



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Rail Splitter
Sale 341-12-16

District: Forest Grove

Date: September 26, 2011

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,520,429.16	\$7,540.72	\$1,527,969.88
Project Work:			\$(27,560.00)
Advertised Value:			\$1,500,409.88



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timber description

Location: Portions of Sections 28 & 29, T3N, R6W, W.M., Tillamook County, Oregon.

Stand Stocking: 20%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	20	0	98
Alder (Red)	11	0	98

Volume by Grade	2S	3S	4S	Camprur	Total
Douglas - Fir	2,687	1,739	212	0	4,638
Alder (Red)	0	0	0	22	22
Total	2,687	1,739	212	22	4,660



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comments: Pond Values Used: 2nd Quarter Calendar Year 2011.

Western Hemlock and Other Conifers Stumpage Price = Pond Value
minus Logging Cost:
 $\$235.79/\text{MBF} = \$410/\text{MBF} - \$174.21/\text{MBF}$

Western redcedar and Other Cedars Stumpage Price = Pond Value
minus Logging Cost:
 $\$775.79/\text{MBF} = \$950/\text{MBF} - \$174.21/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$4.00/Gallon

HAULING COST ALLOWANCE
Hauling costs equivalent to \$740 daily truck cost.

Other Costs (with Profit and Risk to be added):
Brand and Paint: $4,660 \text{ MBF} \times \$1/\text{MBF} = \$4,660$
Intermediate Supports: $30 \text{ each} \times \$100/\text{support} = \$3,000$
Total Other Costs (with Profit & Risk to be added) = \$7,660

Other Costs (No Profit & Risk added):
Machine time to block/waterbar roads and skid trails:
 $10 \text{ hours} \times \$110/\text{hr.} = \$1,100$
Machine time to pile landing slash:
 $10 \text{ hours} \times \$110/\text{hr.} = \$1,100$
Slash Treatment: $14 \text{ acres} \times \$150/\text{acre} = \$2,100$
Equipment Cleaning: $2 \text{ machines} \times \$1,000/\text{machine} = \$2,000$
TOTAL Other Costs (No Profit & Risk added) = \$6,300

ROAD MAINTENANCE
Move-in: \$1,000
General Road Maintenance: $8 \text{ miles} \times \$1,000/\text{mile} = \$8,000$
TOTAL: $\$9,000 / 4,660 \text{ MBF} = \$1.93/\text{MBF}$



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logging conditions

combination#: 1 Douglas - Fir 86.00%
 Alder (Red) 86.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Cable: Medium Tower >40 - <70 **Process:** Stroke Delimber
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 8.0 **bd. ft / load:** 4,200
cost / mbf: \$99.53

machines: Log Loader (A)
Stroke Delimber (A)
Tower Yarder (Medium)

combination#: 2 Douglas - Fir 14.00%
 Alder (Red) 14.00%

yarding distance: Short (400 ft) **downhill yarding:** No
logging system: Shovel **Process:** Stroke Delimber
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 6.0 **bd. ft / load:** 4,200
cost / mbf: \$57.07

machines: Stroke Delimber (B)



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Rail Splitter Sale 341-12-16

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logging costs

Operating Seasons:	1.00	Profit Risk:	10.00%
Project Costs:	\$27,560.00	Other Costs (P/R):	\$7,660.00
Slash Disposal:	\$0.00	Other Costs:	\$6,300.00

Miles of Road

Road Maintenance: \$1.93

Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	3.0	4.2
Alder (Red)	\$0.00	2.0	3.2



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Rail Splitter
Sale 341-12-16

District: Forest Grove

Date: September 26, 2011

logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$93.59	\$1.97	\$0.94	\$54.46	\$1.64	\$15.26	\$0.00	\$5.00	\$1.35	\$174.21
Alder (Red)									
\$93.59	\$1.97	\$0.94	\$107.21	\$1.64	\$20.54	\$0.00	\$5.00	\$1.35	\$232.24

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$502.03	\$327.82	\$0.00
Alder (Red)	\$0.00	\$575.00	\$342.76	\$0.00



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summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Alder (Red)	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	4,638	\$327.82	\$1,520,429.16
Alder (Red)	22	\$342.76	\$7,540.72

Gross Timber Sale Value

Recovery: \$1,527,969.88

Prepared by: Eric Foucht

Phone: 503-359-7473

TIMBER SALE SUMMARY

Rail Splitter

341-12-16

1. **Type of Sale:** Modified clear cut, recovery, sealed bid auction
2. **Revenue Distribution:** 100% BOF, Tillamook County, Tax Code 56-1
3. **Sale Acreage:** Approximately 100 acres of modified clearcut. Acres were determined using ESRI Arcmap GIS software.
4. **Cruise:** The Timber Sale was cruised with a combination of SLI and ODF cruiser variable radius plots. Volume estimates and plot data statistics were computed using SuperACE timber cruise software. For more information see the Cruise Report
5. **Volume:**

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Douglas-fir	Cruise Volume	2,742	1,774	216	0	4732
	Hidden D&B	(55)	(35)	(4)	(0)	(94)
	Total	2,687	1,739	212	0	4,638
	<i>% Total</i>	<i>58</i>	<i>37</i>	<i>5</i>	<i>0</i>	<i>100</i>

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Red alder	Cruise Volume	0	0	0	23	23
	Hidden D&B	()	()	()	(1)	(1)
	Total				22	22
	<i>% Total</i>				100	100

6. **Timber Description:** The Sale Area is 75 year old stand of Douglas-fir with minor amounts of noble fir and western hemlock. The DBH averages approximately 20 inches for Douglas-fir and 11 inches for red alder. The average net volume per acre is approximately 48 MBF.
7. **Topography and Logging Method:** This sale area is 14% ground based yarding and 86% cable yarding. The maximum yarding distance is approximately 1,000 feet horizontal distance, with an average yarding distance of about 600 feet. Slopes range from 15% to 65%.
8. **Access:** The access route consists of paved or gravel all-weather roads. From Highway 6 turn on the Timber Road and proceed north to the Cochran road. Go west on the Cochran road approximately 7 miles to the Standard Grade Road. Continue south on the Standard Grade Road 1.2 miles to the Standard Grade Loop Road. Turn right and continue 3.7 miles to the Sale Area See Exhibit A "Vicinity Map" for detailed access and haul route information.

9. Projects:

Project No. 1: .17 miles of road construction and 4.52 miles of road improvement.	\$7,992.94
Project No. 2: 4.67 miles of road surfacing:	\$13,212.86
Project No. 3: Grass seed, fertilize, and mulch:	\$93.43
<u>Move in and equipment cleaning:</u>	\$6,024.42
Total Credit for all Projects (rounded)	\$27,560.00

10. Other Costs:

<u>Other Costs with (P/R)</u>	
Brand and Paint: 4,660 MBF @ \$1.00/MBF	\$4,660.00
Intermediate Supports: 30 @ \$100.00	\$3,000.00
Total Other Costs with (P/R):	\$7660.00
 <u>Other Costs (no P/R)</u>	
Blocking/Waterbarring skid roads: 10 Hours @ \$110.00/hour	\$1,100.00
Piling Landing Slash: 10 hours @ \$110.00/hour	\$1,100.00
Slash Treatment: 14 acres @ \$150.00/ acre	\$2,100.00
Equipment Cleaning: 2 machines @1000/machine	\$2,000.00
Total Other Costs (no P/R):	\$6,300.00
 Total Other Costs:	 \$13,960.00

PROJECT COST SUMMARY SHEET

Timber Sale: Rail Splitter

Sale Number: 341-12-16

PROJECT NO. 1: ROAD CONSTRUCTION AND IMPROVEMENT

CONSTRUCTION

Road Segment	Length	Cost
I to J	4+00	\$1,209.76
K to L	5+25	\$1,455.63
	9+25 stations	
	0.18 miles	

SUBTOTAL CONSTRUCTION **\$2,665.39**

IMPROVEMENTS

Road Segment	Length	Cost
A to B	232+00	\$4,166.00
C to D	1+30	\$232.31
E to F	3+10	\$553.97
G to H	2+10	\$375.27
	238+50 stations	
	4.52 miles	

SUBTOTAL IMPROVEMENTS **\$5,327.55**

TOTAL PROJECT NO. 1 COST = **\$7,992.94**

PROJECT NO. 2: SURFACING

Road Segment	Amount	Type	Cost
A to B	150 cy	1 1/2" - 0	\$993.00
C to D	149 cy	6" - 0	\$1,124.20
E to F	330 cy	6" - 0	\$2,559.83
G to H	277 cy	6" - 0	\$2,201.76
I to J	382 cy	6" - 0	\$2,910.84
K to L	444 cy	6" - 0	\$3,423.24
Total	150 cy	1 1/2" - 0	\$993.00
	1,583 cy	6" - 0	\$12,219.86

TOTAL PROJECT NO. 2 COST = **\$13,212.86**

PROJECT NO. 3: GRASS SEED, FERTILIZE, & MULCH

Grass seed and fertilize areas of disturbed soil.	\$93.43
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TOTAL PROJECT NO. 3 COST = **\$93.43**

MOVE IN & EQUIPMENT CLEANING **\$6,024.42**

TOTAL ALL PROJECTS **\$27,323.66**
TOTAL CREDITS **\$27,560.00**

SUMMARY OF CONSTRUCTION COST

Timber Sale:	<u>Rail Splitter</u>	Timber Sale No. :	<u>341-12-16</u>
Road Segment:	<u>A to B</u>	Improvement:	<u>232+00</u> stations
			<u>4.39</u> miles

PROJECT NO. 1

EXCAVATION

Roadside Brushing	3.88	miles @	950.00 per mile =	\$3,686.00
Clean Ditch and Endhaul Waste Material	3.00	sta @	\$60.00 per sta =	\$180.00
Grade				\$300.00

PROJECT NO. 1 TOTAL COST = \$4,166.00

PROJECT NO. 2:

SURFACING

Spot Rock	<u>150</u>	cy of	1 1/2" - 0 @	\$6.62 per cy =	<u>\$993.00</u>
Total =	<u>150</u>	cy of	1 1/2" - 0		\$993.00

PROJECT NO. 2 TOTAL COST = \$993.00

TOTAL COST = \$5,159.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Rail Splitter
Road Segment: C to D

Timber Sale No. : 341-12-16
Improvement: 1+30 stations
0.02 miles

PROJECT NO. 1

EXCAVATION

Grade, Ditch, and Roll	1.30	sta @	\$28.70	per sta =	\$37.31
Brush Removal	1.30	sta @	\$150.00	per sta =	\$195.00

PROJECT NO. 1 TOTAL COST = \$232.31

PROJECT NO. 2:

SURFACING

	10	" deep =	53 cy/sta		
C to D	69	cy of	6" - 0	@	\$7.55 per cy = \$520.20
Landing (1)	80	cy of	6" - 0	@	\$7.55 per cy = \$604.00
Total =	149	cy of	6" - 0		

PROJECT NO. 2 TOTAL COST = \$1,124.20

TOTAL COST = \$1,356.51

SUMMARY OF CONSTRUCTION COST

Timber Sale:	<u>Rail Splitter</u>	Timber Sale No. :	<u>341-12-16</u>
Road Segment:	<u>E to F</u>	Improvement:	<u>3+10</u> stations
			<u>0.06</u> miles

PROJECT NO. 1

EXCAVATION

Grade, Ditch, and Roll	3.10	sta @	\$28.70	per sta =	\$88.97
Brush Removal	3.10	sta @	\$150.00	per sta =	\$465.00

PROJECT NO. 1 TOTAL COST = \$553.97

PROJECT NO. 2:

SURFACING

	10	" deep =	53 cy/sta			
E to F	164	cy of	6" - 0	@	\$7.75	per cy = \$1,273.33
Turnaround (1)	16	cy of	6" - 0	@	\$7.75	per cy = \$124.00
Landing (1)	150	cy of	6" - 0	@	\$7.75	per cy = \$1,162.50
Total =	330	cy of	6" - 0			

PROJECT NO. 2 TOTAL COST = \$2,559.83

TOTAL COST = \$3,113.80

SUMMARY OF CONSTRUCTION COST

Timber Sale: Rail Splitter
Road Segment: G to H

Timber Sale No. : 341-12-16
Improvement: 2+10 stations
0.04 miles

PROJECT NO. 1

EXCAVATION

Grade, Ditch, and Roll	2.10	sta @	\$28.70	per sta =	\$60.27
Brush Removal	2.10	sta @	\$150.00	per sta =	\$315.00

PROJECT NO. 1 TOTAL COST = \$375.27

PROJECT NO. 2:

SURFACING

	10	" deep =	53 cy/sta			
G to H	111	cy of	6" - 0	@	\$7.94 per cy =	\$883.72
Turnaround (1)	16	cy of	6" - 0	@	\$7.94 per cy =	\$127.04
Landing (1)	150	cy of	6" - 0	@	\$7.94 per cy =	\$1,191.00
Total =	277	cy of	6" - 0			

PROJECT NO. 2 TOTAL COST = \$2,201.76

TOTAL COST = \$2,577.03

SUMMARY OF CONSTRUCTION COST

Timber Sale:	<u>Rail Splitter</u>	Timber Sale No. :	<u>341-12-16</u>
Road Segment:	<u>I to J</u>	Construction:	<u>4+00</u> stations
			<u>0.08</u> miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.46	acres @	\$980.00	per acre =	\$449.95
Balanced Road Construction	2.50	sta @	\$90.00	per sta =	\$225.00
Drift	1.50	sta @	\$150.00	per sta =	\$225.00
Landings (1)	1	ea @	\$285.00	per ea =	\$285.00
Grade, Ditch, and Roll	4.00	sta @	\$28.70	per sta =	\$114.80
TOTAL EXCAVATION COSTS=					\$1,299.75

PROJECT NO. 1 TOTAL COST = \$1,299.75

PROJECT NO. 2:

SURFACING

	10	" deep =	53 cy/sta			
I to J	212	cy of	6" - 0	@	\$7.62 per cy =	\$1,615.44
Junction	20	cy of	6" - 0	@	\$7.62 per cy =	\$152.40
Landings (1)	150	cy of	6" - 0	@	\$7.62 per cy =	\$1,143.00
Total =	382	cy of	6" - 0			

PROJECT NO. 2 TOTAL COST = \$2,910.84

PROJECT NO. 3:

Grass seed and fertilize areas of disturbed soil.	0.23	acres @	\$220.00	per acre =	\$50.51
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PROJECT NO. 3 TOTAL COST = \$50.51

TOTAL COST = \$4,261.10

SUMMARY OF CONSTRUCTION COST

Timber Sale: Rail Splitter
Road Segment: K to L

Timber Sale No. : 341-12-16
Construction: 5+25 stations
0.10 miles

PROJECT NO. 1**EXCAVATION**

Clearing and Grubbing (Scatter)	0.60	acres @	\$980.00	per acre =	\$590.56
Balanced Road Construction	5.25	sta @	\$90.00	per sta =	\$472.50
Construct Turnaround (1)	1	ea @	\$75.00	per ea =	\$75.00
Landing	1	ea @	\$285.00	per ea =	\$285.00
Grade, Ditch, and Roll	5.25	sta @	\$28.70	per sta =	\$150.68

PROJECT NO. 1 TOTAL COST = \$1,573.74

PROJECT NO. 2:**SURFACING**

	10	" deep =	53 cy/sta		
K to L	278	cy of	6" - 0	@	\$7.71 per cy = \$2,143.38
Turnaround (1)	16	cy of	6" - 0	@	\$7.71 per cy = \$123.36
Landing (1)	150	cy of	6" - 0	@	\$7.71 per cy = \$1,156.50
Total =	444	cy of	6" - 0		

PROJECT NO. 2 TOTAL COST = \$3,423.24

PROJECT NO. 3:

Grass seed and fertilize areas of disturbed soil.	0.30	acres @	\$220.00	per acre =	\$66.29
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PROJECT NO. 3 TOTAL COST = \$66.29

TOTAL COST = \$5,063.27

Move-In & Equipment Cleaning

Timber Sale:

Rail Splitter

Sale Number:

341-12-16

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROAD	AVE SPEED (mph)
8.0	Main Lines	7
2.0	Steep Grades	2

No.	EQUIPMENT DESCRIPTION	Equipment Cleaning	Base Cost	Woods Cost	Pilot Cars	Within			Within		
						Area (\$/mile)	Begin Mileage	End Mileage	Total Miles	Area	Total Cost
0	Drill & Compressor		\$0.00	\$0.00		\$46.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1	Brush Cutter		\$268.34	\$287.50		\$4.00	\$0.00	\$0.00	\$0.00	\$0.00	\$555.84
1	Graders	\$0	\$300.00	\$321.43		\$3.65	\$0.00	\$0.00	\$0.00	\$0.00	\$621.43
0	Loader (Small)		\$0.00	\$0.00	1	\$3.55	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
0	Loader (Med. & Large)		\$0.00	\$0.00	1	\$9.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1	Rollers (smooth/grid) & Compactors		\$308.59	\$270.25		\$5.00	\$0.00	\$0.00	\$0.00	\$0.00	\$578.84
0	Excavators (Small)	\$0	\$0.00	\$0.00		\$22.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
0	Excavators (Med.)	\$0	\$0.00	\$0.00		\$35.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1	Excavators (Large)	\$1,000	\$466.14	\$467.23	1	\$44.80	\$0.00	\$0.00	\$0.00	\$0.00	\$1,933.37
0	Tired Backhoes/Skidders	\$0	\$0.00	\$0.00		\$3.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
0	Tractors (D6)	\$0	\$0.00	\$0.00	2	\$7.10	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
0	Tractors (D7)	\$0	\$0.00	\$0.00	2	\$11.30	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1	Tractor (D8)	\$1,000	\$473.80	\$427.80	2	\$15.10	\$0.00	\$0.00	\$0.00	\$0.00	\$1,901.60
2	Dump Truck (10 cy +)		\$233.34	\$200.00		\$2.85	\$0.00	\$0.00	\$0.00	\$0.00	\$433.34
0	Dump Truck (Off Hiway)		\$0.00	\$0.00	1	\$4.75	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
0	Water Truck (1500 Gal)		\$0.00	\$0.00		\$2.85	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
0	Water Truck (2500 Gal)		\$0.00	\$0.00		\$2.85	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TOTAL MOVE-IN COSTS:											\$6,024.42

CRUISE REPORT

Rail Splitter

341-12-16

1. ACREAGE CALCULATION: The Timber Sale Area is 100 acres, determined with ESRI ArcMap GIS Software. Acres are net of stream buffers, leave areas, and existing roads.

2. SAMPLING INTENSITY:

In 2004 a portion of the Timber Sale Area was cruised with 13 Stand Level Inventory variable radius plots with a total of 72 measured trees. The plot data was grown forward to July, 2011. The Super Ace-generated cruise statistics report indicated that, for the SLI plots, the Coefficient of Variation is 43% and the cumulative sampling error is 11%. But because these plots did not adequately sample the whole stand, they were supplemented with an additional 18 variable radius count plots and 18 variable radius grade plots in July, 2011. The cruise design assumed a Coefficient of Variation (CV%) of 43%, an average stand diameter of 20 inches, a desired sampling error (SE%) of 8% at a 68% confidence level, and a minimum sample size of 100 grade trees. The combined cruises produced an acceptable sampling error of 6.2% on the Douglas-fir board foot volume with a total of 174 total trees cruised

3. SAMPLING METHOD:

The inventory plots indicated an optimal 6 to 8 grade trees per plot could be realized with a variable radius plot using a 40 BAF prism. Plots were laid out on a 4 chain x 5 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain.

4. TREE MEASUREMENT AND GRADING:

All grade plot sample trees were measured and graded following Columbia River Log Scale grade rules and favoring 40 foot segments.

a) Height Standards:

Total tree heights were measured to the nearest foot. Bole heights were calculated to a six inch top.

b) Diameter Standards: Diameters were measured outside bark at breast height to the nearest inch.

c) Form Factors were measured for each grade tree using a form point of 16 feet.

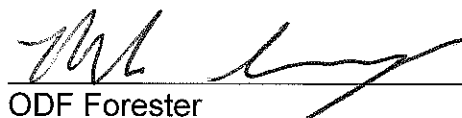
5. DATA PROCESSING

a) Volumes and Statistics, Cruise and grown forward volume estimates, and sampling statistics, were derived from Super Ace 2008 cruise software.

b) Deductions: Two percent of the volume was subtracted from the computed volumes to account for hidden defect and breakage.

6. Cruisers: The sale was cruised by SLI contract cruisers and ODF cruisers Mark Savage and Peter Stone.

Prepared by:


ODF Forester

9/12/11
Date

Reviewed by:


Eric Foucht

9/12/11
Date

TC PSTATS				PROJECT STATISTICS				PAGE 1					
				PROJECT	RLSPLTR		DATE 9/6/2011						
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt				
03N	06	28	1	0001	100.00	42	264	S	W				
				TREES	ESTIMATED	PERCENT							
				PER PLOT	TOTAL	SAMPLE							
					TREES	TREES							
TOTAL				42	264	6.3							
CRUISE				33	192	5.8	12,534	1.5					
DBH COUNT													
REFOREST													
COUNT				9	64	7.1							
BLANKS													
100 %													
STAND SUMMARY													
SAMPLE				TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
TREES				/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
DOUG FIR				174	107.2	19.5	133	50.2	221.5	47,648	47,319	10,250	10,250
DOUG FIR-L				7	1.2	32.0	144	1.2	6.6	1,723	1,665	338	338
SNAG				4	6.9	15.9	79	2.4	9.5				
NOB FIR				2	1.3	16.4	121	0.5	1.9	369	369	76	76
NOB FIR-L				1	.2	30.0	156	0.2	1.0	324	324	58	58
WHEMLOCK				2	6.0	9.2	49	0.9	2.8	141	141	40	40
R ALDER				2	2.7	10.9	82	0.5	1.7	231	231	54	54
TOTAL				192	125.3	18.9	125	56.3	244.9	50,436	50,050	10,816	10,816
CONFIDENCE LIMITS OF THE SAMPLE													
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR													
CL	68.1	COEFF		SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10		15		
DOUG FIR		52.3	4.0	524	546	567							
DOUG FIR-L		16.9	6.9	1,332	1,430	1,528							
SNAG													
NOB FIR		89.2	83.5	76	460	844							
NOB FIR-L													
WHEMLOCK		28.3	26.5	18	25	32							
R ALDER		82.5	77.2	27	120	213							
TOTAL		62.3	4.5	536	562	587		155	39		17		
CL	68.1	COEFF		SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10		15		
DOUG FIR		46.6	3.5	112	116	121							
DOUG FIR-L		12.7	5.1	274	289	304							
SNAG													
NOB FIR		95.0	89.0	11	98	186							
NOB FIR-L													
WHEMLOCK		54.1	50.7	4	8	11							
R ALDER		88.0	82.4	5	29	52							
TOTAL		56.4	4.1	114	119	124		127	32		14		
CL	68.1	COEFF		TREES/ACRE				# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10		15		
DOUG FIR		45.2	7.0	100	107	115							
DOUG FIR-L		264.0	40.7	1	1	2							
SNAG		319.7	49.3	3	7	10							
NOB FIR		531.3	81.9	0	1	2							
NOB FIR-L		648.1	99.9	0	0	0							
WHEMLOCK		373.6	57.6	3	6	9							
R ALDER		648.1	99.9	0	3	5							
TOTAL		43.9	6.8	117	125	134		77	19		9		
CL	68.1	COEFF		BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10		15		

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
03N	06	28	1	0001	100.00	42	264	S	W
DOUG FIR			39.1	6.0	208	221	235		
DOUG FIR-L			263.3	40.6	4	7	9		
SNAG			318.8	49.1	5	10	14		
NOB FIR			452.6	69.8	1	2	3		
NOB FIR-L			648.1	99.9	0	1	2		
WHEMLOCK			365.3	56.3	1	3	4		
R ALDER			648.1	99.9	0	2	3		
TOTAL			32.4	5.0	233	245	257	42	10
CL	68.1		COEFF		NET BF/ACRE			# OF PLOTS REQ.	INF. POP.
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10
DOUG FIR			40.2	6.2	44,387	47,319	50,251		15
DOUG FIR-L			266.3	41.1	982	1,665	2,349		
SNAG									
NOB FIR			453.2	69.9	111	369	627		
NOB FIR-L			648.1	99.9	0	324	648		
WHEMLOCK			365.6	56.4	62	141	221		
R ALDER			648.1	99.9	0	231	462		
TOTAL			33.9	5.2	47,431	50,050	52,669	46	11
CL	68.1		COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.	INF. POP.
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10
DOUG FIR			39.8	6.1	9,622	10,250	10,879		
DOUG FIR-L			263.5	40.6	200	338	475		
SNAG									
NOB FIR			456.1	70.3	22	76	129		
NOB FIR-L			648.1	99.9	0	58	116		
WHEMLOCK			367.3	56.6	17	40	63		
R ALDER			648.1	99.9	0	54	108		
TOTAL			33.8	5.2	10,253	10,816	11,379	46	11

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
T03N R06W S28 Ty0001 100.00				Project: RLSPLTR										Page 1							
				Acres 100.00										Date 9/6/2011							
														Time 10:29:38AM							
S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre	
								Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
DF		CU														9	16		0.00	5.1	
DF		2M	57	.9	27,680	27,419	2,742			65	35	1	1		98	40	15	339	1.72	81.0	
DF		3M	38	.4	17,807	17,740	1,774		81	19		1	0	2	97	39	9	124	0.74	143.2	
DF		4M	5		2,161	2,161	216		100			20	44	11	25	25	6	34	0.36	63.7	
DF Totals			95	.7	47,648	47,319	4,732		35	45	20	2	2	1	94	36	10	162	0.98	292.9	
DF	L	2M	93	3.5	1,621	1,564	156			17	83				100	40	20	663	3.13	2.4	
DF	L	3M	6		93	93	9		100						100	40	8	92	0.95	1.0	
DF	L	4M	1		9	9	1		100					100		32	6	50	0.71	.2	
DF Totals			3	3.3	1,723	1,665	167		6	16	78			1	99	40	16	471	2.41	3.5	
WH		4M	100		141	141	14		100			53	47			23	6	24	0.29	6.0	
WH Totals			0		141	141	14		100			53	47			23	6	24	0.29	6.0	
RA		3M	87		203	203	20		100					48	52	36	7	76	0.49	2.7	
RA		4M	13		28	28	3		100					100		30	6	40	0.37	.7	
RA Totals			0		231	231	23		100					12	46	34	7	69	0.47	3.4	
NF		CU														10	11		0.00	1.0	
NF		2M	51		189	189	19			27	73				100	40	15	365	1.93	.5	
NF		3M	33		124	124	12		100						100	40	9	120	0.55	1.0	
NF		4M	16		57	57	6		100			9		91		30	6	44	0.34	1.3	
NF Totals			1		369	369	37		49	14	37	1		14	85	29	9	95	0.69	3.9	
NF	L	2M	88		285	285	29				100				100	40	21	735	3.03	.4	
NF	L	3M	10		35	35	3		100						100	40	11	180	1.21	.2	
NF	L	4M	2		4	4	0		100			100				16	6	20	0.43	.2	
NF Totals			1		324	324	32		12		88	1			99	34	15	417	2.19	.8	
Totals				0.8	50,436	50,050	5,005		34	43	23	2	3	1	94	35	10	161	0.98	310.4	

Log Stock Table - MBF

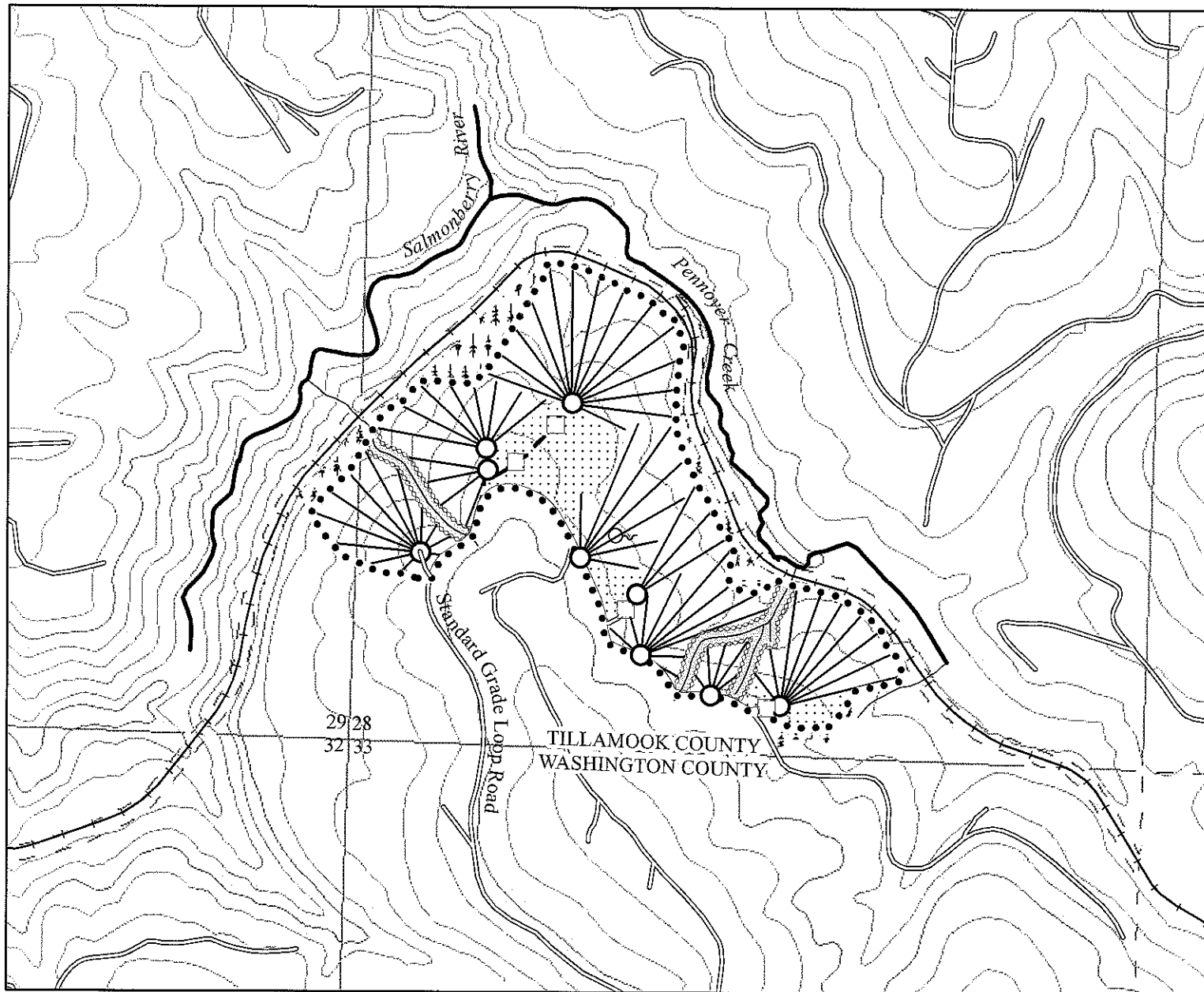
T03N R06W S28 Ty0001 100.00

Project: RLSPLTR
Acres 100.00Page 1
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Spp	S T	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
DF		2M	20		33		33	.7							33					
DF		2M	24		15		15	.3							15					
DF		2M	40		2,721		2,694	56.9						589	839	1008	233	25		
DF		3M	16		10		10	.2							10					
DF		3M	20		7		7	.2							7					
DF		3M	24		7		7	.1				7								
DF		3M	32		27		27	.6			27									
DF		3M	34		5		5	.1			5									
DF		3M	36		4		4	.1			4									
DF		3M	40		1,720		1,713	36.2			232	514	646	262	60					
DF		4M	12		3		3	.1			3									
DF		4M	14		2		2	.0			2									
DF		4M	16		4		4	.1			4									
DF		4M	18		6		6	.1			6									
DF		4M	20		28		28	.6			22		7							
DF		4M	22		28		28	.6			28									
DF		4M	24		19		19	.4			19									
DF		4M	26		12		12	.2			12									
DF		4M	28		15		15	.3			15									
DF		4M	30		22		22	.5			22									
DF		4M	32		8		8	.2			8									
DF		4M	34		16		16	.3			16									
DF		4M	36		17		17	.3			17									
DF		4M	38		18		18	.4			18									
DF		4M	40		19		19	.4			8	11								
DF		Totals			4,765		4,732	94.5			468	525	659	851	898	1072	233	25		
DF	L	2M	40		162	3.5	156	93.9							13	40	57	46		
DF	L	3M	40		9		9	5.6			2	5	2							
DF	L	4M	32		1		1	.5			1									
DF		Totals			172	3.3	167	3.3			3	5	2		13	40	57	46		
WH		4M	20		8		8	53.3			8									
WH		4M	28		7		7	46.7			7									
WH		Totals			14		14	.3			14									
RA		3M	34		10		10	42.2			10									
RA		3M	40		11		11	45.6					11							

TC PLOGSTVB				Log Stock Table - MBF																
T03N R06W S28 Ty0001 100.00				Project: RLSPLTR Acres 100.00				Page 2 Date 9/6/2011 Time 10:29:37AM												
S T Spp	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches												
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+	
RA		4M	30	3		3	12.2			3										
RA		Totals		23		23	.5			13		11								
NF		2M	40	19		19	51.0					5		14						
NF		3M	40	12		12	33.6			12										
NF		4M	20	1		1	1.4			1										
NF		4M	32	5		5	14.0			5										
NF		Totals		37		37	.7			6	12	5		14						
NF	L	2M	40	29		29	88.0							10		18				
NF	L	3M	40	3		3	10.8					3								
NF	L	4M	16	0		0	1.2			0										
NF		Totals		32		32	.6			0		3		10		18				
Total		All Species		5,044		5,005	100.0			504	542	675	857	911	1136	309	72			

TC		PSTNDSUM										Stand Table Summary										Page		1				
																						Date:		9/6/2011				
T03N R06W S28 Ty0001 100.00					Project										RLSPLTR										Time:		10:29:38AM	
					Acres										100.00										Grown Year:			
S Spec T				Tot					Average Log				Net		Net		Totals											
	DBH	Sample Trees	FF 16'	Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Net Cu.Ft.	Net Bd.Ft.	Tons/ Acre	Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF													
DF	11	1	87	111	1.812	1.20	3.62	10.7	50.0	1.10	39	181	110	39	18													
DF	12	1	88	125	1.523	1.20	3.05	15.0	75.0	1.30	46	228	130	46	23													
DF	13	3	89	126	4.029	3.71	8.06	18.4	90.0	4.24	149	725	424	149	73													
DF	14	6	88	118	7.066	7.55	12.90	20.6	92.9	7.57	266	1,198	757	266	120													
DF	15	7	86	119	7.438	9.13	14.88	24.1	102.8	10.20	358	1,529	1,020	358	153													
DF	16	11	88	132	10.144	14.16	25.97	23.3	104.6	17.22	604	2,716	1,722	604	272													
DF	17	12	88	133	9.904	15.61	26.36	26.4	115.9	19.84	696	3,055	1,984	696	306													
DF	18	13	88	135	9.329	16.43	27.31	27.5	117.9	21.42	752	3,219	2,142	752	322													
DF	19	17	88	130	11.094	21.84	31.94	30.7	133.0	27.96	981	4,249	2,796	981	425													
DF	20	17	88	138	9.752	21.21	29.26	34.2	157.3	28.49	1,000	4,603	2,849	1,000	460													
DF	21	11	88	147	5.732	13.79	16.70	40.7	198.6	19.39	680	3,316	1,939	680	332													
DF	22	16	87	138	7.838	20.65	23.52	41.4	190.3	27.74	973	4,474	2,774	973	447													
DF	23	12	88	135	5.255	15.11	15.76	45.7	210.3	20.55	721	3,315	2,055	721	332													
DF	24	10	88	141	4.048	12.72	12.10	49.4	233.5	17.05	598	2,826	1,705	598	283													
DF	25	10	87	144	3.606	12.34	10.43	58.7	277.4	17.46	612	2,893	1,746	612	289													
DF	26	11	88	146	3.841	14.16	11.17	64.0	310.4	20.38	715	3,466	2,038	715	347													
DF	27	4	89	148	1.267	5.04	3.80	68.2	340.3	7.39	259	1,293	739	259	129													
DF	28	6	89	142	1.796	7.68	5.39	71.6	360.4	10.99	386	1,942	1,099	386	194													
DF	29	5	88	147	1.441	6.61	4.61	73.2	358.1	9.62	338	1,651	962	338	165													
DF	31	1	92	159	.252	1.32	1.01	77.0	435.0	2.21	78	439	221	78	44													
DF	Totals	174	88	133	107.167	221.46	287.81	35.6	164.4	292.13	10,250	47,319	29,213	10,250	4,732													
DF L	30	2	86	146	.365	1.81	1.09	85.5	402.6	2.67	94	441	267	94	44													
DF L	31	1	90	139	.182	.95	.55	89.0	436.7	1.38	49	238	138	49	24													
DF L	32	1	86	132	.171	.95	.51	88.2	416.7	1.29	45	213	129	45	21													
DF L	33	1	90	145	.160	.95	.48	102.7	543.3	1.41	49	261	141	49	26													
DF L	34	2	88	152	.302	1.90	.91	111.5	565.0	2.88	101	512	288	101	51													
DF L	Totals	7	88	144	1.180	6.58	3.54	95.4	470.6	9.62	338	1,665	962	338	167													
NF	13	1	92	122	1.033	.95	2.07	16.1	85.0	.80	33	176	80	33	18													
NF	26	1	89	117	.258	.95	.77	54.8	250.0	1.02	42	194	102	42	19													
NF	Totals	2	91	121	1.292	1.90	2.84	26.7	130.0	1.82	76	369	182	76	37													
NF L	30	1	90	156	.194	.95	.78	74.5	417.5	1.39	58	324	139	58	32													
NF L	Totals	1	90	156	.194	.95	.78	74.5	417.5	1.39	58	324	139	58	32													
RA	9	1	88	77	1.951	.86	1.95	10.8	50.0	.58	21	98	58	21	10													
RA	15	1	87	97	.702	.86	1.40	23.3	95.0	.90	33	133	90	33	13													
RA	Totals	2	88	82	2.653	1.72	3.36	16.1	68.8	1.48	54	231	148	54	23													
WH	8	1	87	52	3.765	1.31	3.76	4.6	20.0	.56	17	75	56	17	8													
WH	11	1	83	45	2.201	1.45	2.20	10.4	30.0	.73	23	66	73	23	7													
WH	Totals	2	86	49	5.965	2.77	5.97	6.8	23.7	1.29	40	141	129	40	14													
SN	13	1	77	40	2.583	2.38																						
SN	16	1	89	110	1.705	2.38																						
SN	17	1	88	110	1.511	2.38																						
SN	20	1	87	80	1.091	2.38																						
SN	Totals	4	84	79	6.890	9.52																						
Totals		192	88	125	125.340	244.90	304.29	35.5	164.5	307.73	10,816	50,050	30,773	10,816	5,005													



Legend

- Timber Sale Boundary
- Roads
- - New Construction
- + Railroad Tracks
- Type F Stream
- Type N Stream
- ▨ Posted Stream Buffer
- Spring
- Cable Landing
- Tractor Landing
- ▤ Cable Yarding Area
- ▤ Tractor Yarding Area
- ▤ Green Tree Retention Area
- 400 Foot Contour Band
- 80 Foot Contour Band
- ▤ ODF Ownership Boundary
- Sections

LOGGING PLAN

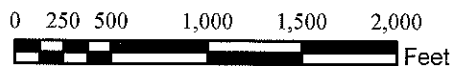
OF TIMBER SALE CONTRACT NO. 341-12-16
RAIL SPLITTER
PORTIONS OF SECTIONS 28 & 29, T3N, R6W, W.M
TILLAMOOK COUNTY, OREGON

Forest Grove District GIS
August, 2011

This product is for informational use and may not be
suitable for legal, engineering, or surveying purposes.

1:12,000

1 inch = 1,000 feet



APPROXIMATE NET ACRES

CABLE YARDING AREA	86
TRACTOR YARDING AREA	14
TOTAL	100