PROGRESS REPORT PREPARATION
FOR NATIONAL FOREST TIMBER SALES

by

HAL E. GOODYEAR

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TABLE OF CONTENTS

	Page
INTRODUCTION	1
OBJECTIVES	2
REPORT PREPARATION	3
DESCRIPTION OF THE OPERATION	3
BOUNDARY MARKING	3
VOLUME CUT AND VALUE	4
SIZE OF AVERAGE LOG	5
AVERAGE CUT PER ACRE	5
ACREAGE CUTOVER BY YEARS	6
AVAILABLE COMPARISON WITH CRUISE	6
MARKING (PONDEROSA PINE TYPE-DOUGLAS-FIR SELECTION CUTTING)	7
MARKING (DOUGLAS FIR TYPE)	7
UTILIZATION	9
LOG GRADES	10
FIRE PREVENTION	11
SLASH DISPOSAL	12
SCALING	13
TYPE OF OPERATION	14
OUTPUT PER DAY	15
COSTS	16
SELLING PRICE	18
WAGE SCALE	19
LIVING CONDITIONS	20
APPENDIX	21
Sample Progress Report	22

APPENDIX (Cont.)

Progress Report Outline. 40

Scale Book Summary Sheet 43

BIBLIOGRAPHY. 44

PROGRESS REPORT PREPARATION FOR NATIONAL FOREST TIMBER SALES

INTRODUCTION

This thesis is the result of the author's experience in preparing annual progress reports on Class D* and E** timber sales on National Forest land. Here it was recognized that there are many small items, very necessary to the preparation of an acceptable report, that are left to chance or to guesswork. To speed up the preparation of accurate and consistent reports this paper hopes to set forth the means and methods by which the gathering of these data can be accomplished on western Oregon forests.

The form for an annual progress report is standardized and fully outlined in the U.S.F.S. Timber Management Handbook, however, there is need for further detailed information that will assist the individual Timber Sale Officer in the report preparation. It is impossible for the Handbook to go further into detail, and it is hoped that this paper will act as an additional guide for new or prospective timber sale officers.

*Class "D" sale - in Region 6; a sale authorized by the Regional Forester and not exceeding 50 MM b.f.m. in volume.

**Class "E" sale - in Region 6; a sale authorized by the Chief Forester and over 50 MM b.f.m. in volume.

OBJECTIVES

1. To inform future National Forest timber sale officers of the data that must be collected for preparation of timber sale progress reports.
2. To give instructions and suggestions on how to obtain these data in the most practicable manner for incorporation into the report.
3. To show how the information is incorporated into an acceptable report by an example.

PROGRESS REPORT PREPARATION

The progress report outline* will be taken by individual paragraphs, explained and suggestions made for writing up the report. Continued reference to the sample report will assist the reader in visualizing various steps in the procedure.

Description of the Operation

This should include the name of the timber buyer, date of the sale, location and legal description, and any subsequent changes or transfer of the sale agreement. Include pertinent information that will give the reviewer a picture of the setup and the area; such as the disposal of logs if sold on the open market, peculiar operating conditions, unusual equipment, etc.

Since sales are often more than one year's duration, the succeeding reports need not contain repetition of data and explanations given in a previous report, except where expressly called for.

Boundary Marking

(a) It is the policy at present to have the cutting units (west side sales), selective or clearcut, marked out before the timber is sold, but occasions will arise where

boundary marking will be done in conjunction with cutting. That is, far enough in advance so that proper logging plans can be made.

(b) In comparing the administrative (actual logging) boundary with the marked boundary as originally laid out, reasons should be given for the deviation, if any. Marked or posted boundaries are not absolute unless they are property lines, but merely act as a guide, and for good cause can be changed as logging progresses.

It is advisable to run "40" lines as they greatly assist in orientation and also act as controls in unit sizes. Often the cutting units must be held to a definite area to conform to the watershed's logging plan.

Since cutting unit boundaries seldom follow rectangular subdivision lines, but rather the natural breaks (for fire line construction and yarding limits), the boundaries of the unit must be accurately plotted in order to perform the required computations.

Volume Cut and Value

To give a clear picture of the timber production to date and for the past year, two tables can be made up from the scaler's monthly reports* showing the species, percentage of the total volume, stumpage value by species, total weighted stumpage value, total volume cut for the current

*Form 820

year, and the cumulative grand total. Outside of the production cost data, these tables are probably the most important information in the report.

Size of Average Log

Although the size of the average log is all that is called for here, it might be well to include a table of the percentages of defect in logs scaled for the year. A study of the average sizes of the logs in volume, length, diameter, and defect often reflects changes in methods, utilization, and markets that are of interest.

As scale books are sent in when completed it is difficult to obtain this data unless some sort of running account or summary of the books is kept. The summary sheet in the appendix is offered as a convenient method of listing the needed data.

Average Cut per Acre

Obviously the volume removed is divided by the acreage cutover. An accurate mapping job of the cutover area to ascertain the correct acreage is the problem. A good map of the cutting unit when first laid out is most helpful, and any alterations made during logging can be easily plotted.

It is helpful if the scaler notes in the scale books and on the summary sheet the volume of each species by

landings. This is comparatively simple if only one side is operating, but the effort on the latter is hardly worth while when acreage and volumes are all that are necessary.

The average cut per acre for the current year and the total for the sale should be given. The volumes are again taken from the monthly cutting reports.

Acreage Cutover by Years

This acreage is the total acreage used in calculating the average cut per acre. The acreage cutover by preceding years should be given. This acreage tabulated by individual years is indicative of the rate at which the sale is being consummated.

Most timber sales specify a certain volume "more or less," and the sale areas are either laid out on the map or on the ground. The sale area is much more closely adhered to than the volume specified, and any significant change in acreage must be fully explained.

Available Comparison with Cruise

Here again the area of the cutting units are used. The cutting lines seldom follow the subdivision lines, therefore the "40" volumes (if available) must be proportioned to the area cutover. The original cruise is used as the base in calculating the percentage of overcut and undercut. If the cruise volumes are for larger areas than

40 acres, the average volume per acre of cruise can be compared with the volume cut per acre if no other comparison is possible - and assuming the timber type is uniform.

Marking (Ponderosa Pine Type and Douglas-fir Selection Cutting.

As this paper is written for west side forests, tree marking in ponderosa pine types will not be discussed.

Although selective cutting is not often practiced on the west side, occasions may arise where there is a stand containing scattered, large, oldgrowth Douglas-fir that must be removed, or where a thinning operation is in progress. Some of the details of operations of these types that are of interest are; the total acreage or number of cutting units in which tree marking has been completed, percentage of the volume per acre marked, percentage of the volume per acre removed, and the percentage of the gross volume per acre left in the residual stand. The percentage of the volume destroyed in logging should be discussed under "Damage" in Paragraph 10 of the Progress Report outline. Include discussion of any apparent silvicultural problems for possible remedial action.

Marking (Douglas-fir Type)

The chief concern in tree marking in this type is the provision for seed. Actually, since most areas on the west

side are clear-cut, the only tree marking necessary is perhaps marking trees for seed sources prior to falling, or marking additional trees to fall after the first falling has been done. Marking defective trees to be felled to open up a heavy residual stand is sometimes undertaken to insure adequate Douglas-fir reproduction. This should not be done promiscuously without thought to some sort of salvage plan for the sound logs. Marking, for the most part, resolves itself to cutting unit marking rather than individual tree marking in the National Forest Douglas-fir type.

Damage

Explanation should be made of all damage from falling; to young timber in selectively cut areas, to other timber from falling trees into green strips, from poor falling on road right-of-way, etc. Damage from equipment used in yarding, especially "cat" logging in selective areas should be noted.

Ordinarily it is the operator's responsibility to burn the slash, and excessive damage to the residual stand, if any, should be explained. The cooperative slash deposit (fund collected from the operator and used for slash disposal and snag falling) will take care of a large number of snags, so that unless the damage is unusual and special action must be taken, there is little to be said in regard

to slash fire damage.

Erosion ~~or~~ damage from skid roads, swing roads, and "cat" roads, damage to stream beds and to stream flow from debris, and damage to soil from hard slash burns must all be considered.

Remedial action must be planned for excessively damaged areas. Prevention of damage is the best cure, as damaged stands or areas might become embarassing to the Forest Officer in charge of the sale.

Utilization

With the advent of the power saw the high stump problem has been solved, but has led to additional difficulties in excessive breakage. In a few cases the tendency to "mow 'em down" has been cut by having the fallers do their own bucking, but this is the exception rather than the rule. Heavy dockage for breaks is probably the best method of getting to the problem. The Forest Officer of course has a certain amount of control in the matter and can usually talk to the operator about conditions, and, as it is to the operator's advantage, he often will take corrective measures immediately.

Frequent checking of the bucking will keep the buckers lined out on the requirements for trim allowance, bucking in defect, and bucking in the breaks.

Taking of short chunks, tops, slabs, small trees, and

borderline logs are other important points in utilization that must be checked. The scaler should make routine checks and scale the merchantable material left in the woods. The penalty scale is added to the regular scale on the monthly reports and paid for at established rates.

Working with the hooktender will make the utilization requirements clearer to him. Large, defective logs are the greatest problem and considerable discussion might arise over borderline logs. The Forest Officer should remember that the hooktender's opinion is probably as good as his, since no man can tell what is inside a log by looking at the outside. The procedure is to try to show him what will be scaled as merchantable material and what will be culled. Good practice is to mark questionable logs with paint crayon and follow them through the mill - it is often revealing!

Information on mill utilization is always of interest. Overrun, special manufacturing equipment, and other out-of-the-ordinary practices should be noted.

Log Grades

In most cases log grade information is rather meager as the Forest Service scalers do not grade logs. This data is available if the logs are scaled by the Columbia River Log Scaling and Grading Bureau; the Forest Service accepts the Bureau scale in some instances. If the peeler grades

are sent to a plywood plant the percentage of these grades should be available, and in this case the sawmill grades might have to be estimated.

If no log grade information is available the lumber grade recovery is of value. Some indication of the stand quality is necessary for appraisal purposes, as stumpage prices are based on estimated log or lumber grade recovery.

The percentage of scaled volume in snags and windfalls can be estimated by an experienced scaler or tallied on the scale book summary sheet. This information is not particularly valuable except that in adjacent areas where there are a large number of windfalls, some indication of their quality is necessary.

Fire Prevention

All too often an operator tends to neglect his fire prevention requirements. Small "gyppos" are the worst offenders and the Forest Officer should make inspections of negligent operators oftener than the required monthly inspection during the fire season. Very often the proper approach by the inspector will gain a favorable attitude on the part of the operator.

Numerous large operators carry fire insurance on their woods operation and must adhere to certain requirements or their insurance will be voided. These operators are generally found to require the least amount of

inspection.

Humidity requirements are practically standard throughout the region and some operators (insurance carriers) will often come out of the woods ahead of minimum humidity. Others will take a chance and keep operating, but with proper cautioning should conform, otherwise a "get tough" attitude by the Forest Officer should be taken for the protection of both parties.

The required fire plan for each sale is made up previous to fire season and placed in effect on the designated date. This is an organization plan giving detailed description of the duties of key employees in case of fire on the operation. The adequacy and effectiveness of the fire plan obviously cannot be ascertained unless a fire develops on the area of responsibility. The Forest Service will relieve the operator of the responsibility of controlling any fire at the earliest practicable time.

Occasionally an operator will furnish special or additional fire equipment over the requirements. Additional tools, pumps, tankers, patrolmen, watchmen, lookouts, etc., are worthy of mention in the report as a reflection of the operator's attitude.

Slash Disposal

Here again a prepared plan is executed when proper conditions obtain. A detailed description of fire line

location, lighting sequence or the order in which to burn proper areas or amounts of slash to preclude escape of the fire, quantity of burning supplies required to be on hand, number of men needed in the lighting crew, and any other special requirements.

The total area of slash burned and the current year's accomplishment is reported, with a short statement concerning the success of the current burn.

Slash burning costs are valuable in appraisals, and both the cost per thousand and the cost per acre should be calculated. The volume of slash, its condition, and the weather conditions cause variation in costs, and any out of line costs should be described.

Scaling

When scaling problems appear they can generally be attributed to two things; (1) the scaler and (2) the location of the scaling. In case of scaling difficulty, a suggested improvement might be affected by reference to evidence in the progress report. Water scaling is preferred to truck scaling, and woods scaling should be avoided if at all possible, as it is slow and inaccurate in defective timber.

The scaler should check himself with other scalers whenever there is duplication of scaling. The Forest Service regional check-scaler will check field scalers

upon request and also make frequent routine checks. As a matter of information on the accuracy of the scaling, available checks should be included in the progress report. Provisions to let the scaler watch logs sawed out should be made as often as convenient.

In cases where scaling is duplicated by a Forest Service scaler and a Bureau scaler, arrangements can often be made to accept the Bureau scale. This plan has distinct advantages in that log grades are available, whereas the Forest Service scalers do no log grading. The log grade information is particularly useful in checking log grade estimates in appraisals.

Type of Operation

Whether the operation is a logger selling logs on the open market, a combination logging-milling outfit, a logging milling concern selling peelers, or a peeler plant selling sawlogs, has a definite bearing on utilization. Very often interesting comparisons can be made between the various types of organizations above by analysis of the marketing procedures for the different log grades.

Types of equipment in the woods and in the mill are indicators of varying degrees of utilization; methods of logging or sawing and the equipment used often means the difference between high or low log production and high or low overrun in the mill.

In the woods operations on favorable topography it is often more economical to use tractors than conventional cable systems, but in some of the very defective stands the slash and cull logs may be so heavy as to preclude all but cable equipment. Selective logging in Douglas-fir necessitates the use of tractors. Heavy stands of timber on steep "back country" topography call for powerful and heavy donkey logging equipment, and in contrast, prelogging of an understory of inferior species requires light and ingenious equipment, which also frequently features in salvage or relogging operations. All of these methods have a distinct bearing on cost figures and play an important part in cost analysis; which is the real intent of a good progress report.

Another important point to consider under this heading is log transportation. Accurate costs on railroad, truck, rafting, or a combination of methods of delivering the logs are very large factors in appraisal work. The costs are given in the paragraph on costs, but the factors influencing them should carefully be described under "Type of Operation."

Output per Day

Various factors enter into the output in thousands of board feet per man-day. The greatest of these is management; a good "side rod" means good production in most cases,

other things being equal. Suitable equipment and labor are important. Present markets, wages, and available manpower are tending to better the labor situation. Union domination can result in high or low production depending on the group leaders.

Numerous reports required by federal and state governments necessitate keeping of data from which the output per day can be calculated. The number of man-hours per operating day of the woods crew and the scaled volume are all that are necessary to determine this value.

Costs

This is where real effort on the part of the Forest Officer pays off. Most business organizations are reluctant to make their cost records available to outsiders, and it will require the most cordial relations between the Forest Service and the operator to obtain them. It must be remembered that operator's costs received must be kept confidential at all times; if not, the result is obvious.

All too often the Forest Officer forgets that the operator must make money if he is to stay in business. With a little effort solutions to difficulties in contract requirements can be worked out. Do not be an "easy mark"; be firm but fair, and you will have the respect of most operators.

In obtaining cost data an auditor's financial statement is most useful. As such statements are rather rare the next best thing is an analysis or breakdown of all logging costs without the profit and loss statement. From this breakdown calculations can be made to reasonably estimate the profit and risk.

In order to determine the equitability of the indicated stumpage (the stumpage specified in the contract) the following procedure is used:

The total cost of the logs sold (the logging cost from the operator's statement) is subtracted from the average selling price of the logs (either from the operators statement or determined by using current log selling prices weighted for all species). The result is the "conversion return," or the amount to be split between stumpage and profit and risk. As the stumpage value for all species is specified in the contract, the weighted stumpage price is subtracted from the conversion return, and the result is the operator's profit and risk. Now, the weighted stumpage price is divided by the conversion return to ge the "stumpage factor," or the percentage of the conversion return that is taken for stumpage. To find the "profit ratio," or the operator's profit, add the total cost of the logs sold to the stumpage price and divide the indicated profit and risk by the resulting figure.

The Regional Office of the U.S.F.S. in this area

establishes percentages for stumpage factors and profit and risk ratios that they feel are equitable. These may be 50 to 70 percent of the conversion return to be taken for stumpage, and 12 to 20 percent allowed for the operator's profit and risk. The variation in the percentages is due to factors dependent on the risk involved. If these percentages are out of line on a going sale nothing can be done to rectify the situation; except some of the latest contracts contain stumpage readjustment clauses upon which out of line stumpage and profit ratio percentages in progress reports might have a bearing at the readjustment date. These two percentages are so interrelated that in appraisal work each has to be adjusted so that the other falls within the acceptable limits. As said before, in progress reports these percentages are calculated merely as a point of interest.

If no log selling prices are available for a logging-milling operation the stumpage factor and profit ratio can be calculated by adding the milling cost to logging cost and subtracting the total from the average selling price of lumber to get the conversion return. The conversion return is then handled as before regarding stumpage and profit ratio.

Selling Price

Logging-milling operations seldom bother to grade

logs and establish log selling prices, in which case the lumber grade recovery percentages and selling prices are of value in indicating the stand quality. Appraisals can be made on a "through the mill" basis by comparing similar stands and estimating the lumber grade receovery in the stand to be sold. Under present market conditions appraisals made on a lumber grade recovery basis will indicate a higher stumpage factor than those made on a log grade basis.

In recent years, since the lifting of O.P.A.ceilings, log and lumber prices have fluctuated to such an extent that calculating the weighted average selling prices of the various grades is almost impossible. Current log and lumber selling prices are of more value for appraisal work than the yearly averages, and real effort should be extended in obtaining the accurate local prices. These need not be directly from the sale reported upon but can be the going local prices.

Wage Scale

Wage scales are quite standardized along the coast and generally need no itemization unless the scale has some direct effect on log production or costs.

Union domination may have a direct bearing on some costs as they have often fought new methods and machinery until forced to give in by sheer weight of evidence. Union

requirements regarding crew size may or may not affect costs. Very often non-union operators paying above the union scale can show lower operating costs and higher output per man.

The pertinent wages in the report preparation are for falling and bucking. Some fallers are paid by the thousand for the gross volume in the tree, some by stump scale, some by the net volume in the tree, etc. Buckers may be paid by the thousand, by the square, etc. Some sets do their own falling and bucking and there are various means of establishing rates for this work. The method of payment for falling and bucking directly affects the degree of utilization and the net falling and bucking costs. Thorough coverage of this item is necessary.

Living Conditions

The quality of labor is relative to the living conditions. Poor environment offers little inducement for many would-be stable employees to remain in the community. Likewise improved housing and facilities attract and tend to cut labor turnover which in turn affects costs; an operation with a high production rate per man can invariably be recognized by its surroundings. The description of the living conditions contingent to an operation serves to round out the complete picture of log production.

APPENDIX

S _____,Oregon
SALES - _____
___&___Logging Co January 29, 1947
4-14-43

ANNUAL PROGRESS REPORT*

SUMMARY

Total volume removed to date	35,689,290 b.f.m.
Total value of material removed to date	$155,000.38
Average stumpage price per M, all species including K.V. deposit	4.49
Average cut per acre - all species	46,071 b.f.m.
Area cutover 1946	200 acres
Total amount of slash burned	170 acres

Comparison of original 1921 cruise to total volume removed.

Douglas-fir	-25%
Western Hemlock	+35%
Western Redcedar	-79%
Average all species	-21%

Comparison 1946 F. S. scale to Bureau scale	+.7%
Average selling price logs 1946 **	$29.97
Average logging cost per M (including stumpage) 1946 **	27.52
Indicated profit and risk 1946 **	2.45

*See Paragraph 14

** From Company financial statement

* Figures taken from Annual Progress Report, _____ & _____ Logging Co. (1)

SALE REPORT

1. Description

The original sale was made to_____Lumber Co., and the timber sale agreement was transferred to the _____ & _____ Logging Company on June 15, 1945.

The sale area is made up of four cutting units located within Sections 2, 3, 9, 10, 15, 21, and 22, Twp. _____S., R. _____ W., M.D.M. Approximately 1000 acres will be cutover when the sale is completed.

During the past year _____ & _____ have been beset with many difficulties. Old equipment, poor help, high absenteeism, and a shortage of railroad cars have all contributed to low log production. At various times they have had to use their trucks to haul logs directly to the buyers instead of being able to dump them at the railhead reload. The reload has been the bottleneck since the car shortage developed.

The majority of peelers are shipped to Springfield Plywood at Eugene, and most of the hemlock is sent to the Oregon Pulp and Paper at Salem. Their sawmill logs have been sold on the open market in the vicinity of Eugene.

2. Boundary Marking

a. The 4th and last cutting unit has been partially marked and the remainder of the cutting boundary roughly located. Completion of the marking has been delayed until the needed volume to be cut to complete the sale is determined.

b. The administrative boundary has followed the appraisal boundary reasonably close but due to errors in map topography the appraisal boundary was altered to conform to the natural breaks.

3. Volume Cut and Value

a. Table showing volume removed and value by species scaled for calendar year 1946.

Species	Total Volume	% of Cut	Price/M	Total Value
Douglas-fir	8,740.95 M	85.3	$ 4.85	$42,393.61
Western Hemlock	1,452.54	14.1	1.60	2,324.06
Western Redcedar	48.59	.5	1.35	65.60
Sugar Pine	7.83	.1	4.85	37.98
Total all species	10,249.91 M	100.0	4.37	44,821.25
	$.15 per M for K.V. deposit			1,537.49
				$46,358.74

b. Table showing total volume cut and value by species to date.

Species	Total Volume	% of Cut	Price/M	Total Value
Douglas-fir	30,072.91 M	84.3	$ 4.85	$145,853.61
Western Hemlock	5,312.92	14.9	1.60	8,500.67
Western Redcedar	235.91	.6	1.35	318.48
Sugar Pine	67.55	.2	4.85	327.62
Totals	35,689.29 M	100.0	4.34	160,353.97

4. Size Average Log Board Feet Net Scale

Species	1943	1944	1945	1946	Av. to Date
Douglas-fir	1240	1090	1270	1250	1220
Western Hemlock	620	540	590	670	570
Western Redcedar	760	620	690	650	660
Sugar Pine	1680	1400	1560	1560	1640

Average percent of defect:

Species	1944	1945	1946
Douglas-fir	16%	17%	18%
Western Hemlock	4%	7%	7%
Western Redcedar	19%	19%	21%
Sugar Pine	-	12%	22%

Average length and diameter of logs to date:

Species	Length	Diameter
Douglas-fir	32	29
Western Hemlock	38	19
Western Redcedar	38	20
Sugar Pine	30	35

Above table is based on average sampling of scale books. Bucking for peelers and to length suitable for loading in gondola cars is bringing the average length down from previous years.

5. Average Cut per Acre

Species	1946*	Av. to Date**
Douglas-fir	43,704 b.f.	38,795 b.f.
Western Hemlock	7,263	6,871
Western Redcedar	243	318
Sugar Pine	39	87
Total	51,249 b.f.	47,071 b.f.

*Based on 200 acres logged.
**Based on 780 acres logged.

6. Acreage Cutover by Years

1943	145 acres
1944	205 acres
1945	230 acres
1946	200 acres
	780 acres

7. Comparison of Cut and Cruise

Based on total cut to date - 780 acres:

Species	Original 1921 Cruise	Cut M.b.f.	Difference
Douglas-fir	40,208 M	30,260.69	-25%
Western Hemlock	3,961	5,359.39	+35%
Western Redcedar	1,162	248.16	-79%
Sugar Pine	No estimate	67.55	-
Total	45,331M.b.f.	35,935.79	-21%

Based on 1946 cut - 200 acres:

Species	Original 1921 Cruise	Cut M.b.f.	Difference
Douglas-fir	11,432 M	8,740.95	-24%
Western Hemlock	907	1,452.54	+60%
Western Redcedar	56	48.59	-13%
Sugar Pine	35	7.83	-77%
Total	12,430 M	10,249.91 M	-18%

8. Marking

As mentioned before in previous progress reports, this sale is made on an alternate cutting area basis. All cutting units are clear cut and no trees are marked to leave.

Adequate seed source is furnished by numerous defective trees in addition to the green strips between cutting units. In the latter part of the winter of 1945-46 some 63 defective trees were felled in the N½SW¼ of Section 10 as check on utilization and to open up the stand. Too many defective trees remained in the residual stand to insure good Douglas-fir reproduction. The recovery of sound volume was disappointingly low - only amounting to 10% of the total volume felled.

9. Damage

Damage as a result of logging is negligible. Very few trees were killed in the slash burning in 1946. No action to reduce damage is deemed necessary.

10. Utilization

_____&_____have been very interested in good utilization. This is demonstrated by the fact that the F. S. and the Bureau have culled a higher percentage of logs this year than heretofore. From the available figures it is interesting to note that during July and August the Bureau grades 33 culls and wood logs that are sent in, but a logger selling logs on the market receives nothing for culls and very little for the wood log grades. In other words, logging-milling operations can afford to take more chances on defective logs than loggers selling on the log market. Steps should be taken to encourage a closer tie-up with local mills.

The company has made every effort to pick up all merchantable material. Last summer they went back into the first logging unit and picked up some logs salvaged from defective trees that were killed in the slash fire of 1944 and subsequently felled. They have also bucked and taken wind thrown trees along the right away. Keen interest was shown by the company in salvaging the merchantable timber resulting from the K.V. falling experiment described in Paragraph 8, and even went to the trouble of rigging a tree to load the logs - about 40 M.b.f.

The higher volume removed per acre this year is indicative of better utilization - the stand is quite uniform.

11. Log Grades

a. Log grades cut by percentage of volume - Douglas-fir:

Grade	1944*/1	1945*/2	1945*/3	1946*/4	Total Vol. Graded
#1 Peeler	2.7	5.0	11.6	13.6	8.9
#2 "	7.9	11.0	18.2	19.7	14.8
#3 "	6.3	6.6	14.3	18.0	12.4
#1 Sawmill	.7	2.0	.7	.1	.7
#2 "	72.4	60.6	30.1	24.3	44.3
#3 "	5.3	8.0	18.5	17.0	12.6
Woodlogs	4.7	6.3	6.3	7.3	6.3

Western Hemlock:

Grade	1945 - 1,239MM	1946 - 1,507MM
Peeler	.0	.4
#1 Sawmill	4.2	6.3
#2 Sawmill	44.0	44.1
#3 Sawmill	51.8	51.9

*/1 6,408,219 b.f. sold by_____Lbr. Co. 1944.
*/2 3,259,167 b.f. sold by_____Lbr. Co. 1945
*/3 4,483,189 b.f. sold by_____&_____Logging Co. 1945
*/4 8,605,372 b.f. sold by_____&_____Logging Co. 1946

1946 figures based on a footage of 10,176,678 b.f. sold and graded to 1-1-47. This figure was given to us by Mr._____in January. The discrepancy between this figure and the figure in the financial statement is evidently due to change in log inventory.

b. The percentage of scaled volume in snags and windfalls has not been recorded separately but is estimated at 2% of the net scale. A large number of windfalls have been taken out but culled by scalers.

The present high prices for peeler logs has resulted in the company bucking for peelers, thereby resulting in a very high percentage of the total.

12. Fire Prevention

a. The company is an excellent co-operator and meets all contract requirements without question.

b. The operator has key men designated to take charge of certain equipment and to perform certain duties in case of fire on the sale area. This is in accordance with the sale fire plan.

c. No occasion developed this year to demonstrate the effectiveness of the fire organization.

d. The company maintains enough additional equipment to supply 10 men (over the contract requirements).

During several lightning storms last summer____&____ volunteered to let us have all of their men if needed. We called for a small crew and the company used their own pickup to round up the men and to transport them to the fire.

13. Slash Disposal

a. The required slash disposal plan was prepared for the 3rd cutting unit and executed in accordance. The operator still had equipment and felled timber in the unit and fire lines through the slash had to be constructed with great care. Fires were first lighted on the evening October 16, but the slash was too dry and lighting was halted. About .24" of rain fell during the night and lighting was begun again on the morning of the 17th. Fires were backed down the slopes and away from the fire lines toward the center of the clearcut area. The fire line through the slash area was constantly patrolled and no great trouble was experienced in keeping the fire inside the lines. Burning continued until finished on Saturday, October 19.

b. All the slash on the area was well burned out before the heavy rains set in on the evening of October 19. The total area burned in this period was 170 acres. All of the clearcut area on the sale has been burned and no accumulations of slash remain except in the current operating area.

c. The following costs for 1946 slash disposal were determined:

Fire trails		
Caterpillar use - 44 hrs at $10.00		$440.00
Slash burning		
Labor	$155.97	
Materials (estimate)	15.00	
Additional snag falling	30.00	
Slash disposal deposit at $.05 per M	480.65	
		681.62
Total cost of slash disposal		$1,121.62

Cost per M	$ .11
Cost per acre	6.59

d. The slash fireburned all the area planned. The precipitation was not detrimental and all material considered necessary to burn was consumed. 1.85" of rain fell on Monday, October 21st, which cooled down the fire and resulted in a very successful burn.

14. Scaling

a. All scaling was done on the trucks at the Ranger Station.

b. No specific scaling problems were encountered in 1946.

c. The following is a comparison between Forest Service net scale and the Bureau net scale. (All logs are scaled and graded by a Bureau scaler, and sorted at the reload at _____.)

Forest Service 1946 scale		10,249,910 b.f.
Bureau	1946 scale	10,176,678 b.f.
		73,232 b.f.

This figure is .7% over the Bureau scale using the Bureau scale as a base. The 10,590,237 b.f. of logs sold during the year places the Forest Service scale 3.2% under the Bureau.

The variation in scale is quite likely due to the difference in log inventories at the beginning and end of the year, logs in transit and logs at the reload. Last year the Forest Service scale was 3.7% over the Bureau.

15. Operation

This is a clearcut, high lead operation with occasional long corners and some favorable ground "cat" logged. About 20 acres were "cat" logged in 1946.

Falling and bucking is being done by hand. Power saws are frowned upon by the cutting crew - the senior set of fallers is a father-son combination, the the father is president of the union local. They do not want power saws on the operation and see that their wish is carried out.

The truck haul is 10 miles to the reload at_____. Here the logs are sorted and reloaded on cars and shipped

to plywood plants, paper mills and sawmills. Due to the car shortage some logs have been hauled by truck directly to the buyer, but there are not enough trucks available to do this continually and the result is that the woods operation must be curtailed when the reload is plugged.

16. Output

Table giving mandays worked by months:

January	591
February	306
March	78
April	420
May	888
June	806
July	313
August	903
September	755
October	807
November	612
December	594
	7073

Output per man-day	1450 b.f.m.
Output per day (220 operating days)	45.8 M
Experienced fallers - average per day	42 M
Experienced buckers - average per day	56 Squares

Time lost during 1946:

March	15 working days - strike
July	4 " " - vacation
July	6 short days - humidity
August	6 " " - "
September	4 " " "
December	4 working days - vacation

17. Costs

a. The company's financial statement January 1 to December 31, 1946 follows:

_____ & _____ Logging Company

_____, Oregon

STATEMENT OF INCOME AND EXPENSE YEAR ENDED DECEMBER 31, 1946

	Feet	Amount	Per M
SALE OF LOGS	10,590,237	$317,423.51	$ 29.97
COST OF LOGS SOLD:			
Falling and bucking	10,590,237	39,476.79	2.85
Yarding and loading		37,950.03	3.70
Reloading		12,874.92	1.26
Transportation		57,090.50	5.57 *
Stumpage		47,171.73	4.60
Depreciation		15,777.41	1.54
Equipment rental		6,000.00	.59
Fire protection		1,121.62	.11
Rental of right of way		1,699.91	.16
Maintenance of log roads		2,668.00	.26
Amoritzation of log roads		43,562.12	4.25 **
Maintenance and repairs		14,774.74	1.44
Other logging costs		24,017.21	2.34
Cost of logs cut		$ 304,184.98	29.67
Log inventory, January 1	49,957	1,271.09	25.44
	10,299,867	305,456.07	29.66
Less log inventory, Dec 31	107,745	2,792.93	25.92
	10,192,122	302,663.14	29.70
Overrun (3.9%)	398,115		1.12
Cost of logs sold	10,590,237	302,663.14	28.56
TRADING PROFIT	10,590,237	14,760.37	1.39
OPERATING EXPENSES			
Demurrage and freight		631.80	
Dues and subscriptions		564.00	
Office supplies and expense		100.26	
Miscellaneous expenses		1,398.06	
Telephone and telegraph		452.78	
Taxes		346.89	
Travel expense		305.51	
Light and power		88.74	
Depreciation of office equipment		110.75	
Total operating expense	10,590,237	3,998.79	.38
		10,761.58	1.01

* Made up from two lengths of haul. 1 at $3.00 per M to reload and 1 at $7.00 per M to springfield.

** Includes $2.00 per M paid to____Lbr. Co. for use of road.

OTHER INCOME	Feet	Amount	Per M
Logging Truck income		$ 17,384.95	
Discounts earned		751.25	
Interest earned		169.20	
	10,590,237	18,305.40	1.75
		29,066.98	2.74
OTHER EXPENSES:			
Discounts Allowed		1,875.11	
Interest paid		986.59	
Loss on sale of equipment		214.99	
		3,074.69	.29
NET PROFIT FOR YEAR	10,590,237	25,992.29	2.45

DETAILS OF LOG COSTS — YEAR ENDING DECEMBER 31, 1946

	Amount	Per M
FALLING AND BUCKING:		
Labor	$ 39,018.26	$ 3.81
Supplies	458.53	.04
Total	39,476.79	3.85
YARDING AND LOADING:		
Labor	32,255.46	3.15
Loading supplies	257.64	.02
Yarding supplies	1,763.54	.17
Cable	3,673.39	.36
Total	37,950.03	3.70
RELOADING:		
Labor	11,706.88	1.14
Supplies	1,168.04	.12
Total	12,874.92	1.26

	Amount	Per M
TRANSPORTATION:		
Truck Transportation	$ 41,540.39	4.05
Logging truck wages & expenses	15,550.11	1.52
Total	57,090.50	5.57
MAINTENANCE AND REPAIRS:		
Shop labor	4,846.52	.47
Supplies and expense	9,928.22	.97
Total	14,774.74	1.44
OTHER COSTS:		
Scaling	4,800.00	.47
Accident Insurance	6,555.64	.64
Crew car and expense	1,573.20	.15
Social security taxes	2,516.77	.25
Gasoline	3,772.34	.37
Auto expense	2,339.24	.23
Expense of moving equipment	157.70	.01
Insurance	2,302.32	.22
Total	24,017.21	2.34

Note - The above dollars per M are based on the stumpage footage of 10,249,910 b.f.

ANALYSIS OF LOGS SOLD — YEAR ENDING DECEMBER 31, 1946

		Footage		Amount
		Quantity	% of Total	
PEELERS	#1	1,186,000	11.20	$ 50,443.96
	#2	1,709,912	16.14	64,216.16
	#3	1,563,824	14.77	46,147.76
Total		4,459,736	42.11	160,807.90
SAWMILL	#1	15,482	.15	476.39
	#2	2,135,055	20.16	52,991.94
	#3	1,776,358	16.77	38,386.85
Total		3,926,895	37.08	91,854.38
HEMLOCK	#1	100,723	.95	9,566.36
	#2	607,171	5.73	13,742.05
	#3	801,267	7.57	17,211.85
Total		1,509,161	14.25	33,520.26
CEDAR		47,312	.45	1,071.60
PINE		9,255	.09	228.63
WHITE FIR		274	-	5.72
WOOD #1 & #2		637,604	6.02	6,850.96
Overtime				398.58
Subsidy (Premium on peelers)				22,254.02
Sales Adjustments				431.56
Total		10,590.237	100.00	317,423.51

BALANCE SHEET AS OF DECEMBER 31, 1946

ASSETS

CURRENT ASSETS:

First National Bank of Eugene			$ 7,361.46
Accounts receivable - Trade			2,056.73
- Employees			487.57
Inventory of logs - at market			2,792.93
Prepaid insurance			691.41
Total current assets			13,392.10
ADVANCE DEPOSITS ON TIMBER:			11,071.34
FIXED ASSETS:			
Logging equipment	$ 26,350.00		
Lands and right of way		200.00	
Reloading equipment	4,220.00		
Log trucks and trailers	27,687.96		
Trucks, dump	5,220.00		
Shop tools and equipment	1,620.00		
Office equipment	551.50		
	65,649.46		
Less depreciation reserve	22,851.43	42,798.03	
			42,798.03
LOGGING ROAD - Unamortized Cost			26,091.84
Total Assets			$ 93,553.32

LIABILITIES AND CAPITAL

CURRENT LIABILITIES

Accounts payable - trade			10,085.38
Accrued payroll			3,145.42
Accrued payroll taxes			2,629.57
Accrued interest			104.58
Installment due on____Road Contract			1,273.72
Total current liabilities			17,238.67
ADVANCES FROM OREGON PULP AND PAPER CO:			4,231.53
ADVANCES FROM SPRINGFIELD PLYWOOD CORP:			5,492.21
CONTRACTS PAYABLE TO.....LUMBER CO:			
Equipment purchased	$10,935.09		
	21,281.34		
			32,216.43

OTHER LOANS:		
Logging Co.	$11,488.83	
F. A. B. - Partner	8,487.05	19,985.88
Total liabilities		79,164.72
CAPITAL:		14,388.60
Total liabilities and capital		93,553.32

ANALYSIS OF FINANCIAL STATEMENT

The company's financial statement for 1946 might give a reviewing officer a slightly distorted picture on the price-cost ratio for the operation. For appraisal purposes we have made the following analysis:

Cost of logs sold:

Falling and bucking	$ 3.85
Yarding and loading	3.70
Reloading	1.26
Transportation	3.87*
Depreciation	1.54
Equipment rental	.59
Fire protection	.11
Rental of right-of-way	.16
Road maintenance	.26
Amortization of log road	2.25**
Maintenace and repairs	1.44
Other logging cost	2.34
Operating cost	.39
Total	21.76

*$5.57 less $1.70 profit on company trucks.
**$4.25 less $2.00 per M paid to _____ Lbr Co. for road built by them - cost previously written off by _____Lbr. Co.

Average selling price of logs	29.97
Total cost of logs sold	21.76
Indicated conversion return	8.21
Average stumpage price all species	4.56
Indicated profit and risk	3.65
Indicated stumpage factor	56%
Indicated profit ratio	13.9%

Weighted stumpage price based on logs sold by _____ & _____ Logging Co., January 1, 1946 to December 31, 1946.

Species	% of Volume	Stumpage Incl. K.V.	Weighted Stumpage
Douglas-fir	85.3	$ 5.00	$ 4.265
Western Hemlock	14.1	1.75	.247
Western Redcedar	.5	1.50	.007
Sugar Pine	.1	5.00	.005
	100.0		
Average stumpage price			4.524
Difference in scale + .7%			.032
Average cost of stumpage per M			$ 4.556

15. Selling Price

The average selling price for the year, all species, was $29.97 per M. Due to the great variance between log prices during the year a breakdown of the average price is almost impossible.

The following log prices as of January 1, 1947, are given for appraisal purposes only:

Grade	Douglas-fir	Hemlock	Cedar
#1 Peeler	$ 58.00		
#2 "	52.00		
#3 "	42.00		
#1 Sawmill	-	$ 30.50	
#2 "	30.00	29.00	
#3 "	27.00	27.50	
#1 Woodlog	19.50		
#2 "	10.00		
Shingle grade			$ 27.50

19. Wage Scale

Labor is organized under the CIO. Union leaders appear to have been somewhat overbearing on this operation, and their demands have obviously worked a hardship on the operator.

Although the quality of labor is rather poor, the logging crew wages were raised on two different occasions. The first advance was for $.12 per hour and the second $.05 per hour.

Falling and bucking is on a "bushel" basis with a 7½ cent per hour rate in addition to the following rates:

Fallers - $.75 per M ($.85 on rough ground).
Buckers - $.16 per square ($.19 on rough ground).

20. Living Conditions

Living conditions are still a problem. Many small houses and shacks have appeared this last year but there is still an acute shortage. Would-be stable employees have been hard to hold with no housing facilities available. This factor has had considerable bearing on the quality and quantity of labor. Until the housing problem is solved the _____Valley employers will have to be content with a great deal of transient labor.

Prepared: January, 1947
By:
Assisted by:

Approved: February, 1947
By_____
District Ranger

Approved: February, 1947
By_____
Forest Supervisor

NATIONAL FOREST TIMBER SALE
PROGRESS REPORT OUTLINE*

1. Brief description of operations during the year.

2. Boundary marking.

   (a) Status
   (b) Comparison of administrative boundary and the appraisal boundary.

3. Amount of timber cut, species, percentage current and total.

4. Size (b.f. volume) of average log by species, current and total (Indicate long or short logs).

5. Average cut per acre.
   (Separate clearcut and selectively cut areas).

6. Acreage cutover by years.
   (Separate clearcut and selectively cut areas).

7. Available comparison with cruise.

8. Marking (Ponderosa pine type and Douglas-fir selection cutting.)

   (a) Status
   (b) Has marking rule been followed. Describe necessary departures.
   (c) Unusual problems encountered.
   (d) Percent cut and leave. Condition and volume of reserve.

9. Marking (Douglas-fir type).
   Provisions made for seed (clearcutting).

10. Damages

    (a) To reserve stand from falling, equipment, fires, wind or beetles.
    (b) To soil, stream, etc.
    (c) Action taken to minimize or prevent damage.

11. Utilization

    (a) Stumps, tops, log breakage, etc.
    (b) Penalty scale.

*(2)

12. Log grades cut by percent of volume.
Percentage of scaled volume in snags and windfalls and their log grades, if readily available.

13. Fire prevention.

(a) Attitude of purchaser and compliance with contract requirements.
(b) Organization.
(c) Adequacy and effectiveness of fire plan and contract requirements.
(d) Special equipment or precautions taken by company outside of contract requirements.

14. Slash disposal.

(a) Has slash disposal plan been prepared.
(b) Brief statement of methods.
(c) Accomplishments to date.
(d) Cost
(e) Evaluation of results

15. Scaling.

(a) Where done.
(b) Problems
(c) Comparison of scale with company or association scale.

16. Type of operation.
Length of haul either by truck or railroad.

17. Output per day over operating period. Output per unit or side and the output per man-day.

18. Costs

(a) Itemized operating cost.
(b) Cost of spur roads, either rail or truck, per mile.

19. Selling prices.

(a) Market value or value the operator receives for different log grades.
(b) In the smaller operations where there is a combined logging and milling operation, lumber grades and prices are of value if they can be obtained.

20. Wage scales.
    Complete itemized schedule usually not necessary. Falling and bucking wages are of interest, as are any which have a special bearing on items of cost. If employees are not union, state whether above or below union scale is being paid.

21. Living conditions of employees.

SCALE BOOK SUMMARY

Sale Designation _____ Sheet No.___

SCALE BOOK NUMBER

	1	2	3	4	
Date Completed					
Volumes					
D.f.					
W.H.					
W.R.C.					
I.C.					
S.P.					
Snags					
Winfls					
Totals					
Size Av. Log	L D	L D	L D	L D	
D.f.					
W.H.					
W.R.C.					
I.C.					
S.P.					
Cull %					
D.f.					
W.H.					
W.R.C.					
I.C.					
S.P.					

Notes

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1. U. S. Department of Agriculture, Forest Service, Annual Progress Report, _____ & _____Logging Co. (Confidential). 1947.

2. U. S. Department of Agriculture, Forest Service, Timber Management Handbook, Region 6.