



Timber Sale Appraisal
Little Bumps
Sale TL-341-2017-15-

District: Tillamook

Date: July 05, 2016

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$393,616.98	\$5,998.50	\$399,615.48
		Project Work:	(\$80,090.00)
		Advertised Value:	\$319,525.48



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Timber Description

Location: Portions of Section 26, T2S, R7W, W.M., Tillamook County, Oregon.

Stand Stocking: 60%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	21	0	95
Alder (Red)	15	0	95

Volume by Grade	2S	3S	4S	10" - 11"	6" - 7"	Total
Douglas - Fir	943	251	63	0	0	1,257
Alder (Red)	0	0	0	15	10	25
Total	943	251	63	15	10	1,282

Comments: Pond Values Used: 2nd Quarter Calendar Year 2016.

Western Hemlock and Other Conifers Stumpage Price = Pond Value minus Logging Cost:
 $\$170/\text{MBF} = \$470/\text{MBF} - \$300/\text{MBF}$

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
 $\$875/\text{MBF} = \$1,175/\text{MBF} - \$300/\text{MBF}$

Pulp (Conifer and Hardwood) Price = $\$25/\text{MBF}$

SCALING COST ALLOWANCE = $\$5.00/\text{MBF}$

FUEL COST ALLOWANCE = $\$3.00/\text{Gallon}$

HAULING COST ALLOWANCE

Hauling costs equivalent to $\$780$ daily truck cost.

Other Costs (with Profit & Risk to be added):

Brand and Paint: $\$2/\text{MBF} \times 1,282 \text{ MBF} = \$2,564$

TOTAL Other Costs (with Profit & Risk to be added) = $\$2,564$

Other Costs (No Profit & Risk added):

Machine Cleaning: $\$1,000/\text{machine} \times 1 = \$1,000$

Non-project road #1: $3+60 \text{ stations} \times \$250/\text{station} = \$900$

Non-project road blocking: $\$50/\text{block} \times 1 \text{ road} = \50

Cover Materials for Piles: $\$5/\text{pile} \times 9 \text{ piles} = \45

Slash Piling and Sorting (Cable Ground): $\$5/\text{acre} \times 67 \text{ acres} = \335

Ditch Cleaning and Bank Sluff Removal:

Mobilization: once – dump truck w/tilt bed & small excavator: $\$890 \times 1 = \890

Small Excavator (Cat 312 or equivalent): $16 \text{ hours} @ \$95/\text{hour} = \$1,520$

Dump truck: $16 \text{ hours} @ \$70/\text{hour} = \$1,120$

TOTAL Other Costs (No Profit & Risk added) = $\$5,860$

ROAD MAINTENANCE:

Spot rocking:

South Fork and East Fork Trask, Steampot Ridge, and Murphy Camp Roads: $30\text{cy}/\text{mmbf}/\text{mile} \times 1.3 \text{ MMBF} \times \$13.00/\text{cy} \times 8.5 \text{ miles}/1,296 \text{ MBF} = \$3.33/\text{MBF}$

Grading:

South Fork and East Fork Trask, Steampot Ridge, and Murphy Camp Roads: $\$250/\text{mile} \times 8.5 \text{ miles} \times 1 \text{ time}/1,296 \text{ MBF} = \$1.64/\text{MBF}$

Final Maintenance Grading: $\$500 \times 8.5 \text{ miles}/1,296 \text{ MBF} = \$3.28/\text{MBF}$

TOTAL Road Maintenance: $\$8.25/\text{MBF}$



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Logging Conditions

Combination#: 1 Douglas - Fir 97.00%

Logging System: Cable: Medium Tower >40 - <70 **Process:** Stroke Delimber

yarding distance: Medium (800 ft) **downhill yarding:** No

tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF

loads / day: 8.5 **bd. ft / load:** 4000

cost / mbf: \$176.47

machines: Log Loader (A)
Stroke Delimber (A)
Tower Yarder (Medium)

Combination#: 2 Douglas - Fir 3.00%

Logging System: Shovel **Process:** Stroke Delimber

yarding distance: Short (400 ft) **downhill yarding:** No

tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF

loads / day: 10 **bd. ft / load:** 4000

cost / mbf: \$79.30

machines: Stroke Delimber (B)

Combination#: 3 Alder (Red) 97.00%

Logging System: Cable: Medium Tower >40 - <70 **Process:** Stroke Delimber

yarding distance: Medium (800 ft) **downhill yarding:** No

tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF

loads / day: 8.5 **bd. ft / load:** 3800

cost / mbf: \$185.76

machines: Log Loader (A)
Stroke Delimber (A)
Tower Yarder (Medium)

Combination#: 4 Alder (Red) 3.00%

Logging System: Shovel **Process:** Stroke Delimber

yarding distance: Short (400 ft) **downhill yarding:** No

tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF

loads / day: 10 **bd. ft / load:** 3800

cost / mbf: \$83.47

machines: Stroke Delimber (B)



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Logging Costs

Operating Seasons: 1.00	Profit Risk: 15%
Project Costs: \$80,090.00	Other Costs (P/R): \$2,564.00
Slash Disposal: \$0.00	Other Costs: \$5,860.00

Miles of Road

Road Maintenance: \$8.25

Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	3.0	4.5
Alder (Red)	\$0.00	3.0	3.6



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Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$173.55	\$8.66	\$3.42	\$60.67	\$2.00	\$37.24	\$0.00	\$5.00	\$4.57	\$295.11
Alder (Red)									
\$182.69	\$8.66	\$3.42	\$75.83	\$2.00	\$40.89	\$0.00	\$5.00	\$4.57	\$323.06

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$608.25	\$313.14	\$0.00
Alder (Red)	\$0.00	\$563.00	\$239.94	\$0.00



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Summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Alder (Red)	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	1,257	\$313.14	\$393,616.98
Alder (Red)	25	\$239.94	\$5,998.50

Gross Timber Sale Value

Recovery: \$399,615.48

Prepared By: David Wells

Phone: 503-842-2545



PROJECT SUMMARY SHEET

Sale: Little Bumps

IMPROVEMENT

Point	A to B	175+85	stations =	\$45,238.30
Point	C to D	10+60	stations =	\$3,439.22
Point	E to F	11+85	stations =	\$7,910.70
Point	I to J	9+45	stations =	\$3,032.42
SUBTOTAL IMPROVEMENT				\$59,620.64

RECONSTRUCTION

Point	G to H	18+35	stations =	\$14,820.41
SUBTOTAL RECONSTRUCTION				\$14,820.41

SPECIAL PROJECTS

Gate at Point D			\$359.95
Rock Exploration		4 hours excavator / 2 hours dump truck	\$740.00
Brush	2.4	miles of road	\$2,640.00
SUBTOTAL SPECIAL PROJECTS			\$3,739.95

MOVE IN **\$1,909.00**

GRAND TOTAL **\$80,090.00**

SUMMARY OF CONSTRUCTION COST

Sale:	Little Bumps				Road:	A to B			
<u>Construction -</u>	0+00	stations	<u>Improvement -</u>	175+85	stations	<u>Reconstruction -</u>	0+00	stations	
	0.00	miles		3.33	miles		0.00	miles	
IMPROVEMENT: CLEARING AND GRUBBING -									
Side cast			0.040	acres @	\$660.00	per acre =	\$26.40		
Widening			0.016	acres @	\$660.00	per acre =	\$10.56		
TOTAL CLEARING AND GRUBBING									\$36.96
IMPROVEMENT: EXCAVATION -									
Pullback			182	cy. @	\$1.40	per c.y.=	\$254.80		
Widening			34	cy. @	\$1.40	per c.y.=	\$47.60		
TOTAL EXCAVATION									\$302.40
IMPROVEMENT: ENDHAUL -									
Pullback	60+08	to	61+21	22	cy. @	\$1.69	per c.y.=	\$37.18	
Pullback	91+82	to	92+70	160	cy. @	\$1.54	per c.y.=	\$246.40	
Widening	60+08	to	61+21	34	cy. @	\$1.69	per c.y.=	\$57.46	
Spread & compact			216	cy. @	\$0.25	per c.y.=	\$54.00		
TOTAL ENDHAUL									\$395.04
CULVERTS - MATERIALS & INSTALLATION									
<u>Culverts</u>									
	210	LF of 18"	\$3,675.00			0	LF of 24"	\$0.00	
			\$3,675.00					\$0.00	
<u>Culvert Stakes & Markers</u>									
	7	markers	\$56.00						
			\$56.00						
TOTAL CULVERTS									\$3,731.00
ROCK									
94+30 to	123+56	1,030	cy. of	Crushed	@	\$12.37	per c.y.=	\$12,741.10	
Spot Patch	As Marked	105	cy. of	Crushed	@	\$11.05	per c.y.=	\$1,160.25	
Landing Rock	50CY per	300	cy. of	Pit-Run	@	\$8.45	per c.y.=	\$2,535.00	
Widening	60+08	20	cy. of	Pit-Run	@	\$9.11	per c.y.=	\$182.20	
Turnout	143+01	80	cy. of	Pit-Run	@	\$7.85	per c.y.=	\$628.00	
Energy Dissipator	5CY per	35	cy. of	Riprap	@	\$8.12	per c.y.=	\$284.20	
Bedding/Backfill	15CY per	105	cy. of	Crushed	@	\$10.07	per c.y.=	\$1,057.35	
TOTAL ROCK									\$18,588.10
SPECIAL PROJECTS									
Road edge material removal and endhaul 96+10 to 168+19			1.00	lump sum @		Total	\$2,152.50		
Clear waste areas and endhaul material			4.00	hours @	\$185.00	per hour	\$740.00		
Construct waste areas -			8.00	hours @	\$130.00	per hour	\$1,040.00		
Construct ditches(endhaul) -			75.72	stations @	\$100.00	per station	\$7,572.00		
Construct ditches(Scatter) -			32.07	stations @	\$40.00	per station	\$1,282.80		
Endhaul Culvert Material			3.00	hours @	\$250.00	per hour	\$750.00		
Grade and shape road -			175.85	stations @	\$15.50	per station	\$2,725.68		
Roll subgrade w/ vibratory roller prior to rocking -			175.85	stations @	\$13.20	per station	\$2,321.22		
Grass seed and fertilize -			8.13	acres @	\$220.00	per acre	\$1,788.60		
Mulching -			3.020	acres @	\$600.00	per acre	\$1,812.00		
TOTAL SPECIAL PROJECTS									\$22,184.80
GRAND TOTAL									\$45,238.30

SUMMARY OF CONSTRUCTION COST

Sale:

Little Bumps

Road:

C to D

Construction -	0+00 stations	Improvement -	10+60 stations	Reconstruction -	0+00 stations
	0.00 miles		0.20 miles		0.00 miles

ROCK

Spot Patch	1+93	30	cy. of	Crushed	@	\$12.18 per c.y.=	\$365.40	
Approach Widening	0+00	100	cy. of	Pitrun	@	\$8.68 per c.y.=	\$868.00	
Landing	9+10	50	cy. of	Pitrun	@	\$8.84 per c.y.=	\$442.00	
							TOTAL ROCK	\$1,675.40

SPECIAL PROJECTS

Endhaul landing material	1.00	hours @	\$285.00	per hour	\$285.00
Road edge material removal and endhaul	2.00	hours @	\$375.00	per hour	\$750.00
Grade and shape road -	10.60	stations @	\$15.50	per station	\$164.30
Roll subgrade w/ vibratory roller prior to rocking -	10.60	stations @	\$13.20	per station	\$139.92
Grass seed and fertilize -	0.52	acres @	\$220.00	per acre	\$114.40
Mulching -	0.517	acres @	\$600.00	per acre	\$310.20
TOTAL SPECIAL PROJECTS					\$1,763.82
GRAND TOTAL					\$3,439.22

SUMMARY OF CONSTRUCTION COST

Sale:		Little Bumps				Road:		E to F			
Construction -		0+00	stations	Improvement -		11+85	stations	Reconstruction -		0+00	stations
		0.00	miles			0.22	miles			0.00	miles
ROCK											
0+00	to	11+85	470	cy. of	Pitrun	@	\$7.99	per c.y.=		\$3,755.30	
Landing		50CY per	150	cy. of	Pit-Run	@	\$7.99	per c.y.=		\$1,198.50	
Landing		11+85	100	cy. of	Pit-Run	@	\$8.10	per c.y.=		\$810.00	
										TOTAL ROCK	\$5,763.80
SPECIAL PROJECTS											
Vegetation Removal 0+00 to 11+85 and turnaround					12.60	stations @	\$115.00	per station		\$1,449.00	
Existing slash pile removal at landing					1.00	hours @	\$145.00	per hour		\$145.00	
Grade and shape road -					11.85	stations @	\$15.50	per station		\$183.68	
Roll subgrade w/ vibratory roller prior to rocking -					11.85	stations @	\$13.20	per station		\$156.42	
Grass seed and fertilize -					0.82	acres @	\$220.00	per acre		\$180.40	
Mulching -					0.054	acres @	\$600.00	per acre		\$32.40	
										TOTAL SPECIAL PROJECTS	\$2,146.90
GRAND TOTAL										\$7,910.70	

SUMMARY OF CONSTRUCTION COST

Sale: **Little Bumps**

Road: **G to H**

Construction -	0+00	stations	Improvement -	0+00	stations	Reconstruction -	18+35	stations
	0.00	miles		0.00	miles		0.35	miles

RECONSTRUCTION: CLEARING AND GRUBBING -

Side cast	0.007	acres	@	\$660.00	per acre =	\$4.62	
Widening	0.099	acres	@	\$660.00	per acre =	\$65.34	
Scattering	1.350	acres	@	\$980.00	per acre =	\$1,323.00	
TOTAL CLEARING AND GRUBBING							\$1,392.96

RECONSTRUCTION: EXCAVATION -

Road Earthwork	18.35	sta.	@	\$10.00	per sta. =	\$183.50	
Pullback	53	cy.	@	\$1.40	per c.y. =	\$74.20	
Widening	992	cy.	@	\$1.40	per c.y. =	\$1,388.80	
TOTAL EXCAVATION							\$1,646.50

RECONSTRUCTION: ENDHAUL -

Pullback	6+59	to	7+62	53	cy.	@	\$1.30	per c.y. =	\$68.90	
Widening	5+23	to	6+28	23	cy.	@	\$1.30	per c.y. =	\$29.90	
Widening	6+28	to	7+62	969	cy.	@	\$1.30	per c.y. =	\$1,259.70	
Spread & compact				1045	cy.	@	\$0.25	per c.y. =	\$261.25	
TOTAL ENDHAUL										\$1,619.75

ROCK

0+00 to	18+35	690	cy. of	Pitrun	@	\$7.60	per c.y.=	\$5,244.00	
Approach Widening	0+00	100	cy. of	Pitrun	@	\$7.44	per c.y.=	\$744.00	
Widening	6+28	90	cy. of	Pitrun	@	\$7.56	per c.y.=	\$680.40	
Spot Patch	6+59	20	cy. of	Pitrun	@	\$7.36	per c.y.=	\$147.20	
Spot Patch	14+12	30	cy. of	Pitrun	@	\$7.49	per c.y.=	\$224.70	
Landing	18+35	70	cy. of	Pitrun	@	\$7.77	per c.y.=	\$543.90	
TOTAL ROCK									\$7,584.20

SPECIAL PROJECTS

Vegetation Removal 3+90 to 11+17	7.27	stations	@	\$115.00	per station	\$836.05	
Vegetation Removal 0+00 to 3+90 and 11+17 to 18+35	11.08	stations	@	\$31.67	per station	\$350.90	
Construct waste areas -	5.00	hours	@	\$130.00	per hour	\$650.00	
Grade and shape road -	18.35	stations	@	\$15.50	per station	\$284.43	
Roll subgrade w/ vibratory roller prior to rocking -	18.35	stations	@	\$13.20	per station	\$242.22	
Grass seed and fertilize -	0.97	acres	@	\$220.00	per acre	\$213.40	
TOTAL SPECIAL PROJECTS							\$2,577.00

GRAND TOTAL **\$14,820.41**

SUMMARY OF CONSTRUCTION COST

Sale: Little Bumps			Road: I to J								
Construction -		0+00	stations	Improvement -		9+45	stations	Reconstruction -		0+00	stations
		0.00	miles			0.18	miles			0.00	miles
IMPROVEMENT: CLEARING AND GRUBBING -											
Roadside Brushing			0.18	miles	@	\$700.00 per mile =	\$126.00				
TOTAL CLEARING AND GRUBBING									\$126.00		
ROCK											
0+00		to	9+45	360	cy. of	Pitrun	@	\$7.32 per c.y.=	\$2,635.20		
TOTAL ROCK									\$2,635.20		
SPECIAL PROJECTS											
Grade and shape road -			9.45	stations	@	\$15.50	per station	\$146.48			
Roll subgrade w/ vibratory roller prior to rocking -			9.45	stations	@	\$13.20	per station	\$124.74			
									TOTAL SPECIAL PROJECTS		\$271.22
GRAND TOTAL										\$3,032.42	

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Pitrun Pit & Riprap Pit	Location:	Sec. 26, T2S, R7W, W.M.
Sale:	Little Bumps	Road:	2665 c.y.
Swell:	1.40	Stockpile:	c.y.
Shrinkage	1.16	Total Truck Loads:	2665 c.y.
Drill Pct.:	0%	In Place Total:	1904 c.y.

Pit Development & Cleanup including Clearing and grubbing of Waste Area @ adjacent to pit, place overburden in Waste Area, spread and compact. \$5,358.04

Rip Rock:	\$1.90 /cu.yd.	x	1904 cu.yds.	=	\$3,617.60
Push Rock:	\$0.70 /cu.yd.	x	2665 cu.yds.	=	\$1,865.50
Load Dump Truck:	\$0.70 /cu.yd.	x	2665 cu.yds.	=	\$1,865.50

Subtotal \$12,706.64

Move in Grader	1	@	\$79.08	=	\$79.08
Move in Excavator	1	@	\$468.21	=	\$468.21
Move in Trucks	2	@	\$81.70	=	\$163.40
Move in Water Truck	1	@	\$96.03	=	\$96.03
				Subtotal	\$806.72

Base Cost= \$5.07 Per Cu.Yd. TOTAL PRODUCTION COSTS \$13,513.36

Road Segment	Haul Cost \$/cu.yd.	Proc Cost \$/cu.yd.	Base Cost. \$/cu.yd.	Cost \$/cu.yd.	Number Cu. Yds	ROCK COST
A to B Landing Rock (Pit-Run)	2.28	1.10	5.07	8.45	300	\$2,535.00
A to B Widening (Pit-Run)	3.14	0.90	5.07	9.11	20	\$182.20
A to B Turnout (Pit-Run)	1.68	1.10	5.07	7.85	80	\$628.00
A to B Energy Dissipator (Riprap)	2.76	2.00	3.36	8.12	35	\$284.20
C to D Approach Widening (Pitrun)	2.51	1.10	5.07	8.68	100	\$868.00
C to D Landing (Pitrun)	2.67	1.10	5.07	8.84	50	\$442.00
E to F 0 1185 (Pitrun)	1.82	1.10	5.07	7.99	470	\$3,755.30
E to F Landing (Pit-Run)	1.82	1.10	5.07	7.99	150	\$1,198.50
E to F Landing (Pit-Run)	1.93	1.10	5.07	8.10	100	\$810.00
G to H 0 1835 (Pitrun)	1.43	1.10	5.07	7.60	690	\$5,244.00
G to H Approach Widening (Pitrun)	1.27	1.10	5.07	7.44	100	\$744.00
G to H Widening (Pitrun)	1.39	1.10	5.07	7.56	90	\$680.40
G to H Spot Patch (Pitrun)	1.39	0.90	5.07	7.36	20	\$147.20
G to H Spot Patch (Pitrun)	1.52	0.90	5.07	7.49	30	\$224.70
G to H Landing (Pitrun)	1.60	1.10	5.07	7.77	70	\$543.90
I to J 0 945 (Pitrun)	1.15	1.10	5.07	7.32	360	\$2,635.20
					Total C.Y. 2665	Sub Total \$20,922.60

TOTAL ROCKING COSTS \$20,922.60

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Crushed	Location:	Sec. 1,2, T3S, R7W, W.M.
Sale:	Little Bumps	Road:	1270 c.y.
Swell:	1.40	Stockpile:	c.y.
Shrinkage	1.16	Total Truck Loads:	1270 c.y.
Drill Pct.:	0%	In Place Total:	907 c.y.

Load Dump Truck: $\frac{\$0.70}{\text{cu.yd.}} \times 1270 \text{ cu.yds.} = \889.00

Subtotal	<u>\$889.00</u>
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Move in Loader	1	@	\$318.73	=	\$318.73
Move in Trucks	3	@	\$81.70	=	\$245.10
Move in Water Truck	1	@	\$96.03	=	\$96.03
			Subtotal		\$659.86

Base Cost=	\$1.22	Per Cu.Yd.	TOTAL PRODUCTION COSTS	\$1,548.86
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Road Segment	Haul Cost \$/cu.yd.	Proc. Cost \$/cu.yd.	Base Cost. \$/cu.yd.	Cost \$/cu.yd.	Number Cu. Yds	ROCK COST
A to B 9430 12356 (Crushed)	8.70	2.45	1.22	12.37	1030	\$12,741.10
A to B Spot Patch (Crushed)	7.38	2.45	1.22	11.05	105	\$1,160.25
A to B Bedding/Backfill (Crushed)	8.25	0.60	1.22	10.07	105	\$1,057.35
C to D Spot Patch (Crushed)	8.51	2.45	1.22	12.18	30	\$365.40
				Total C.Y.	1270	Sub Total
						\$15,324.10

TOTAL ROCKING COSTS	\$15,324.10
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Move-In Calculations for Project Work not Involving Rocking/Pit Work

Sale: **Little Bumps**

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROADWAY	AVE SPEED (mph)
13.0	Pavement	30
5.0	Main Lines	7
2.0	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
1	Brush Cutter	\$288.27		\$4.00	0.00	0.00	0	\$0.00	\$288.27
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
0	Rollers (smooth/grid) & Compactors	\$0.00		\$5.00	0.00	0.00	0	\$0.00	\$0.00
0	Excavators (Small)	\$0.00		\$22.00	0.00	0.00	0	\$0.00	\$0.00
0	Excavators (Med.)	\$0.00		\$35.50	0.00	0.00	0	\$0.00	\$0.00
1	Excavators (Large)	\$478.18	1	\$44.80	0.00	0.00	0	\$0.00	\$478.18
0	Tired Backhoes/Skidlers	\$0.00		\$3.00	0.00	0.00	0	\$0.00	\$0.00
1	Tractors (D6)	\$378.54	2	\$7.10	0.00	0.00	0	\$0.00	\$378.54
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
0	Dump Truck (10 cy +)	\$0.00		\$2.85	0.00	0.00	0	\$0.00	\$0.00
2	Dump Truck (Off Hiway)	\$764.01	1	\$4.75	0.00	0.00	0	\$0.00	\$764.01
0	Water Truck (1500 Gal)	\$0.00		\$2.85	0.00	0.00	0	\$0.00	\$0.00
0	Water Truck (2500 Gal)	\$0.00		\$2.85	0.00	0.00	0	\$0.00	\$0.00
0	Jaw	\$1,066.00							
0	2-Stage Crusher	\$1,597.00							
0	3-Stage Crusher	\$2,489.00							

	TOTAL MOVE-IN COSTS:	\$1,909.00
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OREGON DEPARTMENT OF FORESTRY CRUISE REPORT *Little Bumps*

1. Type of Sale

Regeneration harvest, Recovery.

2. Legal Description

Portion of Section 26, T2S, R7W, W.M., Tillamook County, Oregon.

3. Sale Acreage

Sale acreage was determined by GPS and orthophotographs along with GIS.

	ACRES	
	<u>Gross</u>	<u>Net</u>
Area 1 (Modified Clearcut)	95	69

Gross Acres

Area within the Timber Sale Boundary signs.

Net acres

Used for calculating the advertised volume.

Gross acres, less green tree retention, roads, Non-required thinning areas, and riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

4. Cruising Procedures

A. Cruise Method

The timber sale area was variable plot cruised. Plot and line spacing was 350' and 700' respectively on a N30°E/ S30°W bearing that provided uniform area coverage. All conifers 8" DBH and greater containing 20 board feet and all hardwoods 10" DBH and greater containing 30 board feet were recorded. Species, DBH (to nearest inch), merchantable bole length (to nearest foot), form factor, and defect were recorded on all trees. Merchantable heights were recorded to 6" and 7" outside bark for conifers and hardwoods respectively.

B. Plot size

A 27.78 BAF used for cruising. Point of tree observation was 04'.

C. Grading System

All trees were graded according to Columbia River log Scaling and Grading Rules. Log lengths favored 40' lengths.

5. Computation Procedure

Plot data was entered into SuperAce for computation of basal area, advertised volume, volume summary, log stock table, and stand tables for each species.

Net sale acreage was used for volume calculation. Net acreage is the gross acreage (the area within the posted sale boundary) minus the posted and adjacent buffer areas and roads.

The cruise data was grown forward with adjustments made for the reduced growth effects of Swiss Needle Cast. The sale area was cruised in January 2016 and grown forward to August 2017, the time of the first harvest opportunity.

Fourteen plots were taken which resulted in a SE of 12.1% and a CV of 43.7% based on board foot volumes.

6. Hidden Defect and Breakage

A 1% reduction was applied to conifers and a 2% reduction to hardwood volumes for hidden defect and breakage.

7. Timber Description

The sale area was burned in both the 1933 Tillamook and 1939 Saddle Mountain Fires. Reforestation was primarily by seeding in 1951-52 and again in 1967-68. Approximately six acres in at the southern end were planted in 1969-70.

About 2/3rds of the sale was commercially thinned with Rock 'n Murphy Timber Sale completed in 2003 and 1/3rd thinned by Thin Murphy Timber Sale which was completed in 1993.

The sale area was part of the "control" (no activity area) for the Trask Paired Watershed Study principally completed in 2015. This harvest is a continuation of the Study and will examine the cable logging and stream relationship.

8. Cruiser Names/Dates

Cruised by contract, January 2016

9. Revenue Distribution

FDF 100%

Tax Code: 8-1

Deed Numbers: 169, 397

10. Attachments

Volume Summary

Stand Table

Log Stock Table

Logging Plan Map

11. Stand and Log Stock Tables Species Key

DF – Douglas-fir take

RA – Red alder take

FI	TLOGSTVB			Log Stock Table - MBF															
				Project: LITTLEBU															
T02S R07W S26 TSALE										T02S R07W S26 TSALE									
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	1										
02S	07W	26	590-A1-GROW	SALE	69.00	14	61	Date	5/11/2016										
									Time	11:25:06AM									
S Spp	So T	Gr rt	Log de Len	Gross	%	Net	%	Net Volume by Scaling Diameter in Inches											
				MBF	Def	MBF	Spc	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
DF	CO	2	20	14		14	1.1									14			
DF	CO	2	32	44		44	3.5					38	6						
DF	CO	2	36	7		7	.5					7							
DF	CO	2	40	880	1.3	869	68.4					240	127	441	61				
DF	CO	3	19	1		1	.1			1									
DF	CO	3	32	38	5.6	36	2.8			12	24								
DF	CO	3	36	5		5	.4			5									
DF	CO	3	40	223		223	17.6			66	74	82							
DF	CO	4	16	5		5	.4		2	2	1								
DF	CO	4	18	2		2	.2			2									
DF	CO	4	19	5		5	.4			4	1								
DF	CO	4	20	4		4	.3			4									
DF	CO	4	21	7		7	.6		5	3									
DF	CO	4	22	4		4	.3		1	3									
DF	CO	4	23	2		2	.1			2									
DF	CO	4	26	14		14	1.1		14										
DF	CO	4	30	2		2	.1		2										
DF	CO	4	32	4		4	.3		4										
DF	CO	4	34	2		2	.2		2										
DF	CO	4	35	3		3	.3		3										
DF	CO	4	36	5		5	.4		5										
DF	CO	4	38	2		2	.2		2										
DF	CO	4	39	5		5	.4		5										
DF	CO	4	40	6		6	.5		6										
DF	Totals			1,283	1.0	1,270	98.0		50	91	89	107	285	133	441	74			
RA	H	3	40	16	6.7	15	56.8				15								
RA	H	4	30	7		7	28.8			7									
RA	H	4	36	4	16.7	4	14.4			4									
RA	Totals			28	6.5	26	2.0			11		15							
Total All Species				1,311	1.1	1,296	100.0		50	102	89	121	285	133	441	74			

FI		TSTNDSUM													Stand Table Summary															
Project																		LITTLEBU												
T02S R07W S26 TSALE																		T02S R07W S26 TSALE												
Twp		Rge		Sec		Tract		Type			Acres		Plots		Sample Trees			Page:		1										
02S		07W		26		590-A1-GROW		SALE			69.00		14		61			Date:		05/11/2010										
																		Time:		11:22:13AM										
S Spc	T	Sample		FF	Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net	Net	Tons	Cunits	MBF														
		DBH	Trees	16'	Tot				Net Cu.Ft.	Net Bd.Ft.		Cu.Ft. Acre	Bd.Ft. Acre																	
DF		13		87	90	2.110	2.05	4.33	14.6	59.0	1.80	63	256	124	44	18														
DF		14		84	64	3.638	4.09	3.73	24.2	69.7	2.58	90	260	178	62	18														
DF		15		87	94	4.754	6.14	9.76	20.1	80.4	5.59	196	785	386	135	54														
DF		16		86	80	4.178	6.14	7.15	24.9	92.2	5.07	178	659	350	123	45														
DF		18		87	110	6.602	12.28	15.81	30.0	118.8	13.52	474	1,878	933	327	130														
DF		19		87	105	3.950	8.18	8.11	38.3	144.8	8.84	310	1,174	610	214	81														
DF		22		87	101	4.042	10.23	8.30	45.2	167.3	10.68	375	1,389	737	259	96														
DF		23		86	94	2.210	6.14	4.54	46.6	160.9	6.02	211	730	416	146	50														
DF		24		87	102	2.022	6.14	4.84	46.9	185.4	6.47	227	898	447	157	62														
DF		25		87	117	3.714	12.28	10.80	46.6	204.4	14.36	504	2,208	991	348	152														
DF		26		87	114	3.993	14.32	9.95	59.2	253.7	16.79	589	2,525	1,159	407	174														
DF		27		87	115	2.637	10.23	7.04	60.1	268.2	12.06	423	1,887	832	292	130														
DF		28		87	124	1.956	8.18	6.02	59.6	268.2	10.24	359	1,615	707	248	111														
DF		29		85	110	.909	4.09	2.33	68.3	276.7	4.54	159	646	313	110	45														
DF		30		88	112	.424	2.05	.87	62.7	305.7	1.55	55	266	107	38	18														
DF		31		85	127	.396	2.05	1.22	75.5	350.4	2.63	92	427	181	64	29														
DF		33		87	128	.348	2.05	1.07	86.1	404.0	2.63	92	433	182	64	30														
DF		36		84	112	.291	2.05	.90	91.5	414.8	2.34	82	372	161	57	26														
DF		Totals		87	101	48.173	118.68	106.78	42.0	172.4	127.72	4,481	18,409	8,812	3,092	1,270														
RA		12		86	54	2.441	2.03	2.47	13.6	43.5	.92	34	108	64	23	7														
RA		16		87	79	1.373	2.03	1.39	41.0	152.4	1.57	57	212	108	39	15														
RA		20		85	69	.974	2.03	.99	27.1	54.4	.73	27	54	51	18	4														
RA		Totals		86	64	4.787	6.09	4.85	24.2	77.0	3.23	117	373	223	81	26														
Totals				87	98	52.960	124.77	111.63	41.2	168.3	130.94	4599	18,782	9,035	3,173	1,296														



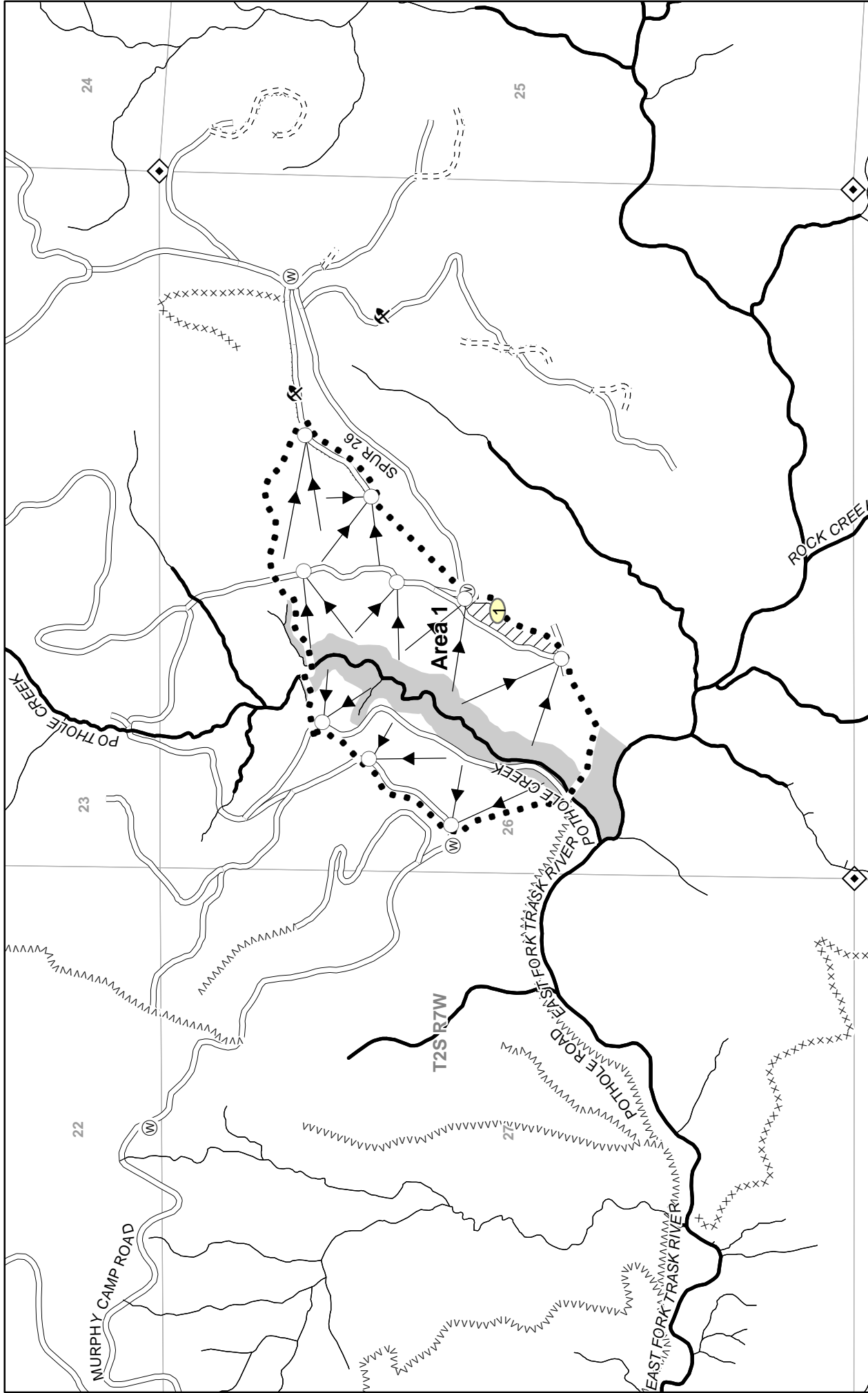
"STEWARDSHIP IN FORESTRY"

Little Bumps

Volume Summary

Area 1-Modified Clearcut				
69 acres				
SPECIES	Cruised Net	Cruised Net	Hidden	Net Sale
	MBF/ Acre	MBF	D&B	MBF
Douglas-fir	18.4	1270	1%	1257
Alder	0.4	26	2%	25
TOTAL	18.8	1296		1282

TOTAL SALE VOLUME			69	acres
SPECIES	Cruised Net (MBF)		Net Sale (MBF)	
Douglas-fir	1270		1257	
Red Alder	26		25	
TOTAL	1296		1282	



Rock source

- Rock source
- Stock pile
- Waste area
- Bridge
- Gate
- Survey corner
- Domestic water supply intake
- Truck turn-around
- Helicopter landing zone
- Cultural site

Buffer

- Non-required thinning
- Cable yarding
- Ground yarding
- Helicopter yarding
- Downhill yarding
- Green tree retention area

Restricted area

- Restricted area
- Area boundary
- Sale boundary
- Ownership boundary
- Fish stream
- Non-fish stream
- Unsurfaced road
- Surfaced road
- Paved road
- Abandoned road

Swing road

- Swing road
- Non-project road
- Blocked road
- OHV trail
- Non-motorized trail
- Transmission line
- Railroad
- Cable yarding
- Ground Landing
- Yarder Landing

LOGGING PLAN

Timber Sale Contract No. 341-17-15

LITTLE BUMPS

Portions of Section 26

T2S, R7W, W.M.,

Tillamook County, Oregon

Scale: 1,000 0 1,000 Feet

N

Type of Area Operation	Acres
1 Modified Clearcut	95
	Gross Net 69

Tillamook District GIS
04/19/2016
This product is for informational use and may not have been prepared or suitable for legal, engineering, or surveying purposes.