



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Cost Summary Hoskins Sale 341-07-11

District: Tillamook

Date: 2/9/07

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$861,518.30	\$253,133.10	\$1,114,651.40
		Project Work	(\$426,330.00)
		Advertised Value	\$688,321.40



Timber Sale Appraisal Timber Description Hoskins Sale 341-07-11

"STEWARDSHIP IN FORESTRY"

District: Tillamook

Location: Portions of Sections 16, 17, 20 and 21, T1N, R7W, & Portions of Section 18, T1N, R6W, W.M., Tillamook County, Oregon.

Date: 2/9/07

Stand Stocking: 60%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	15	0	95
Alder (Red)	14	0	95

Volume by Grade	Douglas - Fir	Alder (Red)	Total
2S	866	0	866
2S 12"+	0	3	3
3S	2,106	0	2,106
3S 10" - 11"	0	305	305
4S	918	0	918
4S 8" - 9"	0	583	583
Total	3,890	891	4,781

Comments: Pond values Used: 4th Quarter Calendar Year 2006.

Western Red Cedar Stumpage Price = Pond Value minus Df Logging Cost
\$685/MBF = \$960/MBF - \$275/MBF

HAULING:

Hauling costs adjusted to make equivalent to \$700 daily truck cost.

\$700 - % Profit & Risk ($\$700 / 1.15$) = \$608 Daily Truck Cost.

Hauling Cost Calculation Douglas-fir:

\$608 Daily Truck Cost / (2 trips per day x 3.4 MBF per load) = \$89.41/MBF Hauling Cost.

Hauling Cost Calculation Red Alder:

\$608 Daily Truck Cost / (3 trips per day x 3.0 MBF per load) = \$67.56/MBF Hauling Cost.

Other Costs (Profit and Risk to be added):

Brand and Paint - \$2/MBF x 4781 MBF = \$ 9,562

Snag Creation - Girdling at base - \$5.00/tree x 272 trees = \$ 1,360

TOTAL Other Costs (P&R to be added) = \$ 10,922

Other Costs (P&R Included):

Sorting Tops and Slash at landings: 225 cc cable yarding acres

225 ac. x \$2.20/ac = \$ 495

Non-Project Roads - (Seeding included):

#1 (Area 4) 7 Sta. x \$65.00 = \$ 455

#2 (Area 3) 8 Sta. x \$65.00 = \$ 520

#3 (Area 3) 7 Sta. x \$65.00 = \$ 455

Area 6: Blade and spot rock roads as needed: \$ 500

Approach Rock (Pit-Run) 3 Stations x 30 cyds x \$4.00/cy = \$ 360

Landing Rock (Pit-Run) 27 Landings x 20 cyds x \$4.00/cy = \$2,160

OHV Filters: 2 filters x \$75.00/filter = \$ 150

OHV Trail clearing: 18 sta. x \$40.00/sta. = \$ 720

TOTAL Other Costs (P&R Included): \$5,815

ROAD MAINTENANCE

GRADING: Move-In cost: (3 times x \$270 each)/4781mbf = \$ 0.17/mbf

Grade each haul route once:

Lyda/C Line & Archers/Jordan:

$(\$800/\text{mi} \times 4 \text{ mi} + \$500/\text{mi} \times 8.5 \text{ mi})/4781\text{mbf} = \$ 1.56/\text{mbf}$

Hoskins Rd. $(\$500/\text{mi} \times 1.7\text{mi})/4781\text{mbf} = \$ 0.18/\text{mbf}$

REPROCESS W/Final Maintenance

(4 miles: 1 mile Jordan Crk. Rd + first 3 miles of Archers, steep west portion)

Roller with rain water: \$280 move-in + \$11/sta x 208 sta / 4781mbf = \$ 0.54/MBF

MAINTENANCE ROCK: Move-In cost (2 dump trucks and one backhoe):

(3 times x \$ 490 each time)/4781mbf = \$ 0.31/mbf

Ax Ridge: $(1.4\text{mi} \times 30\text{cy}/\text{mmbf}/\text{mile} \times \$4/\text{cy} \times 1.2\text{mmbf})/4781\text{mbf} = \$ 0.04/\text{MBF}$

Archers Rd.: $(6.5\text{mi} \times 30\text{cy}/\text{MMBF}/\text{mile} \times \$6.00/\text{cy} \times 1.2\text{MMBF})/4781\text{MBF} = \$ 0.29/\text{MBF}$

C Line Rd.: $(6.0\text{mi} \times 30\text{cy}/\text{MMBF}/\text{mile} \times \$6.00/\text{cy} \times 0.9\text{MMBF})/4781\text{MBF} = \$ 0.20/\text{MBF}$

Hoskins Rd. $(1.7\text{mi} \times 30\text{cy}/\text{MMBF}/\text{mile} \times \$5.00/\text{cy} \times 2.8\text{MMBF})/4781\text{MBF} = \$ 0.15/\text{MBF}$

ENDHAUL DITCH and BACKSLOPE FAILURE material to waste area:

$(150\text{cy} \times \$5.15/\text{cy})/4781 = \$ 0.16/\text{MBF}$

TOTAL ROAD MAINTENANCE COST: \$ 3.44/MBF



Timber Sale Appraisal

Logging Conditions

Hoskins

Sale 341-07-11

"STEWARDSHIP IN FORESTRY"

Combination#: 1	Douglas - Fir	56.62%	
	Alder (Red)	67.02%	
Yarding Distance:	Medium (800 ft)		Downhill Yarding: No
Logging System:	Cable: Small Tower <=40		Process: Stroke Delimber
Tree Size:	Small / Thinning 9in (70 Bft/tree), 20+ logs/MBF		
Loads/Day:	6		Bd. Ft./Load: 3,400
Cost/MBF:	\$135.92		
Machines:			
	Log Loader (A)		
	Stroke Delimber (A)		
	Tower Yarder (Small)		
Combination#: 2	Douglas - Fir	43.38%	
	Alder (Red)	32.98%	
Yarding Distance:	Medium (800 ft)		Downhill Yarding: Yes
Logging System:	Track Skidder		Process: Feller Buncher
Tree Size:	Small / Thinning 9in (70 Bft/tree), 20+ logs/MBF		
Loads/Day:	8		Bd. Ft./Load: 3,400
Cost/MBF:	\$129.37		
Machines:			
	Feller Buncher w/ Delimber		
	Log Loader (B)		
	Stroke Delimber (B)		
	Track Skidder		



Timber Sale Appraisal

Logging Costs

Hoskins

Sale 341-07-11

"STEWARDSHIP IN FORESTRY"

Date: 2/9/07

Operating Seasons: 2.0

Profit & Risk: 15%

Project Costs: \$426,330

Other Costs (P/R): \$10,922

Slash Disposal: \$0

Other Costs: \$5,815

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

Road Maintenance: \$3.44

Hauling Costs

Species	\$/MBF	Trips/Day	MBF/Load
Douglas - Fir	\$89.41	2.0	3.4
Alder (Red)	\$67.56	3.0	3.0



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Logging Costs Breakdown Hoskins Sale 341-07-11

Costs	Douglas - Fir	Alder (Red)
Logging	133.08	133.76
Road Maintenance	3.62	3.62
Fire Protection	1.39	0.00
Hauling	94.12	71.12
Other (P/R appl.)	2.81	0.00
Profit & Risk	35.25	31.28
Slash Disposal	0.00	0.00
Scaling	2.00	2.00
Other	1.49	0.00
Total	273.76	241.78

Amortization	0.00	0.00
Pond Value	495.23	525.88
Stumpage	221.47	284.10
Amortized	0.00	0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Summary Hoskins Sale 341-07-11

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	3,890.00	891.00
Value	221.47	284.10
Total	861,518.30	253,133.10

Gross Timber Sale Value

Recovery \$1,114,651.40

Prepared by: Stumpf / Teran

Date: 2/9/07

District: Tillamook

Phone: (503) 842-2524



PROJECT SUMMARY SHEET

Sale: Hoskins

CONSTRUCTION

Point	A to B - 0+00 to 1+25	1+25	stations =	\$19,075.24
Point	A to B -1+25 to 8+45	7+20	stations =	\$14,550.00
Point	A to B - 55+00 to 91+25	36+25	stations =	\$79,597.93
Point	G to H	34+50	stations =	\$72,237.87
Point	I to J 42+00 to 91+00	49+00	stations =	\$70,504.52
SUBTOTAL CONSTRUCTION				\$255,965.56

IMPROVEMENT

Point	A to B - 8+45 to 55+00	46+55	stations =	\$52,933.21
Point	I to J 0+00 to 42+00	42+00	stations =	\$29,892.88
Point	L to M	3+35	stations =	\$47,018.15
SUBTOTAL IMPROVEMENT				\$129,844.24

RECONSTRUCTION

Point	E to F	17+50	stations =	\$4,772.90
SUBTOTAL IMPROVEMENT				\$4,772.90

SPECIAL PROJECTS

Road Vacating - C to D	\$1,250.65
Road Vacating - Point K	\$913.36
Stockpile #1, 2"-0" Crushed Rock - Hwy Pit Access Road	\$6,372.80
Stockpile #2, 3"-1 3/4" Drain Rock Stockpile - Hwy Pit	\$6,372.80
Stockpile #3, 4"-0" Crushed Rock - Archers Road	\$2,597.30
Stockpile #4, 2"-0" Crushed Rock - Portland Mills Road	\$12,882.40
SUBTOTAL SPECIAL PROJECTS	\$30,389.31

MOVE IN - A to B, C to D, E to F, G to H, and Point K	\$2,486.23
MOVE IN - I to J	\$2,019.04
MOVE IN - L to M	\$852.72

GRAND TOTAL **\$426,330.00**

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Hoskins</u>	Road:	<u>A to B - 0+00 to 1+25</u>
Construction -	<u>1+25</u> stations <u>0.02</u> miles	Improvement -	<u>0+00</u> stations <u>0.00</u> miles
CLEARING AND GRUBBING -			
Endhaul	0.12 acres @	\$1,500.00 per acre =	<u>\$180.00</u>
		TOTAL CLEARING AND GRUBBING	\$202.44
EXCAVATION -			
Common	1044 cy. @	\$1.28 per c.y. =	<u>\$1,336.32</u>
		TOTAL EXCAVATION	\$1,539.32
ENDHAUL -			
Suitable fill to 5+70-8+45 on A to B from 0+00 to 1+25	820 cy. @	\$1.00 per c.y. =	\$820.00
Waste to WA near 5+70 on A to B from 0+00 to 1+25	200 cy. @	\$0.95 per c.y. =	\$190.00
Spread & compact roadway fill 0+00 to 1+25	24 cy. @	\$0.45 per c.y. =	\$10.80
Spread & compact waste at waste area near 5+70 on A to B	200 cy. @	\$0.25 per c.y. =	\$50.00
		TOTAL ENDHAUL	\$1,205.65
CULVERTS - MATERIALS & INSTALLATION			
		TOTAL CULVERTS	\$0.00
ROCK			
A to B Road 0+00 - 1+25 11/2"-0"	86 cy. of 11/2"-0" @	\$8.86 per c.y. =	\$761.96
A to B Road 0+00 - 1+25 3/4"-0"	58 cy. of 3/4"-0" @	\$23.23 per c.y. =	<u>\$1,347.34</u>
		TOTAL ROCK	\$2,109.30
SPECIAL PROJECTS			
Paved hwy approach - 6" AC paving in 2 lifts 419sy (bid supplied by local contractor)	lump sum @	\$12,807.17	\$12,807.17
Woven geotextile fabric & installation - road subgrade prior to rockling	520 Sq.Yds. @	\$1.60 per Sq. Yd.	\$832.00
Construct ditchouts -	1.00 hours @	\$145.00 per hour	\$145.00
Remove large stumps -	1.00 hours @	\$145.00 per hour	\$145.00
Grade and shape road - inslope to ditchline	1.25 stations @	\$15.50 per station	\$19.38
Proof-Roll subgrade prior to rockling	1.25 stations @	\$4.70 per station	\$5.88
Roll subgrade w/ vibratory roller prior to rockling -	1.25 stations @	\$13.20 per station	\$16.50
Grass seed and fertilize -	0.08 acres @	\$220.00 per acre	\$17.60
Mulching -	0.05 acres @	\$600.00 per acre	\$30.00
		TOTAL SPECIAL PROJECTS	\$14,018.53
GRAND TOTAL			\$19,075.24

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Hoskins</u>		Road: <u>A to B -1+25 to 8+45</u>
Construction -	7+20 <u>0.14</u>	stations miles	Improvement -
			0+00 <u>0.00</u>
			stations miles
CLEARING AND GRUBBING -			
Scattering		0.74 acres @	\$980.00 per acre = \$725.20
Piling - waste area near 5+70 on A to B		0.06 acres @	\$910.00 per acre = \$54.60
			TOTAL CLEARING AND GRUBBING
			\$802.24
EXCAVATION -			
Common -1+25 - 2+85		611 cy. @	\$1.28 per c.y. = \$782.08
Common - 2+85 - 5+70		2.85 sta. @	\$90.00 per sta. = \$256.50
			TOTAL EXCAVATION
			\$1,038.58
ENDHAUL -			
Suitable fill to 5+70 - 8+45 on A to B	from 1+25 to 2+85	300 cy. @	\$1.13 per c.y. = \$339.00
To waste area near 5+70 on A to B	from 1+25 to 2+85	311 cy. @	\$0.92 per c.y. = \$286.12
Spread & compact fill 5+70 to 8+45	from 0+00 to 1+25	820 cy. @	\$0.45 per c.y. = \$369.00
Spread & compact fill 5+70 to 8+45	from 1+25 to 2+85	300 cy. @	\$0.45 per c.y. = \$135.00
Spread & compact waste area		311 cy. @	\$0.25 per c.y. = \$77.75
			TOTAL ENDHAUL
			\$1,206.87
CULVERTS - MATERIALS & INSTALLATION			
	<u>Culverts</u>		
	0 LF of 18"	\$0.00	0 LF of 24" \$0.00
	0 LF of 30"	\$0.00	54 LF of 36" \$2,112.00
	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	\$2,112.00
	<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	\$8.00	
		\$8.00	
			TOTAL CULVERTS
			\$2,120.00
ROCK			
A to B Road 1+25 - 8+45 4"-0"	260 cy. of	4"-0"	@ \$15.34 per c.y. = \$3,988.40
A to B Road 1+25 - 8+45 2"-0"	127 cy. of	2"-0"	@ \$15.34 per c.y. = \$1,948.18
			TOTAL ROCK
			\$5,936.58
SPECIAL PROJECTS			
Woven geotextile fabric & installation - road subgrade prior to rocking	1,278	Sq.Yds. @	\$1.60 per Sq. Yd. \$2,044.80
Construct waste area near Sta. 5+70 -	0.75	hours @	\$145.00 per hour \$108.75
Construct 2 turnouts, and ditchouts -	1.75	hours @	\$145.00 per hour \$253.75
Construct large truck turnaround near 5+70 -	2.00	hours @	\$145.00 per hour \$290.00
Remove large stumps -	1.75	hours @	\$145.00 per hour \$253.75
Grade and shape road - ditch	7.20	stations @	\$15.50 per station \$111.60
Proof-Roll subgrade prior to rocking	7.20	stations @	\$4.70 per station \$33.84
Roll subgrade w/ vibratory roller prior to rocking -	7.20	stations @	\$13.20 per station \$95.04
Grass seed and fertilize -	0.31	acres @	\$220.00 per acre \$68.20
Mulching road and waste area -	0.31	acres @	\$600.00 per acre \$186.00
			TOTAL SPECIAL PROJECTS
			\$3,445.73
			GRAND TOTAL
			\$14,550.00

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Hoskins</u>		Road: <u>A to B - 8+45 to 55+00</u>
Construction -	0+00 stations 0.00 miles		Improvement -
			46+55 stations 0.88 miles
CLEARING AND GRUBBING - Scattering	2.18 acres @		\$980.00 per acre = \$2,136.40
			TOTAL CLEARING AND GRUBBING
			\$2,136.40
EXCAVATION - Improvement Pullback Common - widen by filling with local material - 18+35 - 19+15 Common - widen by filling with local material - 22+40 - 22+85	45.30 sta. @ 145 cy. @ 1.5 hr. @ 2.5 hr. @		\$50.00 per sta. = \$2,265.00 \$1.40 per cy. = \$203.00 \$145.00 per hr. = \$217.50 \$145.00 per hr. = \$362.50
			TOTAL EXCAVATION
			\$3,048.00
ENDHAUL - To waste area @ Sta. 5+70 on A to B Spread & compact waste area	from 31+35 to 32+10 145 cy. @ 145 cy. @		\$1.19 per c.y. = \$172.55 \$0.25 per c.y. = \$36.25
			TOTAL ENDHAUL
			\$208.80
CULVERTS - MATERIALS & INSTALLATION			
	<u>Culverts</u>		
	0 LF of 18"	\$0.00	60 LF of 24"
	34 LF of 30"	\$1,122.00	0 LF of 36"
	0 LF of 42"	\$0.00	0 LF of 48"
	0 LF of 54"	\$0.00	0 LF of 60"
	0 LF of 66"	\$0.00	0 LF of 72"
	<u>\$1,122.00</u>		<u>\$1,440.00</u>
	<u>Half Rounds</u>		
	0 LF of 21"	\$0.00	0 LF of 30"
	0 LF of 36"	\$0.00	0 LF of 42"
		<u>\$0.00</u>	<u>\$0.00</u>
	<u>Culvert Stakes & Markers</u>		
	0 stakes	\$0.00	
	3 markers	\$24.00	
		<u>\$24.00</u>	
			TOTAL CULVERTS
			\$2,586.00
ROCK			
A to B Road 8+45 - 55+00 4"-0"	1,424 cy. of	4"-0"	@
A to B Road 8+45 - 55+00 2"-0"	694 cy. of	2"-0"	@
A to B Energy Dissapator Riprap 10+10	10 cy. of	48"-24" Riprap	@
A to B Energy Dissapator Riprap 15+30	20 cy. of	48"-24" Riprap	@
A to B Slope Stabilization Riprap 22+40-22+85	40 cy. of	48"-36" Riprap	@
A to B Energy Dissapator Riprap 24+80	10 cy. of	48"-24" Riprap	@
A to B Leveling Rock 35+45 - 36+40 "4-0"	50 cy. of	4"-0"	@
A to B Leveling Rock 37+00 - 37+60 "4-0"	40 cy. of	4"-0"	@
			\$16.22 per c.y. = \$23,097.28
			\$16.22 per c.y. = \$11,256.68
			\$15.43 per c.y. = \$154.30
			\$15.54 per c.y. = \$310.80
			\$15.97 per c.y. = \$638.80
			\$16.01 per c.y. = \$160.10
			\$16.03 per c.y. = \$801.50
			\$16.04 per c.y. = \$641.60
			TOTAL ROCK
			\$37,061.06
SPECIAL PROJECTS			
Woven geotextile fabric & installation - road subgrade prior to rocking 34+45 to 38+00	497	Sq.Yds. @	\$1.60 per Sq. Yd. \$795.20
Construct 5 turnouts, 1 turnarounds, and ditchouts -	2.80	hours @	\$145.00 per hour \$406.00
Construct/Install rubber water diverter -	10	@	\$360.00 each \$3,600.00
Remove large stumps -	4.00	hours @	\$145.00 per hour \$580.00
Grade and shape road - outslope	46.55	stations @	\$14.00 per station \$651.70
Proof-Roll subgrade prior to rocking	46.55	stations @	\$4.70 per station \$218.79
Roll subgradè w/ vibratory roller prior to rocking -	46.55	stations @	\$13.20 per station \$614.46
Grass seed and fertilize -	1.64	acres @	\$220.00 per acre \$360.80
Mulching -	1.11	acres @	\$600.00 per acre \$666.00
			TOTAL SPECIAL PROJECTS
			\$7,892.95
GRAND TOTAL			\$52,933.21

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Hoskins</u>			Road:	<u>A to B - 55+00 to 91+25</u>		
Construction -	<u>36+25</u>	stations		Improvement -	<u>0+00</u>	stations	
	<u>0.69</u>	miles			<u>0.00</u>	miles	
CLEARING AND GRUBBING -							
Scattering		2.26	acres @	\$980.00	per acre =	\$2,214.80	
Piling - waste area at 52+80 on A to B		0.36	acres @	\$910.00	per acre =	\$327.60	
Endhaul		1.46	acres @	\$1,500.00	per acre =	\$2,190.00	
				TOTAL CLEARING AND GRUBBING			\$4,732.40
EXCAVATION -							
Common - 55+00 - 78+25		8,573	cy. @	\$1.28	per c.y.=	\$10,973.44	
Rippable Rock - 60+00 - 71+00		1,299	cy. @	\$2.25	per c.y.=	\$2,922.75	
Solid Rock - 60+00 - 71+00		1,692	cy. @	\$7.50	per c.y.=	\$12,690.00	
Common - 78+25 - 81+25		3.00	sta. @	\$90.00	per sta. =	\$270.00	
Common - 81+25 - 84+40		3.15	sta. @	\$140.00	per sta. =	\$441.00	
Common - 84+40 - 91+25		6.85	sta. @	\$90.00	per sta. =	\$616.50	
				TOTAL EXCAVATION			\$27,913.69
ENDHAUL -							
To waste area @ 52+80 on A to B	from 55+00 to 78+25	3,969	cy. @	\$1.65	per c.y.=	\$6,548.85	
Spread & compact fill 55+00 to 78+25	from 55+00 to 78+25	7,595	cy. @	\$0.45	per c.y.=	\$3,417.75	
Spread & compact waste area		3,969	cy. @	\$0.25	per c.y.=	\$992.25	
				TOTAL ENDHAUL			\$10,958.85
CULVERTS - MATERIALS & INSTALLATION							
				TOTAL CULVERTS			\$0.00
ROCK							
A to B Road 55+00 - 91+25 4"-0"	1,153	cy. of	Crushed	@	\$16.99	per c.y.=	\$19,589.47
A to B Road 55+00 - 80+00 2"-0"	381	cy. of	Crushed	@	\$16.84	per c.y.=	\$6,416.04
A to B Slope Stabilization Riprap 66+95-67+50	55	cy. of	48"-36" Riprap	@	\$17.28	per c.y.=	\$950.40
A to B 62+50 1 3/4"-3/4" Drain Rock	25	cy. of	1 3/4"-3/4" Drain Rock	@	\$28.45	per c.y.=	\$711.25
				TOTAL ROCK			\$27,667.16
SPECIAL PROJECTS							
Woven geotextile fabric & installation - road subgrade prior to rocking		292	Sq.Yds. @	\$1.60	per Sq. Yd.	\$467.20	
Sta. 66+70 to 68+80 -		94	Sq.Yds. @	\$1.65	per Sq. Yd.	\$155.10	
Nonwoven geotextile fabric & installation - ground water drain Sta. 62+50 -		3.15	hours @	\$145.00	per hour	\$456.75	
Construct 6 turnouts, 1 turnarounds, and ditchouts -		4.00	hours @	\$145.00	per hour	\$580.00	
Construct waste area at Sta. 52+80 -		8	@	\$360.00	each	\$2,880.00	
Construct/Install rubber water diverter -		8.00	hours @	\$145.00	per hour	\$1,160.00	
Remove large stumps -		36.25	stations @	\$14.00	per station	\$507.50	
Grade and shape road - outslope		36.25	stations @	\$4.70	per station	\$170.38	
Proof-Roll subgrade prior to rocking		36.25	stations @	\$13.20	per station	\$478.50	
Roll subgrade w/ vibratory roller prior to rocking -		2.02	acres @	\$220.00	per acre	\$444.40	
Grass seed and fertilize -		1.71	acres @	\$600.00	per acre	\$1,026.00	
Mulching @ waste area and road Sta. 55+00 - 84+40 -				TOTAL SPECIAL PROJECTS			\$8,325.83
GRAND TOTAL						\$79,597.93	

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Hoskins</u>		Road:	<u>C to D - Road Vacating</u>
Construction -	<u>0+00</u> stations <u>0.00</u> miles		Vacating -	<u>7+25</u> stations <u>0.14</u> miles
CLEARING AND GRUBBING -			TOTAL CLEARING AND GRUBBING	\$0.00
EXCAVATION -			TOTAL EXCAVATION	\$253.75
Rip and scarify existing roadbed to a depth of one foot	7.25	sta. @	\$35.00 per sta. =	<u>\$253.75</u>
ENDHAUL -			TOTAL ENDHAUL	\$0.00
CULVERTS - MATERIALS & INSTALLATION			TOTAL CULVERTS	\$0.00
ROCK			TOTAL ROCK	\$0.00
SPECIAL PROJECTS				
Construct large non drivable waterbars and ditchouts at Stations 0+90, 3+95, 4+85, 6+50, and 7+00 -	2.50	hours @	\$145.00 per hour	\$362.50
Block access at Point D according to Exhibit I and place large stumps across the old roadway on each side of the block -	1.50	hours @	\$145.00 per hour	\$217.50
Block access at Point C with large stumps and woody debris -	0.50	hours @	\$145.00 per hour	\$72.50
Grass seed and fertilize -	0.42	acres @	\$220.00 per acre	\$92.40
Mulching -	0.42	acres @	\$600.00 per acre	\$252.00
			TOTAL SPECIAL PROJECTS	\$996.90
			GRAND TOTAL	\$1,250.65

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Hoskins</u>		Road: <u>E to F</u>
Construction -	<u>0+00</u> stations <u>0.00</u> miles		Reconstruction - <u>17+50</u> stations <u>0.33</u> miles
CLEARING AND GRUBBING -			
Scattering	1.00 acres @	\$980.00 per acre =	<u>\$980.00</u>
			TOTAL CLEARING AND GRUBBING \$980.00
EXCAVATION -			
Common - 0+00 - 1+60	1.60 sta. @	\$90.00 per sta. =	\$144.00
Rocky - 1+60 - 4+60	3.00 sta. @	\$350.00 per sta. =	\$1,050.00
Common - 4+60 - 7+50	2.90 sta. @	\$90.00 per sta. =	\$261.00
Rocky - 7+50 - 8+90	1.40 sta. @	\$250.00 per sta. =	\$350.00
Common - 8+90 - 17+50	8.60 sta. @	\$90.00 per sta. =	<u>\$774.00</u>
			TOTAL EXCAVATION \$2,579.00
ENDHAUL -			<u>TOTAL ENDHAUL</u> \$0.00
CULVERTS - MATERIALS & INSTALLATION	\$0.00		<u>TOTAL CULVERTS</u> \$0.00
ROCK			
0+00 - 1+60			
from widening @ 1+60 to 4+60	117 cy. of Pit-Run	@ \$2.70 per c.y. =	<u>\$315.90</u>
			TOTAL ROCK \$315.90
SPECIAL PROJECTS			
Construct 3 turnouts and 1 turnaround -	2.00 hours @	\$145.00 per hour	\$290.00
Grade and shape road - outslope	17.50 stations @	\$14.00 per station	\$245.00
Roll subgrade w/ vibratory roller prior to rocking -	17.50 stations @	\$13.20 per station	\$231.00
Grass seed and fertilize -	0.60 acres @	\$220.00 per acre	<u>\$132.00</u>
			TOTAL SPECIAL PROJECTS \$898.00
GRAND TOTAL			\$4,772.90

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Hoskins</u>				Road: <u>G to H</u>
Construction -	<u>34+50</u> <u>0.65</u>	stations miles			Improvement - <u>0+00</u> <u>0.00</u> stations miles
CLEARING AND GRUBBING -					
Scattering		1.88 acres @		\$980.00 per acre =	\$1,842.40
Piling - waste areas at 40+50 on A to B & 30+60 on G to H		0.35 acres @		\$910.00 per acre =	\$318.50
Endhaul		1.76 acres @		\$1,500.00 per acre =	\$2,640.00
				TOTAL CLEARING AND GRUBBING	\$4,800.90
EXCAVATION -					
Common - 0+00 - 34+50		11,150 cy. @		\$1.28 per c.y. =	\$14,272.00
Rippable Rock - 10+40 - 12+30		955 cy. @		\$2.25 per c.y. =	\$2,148.75
				TOTAL EXCAVATION	\$16,420.75
ENDHAUL -					
To waste area @ 40+50 on A to B	from 0+00 to 23+75	2,369 cy. @		\$2.64 per c.y. =	\$6,254.16
To waste area @ 30+60 on G to H	from 23+75 to 34+50	2,343 cy. @		\$1.18 per c.y. =	\$2,764.74
Spread & compact fill 0+00 to 34+50	from 0+00 to 34+50	7,393 cy. @		\$0.45 per c.y. =	\$3,326.85
Spread & compact waste areas		4,712 cy. @		\$0.25 per c.y. =	\$1,178.00
				TOTAL ENDHAUL	\$13,523.75
CULVERTS - MATERIALS & INSTALLATION					
					TOTAL CULVERTS
					\$0.00
ROCK					
G to H Road 0+00 - 34+50 4"-0"	1,107 cy. of	4"-0"	@	\$17.73 per c.y. =	\$19,627.11
G to H Road 0+00 - 28+00 2"-0"	433 cy. of	2"-0"	@	\$17.62 per c.y. =	\$7,629.46
G to H 23+40 1 3/4"-3/4" Drain Rock	25 cy. of	1 3/4"-3/4" Drain Rock	@	\$32.18 per c.y. =	\$804.50
				TOTAL ROCK	\$28,061.07
SPECIAL PROJECTS					
Woven geotextile fabric & installation - road subgrade prior to rocking		1,444 Sq.Yds. @		\$1.60 per Sq. Yd.	\$2,310.40
Sta. 22+60 to 30+60 -		94 Sq.Yds. @		\$1.65 per Sq. Yd.	\$155.10
Nonwoven geotextile fabric & installation - ground water drain Sta. 23+40 -		2.80 hours @		\$145.00 per hour	\$406.00
Construct 5 turnouts, 1 turnarounds, and ditchouts -		4.00 hours @		\$145.00 per hour	\$580.00
Construct waste area at Sta. 30+40 on G to H and 40+50 on A to B -		7 @		\$360.00 each	\$2,520.00
Construct/Install rubber water diverter -		5.00 hours @		\$145.00 per hour	\$725.00
Remove large stumps -		34.50 stations @		\$15.50 per station	\$534.75
Grade and shape road - outslope		34.50 stations @		\$4.70 per station	\$162.15
Proof-Roll subgrade prior to rocking -		34.50 stations @		\$13.20 per station	\$455.40
Roll subgrade w/ vibratory roller prior to rocking -		1.93 acres @		\$220.00 per acre	\$424.60
Grass seed and fertilize -		1.93 acres @		\$600.00 per acre	\$1,158.00
Mulching @ waste area and road -				TOTAL SPECIAL PROJECTS	\$9,431.40
GRAND TOTAL					\$72,237.87

SUMMARY OF CONSTRUCTION COST

Sale:

Hoskins

Road: I to J 0+00 to 42+00

Construction -		<u>0+00</u>	stations			<u>42+00</u>	stations	
		0.00	miles			0.80	miles	
CLEARING AND GRUBBING -								
Scattering		1.45	acres @		\$980.00	per acre =	\$1,421.00	
Piling - waste area		0.06	acres @		\$910.00	per acre =	\$54.60	
Endhaul		0.10	acres @		\$1,500.00	per acre =	\$150.00	
					TOTAL CLEARING AND GRUBBING			\$1,625.60
EXCAVATION -								
Improvement -		38.30	sta. @		\$50.00	per sta. =	\$1,915.00	
Common -		252	cy. @		\$1.28	per c.y. =	\$322.56	
					TOTAL EXCAVATION			\$2,237.56
ENDHAUL -								
To waste area @ 41+00 on I to J	from 19+70 to 20+50	35	cy. @		\$1.19	per c.y. =	\$41.65	
To waste area @ 41+00 on I to J	from 20+50 to 22+00	109	cy. @		\$1.16	per c.y. =	\$126.44	
To waste area @ 41+00 on I to J	from 22+40 to 23+80	108	cy. @		\$1.11	per c.y. =	\$119.88	
Spread & compact waste area		252	cy. @		\$0.25	per c.y. =	\$63.00	
					TOTAL ENDHAUL			\$350.97
CULVERTS - MATERIALS & INSTALLATION								
								\$0.00
ROCK								
I to J Road 0+00 - 42+00 6" lift	1,410	cy. of	4"-0"	@	\$14.45	per c.y. =	\$20,374.50	
					TOTAL ROCK			\$20,374.50
SPECIAL PROJECTS								
Construct waste area at Sta. 41+00 -		1.00	hours @		\$145.00	per hour	\$145.00	
Construct 7 turnouts, 2 turnarounds, and ditchouts -		3.15	hours @		\$145.00	per hour	\$456.75	
Construct/Install rubber water diverter -		6	@		\$360.00	each	\$2,160.00	
Construct OHV trail filters 5 mc 1 quad-		6	@		\$75.00	each	\$450.00	
Remove large stumps -		2.50	hours @		\$145.00	per hour	\$362.50	
Grade and shape road - outslope		42.00	stations @		\$14.00	per station	\$588.00	
Proof-Roll subgrade prior to rocking -		42.00	stations @		\$4.70	per station	\$197.40	
Roll subgrade w/ vibratory roller prior to rocking -		42.00	stations @		\$13.20	per station	\$554.40	
Grass seed and fertilize -		1.61	acres @		\$220.00	per acre	\$354.20	
Mulching @ waste area -		0.06	acres @		\$600.00	per acre	\$36.00	
					TOTAL SPECIAL PROJECTS			\$5,304.25
GRAND TOTAL								\$29,892.88

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Hoskins</u>		Road:	<u>I to J 42+00 to 91+00</u>	
Construction -	49+00 stations <u>0.93</u> miles		Improvement -	0+00 stations <u>0.00</u> miles	
CLEARING AND GRUBBING -					
Scattering		4.50 acres @	\$980.00 per acre =	\$4,410.00	
Piling - waste area		0.23 acres @	\$910.00 per acre =	\$209.30	
Endhaul		0.61 acres @	\$1,500.00 per acre =	\$915.00	
			TOTAL CLEARING AND GRUBBING		\$5,534.30
EXCAVATION -					
Common - 42+00 - 47+50		5.50 sta. @	\$400.00 per sta. =	\$2,200.00	
Common - 47+50 - 49+50		2.00 sta. @	\$360.00 per sta. =	\$720.00	
Common - 49+50 - 56+60		7.10 sta. @	\$320.00 per sta. =	\$2,272.00	
Common - 56+60 - 58+65		2.05 sta. @	\$360.00 per sta. =	\$738.00	
Common - 58+65 - 67+00		8.35 sta. @	\$460.00 per sta. =	\$3,841.00	
Common - 67+00 - 70+65		3.65 sta. @	\$250.00 per sta. =	\$912.50	
Rippable rock - 70+65 - 73+15		2,009 cy. @	\$2.25 per c.y. =	\$4,520.25	
Common - 73+15 - 76+40		3.25 sta. @	\$140.00 per sta. =	\$455.00	
Common - 76+40 - 77+85		406 cy. @	\$1.28 per c.y. =	\$519.68	
Common - 77+85 - 78+40		237 cy. @	\$1.28 per c.y. =	\$303.36	
Common - 78+40 - 79+85		767 cy. @	\$1.28 per c.y. =	\$981.76	
Common - 80+90 - 81+90		1.00 sta. @	\$140.00 per sta. =	\$140.00	
Common - 82+90 - 91+00		8.10 sta. @	\$90.00 per sta. =	\$729.00	
			TOTAL EXCAVATION		\$18,332.55
ENDHAUL -					
To waste area @ Sta. 82+70 on I to J	from 70+65 to 73+15	2009 cy. @	\$1.04 per c.y. =	\$2,089.36	
To waste area @ Sta. 82+70 on I to J	from 76+40 to 79+85	781 cy. @	\$1.00 per c.y. =	\$781.00	
3' fill at centerline 79+85 - 80+90 on I to J	from 76+40 to 79+85	247 cy. @	\$1.09 per c.y. =	\$269.23	
4' fill at centerline 81+90 - 82+60 on I to J	from 76+40 to 79+85	233 cy. @	\$1.13 per c.y. =	\$263.29	
5' fill at centerline 82+60 - 82+90 on I to J	from 76+40 to 79+85	149 cy. @	\$1.18 per c.y. =	\$175.82	
Spread & compact fill		629 cy. @	\$0.45 per c.y. =	\$283.05	
Spread & compact waste area		2790 cy. @	\$0.25 per c.y. =	\$697.50	
			TOTAL ENDHAUL		\$4,561.11
CULVERTS - MATERIALS & INSTALLATION					
					TOTAL CULVERTS
					\$0.00
ROCK					
I to J Road 42+00 - 91+00 6" lift	1,557 cy. of 4"-0"	@	\$15.58 per c.y. =	\$24,258.06	
I to J Road 42+00 - 82+90 3" lift	630 cy. of 2"-0"	@	\$15.47 per c.y. =	\$9,746.10	
			TOTAL ROCK		\$34,004.16
SPECIAL PROJECTS					
Construct waste area at Sta. 82+60 -		1.00 hours @	\$145.00 per hour	\$145.00	
Construct 7 turnouts, 2 turnarounds, and ditchouts -		5.40 hours @	\$145.00 per hour	\$783.00	
Construct/install rubber water diverter -		10 @	\$360.00 each	\$3,600.00	
Construct OHV trail filter 1 mc -		1 @	\$75.00 each	\$75.00	
Remove large stumps -		7.00 hours @	\$145.00 per hour	\$1,015.00	
Grade and shape road - outslope		49.00 stations @	\$15.50 per station	\$759.50	
Proof-Roll subgrade prior to rocking -		49.00 stations @	\$4.70 per station	\$230.30	
Roll subgrade w/ vibratory roller prior to rocking -		49.00 stations @	\$13.20 per station	\$646.80	
Grass seed and fertilize -		3.09 acres @	\$220.00 per acre	\$679.80	
Mulching @ waste area -		0.23 acres @	\$600.00 per acre	\$138.00	
			TOTAL SPECIAL PROJECTS		\$8,072.40
				GRAND TOTAL	\$70,504.52

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Hoskins</u>		Road:	<u>Point K - Road Vacating</u>								
Construction -	<table border="0" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: right;">0+00</td> <td style="text-align: left;">stations</td> </tr> <tr> <td style="text-align: right; border-top: 1px solid black;">0.00</td> <td style="text-align: left; border-top: 1px solid black;">miles</td> </tr> </table>	0+00	stations	0.00	miles		Vacating -	<table border="0" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: right;">0+30</td> <td style="text-align: left;">stations</td> </tr> <tr> <td style="text-align: right; border-top: 1px solid black;">0.01</td> <td style="text-align: left; border-top: 1px solid black;">miles</td> </tr> </table>	0+30	stations	0.01	miles
0+00	stations											
0.00	miles											
0+30	stations											
0.01	miles											
CLEARING AND GRUBBING -												
				TOTAL CLEARING AND GRUBBING								
				\$0.00								
EXCAVATION -												
Common - remove all fill and cement culvert from existing stream channel to the natural channel elevations and slope stream channel banks to 1 1/2:1	257	cy. @	\$1.40	per c.y.= \$359.80								
				TOTAL EXCAVATION								
				\$359.80								
ENDHAUL -												
To waste area near Point D		from Point K	257	cy. @								
Spread & compact			257	cy. @								
			\$0.93	per c.y.= \$239.01								
			\$0.25	per c.y.= \$64.25								
				TOTAL ENDHAUL								
				\$303.26								
CULVERTS - MATERIALS & INSTALLATION			\$0.00									
				TOTAL CULVERTS								
				\$0.00								
ROCK												
				TOTAL ROCK								
				\$0.00								
SPECIAL PROJECTS												
Block access on each side of stream channel with large stumps	1.50	hours @	\$145.00	per hour \$217.50								
Grass seed and fertilize -	0.04	acres @	\$220.00	per acre \$8.80								
Mulching -	0.04	acres @	\$600.00	per acre \$24.00								
				TOTAL SPECIAL PROJECTS								
				\$250.30								
GRAND TOTAL				\$913.36								

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Hoskins</u>		Road:	<u>L to M</u>
Construction -	<u>0+00</u> stations <u>0.00</u> miles		Improvement -	<u>3+35</u> stations <u>0.06</u> miles
CLEARING AND GRUBBING -			TOTAL CLEARING AND GRUBBING	\$0.00
EXCAVATION -			TOTAL EXCAVATION	\$0.00
ENDHAUL -			TOTAL ENDHAUL	\$0.00
CULVERTS - MATERIALS & INSTALLATION			TOTAL CULVERTS	\$0.00
ROCK				
New construction 10" lift	174	cy. of	3/4"-0"	@ \$22.10 per c.y.= \$3,845.40
Reconstruction 2" lift	38	cy. of	3/4"-0"	@ \$22.10 per c.y.= \$839.80
New construction 6" lift				
Large truck turnout	38	cy. of	2 1/2"-0"	@ \$12.71 per c.y.= \$482.98
			TOTAL ROCK	\$5,168.18
SPECIAL PROJECTS				
Paved hwy approach and roadway between 0+00 and 3+35 - 3" overlay AC paving 131sy and 6" AC paving in 2 lifts 1,203sy (bid supplied by local contractor) -			lump sum @	\$39,150.00 \$39,150.00
Saw cut existing asphalt at Sta. 0+36, remove existing asphalt (554sy) between Stations 0+36 and Point M and endhaul material off of State Land (bid supplied by local contractor) -			lump sum @	\$2,450.00 \$2,450.00
Grade and shape road - ditch	3.35	stations @	\$20.00 per station	\$67.00
Proof-Roll subgrade prior to rocking -	3.35	stations @	\$4.70 per station	\$15.75
Roll subgrade w/ vibratory roller prior to rocking -	3.35	stations @	\$13.20 per station	\$44.22
Grass seed and fertilize -	0.15	acres @	\$220.00 per acre	\$33.00
Mulching -	0.15	acres @	\$600.00 per acre	\$90.00
			TOTAL SPECIAL PROJECTS	\$41,849.97
			GRAND TOTAL	\$47,018.15

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Hoskins</u>	Road:	<u>Stockpile #1 @ hwy pit 2"-0"</u>
Construction -	<u>0+00</u> stations <u>0.00</u> miles	Improvement -	<u>+00</u> stations <u>0.00</u> miles
CLEARING AND GRUBBING - Piling - waste at stockpile site	0.07 acres @	\$910.00 per acre =	<u>\$63.70</u> TOTAL CLEARING AND GRUBBING
EXCAVATION - Earthwork for stockpile site	0.50 hr. @	\$145.00 hrs. =	<u>\$72.50</u> TOTAL EXCAVATION
ENDHAUL -			<u>TOTAL ENDHAUL</u> \$0.00
CULVERTS - MATERIALS & INSTALLATION			<u>TOTAL CULVERTS</u> \$0.00
ROCK- Stockpile	500 cy. of 2"-0" @	\$12.46 per c.y. =	<u>\$6,230.00</u> TOTAL ROCK
SPECIAL PROJECTS Grass seed and fertilize -	0.03 acres @	\$220.00 per acre	<u>\$6.60</u> TOTAL SPECIAL PROJECTS
		GRAND TOTAL	\$6,372.80

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Hoskins</u>		Road:	<u>Stockpile #2 @ hwy pit 3"-1 3/4" drain rock</u>	
Construction -	<u>0+00</u>	stations	Improvement -	<u>+00</u>	stations
	<u>0.00</u>	miles		<u>0.00</u>	miles
CLEARING AND GRUBBING - Piling - waste at stockpile site			0.07 acres @	\$910.00 per acre =	<u>\$63.70</u>
				TOTAL CLEARING AND GRUBBING	\$63.70
EXCAVATION - Earthwork for stockpile site			0.50 hr. @	\$145.00 hrs. =	<u>\$72.50</u>
				TOTAL EXCAVATION	\$72.50
ENDHAUL -				TOTAL ENDHAUL	\$0.00
CULVERTS - MATERIALS & INSTALLATION				TOTAL CULVERTS	\$0.00
ROCK- Stockpile	500	cy. of	3"-1 3/4" drain rock	@ \$12.46 per c.y. =	<u>\$6,230.00</u>
				TOTAL ROCK	\$6,230.00
SPECIAL PROJECTS Grass seed and fertilize -			0.03 acres @	\$220.00 per acre =	<u>\$6.60</u>
				TOTAL SPECIAL PROJECTS	\$6.60
				GRAND TOTAL	<u>\$6,372.80</u>

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Hoskins</u>	Road:	<u>Stockpile #3 on Archers Road</u>
Construction -	<u>0+00</u> stations <u>0.00</u> miles	Improvement -	<u>+00</u> stations <u>0.00</u> miles
CLEARING AND GRUBBING - Piling - waste at stockpile site	0.04 acres @	\$910.00 per acre =	<u>\$36.40</u> TOTAL CLEARING AND GRUBBING
EXCAVATION - Earthwork for stockpile site	0.50 hr. @	\$145.00 hrs. =	<u>\$72.50</u> TOTAL EXCAVATION
ENDHAUL -			<u>TOTAL ENDHAUL</u> \$0.00
CULVERTS - MATERIALS & INSTALLATION			<u>TOTAL CULVERTS</u> \$0.00
ROCK- Stockpile	200 cy. of 4'-0"	@ \$12.42 per c.y. =	<u>\$2,484.00</u> TOTAL ROCK
SPECIAL PROJECTS Grass seed and fertilize -	0.02 acres @	\$220.00 per acre	<u>\$4.40</u> TOTAL SPECIAL PROJECTS
		GRAND TOTAL	\$2,597.30

SUMMARY OF CONSTRUCTION COST

Sale:	<u>Hoskins</u>			Road:	<u>Stockpile #4 on Portland Mills Road</u>		
Construction -	<u>0+00</u> stations			Improvement -	<u>+00</u> stations		
	<u>0.00</u> miles				<u>0.00</u> miles		
CLEARING AND GRUBBING -							
Piling - waste at stockpile site		0.12	acres @	\$910.00	per acre =	<u>\$109.20</u>	
						TOTAL CLEARING AND GRUBBING	\$109.20
EXCAVATION -							
Earthwork for stockpile site		2.00	hr. @	\$145.00	hrs. =	<u>\$290.00</u>	
						TOTAL EXCAVATION	\$290.00
ENDHAUL -						<u>TOTAL ENDHAUL</u>	\$0.00
CULVERTS - MATERIALS & INSTALLATION						TOTAL CULVERTS	\$0.00
ROCK-							
Stockpile	1,000	cy. of	2"-0"	@	\$12.47 per c.y.=	<u>\$12,470.00</u>	
						TOTAL ROCK	\$12,470.00
SPECIAL PROJECTS							
Grass seed and fertilize -		0.06	acres @	\$220.00	per acre	<u>\$13.20</u>	
						TOTAL SPECIAL PROJECTS	\$13.20
						GRAND TOTAL	\$12,882.40

Move-In Calculations

Sale: **Hoskins**

A to B, C to D, E to F, G to H, and Point K

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROADWAY	AVE SPEED (mph)
37.8	Pavement	30
0.0	Main Lines	7
0.0	Steep Grades	2

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	\$214.36		\$46.00	0.00	4.20	4.2	\$193.20	\$407.56
0	Brush Cutter	\$0.00		\$4.00	0.00	0.00	0	\$0.00	\$0.00
0	Graders	\$0.00		\$3.65	0.00	0.00	0	\$0.00	\$0.00
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
1	Rollers (smooth/grid) & Compactors	\$243.11		\$5.00	0.00	3.60	3.6	\$18.00	\$261.11
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)	\$372.60	1	\$44.80	0.00	3.60	3.6	\$161.28	\$533.88
0	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)	\$362.46	2	\$11.30	0.00	4.20	4.2	\$47.46	\$409.92
1	Tractor (D8)	\$378.40	2	\$15.10	0.00	3.60	3.6	\$54.36	\$432.76
5	Dump Truck (10 cy +)	\$441.00		\$2.85	0.00	0.00	0	\$0.00	\$441.00
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
1	Fire Truck	\$71.82		\$2.85	0.00	3.60	3.6	\$10.26	\$82.08
0	Jaw	\$1,066.00							
0	2-Stage Crusher	\$1,597.00							
0	3-Stage Crusher	\$2,489.00							

	TOTAL MOVE-IN COSTS:	\$2,486.23
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Move-In Calculations

Sale: Hoskins
I to J

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROADWAY	AVE SPEED (mph)
31.6	Pavement	30
4.0	Main Lines	7
0.0	Steep Grades	2

No.	EQUIPMENT DESCRIPTION	Move in Cost	Pilot Cars	Within Area Move (\$/mile)	Begin Mileage	End Mileage	Total Miles	Within Area Cost	Total Cost
0	Drill & Compressor	\$0.00		\$46.00	0.00	0.00	0	\$0.00	\$0.00
0	Brush Cutter	\$0.00		\$4.00	0.00	0.00	0	\$0.00	\$0.00
0	Graders	\$0.00		\$3.65	0.00	0.00	0	\$0.00	\$0.00
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
1	Rollers (smooth/grid) & Compactors	\$301.84		\$5.00	0.00	10.22	10.2	\$51.10	\$352.94
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)	\$443.35	1	\$44.80	0.00	8.50	8.5	\$380.80	\$824.15
0	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
0	Tractors (D7)	\$0.00	2	\$11.30	0.00	0.00	0	\$0.00	\$0.00
1	Tractor (D8)	\$437.68	2	\$15.10	0.00	8.50	8.5	\$128.35	\$566.03
2	Dump Truck (10 cy +)	\$227.47		\$2.85	0.00	8.50	8.5	\$48.45	\$275.92
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
1	Fire Truck	\$92.61		\$2.85	0.00	10.22	10.2	\$29.13	\$121.74
0	Jaw	\$1,066.00							
0	2-Stage Crusher	\$1,597.00							
0	3-Stage Crusher	\$2,489.00							

	TOTAL MOVE-IN COSTS:	\$2,019.04
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Move-In Calculations

Sale: **Hoskins**
L to M

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROADWAY	AVE SPEED (mph)
31.4	Pavement	30
0.0	Main Lines	7
0.0	Steep Grades	2

No.	EQUIPMENT DESCRIPTION	Move in Cost	Pilot Cars	Within Area Move (\$/mile)	Begin Mileage	End Mileage	Total Miles	Within Area Cost	Total Cost
0	Drill & Compressor	\$0.00		\$46.00	0.00	0.00	0	\$0.00	\$0.00
0	Brush Cutter	\$0.00		\$4.00	0.00	0.00	0	\$0.00	\$0.00
1	Graders	\$188.40		\$3.65	0.00	0.00	0	\$0.00	\$188.40
0	Loader (Small)	\$0.00	1	\$3.55	0.00	0.00	0	\$0.00	\$0.00
1	Loader (Med. & Large)	\$291.03	1	\$9.00	0.00	2.00	2	\$18.00	\$309.03
1	Rollers (smooth/grid) & Compactors	\$208.76		\$5.00	0.00	0.00	0	\$0.00	\$208.76
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
0	Excavators (Large)	\$0.00	1	\$44.80	0.00	0.00	0	\$0.00	\$0.00
0	Tired Backhoes/Skidlers	\$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
0	Tractors (D7)	\$0.00	2	\$11.30	0.00	0.00	0	\$0.00	\$0.00
0	Tractor (D8)	\$0.00	2	\$15.10	0.00	0.00	0	\$0.00	\$0.00
2	Dump Truck (10 cy +)	\$146.53		\$2.85	0.00	0.00	0	\$0.00	\$146.53
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
1	Fire Truck	\$59.66		\$2.85	0.00	0.00	0	\$0.00	\$59.66
0	Jaw	\$1,066.00							
0	2-Stage Crusher	\$1,597.00							
0	3-Stage Crusher	\$2,489.00							

TOTAL MOVE-IN COSTS:	\$852.72
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ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Hwy Pit @ MP 19	Location:	SE1/4 NW1/4 Sec.19 , T1N, R7W, W.M.
Sale:	Hoskins	Road & Riprap:	6,804 c.y.
Swell:	1.40	Stockpiles:	1,000 c.y.
Shrinkage:	1.16	Total Truck Loads:	7,804 c.y.
Drill Pct.:	100%	In Place Total:	5,574 c.y.

Pit Development & Cleanup include the following: Clearing and grubbing of pit & Waste area, access road construction, end-hauling of overburden and other waste,	\$7,628.30
Placing and compacting overburden and waste in waste area, and grass seeding and mulch waste area.	
Move existing shot rock and riprap from pit floor to crushing site, sort large rock and place at Riprap stockpile site designated on Exhibit A, and as specified in Exhibit F.	\$8,700.00
Drill & Shoot:	\$2.50 /cu.yd. x 5,574 cu.yds. = \$13,935.00
Push Rock:	\$0.70 /cu.yd. x 7,804 cu.yds. = \$5,462.80
Load Screen and Crusher:	\$0.70 /cu.yd. x 7,669 cu.yds. = \$5,368.30
Screen Rock Prior to Crushing:	\$1.50 /cu.yd. x 7,669 cu.yds. = \$11,503.50
Crush 3"-1 3/4" Drain Rock:	\$3.40 /cu.yd. x 500 cu.yds. = \$1,700.00
Crush 2"-0" Rock:	\$2.80 /cu.yd. x 2,135 cu.yds. = \$5,978.00
Crush 4"-0" Rock:	\$2.35 /cu.yd. x 4,034 cu.yds. = \$9,479.90
Load Dump Truck - Screened Reject:	\$0.70 /cu.yd. x 1,000 cu.yds. = \$700.00
Load Dump Truck - Crushed Rock:	\$0.70 /cu.yd. x 6,669 cu.yds. = \$4,668.30
Load Dump Truck - Riprap:	\$1.40 /cu.yd. x 135 cu.yds. = \$189.00
End-haul Screened Reject to Waste Area:	\$0.87 /cu.yd. x 1,000 cu.yds. = \$870.00
Oversize Reduction:	\$4.50 /cu.yd. x 390 cu.yds. = \$1,755.00
Change Gradation	2 @ 210.00 = 420.00
Subtotal	\$78,358.10

Move In & Set-up Crusher & Screen	\$4,080.00
Move In and set up Drill and Compressor	1 @ \$202.82 = \$202.82
Move in Roller and Compactor	1 @ \$237.44 = \$237.44
Move in Grader	1 @ \$220.46 = \$220.46
Move in D-8	1 @ \$366.84 = \$366.84
Move in Loader	1 @ \$324.82 = \$324.82
Move in Excavator	1 @ \$362.85 = \$362.85
Move in Trucks	5 @ \$85.73 = \$428.65
Move in Water Truck	1 @ \$82.06 = \$82.06
Move in Fire Truck	1 @ \$69.81 = \$69.81
Subtotal	\$6,375.75

Base Cost=	\$10.86	Per Cu. Yd.		TOTAL PRODUCTION COSTS	\$84,733.85
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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 Road 1+25 - 8+45 4"-0"	2.03	2.45	10.86	15.34	260	3,988.40
A to B Road 1+25 - 8+45 2"-0"	2.03	2.45	10.86	15.34	127	1,948.18
A to B Road 8+45 - 55+00 4"-0"	2.91	2.45	10.86	16.22	1,424	23,097.28
A to B Road 8+45 - 55+00 2"-0"	2.91	2.45	10.86	16.22	694	11,256.68
A to B Road 55+00 - 91+25 4"-0"	3.68	2.45	10.86	16.99	1,153	19,589.47
A to B Road 55+00 - 80+00 2"-0"	3.53	2.45	10.86	16.84	381	6,416.04
A to B Energy Dissapator Riprap 10+10 48"-24"	3.17	1.40	10.86	15.43	10	154.30
A to B Energy Dissapator Riprap 15+30 48"-24"	3.28	1.40	10.86	15.54	20	310.80
A to B Slope Stabilization Riprap 22+40-22+85 48"-36"	3.71	1.40	10.86	15.97	40	638.80
A to B Energy Dissapator Riprap 24+80 48"-24"	3.75	1.40	10.86	16.01	10	160.10
A to B Leveling Rock 35+45 - 36+40 "4"-0"	2.72	2.45	10.86	16.03	50	801.50
A to B Leveling Rock 37+00 - 37+60 "4"-0"	2.73	2.45	10.86	16.04	40	641.60
A to B Slope Stabilization Riprap 66+95-67+50 48"-36"	5.02	1.40	10.86	17.28	55	950.40
G to H Road 0+00 - 34+50 4"-0"	4.42	2.45	10.86	17.73	1,107	19,627.11
G to H Road 0+00 - 28+00 2"-0"	4.31	2.45	10.86	17.62	433	7,629.46
Stockpile 3"-1 3/4 Drain Rock	0.60	1.00	10.86	12.46	500	6,230.00
Stockpile 2"-0"	0.60	1.00	10.86	12.46	500	6,230.00
Total C.Y.				6,804	Sub Total	109,670.12

TOTAL ROCKING COSTS	109,670.12
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ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Archers Pit @ MP 5.93 on Archers Road	Location:	SE1/4 NE1/4 Sec.21 , T1N, R7W, W.M.
Sale:	Hoskins	Road:	4,317 c.y.
Swell:	1.40	Stockpile:	1,200 c.y.
Shrinkage:	1.16	Total Truck Loads:	5,517 c.y.
Drill Pct.:	100%	In Place Total:	3,941 c.y.

Pit Development & Cleanup include the following: Clearing and grubbing of pit & Waste area, access road construction, end-hauling of overburden and other waste, Placing and compacting overburden and waste in waste area, and grass seeding and mulch waste area.				\$3,983.60	
Drill & Shoot:	\$2.50 /cu.yd.	x	3,941 cu.yds.	=	\$9,852.50
Push Rock:	\$0.70 /cu.yd.	x	5,517 cu.yds.	=	\$3,861.90
Load Screen and Crusher:	\$0.70 /cu.yd.	x	5,517 cu.yds.	=	\$3,861.90
Screen Rock Prior to Crushing:	\$1.50 /cu.yd.	x	5,517 cu.yds.	=	\$8,275.50
Crush 2"-0" Rock:	\$2.80 /cu.yd.	x	1,630 cu.yds.	=	\$4,564.00
Crush 4"-0" Rock:	\$2.35 /cu.yd.	x	3,167 cu.yds.	=	\$7,442.45
Load Dump Truck - Screened Reject:	\$0.70 /cu.yd.	x	720 cu.yds.	=	\$504.00
Load Dump Truck - Crushed Rock:	\$0.70 /cu.yd.	x	4,797 cu.yds.	=	\$3,357.90
End-haul Screened Reject to Waste Area:	\$0.87 /cu.yd.	x	720 cu.yds.	=	\$626.40
Override Reduction:	\$4.50 /cu.yd.	x	138 cu.yds.	=	\$621.00
Change Gradation	1 @		210.00	=	210.00
			Subtotal		\$47,161.15

Move In & Set-up Crusher & Screen					\$5,367.25
Move In and set up Drill and Compressor	1	@	\$530.67	=	\$530.67
Move in Roller and Compactor	1	@	\$426.80	=	\$426.80
Move in Grader	1	@	\$576.81	=	\$576.81
Move in D-8	1	@	\$718.84	=	\$718.84
Move in Loader	1	@	\$661.55	=	\$661.55
Move in Excavator	1	@	\$786.00	=	\$786.00
Move in Trucks	5	@	\$168.07	=	\$840.35
Move in Water Truck	1	@	\$160.86	=	\$160.86
Move in Fire Truck	1	@	\$136.85	=	\$136.85
					Subtotal \$10,205.98

Base Cost=	\$10.40	Per Cu.Yd.		TOTAL PRODUCTION COSTS	\$57,367.13
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Road Segment	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST
I to J Road 0+00 - 42+00 4"-0"	1.60	2.45	10.40	14.45	1,410	20,374.50
I to J Road 42+00 - 91+00 4"-0"	2.73	2.45	10.40	15.58	1,557	24,258.06
I to J Road 42+00 - 82+90 2"-0"	2.62	2.45	10.40	15.47	630	9,746.10
Stockpile 4"-0" on Archers	1.02	1.00	10.40	12.42	200	2,484.00
Stockpile 2"-0" on Portland Mills Road	1.07	1.00	10.40	12.47	1,000	12,470.00
				Total C.Y.	4,797	Sub Total 69,332.66

	TOTAL ROCKING COSTS	69,332.66
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ROCK SUMMARY FOR HAUL AND PLACEMENT FROM COMMERCIAL SOURCE

Sale: Hoskins

Pit: <u>Trask River Road S-C Paving</u>	Location: <u>S-C Paving in Tillamook</u>
Rock: <u>1 3/4"-3/4" drain rock & 3/4"-0"</u>	Road: <u>320 c.y.</u>
Swell: <u>0.00</u>	Stockpile: <u> c.y.</u>
Shrinkage: <u>0.00</u>	Total Truck Loads: <u>320 c.y.</u>
Drill Pct.: <u>0%</u>	In Place Total: <u>320 c.y.</u>

Base Cost of Loaded Rock: \$12.25 /cu.yd. x 270 cu.yds. = \$3,307.50
 3/4"-0" Crushed Subtotal \$3,307.50

TOTAL PRODUCTION COSTS \$3,307.50

Base Cost of Loaded Rock: \$12.75 /cu.yd. x 50 cu.yds. = \$637.50
 1 3/4"-3/4" drain rock Subtotal \$637.50

TOTAL PRODUCTION COSTS \$637.50

Road Segment	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST
3/4"-0" Crushed	8.53	2.45	12.25	23.23	58	<u>\$1,347.34</u>
A to B 0+00 to 1+25						
1 3/4"-3/4" Drain Rock	14.20	1.50	12.75	28.45	25	<u>\$711.25</u>
A to B 62+50						
1 3/4"-3/4" Drain Rock	17.93	1.50	12.75	32.18	25	<u>\$804.50</u>
G to H 23+40						
3/4"-0" Crushed	7.40	2.45	12.25	22.10	212	<u>\$4,685.20</u>
L to M 0+00 to 3+35						
Total C.Y.					320	<u>Sub Total \$7,548.29</u>

TOTAL ROCKING COSTS \$7,548.29

ROCK SUMMARY FOR HAUL AND PLACEMENT FROM ROCK SOURCE

Sale: Hoskins

Pit: E to F Widening
 Rock: Pitr-Run
 Swell: 0.00
 Shrinkage: 0.00
 Drill Pct.: 0%

Location: 1+60 to 4+60 on E to F
 Road: 117 c.y.
 Stockpile: 000 c.y.
 Total Truck Loads: 117 c.y.
 In Place Total: 117 c.y.

Load Rock: \$0.70 /cu.yd. x 117 cu.yds. = \$81.90
 Subtotal \$81.90

TOTAL PRODUCTION COSTS	\$81.90
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Base Cost= \$0.70 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	\$0.90	\$1.10	\$0.70	\$2.70	117	\$315.90
Sta. 0+00 to 1+60					Total C.Y. 117	Sub Total \$315.90

TOTAL ROCKING COSTS	\$315.90
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ROCK SUMMARY FOR HAUL AND PLACEMENT FROM STOCKPILE

Sale: Hoskins

Pit: Muesial Stockpile
 Rock: 1 1/2"-0"
 Swell: 0.00
 Shrinkage: 0.00
 Drill Pct.: 0%

Location: SW1/4 NE1/4 SEC25, T1N, R8W, W. M.
 Road: 086 c.y.
 Stockpile: 000 c.y.
 Total Truck Loads: 086 c.y.
 In Place Total: 086 c.y.

Load Rock: \$0.70 /cu.yd. x 86 cu.yds. = \$60.20
 Subtotal \$60.20

Move in loader \$316.17
 Subtotal \$316.17

TOTAL PRODUCTION COSTS \$376.37

Base Cost: \$4.38 Per Cu.Yd.

Road	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST
A to B	\$2.03	\$2.45	\$4.38	\$8.86	86	\$761.96
Sta. 0+00 to 1+25						
				Total C.Y.	86	Sub Total \$761.96

TOTAL ROCKING COSTS \$761.96

ROCK SUMMARY FOR HAUL AND PLACEMENT FROM STOCKPILE

Sale: Hoskins

Pit: Hwy Pit Stockpile
 Rock: 2 1/2"-0"
 Swell: 0.00
 Shrinkage: 0.00
 Drill Pct.: 0%

Location: SE1/4 NW1/4 SEC19, T1N, R7W, W. M.
 Road: 038 c.y.
 Stockpile: 000 c.y.
 Total Truck Loads: 038 c.y.
 In Place Total: 038 c.y.

Load Rock: \$0.70 /cu.yd. x 38 cu.yds. = \$26.60
 Subtotal \$26.60

Move in loader \$316.17
 Subtotal \$316.17

TOTAL PRODUCTION COSTS \$342.77

Base Cost: \$9.02 Per Cu.Yd.

Road	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST
L to M	\$1.24	\$2.45	\$9.02	\$12.71	38	\$482.98
					Total C.Y.	38
					Sub Total	\$482.98

TOTAL ROCKING COSTS \$482.98



CRUISE REPORT

Hoskins

"STEWARDSHIP IN FORESTRY"

1. **Type of Sale:** Regeneration Harvest (Modified Clear-cut and Retention Cut), Partial Cut; Recovery.
2. **Legal Description:** Portions of sections 16, 17, 20, 21, T1N, R7W, and section 18, T1N, R6W, 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	Net
1 Modified clear cut	45	43
2 Modified clear cut	37	37
3 Modified clear cut	39	39
4 Retention cut	109	101
5 Partial cut	66	66
6 Partial cut	77	70
Total Net Partial Cut	143	136
Total Net Regeneration Harvest	230	220
Total Net Acres	373	356

Sale Acres: Area within the Timber Sale Boundary signs.

Net Acres: Used for calculating the advertised volume: Sale acres less roads, riparian buffers and non-required areas in partial cut units.

3. **Cruising Procedures:**

A. **Cruise Method:** A total of 90 variable radius full point plots were established on the sale area. All plots were measured. Conifer with less than 7" DBH and alder with less than 10" DBH were not recorded. On each plot the species, diameter at breast height, height to a merchantable top (5" for conifer and 8" for alder, inside bark for both), form factor at 16', log grade, and the length and defect of each segment were recorded. Heights were to the nearest foot.

B. **Plot size:** Areas 1, 3, 4, 5, and 6: 40 BAF
 Area 2: 20 BAF

C. **Point of observation:** 4.5 feet

- D. **Grading System:** Columbia River Official Log Scaling and Grading Bureau rules, favoring a 40 foot log. Alder was graded to the top end diameter for determining sort while still favoring a 40 foot log. Grades are as follows for alder: 2 saw = 12" and greater; 3 saw = 10" and 11" and 4 saw = 8" and 9".
- E. **Diameter Standards:** 4.5 feet (DBH) to the nearest inch.
- F. **Form Point:** 16 feet for conifers.
- G. **Form Factor:** A form factor was recorded for all trees on all plots. The average for Douglas-fir was 85 and the average form factor for red alder was 80.
5. **Computation Procedure:** The volumes and statistics for the timber cruised were computed using Atterbury Consultants, Inc. SUPER A.C.E. 98 program. The coefficients of variation and standard errors are as follows: Area 1: 40 and 11.4; Area 2: 39 and 13.1; Area 3: 37 and 11.6; Area 4: 51 and 10; Area 5: 50.4 and 14.5; Area 6: 23 and 6. The volume for each area was generated individually and the areas were summed for the total sale volume. Take and leave trees were determined by leaving the largest trees on each plot for the target residual basal area.
6. **Defect and Breakage:** A 5% reduction for defect and breakage was applied to the volume for Douglas-fir and 10% defect and breakage was applied to red alder.
7. **Timber Description:** The sale areas burned in the 1933 (Tillamook), and 1939 (Saddle Mountain), and 1945 (Wilson River) fires. Area 1 was aerially seeded in 1951, Area 2 and 6 were planted in 1951. Areas 4 and 5 were planted in 1959 with the majority replanted in 1971. Portions of Area 1 were aerially fertilized in 1997. Area 6 was commercially thinned in 1989. *Phellinus weirii* patches were planted with alder in 1993 and interplanted with western white pine and alder in 1996. These patches are buffered out. Small portions of the alder components of Areas 4 and 5 were aerially sprayed to release planted conifer in the 1970's resulting in alder trees with short boles and multiple tops and limbs.
8. **Cruiser Names/Dates:** Jason Lee, Nick Stumpf, Jay Anderson, March, 2006.
9. **Revenue Distribution:**
100 % FDF
100% Tax Code 9-2
Deed Numbers: 142, 145, 157, 159, 219.
99% Rehabilitation Obligated
10. **Attachments:**
Volume Summary
Logging Plan
Stand tables

HOSKINS

Area 1 Modified Clearcut						
43 acres						
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D&B	Net Vol MBF
Douglas-fir	169	110	18.6	800	5%	760
Alder	3	40	0.1	4	10%	4
TOTAL			18.7	804		764

Area 2 Modified Clearcut						
37 acres						
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D&B	Net Vol MBF
Douglas-fir	20	117	2.3	85	5%	81
Alder	134	74	9.9	366	10%	329
TOTAL			12.2	451		410

Area 3 Modified Clearcut						
39 acres						
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D&B	Net Vol MBF
Douglas-fir	171	122	20.9	815	5%	774
Alder	36	71	2.6	101	10%	91
TOTAL			23.5	916		865

Area 4 Modified Clearcut						
101 acres						
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D&B	Net Vol MBF
Douglas-fir	99	94	9.3	939	5%	892
Alder	43	55	2.4	242	10%	218
TOTAL			11.7	1181		1110

Area 5 Partial Cut						
66 acres						
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D&B	Net Vol MBF
Douglas-fir	80	111	8.9	587	5%	558
Alder	62	67	4.2	277	10%	249
TOTAL			13.1	864		807

Area 6 Partial Cut						
70 acres						
SPECIES	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D&B	Net Vol MBF
Douglas-fir	115	108	12.4	868	5%	825
TOTAL			12.4	868		825

Total Acres 356

TOTAL SALE VOLUME			
SPECIES	Gross Vol (MBF)		Net Vol (MBF)
Douglas-fir	4094		3890
Alder	990		891
TOTAL	5084		4781

Stand Table Summary

Project HOSKINS

T01N R07W S01 T0001

T01N R07W S01 T0001

Twp Rge Sec Tract
01N 07W 01 AREA1

Type Acres Plots Sample Trees
0001 43.00 13 66

Page: 1
Date: 06/26/201
Time: 3:01:31PM

Spc	S T	Sample		Av		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
		DBH	Trees	FF 16'	Ht Tot				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
DF		12	4	81	76	15.671	12.31	19.59	16.2	50.0	9.03	317	979	388	136	42
DF		13	1	85	77	3.338	3.08	6.68	11.6	45.0	2.21	78	300	95	33	13
DF		15	3	83	67	7.522	9.23	12.54	18.0	56.0	6.45	225	702	277	97	30
DF		16	5	83	75	11.018	15.38	15.43	26.0	74.3	11.48	401	1,146	493	173	49
DF		17	6	85	85	11.712	18.46	23.42	24.2	87.5	16.14	566	2,050	694	244	88
DF		18	4	84	78	6.965	12.31	12.19	27.8	92.9	9.66	339	1,132	415	146	49
DF		19	3	83	91	4.688	9.23	9.38	32.6	111.7	8.70	305	1,047	374	131	45
DF		20	5	86	103	7.052	15.38	14.10	40.3	143.0	16.20	568	2,017	697	244	87
DF		21	3	85	105	3.838	9.23	7.68	44.0	150.0	9.60	337	1,151	413	145	50
DF		22	3	82	99	3.497	9.23	6.99	46.7	156.7	9.30	327	1,096	400	140	47
DF		23	7	84	95	7.465	21.54	13.86	52.7	185.4	20.82	731	2,570	895	314	111
DF		24	3	84	101	2.938	9.23	6.86	48.3	175.7	9.44	331	1,205	406	142	52
DF		25	4	86	87	3.611	12.31	6.32	62.5	211.4	11.25	395	1,336	484	170	57
DF		26	4	85	104	3.338	12.31	6.68	69.9	271.2	13.32	467	1,811	573	201	78
DF	Totals		55	84	85	92.653	169.23	161.70	33.3	114.7	153.58	5,387	18,542	6,604	2,316	797
DL		27	2	85	106	1.548	6.15	3.10	75.7	295.0	6.44	234	913	277	101	39
DL		28	5	82	96	3.598	15.38	7.20	76.2	263.0	15.07	548	1,892	648	236	81
DL		29	1	85	108	.671	3.08	1.34	90.7	375.0	3.35	122	503	144	52	22
DL		30	2	82	83	1.254	6.15	2.51	79.4	270.0	5.48	199	677	235	86	29
DL	Totals		10	83	97	7.070	30.77	14.14	78.0	281.9	30.34	1,103	3,986	1,305	474	171
RA		18	1	85	47	1.741	3.08	1.74	36.0	70.0	1.72	63	122	74	27	5
RA	Totals		1	85	47	1.741	3.08	1.74	36.0	70.0	1.72	63	122	74	27	5
Totals			66	84	85	101.464	203.08	177.58	36.9	127.5	185.65	6553	22,649	7,983	2,818	974

Take

Leave

Diameter Limit 27"

Stand Table Summary

Project HOSKINS

T01N R07W S01 T0002

T01N R07W S01 T0002

Twp Rge Sec Tract
01N 07W 01 AREA 2

Type Acres Plots Sample Trees
0002 37.00 10 87

Page: 1
Date: 06/26/2006
Time: 3:05:53PM

Spc	S T	Sample DBH	FF Trees	Av Ht 16' Tot	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	
RA		11	3	81	50	9.092	6.00	9.09	11.8	43.3	2.94	107	394	109	40	15
RA		12	8	80	65	20.372	16.00	22.92	16.1	57.8	10.12	368	1,324	375	136	49
RA		13	2	80	58	4.340	4.00	4.34	18.4	60.0	2.20	80	260	81	30	10
RA		14	16	80	77	29.934	32.00	35.55	23.3	77.9	22.78	828	2,769	843	307	102
RA		15	9	80	61	14.668	18.00	16.30	24.5	71.0	10.99	400	1,157	407	148	43
RA		16	10	80	70	14.324	20.00	17.19	29.2	91.7	13.79	501	1,576	510	186	58
RA		17	6	80	57	7.613	12.00	10.15	26.9	76.2	7.52	273	774	278	101	29
RA		18	3	80	84	3.395	6.00	4.53	41.3	127.5	5.14	187	577	190	69	21
RA		19	4	80	58	4.063	8.00	5.08	39.3	92.0	5.50	200	467	203	74	17
RA		20	3	80	72	2.750	6.00	3.67	45.2	127.5	4.56	166	468	169	61	17
RA		21	3	80	46	2.495	6.00	2.49	50.0	83.3	3.42	125	208	127	46	8
RA	Totals		67	80	66	113.045	134.00	131.30	24.6	76.0	88.97	3,235	9,974	3,292	1,197	369
DL		22	2	84	96	1.515	4.00	3.03	47.4	152.5	3.95	144	462	146	53	17
DL		23	3	84	97	2.080	6.00	4.85	44.2	152.9	5.90	215	742	218	79	27
DL		24	2	85	103	1.273	4.00	3.18	47.4	180.0	4.15	151	573	153	56	21
DL		25	1	84	104	.587	2.00	1.76	44.1	180.0	2.13	78	317	79	29	12
DL		27	1	84	100	.503	2.00	1.01	74.0	265.0	2.05	74	267	76	28	10
DL		43	1	82	119	.198	2.00	.59	145.6	650.0	2.38	87	387	88	32	14
DL	Totals		10	84	100	6.156	20.00	14.43	51.8	190.4	20.56	748	2,747	761	277	102
DF		14	1	83	98	1.871	2.00	3.74	17.6	60.0	1.87	66	225	69	24	8
DF		16	1	84	98	1.432	2.00	2.86	25.0	95.0	2.04	72	272	76	27	10
DF		17	1	86	88	1.269	2.00	2.54	24.2	90.0	1.75	61	228	65	23	8
DF		19	1	84	89	1.016	2.00	2.03	30.4	105.0	1.76	62	213	65	23	8
DF		20	2	84	98	1.833	4.00	3.67	38.4	120.0	4.02	141	440	149	52	16
DF		21	4	84	97	3.326	8.00	6.65	42.9	143.8	8.13	285	956	301	106	35
DF	Totals		10	84	96	10.747	20.00	21.49	32.0	108.6	19.57	687	2,335	724	254	86
Totals			87	81	70	129.948	174.00	167.22	27.9	90.0	129.11	4670	15,056	4,777	1,728	557

T

V

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Diam Limit 22" +

Stand Table Summary

Project HOSKINS

T01N R07W S01 T0003

T01N R07W S01 T0003

Twp Rge Sec Tract
01N 07W 01 AREA 3

Type Acres Plots Sample Trees
0003 39.00 11 60

Page: 1
Date: 06/26/201
Time: 3:09:42PM

Spc	S T	Sample DBH	FF Trees	Av Ht 16' Tot	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	
DF		9	1	87	86	8.231	3.64	8.23	9.7	40.0	2.28	80	329	89	31	13
DF		10	3	87	74	20.001	10.91	20.00	11.9	46.7	6.76	237	933	264	93	36
DF		11	3	84	68	16.530	10.91	22.04	10.6	42.5	6.66	234	937	260	91	37
DF		12	2	86	96	9.260	7.27	18.52	12.1	47.5	6.37	224	880	248	87	34
DF		13	4	85	79	15.780	14.55	27.62	13.8	52.9	10.85	381	1,460	423	148	57
DF		14	7	85	85	23.811	25.45	44.22	16.9	63.8	21.29	747	2,823	830	291	110
DF		15	9	84	101	26.669	32.73	56.30	20.3	76.3	32.48	1,140	4,297	1,267	445	168
DF		16	4	84	100	10.417	14.55	20.83	24.8	90.0	14.74	517	1,875	575	202	73
DF		17	1	85	115	2.307	3.64	6.92	19.7	86.7	3.88	136	600	151	53	23
DF		18	5	84	104	10.289	18.18	24.69	27.1	98.3	19.05	668	2,428	743	261	95
DF		19	2	85	101	3.694	7.27	7.39	35.8	120.0	7.53	264	886	294	103	35
DF		20	3	85	117	5.000	10.91	15.00	29.6	117.8	12.66	444	1,767	494	173	69
DF		21	1	85	98	1.512	3.64	3.02	41.6	140.0	3.59	126	423	140	49	17
DF		23	2	85	120	2.521	7.27	7.56	40.3	166.7	8.69	305	1,260	339	119	49
DF	Totals		47	85	89	156.022	170.91	282.35	19.5	74.0	156.83	5,503	20,899	6,116	2,146	815
RA		10	1	80	26	6.667	3.64	6.67	5.4	20.0	.98	36	133	38	14	5
RA		11	2	80	44	11.020	7.27	11.02	9.1	35.0	2.75	100	386	107	39	15
RA		13	4	82	74	15.780	14.55	15.78	23.7	80.0	10.28	374	1,262	401	146	49
RA		14	1	79	88	3.402	3.64	3.40	31.5	90.0	2.95	107	306	115	42	12
RA		17	1	82	90	2.307	3.64	4.61	25.2	90.0	3.20	116	415	125	45	16
RA		19	1	79	30	1.847	3.64	1.85	27.8	40.0	1.41	51	74	55	20	3
RA	Totals		10	81	58	41.023	36.36	43.33	18.1	59.5	21.57	784	2,577	841	306	100
DL		24	2	83	103	2.315	7.27	5.79	47.2	180.0	7.51	273	1,042	293	106	41
DL		25	1	84	97	1.067	3.64	2.13	60.6	210.0	3.56	129	448	139	50	17
DL	Totals		3	83	101	3.382	10.91	7.92	50.8	188.1	11.06	402	1,490	431	157	58
Totals			60	84	83	200.427	218.18	333.60	20.1	74.8	189.47	6690	24,965	7,389	2,609	974

Diam Limit 24" +

TC TSTNDSUM

Stand Table Summary

Project **HOSKINS**

T01N R07W S01 T0004

T01N R07W S01 T0004

Twp Rge Sec Tract
01N 07W 01 AREA 4

Type Acres Plots Sample Trees
0004 103.00 27 122

Page: 1
Date: 06/26/201
Time: 2:51:21PM

Spc	S T	Sample DBH	FF Trees	Av Ht 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals			
									Net Cu.Ft.	Net Bd.Ft.			Tons	Cunits	MBF	
DF		9	1	84	88	3.353	1.48	3.35	11.6	40.0	1.11	39	134	114	40	14
DF		10	1	82	25	2.716	1.48	2.72	5.5	20.0	.43	15	54	44	15	6
DF		11	8	84	48	17.959	11.85	20.20	9.7	31.1	5.57	195	629	573	201	65
DF		12	7	84	54	13.204	10.37	15.09	12.7	38.8	5.46	192	585	562	197	60
DF		13	5	84	65	8.036	7.41	11.25	14.7	47.1	4.70	165	530	484	170	55
DF		14	3	84	88	4.158	4.44	6.93	18.0	62.0	3.55	125	430	366	128	44
DF		15	5	84	64	6.036	7.41	9.66	17.4	57.5	4.80	169	555	495	174	57
DF		16	4	84	87	4.244	5.93	8.49	22.2	81.2	5.36	188	690	552	194	71
DF		17	5	83	76	4.699	7.41	9.40	21.6	74.0	5.78	203	696	595	209	72
DF		18	7	85	89	5.868	10.37	11.74	28.9	100.0	9.67	339	1,174	996	350	121
DF		19	5	83	86	3.762	7.41	7.52	31.2	104.0	6.68	234	783	688	241	81
DF		20	3	84	100	2.037	4.44	4.07	39.8	131.7	4.62	162	536	476	167	55
DF		21	3	84	87	1.848	4.44	4.31	32.6	115.7	4.01	141	499	413	145	51
DF		22	2	85	101	1.122	2.96	2.24	49.6	182.5	3.17	111	410	327	115	42
DF		23	3	83	100	1.540	4.44	3.59	44.2	164.3	4.53	159	590	467	164	61
DF		24	5	84	102	2.358	7.41	5.66	48.0	189.2	7.75	272	1,070	798	280	110
DF	Totals		67	84	68	82.942	99.26	126.23	21.5	74.2	77.17	2,708	9,364	7,949	2,789	965
DL		25	2	81	92	.869	2.96	1.74	57.7	187.5	2.76	100	326	284	103	34
DL		26	2	85	106	.804	2.96	2.01	56.6	220.0	3.13	114	442	322	117	46
DL		27	5	85	98	1.863	7.41	4.10	65.3	250.9	7.36	267	1,028	758	276	106
DL		28	4	86	111	1.386	5.93	3.81	61.8	257.3	6.48	236	980	668	243	101
DL		29	2	88	104	.646	2.96	1.29	86.5	357.5	3.08	112	462	317	115	48
DL		30	4	83	101	1.207	5.93	2.72	81.6	312.2	6.11	222	848	629	228	87
DL		31	4	84	100	1.131	5.93	2.54	86.3	340.0	6.04	220	865	622	226	89
DL		32	1	87	97	.265	1.48	.80	69.5	326.7	1.52	55	260	157	57	27
DL		33	1	84	113	.249	1.48	.75	81.0	373.3	1.67	61	279	172	62	29
DL		34	1	87	85	.235	1.48	.47	106.3	400.0	1.37	50	188	142	51	19
DL	Totals		26	85	101	8.655	38.52	20.22	71.0	280.8	39.51	1,436	5,679	4,069	1,479	585
RA		10	1	80	26	2.716	1.48	2.72	5.4	20.0	.40	15	54	41	15	6
RA		11	5	80	41	11.224	7.41	11.22	9.0	30.0	2.77	101	337	286	104	35
RA		12	3	80	65	5.659	4.44	5.66	18.0	66.7	2.80	102	377	288	105	39
RA		13	4	81	40	6.429	5.93	6.43	14.5	45.0	2.56	93	289	264	96	30
RA		14	2	80	65	2.772	2.96	2.77	24.7	80.0	1.88	68	222	194	71	23
RA		15	4	80	51	4.829	5.93	4.83	23.3	70.0	3.10	113	338	319	116	35
RA		16	2	80	49	2.122	2.96	2.12	27.0	75.0	1.57	57	159	162	59	16
RA		17	3	80	46	2.820	4.44	3.76	20.2	75.0	2.09	76	282	215	78	29
RA		19	2	79	58	1.505	2.96	1.50	50.9	105.0	2.11	77	158	217	79	16
RA		20	2	80	34	1.358	2.96	1.36	33.1	65.0	1.24	45	88	127	46	9
RA		24	1	79	45	.472	1.48	.47	62.8	80.0	.81	30	38	84	31	4
RA	Totals		29	80	47	41.905	42.96	42.84	18.1	54.7	21.32	775	2,342	2,196	799	241
Totals			122	83	64	133.502	180.74	189.30	26.0	91.8	138.00	4920	17,386	14,214	5,067	1,791

TAKE

LEAVE

TAKE

diam limit ^{leave} 25+

TC TSINDSUM

Stand Table Summary

Project HOSKINS

T01N R07W S01 T0005

T01N R07W S01 T0005

Twp Rge Sec Tract
01N 07W 01 AREAS

Type
0005

Acres
66.00

Plots
13

Sample Trees
85

Page: 1
Date: 06/26/201
Time: 2:19:25PM

LEAVE

TAKE

Spc	S T	Sample DBH	Trees	Av FF 16'	Ht Tot	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
DL		15	1	85	85	2.507	3.08	5.01	18.3	70.0	2.52	92	351	166	61	23
DL		17	3	85	98	5.856	9.23	11.71	27.3	98.3	8.78	319	1,152	580	211	76
DL		18	2	85	85	3.482	6.15	6.96	27.8	95.0	5.32	194	662	351	128	44
DL		19	4	86	102	6.251	12.31	12.50	36.5	130.0	12.55	456	1,625	828	301	107
DL		20	4	84	103	5.641	12.31	12.69	33.7	118.9	11.77	428	1,509	777	283	100
DL		21	3	85	108	3.838	9.23	8.95	38.9	142.9	9.60	349	1,279	633	230	84
DL		22	8	85	105	9.325	24.62	18.65	49.3	181.9	25.28	919	3,392	1,668	606	224
DL		23	2	88	110	2.133	6.15	4.27	54.4	220.0	6.39	232	938	421	153	62
DL		24	2	85	107	1.959	6.15	4.90	47.9	188.0	6.44	235	921	425	155	61
DL		25	1	82	116	.903	3.08	2.71	45.9	180.0	3.42	124	487	226	82	32
DL		26	3	86	109	2.504	9.23	5.84	61.1	254.3	9.82	357	1,485	648	236	98
DL		27	3	88	101	2.322	9.23	4.64	74.0	305.0	9.44	343	1,416	623	227	93
DL		30	1	85	110	.627	3.08	1.88	65.3	270.0	3.38	123	508	223	81	34
DL		32	1	88	108	.551	3.08	1.10	107.0	465.0	3.25	118	512	214	78	34
DL		34	1	88	113	.488	3.08	.98	126.1	565.0	3.39	123	551	224	81	36
DL	Totals		39	85	102	48.386	120.00	102.80	42.9	163.3	121.35	4,411	16,789	8,009	2,912	1,108
DF		10	1	86	83	5.641	3.08	5.64	12.8	60.0	2.05	72	338	135	48	22
DF		11	3	87	50	13.987	9.23	13.99	11.6	40.0	4.64	163	559	306	108	37
DF		12	5	86	80	19.588	15.38	35.26	11.4	44.4	11.43	401	1,567	755	265	103
DF		13	2	85	104	6.676	6.15	13.35	15.0	62.5	5.70	200	835	376	132	55
DF		14	5	85	85	14.391	15.38	25.90	17.4	58.9	12.87	451	1,525	849	297	101
DF		15	1	88	75	2.507	3.08	5.01	15.9	55.0	2.30	80	276	152	53	18
DF		16	6	86	99	13.222	18.46	28.65	21.8	83.8	17.83	625	2,402	1,177	412	159
DF		17	3	85	105	5.856	9.23	11.71	29.7	116.7	9.92	348	1,366	655	230	90
DF	Totals		26	86	83	81.870	80.00	139.52	16.8	63.6	66.76	2,339	8,869	4,406	1,544	585
RA		11	1	79	66	4.662	3.08	4.66	11.6	40.0	1.49	54	186	98	36	12
RA		13	3	80	51	10.014	9.23	10.01	15.9	46.7	4.37	159	467	289	105	31
RA		14	5	80	57	14.391	15.38	14.39	20.8	60.0	8.25	300	863	545	198	57
RA		15	1	79	75	2.507	3.08	2.51	35.0	90.0	2.41	88	226	159	58	15
RA		16	4	80	74	8.815	12.31	11.02	31.4	90.0	9.47	346	992	625	228	65
RA		17	5	80	65	9.760	15.38	11.71	32.7	98.3	10.52	383	1,152	694	252	76
RA		18	1	80	72	1.741	3.08	1.74	47.8	140.0	2.29	83	244	151	55	16
RA	Totals		20	80	62	51.892	61.54	56.05	25.2	73.7	38.80	1,412	4,130	2,561	932	273
Totals			85	84	82	182.147	261.54	298.37	27.4	99.8	226.91	8163	29,789	14,976	5,387	1,966

Leave 110-130 BA

RD = 26

$$\frac{120}{\sqrt{21.3}} = 26$$

Stand Table Summary

Project HOSKINS

T01N R07W S01 T0006

T01N R07W S01 T0006

Twp Rge Sec Tract
01N 07W 01 AREA 6

Type Acres Plots Sample Trees
0006 70.00 16 101

Page: 1
Date: 06/26/201
Time: 1:15:52PM

Spc	S T	DBH	Sample Trees	FF 16'	Av Ht Tot	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
DL		17	1	81	81	2.899	4.57	5.80	23.4	70.0	3.72	135	406	261	95	28
DL		18	1	84	111	2.586	4.57	5.17	32.8	120.0	4.67	170	621	327	119	43
DL		19	7	84	106	16.244	31.98	32.49	35.0	120.7	31.30	1,138	3,922	2,191	797	275
DL		20	3	83	102	6.283	13.71	12.57	40.9	140.0	14.12	514	1,759	989	360	123
DL		21	1	84	100	1.900	4.57	3.80	43.9	140.0	4.58	167	532	321	117	37
DL		22	4	83	100	6.923	18.28	19.04	34.1	126.4	17.84	649	2,406	1,249	454	168
DL		24	4	83	101	5.817	18.28	13.09	51.3	183.3	18.45	671	2,400	1,292	470	168
DL		25	2	84	107	2.681	9.14	8.04	44.3	180.0	9.80	356	1,448	686	250	101
DL		26	1	86	85	1.239	4.57	2.48	60.6	220.0	4.14	150	545	290	105	38
DL		27	2	77	97	2.298	9.14	5.75	55.5	172.0	8.77	319	988	614	223	69
DL		31	1	81	101	.872	4.57	2.62	66.4	253.3	4.77	174	662	334	121	46
DL		36	1	82	110	.646	4.57	1.94	93.4	386.7	4.98	181	750	349	127	52
DL		37	1	81	108	.612	4.57	1.84	97.5	396.7	4.92	179	728	344	125	51
DL	Totals		29	83	102	50.999	132.50	114.60	41.9	149.8	132.08	4,803	17,166	9,246	3,362	1,202
DF		10	2	82	65	21.085	11.50	21.08	11.6	40.0	6.90	245	843	483	172	59
DF		12	1	84	57	7.321	5.75									
DF		13	1	80	83	6.238	5.75	6.24	23.8	70.0	4.23	148	437	296	104	31
DF		14	1	81	96	5.379	5.75	10.76	17.3	60.0	5.32	186	645	372	131	45
DF		15	3	80	91	14.057	17.25	28.11	20.0	65.0	16.04	563	1,827	1,123	394	128
DF		16	2	78	108	8.236	11.50	16.47	23.8	80.0	11.17	392	1,318	782	274	92
DF		17	8	83	100	29.183	46.00	54.72	28.6	106.7	44.54	1,563	5,837	3,118	1,094	409
DF		18	2	84	103	6.508	11.50	13.02	31.8	115.0	11.81	414	1,497	827	290	105
DF	Totals		20	82	88	98.007	115.00	150.40	23.4	82.5	100.00	3,512	12,404	7,000	2,459	868
RA		18	1	88	57	1.415	2.50	1.41	38.5	90.0	1.50	54	127	105	38	9
RA	Totals		1	88	57	1.415	2.50	1.41	38.5	90.0	1.50	54	127	105	38	9
Totals			50	82	92	150.420	250.00	266.42	31.4	111.5	233.58	8370	29,697	16,351	5,859	2,079

Leave

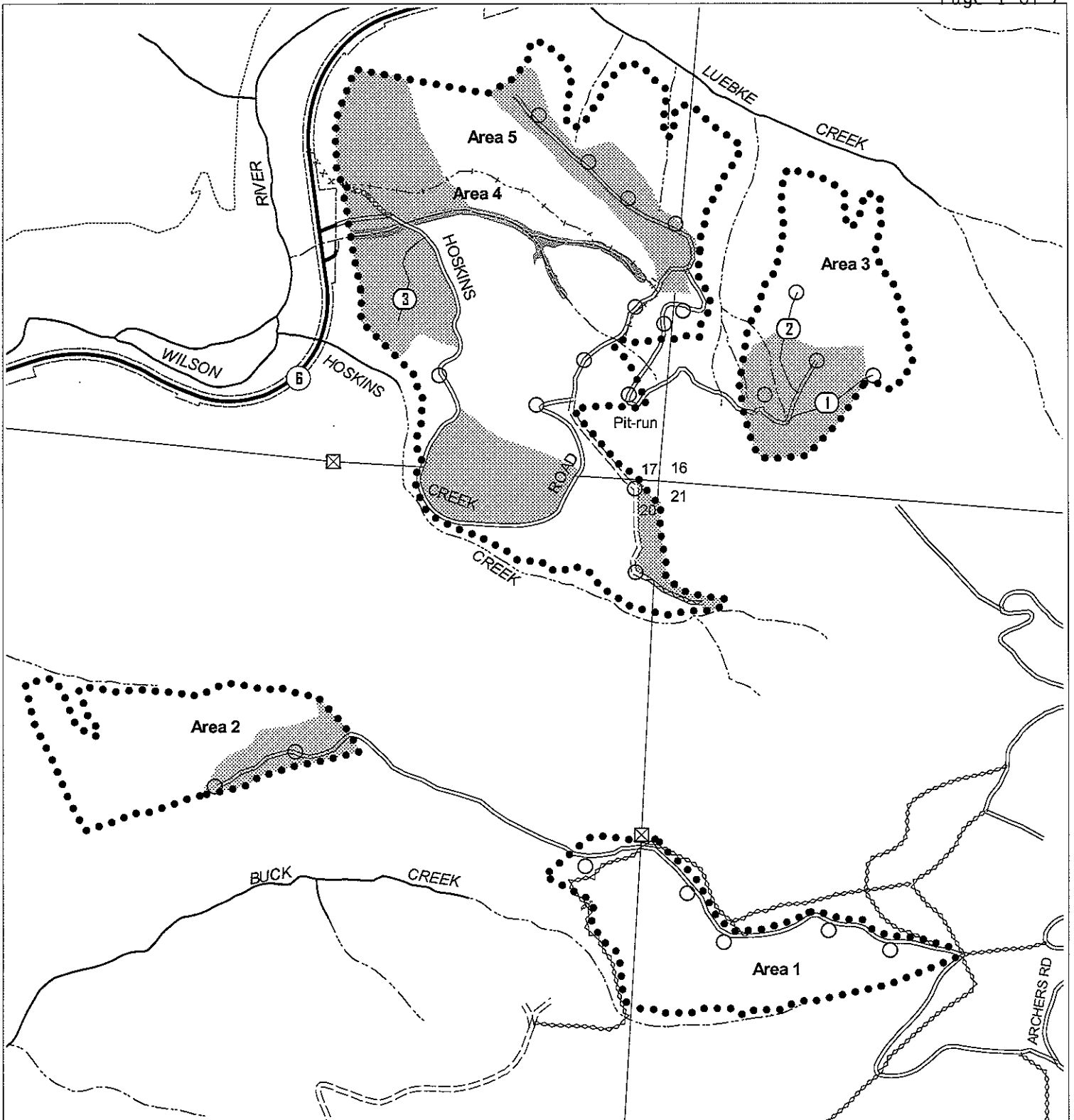
Take

Leave 120-140 BA

Leave all spp. other than DF

$$RD = \frac{132.50}{\sqrt{21.8}} = 28.37$$

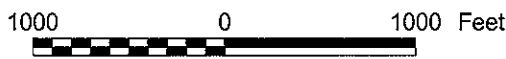
$$SDI = \frac{50.99 \times \left(\frac{21.8}{10}\right)^{1.6}}{600} = 29.57\%$$



- Landing
- Ⓚ Domestic water supply intake
- Ⓜ Helicopter landing zone
- Ⓣ Truck turn-around
- ⊠ Survey corner
- 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/Federal highway
- County road
- ② - Non-project road
- · · · Swing road
- Legacy road
- × × × Blocked road
- ⋯ OHV trail
- ⋯ Non-motorized trail
- T T Transmission line

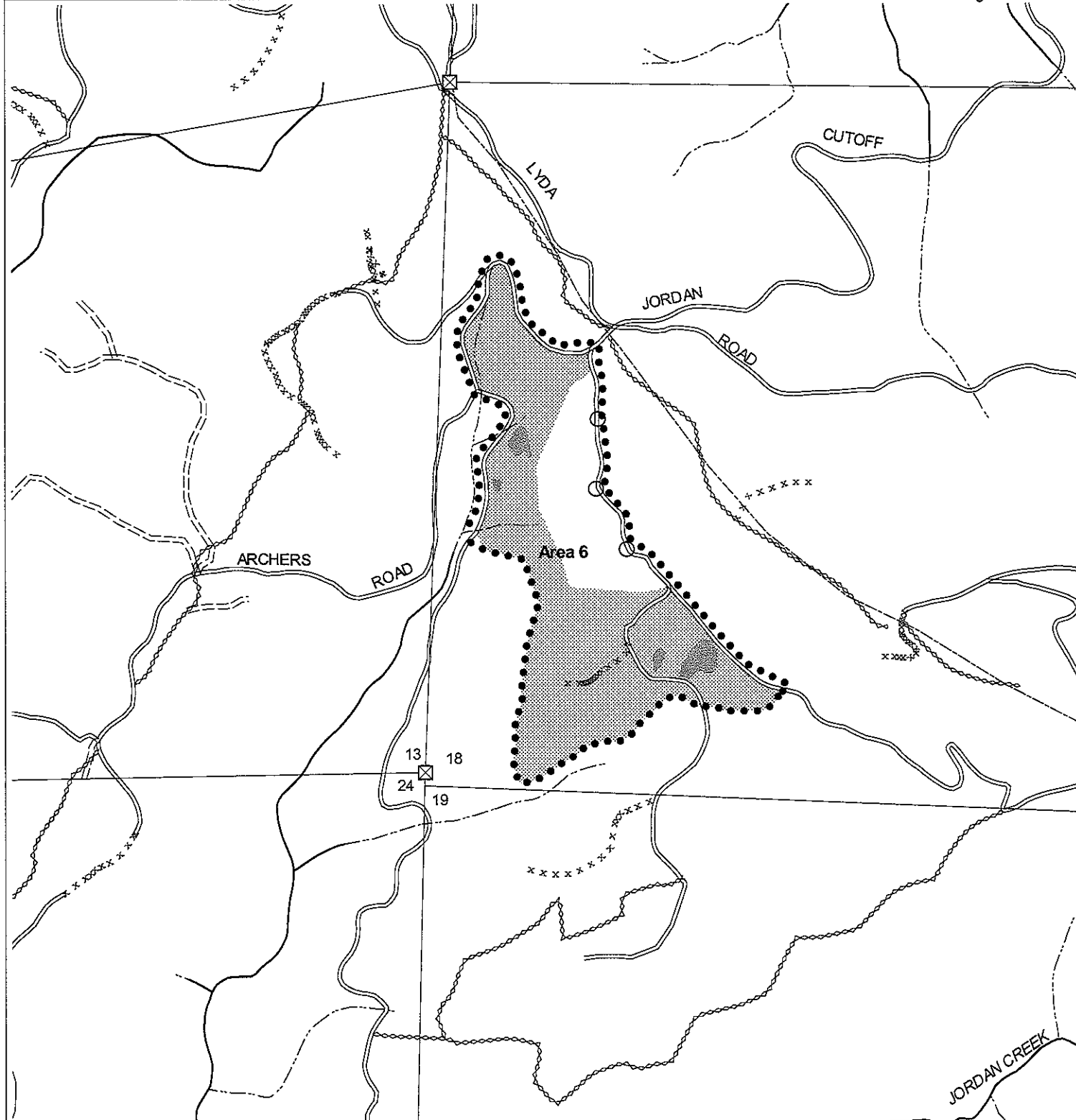
LOGGING PLAN
 Timber Sale Contract No. 341-07-11
 Hoskins
 Portions of Sections 16, 17,
 20 and 21, T1N, R7W,
 and Section 18 T1N, R6W, W. M.
 Tillamook County, Oregon

Area	Type of Operation	Acres Gross	Acres Net
1	Modified clearcut	45	43
2	Modified clearcut	37	37
3	Modified clearcut	39	39
4	Retention cut	109	101
5	Partial cut	66	66
6	Partial cut	77	70
Total		373	356



Tillamook District GIS
 August 4, 2006
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 for legal, engineering, or surveying purposes.

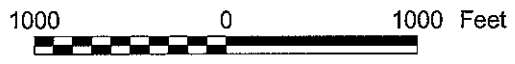




- Landing
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