



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Cost Summary Klahnberry Sale 341-05-020

District: Tillamook

Date: 11/1/04

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,018,947.42	\$56,177.60	\$1,075,125.02
		Project Work	(\$358,597.00)
		Advertised Value	\$716,528.02



Timber Sale Appraisal

Timber Description

Klahnberry

Sale 341-05-020

"STEWARDSHIP IN FORESTRY"

District: Tillamook

Location: Portions of Sections 20, 21, 28, 29, T1N, R8W, W.M. Tillamook County, Oregon.

Date: 10/13/04

Stand Stocking: 20%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	11	0	95
Alder (Red)	13	0	95

Volume by Grade	Douglas - Fir	Alder (Red)	Total
2S	72	0	72
3S	1,983	0	1,983
4S	1,551	0	1,551
Camprun	0	160	160
Total	3,606	160	3,766

Comments: Pond Values Used: 3rd Quarter 2004.

Additional Costs (Profit and Risk to be added)

Brand and Paint - \$2/MBF x 3766 MBF = \$7,532

Truck assist/swing - \$25 x 416 MBF = \$10,400

Total other costs + (P/R) = \$17,932

Additional costs (Profit and Risk Included)

Re-open abandoned rds- 340 stations x \$15/station = \$5,100

Approach rock - 4 stations x 45 cu.yds x \$6.00/cy = \$1,080

Total other costs = \$6,180

Road Maintenance

Maintenance rock

(\$8.00/yard x 10 miles x 20 yds/MMBF/mile x 3.8MMBF)/3766MBF = \$1.60/MBF

Grading (two times- assumes grading portions of roads

(\$500/mile x 2 x 10 miles)/3766MBF = \$2.66

Total road maintenance costs = \$4.26

Cedar price = Cedar pond value - Douglas-fir logging costs

\$749.28/MBF = \$1050/MBF - \$300.72/MBF



Timber Sale Appraisal

Logging Conditions

Klahnberry

Sale 341-05-020

"STEWARDSHIP IN FORESTRY"

Combination#: 1	Douglas - Fir	93.00%	
	Alder (Red)	93.00%	
Yarding Distance:	Medium (800 ft)		Downhill Yarding: No
Logging System:	Cable: Medium Tower >40 - <70		Process: Stroke Delimber
Tree Size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
Loads/Day:	5		Bd. Ft./Load: 3,600
Cost/MBF:	\$182.37		
Machines:			
	Log Loader (A)		
	Stroke Delimber (A)		
	Tower Yarder (Medium)		
Combination#: 2	Douglas - Fir	7.00%	
	Alder (Red)	7.00%	
Yarding Distance:	Short (400 ft)		Downhill Yarding: Yes
Logging System:	Track Skidder		Process: Feller Buncher
Tree Size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
Loads/Day:	8		Bd. Ft./Load: 3,600
Cost/MBF:	\$122.18		
Machines:			
	Feller Buncher w/ Delimber		
	Log Loader (B)		
	Stroke Delimber (B)		
	Track Skidder		



Timber Sale Appraisal Logging Costs Klahnberry Sale 341-05-020

"STEWARDSHIP IN FORESTRY"

Date: 10/13/04

Operating Seasons: 2.0

Profit & Risk: 15%

Project Costs: \$358,597

Other Costs (P/R): \$17,932

Slash Disposal: \$0

Other Costs: \$6,180

Road Maintenance: \$4.26

Miles of Road			
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	2.0	3.3
Alder (Red)	\$0.00	3.0	3.0



Timber Sale Appraisal Logging Costs Breakdown Klahnberry Sale 341-05-020

"STEWARDSHIP IN FORESTRY"

Costs	Douglas - Fir	Alder (Red)
Logging	178.16	178.16
Road Maintenance	4.48	4.48
Fire Protection	1.50	0.00
Hauling	69.16	53.79
Other (P/R appl.)	4.97	0.00
Profit & Risk	38.74	35.46
Slash Disposal	0.00	0.00
Scaling	2.00	2.00
Other	1.71	0.00
Total	300.72	273.89

Amortization	0.00	0.00
Pond Value	583.29	625.00
Stumpage	282.57	351.11
Amortized	0.00	0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Summary Klahnberry Sale 341-05-020

Amortized

	Douglas - Fir	Alder (Red)
MBF	0.00	0.00
Value	0.00	0.00
Total	0.00	0.00

Unamortized

	Douglas - Fir	Alder (Red)
MBF	3,606.00	160.00
Value	282.57	351.11
Total	1,018,947.42	56,177.60

Gross Timber Sale Value

Recovery \$1,075,125.02

Prepared by: Tona Mortensen

Date: 10/13/04

District: Tillamook

Phone: (503) 842-2545



PROJECT SUMMARY SHEET

Sale: Klahnberry

CONSTRUCTION

Point	G to H	8+85	stations =	\$16,366.30
Point	M to N	5+75	stations =	\$4,609.80
Point	O to P	8+85	stations =	\$29,180.78
Point	Q to R	6+40	stations =	\$14,401.29
SUBTOTAL CONSTRUCTION				\$64,558.17

IMPROVEMENT

Point	A to B	210+60	stations =	\$207,152.81
Point	C to D	3+70	stations =	\$5,122.25
Point	E to F	2+90	stations =	\$7,722.56
Point	G to H	21+95	stations =	\$24,456.18
Point	I to J	7+80	stations =	\$5,279.13
Point	K to L	8+30	stations =	\$2,909.57
Point	M to N	5+05	stations =	\$6,925.67
SUBTOTAL IMPROVEMENT				\$259,568.17

SPECIAL PROJECTS

Remove Culverts from State Lands				\$1,207.50
Vacating				\$1,972.91
Brush	26.47	miles of road		\$28,497.50
SUBTOTAL SPECIAL PROJECTS				\$31,677.91

MOVE IN	(Coast Range North)		\$1,409.06
MOVE IN	(Kilchis Sites)		\$1,383.20

GRAND TOTAL

\$358,596.51

SUMMARY OF ROAD BRUSHING COST

Sale: Klahnberry Road: _____

Construction - 0+00 stations Improvement - _____ stations
0.00 miles 26.47 miles

BRUSHING PROJECTS:

Road System	Name of Road	Miles of Road	Cost per Mile	Total Cost for Segment
Gods Valley	Rector North Road	1.400	\$1,300.00	\$1,820.00
Gods Valley	Rector Ridge Road	3.400	\$800.00	\$2,720.00
Gods Valley	Schultz Road	0.660	\$1,300.00	\$858.00
Trask	Archers Road	5.400	\$1,000.00	\$5,400.00
Trask	East Creek Area (a)	1.000	\$1,300.00	\$1,300.00
Trask	East Creek Area (b)	1.100	\$1,300.00	\$1,430.00
Trask	East Creek Area (C)	0.300	\$1,300.00	\$390.00
Trask	Moon Creek Road #6	1.100	\$1,300.00	\$1,430.00
Trask	Bixby/Foland Heights	0.500	\$1,300.00	\$650.00
Trask	Clarence Creek	1.250	\$1,300.00	\$1,625.00
Wilson	Doe Flats South Road	0.565	\$1,300.00	\$734.50
Wilson	FB3	6.200	\$1,300.00	\$8,060.00
Wilson	Muesial Creek Road	1.800	\$800.00	\$1,440.00
Wilson	Cedar Butte Road	0.800	\$800.00	\$640.00

TOTAL SPECIAL PROJECTS **\$28,497.50**

GRAND TOTAL **\$28,497.50**

SUMMARY OF ROAD VACATING COST

Sale: Klahnberry

Road: _____

Construction - 0+00 stations
0.00 miles

Improvement - 0+00 stations
0.00 miles

VACATING PROJECTS:

Road Name	Stations of Road	Cost	Total Cost
Ridge Road (existing O to P):	6+40	\$9.75/Station	\$62.40
--- Rip Road Surface to a 1 foot depth	6+40	\$35.00/Station	\$224.00
--- Grass Seed and Fertilize	6+40 (.45 Acres)	\$220/Acre	\$99.00
--- Straw Mulch all exposed areas	6+40 (.45 Acres)	\$600/Acre	\$270.00
Ridge Road (existing Q to R):	8+95	\$9.75/Station	\$87.26
--- Rip Road Surface to a 1 foot depth	8+95	\$35.00/Station	\$313.25
--- Grass Seed and Fertilize	8+95 (0.62 Acres)	\$220/Acre	\$136.40
--- Straw Mulch all exposed areas	8+95 (0.62 Acres)	\$600/Acre	\$372.00
Tie Road (existing M to N):	4+00	\$9.75/Station	\$39.00
--- Rip Road Surface to a 1 foot depth	4+00	\$35.00/Station	\$140.00
--- Grass Seed and Fertilize	4+00 (0.28 Acres)	\$220/Acre	\$61.60
--- Straw Mulch all exposed areas	4+00 (0.28 Acres)	\$600/Acre	\$168.00
			TOTAL SPECIAL PROJECTS
			\$1,972.91
GRAND TOTAL			\$1,972.91

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Klahnberry</u>		Road:	<u>A to B</u>									
Construction -	<table border="0"> <tr> <td>0+00</td> <td>stations</td> </tr> <tr> <td>0.00</td> <td>miles</td> </tr> </table>		0+00	stations	0.00	miles	Improvement -	<table border="0"> <tr> <td>210+60</td> <td>stations</td> </tr> <tr> <td>3.99</td> <td>miles</td> </tr> </table>		210+60	stations	3.99	miles
0+00	stations												
0.00	miles												
210+60	stations												
3.99	miles												
CLEARING AND GRUBBING -													
Roadside Brushing		3.99 miles @	\$1,000.00 per mile =		\$3,990.00								
Side cast		0.055 acres @	\$540.00 per acre =		\$29.70								
Widening		0.675 acres @	\$540.00 per acre =		\$364.50								
			TOTAL CLEARING AND GRUBBING		\$4,384.20								
EXCAVATION -													
Widening: common		433 cy. @	\$1.15 per c.y.=		\$497.95								
Widening: rippable		459 cy. @	\$2.25 per c.y.=		\$1,032.75								
Widening: solid		1961 cy. @	\$4.90 per c.y.=		\$9,608.90								
Ditchline excavation		1870 cy. @	\$1.15 per c.y.=		\$2,150.50								
Ditchline excavation (drill and shoot)		488 cy. @	\$4.90 per c.y.=		\$2,293.20								
Berm Removal		408 cy. @	\$1.15 per c.y.=		\$469.20								
Log Fill Removal		4 hrs. @	\$130.00 per hrs.=		\$520.00								
Large Pipe Removal		16 hrs. @	\$130.00 per hrs.=		\$2,080.00								
Sidecast Pullback: Sta. 247+55 to 248+75		289 cy. @	\$1.40 per c.y.=		\$404.60								
Road Relocation: Stations 215+95 to 221+35 (common)		1940 cy. @	\$1.15 per c.y.=		\$2,231.00								
			TOTAL EXCAVATION		\$21,288.10								
ENDHAUL -													
Road Relocation: Stations 215+95 to 221+35 (common)		1043 cy. @	\$1.67 per c.y.=		\$1,741.81								
Widening	53+25 to 55+40	777 cy. @	\$1.66 per c.y.=		\$1,289.82								
Widening	59+90 to 84+30	904 cy. @	\$1.55 per c.y.=		\$1,401.20								
Widening	155+50 to 158+05	822 cy. @	\$1.52 per c.y.=		\$1,249.44								
Fill Material		10 hrs. @	\$57.00 per hr.=		\$570.00								
Ditchline material	0+00 to 138+20	1534 cy. @	\$1.65 per c.y.=		\$2,531.10								
Ditchline material	138+20 to 210+60	804 cy. @	\$2.06 per c.y.=		\$1,656.24								
Berm Removal	40+75 to 47+15	57 cy. @	\$1.81 per c.y.=		\$103.17								
Berm Removal	101+25 to 105+05	67 cy. @	\$1.01 per c.y.=		\$67.67								
Berm Removal	140+80 to 144+10	32 cy. @	\$1.39 per c.y.=		\$44.48								
Berm Removal	144+75 to 153+25	213 cy. @	\$1.50 per c.y.=		\$319.50								
Berm Removal	172+25 to 181+00	39 cy. @	\$0.95 per c.y.=		\$37.05								
Spread & compact (Fill Material)	215+95 to 221+35	781 cy. @	\$0.35 per c.y.=		\$273.35								
Spread & compact		8172 cy. @	\$0.20 per c.y.=		\$1,634.40								
			TOTAL ENDHAUL		\$14,981.16								
CULVERTS - MATERIALS & INSTALLATION													
Culverts													
238	LF of 18"	\$3,481.00	174	LF of 24"	\$3,088.50								
0	LF of 30"	\$0.00	34	LF of 36"	\$625.80								
0	LF of 42"	\$0.00	0	LF of 48"	\$0.00								
0	LF of 54"	\$0.00	0	LF of 60"	\$0.00								
0	LF of 66"	\$0.00	0	LF of 72"	\$0.00								
		\$3,481.00			\$3,714.10								
Half Rounds													
150	LF of 21"	\$1,710.00	20	LF of 30"	\$290.00								
0	LF of 36"	\$0.00	0	LF of 42"	\$0.00								
		\$1,710.00			\$290.00								
Culvert Stakes & Markers													
35	stakes	\$280.00											
21	markers	\$168.00											
		\$448.00											
Fish Pipe:													
	142"x 91" Aluminized Steel Arch Pipe (10 gage)		82 LF @	\$211.05/LF	\$17,306.10								
	Aluminized Steel Bands and Gaskets		2 @	\$316.58 each	\$633.16								
	Profit and Risk		16 Hours/Person @	\$28/hr/person	\$1,344.00								
	Assemble Culvert (3 person crew)		8 Hours @	\$130/Hour	\$1,040.00								
	Assemble Culvert (excavator & operator)												
	95"x 67" Aluminized Steel Arch Pipe (14 gage)		52 LF @	\$95.00/LF	\$4,940.00								
	Aluminized Steel Bands and Gaskets		1 @	\$142.50 each	\$142.50								
	Profit and Risk				\$762.38								
	Assemble Culvert (3 person crew)		12 Hours/Person @	\$28/hr/person	\$1,008.00								
	Assemble Culvert (excavator & operator)		6 Hours @	\$130/Hour	\$780.00								
					\$27,956.14								
			TOTAL CULVERTS		\$37,999.24								
SURFACING-													
0+00 to	76+95	2,721 cy. of	Crushed	@	\$19.20 per c.y.=	\$52,243.20							
A to B	Culvert Bedding/Backfill	360 cy. of	Crushed	@	\$18.80 per c.y.=	\$6,768.00							
A to B	Slope Stabil./Energy Diss.	65 cy. of	Riprap	@	\$3.97 per c.y.=	\$258.05							
A to B	Fill Armor	155 cy. of	Riprap	@	\$3.88 per c.y.=	\$601.40							
A to B	Spot Rock	240 cy. of	Pit-Run	@	\$5.63 per c.y.=	\$1,351.20							
A to B	Fish Pipe Backfill (interior)	130 cy. of	Pit-Run	@	\$5.85 per c.y.=	\$760.50							
A to B	Slope Stabil.:128+90 - 129+40	130 cy. of	Riprap	@	\$3.88 per c.y.=	\$504.40							
156+40 to	210+80	2,914 cy. of	Pit-Run	@	\$5.94 per c.y.=	\$17,309.16							
76+95 to	156+40	1,877 cy. of	Crushed	@	\$19.20 per c.y.=	\$36,038.40							
215+95 to	221+35	380 cy. of	Pit-Run	@	\$2.91 per c.y.=	\$1,105.80							
Junctions: Sta. 202+05, 210+60, 215+95, 237+20, 243+80, and 249+80		98 cy. of	Pit-Run	@	\$3.15 per c.y.=	\$308.70							
Turnouts: Sta. 225+80 & 231+40		44 cy. of	Pit-Run	@	\$3.15 per c.y.=	\$138.60							
Junctions: Sta. 215+95 & 243+80		22 cy. of	Crushed	@	\$20.27 per c.y.=	\$283.78							
					TOTAL SURFACING	\$117,671.19							
SPECIAL PROJECTS													
Repair smashed culvert inlet -		1.00	hours @	\$28.00	per hour	\$28.00							
Remove and reinstall existing culvert from Station 44+25 to 44+85		3.00	hours @	\$65.00	per hour	\$195.00							
Construct waste areas -		2.00	hours @	\$130.00	per hour	\$260.00							
Construct ditchouts -		6.00	@	\$60.00	each	\$360.00							
Haul culvert and half-rounds to shop	Sta. 66+65 & 110+30		2.5 Hours w/Truck & Trailer, 1 Hour w/ Excavator			\$317.50							
Remove existing pipe	Sta. 61+10		1.00	hours @	\$130.00	per hour	\$130.00						
Grade and shape road -		210.80	stations @	\$14.20	per station	\$2,990.52							
Construct/install rubber water diverter -	Sta. 39+60 & 41+00		2.00	@	\$300.00	each	\$600.00						
Excavate Sediment Catch Basins	Sta. 4+25, 39+60, 40+75, 55+85, 120+95, & 129+40		6.00	@	\$25.00	each	\$150.00						
Roll subgrade w/ vibratory roller prior to rocking -		210.80	stations @	\$11.00	per station	\$2,318.80							
Install 25' of Culvert Sleeve	Sta. 147+45		1 Band @ \$11.50 & 25' Sleeve @ \$450/50' Sleeve & 1 Laborer @ \$28			\$264.50							
Remove large stumps -			lump sum @			\$75.00							
Grass seed and fertilizer -		5.19	acres @	\$220.00	per acre	\$1,141.80							
Mulching - Everything adjacent to water & everything exposed from Sta. 156+40 - 210+60		4.000	acres @	\$600.00	per acre	\$2,400.00							
					TOTAL SPECIAL PROJECTS	\$11,228.92							
			GRAND TOTAL			\$207,152.81							

SUMMARY OF CONSTRUCTION COST

Sale: Klahnberry

Road: C to D

Construction - $\frac{0+00}{0.00}$ stations
miles

Improvement - $\frac{3+70}{0.07}$ stations
miles

CLEARING AND GRUBBING -
Scattering - road

0.30 acres @ \$815.00 per acre = \$244.50
TOTAL CLEARING AND GRUBBING **\$244.50**

EXCAVATION -
Widening - common
Pullback

0+00	to	3+70	1,454 cys. @	\$1.15 per cy. =	\$1,672.10	
0+40	to	2+40	326 cys. @	\$1.40 per cy. =	\$456.40	
					<u>TOTAL EXCAVATION</u>	\$2,128.50

ENDHAUL & COMPACTION-
Endhaul - truck to waste area from
Compact waste area

0+00	to	2+90	1,780 cys. @	\$0.50 per cy. =	\$890.00	
			1,780 cys. @	\$0.30 per cy. =	\$534.00	
					<u>TOTAL ENDHAUL</u>	\$1,424.00

CULVERTS - MATERIALS & INSTALLATION

Culverts

0	LF of 18"	\$0.00	0	LF of 24"	\$0.00
0	LF of 30"	\$0.00	0	LF of 36"	\$0.00
0	LF of 42"	\$0.00	0	LF of 48"	\$0.00
0	LF of 54"	\$0.00	0	LF of 60"	\$0.00
		<u>\$0.00</u>			<u>\$0.00</u>

Half Rounds

0	LF of 21"	\$0.00	0	LF of 30"	\$0.00
0	LF of 36"	\$0.00	0	LF of 42"	\$0.00
		<u>\$0.00</u>			<u>\$0.00</u>

Culvert Stakes & Markers

0	stakes	\$0.00
0	markers	\$0.00
		<u>\$0.00</u>

TOTAL CULVERTS **\$0.00**

SURFACING-
0+00 to 3+70 Road

122 cy. of 2 1/2" - 0" @ \$8.08 per c.y. = \$985.71
TOTAL SURFACING **\$985.71**

SPECIAL PROJECTS-

Grade and shape road with a ditch	3.70 stations @	\$14.20 per station	\$52.54
Grass seed and fertilize - road & waste area	0.35 acres @	\$220.00 per acre	\$77.00
Mulch - road & waste area	0.35 acres @	\$600.00 per acre	\$210.00
			<u>TOTAL SPECIAL PROJECTS</u>
			\$339.54

GRAND TOTAL **\$5,122.25**

SUMMARY OF CONSTRUCTION COST

Sale: Klahnberry

Road: E to F

Construction - $\frac{0+00}{0.00}$ stations
miles

Improvement - $\frac{2+90}{0.05}$ stations
miles

CLEARING AND GRUBBING -

Scattering - road		0.20 acres @	\$815.00 per acre =	\$163.00	
Piling - waste area		0.10 acres @	\$905.00 per acre =	\$90.50	
TOTAL CLEARING AND GRUBBING					\$253.50

EXCAVATION -

Widening - common	0+00 to 2+90	792 cys. @	\$1.15 per cy. =	\$910.80	
Widening - rock	0+00 to 2+90	936 cys. @	\$3.20 per cy. =	\$2,995.20	
Pullback	0+55 to 2+45	387 cys. @	\$1.40 per cy. =	\$541.80	
TOTAL EXCAVATION					\$4,447.80

ENDHAUL & COMPACTION-

Endhaul - truck to waste area from	0+00 to 2+90	2,115 cys. @	\$0.62 per cy. =	\$1,311.30	
Compact waste area		2,115 cys. @	\$0.30 per cy. =	\$634.50	
TOTAL ENDHAUL					\$1,945.80

CULVERTS - MATERIALS & INSTALLATION

Culverts	0	LF of 18"	\$0.00	0	LF of 24"	\$0.00
	0	LF of 30"	\$0.00	0	LF of 36"	\$0.00
	0	LF of 42"	\$0.00	0	LF of 48"	\$0.00
	0	LF of 54"	\$0.00	0	LF of 60"	\$0.00
			\$0.00			\$0.00
Half Rounds	0	LF of 21"	\$0.00	0	LF of 30"	\$0.00
	0	LF of 36"	\$0.00	0	LF of 42"	\$0.00
			\$0.00			\$0.00
Culvert Stakes & Markers	0	stakes	\$0.00			
	0	markers	\$0.00			
			\$0.00			

TOTAL CULVERTS \$0.00

SURFACING-

0+00 to 2+90 Road	96 cy. of	2 1/2" - 0"	@	\$7.87 per c.y. =	\$755.48
TOTAL SURFACING					\$755.48

SPECIAL PROJECTS-

Grade and shape road with a ditch	2.90 stations @	\$14.20 per station		\$41.18	
Grass seed and fertilize - road & waste area	0.34 acres @	\$220.00 per acre		\$74.80	
Mulch - road & waste area	0.34 acres @	\$600.00 per acre		\$204.00	
TOTAL SPECIAL PROJECTS					\$319.98

GRAND TOTAL \$7,722.56

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Klahnberry</u>	<u>8+85</u> stations	<u>0.17</u> miles	Road:	<u>G to H</u>	<u>21+95</u> stations	<u>0.42</u> miles
Construction -				Improvement -			
CLEARING AND GRUBBING -							
Roadside Brushing		0.00 miles @		\$1,000.00 per mile =		\$0.00	
Side cast		0.290 acres @		\$540.00 per acre =		\$156.60	
Widening		0.240 acres @		\$540.00 per acre =		\$129.60	
Scattering		1.690 acres @		\$815.00 per acre =		\$1,377.35	
				TOTAL CLEARING AND GRUBBING			\$1,663.55
EXCAVATION -							
Existing Road Improvement: (0+00 to 22+00)		21.95 sta. @		\$65.00 per sta. =		\$1,426.75	
Pullback		699 cy. @		\$1.40 per c.y.=		\$978.60	
Widening: Improvement		2751 cy. @		\$2.25 per c.y.=		\$6,189.75	
Construction (common): (21+95 to 30+80)		881 cy. @		\$1.15 per c.y.=		\$1,013.15	
Construction (rippable): (21+95 to 30+80)		2641 cy. @		\$2.25 per c.y.=		\$5,942.25	
Construction (solid): (21+95 to 30+80)		2035 cy. @		\$3.20 per c.y.=		\$6,512.00	
				TOTAL EXCAVATION			\$22,062.50
ENDHAUL -							
Pullback	0+00 to 0+95	183 cy. @		\$1.16 per c.y.=		\$212.28	
Pullback	0+95 to 6+30	516 cy. @		\$1.20 per c.y.=		\$619.20	
Widening	0+00 to 6+30	1445 cy. @		\$1.20 per c.y.=		\$1,734.00	
Widening	16+40 to 17+80	742 cy. @		\$1.40 per c.y.=		\$1,038.80	
Widening	20+05 to 21+95	141 cy. @		\$1.46 per c.y.=		\$205.86	
Widening	21+95 to 30+80	510 cy. @		\$1.54 per c.y.=		\$785.40	
Spread & compact		3537 cy. @		\$0.20 per c.y.=		\$707.40	
				TOTAL ENDHAUL			\$5,302.94
CULVERTS - MATERIALS & INSTALLATION							
	<u>Culverts</u>						
	0 LF of 18"	\$0.00		48 LF of 24"	\$852.00		
	0 LF of 30"	\$0.00		0 LF of 36"	\$0.00		
	0 LF of 42"	\$0.00		0 LF of 48"	\$0.00		
	0 LF of 54"	\$0.00		0 LF of 60"	\$0.00		
	0 LF of 66"	\$0.00		0 LF of 72"	\$0.00		
		\$0.00			\$852.00		
	<u>Half Rounds</u>						
	0 LF of 21"	\$0.00		0 LF of 30"	\$0.00		
	0 LF of 36"	\$0.00		0 LF of 42"	\$0.00		
		\$0.00			\$0.00		
	<u>Culvert Stakes & Markers</u>						
	0 stakes	\$0.00					
	1 markers	\$6.00					
		\$6.00					
				TOTAL CULVERTS			\$858.00
SURFACING-							
Culvert Backfill/Bedding	6+30	15 cy. of	Crushed	@	\$19.79 per c.y.=	\$296.85	
Energy Dissipator	6+30	10 cy. of	Riprap	@	\$4.12 per c.y.=	\$41.20	
0+00 to 30+80	30+80	2,192 cy. of	Pit-Run	@	\$2.74 per c.y.=	\$6,006.08	
					TOTAL SURFACING		\$7,272.33
SPECIAL PROJECTS							
Grade and shape road -		30.80 stations @		\$14.20 per station		\$437.36	
Construct rolling dip -		4.00 @		\$150.00 each		\$600.00	
Roll subgrade w/ vibratory roller prior to rocking -		30.80 stations @		\$11.00 per station		\$338.80	
Remove log culvert @ stations: 6+30 -		2.50 hours @		\$130.00 per hour		\$325.00	
Remove large stumps -			lump sum @			\$650.00	
Grass seed and fertilize -		1.60 acres @		\$220.00 per acre		\$352.00	
Mulching -		1.600 acres @		\$600.00 per acre		\$960.00	
				TOTAL SPECIAL PROJECTS			\$3,663.16
GRAND TOTAL							\$40,822.48

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Klahnberry</u>				Road: <u>I to J</u>
Construction -	<u>0+00</u> stations <u>0.00</u> miles				Improvement - <u>7+80</u> stations <u>0.15</u> miles
CLEARING AND GRUBBING -					
Roadside Brushing		0.10 miles @		\$1,000.00 per mile =	\$100.00
Side cast		0.096 acres @		\$540.00 per acre =	\$51.84
Widening		0.100 acres @		\$540.00 per acre =	\$54.00
Scattering		0.400 acres @		\$815.00 per acre =	\$326.00
Piling		0.00 acres @		\$905.00 per acre =	\$0.00
Endhaul		0.00 acres @		\$1,500.00 per acre =	\$0.00
				<u>TOTAL CLEARING AND GRUBBING</u>	<u>\$431.84</u>
EXCAVATION -					
Road Earthwork		7.80 sta. @		\$65.00 per sta. =	\$507.00
Pullback: Sta. 4+50 - 6+60		203 cy. @		\$1.40 per c.y.=	\$284.20
Widening: Sta. 4+50 - 6+60		728 cy. @		\$1.40 per c.y.=	\$1,019.20
				<u>TOTAL EXCAVATION</u>	<u>\$1,810.40</u>
ENDHAUL -					
Pullback	4+50 to 6+60	203 cy. @		\$0.96 per c.y.=	\$194.88
Widening	4+50 to 6+60	728 cy. @		\$0.96 per c.y.=	\$698.88
Spread & compact		931 cy. @		\$0.20 per c.y.=	\$186.20
				<u>TOTAL ENDHAUL</u>	<u>\$1,079.96</u>
CULVERTS - MATERIALS & INSTALLATION					
<u>Culverts</u>	0 LF of 18"		\$0.00	0 LF of 24"	\$0.00
			<u>\$0.00</u>		<u>\$0.00</u>
<u>Half Rounds</u>	0 LF of 21"		\$0.00	0 LF of 30"	\$0.00
	0 LF of 36"		<u>\$0.00</u>	0 LF of 42"	<u>\$0.00</u>
			<u>\$0.00</u>		<u>\$0.00</u>
<u>Culvert Stakes & Markers</u>	0 stakes		\$0.00		
	0 markers		<u>\$0.00</u>		
			<u>\$0.00</u>	<u>TOTAL CULVERTS</u>	<u>\$0.00</u>
SURFACING-					
0+00 to 7+80	421 cy. of Pit-Run		@	\$3.17 per c.y.=	\$1,334.57
				<u>TOTAL SURFACING</u>	<u>\$1,334.57</u>
SPECIAL PROJECTS					
Construct waste areas -		0.50 hours @		\$130.00 per hour	\$65.00
Grade and shape road -		7.80 stations @		\$14.20 per station	\$110.76
Roll subgrade w/ vibratory roller -		7.80 stations @		\$11.00 per station	\$85.80
Grass seed and fertilize -		0.44 acres @		\$220.00 per acre	\$96.80
Mulching -		0.440 acres @		\$600.00 per acre	\$264.00
				<u>TOTAL SPECIAL PROJECTS</u>	<u>\$622.36</u>
GRAND TOTAL					\$5,279.13

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Klahnberry</u>				Road: <u>K to L</u>
Construction -	<u>0+00</u> stations <u>0.00</u> miles				Improvement - <u>8+30</u> stations <u>0.16</u> miles
CLEARING AND GRUBBING -					
Roadside Brushing		0.20 miles @		\$1,000.00 per mile =	\$200.00
Scattering		0.530 acres @		\$815.00 per acre =	<u>\$431.95</u>
				TOTAL CLEARING AND GRUBBING	\$431.95
EXCAVATION -					
Road Earthwork		8.30 sta. @		\$65.00 per sta. =	<u>\$539.50</u>
				TOTAL EXCAVATION	\$539.50
ENDHAUL -				TOTAL ENDHAUL	\$0.00
CULVERTS - MATERIALS & INSTALLATION					
<u>Culverts</u>					
0 LF of 18"		<u>\$0.00</u>		0 LF of 24"	\$0.00
		\$0.00			\$0.00
<u>Haqf Rounds</u>					
0 LF of 21"		\$0.00		0 LF of 30"	\$0.00
0 LF of 36"		<u>\$0.00</u>		0 LF of 42"	<u>\$0.00</u>
		\$0.00			\$0.00
<u>Culvert Stakes & Markers</u>					
0 stakes		\$0.00			
		\$0.00		TOTAL CULVERTS	\$0.00
SURFACING-					
0+00 to 8+30	444 cy. of	Pit-Run	@	\$3.34 per c.y.=	<u>\$1,482.96</u>
				TOTAL SURFACING	\$1,482.96
SPECIAL PROJECTS					
Grade and shape road -		8.30 stations @		\$14.20 per station	\$117.86
Roll subgrade w/ vibratory roller -		8.30 stations @		\$11.00 per station	\$91.30
Grass seed and fertilize -		0.30 acres @		\$220.00 per acre	\$66.00
Mulching -		0.300 acres @		\$600.00 per acre	\$180.00
				TOTAL SPECIAL PROJECTS	\$455.16

GRAND TOTAL **\$2,909.57**

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Klahnberry</u>		Road: <u>M to N</u>
Construction -	<u>5+75</u> stations <u>0.11</u> miles		Improvement - <u>5+05</u> stations <u>0.10</u> miles
CLEARING AND GRUBBING -			
Scattering	0.200 acres @	\$815.00 per acre =	\$163.00
Endhaul	0.50 acres @	\$1,500.00 per acre =	\$750.00
		TOTAL CLEARING AND GRUBBING	\$913.00
EXCAVATION -			
Road Earthwork (Common, New Const.)	1572 cy. @	\$1.40 per c.y.=	\$2,200.80
Road Earthwork (Common, Improvement)	116 cy. @	\$1.40 per c.y.=	\$162.40
		TOTAL EXCAVATION	\$2,363.20
ENDHAUL -			
Spread & Compact Fills	1128 cy. @	\$0.35 per c.y.=	\$394.80
Waste	391 cy. @	\$1.04 per c.y.=	\$406.64
Fill Material	1128 cy. @	\$0.94 per c.y.=	\$1,060.32
Spread & compact Waste Material	391 cy. @	\$0.20 per c.y.=	\$78.20
		TOTAL ENDHAUL	\$1,939.96
CULVERTS - MATERIALS & INSTALLATION			
<u>Culverts</u>			
0 LF of 18"	\$0.00	0 LF of 24"	\$0.00
0 LF of 30"	\$0.00	0 LF of 36"	\$0.00
	\$0.00		\$0.00
<u>Havf Rounds</u>			
0 LF of 21"	\$0.00	0 LF of 30"	\$0.00
0 LF of 36"	\$0.00	0 LF of 42"	\$0.00
	\$0.00		\$0.00
<u>Culvert Stakes & Markers</u>			
0 stakes	\$0.00		
0 markers	\$0.00		
	\$0.00	TOTAL CULVERTS	\$0.00
SURFACING-			
0+00 to 10+80	566 cy. of Pit-Run	@ \$3.28 per c.y.=	\$1,856.48
0+00 to 6+85	163 cy. of Crushed	@ \$20.59 per c.y.=	\$3,356.17
		TOTAL SURFACING	\$5,212.65
SPECIAL PROJECTS			
Construct waste areas -	1.00 hours @	\$130.00 per hour	\$130.00
Construct Rolling Dips - Sta. 8+75	1.00 @	\$150.00 each	\$150.00
Grade and shape road -	10.80 stations @	\$14.20 per station	\$153.36
Roll subgrade w/ vibratory roller -	10.80 stations @	\$11.00 per station	\$118.80
Remove large stumps -	lump sum @	\$62.50	\$62.50
Grass seed and fertilize -	0.60 acres @	\$220.00 per acre	\$132.00
Mulching -	0.600 acres @	\$600.00 per acre	\$360.00
		TOTAL SPECIAL PROJECTS	\$1,106.66
		GRAND TOTAL	\$11,535.47

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Klahnberry</u>					Road:	<u>0 to P</u>	
Construction -	<u>8+95</u> stations <u>0.17</u> miles					Improvement -	<u>+00</u> stations <u>0.00</u> miles	
CLEARING AND GRUBBING -								
Endhaul		0.67	acres @	\$1,500.00	per acre =		<u>\$1,005.00</u>	
							TOTAL CLEARING AND GRUBBING	
							\$1,005.00	
EXCAVATION -								
Road Earthwork: Common		5948	cy. @	\$1.40	per c.y.=		\$8,327.20	
Road Earthwork: Rippable Rock		345	hrs. @	\$3.20	per hour =		\$1,104.00	
Road Earthwork: Solid		700	cy. @	\$7.50	per c.y.=		<u>\$5,250.00</u>	
							TOTAL EXCAVATION	
							\$14,681.20	
ENDHAUL -								
Spread & compact (Waste Area)		6254	cy. @	\$0.30	per c.y.=		\$1,876.20	
Spread & compact (Fill Material)		44	cy. @	\$0.71	per c.y.=		<u>\$31.24</u>	
							TOTAL ENDHAUL	
							\$1,907.44	
CULVERTS - MATERIALS & INSTALLATION								
	<u>Culverts</u>							
	0 LF of 18"			\$0.00		0 LF of 24"	\$0.00	
	0 LF of 30"			<u>\$0.00</u>		0 LF of 36"	\$0.00	
				\$0.00			\$0.00	
	<u>Half Rounds</u>							
	0 LF of 21"			\$0.00		0 LF of 30"	\$0.00	
	0 LF of 36"			<u>\$0.00</u>		0 LF of 42"	<u>\$0.00</u>	
				\$0.00			\$0.00	
	<u>Culvert Stakes & Markers</u>							
	0 stakes			\$0.00				
	0 markers			<u>\$0.00</u>				
				\$0.00				
							TOTAL CULVERTS	
							\$0.00	
SURFACING-								
0+00 to	8+95	445	cy. of	Pit-Run	@	\$3.01	per c.y.=	\$1,339.45
0+00 to	8+95	204	cy. of	Crushed	@	\$20.30	per c.y.=	<u>\$4,141.20</u>
								TOTAL SURFACING
								\$10,931.60
SPECIAL PROJECTS								
Construct waste areas -		1.00	hours @	\$130.00	per hour			\$130.00
Construct Rolling Dips -		2.00	@	\$150.00	each			\$300.00
Grade and shape road -		8.95	stations @	\$14.20	per station			\$127.09
Roll subgrade w/ vibratory roller prior to rocking -		8.95	stations @	\$11.00	per station			\$98.45
Grass seed and fertilize -		0.00	acres @	\$220.00	per acre			\$0.00
Mulching -		0.000	acres @	\$600.00	per acre			\$0.00
								TOTAL SPECIAL PROJECTS
								\$655.54
								GRAND TOTAL
								\$29,180.78

ROCK DEVELOPMENT COST SUMMARY

Pit:	RipRap	Location:	Widenings off of A to B
Sale:	Klahnberry	Road:	350 c.y.
Swell:	1.40	Stockpile:	c.y.
Shrinkage	1.16	Total Truck Loads:	350 c.y.
Drill Pct.:	0%	In Place Total:	250 c.y.

Load Dump Truck: \$1.40 /cu.yd. x 350 cu.yds. = \$490.00
Subtotal \$490.00

Base Cost= \$1.40 Per Cu.Yd. TOTAL PRODUCTION COSTS \$490.00

Road Segment	Haul Cost /cu.yd.	Placement Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST
A to B: Fill Armor&Slope Stabil.	\$1.08	\$1.40	\$1.40	\$3.88	285	\$1,105.80
A to B: Energy Diss./Slope Stabil.	\$1.17	\$1.40	\$1.40	\$3.97	65	\$258.05
				Total C.Y.	350	Sub Total \$1,363.85

TOTAL ROCKING COSTS \$1,363.85

ROCK DEVELOPMENT COST SUMMARY

Pit:	Pit Run & RipRap	Location:	G to H Widening
Sale:	Klahnberry	Pit-Run Road:	4908 c.y.
Swell:	1.40	RipRap:	10 c.y.
Shrinkage	1.16	Total Truck Loads:	4918 c.y.
Drill Pct.:	40%	In Place Total:	3513 c.y.
		In Place Total not in:	173 c.y.
		quantity not in road const.	242

Pit Development & Cleanup including Clearing and grubbing of Waste Area @ adjacent to pit, place overburden in Waste Area, spread and compact. \$527.80

Drill & Shoot:	\$2.10 /cu.yd.	x	69 cu.yds.	=	\$144.90
Rip Rock	\$1.75 /cu.yd.	x	104 cu.yds.	=	\$182.00
Load Pit-Run:	\$0.60 /cu.yd.	x	4908 cu.yds.	=	\$2,944.80
Load RipRap:	\$1.40 /cu.yd.	x	10 cu.yds.	=	\$14.00
			Subtotal		\$3,813.50

Move In and set up Drill and Compressor	(within area: 1 mile @ \$46/mile)	=	\$46.00
Move in D-8	(within area: 1 mile @ 15.10/mile)	=	\$15.10
Move in Excavator	(within area: 1 mile @ \$44.80/mile)	=	\$44.80
Move in 3 Trucks	(within area: 1 mile @\$2.85/mile/truck)	=	\$8.55
			Subtotal \$114.45

TOTAL PRODUCTION COSTS \$3,927.95

Pit-Run Base Cost=	\$0.80	Per Cu.Yd.
RipRap Base Cost=	\$1.60	Per Cu.Yd.

Road Segment	Haul Cost /cu.yd.	Proc/Placement Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST
Pit-Run						
A to B: Junctions	\$1.45	\$0.90	\$0.80	\$3.15	98	\$308.70
A to B: Turnouts (225+60 & 231+40)	\$1.45	\$0.90	\$0.80	\$3.15	44	\$138.60
A to B: Sta. 215+95 - 221+35	\$1.21	\$0.90	\$0.80	\$2.91	380	\$1,105.80
G to H	\$1.04	\$0.90	\$0.80	\$2.74	2192	\$6,006.08
I to J	\$1.47	\$0.90	\$0.80	\$3.17	421	\$1,334.57
K to L	\$1.64	\$0.90	\$0.80	\$3.34	444	\$1,482.96
M to N	\$1.58	\$0.90	\$0.80	\$3.28	566	\$1,856.48
O to P	\$1.31	\$0.90	\$0.80	\$3.01	445	\$1,339.45
Q to R	\$1.52	\$0.90	\$0.80	\$3.22	318	\$1,023.96
				Total C.Y.	4908	Sub Total \$14,596.60

Road Segment	Haul Cost /cu.yd.	Proc/Placement Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST
RipRap						
G to H	\$1.12	\$1.40	\$1.60	\$4.12	10	\$41.20
				Total C.Y.	10	Sub Total \$41.20

TOTAL ROCKING COSTS \$14,637.80

ROCK DEVELOPMENT COST SUMMARY

Pit:	Pit Run	Location:	NW1/4, Sec. 30, T1N, R8W, W.M.
Sale:	Klahnberry		
Swell:	1.40		Pit-Run Road: 2914 c.y.
Shrinkage	1.16		Pit-Run (spot Rock): 240 c.y.
Drill Pct.:	25%		Total Truck Loads: 3284 c.y.
			In Place Total: 2346 c.y.
			Pit-Run(backfill): 130
			Pit-Run (Ditch Liner) 0

Pit Development & Cleanup including Clearing and grubbing of Waste Area @ adjacent to pit, place overburden in Waste Area, spread and compact. \$2,181.25

Drill & Shoot:	\$2.10 /cu.yd.	x	587 cu.yds.	=	\$1,232.70
Rip Rock	\$1.75 /cu.yd.	x	1759 cu.yds.	=	\$3,078.25
Load Dump Truck:	\$0.60 /cu.yd.	x	3284 cu.yds.	=	\$1,970.40
			Subtotal		\$8,462.60

Move In and set up Drill and Compressor	(within area: 3.91 miles @ \$46/mile)	=	\$179.86
Move in D-8	(within area: 3.91 miles @ 15.10/mile)	=	\$59.04
Move in Loader	1 @ \$150.88	=	\$150.88
Move in Excavator	1 @ \$263.20	=	\$263.20
Move in 3 Trucks	(within area: 3.91 miles @\$2.85/mile/truck)	=	\$33.43
			Subtotal \$686.41

Pit-Run Base Cost= \$2.79 Per Cu.Yd.

TOTAL PRODUCTION COSTS \$9,149.01

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: 156+40 to 210+60	\$1.85	\$1.30	\$2.79	\$5.94	2914	\$17,309.16
A to B: Pit-Run (spot rock)	\$1.94	\$0.90	\$2.79	\$5.63	240	\$1,351.20
A to B: Pit-Run (culvert backfill)	\$1.66	\$1.40	\$2.79	\$5.85	130	\$760.50
				Total C.Y.	3284	Sub Total \$19,420.86

TOTAL ROCKING COSTS \$19,420.86

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Commercial Source	Location:	Tillamook County
Sale:	Klahnberry	Road:	5500 c.y.
Swell:	1.40	Stockpile:	c.y.
Shrinkage	1.16	Total Truck Loads:	5500 c.y.
Drill Pct.:	0%	In Place Total:	3929 c.y.
Load Dump Truck:	\$0.60 /cu.yd.	x	5500 cu.yds. =
			\$3,300.00
Purchase Rock	\$7.75 /cu.yd.	x	5500 cu.yds. =
			\$42,625.00
Crushed Base Cost=			\$8.35 Per Cu.Yd.
TOTAL PRODUCTION COSTS			\$45,925.00

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: 0+00 to 156+40	9.55	1.30	8.35	19.20	4598	88,281.60
A to B: Culvert Bedding	9.55	0.90	8.35	18.80	360	6,768.00
A to B: 215+95 & 243+80 Juncs.	10.62	1.30	8.35	20.27	14	283.78
G to H: Culvert Bedding	10.54	0.90	8.35	19.79	15	296.85
M to N (cap): 0+00 - 6+85	10.94	1.30	8.35	20.59	163	3,356.17
O to P (cap): 0+00 to 8+95	10.65	1.30	8.35	20.30	204	4,141.20
Q to R (cap): 0+00 - 6+40	10.78	1.30	8.35	20.43	146	2,982.78
Total C.Y.					5500	Sub Total
						106,110.38

TOTAL ROCKING COSTS 106,110.38

ROCK SUMMARY FOR HAUL AND PLACEMENT FROM STOCKP

Sale: Klahnberry

Pit: Fisherman's Access
 Rock: 2 1/2"-0"
 Swell: 0.00
 Shrinkage: 0.00
 Drill Pct.: 0%

Location: NE1/4 NE1/4 SEC11 T1S R8W W. M.
 Road: 218 c.y.
 Stockpile: 000 c.y.
 Total Truck Loads: 218 c.y.
 In Place Total: 218 c.y.

Load Rock: \$0.60 /cu.yd. x 218 cu.yds. = \$130.80
 Subtotal \$130.80

Move in loader \$196.11
 Subtotal \$196.11

TOTAL PRODUCTION COSTS \$326.91

Base Cost: \$1.50 Per Cu.Yd.

Road	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST
E to F	\$5.77	\$0.60	\$1.50	\$7.87	96	\$755.48
C to D	\$5.98	\$0.60	\$1.50	\$8.08	122	\$985.71
Total C.Y.					218	Sub Total \$1,741.19

TOTAL ROCKING COSTS \$1,741.19

MOVE-IN CALCULATIONS

Sale: Klahnberry

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROADWAY	AVE SPEED (mph)
6.6	Highway	37
2.6	Main Lines	15
3.5	Steep Grades	4

No.	EQUIPMENT DESCRIPTION	Move in Cost	Pilot Cars	Within Area Move (\$/mile)	Begin Mileage	End Mileage	Total Miles	Within Area Cost	Total Cost
1	Drill & Compressor	\$124.84		\$46.00	0.00	0.00	0	\$0.00	\$124.84
1	Brush Cutter	\$124.84		\$4.00	0.00	0.00	0	\$0.00	\$124.84
1	Graders	\$76.65		\$3.65	0.00	0.00	0	\$0.00	\$76.65
1	Loader (Small)	\$151.64	1	\$3.55	0.00	0.00	0	\$0.00	\$151.64
0	Loader (Med. & Large)	\$0.00	1	\$9.00	0.00	0.00	0	\$0.00	\$0.00
1	Rollers & Compactors	\$124.84		\$5.00	0.00	0.00	0	\$0.00	\$124.84
0	Excavators (Small)	\$0.00		\$22.00	0.00	0.00	0	\$0.00	\$0.00
0	Excavators (Med.)	\$0.00		\$35.50	0.00	0.00	0	\$0.00	\$0.00
1	Excavators (Large)	\$266.89	1	\$44.80	0.00	0.00	0	\$0.00	\$266.89
1	Tired Backhoes/Skidders	\$124.84		\$3.00	0.00	0.00	0	\$0.00	\$124.84
0	Tractors (D6)	\$0.00	2	\$7.10	0.00	0.00	0	\$0.00	\$0.00
0	Tractors (D7)	\$0.00	2	\$11.30	0.00	0.00	0	\$0.00	\$0.00
1	Tractor (D8)	\$249.42	2	\$15.10	0.00	0.00	0	\$0.00	\$249.42
3	Dump Truck (10 cy +)	\$100.04		\$2.85	0.00	0.00	0	\$0.00	\$100.04
0	Dump Truck (Off Hiway)	\$0.00	1	\$4.75	0.00	0.00	0	\$0.00	\$0.00
0	Water Truck (1500 Gal)	\$0.00		\$2.85	0.00	0.00	0	\$0.00	\$0.00
1	Water Truck (2500 Gal)	\$39.20		\$2.85	0.00	0.00	0	\$0.00	\$39.20
0	Jaw	\$1,066.00							
0	2-Stage Crusher	\$1,597.00							
0	3-Stage Crusher	\$2,489.00							

TOTAL MOVE-IN COSTS: \$1,383.20

MOVE-IN CALCULATIONS

Sale: **Klahnberry**

C to D and E to F Roads

LOWBOY HAUL (Round Trip)		
DISTANCE	ROADWAY	AVE SPEED (MPH)
21.0	Highway	45
8.0	Main Lines (Off Road)	15
5.0	Pulling Steep Grades	5

No.	EQUIPMENT DESCRIPTION	Move in Cost	Pilot Cars	Within Area Move (\$/mile)	Begin Mileage	End Mileage	Total Miles	Within Area Cost	Total Cost
1	Drill & Compressor	\$236.71		\$46.00	0.00	0.00	0	\$0.00	\$236.71
0	Brush Cutter	\$0.00		\$4.00	0.00	0.00	0	\$0.00	\$0.00
1	Graders	\$153.30		\$3.65	0.00	0.00	0	\$0.00	\$153.30
0	Loader (Small)	\$0.00	1	\$3.55	0.00	0.00	0	\$0.00	\$0.00
0	Loader (Med. & Large)	\$0.00	1	\$9.00	0.00	0.00	0	\$0.00	\$0.00
0	Rollers & Compactors	\$0.00		\$5.00	0.00	0.00	0	\$0.00	\$0.00
0	Excavators (Small)	\$0.00		\$22.00	0.00	0.00	0	\$0.00	\$0.00
0	Excavators (Med.)	\$0.00		\$35.50	0.00	0.00	0	\$0.00	\$0.00
1	Excavators (Large)	\$419.44	1	\$44.80	0.00	8.04	0	\$0.00	\$419.44
0	Rubber Tired Backhoes/Skidders	\$0.00		\$3.00	0.00	0.00	0	\$0.00	\$0.00
0	Tractors (D6)	\$0.00	2	\$7.10	0.00	0.00	0	\$0.00	\$0.00
1	Tractors (D7)	\$371.60	2	\$11.30	0.00	5.90	0	\$0.00	\$371.60
0	Tractor (D8)	\$0.00	2	\$15.10	0.00	8.04	0	\$0.00	\$0.00
3	Dump Truck (10 cy +)	\$228.00		\$2.85	0.00	7.09	0	\$0.00	\$228.00
0	Dump Truck (Off Hiway)	\$0.00	1	\$4.75	0.00	0.00	0	\$0.00	\$0.00
0	Water Truck (1500 Gal)	\$0.00		\$2.85	0.00	0.00	0	\$0.00	\$0.00
0	Water Truck (2500 Gal)	\$0.00		\$2.85	0.00	0.00	0	\$0.00	\$0.00
0	Jaw	\$1,066.00							
0	2-Stage Crusher	\$1,597.00							
0	3-Stage Crusher	\$2,489.00							

TOTAL MOVE-IN COSTS: \$1,409.06



OREGON DEPARTMENT OF FORESTRY CRUISE REPORT

Klahnberry

"STEWARDSHIP IN FORESTRY"

1. **Type of Sale:** Clearcut, Recovery
2. **Legal Description:** Portions of Sections 20, 21, 28, and 29, T1N, R8W, W.M., Tillamook County, Oregon.
3. **Sale Acreage:** The sale boundaries were plotted on a digital orthophotograph and the acreage was calculated with GIS.

ACRES			
Area	Sale	Total	Net
Area 1, Clearcut	381	364	292
Area 2, Retention cut	170	166	157
	551	530	449

Sale Acres: *Area within the Timber Sale Boundary signs.*

Total Acres: *For accomplishment reporting*

Clearcut: Sale acres; plus green tree retention acres outside the 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.*

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

4. **Cruising Procedures:**

- A. **Cruise Method:** A total of 133 variable radius full point plots were established on the sale areas. A ratio of two count plots per one measured plot was established. Plot spacing ranged from 180-220' and line spacing varied from 650-1000'. (See cruise maps for specific details.) Conifer with less than 7" DBH and alder with less than 10" DBH were not recorded. The species and tree count were recorded on the count plots. On the measure plots the species, diameters at breast height, height to a 5" merchantable top for conifer and 8" for alder, form factors, grades and lengths and defect of each segment were recorded. Heights were measured to the nearest foot.
- B. **Plot size:** 28 BAF
- C. **Point of observation:** 4.5 feet
- D. **Grading System:** Columbia River Official Log Scaling and Grading Bureau rules.

E. Diameter Standards: 4.5 feet to the nearest inch.

F. Form Point: 16 feet for all species.

G. Form Factor: A form factor was recorded for all trees on measure plots. Douglas-fir form factor is 84 and red alder is 79.

5. **Computation Procedure:** The volumes and statistics for the timber cruised were computed using Atterbury Consultants, Inc. SUPER A.C.E. 98 program. Plots for each area were run separately for volume computation. For Area 1, the coefficient of variation was 65%; standard error of 7%. For Area 2, the coefficient of variation was 51%; standard error of 7.4%.
6. **Hidden Defect and Breakage:** 5% reduction
7. **Timber Description:** The sale area is primarily composed of 38 year old Douglas-fir with scattered alder. A few trees per acre of other conifer are scattered throughout the sale area. The sale area burned in the 1933 Tillamook Fire and the 1939 Saddle Mountain Fire. The sale areas were aerial seeded in 1956-57 and replanted in 1962-1966. The majority of the sale area was commercially thinned in 1998-2001. The Douglas-fir has severe Swiss needle cast symptoms. The alder components of these stands were aerial sprayed to release planted conifer in the 1970's resulting in deformed alder trees with short boles and many limbs.
8. **Cruiser Names/Dates:** Chris Woodward, Kirk Ausland, and Tod Haren, November 2003.
9. **Revenue Distribution:**
FDF: 100%
Tax Code 56: 100%
Deed Number: 161
Rehab Obligated: 100%
10. **Attachments:**
Volume Summary
Logging Plan
Stand Table

Area 1 (Clearcut)							
292 acres							
SPECIES	QMD	Basal Area per acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
<i>Douglas-fir (sale area)</i>	11	101	93	9.4	2745	5%	2608
Douglas-fir (take trees)		94	93	8.7	2540	5%	2413
Alder	13	15		0.2	58	5%	55
TOTAL				8.9	2598		2468

Area 2 (retention cut)							
157 acres							
SPECIES	QMD	Basal Area per acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
<i>Douglas-fir (sale area)</i>	12	127	85	10.8	1696	5%	1611
Douglas-fir (take trees)		94	85	8.0	1256	5%	1193
Alder	13	19		0.7	110	5%	105
TOTAL				8.7	1366		1298

TOTAL SALE VOLUME		
SPECIES	MBF NET	acres
Douglas-fir	3606	
Alder	160	
TOTAL	3766	

TC TSTNDSUM
 Khlanberry adjusted

Stand Table Summary

Project **KLAHN2**

T01N R08W S29 T1

T01N R08W S29 T1

Twp Rge Sec Tract
 01N 08W 29 CC

Type
 1

Acres
 292

Plots
 86

Sample Trees
 118

Page: 1
 Date: 6/30/2004
 Time: 9:50:08AM

Take
Trees

leave
Trees

S Spc	T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net			Totals		
									Net Cu.Ft.	Net Bd.Ft.	Tons/ Acre	Cu.Ft. Acre	Net Bd.Ft. Acre	Tons	Cunits	MBF
DF		7	4	87	52	14.810	3.96	14.81	4.0	25.0	1.71	60	370	497	174	108
DF		8	9	85	58	25.513	8.91	25.51	6.4	30.0	4.65	163	765	1,354	475	223
DF		9	5	84	73	11.199	4.95	11.20	9.4	38.0	3.00	105	426	873	306	124
DF		10	14	84	73	25.399	13.85	27.21	11.4	40.7	8.84	310	1,107	2,573	903	322
DF		11	15	83	80	22.491	14.84	31.49	12.3	43.8	11.05	388	1,379	3,216	1,128	401
DF		12	13	84	78	16.379	12.86	25.20	13.2	46.0	9.44	331	1,159	2,748	964	337
DF		13	12	84	80	12.882	11.87	22.54	14.3	51.4	9.20	323	1,159	2,676	939	337
DF		14	12	84	83	11.108	11.87	21.29	15.7	58.3	9.75	334	1,240	2,838	973	361
DF		15	8	85	82	6.451	7.92	12.90	17.9	63.7	6.59	231	822	1,917	673	239
DF		16	3	85	75	2.126	2.97	4.25	18.9	61.7	2.29	80	262	667	234	76
DF		17	3	85	82	1.883	2.97	3.77	23.5	81.7	2.52	88	308	733	257	90
DF		19	2	78	74	1.005	1.98	1.51	36.6	83.3	1.57	55	126	458	161	37
DF		22	1	83	105	.375	.99	.75	50.5	180.0	1.08	38	135	314	110	39
DF		26	1	84	78	.268	.99	.54	58.3	195.0	.89	31	105	260	91	30
DF	Totals		102	84	72	151.888	100.93	202.97	12.5	46.1	72.59	2,539	9,364	21,123	7,388	2,725
RA		10	1		17	2.806	1.53	2.81								
RA		11	2		22	4.637	3.06	4.64								
RA		13	4	79	32	6.641	6.12	6.64	4.8	15.0	.87	32	100	253	92	29
RA		14	1	81	54	1.431	1.53	1.43	19.6	60.0	.77	28	86	225	82	25
RA		15	1		21	1.247	1.53	1.25								
RA		23	1	70	21	.530	1.53	.53	33.0	100.0	.47	18	53	138	51	15
RA	Totals		10	79	28	17.292	15.30	17.29	4.5	13.8	2.12	77	239	616	225	69
SS		16	1	69	89	.466	.65	.93	23.6	55.0	.57	22	51	166	64	15
SS		20	1	81	73	.298	.65	.30	61.3	180.0	.48	18	54	138	53	16
SS	Totals		2	74	83	.765	1.30	1.23	32.7	85.3	1.05	40	105	305	117	31
WH		15	1	87	67	.398	.49	.80	16.2	70.0	.41	13	56	120	37	16
WH		16	1	88	71	.350	.49	.70	18.9	70.0	.42	13	49	123	38	14
WH	Totals		2	87	69	.748	.98	1.50	17.4	70.0	0.83	26	105	243	76	30
Totals			116	84	67	170.693	118.51	222.99	12.0	44.0	76.59	2683	9,812	22,286	7,806	2,855

TC TSTNDSUM
Khanberry adjusted

Stand Table Summary

Project **KLAHN2**

T01N R08W S29 T2

T01N R08W S29 T2

Twp Rge Sec Tract
01N 08W 29 RC

Type
2

Acres
157.00

Plots
47

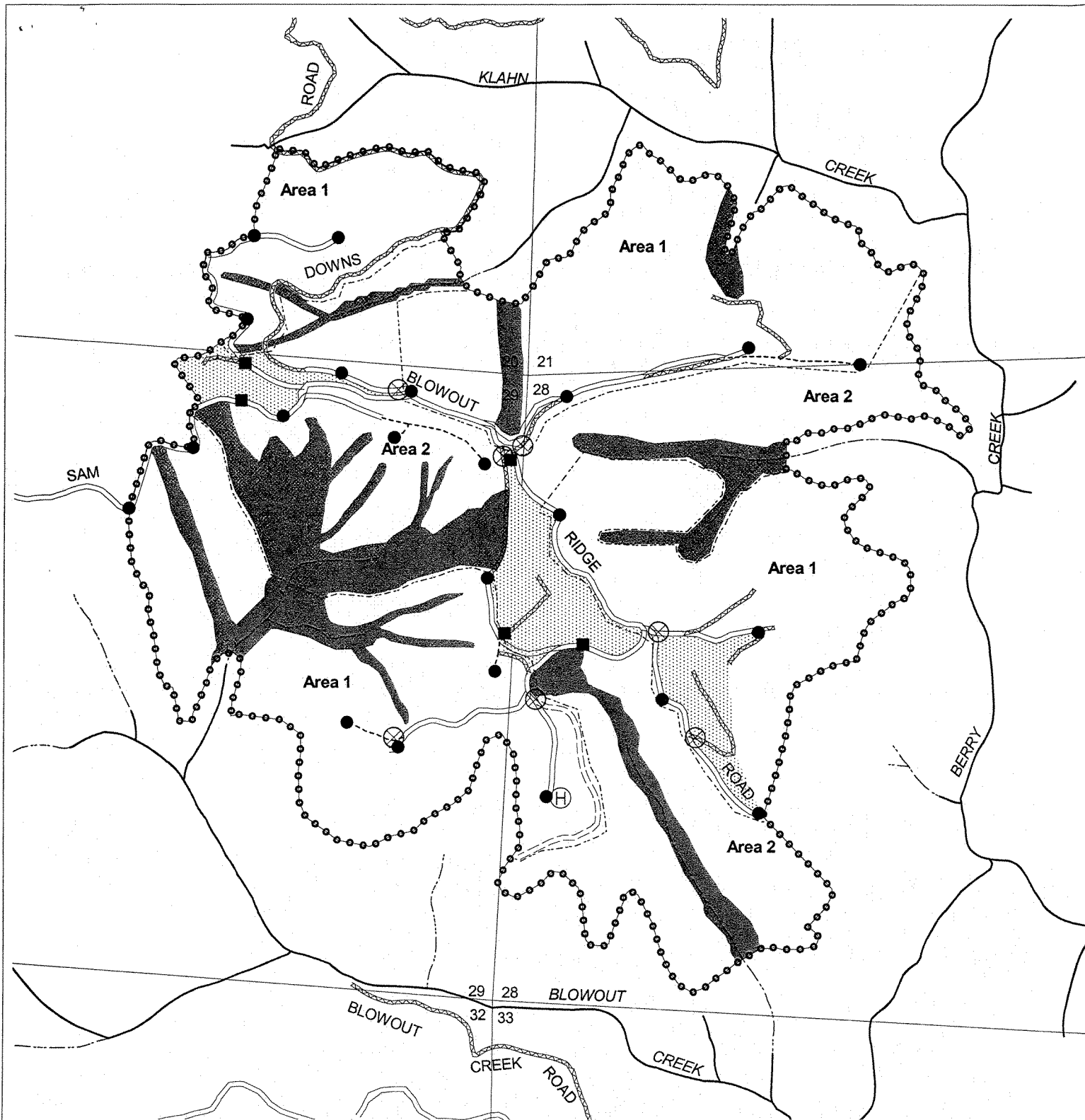
Sample Trees
77

Page: **1**
Date: **6/30/200**
Time: **9:50:08AM**

*Take
Trees*

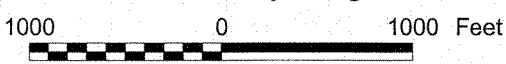
*Leave
Trees*

S Spc	T	Av			Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
		Sample DBH	FF Trees	Ht 16'				Tot	Net Cu.Ft.				Net Bd.Ft.	Tons	Cunits
DF	8	5	89	64	26.769	9.34	26.77	6.4	34.0	4.90	172	910	769	270	143
DF	9	5	85	62	21.151	9.34	21.15	8.3	34.0	5.02	176	719	789	277	113
DF	10	5	87	75	17.132	9.34	17.13	12.2	48.0	5.94	208	822	933	327	129
DF	11	7	82	65	19.822	13.08	22.65	12.3	41.3	7.94	279	934	1,247	438	147
DF	12	11	82	68	26.174	20.56	33.31	14.3	44.3	13.56	476	1,475	2,129	747	232
DF	13	12	81	77	24.329	22.43	34.47	17.2	54.1	16.87	592	1,865	2,649	929	293
DF	14	8	85	78	13.985	14.95	24.47	16.7	57.9	11.62	408	1,416	1,824	640	222
DF	15	6	83	76	9.137	11.21	16.75	17.8	60.9	8.52	299	1,020	1,338	469	160
DF	16	5	81	77	6.692	9.34	13.38	19.5	60.0	7.45	261	803	1,169	410	126
DF	17	2	81	84	2.371	3.74	4.74	23.6	80.0	3.20	112	379	502	176	60
DF	18	1	84	111	1.058	1.87	2.12	32.8	120.0	1.98	69	254	311	109	40
DF	19	1	83	111	.949	1.87	1.90	37.4	130.0	2.02	71	247	317	111	39
DF	Totals	68	84	71	169.569	127.08	218.85	14.3	49.6	89.01	3,123	10,846	13,975	4,903	1,703
RA	11	2	81	34	8.188	5.40	8.19	5.3	20.0	1.19	43	164	187	68	26
RA	13	1		37	2.931	2.70	5.86								
RA	14	1	74	60	2.528	2.70	5.06	11.4	25.0	1.59	58	126	249	91	20
RA	16	2	82	52	3.870	5.40	3.87	17.0	55.0	1.81	66	213	284	103	33
RA	17	1	79	72	1.714	2.70	1.71	44.2	120.0	2.08	76	206	327	119	32
RA	Totals	7	80	45	19.232	18.91	24.69	9.8	28.7	6.67	243	709	1,048	381	111
WH	14	1	85	89	.829	.89	1.66	18.6	75.0	.99	31	124	155	48	20
WH	17	1	84	78	.562	.89	1.12	24.8	85.0	.89	28	96	140	44	15
WH	Totals	2	85	85	1.392	1.77	2.78	21.1	79.0	1.88	59	220	295	92	35
Totals		77	84	68	190.193	147.77	246.32	13.9	47.8	97.56	3425	11,775	15,317	5,377	1,849



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

LOGGING PLAN
 Timber Sale Contract No. 341-05-20
 Klahnberry
 Portions of Sections 20, 21, 28 and 29,
 T1N, R8W, W. M.
 Tillamook County, Oregon



Area	Type of Operation	Acres	
		Sale	Net
1	Clearcut	381	292
2	Retention cut	170	157
Total		551	449

Tillamook District GIS
 8-27-2004
 This product is for informational use and
 may not have been prepared for, or suitable
 for legal, engineering, or surveying purposes.





OREGON DEPARTMENT OF FORESTRY WRITTEN PLAN

SALE NAME: Klahnberry

LOCATION: Portions of Sections 20, 21, 28, and 29, T1N, R8W, W.M. Tillamook County, Oregon.

ACTIVITIES: Yarding adjacent to Type F stream buffers and cable yarding lines strung over riparian management area.

PROTECTED RESOURCES:

Streams: Klahn Creek and Berry Creek (large Type F streams) and small, unnamed, Type F tributaries to Klahn Creek, Berry Creek, and Blowout Creek.

Riparian Management Area (RMA): The area within 100 feet slope distance on large Type F and 50 feet on small Type F streams from the high water mark on each side of the streams.

PROTECTION MEASURES:

YARDING AND FELLING:

- All trees, in the RMA, outside of cable corridors, are reserved from cutting.
- Trees felled for cable corridors within the RMA will be incidental and will not be removed.
- Cable yarding lines will be pulled out of RMA prior to rigging the next yarding road.
- If trees or logs outside of the RMA fall or slide into a stream channel they will not be limbed, bucked, or removed without approval from State.
- Cable yarding lines across RMA's will be an average of at least 150 feet apart.

PREPARED BY: Teran/Mortensen
Central Unit Foresters
10 August, 2004