



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Cost Summary Angle Loop No. 1 Sale 341-06-013

District: Tillamook

Date: 8/5/05

	Conifer	Hardwood	Total
<b>Gross Timber Sale Value</b>	\$203,677.02	\$0.00	\$203,677.02
		<b>Project Work</b>	(\$46,820.00)
		<b>Advertised Value</b>	\$156,857.02



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Timber Description Angle Loop No. 1 Sale 341-06-013

**District:** Tillamook

**Location:** Portions of Sections 3 and 4, T3N, R9W, W.M. Tillamook County, Oregon

**Date:** 8/5/05

**Stand Stocking:** 60%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	22	0	95
Western Hemlock / Fir	16	0	95
Sitka Spruce	21	0	95

Volume by Grade	Douglas - Fir	Western Hemlock / Fir	Sitka Spruce	Total
2S	68	294	157	519
3S	41	321	249	611
4S	0	53	30	83
<b>Total</b>	109	668	436	1,213

**Comments:** Pond Values used: 2nd Quarter 2005.

Cedar Stumpage: \$ 925.00/ MBF (pond value) - \$ 279.79 / MBF (logging cost) = \$ 645.21/ MBF

Alder Stumpage: \$ 615.00/ MBF (Camp run, 8" and up) - \$ 279.79/ MBF (logging cost) =  
\$ 335.21/ MBF

Additional Costs (Profit and Risk to be added):

Brand and Paint: \$2 /MBF x 1,213 MBF = \$ 2,426

Snag creation: \$ 40/ snag x 200 snags = \$ 8,000

Down wood creation (additional bucking cost): \$ .10/ cubic foot created x 270 cubic feet/ac x 99  
acres = \$ 2,673

Total other costs + P&R = \$ 13,099

Additional Costs (Profit and Risk Included):

Non-Project Roads (Seeding included):

Road 1: 2.3 Stations x \$ 130/ Station = \$ 299

Road 2: 6.8 Stations x \$ 130/ Station = \$ 884

Non-Project Road Rock:

Road 1 and 2: 4 Stations x 50 cubic yards of pit run/ station x \$ 13.43 = \$ 2,686

Road vacating between Points C and D: \$ 4,847.70

Total other costs without P&R = \$ 8,717

Road Maintenance

Grading (once during the contract)

\$ 500/ mile x 1 Grading x 1.4 miles / 1,213 MBF = \$ 0.58

Maintenance Rock (from commercial source) - estimate of 60 yards of crushed rock

60 yards<sup>3</sup> x \$ 16.48/ yard / 1,213 MBF = \$ 0.82

Total Maintenance Cost = \$ 1.40



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal

## Logging Conditions

### Angle Loop No. 1

### Sale 341-06-013

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<b>Combination#:</b> 1	Douglas - Fir	84.00%	
	Western Hemlock / Fir	84.00%	
	Sitka Spruce	84.00%	
<b>Yarding Distance:</b>	Medium (800 ft)		<b>Downhill Yarding:</b> Yes
<b>Logging System:</b>	Shovel		<b>Process:</b> Manual Delimiting
<b>Tree Size:</b>	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF		
<b>Loads/Day:</b>	4		<b>Bd. Ft./Load:</b> 3,800
<b>Cost/MBF:</b>	\$165.12		
<b>Machines:</b>	Shovel Logger		
<b>Combination#:</b> 2	Douglas - Fir	16.00%	
	Western Hemlock / Fir	16.00%	
	Sitka Spruce	16.00%	
<b>Yarding Distance:</b>	Short (400 ft)		<b>Downhill Yarding:</b> No
<b>Logging System:</b>	Cable: Small Tower <=40		<b>Process:</b> Manual Delimiting
<b>Tree Size:</b>	Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF		
<b>Loads/Day:</b>	3		<b>Bd. Ft./Load:</b> 3,800
<b>Cost/MBF:</b>	\$199.54		
<b>Machines:</b>	Log Loader (A) Tower Yarder (Small)		



# Timber Sale Appraisal

## Logging Costs

### Angle Loop No. 1

### Sale 341-06-013

"STEWARDSHIP IN FORESTRY"

Date: 8/5/05

Operating Seasons: 1.0

Profit & Risk: 20%

Project Costs: \$46,820

Other Costs (P/R): \$13,099

Slash Disposal: \$0

Other Costs: \$8,717

Miles of Road			
Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Road Maintenance: \$1.40

#### Hauling Costs

Species	\$/MBF	Trips/Day	MBF/Load
Douglas - Fir	\$0.00	2.0	3.7
Western Hemlock / Fir	\$0.00	3.0	3.6
Sitka Spruce	\$0.00	3.0	3.4



# Timber Sale Appraisal Logging Costs Breakdown Angle Loop No. 1 Sale 341-06-013

"STEWARDSHIP IN FORESTRY"

<b>Costs</b>	<b>Douglas - Fir</b>	<b>Western Hemlock / Fir</b>	<b>Sitka Spruce</b>
<b>Logging</b>	170.63	170.63	170.63
<b>Road Maintenance</b>	1.47	1.47	1.47
<b>Fire Protection</b>	2.23	2.23	2.23
<b>Hauling</b>	60.53	40.37	46.11
<b>Other (P/R appl.)</b>	10.80	10.80	10.80
<b>Profit &amp; Risk</b>	49.13	45.10	46.25
<b>Slash Disposal</b>	0.00	0.00	0.00
<b>Scaling</b>	2.00	2.00	2.00
<b>Other</b>	7.19	7.19	7.19
<b>Total</b>	303.98	279.79	286.68

<b>Amortization</b>	0.00	0.00	0.00
<b>Pond Value</b>	646.24	444.82	415.42
<b>Stumpage</b>	342.26	165.03	128.74
<b>Amortized</b>	0.00	0.00	0.00



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Summary

## Angle Loop No. 1 Sale 341-06-013

**Amortized**

	Douglas - Fir	Westem Hemlock / Fir	Sitka Spruce
<b>MBF</b>	0.00	0.00	0.00
<b>Value</b>	0.00	0.00	0.00
<b>Total</b>	0.00	0.00	0.00

**Unamortized**

	Douglas - Fir	Westem Hemlock / Fir	Sitka Spruce
<b>MBF</b>	109.00	668.00	436.00
<b>Value</b>	342.26	165.03	128.74
<b>Total</b>	37,306.34	110,240.04	56,130.64

**Gross Timber Sale Value**

**Recovery \$203,677.02**

Prepared by: David Wells

Date: 8/5/05

District: Tillamook

Phone: (503) 842-2545



## PROJECT SUMMARY SHEET

Sale: Angle Loop No. 1

### IMPROVEMENT

Point            A to B            97+65            stations =            \$44,784.45

### SUBTOTAL IMPROVEMENT

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### Vacating (Not Part of Project Work)

Point C to D (See Section 2130 of Contract )

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### MOVE IN

\$2,035.55

### GRAND TOTAL

**\$46,820.00**



## SUMMARY OF CONSTRUCTION COST

Sale:	<u>Angle Loop</u>	Road:	<u>A to B</u>
Construction -	<u>0+00</u> stations <u>0.00</u> miles	Improvement -	<u>97+65</u> stations <u>1.85</u> miles
CLEARING AND GRUBBING - Roadside Brushing	1.85 miles @	\$800.00 per mile =	<u>\$1,480.00</u>
		TOTAL CLEARING AND GRUBBING	<b>\$1,480.00</b>
EXCAVATION & ENDHAUL- Ditchline X & EH	97.65 sta. @	\$10.00 per sta. =	<u>\$976.50</u>
		TOTAL EXCAVATION	<b>\$976.50</b>
CULVERTS - MATERIALS & INSTALLATION			
	<u>Culverts</u>		
	28 LF of 18"	\$448.00	
	0 LF of 30"	\$0.00	
	0 LF of 42"	\$0.00	
	0 LF of 54"	\$0.00	
	0 LF of 66"	<u>\$0.00</u>	
		\$448.00	
	<u>Half Rounds</u>		
	0 LF of 21"	\$0.00	
	0 LF of 36"	<u>\$0.00</u>	
		\$0.00	
	<u>Culvert Stakes &amp; Markers</u>		
	0 stakes	\$0.00	
	2 markers	<u>\$16.00</u>	
		\$16.00	
			TOTAL CULVERTS
			<b>\$1,364.00</b>
ROCK			
0+00 to 88+40	1,801 cy. of	Crushed @	\$16.48 per c.y. = \$29,680.48
Culvert Backfill	30 cy. of	Crushed @	\$15.03 per c.y. = \$450.90
88+40 to 97+65	473 cy. of	Pit-Run @	<u>\$6,352.39</u>
			TOTAL ROCK
			<b>\$36,483.77</b>
SPECIAL PROJECTS			
Grade and shape road -	97.65 stations @	\$14.20 per station	\$1,386.63
Roll subgrade w/ vibratory roller prior to rocking -	97.65 stations @	\$11.00 per station	\$1,074.15
Remove culverts from state lands	3.00 Culverts	total	\$215.40
Grass seed and fertilize -	2.20 acres @	\$220.00 per acre	\$484.00
Mulching -	2.20 acres @	\$600.00 per acre	<u>\$1,320.00</u>
			TOTAL SPECIAL PROJECTS
			<b>\$4,480.18</b>
<b>GRAND TOTAL</b>			<b>\$44,784.45</b>

## SUMMARY OF ROAD VACATING COST

Sale:

Angle Loop

Road: C to D

Vacating	32+00	stations
	0.61	miles

**SPECIAL PROJECTS**

Construct waterbars -	9.00	@	\$25.00	each	\$225.00
Remove culverts @14+00,15+15,30+40	12.00	hours @	\$130.00	per hour	\$1,560.00
Remove log culvert @ stations: 2+00 -	12.00	hours @	\$130.00	per hour	\$1,560.00
Remove culverts from state lands	3.00	culverts		total	\$297.90
Grass seed and fertilize -	1.4700	acres @	\$220.00	per acre	\$323.40
Mulching -	1.469	acres @	\$600.00	per acre	\$881.40

TOTAL SPECIAL PROJECTS **\$4,847.70**

**GRAND TOTAL** **\$4,847.70**

## ROCK QUARRY SHEET (COMMERCIAL SOURCE)

Pit:	Mohler	Location:	T3n, R10W, W.M.
Sale:	<b>Angle Loop</b>	Road:	2304 c.y.
Swell:	1.40	Stockpile:	c.y.
Shrinkage:	1.16	Total Truck Loads:	2304 c.y.
Drill Pct.:	100%	In Place Total:	1646 c.y.

Move in Roller and Compactor	1	@	\$311.46	=	\$311.46
Move in Grader	1	@	\$155.73	=	\$155.73
Move in Trucks	4	@	\$104.50	=	\$418.00
Move in Water Truck	1	@	\$122.83	=	\$122.83
					Subtotal \$1,008.02

ROCK COST(Commercial Source)

Crushed (1 1/2"-0")	\$8.60		
Pit Run	\$5.00		
Base Cost(Move in)	\$0.44	Per Cu.Yd.	
		<b>TOTAL PRODUCTION COSTS</b>	<b>\$1,008.02</b>

Road Segment	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST
A to B Crushed	6.14	1.30	9.04	16.48	1801	29,680.48
A to B Pit Run	7.09	0.90	5.44	13.43	473	6,352.39
A to B Bedding Rock	5.67	0.60	9.04	15.03	30	450.90
				Total C.Y.	2304	Sub Total
						36,483.77

<b>TOTAL ROCKING COSTS</b>	<b>36,483.77</b>
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# OREGON DEPARTMENT OF FORESTRY CRUISE REPORT *Angle Loop No. 1*

1. **Type of Sale**

Thinning, Recovery

2. **Legal Description**

Sections 3 and 4, T 3N, R 9 W, W.M. Tillamook County, Oregon

3. **Sale Acreage**

	ACRES		
	<u>Sale</u>	<u>Total</u>	<u>Net</u>
Area 1 (Partial Cut)	135	135	99
Area 2 (Partial Cut)	18	18	16

Sale Acres: Area within the Timber Sale Boundary signs.

Total acres: For accomplishment reporting.

Sale acres, plus green tree retention areas outside the timber sale boundary; less roads and riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

Net acres: Used for calculating the advertised volume.

**Partial Cut** - Sale acres minus buffer areas

4. **Cruising Procedures**

**A. Cruise Method**

Areas 1 and 2 were cruised together with a total of 47 variable radius plots spaced on a 320 foot square grid pattern. All conifers 8 inches DBH and greater and all hardwoods 10 inches DBH and greater were measured and graded on these plots. Take and leave trees were identified at the time of cruising. Spruce leave trees were recorded as NF (noble fir) on the cruise data.

**B. Plot size**

A basal area factor of 54.45 was used. The point of observation was at 4.5 feet.

**C. Grading System**

All trees were graded according to Columbia River Log Scaling and Grading Rules. Tree heights were recorded to a 7 inch top outside bark for hemlock and Sitka spruce; six inch top outside bark for Douglas-fir; nine inches top outside bark for hardwoods; or three tenths (0.3) of DBH for all species, whichever was greater. Log lengths all favored 40 feet. Height and diameter measurement standards were to the nearest foot or inch respectively. All diameters were taken at a height of 4.5 feet. Conifers less than 20 board feet and hardwoods less than 30 board feet were not recorded.

5. **Computation Procedure**

Plot data was entered into Super A.C.E. 98 program for computation of basal area, stand tables, grade breakdowns. This data was then entered into the Volume Summary Worksheet to compute sale volumes for sale timber only.

Spruce logs with a top or butt diameter of 24 inches or greater were graded Camp Run and spruce trees with a 30"+ DBH were graded as Utility and the volumes were not included in the summary. Logs scaled as CR will be left for Down Wood and trees scaled as Utility will be available for Snag creation.

6. **Hidden Defect and Breakage**

A 5% deduction was applied to conifer and hardwood volume to account for the defect and breakage.

7. **Timber Description**

Area 1: The stand was logged in the 1920's and naturally regenerated to a mixed stand of primarily hemlock and spruce. Trees marked with blue paint less than 30 inches DBH are take trees and trees 30 inches and larger are available for snag creation.

Area 2: This area was logged in the 1960's and naturally regenerated to mostly hemlock. Take trees will be selected by the operator to leave 140 to 160 square feet of basal area.

8. **Cruiser Names/Dates**

Wells/ Winslow/ Phillips/ Hendricks, March, 2005.

9. **Revenue Distribution**

FDF: 100%

Tax Code: 56-1

Deed Numbers: 35

Rehabilitation Obligation: none

10. **Attachments**

Stand Table

Species, Sort Grade – Cubic Foot Volumes

Volume Summaries

Logging Plan

Stand Table Summary																
TC TSTNDSUM																
Project ANGLELOO																
T03N R09W S04 TSALE										T03N R09W S04 TSALE						
Twp		Rge	Sec	Tract	Type			Acres	Plots	Sample Trees		Page: 1				
03N		09W	04	ANGLE LOOP 1	SALE			1.00	47	227		Date: 6/21/2001				
												Time: 8:33:04AM				
S Spc	T	Sample DBH	FF Trees	Av		Trees/ Acres	BA/ Acres	Logs Acres	Average Log		Net Tons/ Acres	Net Cu.Ft. Acres	Net Bd.Ft. Acres	Totals		
				Ht 16'	Tot				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
NF		11	1	84	81	1.693	1.16	1.69	18.5	70.0	.75	31	119	1	0	0
NF		15	1	86	82	.944	1.16	1.89	18.3	70.0	.83	35	132	1	0	0
NF		16	2	88	66	1.599	2.32	1.60	32.4	110.0	1.24	52	176	1	1	0
NF		17	2	87	72	1.551	2.32	2.32	29.1	100.0	1.62	68	232	2	1	0
NF		19	1	89	69	.614	1.16	.61	48.5	180.0	.72	30	111	1	0	0
NF		20	1	89	62	.526	1.16	1.05	28.2	105.0	.71	30	110	1	0	0
NF		21	2	89	77	.983	2.32	1.97	37.9	150.7	1.79	75	296	2	1	0
NF		22	1	89	91	.439	1.16	.88	49.0	210.0	1.03	43	184	1	0	0
NF		24	3	90	67	1.091	3.48	2.18	43.2	168.5	2.27	94	368	2	1	0
NF		25	1	89	76	.337	1.16	.67	55.4	220.0	.90	37	148	1	0	0
NF		26	2	89	90	.638	2.32	1.59	50.7	238.2	1.94	81	379	2	1	0
NF		27	2	90	106	.583	2.32	1.75	56.2	285.0	2.36	98	498	2	1	0
NF		28	3	89	114	.817	3.48	2.17	70.5	344.5	3.68	153	748	4	2	1
NF		29	3	91	90	.767	3.48	1.79	72.0	311.3	3.09	129	556	3	1	1
NF		30	1	91	81	.233	1.16	.47	86.1	385.0	.96	40	179	1	0	0
NF		31	3	91	74	.652	3.48	1.30	78.7	359.9	2.46	103	469	2	1	0
NF		32	2	91	97	.415	2.32	1.04	88.7	474.0	2.21	92	492	2	1	0
NF		34	2	90	127	.367	2.32	1.10	106.5	571.7	2.82	117	630	3	1	1
NF		35	5	91	101	.868	5.79	2.08	102.5	520.1	5.13	214	1,084	5	2	1
NF		36	1	91	79	.164	1.16	.33	107.7	560.0	.85	35	184	1	0	0
NF		37	2	91	92	.311	2.32	.62	124.6	620.0	1.86	78	386	2	1	0
NF		38	4	91	108	.588	4.63	1.47	124.8	640.0	4.40	184	941	4	2	1
NF		39	3	91	90	.421	3.48	.70	143.6	750.2	2.42	101	527	2	1	1
NF		40	5	91	104	.664	5.79	1.59	135.6	694.2	5.19	216	1,106	5	2	1
NF		41	3	90	120	.382	3.48	1.14	144.2	807.5	3.96	165	924	4	2	1
NF		42	4	91	112	.482	4.63	1.20	173.0	925.0	5.00	208	1,114	5	2	1
NF		43	1	90	110	.115	1.16	.23	216.1	1055.0	1.19	50	242	1	0	0
NF		44	3	91	114	.332	3.48	.89	164.4	895.6	3.49	146	793	3	1	1
NF		45	3	90	134	.315	3.48	.94	183.8	1001.1	4.16	173	945	4	2	1
NF		48	3	90	130	.277	3.48	.92	197.0	1106.0	4.36	182	1,020	4	2	1
NF		49	2	88	115	.177	2.32	.18	288.3	1575.0	1.22	51	279	1	1	0
NF		50	1	90	101	.085	1.16									
NF		56	2	91	103	.135	2.32	.34	292.8	1396.0	2.38	99	473	2	1	0
NF		57	1	91	103	.065	1.16									
NF		60	1	91	118	.059	1.16	.18	285.3	1710.0	1.21	51	303	1	1	0
NF		65	1	91	102	.050	1.16	.10	273.0	1105.0	.66	27	111	1	0	0
NF		66	1	91	108	.049	1.16	.10	521.1	2975.0	1.22	51	290	1	1	0
L.		Totals	79	89	88	19.787	91.52	39.10	85.3	423.3	80.08	3,336	16,549	80	33	17
SS		11	1	89	81	1.724	1.16	3.45	8.5	35.0	.77	29	121	1	0	0
SS		12	2	89	65	2.950	2.32	2.95	18.9	80.0	1.45	56	236	1	1	0
SS		13	2	89	45	2.595	2.32	2.59	15.1	40.6	1.02	39	105	1	0	0
SS		14	1	90	58	1.132	1.16	1.13	24.0	60.0	.70	27	68	1	0	0
SS		15	1	90	93	.996	1.16	1.00	32.0	140.0	.84	32	140	1	0	0
SS		16	2	90	139	1.619	2.32	3.24	35.9	175.0	3.03	116	567	3	1	1
SS		18	1	79	88	.634	1.16	1.27	31.6	95.0	1.04	40	121	1	0	0
SS		19	1	88	89	.576	1.16	1.15	37.3	135.0	1.12	43	156	1	0	0
SS		20	2	87	103	1.068	2.32	2.66	35.2	142.1	2.44	94	378	2	1	0
SS		21	3	85	94	1.460	3.48	3.39	33.3	136.7	2.93	113	464	3	1	0
SS		24	1	89	143	.369	1.16	1.11	56.4	273.3	1.62	62	302	2	1	0
SS		26	3	89	110	.943	3.48	2.51	61.2	275.0	4.00	154	691	4	2	1
SS		27	1	90	80	.298	1.16	.60	63.1	275.0	.98	38	164	1	0	0
SS		28	2	90	125	.536	2.32	1.61	69.3	355.4	2.90	111	572	3	1	1

SPRICE - LEAVE TREES

SPRICE

SPRICE-MARKED TREES

TC TSTNDSUM		Stand Table Summary														
Project ANGLELOO																
T03N R09W S04 TSALE											T03N R09W S04 TSALE					
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page:	2		Date: 6/21/2001					
03N	09W	04	ANGLE LOOP 1	SALE	1.00	47	227	Time:	8:33:04AM							
Spc	S T	DBH	Sample Trees	FF	Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
									Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
SS		29	1	90	127	.251	1.16	.75	78.3	363.3	1.53	59	273	2	1	0
SS		31	3	90	101	.665	3.48	1.99	68.4	386.4	3.54	136	770	4	1	1
SS		33	1	90	87	.195	1.16	.59	70.9	360.0	1.08	41	211	1	0	0
SS		35	1	90	164	.173	1.16	.69	100.0	602.5	1.80	69	418	2	1	0
SS		36	1	89	118	.164	1.16	.49	108.5	593.3	1.39	53	292	1	1	0
SS		37	1	89	99	.155	1.16	.31	145.9	740.0	1.18	45	230	1	0	0
SS		38	2	89	121	.297	2.32	.89	126.8	743.1	2.94	113	663	3	1	1
SS		42	1	89	106	.120	1.16	.24	212.3	1170.0	1.33	51	282	1	1	0
SS		45	1	90	162	.105	1.16	.31	242.7	1513.3	1.98	76	476	2	1	0
SS		46	1	90	120	.100	1.16	.30	193.4	1103.3	1.51	58	332	2	1	0
SS		58	1	90	108	.063	1.16	.13	429.1	2365.0	1.41	54	299	1	1	0
SS		65	1	90	141	.050	1.16	.10	721.4	4320.0	1.89	73	434	2	1	0
SS		67	1	87	111	.047	1.16	.09	618.2	2875.0	1.52	59	272	2	1	0
SS		Totals	39	89	89	19.286	45.18	35.55	51.9	254.1	47.92	1,844	9,035	48	18	9
WL		8	1	74	35	3.083	1.16	3.08	4.6	20.0	.45	14	62	0	0	0
WL		11	1	83	41	1.821	1.16	1.82	9.3	30.0	.54	17	55	1	0	0
WL		12	1	86	47	1.427	1.16	1.43	15.7	50.0	.72	22	71	1	0	0
WL		13	2	88	47	2.574	2.32	2.57	16.5	50.2	1.36	42	129	1	0	0
WL		14	4	89	63	4.417	4.63	6.57	17.2	61.3	3.62	113	403	4	1	0
WL		15	1	91	88	.932	1.16	1.86	20.6	90.0	1.23	38	168	1	0	0
WL		16	2	92	80	1.724	2.32	3.45	21.2	84.9	2.34	73	293	2	1	0
WL		17	1	92	80	.735	1.16	1.47	25.3	105.0	1.19	37	154	1	0	0
WL		18	2	91	72	1.335	2.32	2.03	32.4	107.9	2.11	66	219	2	1	0
WL		19	1	92	86	.595	1.16	1.19	35.0	140.0	1.33	42	166	1	0	0
WL		20	2	92	100	1.036	2.32	2.07	45.0	177.5	2.98	93	368	3	1	0
WL		21	4	90	95	1.918	4.63	3.84	36.0	142.4	4.42	138	547	4	1	1
WL		22	3	91	76	1.301	3.48	2.60	41.8	141.6	3.48	109	368	3	1	0
WL		23	2	90	84	.818	2.32	1.64	49.4	200.1	2.58	81	327	3	1	0
WL		26	1	93	59	.324	1.16	.65	47.0	170.0	.97	30	110	1	0	0
WL		27	4	91	100	1.190	4.63	2.67	69.3	305.6	5.91	185	816	6	2	1
WL		28	2	93	102	.546	2.32	1.36	70.4	276.3	3.07	96	376	3	1	0
WL		29	2	93	121	.510	2.32	1.53	74.8	378.2	3.67	115	579	4	1	1
WL		30	1	92	100	.238	1.16	.48	104.1	495.0	1.58	49	235	2	0	0
WL		31	2	92	119	.448	2.32	1.34	81.4	445.0	3.50	109	598	4	1	1
WL		32	2	92	97	.412	2.32	1.03	92.8	487.8	3.07	96	503	3	1	1
WL		33	1	92	97	.195	1.16	.39	80.9	395.0	1.01	32	154	1	0	0
WL		35	1	93	127	.173	1.16	.52	90.6	503.3	1.51	47	262	2	0	0
WL		38	1	93	105	.147	1.16	.29	92.3	435.0	.87	27	128	1	0	0
WL		44	2	93	110	.219	2.32	.44	179.9	977.5	2.53	79	429	3	1	0
WL		46	1	94	115	.100	1.16	.20	143.8	540.0	.92	29	108	1	0	0
WL		48	1	93	118	.092	1.16	.18	143.0	705.0	.84	26	130	1	0	0
WL		Totals	48	88	71	28.310	55.61	46.71	38.7	166.1	57.80	1,806	7,760	58	18	8
WH		9	1	68	35	2.622	1.16	2.62	5.5	20.0	.46	14	52	0	0	0
WH		10	3	80	38	6.653	3.48	6.65	7.7	26.5	1.64	51	176	2	1	0
WH		11	4	83	85	7.040	4.63	7.04	17.5	62.5	3.94	123	440	4	1	0
WH		13	1	90	70	1.257	1.16	1.26	22.7	80.0	.91	29	101	1	0	0
WH		14	5	89	82	5.567	5.79	8.93	19.5	77.4	5.58	174	691	6	2	1
WH		15	1	83	77	.957	1.16	1.91	16.5	60.0	1.01	32	115	1	0	0
WH		16	2	92	92	1.650	2.32	3.30	25.2	89.7	2.65	83	296	3	1	0
WH		17	3	87	117	2.216	3.48	4.43	33.0	136.0	4.69	146	603	5	1	1
WH		18	1	92	80	.670	1.16	1.34	29.3	115.0	1.26	39	154	1	0	0

SPRUE TAKE TREES

HEMLOCK - LEAVE TREES

HEMLOCK TAKE TREES

Stand Table Summary																
TC TSTNDSUM																
Project ANGLELOO																
T03N R09W S04 TSALE										T03N R09W S04 TSALE						
Twp		Rge	Sec	Tract	Type			Acres	Plots	Sample Trees		Page: 3				
03N		09W	04	ANGLE LOOP 1	SALE			1.00	47	227		Date: 6/21/2001				
												Time: 8:33:04AM				
S Spc	T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Cu.Ft. Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
									Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
WH		19	1	88	80	.588	1.16	1.18	33.1	105.0	1.25	39	124	1	0	0
WH		21	1	92	59	.468	1.16	.94	24.1	105.0	.73	23	98	1	0	0
WH		22	2	91	141	.862	2.32	1.72	61.0	343.8	3.37	105	593	3	1	1
WH		23	1	93	84	.416	1.16	.83	46.8	205.0	1.25	39	171	1	0	0
WH		24	2	89	111	.753	2.32	1.51	63.0	249.9	3.04	95	376	3	1	0
WH		25	1	92	105	.340	1.16	1.02	47.9	240.0	1.56	49	245	2	0	0
WH		26	1	92	127	.314	1.16	.94	62.7	346.7	1.89	59	327	2	1	0
WH		28	4	88	115	1.104	4.63	2.77	70.4	315.2	6.24	195	871	6	2	1
WH		29	1	90	111	.262	1.16	.52	94.2	450.0	1.58	49	235	2	0	0
WH		38	1	90	101	.182	1.43	.36	140.1	685.0	1.63	51	249	2	1	0
WH		42	1	89	87	.120	1.16	.24	165.0	650.0	1.27	40	157	1	0	0
WH		48	2	92	79	.184	2.32									
WH	Totals		39	85	76	34.227	45.45	49.52	29.0	122.6	45.95	1,435	6,074	46	14	6
DF		17	1	88	88	.753	1.16	1.51	23.9	90.0	1.04	36	135	1	0	0
DF		19	1	89	116	.588	1.16	1.77	27.3	110.0	1.38	48	194	1	0	0
DF		24	1	88	120	.360	1.16	.72	67.0	320.0	1.37	48	230	1	0	0
DF		30	2	89	119	.469	2.32	1.17	83.7	420.5	2.79	98	492	3	1	0
DF	Totals		5	88	108	2.170	5.79	5.16	44.6	203.8	6.59	230	1,052	7	2	1
RA		11	1	30	25	1.927	1.16									
RA		13	2	71	26	2.574	2.32	2.57	4.6	15.4	.33	12	40	0	0	0
RA		15	2	81	69	1.916	2.32	2.84	20.2	69.7	1.57	57	198	2	1	0
RA		20	1	91	77	.536	1.16	1.07	34.2	155.0	1.01	37	166	1	0	0
RA		21	1	91	72	.482	1.16	.96	36.1	135.0	.96	35	130	1	0	0
RA		22	2	92	88	.898	2.32	1.80	48.1	219.7	2.38	86	395	2	1	0
RA		25	1	85	52	.348	1.16	.35	73.7	150.0	.71	26	52	1	0	0
RA	Totals		10	69	49	8.681	11.59	9.59	26.3	102.2	6.95	253	980	7	3	1
DL		24	1	89	111	.366	1.16	.73	57.8	245.0	1.16	42	179	1	0	0
DL		30	2	90	134	.472	2.32	1.42	75.6	400.0	2.95	107	566	3	1	1
DL	Totals		3	90	124	.838	3.48	2.15	69.6	347.2	4.11	149	746	4	1	1
RCL		22	1	81	73	.431	1.16	.86	41.1	110.0	.83	35	95	1	0	0
RCL		26	1	80	73	.314	1.16	.63	56.8	155.0	.84	36	97	1	0	0
RCL		29	1	80	75	.253	1.16	.51	71.3	220.0	.85	36	111	1	0	0
RCL	Totals		3	80	74	.998	3.48	2.00	53.7	152.0	2.52	107	303	3	1	0
RC		15	1	81	62	.896	1.16	1.79	15.5	60.0	.65	28	107	1	0	0
RC	Totals		1	81	62	.896	1.16	1.79	15.5	60.0	0.65	28	107	1	0	0
Totals			227	86	78	115.191	263.25	191.57	48.0	222.4	252.57	9188	42,606	253	92	43

HEMLOCK TAKE TREES

TAKE

LEAVE

Leave Conifer - 50 tpa  
- 154 ft<sup>2</sup> basal area



T03N R09W S04 TSALE T03N R09W S04 TSALE  
 Twp Rge Sec Tract Type Acres Plots Sample Trees  
 03N 09W 04 ANGLE LOOP 1 SALE 1.00 47 227

S Sp	T	Sort Grd	% Net CCF	Cu. Ft. per Acre			Total Net CCF	Percent Net Cubic Foot Volume								Average Log			Logs Per /Acre		
				Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Cu Ft	CF/ Lf			
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
NF	DO	2M	23	.0	800	800	8			10	90		3	6	91	38	147	3.90	5.5		
NF	DO	3M	57	.0	1,900	1,900	19		18	13	68		4	9	2	85	35	87	2.48	21.8	
NF	DO	4M	20	.0	637	637	6		19	26	54		11	26	26	38	26	54	2.06	11.9	
<b>NF Totals</b>			36	.0	3,337	3,336	33		14	15	71		4	11	8	77	33	85	2.61	39.1	
WL	DO	2M	38		695	695	7			44	56				100	40	92	2.30	7.6		
WL	DO	3M	46	.0	833	833	8		57	21	23		1	10	7	82	36	42	1.17	19.8	
WL	DO	4M	16		279	279	3	5	64	8	24		19	53	23	4	23	14	0.63	19.3	
<b>WL Totals</b>			20	.0	1,806	1,806	18	1	36	28	36		3	13	7	77	31	39	1.24	46.7	
WH	DO	2M	35	.1	511	510	5			34	66				100	40	86	2.15	5.9		
WH	DO	3M	54	.0	778	778	8		74	22	4		2	9	3	86	38	29	0.77	26.6	
WH	DO	4M	11	.1	147	147	1	20	80				24	68	8		22	9	0.39	17.0	
<b>WH Totals</b>			16	.1	1,436	1,435	14	2	48	24	26		3	12	2	82	33	29	0.89	49.5	
SS	DO	2M	7		138	138	1		8	48	44		5		95	37	71	1.93	1.9		
SS	DO	3M	37		677	677	7	1	35	45	19		3	9	9	79	35	39	1.09	17.5	
SS	DO	4M	8		148	148	1		93	7			4	62	21	14	25	13	0.54	11.1	
SS Snags	DO	UT	33		600	600	6	0	2	7	91		1	9	2	88	35	186	5.26	3.2	
SS DW	DO	CR	15		269	269	3				100		21	35	11	33	23	88	3.76	3.1	
<b>SS Totals</b>			20		1,832	1,832	18	0	22	23	55		5	16	7	71	31	50	1.59	36.9	
RA	DO	CR	100		253	253	3		45	55			7	31	14	48	21	22	1.06	11.5	
<b>RA Totals</b>			3		253	253	3		45	55			7	31	14	48	21	22	1.06	11.5	
DF	DO	2M	52		121	121	1			26	74			20	80		38	86	2.25	1.4	
DF	DO	3M	43	1.0	101	100	1		80	20				6	94		39	42	1.07	2.4	
DF	DO	4M	5		9	9	0	100					20	80			22	7	0.32	1.3	
<b>DF Totals</b>			3	.4	231	230	2	4	35	22	39		1	16		83	34	45	1.30	5.2	
DL	DO	2M	42		64	64	1			46	54				100	40	106	2.64	.6		
DL	DO	3M	58		86	86	1		33	21	45		19	6	75	34	55	1.64	1.5		
<b>DL Totals</b>			2		149	149	1		19	32	49		11	3	86	36	70	1.95	2.1		
RCL	DO	2M	29		32	32	0			100					100	40	126	3.15	.3		
RCL	DO	3M	59		63	63	1			100					100	40	85	2.13	.7		
RCL	DO	4M	12		12	12	0		100				100			19	12	0.64	1.0		
<b>RCL Totals</b>			1		107	107	1		11	89			11		89	29	54	1.83	2.0		
RCT	DO	3M	100		28	28	0		100						100	22	16	0.72	1.8		
<b>RCT Totals</b>			0		28	28	0		100						100	22	16	0.72	1.8		
<b>Type Totals</b>					.0	9,179	9,177	92	1	27	23	50		4	13	6	76	31	47	1.51	194.9

Spruce  
Leaf

leaf

Take

Take

snags  
sw

Take

Leaf

UT - Spruce trees for snags  
 CR - Spruce for down wood.



"STEWARDSHIP IN FORESTRY"

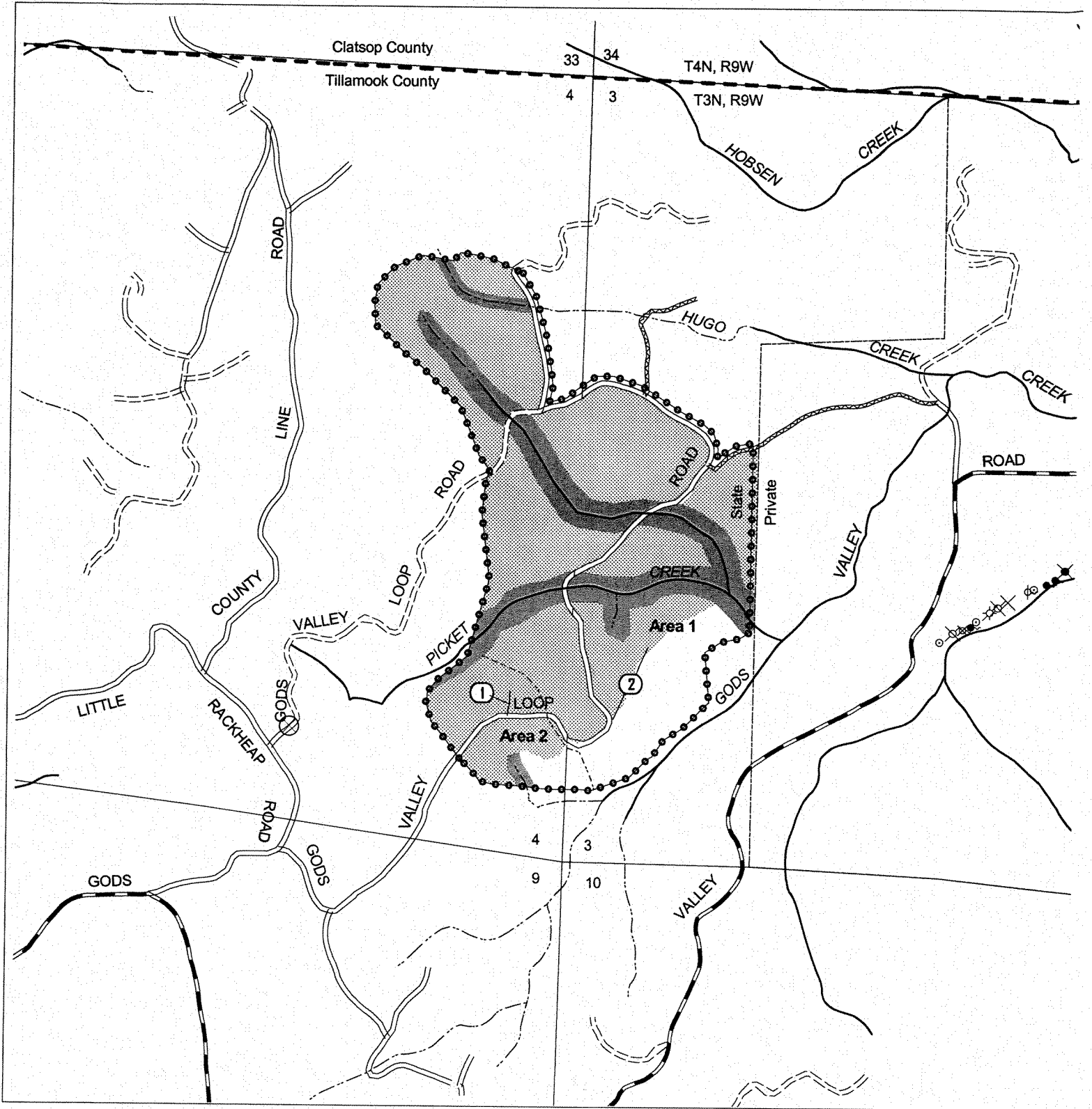
## Angle Loop #1

### Volume Summary

Area 1					
99 acres					
SPECIES	Gross MBF/ Acre	Net MBF/ Acre	Net MBF	Hidden D&B	Adj Net Vol MBF
Hemlock	6.4	6.1	604	5%	574
Sitka spruce	4.1	4.0	396	5%	376
Douglas-fir	1.1	1.0	99	5%	94
<b>TOTAL</b>	<b>11.6</b>	<b>11.1</b>	<b>1099</b>		<b>1044</b>

Area 2					
16 acres					
SPECIES	Gross MBF/ Acre	Net MBF/ Acre	Net MBF	Hidden D&B	Adj Net Vol MBF
Hemlock	6.4	6.1	98	5%	93
Sitka spruce	4.1	4.0	64	5%	61
Douglas-fir	1.0	1.0	16	5%	15
<b>TOTAL</b>	<b>11.5</b>	<b>11.1</b>	<b>178</b>		<b>169</b>

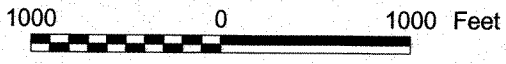
TOTAL SALE VOLUME			
SPECIES	MBF	% D&B	Net Vol. (MBF)
Hemlock	702	5%	668
Sitka spruce	460	5%	436
Douglas-fir	115	5%	109
<b>TOTAL</b>	<b>1277</b>		<b>1213</b>



- Landing
- ▲ Domestic water supply
- ⊗ Blocked
- ▭ Cable yarding
- ▨ Ground yarding
- ▩ Helicopter yarding
- ▧ Downhill yarding
- ▤ Buffer
- ▦ Non-required thinning
- Area boundary
- Sale boundary
- Ownership boundary
- Perennial Type-F stream
- - - Perennial Type-N stream
- ==== Surfaced road
- Unsurfaced road
- State highway
- County road
- (2)— Non-project road
- Swing road
- Abandoned road
- OHV trail
- Non-motorized trail
- T T Transmission line

**LOGGING PLAN**  
 Timber Sale Contract No. 341-06-13  
 Angle Loop No. 1  
 Portions of Sections 3 and 4,  
 T3N, R9W, W. M.  
 Tillamook County, Oregon

Area	Type of Operation	Acres Sale	Acres Net
1A	Partial cut	135	99
1B	Partial cut	18	16
<b>Total</b>		<b>153</b>	<b>115</b>



Tillamook District GIS  
 6/27/2005  
 This product is for informational use and may not have been prepared for, or suitable for legal, engineering, or surveying purposes.

