



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Cost Summary Cook Wright Sale 341-03-28

District: Tillamook

Date: 10/16/02

	Conifer	Hardwood	Total
<b>Gross Timber Sale Value</b>	\$765,717.52	\$0.00	\$765,717.52
		<b>Project Work</b>	(\$441,767.00)
		<b>Advertised Value</b>	\$323,950.52



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Timber Description Cook Wright Sale 341-03-28

**District:** Tillamook

**Location:** Portions of Sec 8, 9, 15, 16, 17, 20, 21 and 22, Township 2 North, Range 8 West, Willamette Meridian, Tillamook County, Oregon

**Date:** 10/16/02

**Stand Stocking:** 80%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	12	0	95
Western Hemlock / Fir	11	0	95

Volume by Grade	Douglas - Fir	Western Hemlock / Fir	Total
3S	2,246	732	2,978
4S	1,122	365	1,487
<b>Total</b>	3,368	1,097	4,465

**Comments:** Pond Values Used: 3rd Quarter 2002

See attached additional cost sheet.

8"+ Hardwoods: \$500 - \$265.48 = \$234.52

Local Pond Value from 9/04/02



# Timber Sale Appraisal

## Logging Conditions

### Cook Wright

### Sale 341-03-28

"STEWARDSHIP IN FORESTRY"

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**Combination#:** 1      Douglas - Fir      68.00%  
                                 Western Hemlock / Fir      68.00%

**Yarding Distance:** Short (400 ft)      **Downhill Yarding:** No  
**Logging System:** Cable: Medium Tower >40 - <70      **Process:** Manual Delimiting  
**Tree Size:** Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF  
**Loads/Day:** 6      **Bd. Ft./Load:** 3,200  
**Cost/MBF:** \$172.74

**Machines:**  
    Log Loader (A)  
    Tower Yarder (Medium)

**Combination#:** 2      Douglas - Fir      32.00%  
                                 Western Hemlock / Fir      32.00%

**Yarding Distance:** Short (400 ft)      **Downhill Yarding:** Yes  
**Logging System:** Track Skidder      **Process:** Manual Falling/Delimiting  
**Tree Size:** Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF  
**Loads/Day:** 8      **Bd. Ft./Load:** 3,200  
**Cost/MBF:** \$127.56

**Machines:**  
    Log Loader (B)  
    Track Skidder



# Timber Sale Appraisal

## Logging Costs

### Cook Wright

### Sale 341-03-28

"STEWARDSHIP IN FORESTRY"

Date: 10/16/02

Operating Seasons: 2.4

Profit & Risk: 20%

Project Costs: \$441,767

Other Costs (P/R): \$16,070

Slash Disposal: \$0

Other Costs: \$24,775

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

Road Maintenance: \$5.22

#### Hauling Costs

Species	\$/MBF	Trips/Day	MBF/Load
Douglas - Fir	\$0.00	2.0	3.3
Western Hemlock / Fir	\$0.00	3.0	3.1



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Logging Costs Breakdown Cook Wright Sale 341-03-28

Costs	Douglas - Fir	Western Hemlock / Fir
<b>Logging</b>	158.28	158.28
<b>Road Maintenance</b>	5.49	5.49
<b>Fire Protection</b>	1.46	1.46
<b>Hauling</b>	69.16	46.11
<b>Other (P/R appl.)</b>	3.60	3.60
<b>Profit &amp; Risk</b>	47.60	42.99
<b>Slash Disposal</b>	0.00	0.00
<b>Scaling</b>	2.00	2.00
<b>Other</b>	5.55	5.55
<b>Total</b>	293.14	265.48

<b>Amortization</b>	0.00	0.00
<b>Pond Value</b>	500.01	328.36
<b>Stumpage</b>	206.87	62.88
<b>Amortized</b>	0.00	0.00



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Summary Cook Wright Sale 341-03-28

## Amortized

	Douglas - Fir	Western Hemlock / Fir
MBF	0.00	0.00
Value	0.00	0.00
Total	0.00	0.00

## Unamortized

	Douglas - Fir	Western Hemlock / Fir
MBF	3,368.00	1,097.00
Value	206.87	62.88
Total	696,738.16	68,979.36

## Gross Timber Sale Value

**Recovery \$765,717.52**

Prepared by: Tod Haren

Date: 10/16/02

District: Tillamook

Phone: (503) 842-2545

## Additional Costs

### Cook Wright



Cable Yarding Volume:	3036	MBF
Ground Yarding Volume:	1429	MBF
<b>Total Sale Volume:</b>	<b>4465</b>	<b>MBF</b>

"STEWARDSHIP IN FORESTRY"

ADDITIONAL COSTS - PROFIT & RISK TO BE ADDED					
Yarding & Loading:	Cost / MBF		Volume (MBF)		
Brand & Paint:	\$ 2	x	4465	=	\$8,930
Truck Assist/Tractor Swing	\$ 30	x	238	=	\$7,140
<b>OTHER COSTS (P/R) TOTAL</b>					<b>\$16,070</b>

ADDITIONAL COSTS - PROFIT & RISK INCLUDED						
Non-Project Roads (See Logging Plan in Cruise Report)						
Non-Proj. Rd. 3,4	48	Stations	x	\$ 125	=	\$6,000
Non-Proj. Rd. 2, 5, 6, 13	34	Stations	x	\$ 100	=	\$3,400
Non-Proj. Rd. 1, 7 - 12, 14	67	Stations	x	\$ 65	=	\$4,355
Swing Road "A"	8	Stations	x	\$ 65	=	\$520
<b>Totals</b>	<b>157</b>					<b>\$14,275</b>
Pit Run Rock	Stations	x	cys	x	\$/cy	
Non- Proj Roads #2, #3, #6	35		50	x	\$6.00	\$10,500
<b>OTHER COSTS TOTAL</b>						<b>\$24,775</b>

ROAD MAINTENANCE						
				\$/Mile	Miles	\$/MBF
*Grading:				\$500	10	\$2.50
		\$/Sta	Sta	Total		
**Ditch Clearing and End Hauling		\$20.00	100	\$2,000		\$0.45
		\$/Yd	MMBF	Miles	cys/mile	\$/MBF
***Maintenance Rock:		\$6.15	4.5	10	25	\$1.54
Rolling w/ final maintenance - South Fork Cook Creek, Doe Flats, & Smith Wright roads						
		\$11.00	per Sta	296	Stations	\$0.73
<b>TOTAL ROAD MAINTENANCE COST / MBF:</b>						<b>\$5.22</b>

\*Assumes grading the road once per MMBF  
 \*\*Includes cost for excavating, hauling, compaction, and sediment control devices.  
 \*\*\*Assumes 25 cys rock per MMBF per mile

**PROJECT SUMMARY SHEET**

Sale: Cook Wright

**CONSTRUCTION**

Point	E to F	20 + 90	stations =	\$19,541.09
<b>SUBTOTAL CONSTRUCTION</b>				<b>\$19,541.09</b>

**IMPROVEMENT**

Point	A to B	249 + 05	stations =	\$230,986.59
Point	C to D	44 + 75	stations =	\$29,009.78
Point	E to F	48 + 80	stations =	\$35,753.00
Point	G to H	6 + 50	stations =	\$7,386.79
Point	I to J	9 + 90	stations =	\$7,965.56
Point	K to L	141 + 40	stations =	\$51,681.30
Point	M to N	16 + 20	stations =	\$16,296.80
Point	O to P	63 + 00	stations =	\$39,143.49
<b>SUBTOTAL IMPROVEMENT</b>				<b>\$418,223.30</b>

**SPECIAL PROJECTS**

				\$0.00
				\$0.00
<b>SUBTOTAL SPECIAL PROJECTS</b>				<b>\$0.00</b>

**MOVE IN** \$4,003.05

**GRAND TOTAL** **\$441,767**



# SUMMARY OF CONSTRUCTION COST

Sale:	<u>Cook Wright</u>	Road:	<u>A to B</u>
Construction -	_____ stations _____ miles	Improvement -	<u>249 + 05</u> stations <u>4.72</u> miles
<b>CLEARING AND GRUBBING -</b>			
Scattering - road	5.00 acres @	\$815.00 per acre =	\$4,075.00
End-haul - road	2.67 acres @	\$1,500.00 per acre =	\$4,005.00
Pile - waste areas	0.54 acres @	\$905.00 per acre =	<u>\$488.70</u>
		<b>TOTAL CLEARING AND GRUBBING</b>	<b>\$8,568.70</b>
<b>EXCAVATION -</b>			
Excavate - minor ex&place, daylight	175 sta. @	\$65.00 per sta. =	\$11,375.00
Excavate - rock ripping with D-8	10 sta. @	\$135.00 per sta. =	\$1,350.00
Excavate & load - widenings	7,685 cys. @	\$1.15 per c.y. =	\$8,837.75
Excavate & load - sidecast pullback	9,978 cys. @	\$1.40 per c.y. =	\$13,969.20
Excavate & load - subgrade & berms	2,936 cys. @	\$1.15 per c.y. =	\$3,376.40
Excavate & drift vertical dip - Sta. 27+65 to 28+95	1 dip @	\$130.00 per dip =	\$130.00
Excavate & drift vertical dip - Sta. 32+60 to 34+10	1 dip @	\$160.00 per dip =	\$160.00
Drill and shoot - rock widenings & subgrades	3,680 cys. @	\$4.90 per c.y. =	\$18,032.00
End-haul to Sta. 32+00 AtoB	677 cys. @	\$0.99 per c.y. =	\$670.23
End-haul to Sta. 6+50 QtoR	11,753 cys. @	\$1.73 per c.y. =	\$20,332.69
End-haul to Sta. 156+00 AtoB	1,226 cys. @	\$0.72 per c.y. =	\$882.72
End-haul to Sta. 179+00 AtoB	2,468 cys. @	\$0.98 per c.y. =	\$2,418.64
End-haul to Sta. 225+10 AtoB	336 cys. @	\$0.94 per c.y. =	\$315.84
End-haul - fill	409 cys. @	\$0.37 per c.y. =	\$151.33
End-haul - subgrade & berms	2,936 cys. @	\$0.60 per c.y. =	\$1,761.60
Fill placement - sheepsfoot	2,347 cys. @	\$0.35 per c.y. =	\$821.45
Compact - waste	19,396 cys. @	\$0.35 per c.y. =	<u>\$6,788.60</u>
		<b>TOTAL EXCAVATION</b>	<b>\$91,373.45</b>
<b>CULVERTS - MATERIALS &amp; INSTALLATION</b>			
	Culverts		
	1,084 LF of 18" \$15,989.00	270 LF of 24" \$4,792.50	
	32 LF of 30" \$664.00	88 LF of 36" \$2,276.52	
	68 LF of 42" <u>\$2,287.30</u>	0 LF of 48" <u>\$0.00</u>	
	<u>\$18,940.30</u>	<u>\$7,069.02</u>	
	Half Rounds		
	540 LF of 21" <u>\$6,156.00</u>	120 LF of 30" <u>\$1,740.00</u>	
	<u>\$6,156.00</u>	<u>\$1,740.00</u>	
	Half Round Stakes	Culvert Markers	
	132 stakes <u>\$1,056.00</u>	49 markers <u>\$294.00</u>	
		<b>TOTAL CULVERTS</b>	<b>\$35,255.32</b>
<b>SURFACING-</b>			
Road 0+00-134+00	4,732 cy. of 2" - 0" @	\$5.50 per c.y. =	\$26,026.00
Road 134+00-249+05	6,155 cy. of pit-run @	\$6.76 per c.y. =	\$41,607.80
Turnouts 0+00-134+00	121 cy. of 2" - 0" @	\$5.50 per c.y. =	\$665.50
Turnouts 134+00-249+05	170 cy. of pti-run @	\$6.76 per c.y. =	\$1,149.20
Turnarounds	22 cy. of 2" - 0" @	\$5.50 per c.y. =	\$121.00
Turnaround	17 cy. of pti-run @	\$6.76 per c.y. =	\$114.92
Junction	44 cy. of 2" - 0" @	\$5.50 per c.y. =	\$242.00
Culvert bedding 67+20 to 108+3	160 cy. of 2" - 0" @	\$5.03 per c.y. =	\$804.80
Culvert bedding 230+40 to 246+	60 cy. of 2" - 0" @	\$9.16 per c.y. =	\$549.60
Riprap 4+70-113+50	690 cy. of 48"-24" @	\$7.55 per c.y. =	\$5,209.50
Riprap 144+50 to 234+90	120 cy. of 48"-24" @	\$11.17 per c.y. =	<u>\$1,340.40</u>
		<b>TOTAL SURFACING</b>	<b>\$77,830.72</b>

SPECIAL PROJECTS

Remove and end-haul old growth stumps	\$3,054.68	
Excavate & reinstall 4 culverts @ \$143.75/culvert	\$575.00	
Remove old culverts from State land	\$1,660.50	
Turnouts, turnarounds and waste areas construction	\$2,990.00	
Compact Subgrade - vibratory roller	249.05 Stations @ \$11.00/Station	\$2,739.55
Grade and shape subgrade -ditch - 249+05 Stations @ \$17.40/Station	\$4,333.47	
Grass seed, fertilize and mulch - 1.00 /acres @ \$1,000.00/acre	\$1,000.00	
Grass seed and fertilize - 7.64 /acres @ \$180.00/acre	\$1,375.20	
Stream and ditchline protection - 40 straw bales @ 5.75/bale	\$230.00	

TOTAL SPECIAL PROJECTS \$17,958.40

**GRAND TOTAL** **\$230,986.59**

## SUMMARY OF CONSTRUCTION COST

Sale: Cook Wright Road: C to D

Construction -                      stations Improvement - 44 + 75 stations  
                     miles                      miles

### CLEARING AND GRUBBING -

Scattering - road and waste area 2.05 acres @ \$815.00 per acre = \$1,670.75  
**TOTAL CLEARING AND GRUBBING \$1,670.75**

### EXCAVATION -

Excavate - common & berms	39.75 sta. @	\$65.00 per sta. =	\$2,583.75	
Excavate - rock ripping with D-8	479 cys. @	\$2.25 per c.y. =	\$1,077.75	
Excavate & load - widenings & berms	1,022 cys. @	\$1.15 per c.y. =	\$1,175.30	
Excavate - logs	3.75 hrs. @	\$130.00 per hr. =	\$487.50	
Excavate & load - pullback	1,116 cys. @	\$1.40 per c.y. =	\$1,562.40	
Drill, shoot & load - rock	175 cys. @	\$4.90 per c.y. =	\$857.50	
End-haul - waste	2,354 cys. @	\$0.87 per c.y. =	\$2,047.98	
Compact - waste	2,354 cys. @	\$0.35 per c.y. =	\$823.90	
		<b>TOTAL EXCAVATION</b>		<b>\$10,616.08</b>

### CULVERTS - MATERIALS & INSTALLATION

#### Culverts

264 LF of 18"	\$3,894.00	66 LF of 24"	\$1,171.50
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>\$3,894.00</u>		<u>\$1,171.50</u>

#### Half Rounds

140 LF of 21"	\$1,596.00	0 LF of 30"	\$0.00
0 LF of 36"	\$0.00	0 LF of 42"	\$0.00
	<u>\$1,596.00</u>		<u>\$0.00</u>

#### Half Round Stakes

28 stakes \$224.00

#### Culvert Markers

11 markers \$66.00

**TOTAL CULVERTS \$6,951.50**

### SURFACING-

Road-0 + 00-27 + 0	956 cy. of 2" - 0"	@	\$6.34 per c.y. =	\$6,061.04
Road-27 + 00-44 +	190 cy. of pit-run	@	\$6.52 per c.y. =	\$1,238.80
Turnouts	33 cy. of 2" - 0"	@	\$6.34 per c.y. =	\$209.22
Junction	11 cy. of 2" - 0"	@	\$6.34 per c.y. =	\$69.74
Cvlt bedding	15 cy. of 2" - 0"	@	\$6.25 per c.y. =	\$93.75
			<b>TOTAL SURFACING</b>	<b>\$7,672.55</b>

### SPECIAL PROJECTS

Remove old growth stumps		\$260.00
Remove old culvert from State land		\$69.00
Turnouts construction		\$130.00
Compact Subgrade - vibratory roller	44.75 Stations @ \$11.00/Station	\$492.25
Grade and Shape Subgrade - ditch	44.75 Stations @ \$17.40/Station	\$778.65
Grass seed and fertilize - 2.05 /acres @ \$180.00/acre		\$369.00
	<b>TOTAL SPECIAL PROJECTS</b>	<b>\$2,098.90</b>

**GRAND TOTAL \$29,009.78**

## SUMMARY OF CONSTRUCTION COST

Sale: Cook Wright

Road: E to F

Construction - 20+90 stations  
0.40 miles

Improvement - 48+80 stations  
0.93 miles

**CLEARING AND GRUBBING -**

Scattering - road and waste area	4.68 acres @	\$815.00 per acre =	<u>\$3,814.20</u>	
TOTAL CLEARING AND GRUBBING				\$3,814.20

**EXCAVATION -**

Excavate - common	39.65 sta. @	\$65.00 per sta. =	\$2,577.25	
Excavate & fill - common w/ D-8	3 sta. @	\$100.00 per sta. =	\$300.00	
Excavate - widenings	2,672 cys. @	\$1.15 per c.y. =	\$3,072.80	
Excavate - pullback	519 cys. @	\$1.40 per c.y. =	\$726.60	
Excavate - new construction-endhaul	4,306 cys. @	\$1.15 per c.y. =	\$4,951.90	
Excavate - new construction-drift	1,414 cys. @	\$1.15 per c.y. =	\$1,626.10	
Drill and shoot - rock	244 cys. @	\$7.50 per c.y. =	\$1,830.00	
End-haul - waste 0+00-40+40	3,191 cys. @	\$1.04 per c.y. =	\$3,318.64	
End-haul - waste 57+50-64+70	2,824 cys. @	\$0.79 per c.y. =	\$2,230.96	
End-haul - fill to 66+95-69+70	1,482 cys. @	\$0.42 per c.y. =	\$622.44	
Compact fill- w/sheepfoot, 48+80-69	2,896 cys. @	\$0.35 per c.y. =	\$1,013.60	
Compact waste area near 50+00 on E-	2,824 cys. @	\$0.35 per c.y. =	\$988.40	
Compact waste area @ 6+50 on Q-R	3,191 cys. @	\$0.35 per c.y. =	<u>\$1,116.85</u>	
TOTAL EXCAVATION				\$24,375.54

**CULVERTS - MATERIALS & INSTALLATION**

**Culverts**

136 LF of 18" \$2,006.00		40 LF of 24" \$710.00	
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>\$2,006.00</u>		<u>\$710.00</u>	

**Half Rounds**

90 LF of 21" \$1,026.00		20 LF of 30" \$290.00	
0 LF of 36" \$0.00		0 LF of 42" \$0.00	
<u>\$1,026.00</u>		<u>\$290.00</u>	

**Half Round Stakes**

22 stakes \$176.00

**Culvert Markers**

6 markers \$36.00

TOTAL CULVERTS **\$4,244.00**

**SURFACING-**

Road-0+00-41+5	2,179 cy. of pit-run @	\$8.70 per c.y. =	\$18,957.30	
Turnouts	68 cy. of pit-run @	\$8.70 per c.y. =	\$591.60	
Turnaround	17 cy. of pit-run @	\$8.70 per c.y. =	\$147.90	
Junction	20 cy. of pit-run @	\$8.70 per c.y. =	<u>\$174.00</u>	
TOTAL SURFACING				\$19,870.80

**SPECIAL PROJECTS**

<u>Remove old growth stumps</u>	\$455.00	
<u>Turnouts and turnaround construction</u>	\$260.00	
<u>Construct 13 waterbars - 41+50 to 69+70</u>	\$325.00	
<u>Grade and shape subgrade -outslope common - 28+20 Stations @ \$9.75/Station</u>	\$274.95	
<u>Grade and shape subgrade -ditch common - 41+50 Stations @ \$14.20/Station</u>	\$589.30	
<u>Compact Subgrade - vibratory roller 69.70 Stations @ \$11.00/Station</u>	\$766.70	
<u>Grass seed and fertilize - 1.77 /acres @ \$180.00/acre</u>	<u>\$318.60</u>	
TOTAL SPECIAL PROJECTS		\$2,989.55

**GRAND TOTAL** **\$55,294.09**

## SUMMARY OF CONSTRUCTION COST

Sale: Cook Wright Road: G to H

Construction - \_\_\_\_\_ stations Improvement - 6 + 50 stations  
 \_\_\_\_\_ miles \_\_\_\_\_ 0.12 miles

**CLEARING AND GRUBBING -**

Side cast - waste area	1.43 acres	@	\$540.00	per acre =	\$772.20	
Scattering - road	0.59 acres	@	\$815.00	per acre =	\$480.85	
<b>TOTAL CLEARING AND GRUBBING</b>						<b>\$1,253.05</b>

**EXCAVATION -**

Excavate - common	6.5 sta.	@	\$65.00	per sta. =	\$422.50	
<b>TOTAL EXCAVATION</b>						<b>\$422.50</b>

**CULVERTS - MATERIALS & INSTALLATION**

**Culverts**

46 LF of 18" \$678.50	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>\$678.50</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>

**Half Round Stakes**

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

**Culvert Markers**

1 markers \$6.00	
<u>\$6.00</u>	

**TOTAL CULVERTS \$684.50**

**SURFACING-**

Road	457	cy. of	pit-run	@	\$7.54	per c.y. =	\$3,445.78	
Turnouts	44	cy. of	pit-run	@	\$7.54	per c.y. =	\$331.76	
Junction	33	cy. of	pit-run	@	\$7.54	per c.y. =	\$248.82	
Turnaround	22	cy. of	pit-run	@	\$7.54	per c.y. =	\$165.88	
<b>TOTAL SURFACING</b>								<b>\$4,192.24</b>

**SPECIAL PROJECTS**

Turnouts, turnaround and waste area construction					\$357.50	
<u>Compact Subgrade - vibratory roller</u>	<u>6.50 Stations @</u>	<u>\$11.00/Station</u>			<u>\$71.50</u>	
<u>Grade and Shape Subgrade - ditch</u>	<u>6.50 Stations @</u>	<u>\$14.20/Station</u>			<u>\$92.30</u>	
<u>Grass seed and fertilize - 1.74 /acres @</u>	<u>\$180.00/acre</u>				<u>\$313.20</u>	
<b>TOTAL SPECIAL PROJECTS</b>						<b>\$834.50</b>

**GRAND TOTAL** **\$7,386.79**

## SUMMARY OF CONSTRUCTION COST

Sale: Cook Wright Road: I to J

Construction - \_\_\_\_\_ stations Improvement - 9 + 90 stations  
 \_\_\_\_\_ miles \_\_\_\_\_ miles

**CLEARING AND GRUBBING -**

Scattering - road 0.34 acres @ \$790.00 per acre = \$268.60  
**TOTAL CLEARING AND GRUBBING \$268.60**

**EXCAVATION -**

Excavate - common 9.9 sta. @ \$65.00 per sta. = \$643.50  
**TOTAL EXCAVATION \$643.50**

**CULVERTS - MATERIALS & INSTALLATION**

**Culverts**

30 LF of 18" \$442.50	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
\$442.50	\$0.00

**Half Rounds**

20 LF of 21" \$228.00	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
\$228.00	\$0.00

**Half Round Stakes**

4 stakes \$32.00

**Culvert Markers**

1 stakes \$6.00

**TOTAL CULVERTS \$708.50**

**SURFACING-**

Road	520	cy. of pit-run	@	\$4.76 per c.y. =	\$2,475.20	
Turnaround	17	cy. of pit-run	@	\$4.76 per c.y. =	\$80.92	
Junction	15	cy. of pit-run	@	\$4.76 per c.y. =	\$71.40	
Fill	10	cy. of pit-run	@	\$4.76 per c.y. =	\$47.60	
<b>TOTAL SURFACING</b>						<b>\$2,675.12</b>

**SPECIAL PROJECTS**

Turnaround construction		\$65.16
Compact Subgrade - vibratory roller	141.40 Stations @ \$11.00/Station	\$1,555.40
Grade and Shape Subgrade - ditch	141.40 Stations @ \$14.20/Station	\$2,007.88
Grass seed and fertilize - 0.23 /acres @ \$180.00/acre		\$41.40
<b>TOTAL SPECIAL PROJECTS</b>		<b>\$3,669.84</b>

**GRAND TOTAL \$7,965.56**



## SUMMARY OF CONSTRUCTION COST

Sale: Cook Wright Road: M to N

Construction - \_\_\_\_\_ stations Improvement - 16 + 20 stations  
 \_\_\_\_\_ miles \_\_\_\_\_ miles

### CLEARING AND GRUBBING -

Scattering - road 1.55 acres @ \$815.00 per acre = \$1,263.25  
**TOTAL CLEARING AND GRUBBING \$1,263.25**

### EXCAVATION -

Excavate - common 16.2 sta. @ \$65.00 per sta. = \$1,053.00  
 Excavate logs & repair fill 6.25 hrs. @ \$130.00 per hr. = \$812.50  
**TOTAL EXCAVATION \$1,865.50**

### CULVERTS - MATERIALS & INSTALLATION

#### Culverts

88 LF of 18" \$1,298.00	34 LF of 24" \$603.50
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" <u>\$0.00</u>	0 LF of 60" <u>\$0.00</u>
<b>\$1,298.00</b>	<b>\$603.50</b>

#### Half Rounds

20 LF of 21" \$228.00	20 LF of 30" \$290.00
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" <u>\$0.00</u>	0 LF of 66" <u>\$0.00</u>
<b>\$228.00</b>	<b>\$290.00</b>

#### Half Round Stakes

8 stakes \$64.00

#### Culvert Stakes

4 stakes \$24.00

**TOTAL CULVERTS \$2,507.50**

### SURFACING-

Road - 9"	850	cy. of	pit-run	@	\$7.29	per c.y. =	\$6,196.50
Turnouts - 9"	34	cy. of	pit-run	@	\$7.29	per c.y. =	\$247.86
Junction - 9"	15	cy. of	pit-run	@	\$7.29	per c.y. =	\$109.35
Turnarounds - 9"	34	cy. of	pit-run	@	\$7.29	per c.y. =	<u>\$247.86</u>
<b>TOTAL SURFACING</b>							<b>\$6,801.57</b>

### SPECIAL PROJECTS

Turnout and turnarounds construction		\$162.50
Compact Subgrade - vibratory roller	141.40 Stations @ \$11.00/Station	\$1,555.40
Grade and Shape Subgrade - ditch	141.40 Stations @ \$14.20/Station	\$2,007.88
Grass seed and fertilize - 0.74 /acres @ \$180.00/acre		<u>\$133.20</u>
<b>TOTAL SPECIAL PROJECTS</b>		<b>\$3,858.98</b>

**GRAND TOTAL \$16,296.80**



## SUMMARY OF CONSTRUCTION COST

Sale: Cook Wright

Road: O to P

Construction - \_\_\_\_\_ stations  
 \_\_\_\_\_ miles

Improvement - 63+00 stations  
1.19 miles

### CLEARING AND GRUBBING -

Scattering - road and waste area	1.62 acres @	\$790.00 per acre =	<u>\$1,279.80</u>	
<b>TOTAL CLEARING AND GRUBBING</b>				<b>\$1,279.80</b>

### EXCAVATION -

Excavate - common	27 sta. @	\$65.00 per sta. =	\$1,755.00	
Excavate and drift	36 sta. @	\$100.00 per sta. =	\$3,600.00	
Excavate - rock ripping	24.4 sta. @	\$35.00 per sta. =	\$854.00	
Drill and shoot - rock	312 cys. @	\$4.90 per c.y. =	\$1,528.80	
Excavate & load - pullback & berm	752 cys. @	\$1.40 per c.y. =	\$1,052.80	
End-haul - waste	752 cys. @	\$0.98 per c.y. =	\$736.96	
Compact - waste	752 cys. @	\$0.35 per c.y. =	<u>\$263.20</u>	
<b>TOTAL EXCAVATION</b>				<b>\$9,790.76</b>

### CULVERTS - MATERIALS & INSTALLATION

#### Culverts

200 LF of 18"	\$2,950.00	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>\$2,950.00</u>		<u>\$0.00</u>		

#### Half Rounds

80 LF of 21"	\$912.00	0 LF of 30"	\$0.00	
0 LF of 36"	\$0.00	0 LF of 42"	\$0.00	
<u>\$912.00</u>		<u>\$0.00</u>		

#### Half Round Stakes

16 stakes	<u>\$128.00</u>			
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#### Culvert Markers

7 markers	<u>\$42.00</u>			
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**TOTAL CULVERTS \$4,032.00**

### SURFACING-

Road	3,308 cy. of pit-run	@	\$6.30 per c.y. =	\$20,840.40
Turnouts	85 cy. of pit-run	@	\$6.30 per c.y. =	\$535.50
Turnarounds	17 cy. of pit-run	@	\$6.30 per c.y. =	\$107.10
Junction	15 cy. of pit-run	@	\$6.30 per c.y. =	\$94.50
Fill	10 cy. of pit-run	@	\$6.30 per c.y. =	\$63.00
Clvt bedding	20 cy. of 2" - 0"	@	\$6.01 per c.y. =	<u>\$120.20</u>
<b>TOTAL SURFACING</b>				<b>\$21,760.70</b>

### SPECIAL PROJECTS

<u>Remove old growth stumps</u>	\$195.00
<u>Turnouts, turnaround and waste area construction</u>	\$260.00
<u>Compact Subgrade - vibratory roller 63.00 Stations @ \$11.00/Station</u>	\$693.00
<u>Grade and shape subgrade -ditch common - 54+90 Stations @ \$17.40/Station</u>	\$955.26
<u>Grade and shape subgrade -outslope - 8+10 Stations @ \$13.70/Station</u>	\$110.97
<u>Grass seed and fertilize - 1.45 /acres @ \$180.00/acre</u>	<u>\$261.00</u>
<b>TOTAL SPECIAL PROJECTS \$2,280.23</b>	

**GRAND TOTAL \$39,143.49**

MOVE-IN CALCULATIONS

Sale: Cook Wright

LOWBOY HAUL (One Way)		
DISTANCE	ROADWAY	AVE SPEED (MPH)
30.00	Highway	45
6.90	Main Lines (Off Road)	12
1.33	Pulling 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	\$239.57		\$46.00	0	9	9	\$414.00	\$653.57
0	Brush Cutter	\$0.00		\$4.00	0	0	0	\$0.00	\$0.00
1	Graders	\$117.60		\$3.65	0	0	0	\$0.00	\$117.60
0	Loader (Small)	\$0.00	1	\$3.55	0	0	0	\$0.00	\$0.00
0	Loader (Med. & Large)	\$0.00	1	\$9.00	0	0	0	\$0.00	\$0.00
1	Sheepsfoot / Roller	\$239.57		\$5.00	0	1.5	1.5	\$7.50	\$247.07
0	Excavators (Small)	\$0.00		\$22.00	0	0	0	\$0.00	\$0.00
0	Excavators (Med.)	\$0.00		\$35.50	0	0	0	\$0.00	\$0.00
2	Excavators (Large)	\$828.65	1	\$44.80	0	4.5	4.5	\$403.20	\$1,231.85
0	Rubber Tired Backhoes/Skidlers	\$0.00		\$3.00	0	0	0	\$0.00	\$0.00
0	Tractors (D6)	\$0.00	2	\$7.10	0	0	0	\$0.00	\$0.00
1	Tractors (D7)	\$373.31	2	\$11.30	0	6	6	\$67.80	\$441.11
2	Tractor (D8)	\$790.47	2	\$15.10	0	4.5	4.5	\$135.90	\$926.37
0	Water Truck 1500gal	\$0.00		\$2.85	0	0	0	\$0.00	\$0.00
0	Water Truck 2500gal	\$0.00		\$2.85	0	0	0	\$0.00	\$0.00
5	Dump Truck (10 cy +)	\$385.46		\$2.85	0	0	0	\$0.00	\$385.46
0	Dump Truck (Off Hiway)	\$0.00	1	\$4.75	0	0	0	\$0.00	\$0.00

TOTAL MOVE-IN COSTS:	\$4,003.05
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## ROCK SUMMARY FOR HAUL AND PLACEMENT FROM STOCKPILE

Sale: Cook Wright

Pit: COOK CREEK ROAD  
 Rock: 2"-0"  
 Swell: 0.00  
 Shrinkage: 0.00  
 Drill Pct.: 0%

Location: SE1/4 SW1/4 SEC5 T2N R8W W. M.  
 Road: 11,014 c.y.  
 Stockpile: 000 c.y.  
 Total Truck Loads: 11,014 c.y.  
 In Place Total: 11,014 c.y.

Load Rock: \$0.60 /cu.yd. x 11,014 cu.yds. = \$6,608.40  
 Subtotal \$6,608.40

Move in water truck \$76.86  
 Move in roller \$208.88  
 Move in loader \$277.96  
 Subtotal \$563.70

**TOTAL PRODUCTION COSTS \$7,172.10**

Base Cost \$0.65 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	\$3.48	\$1.37	\$0.65	\$5.50	4,919	\$27,054.50
Sta. 0+00 to 134+00						
A to B	\$3.48	\$0.90	\$0.65	\$5.03	160	\$804.80
culvert bedding Sta. 67+20 to 108+30						
A to B	\$7.61	\$0.90	\$0.65	\$9.16	60	\$549.60
culvert bedding Sta. 230+40 to 246+05						
C to D	\$4.13	\$1.56	\$0.65	\$6.34	1,000	\$6,340.00
Sta. 0+00 to 27+00						
C to D	\$4.70	\$0.90	\$0.65	\$6.25	15	\$93.75
culvert bedding						
K to L	\$3.75	\$1.66	\$0.65	\$6.06	4,800	\$29,088.00
Sta. 0+00 to 134+75						
K to L	\$3.75	\$0.90	\$0.65	\$5.30	40	\$212.00
culvert bedding						
O to P	\$4.46	\$0.90	\$0.65	\$6.01	20	\$120.20
culvert bedding						
Total C.Y. 11,014.00						Sub Total \$64,262.85

**TOTAL ROCKING COSTS \$64,262.85**



## ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Sale: Cook Wright

0.13 miles on O to P from Point P

Pit: Firbreak #3 69+60  
 Rock: Pit-run  
 Swell: 1.40  
 Shrinkage: \_\_\_\_\_  
 Drill Pct.: 80%

Location: SW1/4 Sec 17, T2N, R8W, W.M.  
 Road: 4,734 c.y.  
 Stockpile: \_\_\_\_\_  
 Total Truck Loads: 4,734 c.y.  
 In Place Total: 3,381 c.y.

Clear, scalp, load & compact overburden; construct access road:

D-8 Cat and excavator - 8 Hrs. @ \$260.00/Hr \$2,080.00

End-haul overburden to waste area:

Dump Truck- 24 Hrs. @ \$57.00/Hr \$1,368.00

Grass seed and fertilize waste area and access road : 0.4 acres @ \$180.00/acre \$72.00

Drill & Shoot: \$2.10 /cu.yd. x 2,705 cu.yds. = \$5,680.50

Strip: \$1.75 /cu.yd. x 676 cu.yds. = \$1,183.00

Push Rock: \$0.60 /cu.yd. x 4,734 cu.yds. = \$2,840.40

Load Dump Truck: \$0.60 /cu.yd. x 4,734 cu.yds. = \$2,840.40

Subtotal \$16,064.30

Move in and set up 1 drill and compressor: \$276.58

Move in excavator: \$310.01

Move in D8 Cat: \$155.57

Move in 3 Trucks \$44.46

Move in Loader: \$123.85

Subtotal \$910.47

Base Cost \$3.59 Per Cu.Yd.

**Total Production Costs \$16,974.77**

Pit-run

Road Segment	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST
K to L	\$1.54	\$0.90	\$3.59	\$6.03	366	\$2,205.41
134+75 to 141+40						
M to N	\$2.80	\$0.90	\$3.59	\$7.29	933	\$6,797.57
O to P	\$1.81	\$0.90	\$3.59	\$6.30	3,435	\$21,625.78
Total C.Y.					4,734	Sub Total \$30,628.76

**Total Rocking Costs \$30,628.76**

## ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Sale: Cook Wright

Pit: COOK CREEK ROAD  
 Rock: Riprap  
 Swell: 0.00  
 Shrinkage: 0.00  
 Drill Pct.: 0%

Location: SW1/2 SE1/4 SEC34 T3N R8W W. M.  
 Road: 810 c.y.  
 Stockpile: c.y.  
 Total Truck Loads: 810 c.y.  
 In Place Total: 810 c.y.

Load Rock: \$1.40 /cu.yd. x 810 cu.yds. = \$1,134.00  
 Subtotal \$1,134.00

Move in excavator \$394.42  
 Subtotal \$394.42

**TOTAL PRODUCTION COSTS** **\$1,528.42**

Base Cost \$1.89 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	\$4.26	\$1.40	\$1.89	\$7.55	690	<u>\$5,209.50</u>
Sta. 4 + 70 to 113 + 50						
A to B	\$7.88	\$1.40	\$1.89	\$11.17	120	<u>\$1,340.40</u>
Sta. 144 + 50 to 234 + 90						
Total C.Y.					810	Sub Total <u>\$6,549.90</u>

**TOTAL ROCKING COSTS** **\$6,549.90**

## PROJECT SUMMARY SHEET

Sale: Cook Wright

### CONSTRUCTION

Point	E to F	20 + 90	stations =	\$19,541.09
<b>SUBTOTAL CONSTRUCTION</b>				<b>\$19,541.09</b>

### IMPROVEMENT

Point	A to B	249 + 05	stations =	\$230,986.59
Point	C to D	44 + 75	stations =	\$29,009.78
Point	E to F	48 + 80	stations =	\$35,753.00
Point	G to H	6 + 50	stations =	\$7,386.79
Point	I to J	9 + 90	stations =	\$7,965.56
Point	K to L	141 + 40	stations =	\$51,681.30
Point	M to N	16 + 20	stations =	\$16,296.80
Point	O to P	63 + 00	stations =	\$39,143.49
<b>SUBTOTAL IMPROVEMENT</b>				<b>\$418,223.30</b>

### SPECIAL PROJECTS

	\$0.00
	\$0.00
<b>SUBTOTAL SPECIAL PROJECTS</b>	<b>\$0.00</b>

**MOVE IN** \$4,003.05

**GRAND TOTAL**

**\$441,767**



## Oregon Department of Forestry Cruise Report Cook Wright

### 1. Type of Sale

Partial Cut - Recovery

### 2. Legal Description

Portions of Sections 8, 9, 15, 16, 17, 20, 21, 22 T2N, R8W, W.M., Tillamook County, Oregon

### 3. Sale Acreage

The sale boundaries were plotted on a digital orthophotograph and the acreage was calculated with a GIS.

	ACRES	
	<u>Sale</u>	<u>Net</u>
Area 1 (partial cut)	1320	400
Area 2 (partial cut)	130	70
<b>Total</b>	<b>1450</b>	<b>470</b>

Sale Acres: Area within the Timber Sale Boundary signs

Net acres: For accomplishment reporting & 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.

**Partial Cut** - Sale acres less areas of low stocking, hardwoods, roads, and riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

### 4. Cruising Procedures

#### A. Cruising Method

Cruise lines were established in portions of the sale area required to be harvested. Area 1 was stratified into cruise areas based on timber type. A total of 45 full point plots were established in Area 1 and 6 full point plots were established in Area 2. All trees selected at each point were measured at DBH to the nearest inch. Grade trees were selected on most plots and measured for form factor, height, and grade to the longest log length.

#### B. Plot Size

A basal area factor of 20 was used to select sample trees at each point. The point of observation was at 4.5 feet.

#### C. Diameter Standards

All selected tree diameters were measured at a height of 4.5 feet to the nearest one inch. Diameters less than eight inches were not recorded.



Merchantable heights were measured to six inches for conifer and eight inches for hardwoods.

**D. Grading System**

Trees were graded using the Columbia River Official Log Scaling and Grading Bureau rules.

**5. Computation Procedures**

Basal area per acre, mean diameter, and stand density index for each cruise area was calculated from the sample point data. V-BAR for each cruise area was computed from the grade trees using SuperAce 98 from Atterbury Consultant Inc (see attached Volume Computation Summary). A weighted average of individual cruise areas was used to calculate a stand table and V-Bar for Area 1.

**6. Defect and Breakage**

A 5% defect and breakage reduction has been applied to the volume.

**7. Timber Description**

The sale areas burned in the 1933 and 1945 Tillamook fires. The entire sale area is classified as CSC. The sale area consists of both pure stands of planted Douglas-fir as well as stands of mixed conifer. The predominant naturally seeded conifers are hemlock and noble fir. There is Sitka spruce and western red cedar scattered throughout the sale area. Red alder is present in draws and on abandoned roads, skid trails, and landings. The naturally regenerated trees are approximately 47 years old, while the planted trees are approximately 37 years old. There are numerous bear damaged trees spread throughout the sale area. The Douglas-fir shows moderate to severe symptoms of Swiss needle cast. Current stand characteristics are shown on the attached stand tables.

**8. Cruiser Names/Dates**

Tod Haren, Dave Wells, Joe Travers, Tona Mortenson. December 1997, September 2001.

**9. Revenue Distribution**

100% FDF

Tax Code: 70% 56-1, 30% 56

Deed Number: 15, 35

Rehab Obligation: 40%

**10. Attachments**

Stand Tables

Volume Summary

Logging Plan

Cook Wright

Area 1

Stand Table Summary 400 Acres

DBH	Total TK tr/acre	Total LV tr/acre	Doug-fir K tr/acr	Doug-fir LV tr/acr	Hemlock TK tr/acr	Hemlock LV tr/acre	Sprce/Cdr TK tr/acre	Sprce/Cdr LV tr/acr	Red Alder TK tr/acre	Red Alder LV tr/acre
8"	14.2	2.9	10.5	0.0	3.7	1.4	0.0	1.4	0.0	0.0
9"	36.1	2.4	25.9	0.0	10.2	2.4	0.0	0.0	0.0	0.0
10"	26.1	6.0	20.6	0.0	5.5	5.1	0.0	0.0	0.0	0.9
11"	24.5	7.0	20.7	0.0	3.8	7.0	0.0	0.0	0.0	0.0
12"	28.5	11.3	19.2	0.0	9.3	10.7	0.0	0.6	0.0	0.0
13"	14.0	8.3	12.6	0.5	1.4	7.4	0.0	0.3	0.0	0.0
14"	8.7	10.2	7.2	0.0	1.5	7.6	0.0	2.6	0.0	0.0
15"	9.0	5.0	6.2	0.0	2.8	3.4	0.0	1.2	0.0	0.4
16"	7.0	4.3	6.5	0.0	0.4	2.5	0.0	1.8	0.0	0.0
17"	1.3	3.1	1.3	0.3	0.0	2.8	0.0	0.0	0.0	0.0
18"	0.8	2.2	0.6	0.0	0.3	1.5	0.0	0.7	0.0	0.0
19"	2.2	1.3	1.8	0.0	0.4	0.4	0.0	1.0	0.0	0.0
20"	0.5	4.4	0.5	1.6	0.0	1.1	0.0	1.6	0.0	0.0
21"	0.0	2.0	0.0	0.4	0.0	0.3	0.0	1.3	0.0	0.0
22"	0.0	2.4	0.0	0.9	0.0	1.2	0.0	0.4	0.0	0.0
24"	0.0	2.2	0.0	1.4	0.0	0.0	0.0	0.8	0.0	0.0
26"	0.0	0.6	0.0	0.2	0.0	0.3	0.0	0.1	0.0	0.0
28"	0.0	0.5	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
30"	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
32"	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
34"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Trees/acre

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	248	139	94	14	1
Residual	76	6	55	14	1
Take	173	134	39	0	0

Basal Area/acre

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	220	113	82	24	1
Residual	95	15	55	24	1
Take	125	98	27	0	0

Quadratic Mean Diameter

	All Spec	Doug-fir	Hemlock	Sprce/Cdr	Red Alder
Current	12.8	12.2	12.6	17.7	13.5
Residual	15.1	21.4	13.5	17.7	13.5
Take	11.5	11.6	11.3	0.0	0.0

Stand Density Index (%)

	Doug-fir	Hemlock	Sprce/Cdr
Current	61	46	53
Residual	24	18	21

Cook Wright  
 Area 2  
 Table Summary

DBH	Total TK tr/acre	Total LV tr/acre	Doug.fir K tr/acr	Doug.fir LV tr/acr	Hemlock TK tr/acr	Hemlock LV tr/acre	Sprce/Cdr TK tr/acre	Sprce/Cdr LV tr/acr	Red Alder TK tr/acre	Red Alder LV tr/acre
8"	19.1	28.7	0.0	0.0	19.1	28.7	0.0	0.0	0.0	0.0
9"	30.2	7.5	15.1	0.0	15.1	7.5	0.0	0.0	0.0	0.0
10"	55.0	42.8	18.3	0.0	36.7	42.8	0.0	0.0	0.0	0.0
11"	30.4	5.1	15.2	0.0	15.2	5.1	0.0	0.0	0.0	0.0
12"	8.4	21.2	4.2	0.0	4.2	21.2	0.0	0.0	0.0	0.0
13"	7.2	10.9	3.6	0.0	3.6	10.9	0.0	0.0	0.0	0.0
14"	6.2	15.6	6.2	0.0	0.0	15.6	0.0	0.0	0.0	0.0
15"	16.3	5.4	16.3	0.0	0.0	5.4	0.0	0.0	0.0	0.0
16"	11.9	7.2	11.9	0.0	0.0	7.2	0.0	0.0	0.0	0.0
17"	4.2	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18"	3.8	1.9	3.8	0.0	0.0	1.9	0.0	0.0	0.0	0.0
19"	1.7	1.7	1.7	0.0	0.0	1.7	0.0	0.0	0.0	0.0
20"	0.0	6.1	0.0	3.1	0.0	1.5	0.0	1.5	0.0	0.0
21"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24"	0.0	1.1	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
26"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44"	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Trees/acre**

	All Spec	Doug.fir	Hemlock	Sprce/Cdr	Red Alder
Current	350	105	243	2	0
Residual	156	4	150	2	0
Take	195	101	94	0	0

**Basal Area/acre**

	All Spec	Doug.fir	Hemlock	Sprce/Cdr	Red Alder
Current	268	104	160	4	0
Residual	124	10	110	4	0
Take	144	94	50	0	0

**Quadratic Mean Diameter**

	All Spec	Doug.fir	Hemlock	Sprce/Cdr	Red Alder
Current	11.8	13.5	11.0	19.2	0.0
Residual	12.1	21.4	11.6	19.2	0.0
Take	11.6	13.1	9.9	0.0	0.0

**Stand Density Index (%)**

	Doug.fir	Hemlock	Sprce/Cdr
Current	76	57	65
Residual	35	26	30



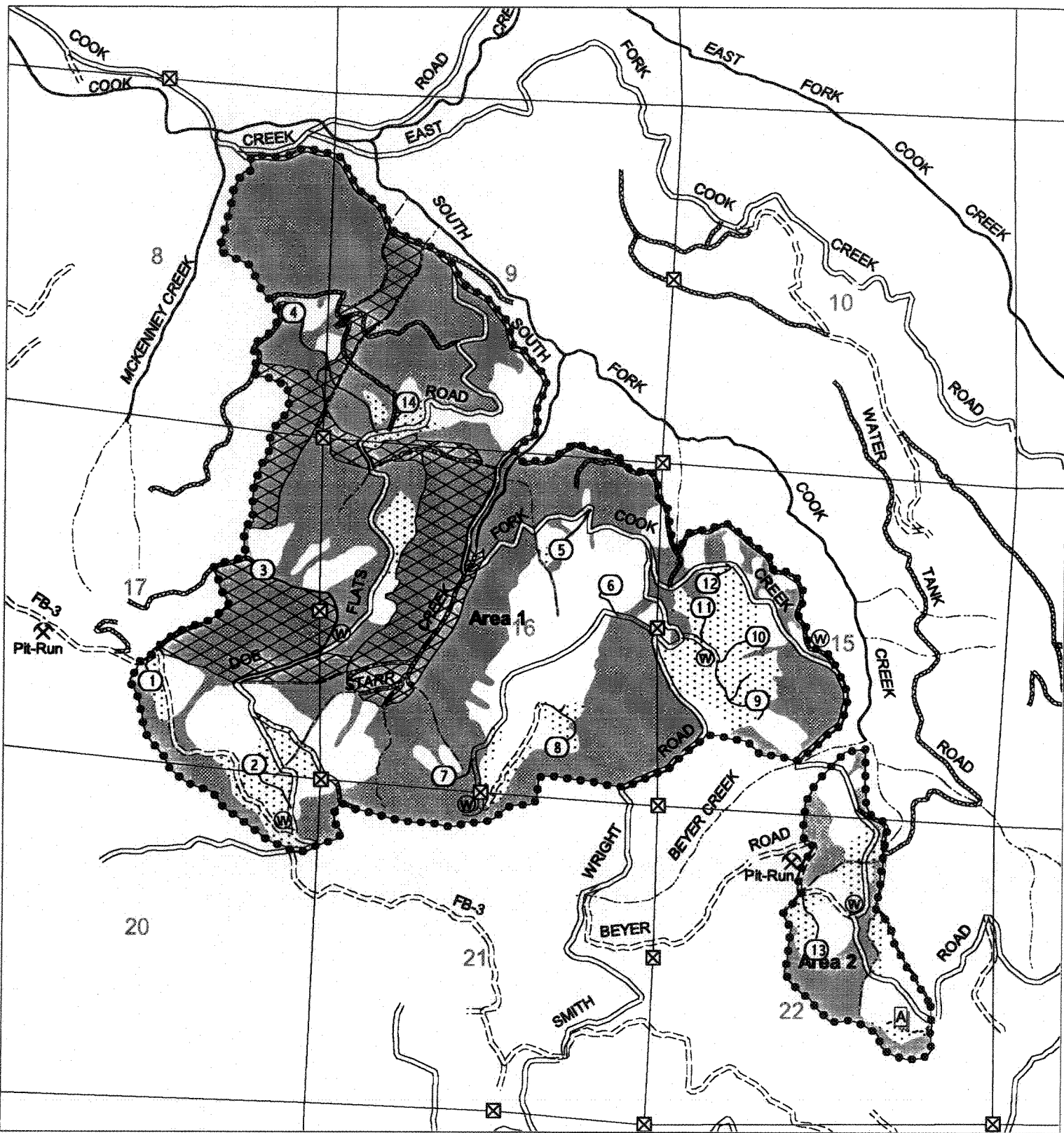
## Cook Wright Volume Summary

*"STEWARDSHIP IN FORESTRY"*

Area 1						400 Acres	
Species	Avg BA	VBAR	Vol. / Acre	Gross MBF	D & B	Net MBF	
Douglas-fir	98	73	7.2	2880	5%	2736	
W. Hemlock	27	76	2.1	840	5%	798	
<b>Total</b>	<b>125</b>		<b>9.3</b>	<b>3720</b>		<b>3534</b>	

Area 2						70 Acres	
Species	Avg BA	VBAR	VPA MBF	Gross MBF	D & B	Net MBF	
Douglas-fir	94	101	9.5	665	5%	632	
W. Hemlock	50	89	4.5	315	5%	299	
<b>Total</b>	<b>144</b>		<b>14.0</b>	<b>980</b>		<b>931</b>	

Total Sale Volume				470 Acres	
Species		Gross MBF	Net MBF		
Douglas-fir		3545	3368		
W. Hemlock		1155	1097		
<b>Total</b>		<b>4700</b>	<b>4465</b>		



- Sale boundary
- Setting boundary
- Type-F stream
- Type-N stream
- ==== Abandoned road
- ==== Surfaced road
- Unsurfaced road
- ① Non-project road
- Ⓐ Swing road
- - - Road construction
- ⊠ Survey corner
- ⊗ Rock source
- Ⓢ Stock pile
- Ⓜ Waste area
- ▭ Cable yarding
- ⋯ Ground yarding
- ▨ Non-required thinning
- ⊠ Reserved Area

**Logging Plan**  
**Cook Wright**  
 Sections 8, 9, 15, 16, 17, 20, 21, 22,  
 T2N, R8W, W. M.  
 Tillamook County, Oregon

0    1000    2000 Feet

1:22575



'STEWARDSHIP IN FORESTRY'

Updated 6/22/02



## OREGON DEPARTMENT OF FORESTRY WRITTEN PLAN

**SALE NAME:** Cook Wright

**PROTECTED RESOURCES:** Type F Stream: Cook Creek; South Fork Cook; Star Creek

**LOCATION:** Portions of Sec. 8, 9, 15, 16, 17, 20, 21, and 22, T2N, R8W, W.M., Tillamook County, Oregon.

**ACTIVITIES:** Logging cables strung across Type F streams for deflection; Cable and ground yarding; road improvement (culvert installation, road widening and rocking).

**Riparian Management Area (RMA):** The area within 100 feet slope distance from the high water mark on each side of the protected Type F streams. **High Risk Sites:** Active landslides and slumps; slopes steeper than 80%; headwalls or draws steeper than 70%.

### PROTECTION MEASURES:

#### YARDING and FELLING:

- All trees in the RMA outside of yarding roads are reserved from cutting.
- Adjacent trees will be felled away from or parallel to the RMA.
- If trees or logs fall or slide into a stream channel they will not be limbed, bucked, or removed without approval from STATE.
- When cable yarding lines are strung across RMA's they will be an average of 150 feet apart and pulled out prior to rigging the next yarding road.
- Cable yarding will be used on high-risk sites.
- A self-clamping carriage capable of passing intermediate supports and being positioned and repositioned for each log turn without lowering the skyline will be used to control the direction of yarding.
- Intermediate supports will be used as necessary to provide lift.
- Logs will have at least one end suspended when yarding across Type N streams or within 100 feet of a Type F stream, and will be fully suspended when yarding over type F streams.
- Soil gouging will be incidental and limited to a depth of 1 foot (measured perpendicular to the slope).
- Ground yarding shall not be allowed within 50 feet of Type F streams
- Ground yarding will not be allowed on high-risk sites.
- Active landslides and slumps discovered within the harvest areas will be reviewed by the State to determine protective measures for these areas. Further consultation with the Area geotechnical specialist and/or removal of the sites from the harvest area may be required.

#### PROJECT WORK:

- In stream project work within protected streams will be allowed between July 1 and September 15.
- Sediment traps will be used as necessary to protect water quality.
- Fill material will be placed and compacted in 8 inch lifts. Fill slopes will be constructed at a 1½ :1 fill width to height ratio.
- Rip-rap placement will be accomplished by placing rock by machine rather than end dumping.
- Waste material will be end-hauled to stable locations marked in the field.
- Roads will not be constructed on high-risk sites.

PREPARED BY: Tod Haren  
Forester, North Unit  
June 23, 2002