



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Cost Summary Mike Pine Sale 341-06-24

District: Tillamook

Date: 7/20/05

	Conifer	Hardwood	Total
<b>Gross Timber Sale Value</b>	\$1,973,417.48	\$77,753.00	\$2,051,170.48
		<b>Project Work</b>	(\$189,040.00)
		<b>Advertised Value</b>	\$1,862,130.48



# Timber Sale Appraisal Timber Description Mike Pine Sale 341-06-24

"STEWARDSHIP IN FORESTRY"

**District:** Tillamook

**Location:** Portions of Sections 14, 15, 22, and 23, T1S, R7W, W.M., Tillamook County, Oregon.

**Date:** 7/20/05

**Stand Stocking:** 20%

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

Volume by Grade	Douglas - Fir	Alder (Red)	Total
2S	1,133	19	1,152
3S	4,722	30	4,752
4S	1,307	211	1,518
<b>Total</b>	<b>7,162</b>	<b>260</b>	<b>7,422</b>

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

Maintenance of Kansas Creek, Hembre Ridge, Zig Zag, and Hembre Lookout Roads: \$4.07 mbf

Grading- Interim Maintenance= \$250/mi x 10 miles x 7 gradings / 7422 mbf= \$2.36 mbf

Grading- Final Maintenance= \$500/mi x 10 miles / 7422 mbf= \$0.67 mbf

Surfacing: 20 cy/mile x 5.20/ cy x 7.4 mmbf x 10 miles / 7422 mbf= \$1.04 mbf

Other costs (add profit and risk): \$30,219

Brand and Paint: \$2.00/mbf x 7422 mbf= \$14,844

Truck Assist: \$25/mbf x 615 mbf= \$15,375

Other (profit and risk included): \$188,498.80

Slash piling and sorting: (529 acres of cable harvest / 50 acres/hour) x \$110/hr= \$1,163.80

Trask Public Safety Road Fee: \$25/mbf x 7422 mbf= \$185,550

Removal of three barriers: \$75 per barrier x 3 = \$225

Construction of Non-project roads: \$130/sta x 7 stations= \$910

Improvement of Non-project roads: \$65/sta x 10 stations= \$650

Cedar stumpage value: \$925/MBF - \$360 (logging cost) = \$565/MBF



# Timber Sale Appraisal

## Logging Conditions

### Mike Pine

### Sale 341-06-24

"STEWARDSHIP IN FORESTRY"

<b>Combination#: 1</b>	Douglas - Fir	17.01%	
	Alder (Red)	20.90%	
<b>Yarding Distance:</b>	Short (400 ft)		<b>Downhill Yarding:</b> Yes
<b>Logging System:</b>	Track Skidder		<b>Process:</b> Feller Buncher
<b>Tree Size:</b>	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
<b>Loads/Day:</b>	7		<b>Bd. Ft./Load:</b> 3,300
<b>Cost/MBF:</b>	\$152.33		
<b>Machines:</b>	Feller Buncher w/ Delimber		
	Log Loader (B)		
	Stroke Delimber (B)		
	Track Skidder		
<b>Combination#: 2</b>	Douglas - Fir	15.76%	
	Alder (Red)	18.00%	
<b>Yarding Distance:</b>	Short (400 ft)		<b>Downhill Yarding:</b> No
<b>Logging System:</b>	Cable: Medium Tower >40 - <70		<b>Process:</b> Stroke Delimber
<b>Tree Size:</b>	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
<b>Loads/Day:</b>	5		<b>Bd. Ft./Load:</b> 3,300
<b>Cost/MBF:</b>	\$198.95		
<b>Machines:</b>	Log Loader (A)		
	Stroke Delimber (A)		
	Tower Yarder (Medium)		
<b>Combination#: 3</b>	Douglas - Fir	27.71%	
	Alder (Red)	31.40%	
<b>Yarding Distance:</b>	Medium (800 ft)		<b>Downhill Yarding:</b> No
<b>Logging System:</b>	Cable: Medium Tower >40 - <70		<b>Process:</b> Stroke Delimber
<b>Tree Size:</b>	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
<b>Loads/Day:</b>	5		<b>Bd. Ft./Load:</b> 3,300
<b>Cost/MBF:</b>	\$198.95		
<b>Machines:</b>	Log Loader (A)		
	Stroke Delimber (A)		
	Tower Yarder (Medium)		
<b>Combination#: 4</b>	Douglas - Fir	39.52%	
	Alder (Red)	29.70%	

**Yarding Distance:** Long (1,500 ft)                      **Downhill Yarding:** No  
**Logging System:** Cable: Medium Tower >40 - <70      **Process:** Stroke Delimber  
**Tree Size:** Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF  
**Loads/Day:** 4    **Bd. Ft./Load:** 3,300  
**Cost/MBF:** \$248.68  
**Machines:**  
    Log Loader (A)  
    Stroke Delimber (A)  
    Tower Yarder (Medium)



# Timber Sale Appraisal

## Logging Costs

### Mike Pine

### Sale 341-06-24

"STEWARDSHIP IN FORESTRY"

Date: 7/20/05

Operating Seasons: 2.0

Profit & Risk: 15%

Project Costs: \$189,040

Other Costs (P/R): \$30,219

Slash Disposal: \$0

Other Costs: \$188,499

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

Road Maintenance: \$4.07

#### Hauling Costs

Species	\$/MBF	Trips/Day	MBF/Load
Douglas - Fir	\$0.00	2.0	3.3
Alder (Red)	\$0.00	3.0	3.0



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Logging Costs Breakdown Mike Pine Sale 341-06-24

Costs	Douglas - Fir	Alder (Red)
<b>Logging</b>	210.67	203.98
<b>Road Maintenance</b>	4.28	4.28
<b>Fire Protection</b>	0.73	0.73
<b>Hauling</b>	69.16	53.79
<b>Other (P/R appl.)</b>	4.07	4.07
<b>Profit &amp; Risk</b>	43.34	40.03
<b>Slash Disposal</b>	0.00	0.00
<b>Scaling</b>	2.00	0.00
<b>Other</b>	25.40	25.40
<b>Total</b>	359.65	332.28

<b>Amortization</b>	0.00	0.00
<b>Pond Value</b>	635.19	631.33
<b>Stumpage</b>	275.54	299.05
<b>Amortized</b>	0.00	0.00



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Summary Mike Pine Sale 341-06-24

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## 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	7,162.00	260.00
Value	275.54	299.05
Total	1,973,417.48	77,753.00

## Gross Timber Sale Value

**Recovery \$2,051,170.48**

Prepared by: Ed Wallmark

Date: 7/20/05

District: Tillamook

Phone: (503) 842-2545





## PROJECT SUMMARY SHEET

Sale: Mike Pine

### CONSTRUCTION

Point	K to L	15+45	stations =	\$19,692.52
<b>SUBTOTAL CONSTRUCTION</b>				<b>\$19,692.52</b>

### IMPROVEMENT

Point	A to B	155+00	stations =	\$71,977.36
Point	E to F	43+55	stations =	\$30,890.37
Point	G to H	55+10	stations =	\$1,411.35
Point	M to N	8+25	stations =	\$5,733.61
Point	O to P	45+80	stations =	\$1,952.67
<b>SUBTOTAL IMPROVEMENT</b>				<b>\$111,965.36</b>

### RECONSTRUCTION

Point	A to B	14+55	stations =	\$7,151.04
Point	C to D	19+70	stations =	\$8,939.55
Point	I to J	25+25	stations =	\$13,565.95
Point	K to L	19+10	stations =	\$23,791.97
<b>SUBTOTAL IMPROVEMENT</b>				<b>\$53,448.51</b>

**MOVE IN** **\$3,930.70**

**GRAND TOTAL** **\$189,037.09**

**SUMMARY OF CONSTRUCTION COST**

Sale:	<u>Mike Pine</u>					Road:	<u>A to B</u>		
Reconstruction -		14+55	stations			Improvement -	155+00	stations	
		0.28	miles				2.94	miles	
<b>CLEARING AND GRUBBING -</b>									
Roadside Brushing (Sta. 0+00 - 51+90)			0.98 miles @			\$500.00 per mile =		\$588.00	
Roadside Brushing (Sta. 0+00 - 155+00)			1.95 miles @			\$1,300.00 per mile =		\$2,535.00	
Side cast			0.018 acres @			\$660.00 per acre =		\$11.88	
Widening			0.400 acres @			\$660.00 per acre =		\$264.00	
Scattering			1.000 acres @			\$980.00 per acre =		\$980.00	
						<b>TOTAL CLEARING AND GRUBBING</b>			<b>\$4,378.88</b>
<b>EXCAVATION -</b>									
Excavate loq fills (Sta. 31+65)			1.00 Hour @			\$140.00 per Hour =		\$140.00	
Drill and Shoot culvert lay (Sta. 73+35)			85.00 cy. @			\$4.90 per c.v. =		\$416.50	
Excavate 3'wide x 2' deep ditchline (Sta. 111+50 - 111+85 & 136+55 - 137+10)			2.00 Hour @			\$140.00 per Hour =		\$280.00	
Remove Loq Cribbing (Sta. 94+25 - 94+65)			72 cy. @			\$1.40 per c.v. =		\$100.80	
Road Earthwork (Sta. 51+90 - 155+00)			103.10 sta. @			\$90.00 per sta. =		\$9,279.00	
Road Earthwork (Sta. 155+00 - 169+55)			14.55 sta. @			\$140.00 per sta. =		\$2,037.00	
Widening (Common): (Sta. 72+40 - 74+10; 80+95 - 83+45; 98+25 - 99+55; 102+10 - 103+55)			278 cy. @			\$1.28 per c.v. =		\$355.84	
Widening (Rippable): (Sta. 72+40 - 74+10; 80+95 - 83+45; 98+25 - 99+55; 102+10 - 103+55)			484 cy. @			\$2.25 per c.v. =		\$1,089.00	
Widening (Solid): (Sta. 72+40 - 74+10; 80+95 - 83+45; 98+25 - 99+55; 102+10 - 103+55)			286 cy. @			\$4.90 per c.v. =		\$1,401.40	
Widening (Rippable): (Sta. 164+80 - 166+85)			340 cy. @			\$2.25 per c.v. =		\$765.00	
Construct turnouts: (10+35, 30+90, 45+05, 50+85, 58+80, 70+35, 78+50, 95+65, 101+90, 107+40, 124+80, 128+10, 135+70, & 157+00)			14 @			\$142.50 each =		\$1,995.00	
Construct Turnarounds: (4+85, 88+15, 97+40, 134+85, 150+90, & 169+55)			6 @			\$142.50 each =		\$855.00	
						<b>TOTAL EXCAVATION</b>			<b>\$18,714.54</b>
<b>ENDHAUL -</b>									
Pullback 94+25 to 94+65			72 cy. @			\$1.25 per c.v. =		\$90.00	
Widening 72+40 to 74+10			467 cy. @			\$0.85 per c.v. =		\$396.95	
Widening 80+95 to 83+45			59 cy. @			\$1.02 per c.v. =		\$60.18	
Widening 98+25 to 99+55			360 cy. @			\$1.34 per c.v. =		\$482.40	
Widening 102+10 to 103+55			128 cy. @			\$1.41 per c.v. =		\$180.48	
Widening 164+80 to 166+85			340 cy. @			\$1.01 per c.v. =		\$343.40	
Culvert Material (Sta. 16+85, 31+65, 49+00, 73+35, & 137+10)			3 Hrs. @			\$60.00 per Hour =		\$180.00	
Spread & Compact (fill material)			34 cy. @			\$0.45 per c.v. =		\$15.30	
Spread & compact (Waste)			1426 cy. @			\$0.25 per c.v. =		\$356.50	
						<b>TOTAL ENDHAUL</b>			<b>\$2,105.21</b>
<b>CULVERTS - MATERIALS &amp; INSTALLATION</b>									
<u>Culverts</u>									
136		LF of 18"	\$2,312.00			0	LF of 24"	\$0.00	
40		LF of 30"	\$1,320.00			0	LF of 36"	\$0.00	
			<b>\$3,632.00</b>						
<u>Culvert Stakes &amp; Markers</u>									
5 markers			\$40.00						
			<b>\$40.00</b>						
						<b>TOTAL CULVERTS</b>			<b>\$3,672.00</b>
<b>ROCK</b>									
A to B: 51+90 to 87+00	2,222	cy. of	Pit-Run @			\$4.34 per c.v. =		\$9,643.48	
A to B: 87+00 to 153+55	4,213	cy. of	Pit-Run @			\$4.54 per c.v. =		\$19,127.02	
A to B: 153+55 to 169+55	739	cy. of	Pit-Run @			\$5.06 per c.v. =		\$3,739.34	
A to B: Turnouts	279	cy. of	Pit-Run @			\$5.05 per c.v. =		\$1,408.95	
A to B: Turnarounds	185	cy. of	Pit-Run @			\$5.16 per c.v. =		\$954.60	
A to B: Junctions	160	cy. of	Pit-Run @			\$5.09 per c.v. =		\$814.40	
A to B: Backfill	70	cy. of	Pit-Run @			\$4.48 per c.v. =		\$313.60	
A to B: Leveling Rock	100	cy. of	Pit-Run @			\$4.20 per c.v. =		\$420.00	
A to B: Culvert Bedding/Backfill	20	cy. of	Crushed @			\$5.54 per c.v. =		\$110.80	
A to B: Turnouts	14	cy. of	Crushed @			\$6.54 per c.v. =		\$91.56	
A to B: Turnarounds	15	cy. of	Crushed @			\$6.50 per c.v. =		\$97.50	
A to B: Junctions	5	cy. of	Crushed @			\$6.44 per c.v. =		\$32.20	
A to B: 124+80 to 153+55	417	cy. of	Crushed @			\$6.35 per c.v. =		\$2,647.95	
A to B: Dissipator/Stabilization	35	cy. of	Riprap @			\$3.95 per c.v. =		\$138.25	
						<b>TOTAL ROCK</b>			<b>\$39,539.65</b>
<b>SPECIAL PROJECTS</b>									
Fixed Ripped culvert inlet - (Sta. 24+00 & 45+95)			2.00 hours @			\$30.00 per hour		\$60.00	
Construct ditchouts - (Sta. 56+75, 61+05, 63+50, 65+15, 68+70, 71+70, 75+75, 77+95, 85+40, 96+85, 111+50, 157+00)			12.00 @			\$60.00 each		\$720.00	
Remove Half-Round laying next to road (Sta. 45+05)			0.50 hours @			\$30.00 per hour		\$15.00	
Construct Rolling Dips (Sta. 74+90, 76+55, 77+95, 81+40, 88+95, 93+50, 94+80, 111+50, 112+70, 115+25, 117+20, 120+70, 127+30, 129+85, 133+40, 138+40, 143+05, 145+60, 150+30, 153+55, & 164+80)			21.00 @			\$150.00 each		\$3,150.00	
Grade and shape road -	169.55	stations @				\$14.90 per station		\$2,526.30	
Proof-Roll subgrade prior to rockinq (Sta. 51+90 to 169+55)	117.65	stations @				\$4.70 per station		\$552.96	
Roll subgrade w/ vibratory roller prior to rockinq -	169.55	stations @				\$13.20 per station		\$2,238.06	
Grass seed and fertilize -	3.89	acres @				\$220.00 per acre		\$855.80	
Mulching -	1.000	acres @				\$600.00 per acre		\$600.00	
						<b>TOTAL SPECIAL PROJECTS</b>			<b>\$10,718.12</b>
<b>GRAND TOTAL</b>									<b>\$79,128.40</b>

## SUMMARY OF CONSTRUCTION COST

Sale:	<u>Mike Pine</u>					Road:	<u>C to D (road off of Lone Pine to the right)</u>
Construction -	<u>0+00</u> stations <u>0.00</u> miles					Reconstruction -	<u>19+70</u> stations <u>0.37</u> miles
<b>CLEARING AND GRUBBING -</b>							
Scattering		0.630 acres @	\$980.00 per acre =	\$617.40			
			<u>TOTAL CLEARING AND GRUBBING</u>				<b>\$617.40</b>
<b>EXCAVATION -</b>							
Road Earthwork		19.70 sta. @	\$90.00 per sta. =	\$1,773.00			
Remove Log Fill (Sta. 8+25)		1 Hrs. @	\$140.00 per Hour =	\$140.00			
Construct Turnaround (Sta. 2+50 & 19+70)		2 @	\$142.50 Each =	\$285.00			
			<u>TOTAL EXCAVATION</u>				<b>\$2,198.00</b>
<b>CULVERTS - MATERIALS &amp; INSTALLATION</b>							
	<u>Culverts</u>						
	0 LF of 18"		\$0.00			40 LF of 24"	\$960.00
			\$0.00				\$960.00
	<u>Culvert Stakes &amp; Markers</u>						
	1 markers		\$8.00				
			\$8.00				
						<u>TOTAL CULVERTS</u>	<b>\$968.00</b>
<b>ROCK</b>							
C to D: 0+00 to 19+70	896 cy. of	Pit-Run	@	\$4.57 per c.y.=	\$4,094.72		
C to D: Turnarounds	47 cy. of	Pit-Run	@	\$4.58 per c.y.=	\$215.26		
C to D: Backfill	10 cy. of	Pit-Run	@	\$4.15 per c.y.=	\$41.50		
C to D: Culvert Bedding/Backfill	15 cy. of	Crushed	@	\$6.14 per c.y.=	\$92.10		
					<u>TOTAL ROCK</u>		<b>\$4,443.58</b>
<b>SPECIAL PROJECTS</b>							
Grade and shape road -		19.70 stations @	\$14.90 per station	\$293.53			
Roll subgrade w/ vibratory roller prior to rocking -		19.70 stations @	\$13.20 per station	\$260.04			
Grass seed and fertilize -		0.45 acres @	\$220.00 per acre	\$99.00			
Mulching -		0.100 acres @	\$600.00 per acre	\$60.00			
					<u>TOTAL SPECIAL PROJECTS</u>		<b>\$712.57</b>
					<b>GRAND TOTAL</b>		<b>\$8,939.55</b>

## SUMMARY OF CONSTRUCTION COST

Sale:	<u>Mike Pine</u>	Road:	<u>E to F (Road off of Lone Pine to the left)</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	Improvement -	<table border="0" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: right;">43+55</td> <td style="text-align: left;">stations</td> </tr> <tr> <td style="text-align: right; border-top: 1px solid black;">0.82</td> <td style="text-align: left; border-top: 1px solid black;">miles</td> </tr> </table>	43+55	stations	0.82	miles
0+00	stations										
0.00	miles										
43+55	stations										
0.82	miles										
<b>CLEARING AND GRUBBING -</b>											
Scattering	2.200 acres @	\$980.00 per acre =	\$2,156.00								
		<b>TOTAL CLEARING AND GRUBBING</b>	<b>\$2,156.00</b>								
<b>EXCAVATION -</b>											
Road Earthwork (Sta. 0+00 to 23+70)	23.70 sta. @	\$90.00 per sta. =	\$2,133.00								
Road Earthwork (Sta. 23+70 to 43+55)	19.85 sta. @	\$140.00 per sta. =	\$2,779.00								
Construct Landing (Sta. 43+55)	1 @	\$285.00 each =	\$285.00								
Construct Turnaround (Sta. 31+20)	1 @	\$142.50 each =	\$142.50								
		<b>TOTAL EXCAVATION</b>	<b>\$5,339.50</b>								
<b>CULVERTS - MATERIALS &amp; INSTALLATION</b>											
<u>Culverts</u>											
88 LF of 18"		\$1,496.00									
		\$1,496.00									
0 LF of 24"		\$0.00									
		\$0.00									
<u>Culvert Stakes &amp; Markers</u>											
3 markers		\$24.00									
		\$24.00									
		<b>TOTAL CULVERTS</b>	<b>\$1,520.00</b>								
<b>ROCK</b>											
E to F: 0+00 to 43+55	3,012 cy. of	Pit-Run @ \$5.30 per c.y. =	\$15,963.60								
E to F: Turnouts	61 cy. of	Pit-Run @ \$5.30 per c.y. =	\$323.30								
E to F: Turnarounds	32 cy. of	Pit-Run @ \$5.43 per c.y. =	\$173.76								
E to F: Junctions	20 cy. of	Pit-Run @ \$5.33 per c.y. =	\$106.60								
E to F: Backfill	30 cy. of	Pit-Run @ \$4.87 per c.y. =	\$146.10								
E to F: Sta. 1+80 to 4+00	44 cy. of	Crushed @ \$7.54 per c.y. =	\$331.76								
E to F: Turnouts	9 cy. of	Crushed @ \$7.79 per c.y. =	\$70.11								
E to F: Junctions	5 cy. of	Crushed @ \$7.81 per c.y. =	\$39.05								
E to F: 10+05 to 25+10	217 cy. of	Crushed @ \$6.99 per c.y. =	\$1,516.83								
		<b>TOTAL ROCK</b>	<b>\$18,671.11</b>								
<b>SPECIAL PROJECTS</b>											
Construct waste areas -	2.00 hours @	\$130.00 per hour	\$260.00								
Construct ditchouts (Sta. 14+40, 17+05, 19+00, 25+10, 42+20, 34+30, & 39+20) -	7.00 @	\$60.00 each	\$420.00								
Grade and shape road -	43.55 stations @	\$14.90 per station	\$648.90								
Roll subgrade w/ vibratory roller prior to rocking -	43.55 stations @	\$13.20 per station	\$574.86								
Rolling Dip (Sta. 4+00 & 42+05)	2.00 @	\$150.00 each =	\$300.00								
Remove large stumps -	6.00 lump sum @	\$130.00	\$780.00								
Grass seed and fertilize -	1.00 acres @	\$220.00 per acre	\$220.00								
		<b>TOTAL SPECIAL PROJECTS</b>	<b>\$3,203.76</b>								
<b>GRAND TOTAL</b>			<b>\$30,890.37</b>								

## SUMMARY OF CONSTRUCTION COST

Sale:	<u>Mike Pine</u>		Road:	<u>G to H (Hembre L.O. Rd.)</u>	
Construction -	<u>0+00</u> stations <u>0.00</u> miles		Improvement -	<u>55+10</u> stations <u>1.04</u> miles	
CLEARING AND GRUBBING -					
Roadside Brushing (light)		0.85 miles @	\$600.00 per mile =	\$510.00	
Roadside Brushing (med.)		0.19 miles @	\$800.00 per mile =	<u>\$152.00</u>	
			TOTAL CLEARING AND GRUBBING		<b>\$662.00</b>
ROCK					
G to H: Turnouts	44 cy. of	Pit-Run	@	\$5.30 per c.y. =	\$233.20
G to H: Junctions	15 cy. of	Pit-Run	@	\$5.53 per c.y. =	\$82.95
G to H: Junctions	5 cy. of	Crushed	@	\$6.24 per c.y. =	<u>\$31.20</u>
				TOTAL ROCK	<b>\$347.35</b>
SPECIAL PROJECTS					
Re-shape dented culvert inlet: (Sta. 19+70)		1.50 hours @	\$28.00 per hour	\$42.00	
Construct ditchouts: 3+45, 17+70, 31+30, 47+55, & 49+45 -		5.00 @	\$60.00 each	\$300.00	
Roll subgrade of Turnouts & Junction w/ vibratory roller prior to rocking		0.75 hours @	\$80.00 per hour	\$60.00	
			TOTAL SPECIAL PROJECTS		<b>\$402.00</b>
<b>GRAND TOTAL</b>					<b>\$1,411.35</b>

## SUMMARY OF CONSTRUCTION COST

Sale:	<u>Mike Pine</u>		Road:	<u>I to J (Ridge Road off of Lone Pine to the left)</u>
Construction -	<u>0+00</u> stations <u>0.00</u> miles		Reconstruction -	<u>25+25</u> stations <u>0.48</u> miles
CLEARING AND GRUBBING -				
Scattering		1.740 acres @	\$980.00 per acre =	<u>\$1,705.20</u>
			TOTAL CLEARING AND GRUBBING	<b>\$1,705.20</b>
EXCAVATION -				
Road Earthwork: (Sta. 0+00 to 17+80)		17.80 Sta. @	\$90.00 per station =	\$1,602.00
Road Earthwork: (Sta. 17+80 to 25+25)		7.45 Sta. @	\$140.00 per station =	\$1,043.00
Construct Turnaround (Sta. 3+25 & 15+20)		2 @	\$142.50 each =	\$285.00
Construct Turnouts: (Sta. 6+35 & 19+65)		2 @	\$142.50 per c.y. =	\$285.00
			TOTAL EXCAVATION	<b>\$3,215.00</b>
ROCK				
I to J: 0+00 to 25+25	1,201 cy. of	Pit-Run @	\$4.68 per c.y. =	\$5,620.68
I to J: Turnouts	30 cy. of	Pit-Run @	\$4.69 per c.y. =	\$140.70
I to J: Turnarounds	48 cy. of	Pit-Run @	\$4.64 per c.y. =	\$222.72
I to J: 0+00 to 3+25	60 cy. of	Crushed @	\$6.93 per c.y. =	\$415.80
I to J: Turnarounds	7 cy. of	Crushed @	\$6.96 per c.y. =	\$48.72
			TOTAL ROCK	<b>\$6,448.62</b>
SPECIAL PROJECTS				
Grade and shape road -		25.25 stations @	\$14.90 per station	\$376.23
Roll subgrade w/ vibratory roller prior to rocking -		25.25 stations @	\$13.20 per station	\$333.30
Construct Rolling Dip (Sta. 4+75, 9+10, & 12+80)		3.00 @	\$150.00 each =	\$450.00
Remove large stumps -		7.00 lump sum @	\$130.00	\$910.00
Grass seed and fertilize -		0.58 acres @	\$220.00 per acre	\$127.60
			TOTAL SPECIAL PROJECTS	<b>\$2,197.13</b>
<b>GRAND TOTAL</b>				<b>\$13,565.95</b>

## SUMMARY OF CONSTRUCTION COST

Sale:	<u>Mike Pine</u>		Road:	<u>K to L (Road off of Hembre L.O. Rd. to the right)</u>	
Construction -	<u>15+45</u> stations <u>0.29</u> miles		Reconstruction -	<u>19+10</u> stations <u>0.36</u> miles	
<b>CLEARING AND GRUBBING -</b>					
Scattering		1.120 acres @	\$980.00 per acre =	\$1,097.60	
Endhaul		1.00 acres @	\$1,500.00 per acre =	\$1,500.00	
			<b>TOTAL CLEARING AND GRUBBING</b>		<b>\$2,597.60</b>
<b>EXCAVATION -</b>					
Road Earthwork: Common		1822 cy. @	\$1.28 per c.y. =	\$2,332.16	
Road Earthwork: Rippable		4625 cy. @	\$1.40 per c.y. =	\$6,475.00	
Road Earthwork: Solid		3086 cy. @	\$1.40 per c.y. =	\$4,320.40	
			<b>TOTAL EXCAVATION</b>		<b>\$13,127.56</b>
<b>ENDHAUL -</b>					
End-haul Fill material (From: 0+00 to 5+25; To: 5+25 to 12+35)		355 cy. @	\$0.87 per c.y. =	\$308.85	
End-haul Fill material (From: 8+00 to 12+35; To: 5+25 to 12+35)		1302 cy. @	\$0.95 per c.y. =	\$1,236.90	
End-haul Waste (From: 12+35 to 17+05; To: Waste Area @ Sta. 3+00)		2608 cy. @	\$0.89 per c.y. =	\$2,321.12	
End-haul Fill material (From: 25+55 to 28+50; To: 20+75 to 25+55)		1282 cy. @	\$0.93 per c.y. =	\$1,192.26	
End-haul Fill Material (From: 12+35 to 17+05; To: 30+80 to 34+55)		1702 cy. @	\$1.10 per c.y. =	\$1,872.20	
Spread & compact (Waste)		2608 cy. @	\$0.25 per c.y. =	\$652.00	
Spread & compact (Fill)		6926 cy. @	\$0.35 per c.y. =	\$2,424.10	
			<b>TOTAL ENDHAUL</b>		<b>\$10,007.43</b>
<b>CULVERTS - MATERIALS &amp; INSTALLATION</b>					
	<u>Culverts</u>				
	130 LF of 18"			\$2,210.00	
				\$2,210.00	
	<u>Culvert Stakes &amp; Markers</u>				
	4 markers			\$32.00	
				\$32.00	
					<b>TOTAL CULVERTS</b>
					<b>\$2,242.00</b>
<b>ROCK</b>					
K to L: 0+00 to 34+55	1,583 cy. of	Pit-Run	@	\$5.85 per c.y. =	\$9,260.55
K to L: Turnouts	59 cy. of	Pit-Run	@	\$5.85 per c.y. =	\$345.15
K to L: Turnarounds	24 cy. of	Pit-Run	@	\$6.07 per c.y. =	\$145.68
K to L: Backfill	40 cy. of	Pit-Run	@	\$5.48 per c.y. =	\$219.20
K to L: Turnouts	18 cy. of	Crushed	@	\$6.55 per c.y. =	\$117.90
K to L: Turnarounds	7 cy. of	Crushed	@	\$6.77 per c.y. =	\$47.39
K to L: 0+00 to 34+55	497 cy. of	Crushed	@	\$5.81 per c.y. =	\$2,887.57
					<b>TOTAL ROCK</b>
					<b>\$13,023.44</b>
<b>SPECIAL PROJECTS</b>					
Construct waste areas -	1.00 hours @		\$130.00 per hour	\$130.00	
Construct ditchouts (Sta. 10+95, 15+80, 19+65, 21+65, & 22+90) -	5.00 @		\$60.00 each	\$300.00	
Grade and shape road -	34.55 stations @		\$14.90 per station	\$514.80	
Roll subgrade w/ vibratory roller prior to rocking -	34.55 stations @		\$13.20 per station	\$456.06	
Remove large stumps -	5.00 lump sum @		\$130.00	\$650.00	
Grass seed and fertilize -	1.98 acres @		\$220.00 per acre	\$435.60	
			<b>TOTAL SPECIAL PROJECTS</b>		<b>\$2,486.46</b>
<b>GRAND TOTAL</b>					<b>\$43,484.49</b>

## SUMMARY OF CONSTRUCTION COST

Sale:	<u>Mike Pine</u>	Road:	<u>M to N (Road off of EtoF to the right)</u>
Construction -	<u>0+00</u> stations <u>0.00</u> miles	Improvement -	<u>8+25</u> stations <u>0.16</u> miles
<b>CLEARING AND GRUBBING -</b>			
Scattering	0.570 acres @	\$980.00 per acre =	<u>\$558.60</u>
		TOTAL CLEARING AND GRUBBING	<b>\$558.60</b>
<b>EXCAVATION -</b>			
Road Earthwork (Sta. 0+00 to 4+00)	4.00 sta. @	\$90.00 per sta. =	\$360.00
Road Earthwork (Sta. 4+00 to 8+25)	4.25 cy. @	\$140.00 per c.y. =	\$595.00
Construct a turnaround (Sta. 8+25)	1 @	\$142.50 each =	<u>\$142.50</u>
		TOTAL EXCAVATION	<b>\$1,097.50</b>
<b>CULVERTS - MATERIALS &amp; INSTALLATION</b>			
<u>Culverts</u>			
62 LF of 18"	<u>\$1,054.00</u>	0 LF of 24"	\$0.00
	\$1,054.00		\$0.00
<u>Culvert Stakes &amp; Markers</u>			
2 markers	<u>\$16.00</u>		
	\$16.00	TOTAL CULVERTS	<b>\$1,070.00</b>
<b>ROCK</b>			
M to N: 0+00 to 8+25	374 cy. of Pit-Run	@ \$5.38 per c.y. =	\$2,012.12
M to N: Turnarounds	24 cy. of Pit-Run	@ \$5.44 per c.y. =	\$130.56
M to N: Backfill	20 cy. of Pit-Run	@ \$4.95 per c.y. =	<u>\$99.00</u>
		TOTAL ROCK	<b>\$2,241.68</b>
<b>SPECIAL PROJECTS</b>			
Construct waste areas -	1.50 hours @	\$130.00 per hour	\$195.00
Construct ditchout (Sta. 7+00)-	1.00 @	\$60.00 each	\$60.00
Construct Lead-off Ditch from culvert outlet (Sta. 0+35)	1.00 @	\$50.00 each	\$50.00
Grade and shape road -	8.25 stations @	\$14.90 per station	\$122.93
Roll subgrade w/ vibratory roller prior to rocking -	8.25 stations @	\$13.20 per station	\$108.90
Remove large stumps -	1.00 lump sum @	\$130.00	\$130.00
Grass seed and fertilize -	0.45 acres @	\$220.00 per acre	<u>\$99.00</u>
		TOTAL SPECIAL PROJECTS	<b>\$765.83</b>
		<b>GRAND TOTAL</b>	<b>\$5,733.61</b>



## SUMMARY OF CONSTRUCTION COST

Sale:	<u>Mike Pine</u>	Road:	<u>O to P (Hembre Ridge Road)</u>
Construction -	<u>0+00</u> stations <u>0.00</u> miles	Improvement -	<u>45+80</u> stations <u>0.87</u> miles
 CLEARING AND GRUBBING - Roadside Brushing	0.87 miles @	\$800.00 per mile =	<u>\$696.00</u> <b>TOTAL CLEARING AND GRUBBING</b>
			<b>\$696.00</b>
 EXCAVATION - Remove Existing Culvert (Sta. 0+00)	1.50 Hours @	\$140.00 per hour =	<u>\$210.00</u> <b>TOTAL EXCAVATION</b>
			<b>\$210.00</b>
 CULVERTS - MATERIALS & INSTALLATION			
	<u>Culverts</u>		
	32 LF of 18"	<u>\$544.00</u>	0 LF of 24" \$0.00
		<u>\$544.00</u>	<u>\$0.00</u>
	<u>Culvert Stakes &amp; Markers</u>		
	1 markers	<u>\$8.00</u>	
		<u>\$8.00</u>	<b>TOTAL CULVERTS</b>
			<b>\$552.00</b>
 ROCK			
O to P: 0+00 to 0+30	26 cy. of Pit-Run	@ \$5.18 per c.y. =	\$134.68
O to P: Backfill	20 cy. of Pit-Run	@ \$4.78 per c.y. =	\$95.60
O to P: 0+00 to 0+30	8 cy. of Crushed	@ \$5.46 per c.y. =	<u>\$43.68</u>
			<b>TOTAL ROCK</b>
			<b>\$273.96</b>
 SPECIAL PROJECTS			
Grade and shape road -	0.10 stations @	\$14.90 per station	\$1.49
Roll subgrade w/ vibratory roller prior to rocking -	0.10 stations @	\$13.20 per station	\$1.32
Remove culverts from state lands	1.00 @	\$162.90 total	\$162.90
Grass seed and fertilize -	0.25 acres @	\$220.00 per acre	\$55.00
			<b>TOTAL SPECIAL PROJECTS</b>
			<b>\$220.71</b>
		<b>GRAND TOTAL</b>	<b>\$1,952.67</b>

## Move-In Calculations

Sale: **Mike Pine**

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROADWAY	AVE SPEED (mph)
26.0	Highway	37
9.0	Main Lines	11
4.0	Steep Grades	5

No.	EQUIPMENT DESCRIPTION	Move in Cost	Pilot Cars	Within Area Move (\$/mile)	Begin Mileage	End Mileage	Total Miles	Within Area Cost	Total Cost
1	Drill & Compressor	\$343.66		\$46.00	0.00	5.79	5.79	\$266.34	\$610.00
1	Brush Cutter	\$343.66		\$4.00	0.00	1.50	1.5	\$6.00	\$349.66
1	Graders	\$154.52		\$3.65	0.00	7.61	7.61	\$27.78	\$182.30
0	Loader (Small)	\$0.00	1	\$3.55	0.00	0.00	0	\$0.00	\$0.00
0	Loader (Med. & Large)	\$0.00	1	\$9.00	0.00	0.00	0	\$0.00	\$0.00
1	Rollers (smooth/grid) & Compactors	\$343.66		\$5.00	0.00	7.61	7.61	\$38.05	\$381.71
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)	\$543.25	1	\$44.80	0.00	7.61	7.61	\$340.93	\$884.18
1	Tired Backhoes/Skidlers	\$343.66		\$3.00	0.00	4.10	4.1	\$12.30	\$355.96
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)	\$516.71	2	\$15.10	0.00	7.61	7.61	\$114.91	\$631.62
3	Dump Truck (10 cy +)	\$322.25		\$2.85	0.00	7.61	7.61	\$65.07	\$387.32
0	Dump Truck (Off Hiway)	\$0.00	1	\$4.75	0.00	0.00	0	\$0.00	\$0.00
0	Water Truck (1500 Gal)	\$0.00		\$2.85	0.00	0.00	0	\$0.00	\$0.00
1	Water Truck (2500 Gal)	\$126.26		\$2.85	0.00	7.61	7.61	\$21.69	\$147.95
0	Jaw	\$1,066.00							
0	2-Stage Crusher	\$1,597.00							
0	3-Stage Crusher	\$2,489.00							

<b>TOTAL MOVE-IN COSTS:</b>	<b>\$3,930.70</b>
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## CRUSHED ROCK COST SUMMARY

Stockpile:	Hembre Ridge/Clear Creek Junc.	Location:	NW 1/4 of Sec. 15, T1S, R7W, W.M.
Sale:	<b>Mike Pine</b>	Road:	232 c.y.
Swell:	1.40	Stockpile:	c.y.
Shrinkage	1.16	Total Truck Loads:	232 c.y.
Drill Pct.:	0%	In Place Total:	166 c.y.

Load Dump Truck: \$0.70 /cu.yd. x 232 cu.yds. = \$162.40  
Subtotal \$162.40

Move in Loader 1 @ \$471.19 = \$471.19  
 Move in Trucks (Within Area: 3 trucks @ 4.1 Miles) = \$35.06  
Subtotal \$506.25

**TOTAL PRODUCTION COSTS** \$668.65

Crushed Base Cost= \$2.88 Per Cu.Yd.

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: Culvert Bedding/Backfill	2.06	0.60	2.88	5.54	20	110.80
A to B: Turnouts	2.36	1.30	2.88	6.54	14	91.56
A to B: Turnarounds	2.32	1.30	2.88	6.50	15	97.50
A to B: Junctions	2.26	1.30	2.88	6.44	5	32.20
C to D: Culvert Bedding/Backfill	2.66	0.60	2.88	6.14	15	92.10
E to F: Sta. 1+80 to 4+00	3.36	1.30	2.88	7.54	44	331.76
E to F: Turnouts	3.61	1.30	2.88	7.79	9	70.11
E to F: Junctions	3.63	1.30	2.88	7.81	5	39.05
G to H: Junctions	2.06	1.30	2.88	6.24	5	31.20
I to J: 0+00 to 3+25	2.75	1.30	2.88	6.93	60	415.80
I to J: Turnarounds	2.78	1.30	2.88	6.96	7	48.72
K to L: Turnouts	2.37	1.30	2.88	6.55	18	117.90
K to L: Turnarounds	2.59	1.30	2.88	6.77	7	47.39
O to P: 0+00 to 0+30	1.28	1.30	2.88	5.46	8	43.68
Total C.Y.					232	Sub Total 1,569.77

**TOTAL ROCKING COSTS** 1,569.77

### CRUSHED ROCK COST SUMMARY

Stockpile:	Hembre Ridge/Clear Creek Junc.	Location:	NW1/4 of Sec. 10, T1S, R7W, W.M.
Sale:	<b>Mike Pine</b>	Road:	1131 c.y.
Swell:	1.40	Stockpile:	██████████ c.y.
Shrinkage	1.16	Total Truck Loads:	1131 c.y.
Drill Pct.:	0%	In Place Total:	808 c.y.

Load Dump Truck: \$0.70 /cu.yd. x 1131 cu.yds. = \$791.70

Subtotal \$791.70

Move in Loader	(Within Area: 2.0 Miles)	=	\$18.00
Move in Trucks	(Within area: 3 trucks @ 2.0 Miles)	=	\$17.10
		Subtotal	\$35.10

**TOTAL PRODUCTION COSTS \$826.80**

Crushed Base Cost= \$0.73 Per Cu.Yd.

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: 124+80 to 153+55	4.32	1.30	0.73	6.35	417	2,647.95
E to F: 10+05 to 25+10	4.96	1.30	0.73	6.99	217	1,516.83
K to L: 0+00 to 34+55	3.78	1.30	0.73	5.81	497	2,887.57
				Total C.Y.	1131	Sub Total 7,052.35

**TOTAL ROCKING COSTS 7,052.35**

## PIT-RUN ROCK DEVELOPMENT COST SUMMARY

Pit:	Lone Pine	Location:	SE 1/4 of Sec. 15, T1S, R7W, W.M.
Sale:	<b>Mike Pine</b>	Road:	15584 c.y.
Swell:	1.40	Stockpile:	c.y.
Shrinkage:	1.16	Total Truck Loads:	15584 c.y.
Drill Pct.:	50%	In Place Total:	11131 c.y.

Pit Development & Cleanup including Clearing and grubbing of Waste Area @ adjacent to pit, place overburden in Waste Area, spread and compact.	\$2,126.36
Drill & Shoot:	\$2.50 /cu.yd. x 5566 cu.yds. = \$13,915.00
Rip Rock	\$1.90 /cu.yd. x 5565 cu.yds. = \$10,573.50
Load Dump Truck:	\$0.70 /cu.yd. x 15584 cu.yds. = \$10,908.80
Subtotal	\$37,523.66

Move In and set up Drill and Compressor	= \$343.66
Move in D-8	= \$516.71
Move in Excavator	= \$543.25
Move in Trucks (3 Trucks)	= \$322.25
Subtotal	\$1,725.87

TOTAL PRODUCTION COSTS \$39,249.53

Pit-Run Base Cost= \$2.52 Per Cu.Yd.

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: 51+90 to 87+00	\$0.92	\$0.90	\$2.52	\$4.34	2222	\$9,643.48
A to B: 87+00 to 153+55	\$1.12	\$0.90	\$2.52	\$4.54	4213	\$19,127.02
A to B: 153+55 to 169+55	\$1.64	\$0.90	\$2.52	\$5.06	739	\$3,739.34
A to B: Turnouts	\$1.63	\$0.90	\$2.52	\$5.05	279	\$1,408.95
A to B: Turnarounds	\$1.74	\$0.90	\$2.52	\$5.16	185	\$954.60
A to B: Junctions	\$1.67	\$0.90	\$2.52	\$5.09	160	\$814.40
A to B: Backfill	\$1.36	\$0.60	\$2.52	\$4.48	70	\$313.60
A to B: Leveling Rock	\$0.78	\$0.90	\$2.52	\$4.20	100	\$420.00
C to D: 0+00 to 19+70	\$1.15	\$0.90	\$2.52	\$4.57	896	\$4,094.72
C to D: Turnarounds	\$1.16	\$0.90	\$2.52	\$4.58	47	\$215.26
C to D: Backfill	\$1.03	\$0.60	\$2.52	\$4.15	10	\$41.50
E to F: 0+00 to 43+55	\$1.88	\$0.90	\$2.52	\$5.30	3012	\$15,963.60
E to F: Turnouts	\$1.88	\$0.90	\$2.52	\$5.30	61	\$323.30
E to F: Turnarounds	\$2.01	\$0.90	\$2.52	\$5.43	32	\$173.76
E to F: Junctions	\$1.91	\$0.90	\$2.52	\$5.33	20	\$106.60
E to F: Backfill	\$1.75	\$0.60	\$2.52	\$4.87	30	\$146.10
G to H: Turnouts	\$1.88	\$0.90	\$2.52	\$5.30	44	\$233.20
G to H: Junctions	\$2.11	\$0.90	\$2.52	\$5.53	15	\$82.95
I to J: 0+00 to 25+25	\$1.26	\$0.90	\$2.52	\$4.68	1201	\$5,620.68
I to J: Turnouts	\$1.27	\$0.90	\$2.52	\$4.69	30	\$140.70
I to J: Turnarounds	\$1.22	\$0.90	\$2.52	\$4.64	48	\$222.72
K to L: 0+00 to 34+55	\$2.43	\$0.90	\$2.52	\$5.85	1583	\$9,260.55
K to L: Turnouts	\$2.43	\$0.90	\$2.52	\$5.85	59	\$345.15
K to L: Turnarounds	\$2.65	\$0.90	\$2.52	\$6.07	24	\$145.68
K to L: Backfill	\$2.36	\$0.60	\$2.52	\$5.48	40	\$219.20
M to N: 0+00 to 8+25	\$1.96	\$0.90	\$2.52	\$5.38	374	\$2,012.12
M to N: Turnarounds	\$2.02	\$0.90	\$2.52	\$5.44	24	\$130.56
M to N: Backfill	\$1.83	\$0.60	\$2.52	\$4.95	20	\$99.00
O to P: 0+00 to 0+30	\$1.76	\$0.90	\$2.52	\$5.18	26	\$134.68
O to P: Backfill	\$1.66	\$0.60	\$2.52	\$4.78	20	\$95.60
Total C.Y.					15584	Sub Total \$76,229.02

TOTAL ROCKING COSTS \$76,229.02

## RIPRAP ROCK DEVELOPMENT COST SUMMARY

Pit:	Lone Pine Road	Location:	NE 1/4 of Sec. 22, T1S, R7W, W.M.
Sale:	<b>Mike Pine</b>	Road:	35 c.y.
Swell:	1.40	Stockpile:	c.y.
Shrinkage:	1.16	Total Truck Loads:	35 c.y.
Drill Pct.:	0%	In Place Total:	25 c.y.

Load Dump Truck: \$1.40 /cu.yd. x 35 cu.yds. = \$49.00

RipRap Base Cost= \$1.40 Per Cu.Yd.

Road Segment	Haul Cost /cu.yd.	Placement Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST
A to B: Dissipator/Stabilization	\$1.15	\$1.40	\$1.40	\$3.95	35	\$138.25
				Total C.Y.	35	Sub Total
						\$138.25

<b>TOTAL ROCKING COSTS</b>	<b>\$138.25</b>
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## OREGON DEPARTMENT OF FORESTRY CRUISE REPORT

Mike Pine

1. **Type of Sale:** Regeneration harvest – Recovery
2. **Legal Description:** Portions of Sections 14, 15, 22, and 23, T1S, R7W, W.M., Tillamook County, Oregon.
3. **Sale Acreage:** The sale boundary was plotted on a digital orthophotograph and the acreage was calculated with GIS.

Area	Harvest Type	Sale	Net
1	Retention Cut	275	239
2	Modified Clearcut	129	119
3	Modified Clearcut	84	70
4	Modified Clearcut	150	112
5	Modified Clearcut	47	45
6	Modified Clearcut	80	78
<b>Total</b>		<b>765</b>	<b>663</b>

Sale Acres

Area within the Timber Sale Boundary signs

Net acres for calculating the advertised volume

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

4. **Cruising Procedures:**
  - A. **Cruise Method:** Cruise lines were established in the sale areas running across terrain features the longest way across the sale areas from boundary to boundary, with variable radius full point plots taken with the target of one plot per five acres across the sale area. A total of 127 plots were taken. On every plot, tree count by species and diameter was recorded, and alder was graded. On every third plot, all trees were measured and graded, and Douglas-fir form was measured. Diameters were recorded to the nearest 1", heights to the nearest foot. Diameters were taken at 4.5' above the ground on the uphill side. Conifers with diameters of 8" or larger and hardwoods with diameters of 10" or larger were recorded. The cruise had a coefficient of variation of 56.1 and a SE% of 5.0 for the net board feet/acre.

- B. **Plot size:** All plots were variable radius full point plots. For Area 1 a BAF of 20 was used for conifers in all areas. For Areas 2 through 6 a BAF of 27.78 was used for all conifers. A BAF of 10 was used for hardwoods in all areas. The point of tree observation was 4.5 feet.
- C. **Grading System:** Tree heights were measured to a 6" merchantable top for conifers and 8" for hardwoods. Douglas-fir was graded using Columbia River rules favoring a 40' log. Alder was graded to the top end diameter for determining sort while still favoring a 40' log. 2S equals 12" and greater, 3S equals 10" and 11", and 4S equals 8" and 9".
- D. **Defect and Breakage:** A 5% defect and breakage reduction was applied to conifers and a 10% reduction to hardwood volumes.
- E. **Cruiser Names / Dates:** South Unit staff, June 2005.
5. **Computation Procedures:** Plot data was entered into SuperAce for computation of stand tables. Take and leave trees were determined and SuperAce was rerun to compute basal area, V-BAR, stand tables and diameters. This data was entered into a volume summary worksheet to compute sale volumes.
6. **Timber Description:** The sale contains 45 year old Douglas-fir with symptoms of Swiss Needle Cast and scattered patches of red alder concentrated mainly in riparian areas.
7. **Revenue Distribution:**  
100% FDF  
Tax Code: 9-2  
Deed Numbers: 219,701,702,703,220,234  
82% Rehabilitation Obligated
8. **Appendices:**  
- Volume Summary  
- Logging Plan





"STEWARDSHIP IN FORESTRY"

## Mike Pine

### Volume Summary

Area I Retention Cut							
239 acres							
SPECIES	QMD	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	13	96	96	9.2	2199	5%	2089
Alder	13	8	54	0.4	96	10%	86
<b>TOTAL</b>					2295		2175

Area II Modified Clearcut							
119 acres							
SPECIES	QMD	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	11	107	90	9.6	1142	5%	1085
Alder	12	10	26	0.3	36	10%	32
<b>TOTAL</b>					1178		1117

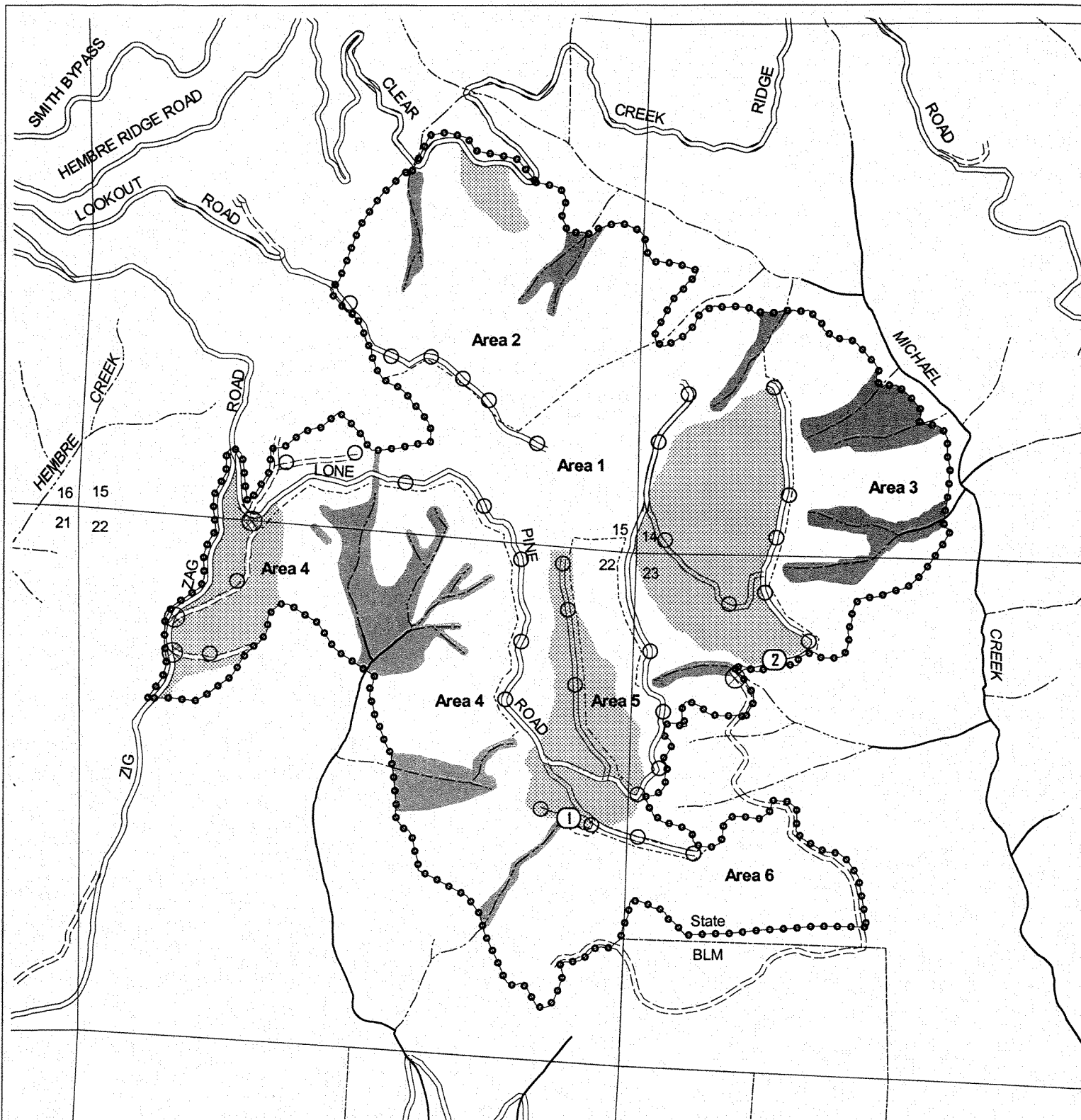
Area III Modified Clearcut							
70 acres							
SPECIES	QMD	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	15	111	120	13.3	931	5%	884
Alder	12	16	29	0.5	35	10%	32
<b>TOTAL</b>					966		916

Area IV Modified Clearcut							
112 acres							
SPECIES	QMD	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	14	89	120	10.7	1198	5%	1138
Alder	12	30	31	0.9	101	10%	91
<b>TOTAL</b>					1299		1229

<b>Area V Modified Clearcut</b>							
45 acres							
SPECIES	QMD	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	12	125	86	10.8	486	5%	462
Alder	13	1	76	0.1	5	10%	5
<b>TOTAL</b>					491		467

<b>Area VI Modified Clearcut</b>							
78 acres							
SPECIES	QMD	Basal Area Per Acre	V-BAR	Vol/Acre MBF	Volume MBF	D & B	Net Vol MBF
Douglas-fir	11	201	101	20.3	1583	5%	1504
Alder	13	4	43	0.2	16	10%	14
<b>TOTAL</b>					1599		1518

<b>TOTAL SALE VOLUME</b>			
SPECIES	MBF	D&B	Net Vol. (MBF)
Douglas-fir	7539	5%	7162
Alder	289	10%	260
<b>TOTAL</b>	7828		<b>7422</b>



**LOGGING PLAN**  
 Timber Sale Contract No. 341-06-24  
 Mike Pine  
 Portions of Sections 14, 15, 22,  
 and 23, T1S, R7W, W. M.  
 Tillamook County, Oregon



Area	Type of Operation	Acres	
		Sale	Net
1	Retention cut	275	239
2	Modified clearcut	129	119
3	Modified clearcut	84	70
4	Modified clearcut	150	112
5	Modified clearcut	47	45
6	Modified clearcut	80	78
<b>Total</b>		<b>765</b>	<b>663</b>

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

Tillamook District GIS  
7/5/2005

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

