

Financial aspects of timber harvesting



Barry Sims
Trout Mountain Forestry
February 2017



Timber value

- Major investment/asset
 - Seek independent advice
 - Process should be transparent
-

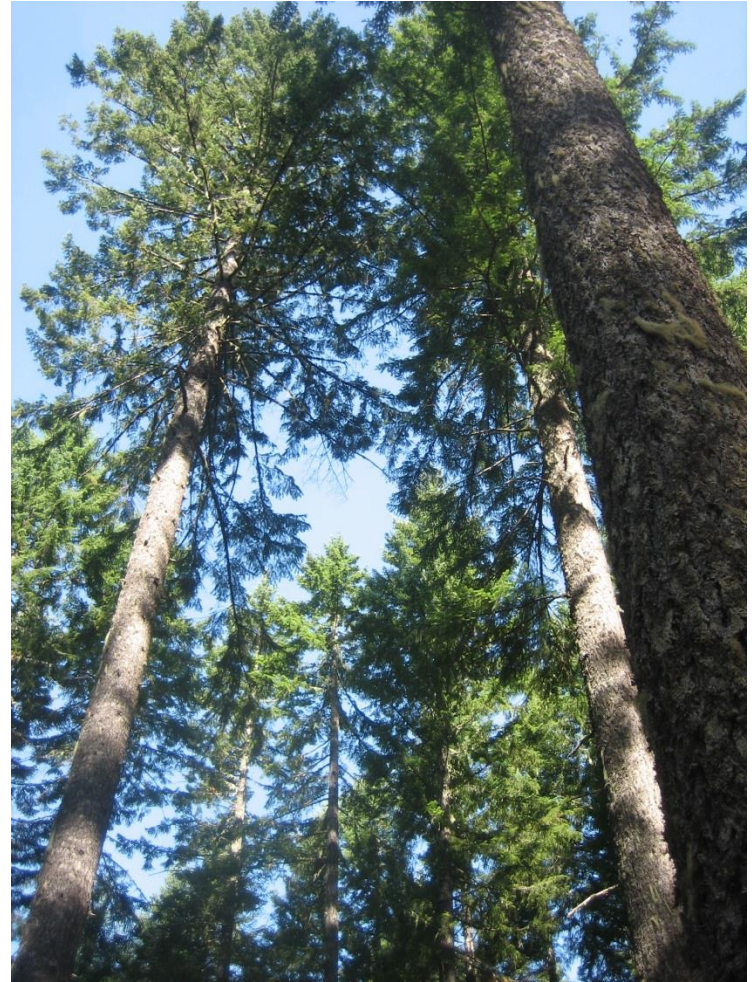
Fair Market Value

- Knowledgeable Seller + Knowledgeable Buyer = Fair Market Value
 - In a timber harvest, the landowner is both a Buyer (of services) and a Seller (of logs)
-

Decision-making

- When to harvest
- What to harvest
- How to harvest

Advance planning can prevent crisis-based management



Supply and demand

- When log prices are up, most loggers are extremely busy
 - Small landowners have little leverage to access loggers during peak demand
-

Cost categories

- Logging
 - Hauling
 - Forestry
 - Roads
 - Post-harvest
-



Logging costs

“On-board truck”

- Fall, buck, limb, yard
 - Often divided into “cutting” and “logging”
 - Costs going down with mechanization
-

Hauling



Hauling in action



Hauling

- Based on daily rate
 - \$/trip
 - Convert to \$/MBF or \$/ton
 - Different payloads
 - Costs have been going up
 - Fewer destinations for logs
 - Shortage of trucks after Great Recession
-

Forestry

- Cruise and appraisal
- Harvest planning and mgmt
- Contracts
- Log marketing
- Log accounting
- Post-harvest work



Roads

- May require so little that the cost is included in logging rates
 - OR may require significant investment, either before or after the harvest
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Post-harvest

- Contract close-out
 - Site prep (piling, burning, spraying if needed)
 - Planting
 - Taxes
-

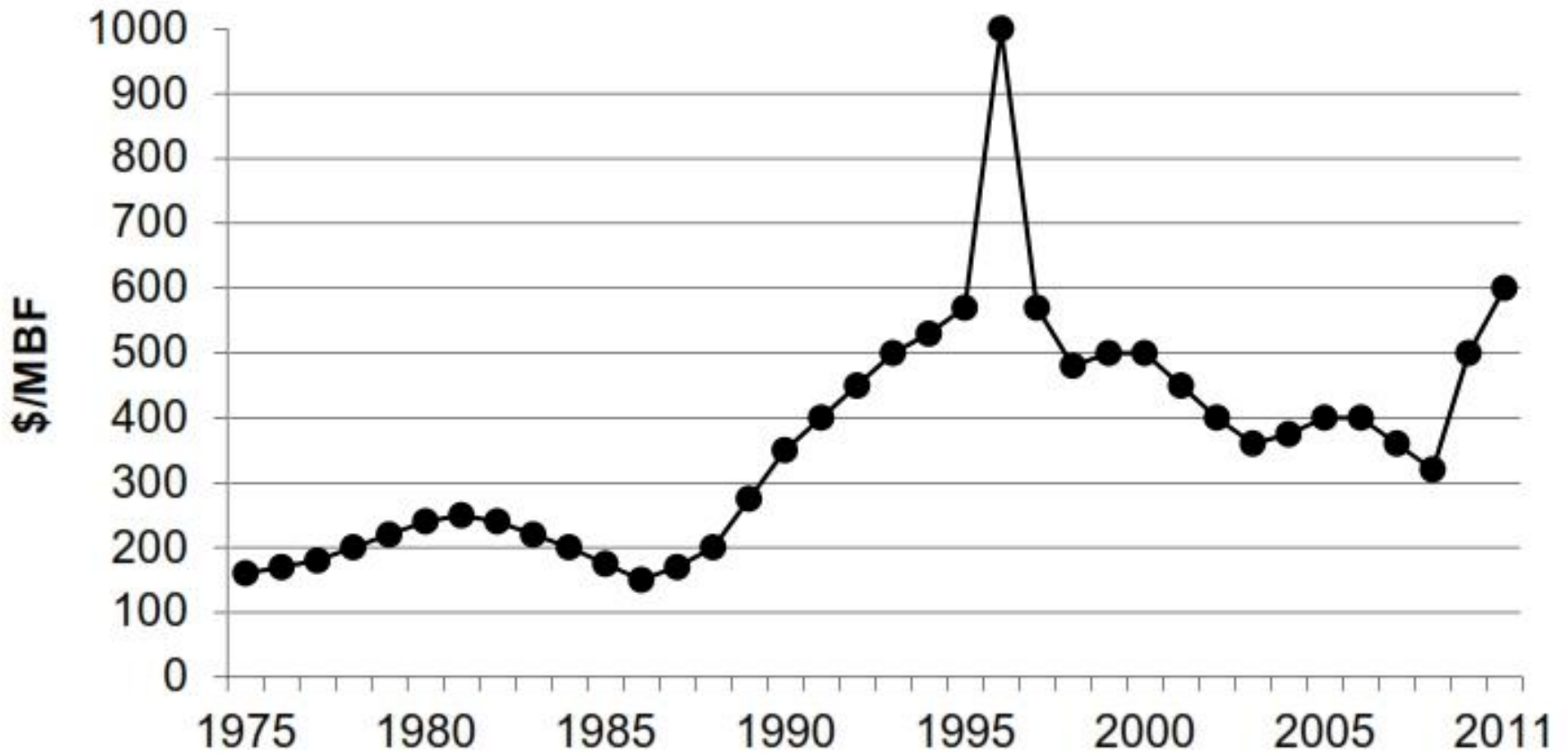
Income

- Basically, delivered log values less all costs
 - How to maximize log values?
 - Log marketing
 - Log merchandizing
 - Proper accounting
-

Log marketing

- Markets are always changing
 - Mills need a steady diet of logs
 - Basic categories
 - Sawmill
 - Export
 - Specialty
-

Grand fir log price trends



Data from our files, ODF, and interpolations and includes export and domestic prices

Douglas-fir #2 Sawmill Avg Delivered Log Price, NW Oregon



Specialty markets

- Hardwood
 - Veneer
 - Utility poles
 - House logs
 - Figured wood
 - Custom orders
-



Proper accounting

- Transparent
- Detailed
- Complete

Proper Accounting

- Load reports
- Scaling certificates
- Payment summaries
- Compare with contract
- More worried about honest mistakes than outright theft

Daily Production Report

Purchaser: PLS (C & C Logging, LLC) Sort Codes:
Block: PLS 42 EXP-Export
Date: 7/5 TO 7/13/16

E-mail Daily Production Report's to: mgould@portblekely.com
Ajackson@portblekely.com
dcoulter@portblekely.com

OR

| Ticket# | Destination | Species | Sort |
|---------|---|---------|------|
| 1 | 679551 Bell Lebanon | Fir | |
| 2 | 679552 Bell Lebanon | Fir | |
| 3 | 679553 Bell Lebanon | Fir | |
| 4 | 679554 Bell Lebanon | Fir | |
| 5 | 679555 Bell Lebanon | Fir | |
| 6 | 679556 Bell Lebanon | Fir | |
| 7 | 679557 PLS LV | Fir | |
| 8 | 679558 PLS LV | Fir | |
| 9 | 679559 PLS LV | Fir | |
| 10 | 679560 Bell Lebanon | Fir | |
| 11 | 679561 Bell Lebanon | Fir | |
| 12 | 679562 PLS LV | Fir | |
| 13 | 679563 PLS LV | Fir | |
| 14 | 679564 Bell Lebanon | Fir | |
| 15 | 679565 PLS LV | Fir | |
| 16 | 679566 Bell Lebanon | Fir | |
| 17 | 679567 Bell Lebanon | Fir | |
| 18 | 679568 PLS LV | Fir | |
| 19 | 679569 PLS LV | Fir | |
| 20 | 679570 PLS LV | Fir | |
| 21 | 679571 PLS LV | Fir | |
| 22 | 679572 PLS LV | Fir | |
| 23 | 679573 PLS LV | Fir | |
| 24 | 679574 PLS LV | Fir | |
| 25 | 679575 Oly RSG | Fir | |
| 26 | | | |
| 27 | | | |
| 28 | G 14 Dispatch & Shop Safety/Timber Co. -pany Load Reports/PLS - PLS Daily load report | | |

Emailed 7/15

WESTSIDE SCALE CERTIFICATE

PAGE 1

YAMHILL LOG SCALING AND GRADING BUREAU, INC.

P.O. BOX 709 FOREST GROVE, OREGON 97116

BUREAU CERTIFICATE # ...965104 DATE ISSUED ... 9/19/16 TIME 10:10

OWNER 780 RSG FOREST PRODUCTS-MOLALLA SCALE DATES ... 9/14/16- 9/15/16

FROM TM TROUT MTN FARM

SCALED AT...L28 LIBERAL

L28 SCALED BYHEIDI WIND

BRAND ... 14902

**** S C R I B N E R

| LOGS | GRADE | SPECIES | L/D | GROSS | NET | UTILITY |
|-------|-----------------------|----------|-----|-------|-------|---------|
| 7.00 | #2 SM | DOUG FIR | 1/ | 1,380 | 1,360 | |
| 4.00 | #2 SM | DOUG FIR | 2/ | 740 | 690 | |
| 4.00 | #2 SM | DOUG FIR | 3/ | 780 | 750 | |
| 35.00 | #3 SM | DOUG FIR | 1/ | 3,060 | 2,980 | |
| 12.00 | #3 SM | DOUG FIR | 2/ | 1,060 | 1,020 | |
| 4.00 | #3 SM | DOUG FIR | 3/ | 240 | 230 | |
| 4.00 | #4 SM | DOUG FIR | 1/ | 160 | 160 | |
| 7.00 | #4 SM | DOUG FIR | 2/ | 220 | 220 | |
| 19.00 | #4 SM | DOUG FIR | 3/ | 530 | 450 | |
| 2.00 | UTILITY | DOUG FIR | 2/3 | 40 | | 40 |
| 98.00 | SPECIES TOTAL..... | | | 8,210 | 7,860 | 40 |
| 98.00 | MERCH TOTAL | | | 8,210 | 7,860 | 40 |
| .00 | PAM TOTAL | | | | | |
| 98.00 | BRAND CODE TOTAL..... | | | 8,210 | 7,860 | 40 |

TICKET SUMMARY FOR BRAND 14902

TICKET # 8531768 8531804

GROSS VOL 4,180 4,030

NET VOL 4,010 3,850

UTIL VOL 40

CU NET VOL

Load Ticket : LV 661299
 Setting ID : 92591 Trout Mnt. Forestry 92591
 Product : SCAL Scaled
 Destination : LGV Longview Yard
 Scale Date : 07/13/2016
 Certificate Nbr : 00000000
 Brand : 92591
 Other Tkt : 10163

Scale Loc : 1073
 Scales Nbr : 2095
 Transmission ID : CR714201
 Trucker : 9REED

Gross BF: 4,750
 Net + BF: 4,670
 Util BF: 0
 Pieces : 16

| Log Nbr | Tag Nbr | Log Deck | Log Sort | Cust Sort | Species | Log Seg Len | Seg Nbr | Grade | Seg Top Len | Butt Dia | Len Ded | Dia Ded | Sqr Ded | Gross BF | Net+ BF | Util BF | Qual Codes |
|---------|---------|----------|----------|-----------|---------|-------------|---------|----------|-------------|----------|---------|---------|---------|----------|---------|---------|------------|
| 1 | LH27388 | | 185 JT | 185 | DF DF | 36 | 1 | 29 #2 SM | 36 | 17 | | | | 420 | 420 | 0 | |
| 2 | LH27389 | | 209 HK | 209 | H HEM | 26 | 1 | 32 #3 SM | 26 | 8 | | | | 50 | 50 | 0 | |
| 3 | LH27390 | | 209 HK | 209 | H HEM | 34 | 1 | 32 #3 SM | 34 | 10 | | 1 | | 130 | 130 | 0 | |
| 4 | LH27391 | | 125 FTT | 125 | DF DF | 36 | 1 | 29 #2 SM | 36 | 12 | | | | 180 | 180 | 0 | |
| 5 | LH27392 | | 209 HK | 209 | H HEM | 36 | 1 | 32 #3 SM | 36 | 9 | | 2 | | 100 | 100 | 0 | |
| 6 | LH27393 | | 185 JT | 185 | DF DF | 40 | 1 | 29 #2 SM | 40 | 17 | | 1 | | 460 | 450 | 0 | |
| 7 | LH27394 | | 108 FV | 108 | DF DF | 40 | 1 | 29 #2 SM | 40 | 12 | | | | 200 | 200 | 0 | |
| 8 | LH27395 | | 185 JT | 185 | DF DF | 36 | 1 | 29 #2 SM | 36 | 16 | | 1 | | 360 | 350 | 0 | |
| 9 | LH27396 | | 185 JT | 185 | DF DF | 36 | 1 | 29 #2 SM | 36 | 14 | | | | 260 | 260 | 0 | |
| 10 | LH27397 | | 185 JT | 185 | DF DF | 36 | 1 | 29 #2 SM | 36 | 14 | | | | 260 | 260 | 0 | |
| 11 | LH27398 | | 209 HK | 209 | H HEM | 32 | 1 | 29 #2 SM | 32 | 13 | | 3 | | 190 | 180 | 0 | J |
| 12 | LH27399 | | 109 FE | 109 | DF DF | 36 | 1 | 29 #2 SM | 36 | 18 | | 1 | | 480 | 470 | 0 | |
| 13 | LH27400 | | 185 JT | 185 | DF DF | 40 | 1 | 29 #2 SM | 40 | 17 | | 1 | | 460 | 450 | 0 | |
| 14 | LH27401 | | 104 FXJ | 104 | DF DF | 36 | 1 | 29 #2 SM | 36 | 15 | | | | 320 | 320 | 0 | |
| 15 | LH27402 | | 185 JT | 185 | DF DF | 40 | 1 | 29 #2 SM | 40 | 17 | | 1 | | 460 | 450 | 0 | |
| 16 | LH27403 | | 185 JT | 185 | DF DF | 36 | 1 | 29 #2 SM | 36 | 17 | | 1 | | 420 | 400 | 0 | |

Segment Total : 16 Pieces

4,750 4,670 0

Avg Length 36.0 Avg Diameter 14.1 Avg Net BF/Piece 291

| Species | Cust Sort | Grade | Pieces | Gross BF | Net+ BF | Util BF |
|---------|-----------|----------|--------|----------|---------|---------|
| DF DF | 104 | 29 #2 SM | 1.00 | 320 | 320 | 0 |
| DF DF | 108 | 29 #2 SM | 1.00 | 200 | 200 | 0 |
| DF DF | 109 | 29 #2 SM | 1.00 | 480 | 470 | 0 |
| DF DF | 125 | 29 #2 SM | 1.00 | 180 | 180 | 0 |
| DF DF | 185 | 29 #2 SM | 8.00 | 3,100 | 3,040 | 0 |
| H HEM | 209 | 29 #2 SM | 1.00 | 190 | 180 | 0 |
| H HEM | 209 | 32 #3 SM | 3.00 | 280 | 280 | 0 |
| | | | 16.00 | 4,750 | 4,670 | 0 |

| Species | Pieces | Gross BF | Net+ BF | Util BF |
|---------|--------|----------|---------|---------|
| DF DF | 12 | 4,280 | 4,210 | 0 |
| H HEM | 4 | 470 | 460 | 0 |
| | 16 | 4,750 | 4,670 | 0 |

PRICE LIST
EFFECTIVE OCTOBER 1, 2016

Prices are subject to change at any time without prior notice

Longview Sort Yard

Douglas-Fir (Scaled Loads)

| | | | | |
|----------------|----------|-----------------|-----------|-----------|
| 1 RS | 2M & Btr | \$810.00 /Net M | 14" plus | 34' - 40' |
| 2 SS | 2M & Btr | \$780.00 /Net M | 12" plus | 30' - 40' |
| 37 SSP | 2M & Btr | \$780.00 /Net M | 12" plus | 30' - 40' |
| 72 SSC | 2M & Btr | \$780.00 /Net M | 12" plus | 30' - 40' |
| 25 IS | 2M & Btr | \$785.00 /Net M | 14" - 19" | 26' - 40' |
| 26 ISC | 2M & Btr | \$785.00 /Net M | 12" - 13" | 26' - 40' |
| 36 IS36 | 2M & Btr | \$785.00 /Net M | 12" - 13" | 36' |
| 25 IS | 2M & Btr | \$715.00 /Net M | 20" plus | 26' - 40' |
| 9 SLC | 3M | \$730.00 /Net M | 9" - 11" | 26' - 40' |
| 20 Raman | 2M & Btr | \$615.00 /Net M | 9" plus | 26' - 40' |
| 27 SSO | 2M & Btr | \$625.00 /Net M | 25" plus | 34' - 40' |
| 43 Oversize | 3M & Btr | \$550.00 /Net M | 24" plus | 26' - 40' |
| 4 GCO | 2M & Btr | \$550.00 /Net M | 12" - 23" | 26' - 40' |
| 5 GC | 2M & Btr | \$615.00 /Net M | 12" plus | 26' - 40' |
| 13 Quad | 3M | \$420.00 /Net M | 8" - 11" | 26' - 40' |
| 15 DOM | 3M & Btr | \$615.00 /Net M | 12" plus | 26' - 40' |
| 16 ChS | 3M | \$400.00 /Net M | 5" - 7" | 26' - 40' |
| 19 Export Quad | 3M | \$615.00 /Net M | 8" - 11" | 26' - 40' |
| 24 Dom | 2M & Btr | \$400.00 /Net M | 12" plus | 26' - 40' |
| 24 Dom | 3M | \$300.00 /Net M | 12" plus | 26' - 40' |
| 56 Temple | 2M & Btr | \$900.00 /Net M | 32" plus | 36' plus |

Western Hemlock (Scaled Loads)

| | | | | |
|------------------|----------|-----------------|-----------|-----------|
| 25 IS | 2M & Btr | \$615.00 /Net M | 12" plus | 26' & 36' |
| 6 SC | 3M | \$615.00 /Net M | 10" - 11" | 36' |
| 5 GC | 2M & Btr | \$615.00 /Net M | 12" plus | 36' |
| 19 Export Quad | 3M | \$615.00 /Net M | 10" - 11" | 36' |
| 3 Small Exp Quad | 3M | \$585.00 /Net M | 8" - 11" | 26' - 40' |
| 15 Exp Heading | 3M & Btr | \$585.00 /Net M | 12" plus | 26' - 40' |
| 43 Oversize | 3M & Btr | \$585.00 /Net M | 24" plus | 26' - 40' |
| 13 Quad | 3M | \$350.00 /Net M | 8" - 11" | 26' - 40' |
| 16 ChS | 3M | \$300.00 /Net M | 5" - 7" | 26' - 40' |
| 24 Dom | 3M | \$300.00 /Net M | 12" plus | 26' - 40' |

True Firs - GF, SP, NF, SF (Scaled Loads)

| | | | | |
|------------------|----------|-----------------|----------|-----------|
| 15 Large Export | 3M & Btr | \$585.00 /Net M | 12" plus | 26' - 40' |
| 3 Small Exp Quad | 3M & Btr | \$585.00 /Net M | 8" - 11" | 26' - 40' |
| 43 Oversize | 3M & Btr | \$585.00 /Net M | 24" plus | 26' - 40' |
| 24 DOM | 3M & Btr | \$300.00 /Net M | 5" plus | 26' - 40' |

Northwest Hardwoods, Inc.

120 Industrial Way

Longview, WA. 98632

(360) 577-3887

LOG PURCHASE AGREEMENT

LPA #

JA100316-02

PRIMARY

| | |
|------------------|------------------------------|
| VENDOR NAME | Trout Mountain Forestry |
| | attn: Barry Sims |
| ADDRESS | 1800 NW Upshur St, Suite 201 |
| CITY, STATE, ZIP | Portland, OR. 97209 |
| PHONE# | (503) 233-2131 |
| | |
| DELIVERY POINT | Longview |
| SPLIT PAYMENT | 100% |

| ALDER \$/MBF | DIAMETER | | | | | | |
|---------------|----------|-------|-------|-------|-------|-------|-------|
| | 12" + | 11" | 10" | 9" | 8" | 7" | 6" |
| Merch | \$775 | \$725 | \$675 | \$650 | \$650 | \$525 | \$400 |
| A - Age Stain | \$725 | \$675 | \$625 | \$600 | \$600 | \$475 | \$360 |
| P - Sort | \$725 | \$675 | \$625 | \$600 | \$600 | \$475 | \$360 |

| Maple/Ash \$mbf | 12" + | 11" | 10" | 9" | 8" | 7" | 6" |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| Merch | \$475 | \$450 | \$425 | \$400 | \$375 | \$360 | \$260 |
| P - Sort | \$425 | \$400 | \$375 | \$350 | \$325 | \$300 | \$200 |

| | |
|----------------------------|----------------|
| Certification Type: | |
| Certified Percentage: | 0% |
| Certificate Number(s): | |
| Log Source(s): | gate |
| Log Origin (state-county): | OR - Clackamas |

| | | | | |
|--------------|---------------------|--------------|---|---------------|
| ALL SPECIES: | All Culls & REJECTS | \$ 0.00 /MBF | 6" Logs & Utility logs (4" Min Dia, 12' Min Length) | \$160.00 /MBF |
|--------------|---------------------|--------------|---|---------------|

| | |
|-----------------------|---|
| SPECIAL INSTRUCTIONS: | Preferred lengths: 40', 36', 30' and 28'. No 12', 14' or 22' lengths. |
| | Minimum Top Diameter: 6 inches Maximum Maple Butt Diameter: 36 inches |

| | |
|---------------------------|--|
| Transportation Documents: | Every truck load MUST have a trip ticket accompanying it that clearly states timber owner; Boom Reports to contain timber marks. |
|---------------------------|--|

| | |
|--------|---|
| TITLE: | Seller warrants that it has clear title to all logs it sells to Northwest Hardwoods and that all logs are free from all liens and encumbrances or claims upon which liens may be based. Seller agrees to hold Northwest Hardwoods harmless from all liabilities, losses, costs, fees, damages, suits and actions in any way resulting from Northwest Hardwoods purchase of logs from seller |
|--------|---|

WEIGHT SPECIFICATIONS

| LOAD TYPE | \$/TON |
|-----------|--------|
| | |
| | |
| | |
| | |

SHORT PULP= Pulp, Mule Trains, Double Insets on Hayracks, And/Or loads with less than 28ft length average.

| | |
|-----------------|--------------------------------|
| EFFECTIVE DATE | October 3, 2016 |
| EXPIRATION DATE | November 4, 2016 |
| NAME OF SALE | Camp Namanu |
| LOGGER | RS Wood Products (Randy Stone) |
| BRAND | TM with Rafter |
| PERMIT# | |
| EST. VOL. | 40mbf |

