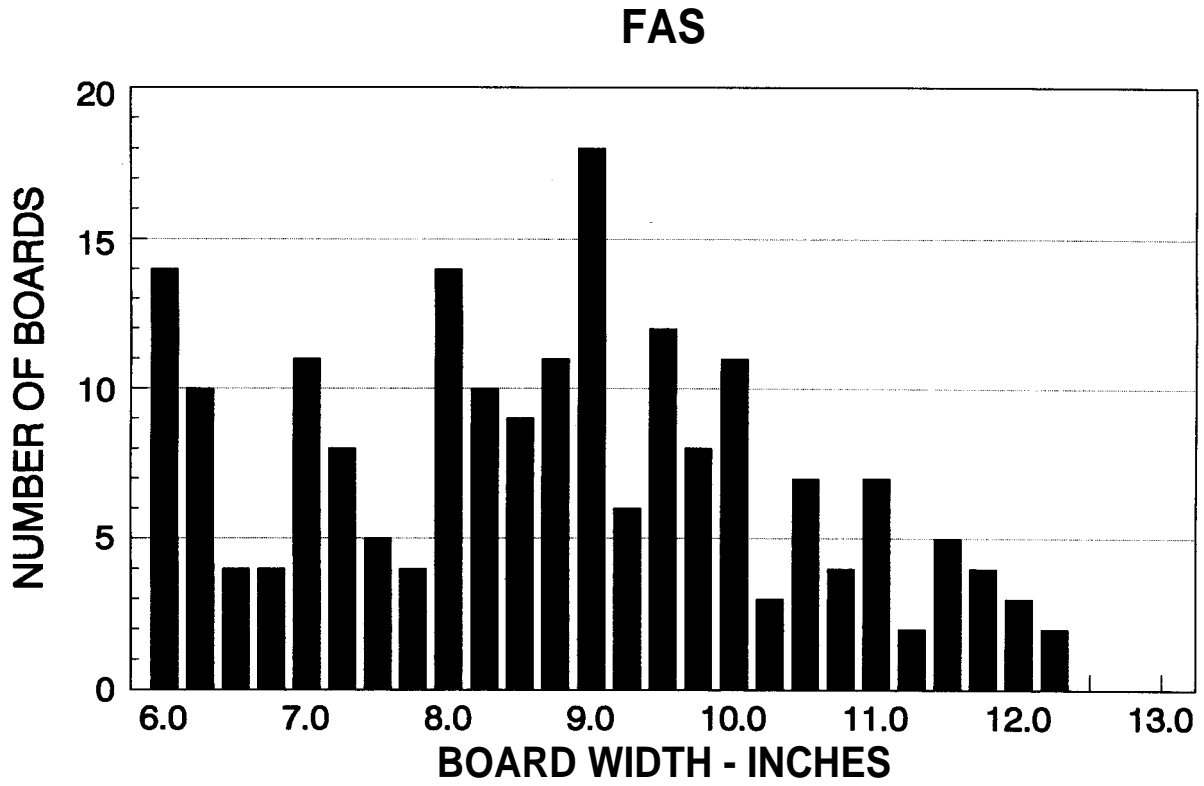


Figure 2.—FAS board-width frequency distributions.

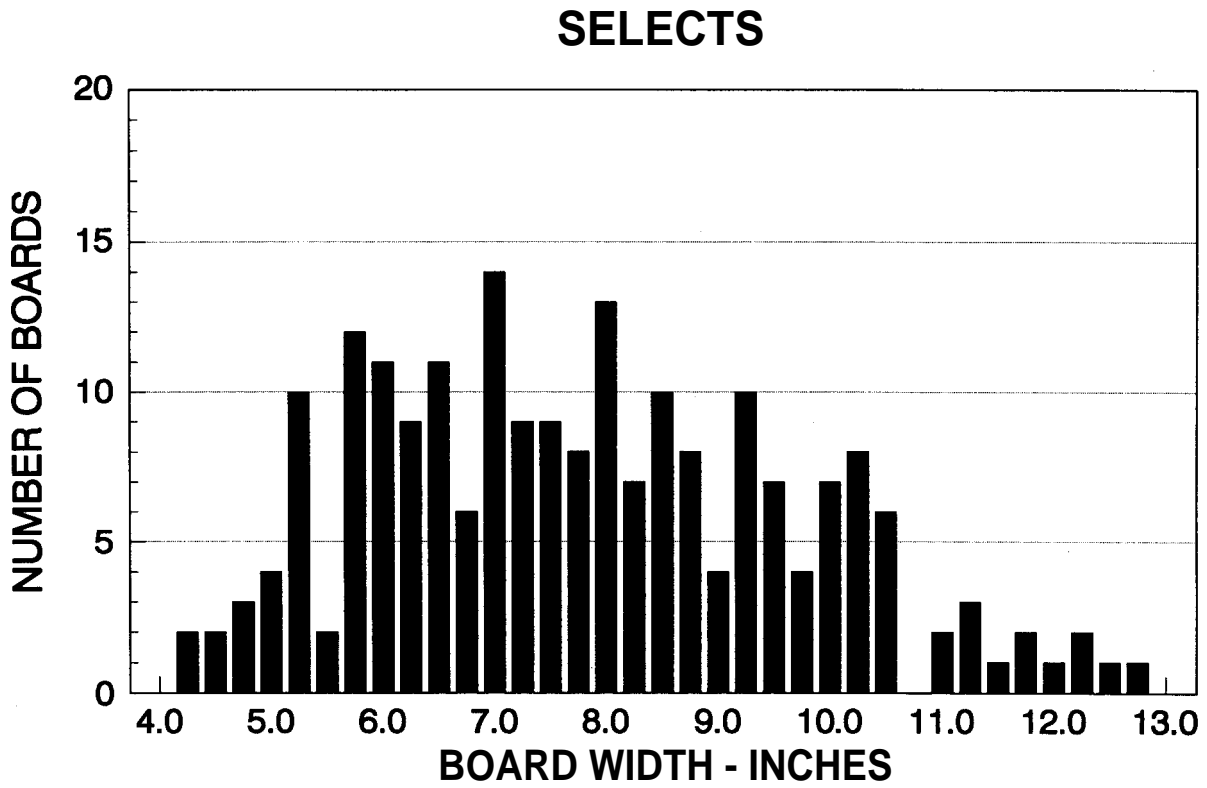


Figure 3.—Selects board-width frequency distributions.

NO. 1 COMMON

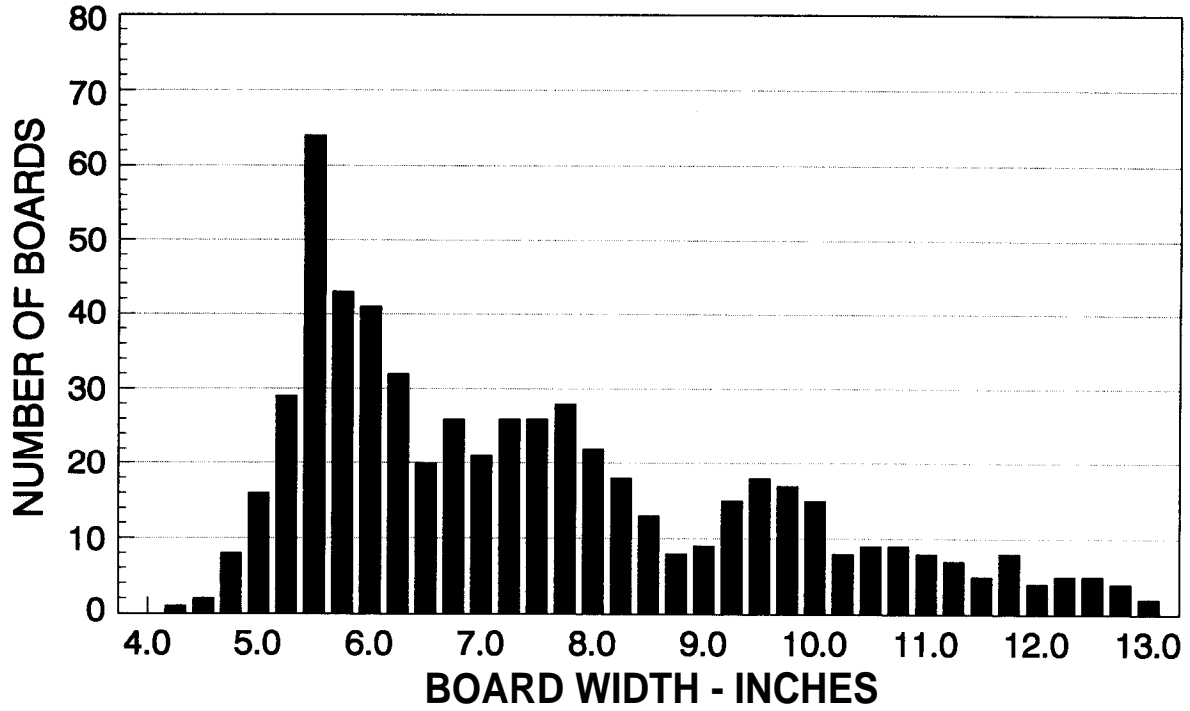


Figure 4.—No. 1 Common board-width frequency distributions,

NO. 2A COMMON

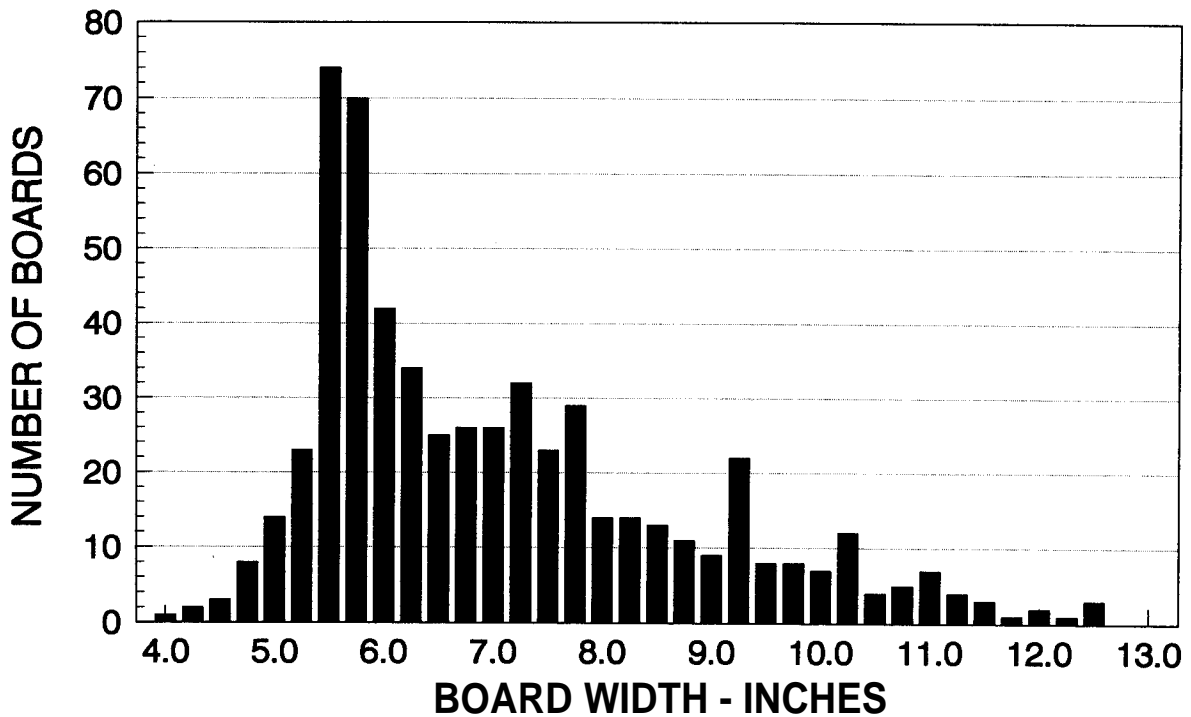


Figure 5.—No. 2A Common board-width frequency distributions.

Table 2.—FAS size distributions

Standard length (ft)	Width class (in)										No. of boards	Board feet	
	4	5	6	7	8	9	10	11	12	13			
4	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	4	2	3	2	-	-	-	-	11	54	
9	-	-	2	1	1	4	1	-	-	-	9	56	
10	-	-	2	5	10	9	4	4	-	-	34	250	
11	-	-	-	1	1	1	-	-	-	-	3	24	
12	-	-	4	6	13	15	6	2	1	-	47	407	
13	-	-	-	-	1	1	-	2	-	-	4	44	
14	-	-	8	8	4	8	8	5	1	-	42	425	
15	-	-	-	-	-	-	-	-	-	-	-	-	
16	-	-	12	6	11	5	6	5	3	-	46	544	
Total			32	29	44	45	25	18	5		198	1,804	

Table 3.—Selects size distributions

Standard length (ft)	Width class (in)										No. of boards	Board feet	
	4	5	6	7	8	9	10	11	12	13			
4	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-
6	1	6	8	3	2	-	-	-	-	-	20	63	
7	-	3	-	-	-	-	-	-	-	-	3	9	
8	-	5	-	5	2	1	0	1	1	-	15	74	
9	-	1	2	1	3	1	1	-	-	-	9	51	
10	1	5	5	9	6	3	5	3	2	-	39	263	
11	1	-	-	1	1	1	-	1	-	-	5	37	
12	3	2	10	11	11	5	4	1	1	-	48	367	
13	-	-	-	-	-	1	-	-	-	-	1	10	
14	-	3	5	5	8	7	6	2	1	-	37	364	
15	-	-	1	-	-	-	-	-	-	-	1	7	
16	1	3	6	5	5	6	5	-	-	-	31	326	
Total	7	28	37	40	38	25	21	8	5		209	1,571	

Table 4.—No. 1 Common size distributions

Standard length (ft)	Width class (in)										No. of boards	Board feet
	4	5	6	7	8	9	10	11	12	13		
4	—	2	4	5	2	2	3	1	1	—	20	54
5	—	4	3	5	5	—	—	—	—	—	17	49
6	2	18	18	10	6	3	3	2	—	—	62	214
7	2	13	6	—	1	1	2	1	1	—	27	103
8	3	11	16	19	19	10	10	2	3	—	93	478
9	—	—	4	10	3	—	—	1	1	1	20	120
10	1	30	24	19	7	11	11	9	2	—	114	715
11	—	6	4	0	2	—	—	—	—	—	12	68
12	2	32	21	14	6	11	5	2	7	1	101	732
13	1	1	—	2	—	—	—	—	—	—	4	27
14	—	19	9	9	2	15	4	5	3	—	66	610
15	—	—	—	—	1	—	—	—	—	—	1	10
16	—	16	10	8	7	6	2	5	—	—	54	539
Total	11	152	119	101	61	59	40	28	18	2	591	3,719

Table 5.—No. 2A Common size distributions

Standard length (ft)	Width class (in)										No. of boards	Board feet
	4	5	6	7	8	9	10	11	12	13		
4	—	1	1	2	—	1	—	—	1	—	6	17
5	1	1	2	—	—	—	—	—	—	—	4	10
6	—	6	6	5	3	1	2	—	—	—	23	80
7	1	2	2	2	2	—	—	1	—	—	10	41
8	2	30	30	21	13	14	18	3	3	—	134	679
9	—	3	5	5	—	—	—	—	—	—	13	63
10	4	41	31	34	12	10	2	1	—	—	135	768
11	—	3	1	1	—	—	—	—	—	—	5	28
12	—	31	28	23	9	6	1	5	1	—	104	718
13	—	5	2	1	—	—	—	—	—	—	8	52
14	2	39	12	10	5	9	3	4	1	—	85	681
15	1	1	—	1	—	1	—	—	—	—	4	35
16	3	18	7	5	6	5	2	—	1	—	49	452
Total	14	181	127	110	52	47	28	14	7	—	580	3,624

allowed but not preferred. Very few boards were found in the 13- and 15-foot length classes (Tables 2, 3, 4, and 5). Most of these were mismanufactured 14- and 16-footers.

That is, they fell short by 1/2 inch or more of being a standard length and had to be rounded down. While greater numbers of boards can be found in the shorter odd length groups in No. 1 Common and No. 2A Common, the overall manufacturing preference for even lengths seems clear.

Boards initially encoded as 1/4 inch less than a standard foot had 1/4 inch of wood arbitrarily added to the length to prevent “rounding” errors connected with the encoding equipment from affecting the results. The digitizer recorded only in 1/4-inch increments. Therefore, 11.999 inches was recorded as 11.75 inches.

The Effects of Drying on Defect Evaluation

Kiln-dried lumber is graded by either the Standard Kiln Dried Rule or the Special Kiln Dried Rule. We used the Special Kiln Dried Rule. The Standard Rule states that checks and warp shall not be considered defects nor shall any distinction be made between checks and warp that may have been present before and after kiln drying. The Special Kiln Dried Rule states that each kiln-dried board will be graded as if it were air dried and that it will be graded with all defects counted (except for the allowances for scant width and thickness that are not part of this discussion).

The Standard Kiln Dried Rule may not be the best rule for those who buy kiln-dried lumber. Lumber may be graded higher than it would be if all of the defects are considered. The buyer may pay for poor drying practices such as too severe drying schedules, poor sticker alignment and spacing, and severe checking from poor air drying of the green lumber. Also, this rule ignores any crook or side bend that results from growth stresses in small-diameter hardwoods. Thus, under the standard rule, a crooked board that is severely checked, with cup and end splits, would be graded as a straight board without these defects. Yields from such boards may be lower than the grade would suggest.

However, lumber producers who sell green or air-dried lumber need not fear that kiln drying will so adversely affect the soundness of knots that their lumber will be down graded. NHLA defines a sound knot as one that is solid across its face, as hard as the surrounding wood, and shows no indication of decay. A sound knot must be intergrown with the stem wood around it. Knots that contain bark around all or part of their perimeter are considered all

or partially encased and are judged unsound. And, knots that are cracked during drying are unsound.

The effect of drying on red oak knot soundness is trivial. Most knots are unsound when green (Table 6). Those that are sound when green and made unsound by drying must be uniquely located before grades are negatively affected. First, the knots must be on the sound-face side of the grading cutting and not come through the board. This happens very infrequently. Second, their position on the sound face must be such that the grading cutting area is reduced below minimums without allowing another cutting to be used. We found only one of more than 1,700 knots that did so in a 656-board sample containing FAS, Selects, No. 1 Common, and No. 2A Common.

If we assume that boards in the lower grades generally come from the center of the log, then the condition of the knots follows an expected pattern in oak. Knots near the log center are expected to be intergrown and, therefore, have a good chance of being sound. No. 2A Common had more sound knots per board than the higher grades (Table 6). As we proceed outward, branches may die. Dead branches, if they do not fall off, become encased in wood and are, therefore, unsound. Decay can occur. Almost all of the knots in the FAS and Selects boards were encased and many contained decay.

In summary, the Special Kiln Dried Rule was used because the resulting grades give the best prediction of yield in furniture and cabinet plants. The Special Rule accounts for all defects found in a board. Where good kiln drying practices are used, the effect on soundness of knots can be ignored and the effects on other degrade can be considered unimportant.

Table 6.—Estimated air-dried soundness of kiln-dried unsound knots

Lumber grade	No. of boards	Number and condition of knots		
		Kiln-dried	Air-dried	Estimated No. of sound or partly sound knots ^a
FAS and Selects	391	No. of unsound knots ^a 315	No. of unsound knots ^a 298	17
No. 1 Common	98	452	361	91
No. 2A Common	167	957	755	202
Total	656	1,724	1,414	310

^aNumbers are totals for both faces. Knots often go through aboard at an angle and sometimes appear on the other side as another defect. For example, a sound knot may appear on the other face as an unsound knot or bark pocket. Each face of every board was examined independently. When an unsound knot on the sound-face side was estimated to be sound or partly sound when air dried, the effect of this knot on the final grade was determined. Estimates of air-dried soundness were based on examining the severity and apparent freshness of cracks in intergrown knots free of decay.

Quality Levels Within Grades

NHLA rules do not attempt to subdivide grades into quality levels. They assume that the entire range of quality exists within each grade and that it is necessary only to establish the minimum quality for each grade. Therefore, our efforts to evaluate quality levels within grades go beyond the intent of the grading rules. However, users of data bank boards containing only the broad grade classifications cannot be assured that the full range of grade quality is present in their subsamples.

Should we expect as many boards in the high end of the grade as in the low end if we compare only the surface areas of the grading cuttings used to grade the boards according to NH LA procedures? Probably not. Graders are trained to look for the highest grade possible and to stop grading when the minimum requirements of the highest grade possible are met or exceeded. A different choice of grading cuttings or use of more of the allowable number of grading-cuttings might well increase the grading cuttings surface area. But, the question of how well a board qualifies for its grade is not asked in practice.

When the surface area of the grading cuttings equals or exceeds the amount required for the next higher grade, there must be a reason for not placing the board in that higher grade. There could be many reasons. For FAS, there are limitations on the size of knots, the length and slope of end splits, the amount of clear-face material in the first-foot of each end, and the length and width of wane, for example. There are pith limits for FAS, Selects, and No. 1 Common. Even if none of these limitations applies, obtaining the amount of grading surface area required by the grade is not

always enough to place the board in that grade. The surface area must be in cuttings of the correct size and number.

What should the quality distribution be if we used as many grading cuttings as possible? It might be expected that the use of the maximum grading surface area would result in a normal distribution (as many high quality as low quality boards with most being of middle quality). For our data banks, this expectation is wrong. The standard procedure of using the minimum number of cuttings to establish the grade produced more low quality boards than high and, relatively, more low quality No. 2A Common than No. 1 Common (Table 7). And the higher quality boards were the smaller boards (fewer board feet per board).

When the maximum allowable number of cuttings was used, there was a dramatic increase in high quality No. 1 Common and No. 2A Common with the most dramatic increase in No. 2A Common. There were more high quality No. 2A Common boards than middle and low quality boards combined (356 to 224). The high quality No. 2A Common boards were, on average, bigger boards. The bigger No. 2A Common boards often contain areas that are not included when standard grading methods are used but that are large enough to be included when all of the allowable number of cuttings are used.

Only 8 percent (17 of 203) of the FAS boards had higher maximum grading surface areas. This was not surprising. The FAS grade requires long cuttings, and it is not at all likely that an extra cutting will be found beyond those used to calculate the grade. The small increases in grading surface areas (see Table 10) resulted from dividing a wide cutting into two narrow cuttings and extending the length of one beyond a stopper defect.

Table 7.—Quality distribution within grade

NHLA grade	Low (M) ^a		Middle (Z) ^b		High (P) ^c		Total	
	No. of bds	Bd ft per bd	No. of bds	Bd Ft per bd	No. of bds	Bd Ft per bd	No. of bds	Bd Ft per bd
1C Minimum ^d	260	7.1	207	8.2	124	4.6	591	6.3
1C Maximum ^e	111	6.3	176	6.9	304	5.9	591	6.3
2AC Minimum ^d	275	6.8	213	6.1	92	4.8	580	6.3
2AC Maximum ^e	73	5.9	151	6.5	356	6.2	580	6.3

^aLow (M) - 1C = 67-71% clear-face-cuttings surface area
 - 2C = 50-54% clear-face-cuttings surface area

^bMiddle (Z) - 1C = 72-78% clear-face-cuttings surface area
 - 2C = 55-61% clear-face-cuttings surface area

^cHigh(P) - 1C = 79% + above clear-face-cuttings surface area
 - 2C = 62% + above clear-face-cuttings surface area

^dMinimum - Based on minimum number of cuttings required to achieve grade. Determined with computer program ReGS.

^eMaximum - Based on number of cuttings up to and including maximum number allowed. Determined by hand from to-scale plots.

Table 8.—Number of boards containing pith

Grade	Aggregated length of pith (ft)							No. of boards	
	<1	1	2	3	4	5	≥ 6	Total with pith	Total in sample
FAS	0	0	0	0	0	0	0	0	196
Selects	4	0	0	0	0	0	0	4	209
No. 1 Common	31	13	7	0	2	0	0	54	591
No. 2A Common	53	26	10	7	7	2	3	106	560

Pith and Pith-Related Splits

Of all the defects, pith maybe the most difficult to work with. It is not allowed on the sound-back of any cutting (nor are rot, shake, or wane). If it is known to be within the board, it must be counted as if on the surface. It sometimes is difficult to tell whether the pith is in or out of the board. Wood immediately adjacent to the pith often will tear or split on drying. These tears or splits rarely go through the board but usually are very deep and undesirable.

The numbers of boards containing pith are given in Table 6. The distribution of boards conforms to the view that the lowest grades generally will come from the center of the log. None of the FAS boards contained pith. For No. 1 Common, each board can contain an amount of pith equal to 1/2 the length. Only 54 of 591 No. 1 Common boards contained any pith. Most of these (44) had less than 2 feet of pith in the aggregate.

Pith is allowed in unlimited amounts in No. 2A Common. The only requirement is that pith cannot occur in the grading cuttings. Yet, only 106 of 560 contained any pith. And most of these (79) had less than 2 feet of pith in the aggregate.

The Effect of Surface Measure on Lumber Grade for Boards Halfway between Consecutive Whole Feet

The grading rules call for boards that are halfway between the same consecutive whole feet of surface measure to be alternately rounded up or down. In the long run, it is assumed that the effects of this procedure will even out. But, data bank boards, because they are sampled individually, must stand alone. Some length and width combinations that yield halfway boards are shown in Table 9. When using widths measured to the nearest 1/4 inch, 6-, 6-, and 12-foot lengths are most likely to yield halfway boards.

Our approach to grading boards that are halfway between consecutive whole feet has been to use the smaller surface measure. For information, we include the grade when the

larger surface measure is used (see appendix). The only exceptions concern those specific cases where the board may be rejected for the FAS or Selects grades because the size of a defect is too large. If using the larger surface measure reduces the relative size of the defect and allows the board to qualify for FAS or Selects, the larger surface measure is used.

How does this rounding up or down affect the grades? The effects of rounding were not straightforward. Ten percent (159 of 1,576 boards) of the data bank boards were halfway between consecutive whole feet of surface measure. There were 23 (of 196) halfway FAS boards (Table 10). Using the larger surface measure, 15 remained FAS, 6 became Selects, and 2 dropped to No. 1 Common. The ability to grade from the best face in Selects was an advantage here.

In the Selects grade, 26 of 209 boards were halfway (Table 11). Only eight boards retained the Selects grade when the higher surface measure was used. Of the 16 that lost grade,

Table 9. —Board length and width (to the nearest 1/4 inch) combinations that result in surface measures halfway between consecutive whole feet of surface measure (length in feet times width in inches divided by 12 equals surface measure)

Standard length (ft)	Width to the nearest 1/4 inch
4	7.5, 10.5
5	6.0
6	5.0, 7.0, 9.0, 11.0, 13.0
7	6.0
6	5.25, 6.75, 8.25, 9.75, 11.25, 12.75
9	6.0, 10.0
10	9.0
11	6.0
12	4.5, 5.5, 6.5, 7.5, 8.5, 9.5, 10.5, 11.5, 12.5
13	6.0
14	9.0
15	6.0, 10.0
16	—

15 dropped to No. 1 Common and 3 dropped to No. 2A Common. Once the surface area of the better face grading cuttings failed to meet the requirements for Selects, the board had to be graded from the back or poorer face. The special advantages when grading Selects no longer applied (ignoring the type and location of defects in No. 1 Common-back Selects, for example).

The 56 halfway No. 1 Common boards were somewhat as expected (Table 12). Of the 13 boards whose lower surface measures were 2 or 3 feet, 10 dropped a grade when the larger surface measure was used. Of the 12 boards with surface measures of 7 feet or more, 9 retained the No. 1 Common grade when the higher surface measure was used. Of the remainder (greater than 3 and less than 7 feet of surface measure), 18 lost and 13 retained the grade.

Fifty of the 54 No. 2A Common halfway boards retained their grade when the larger surface measure value was used (Table 13). As with all other grades, the computer program or human grader is free to search for other grading cuttings if the minimum grade requirements are not met on the first try. With more cuttings generally allowed when grading No. 2A Common, it is expected that additional areas will be used more often when the larger surface area is the divisor. And, as discussed in the earlier section on data bank quality, when the maximum NHLA grade was calculated, around 60 percent of the No. 2A Common boards had grading cutting surface areas of 62 percent or more. Because No. 2A Common begins at 50 percent, most of these would retain their grade even without an additional cutting being used.

Summary

The purpose of lumber data banks is to provide raw material of known quality for utilization research studies and to serve as an industrial decision-making tool when used with computerized lumber cut-up programs. The 1992 Data Bank for Red Oak Lumber provides extensive information on each board. Since there are opportunities for error when computer-grading real boards, particularly at the margins of each grade, users can plot boards and check our grading results. Currently there are 198 FAS, 209 Selects, 591 No. 1 Common, and 580 No. 2A Common boards totaling 1,578 boards in the data bank. We anticipate adding additional boards, including some No. 3A Common, in the near future.

NHLA grades are based on the assumption that the full range of quality is available for each grade and that, on average, a large sample of lumber graded according to the rules will reflect this range. Users, however, may be interested in only one part of the grade quality range. Data bank boards, therefore, must stand alone. To facilitate subsampling, quality levels are identified within each grade for No. 1 Common and No. 2A Common boards.

All board features are described as rectangles with dimensions and their locations recorded to the nearest 1/4 inch. Worm holes smaller than 1/4 inch are referenced by

numerical code to reflect their size. Large defects are recorded as a series of smaller rectangles.

All boards were kiln dried and graded with the Special Kiln Dried Rule. The Special Rule was used because it counts all defects as if the boards were air dried. The one exception to the Special Rule is that we did not use any allowances for scant widths. FAS boards start with a 6-inch width, Selects with a 4-inch width, and No. 1 Common and No. 2A Common with 3-inch widths. The user who wishes to work with scant width allowances must examine the narrower width boards of the lower grades. The classification of No. 1 Common and No. 2A Common boards into quality levels should be helpful.

Many of the boards in these data banks are straight. Most boards contain 1/4 inch of crook or slight taper. Other data sets containing heavy taper or crook of 1/2 inch or more are available.

To reduce the subjectivity that attends the identification of certain defects, adjustments were made. Surface checks were treated as splits if deep enough to cause degrade. Tears or splits in the wood adjacent to the pith were uniquely identified. For grading purposes both deep surface checks and pith-related tears or splits were treated as shake and not allowed on the back side of sound cuttings.

Stain severe enough to be objectionable under a clear finish was identified as incipient decay and also not allowed on the back side of sound cuttings. The reader may consider incipient decay a sound defect (allowable on the sound face of a grading cutting) and can regrade boards containing incipient decay.

For users of kiln-dried lumber who assume that the grades represent a uniform transition from one quality level to another, a word or two of caution: FAS and No. 1 Common grades are rather straightforward, as are Selects with a sound back. Selects with a No. 1 Common back, however, are graded without regard to the relative location of defects from one face to the other and can contain rot, pith, shake, or wane on the back face of the grading cuttings.

No. 2A Common boards contain more usable areas than might be suggested by the minimum clear-face grading cuttings surface area of 50 percent. Fifty-four No. 2A Common boards had surface measures halfway between consecutive whole feet. When the largest surface measure was used to determine the grade, only four boards were found to lose grade. When all possible grading cuttings were used within the number constraints of the NHLA rules, more than 60 percent of all No. 2A Common boards had at least 62 percent in grading cuttings surface area.

The appendix contains lookup tables that will greatly facilitate any sampling procedures. For each grade, boards are listed in order of increasing width and, for boards of the same width, increasing length. Detailed information is given on surface measure, number of grading cuttings used, and the percent of each board's surface measure in the grading cuttings for FAS and No. 1 Common and No. 2A Common.

It is hoped that this data bank can find widespread use in the research community. Researchers using the same sample of boards now can have confidence that differences in results are due to differences in research methodology. Heretofore, raw material quality has been one of the greatest unknowns.

To obtain diskettes containing board data, contact 1992 Data Bank for Red Oak Lumber, Forestry Sciences Laboratory, Rt. 2, Box 562-B, Princeton, WV 24740. Please specify preference of 3.5-inch high density diskettes or 5.25-inch high density diskettes.

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Appendix

Table 10.--Board information report for FAS lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (c)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade		
1	6.00	108.50	108-1	FAS	108-1	FAS	4 or 5	FAS
2	6.00	120.75	85-1	FAS	85-1	FAS	5	
3	6.00	120.75	84-1	FAS	84-1	FAS	5	
4	6.00	144.50	95-1	FAS	95-1	FAS	6	
5	6.00	144.75	97-1	FAS	97-1	FAS	6	
6	6.00	168.50	91-2	FAS	91-2	FAS	7	
7	6.00	168.50	88-1	FAS	88-1	FAS	7	
8	6.00	168.75	96-1	FAS	96-1	FAS	7	
9	6.00	168.75	92-2	FAS	92-2	FAS	7	
10	6.00	192.50	93-2	FAS	93-2	FAS	8	
11	6.00	192.50	91-2	FAS	91-2	FAS	8	
12	6.00	192.50	84-2	FAS	98-2	FAS	8	
13	6.00	192.50	87-1	FAS	87-1	FAS	8	
14	6.00	192.75	96-1	FAS	96-1	FAS	8	
15	6.25	96.25	100-1	FAS	100-1	FAS	4	
16	6.25	96.75	105-1	FAS	105-1	FAS	4	
17	6.25	96.75	88-1	FAS	88-1	FAS	4	
18	6.25	108.50	91-1	FAS	91-1	FAS	5	
19	6.25	144.75	105-1	FAS	105-1	FAS	6	
20	6.25	168.25	96-1	FAS	96-1	FAS	7	
21	6.25	168.75	92-1	FAS	92-1	FAS	7	
22	6.25	168.75	84-1	FAS	84-1	FAS	7	
23	6.25	192.00	85-2	FAS	85-2	FAS	8	
24	6.25	192.50	90-1	FAS	90-1	FAS	8	
25	6.50	168.50	84-1	FAS	84-1	FAS	8	
26	6.50	192.00	86-1	FAS	86-1	FAS	9	
27	6.50	192.50	88-1	FAS	88-1	FAS	9	
28	6.50	192.50	84-2	FAS	84-2	FAS	9	
29	6.75	96.75	105-1	FAS	105-1	FAS	4 or 5	FAS
30	6.75	144.75	91-1	FAS	91-1	FAS	7	
31	6.75	192.25	88-2	FAS	88-2	FAS	9	
32	6.75	192.75	90-2	FAS	90-2	FAS	9	
33	7.00	96.25	84-1	FAS	84-1	FAS	5	
34	7.00	144.25	100-1	FAS	100-1	FAS	7	
35	7.00	168.00	90-1	FAS	90-1	FAS	8	
36	7.00	168.25	93-2	FAS	93-2	FAS	8	
37	7.00	168.50	92-2	FAS	92-2	FAS	8	
38	7.00	168.75	88-2	FAS	88-2	FAS	8	
39	7.00	192.50	89-2	FAS	89-2	FAS	9	
40	7.00	192.50	85-1	FAS	85-1	FAS	9	
41	7.00	192.50	88-1	FAS	88-1	FAS	9	
42	7.00	192.75	84-2	FAS	84-2	FAS	9	
43	7.00	192.75	100-1	FAS	100-1	FAS	9	
44	7.25	108.50	98-1	FAS	98-1	FAS	5	
45	7.25	120.00	87-1	FAS	93-2	FAS	6	
46	7.25	120.50	88-1	FAS	93-2	FAS	6	
47	7.25	120.75	90-1	FAS	90-1	FAS	6	
48	7.25	142.75	84-1	FAS	84-1	FAS	7	
49	7.25	144.75	104-2	FAS	104-2	FAS	7	
50	7.25	144.75	93-1	FAS	93-1	FAS	7	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 10.--Board information report for FAS lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (c)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade		
51	7.25	168.50	84-2	FAS	84-2	FAS	8	
52	7.50	144.00	89-1	FAS	89-1	FAS	7 or 8	FAS
53	7.50	144.50	92-1	FAS	96-2	FAS	7 or 8	FAS
54	7.50	145.00	92-1	FAS	96-2	FAS	7 or 8	FAS
55	7.50	168.00	90-1	FAS	90-1	FAS	9	
56	7.50	192.00	87-1	FAS	87-1	FAS	10	
57	7.75	96.75	84-1	FAS	84-1	FAS	5	
58	7.75	120.50	92-1	FAS	92-1	FAS	6	
59	7.75	120.75	97-2	FAS	97-2	FAS	6	
60	7.75	168.50	84-2	FAS	84-2	FAS	9	
61	7.75	168.75	84-2	FAS	84-2	FAS	9	
62	8.00	96.50	96-1	FAS	96-1	FAS	5	
63	8.00	96.75	89-1	FAS	89-1	FAS	5	
64	8.00	120.50	88-1	FAS	88-1	FAS	7	
65	8.00	120.75	87-1	FAS	87-1	FAS	7	
66	8.00	144.50	88-1	FAS	88-1	FAS	8	
67	8.00	144.75	84-2	FAS	84-2	FAS	8	
68	8.00	156.50	87-1	FAS	87-1	FAS	9	
69	8.00	168.50	88-1	FAS	88-1	FAS	9	
70	8.00	192.00	91-1	FAS	91-1	FAS	11	
71	8.00	192.25	84-2	FAS	84-2	FAS	11	
72	8.00	192.25	86-2	FAS	86-2	FAS	11	
73	8.00	192.50	86-2	FAS	86-2	FAS	11	
74	8.00	192.50	94-1	FAS	94-1	FAS	11	
75	8.00	192.50	87-2	FAS	87-2	FAS	11	
76	8.25	120.25	90-1	FAS	90-1	FAS	7	
77	8.25	120.50	96-1	FAS	96-1	FAS	7	
78	8.25	120.75	87-1	FAS	87-1	FAS	7	
79	8.25	144.50	91-1	FAS	91-1	FAS	8	
80	8.25	144.50	100-1	FAS	100-1	FAS	8	
81	8.25	144.75	83-2	FAS	83-2	FAS	8	
82	8.25	144.75	87-1	FAS	87-1	FAS	8	
83	8.25	144.75	86-1	FAS	86-1	FAS	8	
84	8.25	144.75	88-1	FAS	88-1	FAS	8	
85	8.25	144.75	98-1	FAS	98-1	FAS	8	
86	8.50	96.00	84-1	FAS	84-1	FAS	6	
87	8.50	108.50	95-1	FAS	101-2	FAS	6	
88	8.50	120.00	84-1	FAS	84-1	FAS	7	
89	8.50	144.75	85-2	FAS	85-2	FAS	8 or 9	FAS
90	8.50	168.50	98-1	FAS	98-1	FAS	10	
91	8.50	168.50	94-1	FAS	94-1	FAS	10	
92	8.50	168.75	97-1	FAS	97-1	FAS	10	
93	8.50	192.50	87-1	FAS	87-1	FAS	11	
94	8.50	192.75	100-1	FAS	100-1	FAS	11	
95	8.75	120.75	89-1	FAS	89-1	FAS	7	
96	8.75	120.75	84-1	FAS	84-1	FAS	7	
97	8.75	120.75	93-1	FAS	93-1	FAS	7	
98	8.75	120.75	87-1	FAS	87-1	FAS	7	
99	8.75	143.00	93-1	FAS	98-2	FAS	8	
100	8.75	144.50	89-1	FAS	89-1	FAS	9	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 10.--Board information report for FAS lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (c)
			% S.M. of cuttings	% No. Grade	% S.M. of cuttings	% No. Grade		
101	8.75	144.75	89-1	FAS	89-1	FAS	9	
102	8.75	144.75	85-2	FAS	85-2	FAS	9	
103	8.75	192.50	86-2	FAS	86-2	FAS	12	
104	8.75	192.50	85-2	FAS	85-2	FAS	12	
105	8.75	192.75	90-2	FAS	90-2	FAS	12	
106	9.00	96.75	96-1	FAS	96-1	FAS	6	
107	9.00	96.75	99-2	FAS	99-2	FAS	6	
108	9.00	120.25	86-1	FAS	95-2	FAS	7 or 8	FAS
109	9.00	120.50	89-1	FAS	98-2	FAS	7 or 8	FAS
110	9.00	120.75	95-1	FAS	95-1	FAS	7 or 8	FAS
111	9.00	120.75	92-1	FAS	92-1	FAS	7 or 8	Selects
112	9.00	120.75	98-2	FAS	98-2	FAS	7 or 8	FAS
113	9.00	144.00	83-2	FAS	83-2	FAS	9	
114	9.00	144.25	94-1	FAS	94-1	FAS	9	
115	9.00	144.75	90-1	FAS	93-2	FAS	9	
116	9.00	144.75	89-1	FAS	89-1	FAS	9	
117	9.00	145.00	84-2	FAS	84-2	FAS	9	
118	9.00	156.75	95-2	FAS	95-2	FAS	10	
119	9.00	168.50	90-2	FAS	90-2	FAS	10 or 11	Selects
120	9.00	168.50	84-1	FAS	89-2	FAS	10 or 11	Selects
121	9.00	169.00	91-1	FAS	91-1	FAS	10 or 11	Selects
122	9.00	192.25	84-2	FAS	84-2	FAS	12	
123	9.00	192.50	86-2	FAS	86-2	FAS	12	
124	9.25	144.00	99-1	FAS	99-1	FAS	9	
125	9.25	144.75	83-2	FAS	83-2	FAS	9	
126	9.25	144.75	86-1	FAS	86-1	FAS	9	
127	9.25	168.50	90-1	FAS	99-2	FAS	11	
128	9.25	168.75	88-1	FAS	88-1	FAS	11	
129	9.25	192.50	87-2	FAS	87-2	FAS	12	
130	9.50	108.50	83-1	FAS	83-1	FAS	7	
131	9.50	108.75	92-1	FAS	92-1	FAS	7	
132	9.50	108.75	97-1	FAS	97-1	FAS	7	
133	9.50	117.25	97-1	FAS	97-1	FAS	7	
134	9.50	120.75	92-1	FAS	92-1	FAS	8	
135	9.50	144.00	84-2	FAS	84-2	FAS	9 or 10	1C
136	9.50	144.25	100-1	FAS	100-1	FAS	9 or 10	FAS
137	9.50	144.25	89-2	FAS	89-2	FAS	9 or 10	Selects
138	9.50	144.50	84-1	FAS	84-1	FAS	9 or 10	1C
139	9.50	144.75	98-2	FAS	98-2	FAS	9 or 10	FAS
140	9.50	168.00	84-1	FAS	91-2	FAS	11	
141	9.50	168.00	86-2	FAS	86-2	FAS	11	
142	9.50	192.25	94-1	FAS	94-1	FAS	13	
143	9.75	120.75	99-1	FAS	99-1	FAS	8	
144	9.75	120.75	85-2	FAS	85-2	FAS	8	
145	9.75	120.75	85-1	FAS	85-1	FAS	8	
146	9.75	143.25	90-2	FAS	90-2	FAS	9	
147	9.75	144.25	86-1	FAS	93-2	FAS	10	
148	9.75	144.50	87-1	FAS	87-1	FAS	10	
149	9.75	168.50	86-1	FAS	86-1	FAS	11	
150	9.75	192.75	83-3	FAS	83-3	FAS	13	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 10.--Board information report for FAS lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (c)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade		
151	10.00	120.75	87-2	FAS	87-2	FAS	8	
152	10.00	120.75	86-2	FAS	86-2	FAS	8	
153	10.00	120.75	99-1	FAS	99-1	FAS	8	
154	10.00	168.50	84-3	FAS	84-3	FAS	12	
155	10.00	168.50	90-2	FAS	90-2	FAS	12	
156	10.00	192.00	84-1	FAS	84-1	FAS	13	
157	10.00	192.00	97-1	FAS	97-1	FAS	13	
158	10.00	192.25	90-1	FAS	90-1	FAS	13	
159	10.00	192.25	84-3	FAS	84-3	FAS	13	
160	10.00	192.50	83-3	FAS	90-3	FAS	13	
161	10.00	192.50	92-1	FAS	92-1	FAS	13	
162	10.25	144.75	93-2	FAS	93-2	FAS	10	
163	10.25	168.25	87-2	FAS	87-2	FAS	12	
164	10.25	168.75	83-2	FAS	83-2	FAS	12	
165	10.50	120.25	84-1	FAS	84-1	FAS	9	
166	10.50	144.00	102-1	FAS	102-1	FAS	10 or 11	FAS
167	10.50	144.25	92-3	FAS	92-3	FAS	10 or 11	Selects
168	10.50	144.50	96-2	FAS	96-2	FAS	10 or 11	FAS
169	10.50	168.00	106-2	FAS	106-2	FAS	12	
170	10.50	168.25	98-1	FAS	98-1	FAS	12	
171	10.50	168.50	93-2	FAS	93-2	FAS	12	
172	10.75	119.25	95-1	FAS	95-1	FAS	8	
173	10.75	144.50	84-1	FAS	84-1	FAS	11	
174	10.75	144.75	84-2	FAS	84-2	FAS	11	
175	10.75	168.25	85-1	FAS	85-1	FAS	13	
176	11.00	144.25	84-1	FAS	93-2	FAS	11	
177	11.00	167.00	92-1	FAS	92-1	FAS	12	
178	11.00	168.00	83-2	FAS	91-2	FAS	13	
179	11.00	168.25	88-2	FAS	88-2	FAS	13	
180	11.00	192.50	89-1	FAS	89-1	FAS	15	
181	11.00	192.50	89-3	FAS	89-3	FAS	15	
182	11.00	192.75	86-3	FAS	86-3	FAS	15	
183	11.25	168.50	84-3	FAS	84-3	FAS	13	
184	11.25	192.00	83-2	FAS	83-2	FAS	15	
185	11.50	120.50	86-2	FAS	86-2	FAS	10	
186	11.50	120.75	85-1	FAS	85-1	FAS	10	
187	11.50	120.75	88-1	FAS	88-1	FAS	10	
188	11.50	144.00	85-2	FAS	85-2	FAS	11 or 12	FAS
189	11.50	168.00	88-2	FAS	88-2	FAS	13	
190	11.75	120.75	89-1	FAS	96-2	FAS	10	
191	11.75	167.25	96-2	FAS	96-2	FAS	13	
192	11.75	169.25	86-1	FAS	86-1	FAS	14	
193	11.75	192.25	85-3	FAS	85-3	FAS	16	
194	12.00	145.00	85-1	FAS	85-1	FAS	12	
195	12.00	192.50	91-2	FAS	94-3	FAS	16	
196	12.00	192.75	87-2	FAS	87-2	FAS	16	
197	12.25	168.50	92-2	FAS	92-2	FAS	14	
198	12.25	192.50	94-2	FAS	94-2	FAS	16	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 11.--Board information report for Selects lumber

Board number	Measured width (inches)	Length (inches)	Grade	Type of back face	Surface measure (feet)	Larger surf. measure grade (a)
1	4.25	73.00	Selects	1C back	2	
2	4.25	149.25	Selects	1C back	4	
3	4.50	144.50	Selects	Sound-back	4 or 5	1C
4	4.50	145.25	Selects	Sound-back	4 or 5	1C
5	4.75	120.75	Selects	1C back	4	
6	4.75	133.00	Selects	1C back	4	
7	4.75	192.50	Selects	1C back	6	
8	5.00	78.25	Selects	Sound-back	2 or 3	1C
9	5.00	84.00	Selects	1C back	3	
10	5.00	120.25	Selects	1C back	4	
11	5.00	168.75	Selects	1C back	6	
12	5.25	73.00	Selects	1C back	3	
13	5.25	85.25	Selects	1C back	3	
14	5.25	96.00	Selects	1C back	3 or 4	2A
15	5.25	96.25	Selects	1C back	3 or 4	Selects
16	5.25	96.75	Selects	Sound-back	3 or 4	2A
17	5.25	97.50	Selects	1C back	3 or 4	Selects
18	5.25	121.00	Selects	Sound-back	4	
19	5.25	121.00	Selects	1C back	4	
20	5.25	168.75	Selects	1C back	6	
21	5.25	168.75	Selects	1C back	6	
22	5.50	97.00	Selects	Sound-back	4	
23	5.50	192.75	Selects	Sound-back	7	
24	5.75	72.00	Selects	1C back	3	
25	5.75	72.75	Selects	1C back	3	
26	5.75	74.00	Selects	1C back	3	
27	5.75	77.50	Selects	1C back	3	
28	5.75	88.75	Selects	1C back	3	
29	5.75	108.50	Selects	Sound-back	4	
30	5.75	120.75	Selects	Sound-back	5	
31	5.75	123.50	Selects	Sound-back	5	
32	5.75	144.75	Selects	1C back	6	
33	5.75	147.50	Selects	1C back	6	
34	5.75	192.50	Selects	Sound-back	8	
35	5.75	192.75	Selects	Sound-back	8	
36	6.00	73.00	Selects	Sound-back	3	
37	6.00	73.75	Selects	1C back	3	
38	6.00	74.25	Selects	1C back	3	
39	6.00	118.50	Selects	1C back	4 or 5	1C
40	6.00	120.50	Selects	1C back	5	
41	6.00	144.50	Selects	Sound-back	6	
42	6.00	144.75	Selects	1C back	6	
43	6.00	168.50	selects	1C back	7	
44	6.00	191.00	Selects	1C back	7 or 8	Selects
45	6.00	192.50	Selects	1C back	8	
46	6.00	192.75	Selects	1C back	8	
47	6.25	74.50	Selects	1C back	3	
48	6.25	75.00	Selects	Sound-back	3	
49	6.25	76.00	Selects	Sound-back	3	
50	6.25	82.75	Selects	Sound-back	3	

(a) - When board surface measure is half-way between consecutive standard feet, the grade is determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 11.--Board information report for Selects lumber

Board number	Measurad width (inches)	Length (inches)	Grade	Type of back face	Surface measure (feet)	Larger surf. measure grade (a)
51	6.25	108.50	Selects	1C back	5	
52	6.25	120.75	Selects	1C back	5	
53	6.25	144.50	Selects	1C back	6	
54	6.25	168.50	Selects	1C back	7	
55	6.25	192.50	Selects	1C back	8	
56	6.50	74.00	Selects	1C back	3	
57	6.50	120.75	Selects	Sound-back	5	
58	6.50	144.00	Selects	1C back	6 or 7	1C
59	6.50	144.00	Selects	1C back	6 or 7	1C
60	6.50	144.75	Selects	1C back	6 or 7	1C
61	6.50	144.75	Selects	1C back	6 or 7	1C
62	6.50	145.00	Selects	1C back	6 or 7	1C
63	6.50	168.75	Selects	1C back	8	
64	6.50	192.25	Selects	1C back	9	
65	6.50	192.50	Selects	1C back	9	
66	6.50	192.50	Selects	1C back	9	
67	6.75	120.75	Selects	Sound-back	6	
68	6.75	121.00	Selects	1C back	6	
69	6.75	144.75	Selects	1C back	7	
70	6.75	145.25	Selects	1C back	7	
71	6.75	168.50	Selects	1C back	8	
72	6.75	168.50	Selects	1C back	8	
73	7.00	97.00	Selects	1C back	5	
74	7.00	120.00	Selects	1C back	6	
75	7.00	120.00	Selects	1C back	6	
76	7.00	120.25	Selects	Sound-back	6	
77	7.00	120.75	Selects	1C back	6	
78	7.00	120.75	Selects	1C back	6	
79	7.00	132.75	Selects	1C back	6	
80	7.00	144.25	Selects	1C back	7	
81	7.00	144.75	Selects	1C back	7	
82	7.00	144.75	Selects	1C back	7	
83	7.00	168.00	Selects	1C back	8	
84	7.00	168.50	Selects	1C back	8	
85	7.00	192.50	Selects	1C back	9	
86	7.00	192.75	Selects	1C back	9	
87	7.25	73.00	Selects	1C back	4	
88	7.25	96.75	Selects	1C back	5	
89	7.25	120.75	Selects	1C back	6	
90	7.25	121.00	Selects	1C back	6	
91	7.25	144.50	Selects	1C back	7	
92	7.25	168.00	Selects	1C back	8	
93	7.25	168.50	Selects	1C back	8	
94	7.25	192.00	Selects	1C back	10	
95	7.25	192.50	Selects	1C back	10	
96	7.50	73.00	Selects	1C back	4	
97	7.50	96.75	Selects	1C back	5	
98	7.50	96.75	Selects	1C back	5	
99	7.50	144.25	Selects	Sound-back	7 or 8	Selects
100	7.50	144.50	Selects	1C back	7 or 8	1C

(a) - When board surface measure is half-way between consecutive standard feet, the grade is determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 11.--Board information report for Selects lumber

Board number	Measured width (inches)	Length (inches)	Grade	Type of back face	Surface measure (feet)	Larger surf. measure grade (a)
101	7.50	144.75	Selects	1C back	7 or 8	1C
102	7.50	144.75	Selects	1C back	7 or 8	Selects
103	7.50	169.25	Selects	1C back	9	
104	7.50	192.75	Selects	1C back	10	
105	7.75	73.50	Selects	1C back	4	
106	7.75	96.75	Selects	1C back	5	
107	7.75	108.50	Selects	1C back	6	
108	7.75	120.75	Selects	1C back	6	
109	7.75	120.75	Selects	1C back	6	
110	7.75	144.25	Selects	1C back	8	
111	7.75	144.75	Selects	Sound-back	8	
112	7.75	144.75	Selects	1C back	8	
113	8.00	72.75	Selects	Sound-back	4	
114	8.00	108.50	Selects	1C back	6	
115	8.00	108.50	Selects	1C back	6	
116	8.00	108.75	Selects	Sound-back	6	
117	8.00	120.75	Selects	1C back	7	
118	8.00	120.75	Selects	1C back	7	
119	8.00	120.75	Selects	1C back	7	
120	8.00	144.25	Selects	1C back	8	
121	8.00	144.50	Selects	1C back	8	
122	8.00	144.75	Selects	1C back	8	
123	8.00	144.75	Selects	1C back	8	
124	8.00	168.50	Selects	Sound-back	9	
125	8.00	168.75	Selects	1C back	9	
126	8.25	120.25	Selects	Sound-back	7	
127	8.25	144.50	Selects	Sound-back	8	
128	8.25	144.75	Selects	1C back	8	
129	8.25	168.00	Selects	1C back	10	
130	8.25	168.50	Selects	1C back	10	
131	8.25	168.75	Selects	1C back	10	
132	8.25	168.75	Selects	1C back	10	
133	8.50	73.00	Selects	1C back	4	
134	8.50	132.75	Selects	1C back	8	
135	8.50	144.00	Selects	1C back	8 or 9	2A
136	8.50	144.75	Selects	1C back	8 or 9	1C
137	8.50	168.50	Selects	1C back	10	
138	8.50	192.00	Selects	1C back	11	
139	8.50	192.25	Selects	1C back	11	
140	8.50	192.50	Selects	1C back	11	
141	8.50	192.50	Selects	Sound-back	11	
142	8.50	192.75	Selects	1C back	11	
143	8.75	96.50	Selects	1C back	6	
144	8.75	96.75	Selects	1C back	6	
145	8.75	120.75	Selects	Sound-back	7	
146	8.75	130.25	Selects	1C back	7	
147	8.75	144.25	Selects	1C back	9	
148	8.75	144.75	Selects	1C back	9	
149	8.75	144.75	Selects	1C back	9	
150	8.75	168.50	Selects	Sound-back	10	

(a) - When board surface measure is half-way between consecutive standard feet, the grade is determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 11.--Board information report for Selects lumber

Board number	Measured width (inches)	Length (inches)	Grade	Type of back face	Surface measure (feet)	Larger surf. measure grade (a)
151	9.00	144.75	Selects	1C back	9	
152	9.00	168.00	Selects	1C back	10 or 11	1C
153	9.00	192.50	Selects	1C back	12	
154	9.00	192.75	Selects	1C back	12	
155	9.25	119.25	Selects	Sound-back	7	
156	9.25	120.75	Selects	1C back	8	
157	9.25	144.50	Selects	Sound-back	9	
158	9.25	144.50	Selects	Sound-back	9	
159	9.25	144.75	Selects	Sound-back	9	
160	9.25	168.75	Selects	Sound-back	11	
161	9.25	168.75	Selects	1C back	11	
162	9.25	168.75	Selects	1C back	11	
163	9.25	192.25	Selects	1C back	12	
164	9.25	192.50	Selects	1C back	12	
165	9.50	120.50	Selects	1C back	8	
166	9.50	120.50	Selects	1C back	8	
167	9.50	132.25	Selects	1C back	9	
168	9.50	144.75	Selects	1C back	9 or 10	1C
169	9.50	164.50	Selects	1C back	10	
170	9.50	168.75	Selects	Sound-back	11	
171	9.50	192.50	Selects	1C back	13	
172	9.75	96.75	Selects	Sound-back	6 or 7	1C
173	9.75	168.00	Selects	1C back	11	
174	9.75	168.50	Selects	1C back	11	
175	9.75	193.75	Selects	1C back	13	
176	10.00	108.50	Selects	Sound-back	7 or 8	Selects
177	10.00	120.75	Selects	Sound-back	8	
178	10.00	120.75	Selects	Sound-back	8	
179	10.00	121.00	Selects	1C back	8	
180	10.00	168.50	Selects	1C back	12	
181	10.00	168.75	Selects	1C back	12	
182	10.00	192.25	Selects	1C back	13	
183	10.25	120.50	Selects	1C back	9	
184	10.25	144.50	Selects	1C back	10	
185	10.25	144.50	Selects	1C back	10	
186	10.25	144.50	Selects	Sound-back	10	
187	10.25	168.50	Selects	Sound-back	12	
188	10.25	168.50	Selects	1C back	12	
189	10.25	168.75	Selects	1C back	12	
190	10.25	192.75	Selects	1C back	14	
191	10.50	120.00	Selects	1C back	9	
192	10.50	144.25	Selects	1C back	10 or 11	Selects
193	10.50	168.50	Selects	Sound-back	12	
194	10.50	192.50	Selects	Sound-back	14	
195	10.50	192.50	Selects	Sound-back	14	
196	10.50	192.75	Selects	1C back	14	
197	11.00	142.75	Selects	1C back	10	
198	11.00	168.75	Selects	Sound-back	13	
199	11.25	97.50	Selects	1C back	7 or 8	Selects
200	11.25	120.75	Selects	1C back	9	

(a) - When board surface measure is half-way between consecutive standard feet, the grade is determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 11.--Board information report for Selects lumber

Board number	Measured width (inches)	Length (inches)	Grade	Type of back face	Surface measure (feet)	Larger surf. measure grade (a)
201	11.25	121.00	Selects	1C back	9	
202	11.50	120.00	Selects	1C back	10	
203	11.75	144.75	Selects	Sound-back	12	
204	11.75	168.50	Selects	Sound-back	14	
205	12.00	120.75	Selects	1C back	10	
206	12.25	120.50	Selects	1C back	10	
207	12.25	168.75	Selects	Sound-back	14	
208	12.50	97.00	Selects	1C back	8	
209	12.75	144.75	selects	1C back	13	

(a) - When board surface measure is half-way between consecutive standard feet, the grade is determined with the smaller surface measure, Grades in this column are determined with the larger surface measure.

Table 12.--Board information report for No. 1 Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
1	4.25	96.75	67-1	1CM	79-2	1CP	3	
2	4.50	145.00	89-2	1CP	89-2	1CP	4 or 5	1C
3	4.50	156.00	70-2	1CM	70-2	1CM	5	
4	4.75	72.75	80-1	1CP	80-1	1CP	2	
5	4.75	73.00	86-1	1CP	86-1	1CP	2	
6	4.75	95.00	76-1	1CZ	76-1	1CZR	3	
7	4.75	95.00	71-1	1CM	85-2	1CPR	3	
8	4.75	96.75	90-2	1CP	90-2	1CPR	3	
9	4.75	97.00	77-1	1CZ	80-2	1CPR	3	
10	4.75	121.00	77-2	1CZ	77-2	1CZ	4	
11	4.75	144.75	79-3	1CP	79-3	1CP	5	
12	5.00	62.00	90-1	1CP	90-1	1CPR	2	
13	5.00	71.25	86-1	1CP	86-1	1CPR	2	
14	5.00	72.75	82-1	1CP	82-1	1CP	2 or 3	2A
15	5.00	81.00	89-1	1CP	91-1	1CP	2 or 3	2A
16	5.00	95.00	84-2	1CP	84-2	1CPR	3	
17	5.00	96.00	88-1	1CP	102-2	1CPR	3	
18	5.00	96.75	72-1	1CZ	72-1	1CZ	3	
19	5.00	97.50	77-1	1CZ	93-2	1CPR	3	
20	5.00	120.75	82-1	1CP	87-2	1CPR	4	
21	5.00	121.00	86-2	1CP	86-2	1CPR	4	
22	5.00	121.00	70-1	1CM	70-1	1CMR	4	
23	5.00	124.75	83-1	1CP	83-1	1CP	4	
24	5.00	144.75	68-2	1CM	68-2	1CMR	5	
25	5.00	145.00	72-1	1CZ	79-2	1CPR	5	
26	5.00	168.75	79-1	1CP	86-3	1CPR	6	
27	5.00	168.75	70-2	1CM	78-3	1CZR	6	
28	5.00	192.25	82-1	1CP	88-2	1CP	7	
29	5.25	57.00	89-1	1CP	89-1	1CPR	2	
30	5.25	60.00	84-1	1CP	84-1	1CPR	2	
31	5.25	72.00	91-1	1CP	91-1	1CP	3	
32	5.25	73.00	68-1	1CM	68-1	1CM	3	
33	5.25	86.00	80-1	1CP	80-1	1CPR	3	
34	5.25	87.25	72-1	1CZ	72-1	1CZR	3	
35	5.25	89.50	84-2	1CP	84-2	1CPR	3	
36	5.25	91.25	77-1	1CZ	77-1	1CZ	3	
37	5.25	96.25	70-1	1CM	95-2	1CPR	3 or 4	2A
38	5.25	96.75	92-2	1CP	92-2	1CP	3 or 4	2A
39	5.25	96.75	75-1	1CZ	81-2	1CPR	3 or 4	2A
40	5.25	97.00	71-1	1CM	94-2	1CP	3 or 4	2A
41	5.25	97.00	71-1	1CM	71-1	1CMR	3 or 4	2A
42	5.25	97.25	76-1	1CZ	100-2	1CPR	3 or 4	2A
43	5.25	120.75	79-1	1CP	97-3	1CP	4	
44	5.25	121.00	84-1	1CP	84-1	1CP	4	
45	5.25	121.00	88-1	1CP	88-1	1CP	4	
46	5.25	121.00	75-2	1CZ	75-2	1CZ	4	
47	5.25	123.25	88-2	1CP	88-2	1CP	4	
48	5.25	144.00	69-2	1CM	76-3	1CZ	5	
49	5.25	145.00	76-3	1CZ	76-3	1CZ	5	
50	5.25	145.00	67-2	1CM	84-3	1CP	5	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
- (d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 12.--Board Information report for No. 1 Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. No. of cuttings	Grade(c)		
51	5.25	145.00	78-2	1CZ	92-3	1CPR	5	
52	5.25	145.00	76-1	1CZ	95-3	1CPR	5	
53	5.25	168.50	79-2	1CP	79-2	1CPR	6	
54	5.25	168.50	80-2	1CP	80-2	1CPR	6	
55	5.25	168.75	78-2	1CZ	95-3	1CP	6	
56	5.25	168.75	73-2	1CZ	78-3	1CZR	6	
57	5.25	169.00	75-2	1CZ	75-2	1CZ	6	
58	5.50	61.50	84-1	1CP	84-1	1CPR	2	
59	5.50	72.00	77-2	1CZ	77-2	1CZ	3	
60	5.50	72.25	80-1	1CP	80-1	1CP	3	
61	5.50	72.25	67-1	1CM	79-2	1CP	3	
62	5.50	73.25	76-1	1CZ	76-1	1CZ	3	
63	5.50	73.50	67-1	1CM	67-1	1CM	3	
64	5.50	74.25	71-1	1CM	82-2	1CP	3	
65	5.50	74.75	67-1	1CM	67-1	1CM	3	
66	5.50	76.50	71-1	1CM	71-1	1CM	3	
67	5.50	78.75	78-2	1CZ	78-2	1CZ	3	
68	5.50	79.75	71-1	1CM	71-1	1CM	3	
69	5.50	84.00	79-2	1CP	79-2	1CP	3	
70	5.50	85.50	77-2	1CZ	77-2	1CZ	3	
71	5.50	87.00	86-2	1CP	86-2	1CPR	3	
72	5.50	87.00	78-2	1CZ	78-2	1CZ	3	
73	5.50	96.75	71-1	1CM	71-1	1CM	4	
74	5.50	97.00	67-1	1CM	80-2	1CP	4	
75	5.50	120.75	76-2	1CZ	76-2	1CZ	5	
76	5.50	120.75	69-1	1CM	80-3	1CP	5	
77	5.50	120.75	67-2	1CM	71-2	1CMR	5	
78	5.50	121.00	79-2	1CP	79-2	1CPR	5	
79	5.50	121.00	68-2	1CM	68-2	1CM	5	
80	5.50	121.00	69-2	1CM	69-2	1CM	5	
81	5.50	121.00	67-2	1CZ	67-2	1CMR	5	
82	5.50	121.75	71-2	1CM	71-2	1CM	5	
83	5.50	121.75	69-2	1CM	80-2	1CP	5	
84	5.50	122.50	69-2	1CM	69-2	1CMR	5	
85	5.50	126.00	78-3	1CZ	78-3	1CZ	5	
86	5.50	134.75	72-2	1CZ	78-2	1CZ	5	
87	5.50	143.25	82-2	1CP	86-3	1CP	5	
88	5.50	143.25	88-1	1CP	88-1	1CP	5	
89	5.50	144.00	83-2	1CP	83-2	1CP	5 or 6	1C
90	5.50	144.50	82-2	1CP	87-3	1CP	5 or 6	1C
91	5.50	144.75	71-2	1CM	71-2	1CMR	5 or 6	2A
92	5.50	144.75	76-1	1CZ	76-1	1CZR	5 or 6	1C
93	5.50	145.00	74-2	1CZ	74-2	1CZ	5 or 6	2A
94	5.50	145.00	70-1	1CM	70-1	1CMR	5 or 6	2A
95	5.50	145.00	84-2	1CP	84-2	1CP	5 or 6	1C
96	5.50	145.00	93-2	1CP	93-2	1CPR	5 or 6	1C
97	5.50	145.00	68-2	1CM	68-2	1CM	5 or 6	2A
98	5.50	145.00	89-2	1CP	89-2	1CP	5 or 6	1C
99	5.50	145.00	72-2	1CZ	72-2	1CZ	5 or 6	2A
100	5.50	145.00	83-3	1CP	83-3	1CP	5 or 6	2A

(a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.

(b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.

(c) - "R" denotes a board from second and third saw mills.

(d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 12.--Board information report for No. 1 Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
101	5.50	145.25	96-2	1CP	96-2	1CP	5 or 6	1C
102	5.50	146.50	95-2	1CP	95-2	1CP	5 or 6	1C
103	5.50	146.50	71-2	1CM	81-3	1CP	5 or 6	2A
104	5.50	161.00	77-3	1CZ	77-3	1CZ	6	
105	5.50	168.50	77-1	1CZ	89-3	1CPR	6	
106	5.50	168.75	71-2	1CM	79-3	1CP	6	
107	5.50	169.25	69-2	1CM	86-3	1CP	6	
108	5.50	169.25	83-3	1CP	83-3	1CP	6	
109	5.50	169.25	77-2	1CZ	77-2	1CZ	6	
110	5.50	169.25	67-2	1CM	67-2	1CM	6	
111	5.50	170.50	79-2	1CP	91-3	1CPR	6	
112	5.50	173.00	74-1	1CZ	80-3	1CP	6	
113	5.50	192.25	68-2	1CM	99-3	1CP	7	
114	5.50	192.50	75-3	1CZ	75-3	1CZR	7	
115	5.50	192.50	84-3	1CP	84-3	1CPR	7	
116	5.50	192.75	75-1	1CZ	93-3	1CP	7	
117	5.50	192.75	75-1	1CZ	82-2	1CPR	7	
118	5.50	193.50	80-3	1CP	80-3	1CP	7	
119	5.50	193.50	68-2	1CM	68-2	1CM	7	
120	5.50	193.75	77-2	1CZ	88-3	1CP	7	
121	5.75	53.50	83-1	1CP	83-1	1CPR	2	
122	5.75	73.00	73-1	1CZ	82-2	1CPR	3	
123	5.75	77.75	75-1	1CZ	75-1	1CZR	3	
124	5.75	79.50	67-1	1CM	67-1	1CMR	3	
125	5.75	80.00	81-2	1CP	89-2	1CP	3	
126	5.75	84.00	72-1	1CZ	72-1	1CZR	3	
127	5.75	84.00	73-1	1CZ	73-1	1CZR	3	
128	5.75	86.25	75-2	1CZ	88-2	1CPR	3	
129	5.75	95.00	93-1	1CP	105-2	1CPR	3	
130	5.75	120.50	67-2	1CM	67-2	1CM	5	
131	5.75	120.75	69-2	1CM	69-2	1CM	5	
132	5.75	120.75	83-2	1CP	83-2	1CPR	5	
133	5.75	120.75	68-2	1CM	68-2	1CM	5	
134	5.75	120.75	70-2	1CM	70-2	1CM	5	
135	5.75	121.00	70-1	1CM	70-1	1CMR	5	
136	5.75	121.00	72-2	1CZ	78-3	1CZR	5	
137	5.75	121.50	83-2	1CP	83-2	1CP	5	
138	5.75	121.75	69-2	1CM	69-2	1CM	5	
139	5.75	123.25	78-2	1CZ	85-2	1CP	5	
140	5.75	132.00	78-2	1CZ	78-2	1CZR	5	
141	5.75	132.25	92-1	1CP	92-1	1CP	5	
142	5.75	139.75	76-3	1CZ	76-3	1CZ	5	
143	5.75	144.75	72-2	1CZ	72-2	1CZ	6	
144	5.75	144.75	68-1	1CM	84-3	1CP	6	
145	5.75	144.75	67-1	1CM	89-3	1CP	6	
146	5.75	145.00	76-3	1CZ	76-3	1CZ	6	
147	5.75	145.00	71-2	1CM	71-2	1 CM	6	
148	5.75	145.00	79-3	1CP	79-3	1CPR	6	
149	5.75	145.00	71-2	1CM	71-2	1CMR	6	
150	5.75	145.00	67-2	1CM	67-2	1CM	6	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
- (d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 12.--Board information report for No. 1 Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
151	5.75	145.00	67-2	1CM	75-2	1CZR	6	
152	5.75	145.50	79-2	1CP	84-3	1CP	6	
153	5.75	168.50	77-2	1CZ	77-2	1CZR	7	
154	5.75	168.50	84-1	1CP	84-1	1CP	7	
155	5.75	168.75	73-2	1CZ	73-2	1CZR	7	
156	5.75	168.75	74-2	1CZ	81-3	1CPR	7	
157	5.75	192.50	68-2	1CM	68-2	1CMR	8	
158	5.75	192.50	74-3	1CZ	80-4	1CPR	8	
159	5.75	192.75	68-3	1CM	68-3	1CM	8	
160	5.75	192.75	78-2	1CZ	78-2	1CZ	8	
161	5.75	193.50	71-3	1CM	74-3	1CZ	8	
162	5.75	193.50	78-2	1CZ	82-3	1CP	8	
163	5.75	193.75	74-2	1CZ	88-3	1CP	8	
164	6.00	51.00	88-1	1CP	88-1	1CPR	2	
165	6.00	55.25	98-1	1CP	98-1	1CPR	2	
166	6.00	72.00	77-2	1CZ	77-2	1CZ	3	
167	6.00	74.25	71-1	1CM	71-1	1CMR	3	
168	6.00	77.00	79-2	1CP	88-2	1CPR	3	
169	6.00	79.50	78-2	1CZ	90-2	1CPR	3	
170	6.00	80.00	76-1	1CZ	97-2	1CPR	3	
171	6.00	80.50	70-1	1CM	70-1	1CM	3	
172	6.00	84.00	80-1	1CP	80-1	1CP	3 or 4	1C
173	6.00	84.00	83-1	1CP	83-1	1CP	3 or 4	1C
174	6.00	95.25	70-1	1CM	75-2	1CZ	3 or 4	2A
175	6.00	97.00	72-1	1CZ	72-1	1CZR	4	
176	6.00	97.00	67-1	1CM	91-2	1CPR	4	
177	6.00	97.00	79-2	1CP	79-2	1CPR	4	
178	6.00	98.00	74-1	1CZ	89-2	1CP	4	
179	6.00	99.00	74-1	1CZ	74-1	1CZ	4	
180	6.00	108.00	77-2	1CZ	77-2	1CZ	4 or 5	2A
181	6.00	120.25	72-2	1CZ	80-3	1CP	5	
182	6.00	120.75	75-2	1CZ	75-2	1CZR	5	
183	6.00	120.75	73-2	1CZ	77-3	1CZR	5	
184	6.00	120.75	83-2	1CP	83-2	1CPR	5	
185	6.00	120.75	70-2	1CM	93-2	1CP	5	
186	6.00	120.75	73-2	1CZ	73-2	1CZR	5	
187	6.00	120.75	78-2	1CZ	78-2	1CZ	5	
188	6.00	121.00	85-3	1CP	85-3	1CP	5	
189	6.00	121.00	69-2	1CM	69-2	1CM	5	
190	6.00	138.25	76-2	1CZ	90-3	1CPR	5 or 6	2A
191	6.00	144.75	76-2	1CZ	76-2	1CZR	6	
192	6.00	144.75	78-3	1CZ	78-3	1CZ	6	
193	6.00	144.75	70-2	1CM	88-3	1CP	6	
194	6.00	145.00	86-2	1CP	89-3	1CPR	6	
195	6.00	145.00	73-2	1CZ	73-2	1CZR	6	
196	6.00	145.00	73-2	1CZ	73-2	1CZ	6	
197	6.00	145.00	72-2	1CZ	76-3	1CZR	6	
198	6.00	145.25	67-1	1CM	67-1	1CM	6	
199	6.00	145.25	68-2	1CM	76-3	1CZ	6	
200	6.00	168.75	67-3	1CM	81-3	1CPR	7	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
- (d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 12.--Board information report for No. 1 Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
201	6.00	192.25	73-2	1CZ	86-4	1CPR	8	
202	6.00	192.50	67-3	1CM	84-4	1CPR	8	
203	6.00	192.50	67-3	1CM	78-4	1CZR	8	
204	6.00	192.50	74-3	1CZ	80-4	1CPR	8	
205	6.25	51.50	79-1	1CP	79-1	1CP	2	
206	6.25	58.50	91-1	1CP	91-1	1CPR	2	
207	6.25	67.75	84-1	1CP	84-1	1CPR	3	
208	6.25	72.00	71-1	1CM	85-2	1CPR	3	
209	6.25	72.25	82-2	1CP	82-2	1CP	3	
210	6.25	72.50	82-2	1CP	82-2	1CPR	3	
211	6.25	73.00	71-1	1CM	71-1	1CM	3	
212	6.25	73.25	77-2	1CZ	92-2	1CPR	3	
213	6.25	74.25	75-1	1CZ	75-1	1CZR	3	
214	6.25	78.75	87-2	1CP	87-2	1CP	3	
215	6.25	97.00	75-2	1CZ	75-2	1CZ	4	
216	6.25	97.00	75-2	1CZ	75-2	1CZR	4	
217	6.25	97.00	73-1	1CZ	87-2	1CPR	4	
218	6.25	120.50	81-1	1CP	91-2	1CP	5	
219	6.25	120.75	68-2	1CM	68-2	1CMR	5	
220	6.25	120.75	74-2	1CZ	84-3	1CP	5	
221	6.25	120.75	72-2	1CZ	89-3	1CPR	5	
222	6.25	121.00	68-2	1CM	76-3	1CZ	5	
223	6.25	121.00	78-3	1CZ	78-3	1CZ	5	
224	6.25	121.00	76-1	1CZ	98-3	1CPR	5	
225	6.25	121.00	67-2	1CM	67-2	1CM	5	
226	6.25	121.00	70-2	1CM	87-3	1CPR	5	
227	6.25	122.00	77-2	1CZ	84-3	1CPR	5	
228	6.25	142.50	75-1	1CZ	85-2	1CP	6	
229	6.25	144.25	83-2	1CP	99-3	1CP	6	
230	6.25	144.75	78-3	1CZ	82-3	1CP	6	
231	6.25	145.00	67-2	1CM	67-2	1CMR	6	
232	6.25	168.50	76-2	1CZ	83-3	1CPR	7	
233	6.25	168.50	71-2	1CM	82-3	1CPR	7	
234	6.25	168.75	75-3	1CZ	75-3	1CZR	7	
235	6.25	192.75	69-2	1CM	83-3	1CPR	8	
236	6.25	192.75	69-3	1CM	81-4	1CPR	8	
237	6.50	72.00	71-1	1 CM	71-1	1CM	3	
238	6.50	74.50	84-1	1CP	84-1	1CP	3	
239	6.50	76.75	80-2	1CP	80-2	1CP	3	
240	6.50	84.00	77-1	1CZ	82-2	1CP	4	
241	6.50	86.00	75-1	1CZ	75-1	1CZ	4	
242	6.50	93.25	84-1	1CP	89-2	1CP	4	
243	6.50	97.00	81-2	1CP	81-2	1CPR	4	
244	6.50	109.25	67-2	1CM	67-2	1CM	5	
245	6.50	120.75	76-2	1CZ	76-2	1CZ	5	
246	6.50	121.00	68-2	1CM	80-2	1CPR	5	
247	6.50	121.25	70-2	1 CM	70-2	1CM	5	
248	6.50	126.00	74-1	1CZ	85-3	1CP	5	
249	6.50	130.00	71-2	1CM	71-2	1CMR	5	
250	6.50	132.00	68-2	1CM	81-3	1CP	6	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirement of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
- (d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 12.--Board information report for No. 1 Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
251	6.50	143.00	76-3	1CZ	89-3	1CPR	6	
252	6.50	144.25	81-3	1CP	81-3	1CP	6 or 7	2A
253	6.50	145.00	91-2	1CP	91-2	1CP	6 or 7	2A
254	6.50	145.00	73-2	1CZ	85-3	1CPR	6 or 7	2A
255	6.50	168.75	69-2	1CM	80-4	1CPR	8	
256	6.50	192.75	67-3	1CM	79-4	1CP	9	
257	6.75	62.25	75-2	1CZ	75-2	1CZ	3	
258	6.75	62.25	71-1	1CM	83-2	1CPR	3	
259	6.75	72.25	76-1	1CZ	96-2	1CP	3	
260	6.75	73.00	84-2	1CP	84-2	1CP	3	
261	6.75	96.25	80-2	1CP	80-2	1CP	4 or 5	2A
262	6.75	96.75	77-2	1CZ	77-2	1CZ	4 or 5	2A
263	6.75	96.75	78-2	1CZ	81-2	1CP	4 or 5	1C
264	6.75	97.00	77-2	1CZ	77-2	1CZ	4 or 5	2A
265	6.75	97.00	70-1	1CM	86-2	1CPR	4 or 5	1C
266	6.75	97.00	85-1	1CP	85-1	1CPR	4 or 5	1C
267	6.75	101.00	74-1	1CZ	86-2	1CP	4 or 5	1C
268	6.75	109.50	67-2	1CM	72-2	1CZR	5	
269	6.75	117.50	70-2	1CM	81-2	1CPR	5	
270	6.75	144.50	72-2	1CZ	76-3	1CZR	7	
271	6.75	144.75	79-2	1CP	91-3	1CPR	7	
272	6.75	144.75	81-2	1CP	85-3	1CP	7	
273	6.75	145.00	69-2	1CM	80-3	1CPR	7	
274	6.75	145.00	68-1	1CM	86-2	1CPR	7	
275	6.75	145.00	76-2	1CZ	83-2	1CPR	7	
276	6.75	168.75	70-1	1CM	84-3	1CP	8	
277	6.75	168.75	76-2	1CZ	76-2	1CZR	8	
278	6.75	168.75	70-2	1CM	77-3	1CZR	8	
279	6.75	173.25	68-3	1CM	79-4	1CPR	8	
280	6.75	192.50	68-3	1CM	76-3	1CZR	9	
281	6.75	192.50	74-3	1CZ	86-4	1CP	9	
282	6.75	193.25	78-2	1CZ	83-3	1CP	9	
283	7.00	50.50	81-1	1CP	81-1	1CP	2	
284	7.00	51.00	106-1	1CP	106-1	1CP	2	
285	7.00	66.25	74-1	1CZ	74-1	1CZR	3	
286	7.00	71.25	88-1	1CP	88-1	1CPR	3	
287	7.00	73.00	80-1	1CP	85-2	1CP	3 or 4	1C
288	7.00	73.25	83-1	1CP	83-1	1CPR	3 or 4	2A
289	7.00	96.25	69-2	1CM	77-3	1CZ	5	
290	7.00	96.50	68-2	1CM	68-2	1CM	5	
291	7.00	96.75	78-3	1CZ	78-3	1CZ	5	
292	7.00	97.00	78-3	1CZ	78-3	1CZ	5	
293	7.00	97.50	74-2	1CZ	74-2	1CZ	5	
294	7.00	118.00	81-2	1CP	81-2	1CP	5	
295	7.00	120.75	75-2	1CZ	75-2	1CZR	6	
296	7.00	130.75	74-2	1CZ	82-3	1CPR	6	
297	7.00	144.75	74-2	1CZ	86-3	1CPR	7	
298	7.00	145.00	75-3	1CZ	83-3	1CPR	7	
299	7.00	145.00	80-2	1CP	80-2	1CP	7	
300	7.00	145.00	70-2	1CM	93-3	1CPR	7	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
- (d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 12.--Board information report for No. 1 Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a) % S.M. & No. of cuttings	Grade	Maximum grade (b) % S.M. & No. of cuttings	Grade(c)	Surface measure (feet)	Larger surf. measure grade (d)
301	7.00	145.25	69-2	1CM	79-3	1CP	7	
302	7.00	192.50	70-3	1CM	81-4	1CPR	9	
303	7.00	192.75	70-2	1CM	84-4	1CPR	9	
304	7.25	48.00	97-1	1CP	97-1	1CP	2	
305	7.25	61.00	76-1	1CZ	76-1	1CZR	3	
306	7.25	62.25	72-1	1CZ	89-2	1CPR	3	
307	7.25	72.75	74-1	1CZ	74-1	1CZ	4	
308	7.25	73.00	79-1	1CP	84-2	1CP	4	
309	7.25	73.50	75-1	1CZ	80-2	1CP	4	
310	7.25	96.25	74-2	1CZ	77-2	1CZ	5	
311	7.25	97.00	71-2	1CM	71-2	1CM	5	
312	7.25	108.50	76-2	1CZ	76-2	1CZR	5	
313	7.25	109.00	90-2	1CP	90-2	1CPR	5	
314	7.25	117.75	72-2	1CZ	72-2	1CZ	5	
315	7.25	119.25	70-2	1CM	70-2	1CM	5	
316	7.25	120.75	67-1	1CM	79-3	1CP	6	
317	7.25	120.75	83-2	1CP	83-2	1CPR	6	
318	7.25	121.00	72-2	1CZ	76-3	1CZR	6	
319	7.25	121.00	67-2	1CM	67-2	1CM	6	
320	7.25	144.50	71-2	1CM	91-3	1CP	7	
321	7.25	145.00	80-3	1CP	80-3	1CPR	7	
322	7.25	145.25	75-3	1CZ	75-3	1CZ	7	
323	7.25	146.25	70-2	1CM	70-2	1CM	7	
324	7.25	169.00	67-2	1CM	79-4	1CP	8	
325	7.25	192.50	72-1	1CZ	90-3	1CP	10	
326	7.25	192.50	77-3	1CZ	77-3	1CZR	10	
327	7.25	193.25	67-3	1CM	77-4	1CZ	10	
328	7.25	193.25	77-4	1CZ	77-4	1CZ	10	
329	7.25	193.50	71-3	1CM	78-4	1CZ	10	
330	7.50	75.00	80-2	1CP	80-2	1CP	4	
331	7.50	96.75	76-3	1CZ	76-3	1CZ	5	
332	7.50	97.00	72-2	1CZ	72-2	1CZR	5	
333	7.50	97.00	70-2	1CM	70-2	1CM	5	
334	7.50	97.00	82-2	1CP	82-2	1CPR	5	
335	7.50	97.50	78-1	1CZ	81-2	1CP	5	
336	7.50	101.75	80-2	1CP	87-3	1CPR	5	
337	7.50	108.00	71-2	1CM	71-2	1CM	6	
338	7.50	108.75	77-2	1CZ	82-3	1CP	6	
339	7.50	120.25	77-3	1CZ	77-3	1CZ	6	
340	7.50	120.50	69-2	1CM	69-2	1CM	6	
341	7.50	120.75	74-2	1CZ	74-2	1CZR	6	
342	7.50	121.00	77-3	1CZ	77-3	1CZR	6	
343	7.50	121.00	68-2	1CM	76-3	1CZR	6	
344	7.50	121.00	70-2	1CM	77-3	1CZ	6	
345	7.50	121.00	69-2	1CM	69-2	1CM	6	
346	7.50	124.75	67-2	1CM	84-3	1CP	6	
347	7.50	144.50	81-2	1CP	81-2	1CP	7 or 8	1C
348	7.50	145.00	75-2	1CZ	75-2	1CZ	7 or 8	2A
349	7.50	145.00	71-2	1CM	78-3	1CZR	7 or 8	1C
350	7.50	167.25	71-3	1CM	75-4	1CZR	8	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
- (d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 12.--Board information report for No. 1 Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
351	7.50	168.25	79-2	1CP	79-2	1CP	9	
352	7.50	169.00	68-3	1CM	75-4	1CZ	9	
353	7.50	169.00	70-3	1CM	70-3	1CM	9	
354	7.50	169.25	67-3	1CM	71-4	1CM	9	
355	7.50	169.50	73-3	1CZ	77-4	1CZ	9	
356	7.75	50.00	68-1	1CM	68-1	1CM	3	
357	7.75	50.75	72-1	1CZ	79-2	1CP	3	
358	7.75	62.50	76-2	1CZ	76-2	1CZ	3	
359	7.75	72.75	74-1	1CZ	74-1	1CZ	4	
360	7.75	73.00	89-2	1CP	89-2	1CPR	4	
361	7.75	74.25	75-2	1CZ	75-2	1CZ	4	
362	7.75	77.00	85-2	1CP	85-2	1CPR	4	
363	7.75	96.75	72-2	1CZ	83-3	1CP	5	
364	7.75	97.00	71-2	1CM	84-3	1CPR	5	
365	7.75	97.00	73-2	1CZ	82-3	1CPR	5	
366	7.75	97.00	67-2	1CM	89-3	1CPR	5	
367	7.75	105.00	80-3	1CP	80-3	1CP	5	
368	7.75	105.00	74-1	1CZ	86-2	1CP	5	
369	7.75	111.25	72-1	1CZ	72-1	1CZR	6	
370	7.75	115.25	68-2	1CM	86-3	1CP	6	
371	7.75	115.25	68-2	1CM	84-3	1CP	6	
372	7.75	120.25	68-2	1CM	71-3	1CM	6	
373	7.75	120.25	69-2	1CM	81-3	1CP	6	
374	7.75	120.50	80-2	1CP	92-3	1CP	6	
375	7.75	120.75	68-2	1CM	79-3	1CP	6	
376	7.75	120.75	67-2	1CM	77-3	1CZ	6	
377	7.75	145.00	67-3	1CM	77-4	1CZ	8	
378	7.75	145.00	67-2	1CM	83-3	1CP	8	
379	7.75	159.00	69-3	1CM	80-4	1CP	8	
380	7.75	168.50	70-2	1CM	96-3	1CP	9	
381	7.75	168.50	84-2	1CP	88-3	1CP	9	
382	7.75	169.25	67-2	1CM	72-3	1CZ	9	
383	7.75	192.75	67-3	1CM	67-3	1CM	10	
384	8.00	62.25	90-1	1CP	90-1	1CPR	3	
385	8.00	69.75	69-1	1CM	69-1	1CM	3	
386	8.00	72.00	69-1	1CM	69-1	1CM	4	
387	8.00	75.25	85-2	1CP	85-2	1CP	4	
388	8.00	96.00	69-2	1CM	69-2	1CM	5	
389	8.00	96.50	69-2	1CM	69-2	1CM	5	
390	8.00	96.50	80-1	1CP	80-1	1CP	5	
391	8.00	96.75	68-2	1CM	68-2	1CM	5	
392	8.00	97.00	68-1	1CM	88-2	1CPR	5	
393	8.00	97.50	71-2	1CM	82-3	1CP	5	
394	8.00	98.50	71-2	1CM	71-2	1CM	5	
395	8.00	99.50	77-1	1CZ	82-2	1CP	5	
396	8.00	108.00	68-2	1CM	68-2	1CM	6	
397	8.00	116.50	70-2	1CM	82-3	1CPR	6	
398	8.00	118.00	81-1	1CP	91-3	1CP	6	
399	8.00	120.75	68-2	1CM	81-3	1CP	7	
400	8.00	141.25	80-3	1CP	80-3	1CP	7	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
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Table 12.--Board information report for No. 1 Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
401	8.00	145.00	68-2	1CM	77-3	1CZR	8	
402	8.00	145.25	67-3	1CM	78-3	1CZ	8	
403	8.00	192.50	67-3	1CM	71-4	1CMR	11	
404	8.00	192.50	70-2	1CM	82-4	1CP	11	
405	8.00	193.00	75-2	1CZ	85-3	1CP	11	
406	8.25	49.50	72-1	1CZ	72-1	1CZ	3	
407	8.25	52.00	76-2	1CZ	82-2	1CP	3	
408	8.25	67.50	80-2	1CP	80-2	1CP	3	
409	8.25	72.75	80-2	1CP	80-2	1CP	4	
410	8.25	73.00	79-2	1CP	79-2	1CPR	4	
411	8.25	82.75	69-1	1CM	81-2	1CPR	4	
412	8.25	97.00	67-2	1CM	67-2	1CM	5 or 6	2A
413	8.25	97.00	70-2	1CM	70-2	1CM	5 or 6	2A
414	8.25	120.75	67-2	1CM	89-3	1CP	7	
415	8.25	120.75	81-1	1CP	97-2	1CP	7	
416	8.25	144.00	69-2	1CM	69-2	1CM	8	
417	8.25	144.00	76-2	1CZ	82-3	1CP	8	
418	8.25	144.75	75-3	1CZ	75-3	1CZ	8	
419	8.25	145.00	75-3	1CZ	75-3	1CZ	8	
420	8.25	169.00	69-3	1CM	76-4	1CZ	10	
421	8.25	189.75	67-3	1CM	84-4	1CP	10	
422	8.25	192.50	67-4	1CM	73-4	1CZ	11	
423	8.25	193.25	76-2	1CZ	84-4	1CP	11	
424	8.50	62.75	69-1	1CM	69-1	1CM	4	
425	8.50	73.00	84-2	1CP	84-2	1CP	4	
426	8.50	86.00	69-2	1CM	69-2	1CMR	5	
427	8.50	96.50	74-1	1CZ	79-2	1CP	6	
428	8.50	96.75	68-2	1CM	68-2	1CM	6	
429	8.50	97.00	71-2	1CM	71-2	1CMR	6	
430	8.50	97.00	67-2	1CM	73-2	1CZR	6	
431	8.50	97.75	68-2	1CM	68-2	1CMR	6	
432	8.50	120.75	75-3	1CZ	75-3	1CZ	7	
433	8.50	132.75	67-2	1CM	90-3	1CP	8	
434	8.50	169.50	68-2	1CM	82-3	1CP	10	
435	8.50	192.50	67-3	1CM	67-3	1CMR	11	
436	8.50	192.75	74-3	1CZ	88-4	1CPR	11	
437	8.75	61.50	67-1	1CM	67-1	1CM	4	
438	8.75	96.25	67-2	1CM	75-3	1CZ	6	
439	8.75	96.75	69-2	1CM	79-3	1CP	6	
440	8.75	97.00	67-2	1CM	67-2	1CM	6	
441	8.75	97.25	67-2	1CM	80-3	1CP	6	
442	8.75	120.75	75-2	1CZ	87-3	1CP	7	
443	8.75	121.00	74-2	1CZ	83-3	1CP	7	
444	8.75	121.00	77-1	1CZ	86-2	1CP	7	
445	9.00	52.25	68-1	1CM	79-2	1CP	3	
446	9.00	96.50	71-1	1CM	78-2	1CZ	6	
447	9.00	96.75	70-2	1CM	70-2	1CM	6	
448	9.00	145.25	69-3	1CM	69-3	1CM	9	
449	9.00	145.50	73-2	1CZ	83-3	1CP	9	
450	9.00	150.50	72-3	1CZ	79-4	1CP	9	

(a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.

(b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.

(c) - "R" denotes a board from second and third saw mills.

(d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 12.--Board information report for No. 1 Common lumber

Board number	Measured		Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
	width (inches)	Length (inches)	% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
451	9.00	169.75	69-3	1CM	80-4	1CP	10 or 11	1C
452	9.00	192.25	68-2	1CM	89-4	1CPR	12	
453	9.00	193.00	72-4	1CZ	72-4	1CZ	12	
454	9.25	72.00	68-1	1CM	68-1	1CM	5	
455	9.25	97.00	72-2	1CZ	85-3	1CPR	6	
456	9.25	99.25	76-3	1CZ	76-3	1CZ	6	
457	9.25	120.00	72-1	1CZ	78-3	1CZ	8	
458	9.25	120.75	67-3	1CM	67-3	1CM	8	
459	9.25	121.75	67-3	1CM	75-4	1CZ	8	
460	9.25	145.25	67-2	1CM	78-4	1CZ	9	
461	9.25	145.25	68-3	1CM	68-3	1CM	9	
462	9.25	169.00	69-4	1CM	69-4	1CM	11	
463	9.25	169.25	67-4	1CM	67-4	1CM	11	
464	9.25	169.50	75-3	1CZ	75-3	1CZ	11	
465	9.25	169.75	76-2	1CZ	84-4	1CP	11	
466	9.25	170.00	71-3	1CM	74-4	1CZ	11	
467	9.25	170.75	68-3	1CM	75-4	1CZ	11	
468	9.25	193.25	73-4	1CZ	73-4	1CZ	12	
469	9.50	50.75	76-1	1CZ	82-2	1CP	3	
470	9.50	84.00	70-1	1CM	81-2	1CP	6	
471	9.50	96.50	67-1	1CM	76-3	1CZ	6	
472	9.50	97.25	76-3	1CZ	76-3	1CZ	6	
473	9.50	97.25	68-3	1CM	68-2	1CM	6	
474	9.50	97.75	67-2	1CM	77-3	1CZ	6	
475	9.50	98.50	75-2	1CZ	87-3	1CP	6	
476	9.50	120.25	69-2	1CM	80-3	1CP	8	
477	9.50	121.50	68-3	1CM	68-3	1CM	8	
478	9.50	121.50	71-3	1 CM	71-3	1CM	8	
479	9.50	121.50	69-2	1CM	86-3	1CP	8	
480	9.50	144.50	73-2	1CZ	95-4	1CP	9 or 10	1C
481	9.50	145.00	72-2	1CZ	81-4	1CP	9 or 10	1C
482	9.50	145.25	72-2	1CZ	74-3	1CZ	9 or 10	1C
483	9.50	168.75	68-2	1CM	90-4	1CP	11	
484	9.50	169.00	75-3	1CZ	83-4	1CP	11	
485	9.50	169.25	68-3	1CM	68-3	1CM	11	
486	9.50	192.50	67-4	1CM	67-4	1CMR	13	
487	9.75	72.00	70-2	1CM	77-3	1CZ	5	
488	9.75	75.25	77-1	1CZ	90-2	1CP	5	
489	9.75	96.50	76-3	1CZ	76-3	1CZ	6 or 7	2A
490	9.75	120.75	72-2	1CZ	94-4	1CP	8	
491	9.75	121.00	68-3	1CM	75-4	1CZR	8	
492	9.75	121.25	68-3	1CM	68-3	1CM	8	
493	9.75	121.75	67-3	1CM	67-3	1CM	8	
494	9.75	144.75	69-2	1CM	75-3	1CZ	10	
495	9.75	145.25	72-3	1CZ	72-3	1CZ	10	
496	9.75	145.50	69-3	1CM	77-4	1CZ	10	
497	9.75	168.75	73-3	1CZ	73-3	1CZR	11	
498	9.75	168.75	80-3	1CP	80-3	1CPR	11	
499	9.75	169.00	77-3	1CZ	81-4	1CP	11	
500	9.75	169.50	67-3	1 CM	74-4	1Cz	11	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
- (d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 12.--Board information report for No. 1 Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
501	9.75	169.75	69-3	1CM	69-3	1CM	11	
502	9.75	192.75	72-1	1CZ	89-4	1CP	13	
503	9.75	192.75	70-3	1CM	75-4	1CZR	13	
504	10.00	48.00	67-1	1CM	67-1	1CM	3	
505	10.00	48.00	85-1	1CP	92-2	1CP	3	
506	10.00	72.75	67-2	1CM	67-2	1CM	5	
507	10.00	73.25	68-2	1CM	76-2	1CZ	5	
508	10.00	74.75	71-1	1CM	71-1	1CM	5	
509	10.00	96.00	76-2	1CZ	76-2	1CZ	7	
510	10.00	96.25	68-2	1CM	68-2	1CM	7	
511	10.00	120.25	76-2	1CZ	80-3	1CP	8	
512	10.00	120.50	68-3	1CM	68-3	1CM	8	
513	10.00	121.50	69-3	1CM	69-3	1CM	8	
514	10.00	121.50	72-3	1CZ	72-3	1CZ	8	
515	10.00	121.75	72-2	1CZ	72-2	1CZ	8	
516	10.00	144.75	73-2	1CZ	93-4	1CP	10	
517	10.00	168.50	72-2	1CZ	88-4	1CP	12	
518	10.00	169.75	68-3	1CM	76-3	1CZ	12	
519	10.25	94.50	77-3	1CZ	77-3	1CZ	6	
520	10.25	96.50	84-2	1CP	84-2	1CP	7	
521	10.25	97.25	69-2	1CM	84-1	1CPR	7	
522	10.25	121.00	68-3	1CM	76-4	1CZ	9	
523	10.25	121.75	81-2	1CP	81-2	1CP	9	
524	10.25	144.75	68-3	1CM	75-4	1CZ	10	
525	10.25	144.75	88-2	1CP	97-4	1CP	10	
526	10.25	193.50	73-5	1CZ	81-5	1CP	14	
527	10.50	96.50	68-2	1CM	68-2	1CM	7	
528	10.50	97.50	74-2	1CZ	74-2	1CZ	7	
529	10.50	120.00	69-3	1CM	78-4	1CZ	9	
530	10.50	120.50	68-3	1CM	78-4	1CZ	9	
531	10.50	144.75	67-3	1CM	67-3	1CM	10 or 11	2A
532	10.50	144.75	74-1	1CZ	88-4	1CP	10 or 11	1C
533	10.50	169.00	67-3	1CM	72-4	1CZ	12	
534	10.50	193.00	69-4	1CM	72-5	1CZ	14	
535	10.75	55.75	72-2	1CZ	72-2	1CZ	4	
536	10.75	94.75	69-2	1CM	80-3	1CP	6	
537	10.75	96.00	67-1	1CM	79-2	1CP	7	
538	10.75	97.50	72-2	1CZ	72-2	1CZ	7	
539	10.75	97.50	77-3	1CZ	84-3	1CP	7	
540	10.75	97.75	74-2	1CZ	74-2	1CZ	7	
541	10.75	120.75	71-3	1CM	82-4	1CP	9	
542	10.75	121.50	67-3	1CM	84-4	1CP	9	
543	10.75	168.25	68-3	1CM	77-4	1CZ	13	
544	11.00	48.75	71-1	1CM	81-2	1CP	4	
545	11.00	120.50	72-2	1CZ	82-3	1CP	9	
546	11.00	120.50	74-2	1CZ	74-2	1CZ	9	
547	11.00	120.75	67-3	1 CM	67-3	1CM	9	
548	11.00	121.50	67-3	1CM	67-3	1CM	9	
549	11.00	145.50	73-3	1CZ	73-3	1CZ	11	
550	11.00	168.50	69-2	1CM	82-4	1CP	13	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third sawmills.
- (d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 12.--Board information report for No. 1 Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
551	11.00	169.75	68-3	1 CM	75-4	1CZ	13	
552	11.25	73.00	72-1	1CZ	72-1	1CZR	6	
553	11.25	73.00	69-2	1CM	79-2	1CPR	6	
554	11.25	95.25	69-2	1CM	73-2	1CZ	7	
555	11.25	122.75	72-3	1CZ	81-4	1CP	9	
556	11.25	144.00	71-2	1CM	84-4	1CP	11	
557	11.25	168.25	71-3	1CM	77-4	1CZ	13	
558	11.25	169.50	89-2	1CP	91-4	1CP	13	
559	11.50	120.25	70-3	1CM	76-4	1CZ	10	
560	11.50	120.75	77-2	1CZ	77-2	1CZ	10	
561	11.50	168.50	72-3	1CZ	86-4	1CP	13	
562	11.50	193.25	69-2	1CM	84-5	1CP	15	
563	11.50	193.50	67-3	1CM	68-4	1CM	15	
564	11.75	96.00	69-3	1CM	69-3	1CM	8	
565	11.75	96.50	68-2	1CM	74-3	1CZ	8	
566	11.75	115.50	70-3	1CM	79-4	1CPR	9	
567	11.75	120.75	67-3	1CM	76-4	1CZ	10	
568	11.75	121.50	67-3	1CM	67-3	1CM	10	
569	11.75	192.25	67-2	1CM	86-5	1CP	16	
570	11.75	193.00	67-2	1CM	75-5	1CZ	16	
571	11.75	193.25	74-2	1CZ	80-4	1CP	16	
572	12.00	92.00	68-2	1CM	68-2	1CM	7	
573	12.00	96.50	67-3	1CM	73-3	1CZ	8	
574	12.00	145.00	71-3	1CM	77-4	1CZ	12	
575	12.00	145.50	83-2	1CP	83-2	1CP	12	
576	12.25	96.00	76-2	1CZ	76-2	1CZ	8	
577	12.25	109.25	68-3	1CM	68-3	1 CM	9	
578	12.25	145.25	67-3	1CM	78-4	1CZ	12	
579	12.25	145.25	69-4	1CM	69-4	1CM	12	
580	12.25	168.75	71-1	1CM	81-5	1CP	14	
581	12.50	121.50	77-2	1CZ	88-3	1CP	10	
582	12.50	121.50	67-3	1CM	76-4	1CZ	10	
583	12.50	144.75	73-3	1CZ	83-4	1CP	12 or 13	1C
584	12.50	145.25	74-3	1CZ	74-3	1CZ	12 or 13	1C
585	12.50	169.25	69-5	1CM	77-5	1CZ	15	
586	12.75	51.50	82-1	1CP	82-1	1CP	4	
587	12.75	96.50	69-3	1CM	69-3	1CM	8 or 9	2A
588	12.75	144.00	70-3	1CM	70-3	1CM	13	
589	12.75	169.25	69-3	1CM	77-5	1CZ	15	
590	13.00	108.00	76-2	1CZ	79-3	1CP	10	
591	13.00	145.00	67-3	1CM	72-3	1CZ	13	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
- (d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 13.--Board information report for No. 2A Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
1	4.00	96.75	51-1	2CM	63-2	2CP	3	
2	4.25	96.75	64-1	2CP	64-1	2CP	3	
3	4.25	122.75	68-2	2CP	68-2	2CP	4	
4	4.50	87.00	59-1	2CZ	59-1	2CZR	3	
5	4.50	168.75	59-2	2CZ	59-2	2CZR	5	
6	4.50	192.75	62-2	2CP	65-3	2CPR	6	
7	4.75	71.25	69-1	2CP	69-1	2CPR	2	
8	4.75	120.75	62-1	2CP	84-3	2CPR	4	
9	4.75	121.00	68-2	2CP	68-2	2CPR	4	
10	4.75	121.00	58-1	2CZ	74-3	2CPR	4	
11	4.75	168.75	54-2	2CM	69-3	2CPR	6	
12	4.75	180.50	61-2	2CZ	61-2	2CZR	6	
13	4.75	192.50	52-3	2CM	65-4	2CPR	6	
14	4.75	192.75	58-2	2CZ	65-3	2CPR	6	
15	5.00	72.00	71-1	2CP	71-1	2CPR	2 or 3	3A
16	5.00	96.75	60-1	2CZ	60-1	2CZ	3	
17	5.00	120.75	62-1	2CP	64-2	2CPR	4	
18	5.00	121.00	59-2	2CZ	59-2	2CZR	4	
19	5.00	121.00	66-2	2CP	66-2	2CP	4	
20	5.00	143.00	52-2	2CM	73-3	2CPR	5	
21	5.00	144.75	51-2	2CM	65-3	2CPR	5	
22	5.00	144.75	62-2	2CP	62-2	2CPR	5	
23	5.00	144.75	52-2	2CM	52-2	2CMR	5	
24	5.00	145.00	56-2	2CZ	56-2	2CZR	5	
25	5.00	145.00	52-1	2CM	60-2	2CZR	5	
26	5.00	168.25	61-2	2CZ	61-2	2CZ	6	
27	5.00	179.25	52-2	2CM	67-3	2CPR	6	
28	5.00	192.75	50-2	2CM	60-3	2CZR	7	
29	5.25	73.50	69-2	2CP	69-2	2CP	3	
30	5.25	88.25	55-1	2CZ	79-2	2CPR	3	
31	5.25	97.25	72-2	2CP	72-2	2CPR	3 or 4	2A
32	5.25	120.50	55-1	2CZ	83-3	2CPR	4	
33	5.25	120.75	63-1	2CP	73-2	2CPR	4	
34	5.25	120.75	66-2	2CP	66-2	2CP	4	
35	5.25	121.00	68-2	2CP	68-2	2CPR	4	
36	5.25	121.00	53-1	2CM	74-2	2CPR	4	
37	5.25	131.50	58-2	2CZ	58-2	2CZR	4	
38	5.25	143.25	62-2	2CP	62-2	2CP	5	
39	5.25	144.75	66-2	2CP	66-2	2CPR	5	
40	5.25	145.00	58-2	2CZ	58-2	2CZR	5	
41	5.25	145.25	56-2	2CZ	65-2	2CP	5	
42	5.25	148.00	50-2	2CM	68-3	2CP	5	
43	5.25	168.50	57-2	2CZ	71-3	2CPR	6	
44	5.25	168.75	50-2	2CM	67-3	2CPR	6	
45	5.25	169.00	60-3	2CZ	71-4	2CP	6	
46	5.25	169.00	63-2	2CP	71-3	2CP	6	
47	5.25	169.00	68-2	2CP	73-3	2CP	6	
48	5.25	169.25	51-3	2CM	51-3	2CM	6	
49	5.25	169.50	57-2	2CZ	60-2	2CZ	6	
50	5.25	193.75	58-3	2CZ	58-3	2CZ	7	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
- (d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 13.--Board information report for No. 2A Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
51	5.25	193.75	53-2	2CM	65-3	2CP	7	
52	5.50	52.00	65-1	2CP	65-1	2CP	2	
53	5.50	71.25	73-1	2CP	99-2	2CPR	2	
54	5.50	72.75	54-1	2CM	59-2	2CZ	3	
55	5.50	72.75	50-1	2CM	50-1	2CM	3	
56	5.50	79.50	55-1	2CZ	55-1	2CZ	3	
57	5.50	96.00	70-2	2CP	70-2	2CP	4	
58	5.50	96.25	65-1	2CP	79-2	2CP	4	
59	5.50	96.75	53-1	2CM	65-2	2CP	4	
60	5.50	96.75	51-1	2CM	57-2	2CZ	4	
61	5.50	96.75	51-1	2CM	69-2	2CP	4	
62	5.50	96.75	50-1	2CM	61-2	2CZ	4	
63	5.50	96.75	51-1	2CM	51-1	2CMR	4	
64	5.50	96.75	57-1	2CZ	66-2	2CP	4	
65	5.50	97.00	56-1	2CZ	68-2	2CPR	4	
66	5.50	97.00	62-2	2CP	62-2	2CP	4	
67	5.50	97.00	59-2	2CZ	59-2	2CZR	4	
68	5.50	97.00	51-2	2CM	65-2	2CPR	4	
69	5.50	97.25	50-1	2CM	60-2	2CZR	4	
70	5.50	97.75	56-2	2CZ	56-2	2CZ	4	
71	5.50	116.75	69-2	2CP	69-2	2CP	4	
72	5.50	120.25	52-2	2CM	56-2	2CZ	5	
73	5.50	120.75	50-1	2CM	60-2	2CZR	5	
74	5.50	120.75	51-2	2CM	51-2	2CM	5	
75	5.50	120.75	51-2	2CM	51-2	2CM	5	
76	5.50	121.00	51-1	2CM	51-1	2CM	5	
77	5.50	121.00	54-2	2CM	54-2	2CM	5	
78	5.50	121.00	53-2	2CM	53-2	2CM	5	
79	5.50	121.00	56-1	2CZ	73-2	2CPR	5	
80	5.50	121.00	65-2	2CP	65-2	2CPR	5	
81	5.50	121.00	51-2	2CM	51-2	2CMR	5	
82	5.50	121.00	55-2	2CZ	55-2	2CZR	5	
83	5.50	121.00	53-2	2CM	71-3	2CP	5	
84	5.50	126.50	55-2	2CZ	55-2	2CZR	5	
85	5.50	140.75	64-2	2CP	64-2	2CP	5	
86	5.50	144.75	60-2	2CZ	60-2	2CZR	5 or 6	3A
87	5.50	144.75	51-2	2CM	63-3	2CP	5 or 6	2A
88	5.50	145.00	59-2	2CZ	65-3	2CPR	5 or 6	2A
89	5.50	145.00	56-2	2CZ	56-2	2CZ	5 or 6	2A
90	5.50	145.00	60-2	2CZ	60-2	2CZ	5 or 6	2A
91	5.50	145.00	66-2	2CP	66-2	2CP	5 or 6	2A
92	5.50	145.00	52-1	2CM	66-2	2CP	5 or 6	2A
93	5.50	145.00	58-1	2CZ	72-2	2CPR	5 or 6	2A
94	5.50	145.00	56-1	2CZ	64-2	2CPR	5 or 6	2A
95	5.50	159.75	66-2	2CP	72-3	2CPR	6	
96	5.50	161.25	61-2	2CZ	76-3	2CP	6	
97	5.50	164.50	52-2	2CM	71-3	2CP	6	
98	5.50	166.25	55-2	2CZ	72-3	2CP	6	
99	5.50	166.75	51-2	2CM	69-3	2CP	6	
100	5.50	168.25	61-2	2CZ	61-2	2CZ	6	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
- (d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 13.--Board information report for No. 2A Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
101	5.50	168.25	56-2	2CZ	72-3	2CPR	6	
102	5.50	168.75	52-2	2CM	52-2	2CM	6	
103	5.50	168.75	58-3	2CZ	58-3	2CZR	6	
104	5.50	169.00	61-3	2CZ	61-3	2CZ	6	
105	5.50	169.00	53-2	2CM	67-3	2CP	6	
106	5.50	169.00	64-2	2CP	74-3	2CP	6	
107	5.50	169.00	54-2	2CM	61-3	2CZ	6	
108	5.50	169.00	59-2	2CZ	64-3	2CP	6	
109	5.50	169.25	66-3	2CP	66-3	2CP	6	
110	5.50	169.25	63-2	2CP	63-2	2CP	6	
111	5.50	169.25	66-3	2CP	66-3	2CP	6	
112	5.50	169.25	56-2	2CZ	64-3	2CP	6	
113	5.50	169.25	57-3	2CZ	57-3	2CZ	6	
114	5.50	169.25	57-2	2CZ	57-2	2CZ	6	
115	5.50	169.50	52-3	2CM	52-3	2CM	6	
116	5.50	169.75	50-2	2CM	64-3	2CP	6	
117	5.50	192.50	57-3	2CZ	67-4	2CPR	7	
118	5.50	192.50	56-3	2CZ	56-3	2CZR	7	
119	5.50	192.50	57-2	2CZ	67-3	2CPR	7	
120	5.50	193.50	56-2	2CZ	70-3	2CP	7	
121	5.50	193.50	53-3	2CM	53-3	2CM	7	
122	5.50	193.50	54-3	2CM	54-3	2CM	7	
123	5.50	193.50	57-3	2CZ	57-3	2CZ	7	
124	5.50	193.50	51-1	2CM	67-4	2CP	7	
125	5.50	193.75	61-3	2CZ	61-3	2CZ	7	
126	5.75	73.00	52-1	2CM	71-2	2CPR	3	
127	5.75	85.50	66-1	2CP	78-2	2CPR	3	
128	5.75	96.00	60-2	2CZ	73-2	2CPR	4	
129	5.75	96.00	53-2	2CM	68-3	2CPR	4	
130	5.75	96.25	59-1	2CZ	78-2	2CP	4	
131	5.75	96.75	61-1	2CZ	71-4	2CPR	4	
132	5.75	96.75	56-2	2CZ	56-2	2CZ	4	
133	5.75	96.75	56-2	2CZ	61-2	2CZ	4	
134	5.75	96.75	55-1	2CZ	66-2	2CP	4	
135	5.75	96.75	54-2	2CM	73-3	2CP	4	
136	5.75	97.00	55-1	2CZ	62-2	2CPR	4	
137	5.75	97.00	63-1	2CP	63-1	2CP	4	
138	5.75	97.25	73-2	2CP	73-2	2CPR	4	
139	5.75	97.25	61-2	2CZ	75-3	2CPR	4	
140	5.75	98.25	67-2	2CP	67-2	2CP	4	
141	5.75	100.25	55-1	2CZ	70-2	2CPR	4	
142	5.75	114.75	73-2	2CP	73-2	2CP	4	
143	5.75	118.75	53-2	2CM	53-2	2CMR	4	
144	5.75	120.00	57-2	2CZ	57-2	2CZ	5	
145	5.75	120.25	53-2	2CM	53-2	2CM	5	
146	5.75	120.50	51-2	2CM	51-2	2CM	5	
147	5.75	120.50	61-2	2CZ	61-2	2CZ	5	
148	5.75	120.75	66-2	2CP	66-2	2CPR	5	
149	5.75	120.75	52-2	2CM	73-3	2CP	5	
150	5.75	120.75	54-2	2CM	70-3	2CPR	5	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
- (d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 13.--Board information report for No. 2A Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
151	5.75	121.00	61-1	2CZ	76-3	2CPR	5	
152	5.75	121.00	62-2	2CP	62-2	2CPR	5	
153	5.75	121.00	56-2	2CZ	56-2	2CZ	5	
154	5.75	121.00	52-1	2CM	57-2	2CZR	5	
155	5.75	121.00	52-2	2CM	52-2	2CMR	5	
156	5.75	121.00	52-2	2CM	52-2	2CM	5	
157	5.75	121.00	56-2	2CZ	73-3	2CP	5	
158	5.75	121.00	65-1	2CP	65-1	2CP	5	
159	5.75	121.00	58-2	2CZ	58-2	2CZ	5	
160	5.75	121.00	57-1	2CZ	63-2	2CPR	5	
161	5.75	122.50	66-1	2CP	66-1	2CP	5	
162	5.75	129.75	57-2	2CZ	69-3	2CPR	5	
163	5.75	144.00	62-2	2CP	71-3	2CP	6	
164	5.75	144.75	57-2	2CZ	57-2	2CZ	6	
165	5.75	144.75	50-3	2CM	55-3	2CZ	6	
166	5.75	144.75	61-2	2CZ	69-3	2CPR	6	
167	5.75	144.75	55-1	2CZ	62-2	2CPR	6	
168	5.75	144.75	58-3	2CZ	58-3	2CZ	6	
169	5.75	144.75	59-2	2CZ	71-3	2CPR	6	
170	5.75	145.00	51-3	2CM	51-3	2CM	6	
171	5.75	145.00	52-2	2CM	52-2	2CM	6	
172	5.75	145.00	63-3	2CP	63-3	2CP	6	
173	5.75	145.00	51-3	2CM	51-3	2CM	6	
174	5.75	145.00	59-2	2CZ	59-2	2CZR	6	
175	5.75	145.00	60-2	2CZ	74-3	2CP	6	
176	5.75	168.00	51-2	2CM	61-3	2CZ	7	
177	5.75	168.25	69-3	2CP	77-4	2CP	7	
178	5.75	168.50	51-2	2CM	58-3	2CZ	7	
179	5.75	168.50	50-3	2CM	62-3	2CPR	7	
180	5.75	168.75	58-1	2CZ	71-3	2CPR	7	
181	5.75	168.75	64-2	2CP	71-3	2CPR	7	
182	5.75	168.75	58-2	2CZ	69-3	2CPR	7	
183	5.75	168.75	51-3	2CM	51-3	2CMR	7	
184	5.75	169.00	52-2	2CM	52-2	2CM	7	
185	5.75	169.00	58-2	2CZ	73-3	2CP	7	
186	5.75	169.25	51-3	2CM	59-3	2CZ	7	
187	5.75	169.25	54-2	2CM	54-2	2CM	7	
188	5.75	169.25	53-2	2CM	65-3	2CP	7	
189	5.75	190.00	59-2	2CZ	67-4	2CPR	7	
190	5.75	192.25	55-3	2CZ	66-4	2CPR	8	
191	5.75	192.50	52-3	2CM	55-3	2CZR	8	
192	5.75	193.25	51-2	2CM	51-2	2CM	8	
193	5.75	193.50	52-2	2CM	58-3	2CZ	8	
194	5.75	193.50	51-3	2CM	61-4	2CZ	8	
195	5.75	193.50	53-3	2CM	56-4	2CZ	8	
196	6.00	50.50	66-1	2CP	66-1	2CP	2	
197	6.00	72.75	56-1	2CZ	73-2	2CPR	3	
198	6.00	73.00	56-1	2CZ	71-2	2CPR	3	
199	6.00	73.25	51-1	2CM	78-2	2CPR	3	
200	6.00	75.75	63-1	2CP	63-1	2CPR	3	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
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Table 13.--Board information report for No. 2A Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
201	6.00	76.00	50-1	2CM	72-2	2CPR	3	
202	6.00	97.00	65-2	2CP	65-2	2CPR	4	
203	6.00	97.00	62-2	2CP	62-2	2CPR	4	
204	6.00	97.00	68-2	2CP	68-2	2CPR	4	
205	6.00	97.00	53-2	2CM	53-2	2CMR	4	
206	6.00	97.00	52-1	2CM	86-3	2CPR	4	
207	6.00	97.00	51-2	2CM	58-2	2CZR	4	
208	6.00	97.00	58-1	2CZ	58-1	2CZR	4	
209	6.00	97.25	51-1	2CM	80-3	2CPR	4	
210	6.00	97.25	56-1	2CZ	68-2	2CPR	4	
211	6.00	108.00	57-2	2CZ	57-2	2CZR	4 or 5	3A
212	6.00	108.75	62-1	2CP	62-1	2CP	4 or 5	2A
213	6.00	119.00	51-1	2CM	65-2	2CPR	4 or 5	2A
214	6.00	120.50	60-2	2CZ	60-2	2CZR	5	
215	6.00	120.75	58-2	2CZ	65-3	2CPR	5	
216	6.00	120.75	61-2	2CZ	61-2	2CZ	5	
217	6.00	120.75	63-2	2CP	63-2	2CPR	5	
218	6.00	120.75	54-2	2CM	54-2	2CMR	5	
219	6.00	121.00	66-2	2CP	66-2	2CPR	5	
220	6.00	121.25	59-1	2CZ	69-2	2CPR	5	
221	6.00	125.75	65-2	2CP	65-2	2CP	5	
222	6.00	144.75	52-2	2CM	73-3	2CPR	6	
223	6.00	144.75	51-3	2CM	51-3	2CMR	6	
224	6.00	144.75	51-2	2CM	67-4	2CPR	6	
225	6.00	145.00	57-2	2CZ	66-3	2CPR	6	
226	6.00	145.00	57-2	2CZ	62-3	2CP	6	
227	6.00	145.00	51-3	2CM	51-3	2CM	6	
228	6.00	145.00	58-2	2CZ	58-2	2CZR	6	
229	6.00	145.00	57-3	2CZ	57-3	2CZR	6	
230	6.00	168.25	58-2	2CZ	70-3	2CPR	7	
231	6.00	168.25	52-3	2CM	52-3	2CMR	7	
232	6.00	168.50	52-3	2CM	66-4	2CPR	7	
233	6.00	168.50	58-3	2CZ	58-3	2CZR	7	
234	6.00	168.50	52-3	2CM	62-4	2CPR	7	
235	6.00	168.75	53-2	2CM	70-3	2CPR	7	
236	6.00	192.50	53-3	2CM	63-4	2CPR	8	
237	6.00	193.50	54-2	2CM	68-4	2CP	8	
238	6.25	66.25	52-1	2CM	52-1	2CM	3	
239	6.25	94.75	70-2	2CP	75-3	2CPR	4	
240	6.25	96.50	54-1	2CM	72-2	2CPR	4	
241	6.25	97.00	56-1	2CZ	56-1	2CZR	4	
242	6.25	97.00	63-2	2CP	63-2	2CPR	4	
243	6.25	97.25	53-2	2CM	68-3	2CPR	4	
244	6.25	97.25	71-2	2CP	71-2	2CPR	4	
245	6.25	97.25	58-2	2CZ	58-2	2CZR	4	
246	6.25	98.50	58-1	2CZ	66-2	2CPR	4	
247	6.25	119.00	60-2	2CZ	60-2	2CZR	5	
248	6.25	120.75	56-2	2CZ	56-2	2CZR	5	
249	6.25	120.75	52-2	2CM	52-2	2CMR	5	
250	6.25	120.75	56-2	2CZ	73-3	2CPR	5	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third sawmills.
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Table 13.--Board information report for No. 2A Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. No. of cuttings	Grade(c)		
251	6.25	121.00	66-2	2CP	66-2	2CPR	5	
252	6.25	121.00	54-2	2CM	54-2	2CM	5	
253	6.25	121.00	52-2	2CM	71-3	2CP	5	
254	6.25	121.00	56-2	2CZ	61-2	2CZR	5	
255	6.25	121.25	59-2	2CZ	59-2	2CZR	5	
256	6.25	121.50	53-2	2CM	53-2	2CMR	5	
257	6.25	141.00	51-2	2CM	62-3	2CP	6	
258	6.25	144.75	52-2	2CM	64-3	2CPR	6	
259	6.25	144.75	51-3	2CM	58-3	2CZR	6	
260	6.25	144.75	58-2	2CZ	68-3	2CPR	6	
261	6.25	144.75	57-2	2CZ	57-2	2CZR	6	
262	6.25	144.75	51-2	2CM	69-3	2CPR	6	
263	6.25	145.00	52-1	2CM	77-4	2CPR	6	
264	6.25	145.00	55-2	2CZ	65-3	2CPR	6	
265	6.25	145.00	53-2	2CM	74-3	2CPR	6	
266	6.25	156.00	50-2	2CM	61-3	2CZR	7	
267	6.25	156.00	50-3	2CM	56-3	2CZR	7	
268	6.25	168.50	55-3	2CZ	70-4	2CPR	7	
269	6.25	168.75	55-2	2CZ	67-3	2CPR	7	
270	6.25	178.75	53-2	2CM	63-3	2CPR	7	
271	6.25	192.50	51-3	2CM	61-4	2CZR	8	
272	6.50	60.50	61-1	2CZ	61-1	2CZR	3	
273	6.50	72.75	63-1	2CP	63-1	2CP	3	
274	6.50	96.00	53-2	2CM	53-2	2CMR	4	
275	6.50	96.25	54-2	2CM	54-2	2CM	4	
276	6.50	96.75	63-2	2CP	63-2	2CP	4	
277	6.50	97.00	60-1	2CZ	64-2	2CPR	4	
278	6.50	97.00	52-1	2CM	63-2	2CPR	4	
279	6.50	97.00	66-1	2CP	80-3	2CPR	4	
280	6.50	97.25	56-2	2CZ	56-2	2CZR	4	
281	6.50	97.50	63-1	2CP	74-2	2CP	4	
282	6.50	120.00	53-1	2CM	67-3	2CP	5	
283	6.50	120.75	65-2	2CP	73-3	2CPR	5	
284	6.50	121.00	61-1	2CZ	77-2	2CPR	5	
285	6.50	121.00	53-2	2CM	53-2	2CM	5	
286	6.50	121.00	58-2	2CZ	58-2	2CZR	5	
287	6.50	144.50	54-3	2CM	54-3	2CMR	6 or 7	3A
288	6.50	144.75	54-2	2CM	74-3	2CPR	6 or 7	2A
289	6.50	144.75	59-3	2CZ	72-4	2CP	6 or 7	2A
290	6.50	145.00	62-3	2CP	62-3	2CP	6 or 7	2A
291	6.50	145.00	51-2	2CM	70-3	2CPR	6 or 7	2A
292	6.50	145.00	56-2	2CZ	61-3	2CZR	6 or 7	2A
293	6.50	168.75	58-3	2CZ	58-3	2CZR	8	
294	6.50	168.75	51-2	2CM	66-4	2CPR	8	
295	6.50	192.50	51-3	2CM	62-4	2CPR	9	
296	6.50	192.50	52-3	2CM	74-4	2CPR	9	
297	6.75	86.00	63-1	2CP	67-2	2CPR	4	
298	6.75	96.25	54-1	2CM	58-2	2CZ	4 or 5	2A
299	6.75	96.25	63-1	2CP	63-1	2CP	4 or 5	2A
300	6.75	96.75	60-1	2CZ	74-2	2CPR	4 or 5	2A

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
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Table 13.--Board information report for No. 2A Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
301	6.75	96.75	52-2	2CM	64-2	2CP	4 or 5	2A
302	6.75	97.00	65-2	2CP	65-2	2CPR	4 or 5	2A
303	6.75	97.25	59-1	2CZ	66-2	2CPR	4 or 5	2A
304	6.75	118.50	65-2	2CP	65-2	2CPR	5	
305	6.75	120.50	53-2	2CM	53-2	2CM	6	
306	6.75	120.75	52-2	2CM	63-3	2CPR	6	
307	6.75	120.75	52-2	2CM	52-2	2CMR	6	
308	6.75	120.75	51-2	2CM	60-3	2CZR	6	
309	6.75	120.75	54-2	2CM	54-2	2CMR	6	
310	6.75	120.75	55-2	2CZ	62-3	2CP	6	
311	6.75	121.00	54-3	2CM	54-3	2CMR	6	
312	6.75	121.00	53-1	2CM	68-3	2CPR	6	
313	6.75	123.25	51-3	2CM	62-3	2CP	6	
314	6.75	144.50	66-2	2CP	66-2	2CPR	7	
315	6.75	144.75	51-3	2CM	68-4	2CPR	7	
316	6.75	144.75	60-2	2CZ	69-3	2CP	7	
317	6.75	144.75	66-2	2CP	73-4	2CPR	7	
318	6.75	145.00	56-2	2CZ	67-3	2CPR	7	
319	6.75	145.00	52-3	2CM	67-4	2CPR	7	
320	6.75	169.50	51-3	2CM	64-4	2CP	8	
321	6.75	192.50	51-3	2CM	64-4	2CPR	9	
322	6.75	193.25	51-3	2CM	56-4	2CZ	9	
323	7.00	73.00	61-1	2CZ	70-2	2CPR	3 or 4	2A
324	7.00	73.00	74-2	2CP	74-2	2CPR	3 or 4	2A
325	7.00	96.00	54-2	2CM	54-2	2CMR	5	
326	7.00	96.25	59-2	2CZ	64-2	2CP	5	
327	7.00	97.50	50-2	2CM	74-3	2CP	5	
328	7.00	98.25	54-2	2CM	74-3	2CP	5	
329	7.00	120.75	51-1	2CM	63-3	2CPR	6	
330	7.00	120.75	52-3	2CM	52-3	2CMR	6	
331	7.00	120.75	65-2	2CP	65-2	2CP	6	
332	7.00	120.75	58-2	2CZ	58-2	2CZR	6	
333	7.00	120.75	62-2	2CP	62-2	2CPR	6	
334	7.00	121.00	61-3	2CZ	61-3	2CZR	6	
335	7.00	121.00	56-2	2CZ	69-3	2CPR	6	
336	7.00	144.75	51-2	2CM	66-3	2CP	7	
337	7.00	144.75	50-2	2CM	50-2	2CMR	7	
338	7.00	144.75	57-3	2CZ	67-3	2CPR	7	
339	7.00	144.75	60-2	2CZ	67-3	2CPR	7	
340	7.00	144.75	61-3	2CZ	67-4	2CPR	7	
341	7.00	145.00	58-2	2CZ	58-2	2CZ	7	
342	7.00	145.00	53-3	2CM	68-4	2CP	7	
343	7.00	154.00	52-2	2CM	71-4	2CP	7	
344	7.00	156.00	53-4	2CM	55-4	2CZR	8	
345	7.00	168.75	52-3	2CM	67-4	2CPR	8	
346	7.00	169.00	59-2	2CZ	72-4	2CP	8	
347	7.00	192.50	50-2	2CM	67-4	2CPR	9	
348	7.00	192.75	60-2	2CZ	67-3	2CPR	9	
349	7.25	72.75	60-1	2CZ	74-2	2CP	4	
350	7.25	78.00	66-2	2CP	84-3	2CPR	4	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
- (d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 13.--Board information report for No. 2A Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
351	7.25	96.25	52-2	2CM	52-2	2CM	5	
352	7.25	96.50	52-2	2CM	58-2	2CZ	5	
353	7.25	96.75	59-1	2CZ	59-1	2CZ	5	
354	7.25	96.75	66-2	2CP	66-2	2CP	5	
355	7.25	97.00	65-2	2CP	65-2	2CPR	5	
356	7.25	97.25	51-1	2CM	51-1	2CMR	5	
357	7.25	97.25	59-2	2CZ	59-2	2CZR	5	
358	7.25	97.50	51-2	2CM	51-2	2CMR	5	
359	7.25	109.75	54-1	2CM	59-2	2CZ	5	
360	7.25	120.50	53-2	2CM	59-3	2CZ	6	
361	7.25	120.50	56-2	2CZ	70-3	2CPR	6	
362	7.25	120.50	51-2	2CM	66-3	2CPR	6	
363	7.25	120.75	53-2	2CM	65-3	2CP	6	
364	7.25	120.75	55-2	2CZ	61-2	2CZ	6	
365	7.25	120.75	61-3	2CZ	61-3	2CZR	6	
366	7.25	120.75	53-2	2CM	53-2	2CM	6	
367	7.25	120.75	58-2	2CZ	72-3	2CPR	6	
368	7.25	121.00	61-2	2CZ	61-2	2CZR	6	
369	7.25	121.00	59-2	2CZ	67-3	2CPR	6	
370	7.25	121.00	60-2	2CZ	60-2	2CZR	6	
371	7.25	132.00	53-3	2CM	53-3	2CMR	7	
372	7.25	144.00	54-2	2CM	71-3	2CPR	7	
373	7.25	144.75	55-2	2CZ	55-2	2CZR	7	
374	7.25	144.75	55-2	2CZ	70-3	2CPR	7	
375	7.25	145.00	50-2	2CM	73-3	2CP	7	
376	7.25	168.25	56-3	2CZ	78-4	2CPR	8	
377	7.25	168.75	52-3	2CM	52-3	2CMR	8	
378	7.25	168.75	50-2	2CM	61-4	2CZR	8	
379	7.25	192.50	52-5	2CM	62-5	2CPR	10	
380	7.25	193.25	51-3	2CM	66-4	2CP	10	
381	7.50	88.00	64-2	2CP	73-3	2CP	4	
382	7.50	89.75	53-1	2CM	72-2	2CP	4	
383	7.50	97.00	52-2	2CM	52-2	2CMR	5	
384	7.50	97.00	65-1	2CP	65-1	2CP	5	
385	7.50	97.00	51-2	2CM	62-2	2CPR	5	
386	7.50	119.25	50-1	2CM	57-2	2CZR	6	
387	7.50	120.25	55-2	2CZ	64-3	2CP	6	
388	7.50	120.75	52-1	2CM	70-3	2CPR	6	
389	7.50	120.75	54-1	2CM	66-3	2CP	6	
390	7.50	120.75	54-2	2CM	61-3	2CZR	6	
391	7.50	120.75	55-2	2CZ	74-3	2CPR	6	
392	7.50	120.75	53-2	2CM	66-3	2CPR	6	
393	7.50	120.75	57-2	2CZ	57-2	2CZ	6	
394	7.50	121.00	52-2	2CM	62-3	2CPR	6	
395	7.50	121.00	54-1	2CM	64-2	2CP	6	
396	7.50	144.25	59-2	2CZ	73-3	2CP	7 or 8	2A
397	7.50	144.75	54-2	2CM	82-4	2CPR	7 or 8	2A
398	7.50	145.00	52-3	2CM	58-4	2CZR	7 or 8	2A
399	7.50	145.00	55-2	2CZ	92-4	2CP	7 or 8	2A
400	7.50	145.00	59-3	2CZ	59-3	2CZ	7 or 8	2A

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
- (d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 13.--Board information report for No. 2A Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
401	7.50	145.25	66-3	2CP	66-3	2CP	7 or 8	
402	7.50	169.25	56-3	2CZ	67-4	2CP	9	
403	7.50	169.25	56-3	2CZ	58-3	2CZ	9	
404	7.75	48.00	51-1	2CM	51-1	2CM	3	
405	7.75	53.50	52-1	2CM	52-1	2CM	3	
406	7.75	72.50	66-2	2CP	66-2	2CP	4	
407	7.75	96.25	51-2	2CM	51-2	2CM	5	
408	7.75	96.50	55-2	2CZ	55-2	2CZ	5	
409	7.75	96.50	64-2	2CP	80-3	2CP	5	
410	7.75	96.50	55-1	2CZ	68-2	2CP	5	
411	7.75	96.75	58-2	2CZ	64-2	2CP	5	
412	7.75	97.25	53-2	2CM	53-2	2CM	5	
413	7.75	109.50	59-2	2CZ	65-3	2CP	6	
414	7.75	118.00	58-3	2CZ	67-4	2CP	6	
415	7.75	118.75	54-2	2CM	68-3	2CPR	6	
416	7.75	120.00	51-2	2CM	62-3	2CP	6	
417	7.75	120.25	57-1	2CZ	57-1	2CZ	6	
418	7.75	120.75	51-3	2CM	51-3	2CM	6	
419	7.75	120.75	56-2	2CZ	68-3	2CP	6	
420	7.75	120.75	53-2	2CM	75-4	2CPR	6	
421	7.75	121.00	59-2	2CZ	80-4	2CP	6	
422	7.75	122.75	55-2	2CZ	72-3	2CP	6	
423	7.75	144.75	51-2	2CM	65-3	2CPR	8	
424	7.75	144.75	51-2	2CM	62-3	2CPR	8	
425	7.75	145.00	55-2	2CZ	70-4	2CPR	8	
426	7.75	145.00	52-3	2CM	66-4	2CP	8	
427	7.75	145.00	53-3	2CM	67-4	2CP	8	
428	7.75	169.25	52-3	2CM	61-4	2CZ	9	
429	7.75	169.25	53-3	2CM	58-4	2CZ	9	
430	7.75	169.50	59-3	2CZ	59-3	2CZ	9	
431	7.75	182.75	50-3	2CM	59-4	2CZ	10	
432	7.75	193.50	51-4	2CM	51-4	2CM	10	
433	8.00	72.75	54-2	2CM	54-2	2CM	4	
434	8.00	96.75	64-2	2CP	64-2	2CP	5	
435	8.00	96.75	53-2	2CM	53-2	2CM	5	
436	8.00	120.00	52-2	2CM	75-4	2CP	7	
437	8.00	120.00	61-2	2CZ	73-3	2CP	7	
438	8.00	120.50	54-2	2CM	63-3	2CP	7	
439	8.00	120.75	56-3	2CZ	60-3	2CZ	7	
440	8.00	120.75	58-3	2CZ	71-4	2CPR	7	
441	8.00	145.00	52-3	2CM	65-4	2CPR	8	
442	8.00	145.00	57-2	2CZ	73-4	2CP	8	
443	8.00	168.50	51-3	2CM	59-4	2CZ	9	
444	8.00	169.00	53-2	2CM	60-3	2CZ	9	
445	8.00	192.00	56-2	2CZ	66-4	2CPR	11	
446	8.00	193.00	51-3	2CM	64-5	2CP	11	
447	8.25	85.25	52-2	2CM	52-2	2CMR	5	
448	8.25	96.50	51-2	2CM	66-3	2CP	5 or 6	2A
449	8.25	97.00	53-2	2CM	62-2	2CP	5 or 6	2A
450	8.25	97.25	50-2	2CM	70-3	2CPR	5 or 6	2A

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
- (d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 13.--Board information report for No. 2A Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
451	8.25	97.25	52-2	2CM	66-2	2CPR	5 or 6	2A
452	8.25	120.75	66-3	2CP	66-3	2CPR	7	
453	8.25	124.25	63-2	2CP	69-3	2CP	7	
454	8.25	145.00	51-2	2CM	65-4	2CPR	8	
455	8.25	145.00	52-3	2CM	52-3	2CMR	8	
456	8.25	169.00	53-5	2CM	53-5	2CMR	10	
457	8.25	192.50	52-3	2CM	70-5	2CPR	11	
458	8.25	192.50	50-3	2CM	69-5	2CPR	11	
459	8.25	192.75	51-4	2CM	60-5	2CZR	11	
460	8.25	193.25	53-2	2CM	61-4	2CZ	11	
461	8.50	73.00	66-1	2CP	66-1	2CPR	4	
462	8.50	73.00	60-2	2CZ	60-2	2CZR	4	
463	8.50	96.75	59-2	2CZ	66-2	2CP	6	
464	8.50	96.75	54-1	2CM	66-2	2CP	6	
465	8.50	120.75	50-3	2CM	58-3	2CZ	7	
466	8.50	120.75	54-1	2CM	74-3	2CPR	7	
467	8.50	120.75	55-3	2CZ	55-3	2CZR	7	
468	8.50	144.75	59-3	2CZ	71-4	2CPR	8 or 9	2A
469	8.50	145.00	52-2	2CM	58-3	2CZ	8 or 9	2A
470	8.50	145.00	56-3	2CZ	74-5	2CP	8 or 9	2A
471	8.50	168.50	53-3	2CM	64-5	2CPR	10	
472	8.50	168.75	56-3	2CZ	69-5	2CPR	10	
473	8.50	193.25	50-2	2CM	72-4	2CP	11	
474	8.75	88.50	64-2	2CP	64-2	2CPR	5	
475	8.75	96.75	51-1	2CM	66-2	2CPR	6	
476	8.75	96.75	52-1	2CM	77-3	2CP	6	
477	8.75	96.75	51-3	2CM	64-3	2CPR	6	
478	8.75	97.00	52-2	2CM	52-2	2CMR	6	
479	8.75	97.25	56-1	2CZ	65-3	2CPR	6	
480	8.75	120.50	58-3	2CZ	58-3	2CZR	7	
481	8.75	120.75	53-3	2CM	53-3	2CM	7	
482	8.75	145.25	53-3	2CM	61-4	2CZ	9	
483	8.75	148.75	54-4	2CM	54-4	2CM	9	
484	8.75	192.75	60-3	2CZ	69-5	2CP	12	
485	9.00	96.25	51-1	2CM	66-3	2CP	6	
486	9.00	96.50	61-2	2CZ	68-3	2CP	6	
487	9.00	97.00	50-2	2CM	71-4	2CPR	6	
488	9.00	120.50	51-3	2CM	57-3	2CZ	7 or 8	2A
489	9.00	120.75	54-2	2CM	71-3	2CPR	7 or 8	2A
490	9.00	120.75	61-2	2CZ	68-3	2CPR	7 or 8	2A
491	9.00	169.75	52-3	2CM	61-5	2CZ	10 or 11	2A
492	9.00	192.50	51-3	2CM	78-6	2CPR	12	
493	9.00	193.75	51-6	2CM	51-6	2CM	12	
494	9.25	51.75	55-1	2CZ	76-2	2CP	3	
495	9.25	73.00	51-2	2CM	51-2	2CMR	5	
496	9.25	96.50	54-2	2CM	66-2	2CP	6	
497	9.25	96.50	66-2	2CP	75-3	2CP	6	
498	9.25	97.25	56-2	2CZ	61-2	2CZ	6	
499	9.25	120.50	58-3	2CZ	62-3	2CP	8	
500	9.25	121.00	53-3	2CM	64-4	2CP	8	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
- (d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 13.--Board information report for No. 2A Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
501	9.25	121.75	58-4	2CZ	58-4	2CZ	8	
502	9.25	145.00	56-2	2CZ	56-2	2CZ	9	
503	9.25	145.00	52-3	2CM	60-4	2CZR	9	
504	9.25	145.00	57-2	2CZ	70-4	2CP	9	
505	9.25	168.50	52-3	2CM	57-5	2CZ	11	
506	9.25	169.00	59-3	2CZ	65-4	2CP	11	
507	9.25	169.00	54-2	2CM	69-4	2CP	11	
508	9.25	169.25	52-3	2CM	61-4	2CZ	11	
509	9.25	169.25	52-2	2CM	67-5	2CP	11	
510	9.25	169.50	51-3	2CM	57-4	2CZ	11	
511	9.25	169.50	59-3	2CZ	59-3	2CZ	11	
512	9.25	180.75	54-2	2CM	69-6	2CP	12	
513	9.25	193.00	52-3	2CM	71-5	2CP	12	
514	9.25	193.00	52-4	2CM	82-6	2CP	12	
515	9.25	193.25	51-5	2CM	64-6	2CP	12	
516	9.50	97.25	51-3	2CM	51-3	2CM	6	
517	9.50	97.50	60-2	2CZ	71-3	2CP	6	
518	9.50	97.50	51-2	2CM	54-2	2CM	6	
519	9.50	97.75	58-1	2CZ	58-1	2CZ	6	
520	9.50	121.50	55-3	2CZ	62-3	2CP	8	
521	9.50	144.50	52-3	2CM	72-5	2CP	9 or 10	2A
522	9.50	147.75	59-3	2CZ	65-4	2CP	9 or 10	2A
523	9.50	169.50	57-3	2CZ	65-4	2CP	11	
524	9.75	96.50	56-2	2CZ	62-2	2CP	6 or 7	2A
525	9.75	97.25	61-2	2CZ	61-2	2CZ	6 or 7	2A
526	9.75	97.25	62-2	2CP	67-4	2CP	6 or 7	2A
527	9.75	97.25	56-2	2CZ	74-3	2CP	6 or 7	2A
528	9.75	121.00	55-2	2CZ	74-4	2CPR	8	
529	9.75	121.00	60-2	2CZ	68-3	2CPR	8	
530	9.75	121.50	77-3	2CP	77-3	2CP	8	
531	9.75	145.50	52-2	2CM	73-4	2CP	10	
532	10.00	96.25	50-2	2CM	57-3	2CZ	7	
533	10.00	96.50	57-1	2CZ	65-3	2CP	7	
534	10.00	97.00	55-2	2CZ	55-2	2CZ	7	
535	10.00	97.50	50-2	2CM	61-3	2CZ	7	
536	10.00	97.50	52-2	2CM	70-3	2CP	7	
537	10.00	97.75	57-3	2CZ	57-3	2CZ	7	
538	10.00	169.25	53-5	2CM	53-5	2CM	12	
539	10.25	72.75	51-1	2CM	55-2	2CZ	5	
540	10.25	96.50	52-2	2CM	66-3	2CP	7	
541	10.25	96.75	52-3	2CM	62-3	2CP	7	
542	10.25	96.75	55-2	2CZ	65-3	2CP	7	
543	10.25	97.00	53-3	2CM	58-3	2CZR	7	
544	10.25	97.00	50-3	2CM	61-3	2CZR	7	
545	10.25	97.25	52-2	2CM	61-3	2CZ	7	
546	10.25	97.50	56-2	2CZ	70-3	2CP	7	
547	10.25	120.75	55-2	2CZ	59-3	2CZ	9	
548	10.25	121.50	57-2	2CZ	64-3	2CP	9	
549	10.25	193.50	51-4	2CM	69-7	2CP	14	
550	10.25	193.50	51-4	2CM	67-5	2CP	14	

- (a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.
- (b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.
- (c) - "R" denotes a board from second and third saw mills.
- (d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Table 13.--Board information report for No. 2A Common lumber

Board number	Measured width (inches)	Length (inches)	Minimum grade (a)		Maximum grade (b)		Surface measure (feet)	Larger surf. measure grade (d)
			% S.M. & No. of cuttings	Grade	% S.M. & No. of cuttings	Grade(c)		
551	10.50	73.00	55-2	2CZ	55-2	2CZR	5	
552	10.50	96.25	56-2	2CZ	56-2	2CZ	7	
553	10.50	97.00	59-2	2CZ	74-3	2CPR	7	
554	10.50	145.50	53-3	2CM	56-4	2CZ	10 or 11	2A
555	10.75	96.75	52-2	2CM	72-4	2CP	7	
556	10.75	97.00	52-2	2CM	61-3	2CZ	7	
557	10.75	97.00	61-2	2CZ	68-3	2CP	7	
558	10.75	168.75	53-3	2CM	67-6	2CPR	13	
559	10.75	169.50	62-4	2CP	62-4	2CP	13	
560	11.00	91.75	53-2	2CM	79-4	2CPR	6	
561	11.00	121.50	50-2	2CM	60-4	2CZ	9	
562	11.00	144.75	51-3	2CM	66-5	2CP	11	
563	11.00	169.25	61-6	2CZ	61-6	2CZ	13	
564	11.00	169.50	50-5	2CM	59-6	2CZ	13	
565	11.00	169.50	61-3	2CZ	77-6	2CP	13	
566	11.25	145.00	56-3	2CZ	76-5	2CP	11	
567	11.50	96.75	57-3	2CZ	57-3	2CZ	8	
568	11.50	97.50	53-2	2CM	53-2	2CM	8	
569	11.50	144.75	53-3	2CM	65-4	2CPR	11 or 12	2A
570	11.50	169.50	54-3	2CM	63-5	2CP	13	
571	11.75	97.50	59-2	2CZ	66-3	2CP	8	
572	11.75	145.25	50-3	2CM	73-5	2CP	12	
573	11.75	145.25	52-3	2CM	59-4	2CZ	12	
574	12.00	97.50	55-2	2CZ	55-2	2CZ	8	
575	12.25	96.50	51-2	2CM	68-4	2CP	8	
576	12.25	193.00	53-3	2CM	62-5	2CP	16	
577	12.50	48.50	63-1	2CP	63-1	2CP	4	
578	12.75	97.50	52-2	2CM	58-3	2CZ	8 or 9	2A
579	12.75	145.25	57-3	2CZ	71-6	2CP	13	
580	12.75	169.50	53-3	2CM	69-6	2CP	15	

(a) - Minimum grade as determined by ReGS (Realistic Grading System) is the first computer solution found that meets the minimum requirements of the grade.

(b) - Maximum NHLA. Graded by hand from a to-scale plot of the board. Contains all cuttings up to the maximum allowed for the grade. S.M. is surface measure.

(c) - "R" denotes a board from second and third sawmills.

(d) - When board surface measure is half-way between consecutive standard feet, the minimum and maximum grades are determined with the smaller surface measure. Grades in this column are determined with the larger surface measure.

Gatchell, Charles J.; Wiedenbeck, Janice K.; Walker, Elizabeth S. 1992.
1992 data bank for red oak lumber. Res. Pap. NE-669. Radnor, PA:
U.S. Department of Agriculture, Forest Service, Northeastern Forest
Experiment Station. 47 p.

Written for researchers and industrial decision makers who may have only a limited knowledge of the National Hardwood Lumber Association grades, the data bank contains a limited description of factors affecting the grades. Included are a description of ReGS, the computer program for grading lumber; some reasons why lumber users who buy kiln-dried lumber may want to specify the Special Kiln Dried Rule; the effect of kiln drying on soundness of knots; and the surprising finding that relatively few No. 1 Common and No. 2A Common boards contain any pith at all. The data bank contains a total of 1,578 fully described boards in FAS, Selects, No. 1 Common, and No. 2A Common grades.

Keywords: ReGS, HaLT2, lumber processing, board quality, lumber data bank, lumber grades

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