



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Holly Bush
Sale 341-13-99

District: Tillamook

Date: May 09, 2013

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$481,590.48	\$302,482.53	\$784,073.01
Project Work:			\$(117,880.00)
Advertised Value:			\$666,193.01



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timber description

Location: Portions of Sections 12 and 13, T2S, R8W, and portions of Sections 7 and 18, T2S, R7W, W.M., Tillamook County, Oregon.

Stand Stocking: 20%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	14	0	95
Alder (Red)	15	0	90

Volume by Grade	10" - 11"	12"+	2S	3S	4S	6" - 7"	8" - 9"	Total
Douglas - Fir	0	0	236	941	480	0	0	1,657
Alder (Red)	207	291	0	0	0	573	210	1,281
Total	207	291	236	941	480	573	210	2,938



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comments: Pond Values Used: 1st Quarter Calendar Year 2013.

Western redcedar and Other Cedars Stumpage Price = Pond Value
minus Logging Cost
 $\$650/\text{MBF} = \$1,000/\text{MBF} - \$350/\text{MBF}$

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

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

FUEL COST ALLOWANCE = $\$4.00/\text{Gallon}$

HAULING COST ALLOWANCE
Hauling cost equivalent to \$780 daily truck cost

Other Costs (with Profit & Risk to be added):
Brand and Paint: $\$2/\text{MBF} \times 2,938 \text{ MBF} = \$5,876$
Flagger on SF Trask Road:
 $58 \text{ days} \times 9 \text{ hrs/day} \times \$20/\text{hr} = \$10,440$
TOTAL Other Costs (with Profit & Risk to be added) = $\$16,316$

Other Costs (No Profit & Risk added):
Slash Piling and Sorting: $\$5/\text{acre} \times 171 \text{ (cable) acres} = \855
Cover Material for Piles: $30 \text{ piles} \times \$5/\text{pile} = \$150$
OHV Trail Filters: $4 \times \$75/\text{Filter} = \300
Block Roads with Tank Traps: $1 \times \$75/\text{each} = \75
Non-Project Road Construction: $26 \text{ stations} \times \$150/\text{station} = \$3,900$
Rolling Dip Installation: $50 \text{ dips} \times \$100 = \$5,000$
Spur Road Approaches: $1 \times 40 \text{ yds/approach} \times \$10/\text{yrd} = \$400$
Recreation Stock Piles: $\$10/\text{CY} \times 100 \text{ CY} = \$1,000$
Recreation Filter Material at Start of Non-Project Road #1 = $\$50$
TOTAL Other Costs (No Profit & Risk added) = $\$11,730$

ROAD MAINTENANCE
Bushong Rd and In-Unit Spot Rocking: $20 \text{ cy/mile} \times \$10/\text{cy} \times 2.938 \text{ MMBF} \times 5 \text{ mile} / 2,938 \text{ MBF} = \$1.00/\text{MBF}$
South Fork, West Fork Bales, and Bales Creek Rd Spot rocking: $20 \text{ cy/mile} \times \$12/\text{cy} \times 2.938 \text{ MMBF} \times 7.2 \text{ miles} / 2,938 \text{ MBF} = \$1.73/\text{MBF}$
Interim Maintenance Grading: $\$250 \times 7 \text{ miles} / 2,938 \text{ MBF} = \$0.60/\text{MBF}$
Final Maintenance Grading: $\$500 \times 12.2 \text{ miles} / 2,938 \text{ MBF} = \$2.08/\text{MBF}$
TOTAL Road Maintenance: $\$5.41/\text{MBF}$



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logging conditions

combination#: 1 Douglas - Fir 12.47%
 Alder (Red) 21.84%

yarding distance: Short (400 ft) **downhill yarding:** No
logging system: Shovel **Process:** Stroke Delimber

tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
loads / day: 7.0 **bd. ft / load:** 2,900
cost / mbf: \$70.85

machines: Stroke Delimber (B)

combination#: 2 Douglas - Fir 87.53%
 Alder (Red) 78.16%

yarding distance: Long (1,500 ft) **downhill yarding:** No
logging system: Cable: Large Tower >=70 **Process:** Stroke Delimber

tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
loads / day: 7.0 **bd. ft / load:** 3,100
cost / mbf: \$176.34

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



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Holly Bush Sale 341-13-99

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Date: May 09, 2013

logging costs

Operating Seasons:	1.00	Profit Risk:	10.00%
Project Costs:	\$117,880.00	Other Costs (P/R):	\$16,316.00
Slash Disposal:	\$0.00	Other Costs:	\$11,730.00

Miles of Road

Road Maintenance: \$5.41

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	2.8
Alder (Red)	\$0.00	3.0	2.7



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Holly Bush
Sale 341-13-99

District: Tillamook

Date: May 09, 2013

logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$163.18	\$5.68	\$1.49	\$88.64	\$5.55	\$26.45	\$0.00	\$5.00	\$3.99	\$299.98
Alder (Red)									
\$153.31	\$5.95	\$1.49	\$96.29	\$5.55	\$26.26	\$0.00	\$5.00	\$3.99	\$297.84

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$590.62	\$290.64	\$0.00
Alder (Red)	\$0.00	\$533.97	\$236.13	\$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	1,657	\$290.64	\$481,590.48
Alder (Red)	1,281	\$236.13	\$302,482.53

Gross Timber Sale Value

Recovery: \$784,073.01

Prepared by: Bryan Huck

Phone: 503-842-2545



PROJECT SUMMARY SHEET

Sale: Holly Bush

CONSTRUCTION

Point	C to D	10+50	stations =	\$8,827.50
Point	E to F	7+90	stations =	\$8,964.18
Point	G to H	3+00	stations =	\$736.72
SUBTOTAL CONSTRUCTION				<u>\$18,528.40</u>

IMPROVEMENT

Point	A to B	158+60	stations =	\$64,580.43
SUBTOTAL IMPROVEMENT				<u>\$64,580.43</u>

RECONSTRUCTION

Point	A to B	11+30	stations =	\$7,763.93
Point	C to D	6+50	stations =	\$6,840.27
Point	G to H	16+10	stations =	\$7,784.60
Point	I to J	6+00	stations =	\$8,918.53
SUBTOTAL RECONSTRUCTION				<u>\$31,307.33</u>

MOVE IN \$3,463.84

GRAND TOTAL \$117,880.00

SUMMARY OF CONSTRUCTION COST

Sale: **Holly Bush**

Road: **A to B**

Construction -	0+00	stations	Improvement -	158+60	stations	Reconstruction -	11+30	stations
	0.00	miles		3.00	miles		0.21	miles

IMPROVEMENT: CLEARING AND GRUBBING -

Widening	0.331	acres @	\$660.00	per acre =	\$218.46	
Scattering	0.283	acres @	\$980.00	per acre =	\$277.34	
Endhaul	0.807	acres @	\$1,500.00	per acre =	\$1,210.50	
TOTAL CLEARING AND GRUBBING						\$1,706.30

IMPROVEMENT: EXCAVATION -

Widening	1655	cy. @	\$1.40	per c.y. =	\$2,317.00	
TOTAL EXCAVATION						\$2,317.00

IMPROVEMENT: ENDHAUL -

Widening	21+20	to	22+20	78	cy. @	\$2.95	per c.y. =	\$230.10	
Widening	101+80	to	102+80	174	cy. @	\$3.02	per c.y. =	\$525.48	
Widening	108+80	to	110+90	178	cy. @	\$3.22	per c.y. =	\$573.16	
Widening	112+40	to	116+00	174	cy. @	\$3.26	per c.y. =	\$567.24	
Widening	131+00	to	133+50	302	cy. @	\$3.29	per c.y. =	\$993.58	
Widening	138+40	to	139+00	70	cy. @	\$3.57	per c.y. =	\$249.90	
Widening	142+70	to	145+50	270	cy. @	\$3.80	per c.y. =	\$1,026.00	
Widening	151+10	to	152+30	116	cy. @	\$4.13	per c.y. =	\$479.08	
Spread & compact				1362	cy. @	\$0.25	per c.y. =	\$340.50	
TOTAL ENDHAUL									\$4,985.04

RECONSTRUCTION: CLEARING AND GRUBBING -

Widening	0.051	acres @	\$660.00	per acre =	\$33.66	
Scattering	0.474	acres @	\$980.00	per acre =	\$464.52	
Endhaul	0.456	acres @	\$1,500.00	per acre =	\$684.00	
TOTAL CLEARING AND GRUBBING						\$1,182.18

RECONSTRUCTION: EXCAVATION -

Road Earthwork	11.30	sta. @	\$30.00	per sta. =	\$339.00	
Widening	846	cy. @	\$1.40	per c.y. =	\$1,184.40	
TOTAL EXCAVATION						\$1,523.40

RECONSTRUCTION: ENDHAUL -

Widening	165+50	to	166+30	231	cy. @	\$3.14	per c.y. =	\$725.34	
Widening	165+10	to	165+50	94	cy. @	\$3.11	per c.y. =	\$292.34	
Spread & compact				325	cy. @	\$0.25	per c.y. =	\$81.25	
TOTAL ENDHAUL									\$1,098.93

ROCK									
92+00 to	169+90	4,150	cy. of	Jaw-run	@	\$10.31	per c.y. =	\$42,786.50	
92+00 to	99+40	100	cy. of	Crushed	@	\$15.76	per c.y. =	\$1,576.00	
109+00 to	112+30	50	cy. of	Crushed	@	\$15.99	per c.y. =	\$799.50	
Spot Rock	0+00 - 92+00	200	cy. of	Jaw-run	@	\$8.98	per c.y. =	\$1,796.00	
Landing Rock	160+40, 169+90	160	cy. of	Jaw-run	@	\$10.84	per c.y. =	\$1,734.40	
Base Rock	148+50 - 150+50	100	cy. of	Jaw-run	@	\$10.60	per c.y. =	\$1,060.00	
Maintenance Stockpile	0+00	200	cy. of	Jaw-run	@	\$6.23	per c.y. =	\$1,246.00	
Recreation Stockpile	0+00	100	cy. of	Jaw-run	@	\$6.23	per c.y. =	\$623.00	
TOTAL ROCK									\$51,621.40

SPECIAL PROJECTS

Construct landing at 160+40 -	1.00	@	\$250.00	each	\$250.00	
Construct landing at 169+90 -	1.00	@	\$350.00	each	\$350.00	
Construct waste areas -	2.00	hours @	\$130.00	per hour	\$260.00	
Fill roadway at area of 99+40 & 167+10 -	4.00	hours @	\$130.00	per hour	\$520.00	
Construct rolling dips on ATV trails near road -	3.00	@	\$75.00	each	\$225.00	
Construct turnarounds before landings -	2.00	@	\$75.00	each	\$150.00	
Grade and shape road -	169.90	stations @	\$14.75	per station	\$2,506.03	
Roll subgrade w/ vibratory roller prior to rocking -	169.90	stations @	\$13.20	per station	\$2,242.68	
Remove large stumps -	1.00	lump sum @	\$450.00		\$450.00	
Grass seed and fertilize -	3.78	acres @	\$220.00	per acre	\$831.60	
Mulching -	0.208	acres @	\$600.00	per acre	\$124.80	
TOTAL SPECIAL PROJECTS						\$7,910.11

GRAND TOTAL **\$72,344.36**

SUMMARY OF CONSTRUCTION COST

Sale: **Holly Bush**

Road: **C to D**

Construction -	10+50	stations	Improvement -	0+00	stations	Reconstruction -	6+50	stations
	0.20	miles		0.00	miles		0.12	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station		
6+50		6+85	60%	0.8	Outslope	\$1,899	=	\$664.65
6+85		7+40	75%	0.8	Outslope	\$3,410	=	\$1,875.50
7+40		7+75	60%	0.8	Outslope	\$1,899	=	\$664.65
7+75		9+00	10%		Outslope	\$90	=	\$112.50
9+00		9+30	35%		Outslope	\$191	=	\$57.30
9+30		9+50	50%		Outslope	\$459	=	\$91.80
9+50		10+65	60%	0.9	Outslope	\$1,955	=	\$2,248.25
10+65		10+95	40%		Outslope	\$243	=	\$72.90
10+95		11+30	50%		Outslope	\$459	=	\$160.65
11+30		11+90	55%		Outslope	\$689	=	\$413.40
11+90		12+35	40%		Outslope	\$243	=	\$109.35
12+35		13+10	45%		Outslope	\$269	=	\$201.75
13+10		14+70	35%		Outslope	\$191	=	\$305.60
14+70		17+00	10%		Outslope	\$90	=	\$207.00
TOTAL								\$7,185.30

RECONSTRUCTION: CLEARING AND GRUBBING -

Widening	0.094	acres @	\$660.00	per acre =	\$62.04
Scattering	0.261	acres @	\$980.00	per acre =	\$255.78
Endhaul	0.189	acres @	\$1,500.00	per acre =	\$283.50
TOTAL CLEARING AND GRUBBING					\$601.32

RECONSTRUCTION: EXCAVATION -

Widening	1117	cy. @	\$1.40	per c.y. =	\$1,563.80
TOTAL EXCAVATION					\$1,563.80

RECONSTRUCTION: ENDHAUL -

Widening	0+00	to	0+75	130	cy. @	\$2.93	per c.y. =	\$380.90
Widening	0+75	to	1+15	139	cy. @	\$2.96	per c.y. =	\$411.44
Widening	1+15	to	2+30	598	cy. @	\$3.01	per c.y. =	\$1,799.98
Widening	2+30	to	2+65	122	cy. @	\$3.05	per c.y. =	\$372.10
Widening	2+65	to	2+75	12	cy. @	\$3.06	per c.y. =	\$36.72
Widening	6+00	to	6+50	116	cy. @	\$3.26	per c.y. =	\$378.16
Spread & compact				1117	cy. @	\$0.25	per c.y. =	\$279.25
TOTAL ENDHAUL								\$3,658.55

ROCK

0+00 to	1+00	60	cy. of	Jaw-run	@	\$10.27	per c.y. =	\$616.20
Junction Rock	0+00	20	cy. of	Jaw-run	@	\$10.26	per c.y. =	\$205.20
TOTAL ROCK								\$821.40

SPECIAL PROJECTS

Construct landing at 17+00 -	1.00	@	\$250.00	each	\$250.00
Cut/Drift to Fill roadway @ area of 3+00 and 15+10 -	4.00	hours @	\$130.00	per hour	\$520.00
Grade and shape road -	17.00	stations @	\$14.00	per station	\$238.00
Construct turnaround before landing -	1.00	@	\$75.00	each	\$75.00
Roll subgrade w/ vibratory roller prior to rocking -	17.00	stations @	\$13.20	per station	\$224.40
Remove large stumps -	1.00	lump sum @	\$300.00		\$300.00
Grass seed and fertilize -	0.62	acres @	\$220.00	per acre	\$136.40
Mulching -	0.156	acres @	\$600.00	per acre	\$93.60
TOTAL SPECIAL PROJECTS					\$1,837.40

GRAND TOTAL **\$15,667.77**

SUMMARY OF CONSTRUCTION COST

Sale: **Holly Bush**

Road: **E to F**

Construction -	<u>7+90</u>	stations	Improvement -	<u>0+00</u>	stations	Reconstruction -	<u>0+00</u>	stations
	0.15	miles		0.00	miles		0.00	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station			
0+00		3+00	0%		Outslope	\$55	=	\$165.00	
3+00		7+90	15%		Outslope	\$107	=	\$524.30	
TOTAL									\$689.30

ROCK

0+00	to	7+90	450	cy. of	Jaw-run	@	\$10.80 per c.y.=	\$4,860.00	
3+00	to	6+30	60	cy. of	Crushed	@	\$16.80 per c.y.=	\$1,008.00	
Landing Rock		7+90	80	cy. of	Jaw-run	@	\$10.86 per c.y.=	\$868.80	
Junction Rock		0+00	20	cy. of	Jaw-run	@	\$10.74 per c.y.=	\$214.80	
TOTAL ROCK									\$6,951.60

SPECIAL PROJECTS

Fill to construct landing at 7+90 -	1.00	@	\$300.00	each	\$300.00	
Cut/Drift from 3+00 to reduce grade and fill roadway at 5+70 -	3.00	hours @	\$130.00	per hour	\$390.00	
Grade and shape road -	7.90	stations @	\$14.00	per station	\$110.60	
Construct turnaround before landing -	1.00	@	\$75.00	each	\$75.00	
Roll subgrade w/ vibratory roller prior to rocking -	7.90	stations @	\$13.20	per station	\$104.28	
Remove large stumps -	1.00	lump sum @	\$225.00	=	\$225.00	
Grass seed and fertilize -	0.29	acres @	\$220.00	per acre	\$63.80	
Mulching -	0.091	acres @	\$600.00	per acre	\$54.60	
TOTAL SPECIAL PROJECTS						\$1,323.28

GRAND TOTAL **\$8,964.18**

SUMMARY OF CONSTRUCTION COST

Sale: **Holly Bush**

Road: **G to H**

Construction -	3+00	stations	Improvement -	0+00	stations	Reconstruction -	16+10	stations
	0.06	miles		0.00	miles		0.30	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station	=		
16+10		19+10	15%		Outslope	\$107		\$321.00	
								TOTAL	\$321.00

RECONSTRUCTION: CLEARING AND GRUBBING -

Widening	0.135	acres @	\$660.00	per acre =	\$89.10	
Scattering	0.677	acres @	\$980.00	per acre =	\$663.46	
Endhaul	0.433	acres @	\$1,500.00	per acre =	\$649.50	
						TOTAL CLEARING AND GRUBBING
						\$1,402.06

RECONSTRUCTION: EXCAVATION -

Widening	1140	cy. @	\$1.40	per c.y. =	\$1,596.00	
						TOTAL EXCAVATION
						\$1,596.00

RECONSTRUCTION: ENDHAUL -

Widening	8+70	to	10+10	163	cy. @	\$2.87	per c.y. =	\$467.81	
Widening	11+10	to	12+20	127	cy. @	\$3.01	per c.y. =	\$382.27	
Widening	12+20	to	14+30	486	cy. @	\$3.11	per c.y. =	\$1,511.46	
Spread & compact				776	cy. @	\$0.25	per c.y. =	\$194.00	
									TOTAL ENDHAUL
									\$2,555.54

ROCK

0+00 to	1+00	60	cy. of	Jaw-run	@	\$10.77	per c.y. =	\$646.20	
Junction Rock	0+00	20	cy. of	Jaw-run	@	\$10.77	per c.y. =	\$215.40	
									TOTAL ROCK
									\$861.60

SPECIAL PROJECTS

Cut/Drift from 0+00 to 2+30 to remove grade irregularity -	2.00	hours @	\$130.00	per hour	\$260.00	
Construct landing at 19+10 -	1.00	@	\$250.00	each	\$250.00	
Construct waste area -	1.00	hours @	\$130.00	per hour	\$130.00	
Cut/Drift from 17+50 to fill roadway at 18+30 -	2.00	hours @	\$130.00	per hour	\$260.00	
Grade and shape road -	19.10	stations @	\$14.00	per station	\$267.40	
Roll subgrade w/ vibratory roller prior to rocking -	19.10	stations @	\$13.20	per station	\$252.12	
Remove large stumps -	1.00	lump sum @	\$150.00		\$150.00	
Grass seed and fertilize -	0.83	acres @	\$220.00	per acre	\$182.60	
Mulching -	0.055	acres @	\$600.00	per acre	\$33.00	
						TOTAL SPECIAL PROJECTS
						\$1,785.12

GRAND TOTAL **\$8,521.32**

SUMMARY OF CONSTRUCTION COST

Sale: **Holly Bush**

Road: **I to J**

Construction -	0+00	stations	Improvement -	0+00	stations	Reconstruction -	6+00	stations
	0.00	miles		0.00	miles		0.11	miles

RECONSTRUCTION: CLEARING AND GRUBBING -

Widening	0.134	acres	@	\$660.00	per acre =	\$88.44	
Scattering	0.094	acres	@	\$980.00	per acre =	\$92.12	
Endhaul	0.316	acres	@	\$1,500.00	per acre =	\$474.00	
TOTAL CLEARING AND GRUBBING							\$654.56

RECONSTRUCTION: EXCAVATION -

Widening	1397	cy.	@	\$1.40	per c.y.=	\$1,955.80	
TOTAL EXCAVATION							\$1,955.80

RECONSTRUCTION: ENDHAUL -

Widening	0+55	to	1+00	125	cy.	@	\$3.10	per c.y.=	\$387.50	
Widening	1+00	to	1+80	265	cy.	@	\$3.13	per c.y.=	\$829.45	
Widening	1+80	to	2+20	199	cy.	@	\$3.15	per c.y.=	\$626.85	
Widening	2+20	to	3+60	555	cy.	@	\$3.19	per c.y.=	\$1,770.45	
Widening	3+60	to	4+20	159	cy.	@	\$3.23	per c.y.=	\$513.57	
Widening	4+20	to	4+90	94	cy.	@	\$3.25	per c.y.=	\$305.50	
Spread & compact				1397	cy.	@	\$0.25	per c.y.=	\$349.25	
TOTAL ENDHAUL										\$4,782.57

ROCK

0+00 to	1+00	60	cy. of	Jaw-run	@	\$10.49	per c.y.=	\$629.40	
Junction Rock	0+00	20	cy. of	Jaw-run	@	\$10.48	per c.y.=	\$209.60	
TOTAL ROCK									\$839.00

SPECIAL PROJECTS

Construct landing at 6+00 -	1.00	@	\$250.00	each	\$250.00	
Grade and shape road -	6.00	stations @	\$14.00	per station	\$84.00	
Construct turnaround before landing -	1.00	@	\$75.00	each	\$75.00	
Roll subgrade w/ vibratory roller prior to rocking -	6.00	stations @	\$13.20	per station	\$79.20	
Remove large stumps -	1.00	lump sum @	\$150.00		\$150.00	
Grass seed and fertilize -	0.22	acres @	\$220.00	per acre	\$48.40	
TOTAL SPECIAL PROJECTS						\$686.60

GRAND TOTAL	\$8,918.53
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ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Jaw_run	Location:	NE 1/4, SW 1/4, Sec 19, T2S, R7W, W.M.
Sale:	Holly Bush	Road:	5700 c.y.
Swell:	1.40	Stockpile:	c.y.
Shrinkage	1.16	Total Truck Loads:	5700 c.y.
Drill Pct.:	30%	In Place Total:	4071 c.y.

Pit Development & Cleanup including Clearing and grubbing of Waste Area adjacent to pit, place overburden in Waste Area, spread and compact. \$2,624.44

Drill & Shoot:	\$2.50	/cu.yd.	x	1221	cu.yds.	=	\$3,052.50
Rip Rock:	\$1.90	/cu.yd.	x	2850	cu.yds.	=	\$5,415.00
Load Crusher:	\$0.60	/cu.yd.	x	5700	cu.yds.	=	\$3,420.00
Crush Rock:	\$2.00	/cu.yd.	x	5700	cu.yds.	=	\$11,400.00
Load Dump Truck:	\$0.70	/cu.yd.	x	5700	cu.yds.	=	\$3,990.00

Subtotal \$29,901.94

Move In Jaw	1	@	\$1,145.40	=	\$1,145.40
Move In and set up Drill and Compressor	1	@	\$728.72	=	\$728.72
Move in Roller and Compactor	1	@	\$728.72	=	\$728.72
Move in Grader	1	@	\$206.83	=	\$206.83
Move in Loader	1	@	\$885.47	=	\$885.47
Move in Excavator	1	@	\$1,145.40	=	\$1,145.40
Move in Trucks	2	@	\$243.74	=	\$487.48
Move in Water Truck	1	@	\$286.50	=	\$286.50

Subtotal \$5,614.52

Base Cost=	\$6.23	Per Cu.Yd.	TOTAL PRODUCTION COSTS	\$35,516.46
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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 9200 16990 (Jaw-run)	2.98	1.10	6.23	10.31	4150	\$42,786.50	
A to B Spot Rock (Jaw-run)	1.65	1.10	6.23	8.98	200	\$1,796.00	
A to B Landing Rock (Jaw-run)	3.51	1.10	6.23	10.84	160	\$1,734.40	
A to B Base Rock (Jaw-run)	3.27	1.10	6.23	10.60	100	\$1,060.00	
A to B Maintenance Stockpile (Jaw-run)	0.00	0.00	6.23	6.23	200	\$1,246.00	
A to B Recreation Stockpile (Jaw-run)	0.00	0.00	6.23	6.23	100	\$623.00	
C to D 0 100 (Jaw-run)	2.94	1.10	6.23	10.27	60	\$616.20	
C to D Junction Rock (Jaw-run)	2.93	1.10	6.23	10.26	20	\$205.20	
E to F 0 790 (Jaw-run)	3.47	1.10	6.23	10.80	450	\$4,860.00	
E to F Landing Rock (Jaw-run)	3.53	1.10	6.23	10.86	80	\$868.80	
E to F Junction Rock (Jaw-run)	3.41	1.10	6.23	10.74	20	\$214.80	
G to H 0 100 (Jaw-run)	3.44	1.10	6.23	10.77	60	\$646.20	
G to H Junction Rock (Jaw-run)	3.44	1.10	6.23	10.77	20	\$215.40	
I to J 0 100 (Jaw-run)	3.16	1.10	6.23	10.49	60	\$629.40	
I to J Junction Rock (Jaw-run)	3.15	1.10	6.23	10.48	20	\$209.60	
				Total C.Y.	5700	Sub Total	\$57,711.50

TOTAL ROCKING COSTS \$57,711.50

EXISTING STOCKPILE USE COST SUMMARY

Stockpiles:	Crushed	Location:	NE 1/4, SE 1/4, Sec 1, T3S, R7W, W.M.
Sale:	Holly Bush	Road:	210 c.y.
Swell:	0.00	Stockpile:	c.y.
Shrinkage	0.00	Total Truck Loads:	210 c.y.
Drill Pct.:	0%	In Place Total:	c.y.

Load Dump Truck: \$0.70 /cu.yd. x 210 cu.yds. = \$147.00

Subtotal \$147.00

Move in Loader 1 @ \$195.22 = \$195.22
Move in Trucks 3 @ \$63.24 = \$189.72

Subtotal \$384.94

Base Cost= \$2.53 Per Cu.Yd. TOTAL PRODUCTION COSTS \$531.94

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 9200 9940 (Crushed)	10.78	2.45	2.53	15.76	100	\$1,576.00
A to B 10900 11230 (Crushed)	11.01	2.45	2.53	15.99	50	\$799.50
E to F 300 630 (Crushed)	11.82	2.45	2.53	16.80	60	\$1,008.00
				Total C.Y.	210	Sub Total \$3,383.50

 TOTAL ROCKING COSTS \$3,383.50

Move-In Calculations for Project Work not Involving Rocking/Pit Work

Sale: **Holly Bush**

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

No.	EQUIPMENT DESCRIPTION	Move in Cost	Pilot Cars	Within Area Move (\$/mile)	Begin Mileage	End Mileage	Total Miles	Within Area Cost	Total Cost
1	Excavators (Large)	\$1,171.47	1	\$44.80	0.00	0.00	0	\$0.00	\$1,171.47
1	Tractor (D8)	\$1,092.57	2	\$15.10	0.00	0.00	0	\$0.00	\$1,092.57
1	Dump Truck (Off Hiway)	\$956.06	1	\$4.75	0.00	0.00	0	\$0.00	\$956.06
1	Water Truck (1500 Gal)	\$243.74		\$2.85	0.00	0.00	0	\$0.00	\$243.74
				TOTAL MOVE-IN COSTS:					\$3,463.84



OREGON DEPARTMENT OF FORESTRY CRUISE REPORT

Holly Bush

1. Type of Sale

Regeneration harvest, Recovery.

2. Legal Description

Portions of Sections 12 and 13, T2S, R8W, and Sections 7 and 18, 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 (Clearcut)	128	109
Area 2 (Clearcut)	131	100

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

A total of 38 plots were sampled. Even numbered lines were sampled for a plot spacing of 700'x350'. All plots were full cruise plots. All conifers 6 inches DBH and greater containing 20 net board feet and all hardwoods 7 inches DBH and greater containing 30 net board feet were recorded on all plots. Species were recorded on all trees and measured for merchantable bole height, diameter, and form factor.

B. Plot size

A basal area factor of 28 was used for this sale. The point of observation is 4.5 feet.

C. Grading System

All species were graded using Columbia River Log Scaling and Grading Bureau rules favoring a 40' log.

5. Computation Procedure

The volumes and statistics for the timber cruised were computed using SuperACE 2004, developed by Atterbury Consultants, Inc. The standard error and the coefficient of variation for the cruise as based on net board feet per acre are 8.4% and 51.8% respectively. A total of 34 additional wildlife trees were marked and

reserved with yellow paint along the SF Trask River. These trees constitute a minimal volume and were not removed from the cruise.

6. Hidden Defect and Breakage

A 5% reduction was applied to conifers and a 10% reduction to hardwood volumes for hidden defect and breakage. This was in addition to visual defect deducted during the cruise.

7. Timber Description

This stand was burned during the 1933 Tillamook Fire and the 1951 North Fork Fire. The Douglas-fir in this stand is suffering from Swiss Needle Cast and showing signs of slow growth and low needle retention.

Sale Area – Species	DBH	Merchantable Bole Height	Merchantable Top
Area 1 - Douglas-fir	16	65	5"
Area 1 - Alder	15	47	6"
Area 2 - Douglas-fir	13	52	5"
Area 2 - Alder	15	46	6"

8. Cruiser Names/Dates

Contract Cruise; 11/2011

9. Revenue Distribution

FDF 100%

Tax Code: 9-1

Deed Numbers: 169 and 230

10. Attachments

Volume Summaries

Log Stock Tables

Logging Plan Map

11. Stand and Log Stock Tables Species Key

DL – Douglas-fir leave

DF – Douglas-fir take

RL – Red alder leave

RA – Red alder take

RC – Western red cedar reserved

SL – Sitka spruce leave

SS – Sitka spruce take

WL – Western hemlock leave

WH – Western hemlock take

TC TLOGSTVB				Log Stock Table - MBF																
				Project: HOLLYBSH																
T02S R08W S12 T0100												T02S R08W S12 T0100								
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	2											
02S	08W	12	AREA 1	0100	109.00	20	118	Date	2/25/2013											
								Time	2:05:22PM											
Spp	S	So	Gr	Log	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
RA	H	4	38		14	10.0	12	1.6			12									
RA	H	4	39		7	10.0	6	.8			6									
RA	H	4	40		333	17.6	274	35.3			122	125	16	12						
RA Totals					972	20.1	777	55.4			329	159	90	106	73	21				
DF	D	D	2																	
DF	D	D	11																	
DF	CO	2	40		130	5.0	123	21.5						74	49					
DF	CO	3	26		20	9.6	18	3.1					7	11						
DF	CO	3	32		31	8.8	28	4.9			19	9								
DF	CO	3	36		10	5.0	9	1.6			9									
DF	CO	3	40		316	6.5	296	51.5			39	93	78	55	31					
DF	CO	4	12		1	5.0	0	.1		0										
DF	CO	4	13		5	5.0	5	.8		2			3							
DF	CO	4	14		4	5.0	4	.7		4										
DF	CO	4	16		6	5.0	6	1.0		5	1									
DF	CO	4	17		2	5.0	2	.4		2										
DF	CO	4	18		5	5.0	4	.8		4										
DF	CO	4	20		3	5.0	3	.5		3										
DF	CO	4	25		5	5.0	5	.8		1	3									
DF	CO	4	26		3	5.0	2	.4			2									
DF	CO	4	27		6	5.0	6	1.0		3	2									
DF	CO	4	29		9	5.0	8	1.4		8										
DF	CO	4	30		6	5.0	5	.9			5									
DF	CO	4	31		10	5.0	10	1.7		10										
DF	CO	4	33		10	5.0	10	1.7		10										
DF	CO	4	35		12	5.0	11	1.9		11										
DF	CO	4	37		4	5.0	4	.7		4										
DF	CO	4	40		16	5.0	15	2.6		4	11									
DF Totals					612	6.1	574	40.9		72	92	102	88	66	105	49				
RC	CO	4	40		14		14	100.0		7	7									
RC Totals					14		14	1.0		7	7									
WH	CO	3	40		18	5.0	17	100.0			3				14					
WH Totals					18	5.0	17	1.2			3				14					
GF	CO	3	40		20	5.0	19	100.0			3				17					
GF Totals					20	5.0	19	1.4			3				17					
Total All Species					1,636	14.3	1,402	100.0		78	428	267	178	171	178	102				

TC TLOGSTVB				Log Stock Table - MBF																
				Project: HOLLYBSH																
T02S R08W S12 T0100										T02S R08W S12 T0100										
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	1											
02S	08W	12	AREA 2	0100	100.00	18	124	Date	2/25/2013											
										Time	2:05:22PM									
Spp	S	So	Gr	Log	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
DF	D	D		6																
DF	D	D		8																
DF	D	D		10																
DF	D	D		16	4	100.0														
DF	D	D		17	12	100.0														
DF	CO	2	27		11	5.0	11	1.0								11				
DF	CO	2	34		12	5.0	11	1.0							11					
DF	CO	2	40		96	5.0	91	8.4						13	58	20				
DF	CO	3	27		5	5.0	4	.4					4							
DF	CO	3	28		1	5.0	1	.1			1									
DF	CO	3	38		4	5.0	4	.3				4								
DF	CO	3	40		615	5.4	581	53.6			93	258	86	94		50				
DF	CO	4	12		1	5.0	1	.1		1										
DF	CO	4	13		3	5.0	2	.2		2	1									
DF	CO	4	14		4	5.0	3	.3		3	1									
DF	CO	4	15		5	5.0	4	.4		4										
DF	CO	4	16		16	5.0	15	1.4		8	7	1								
DF	CO	4	17		4	5.0	4	.3		4										
DF	CO	4	18		3	5.0	3	.3		3										
DF	CO	4	19		3	5.0	3	.3		3										
DF	CO	4	20		9	5.0	9	.8		9										
DF	CO	4	21		9	5.0	8	.8		8										
DF	CO	4	22		9	5.0	9	.8		9										
DF	CO	4	23		21	12.7	18	1.7		13		5								
DF	CO	4	24		3	5.0	3	.3		3										
DF	CO	4	25		16	5.0	15	1.4		15										
DF	CO	4	26		13	5.0	13	1.2		13										
DF	CO	4	27		8	5.0	8	.7		8										
DF	CO	4	28		10	5.0	10	.9		10										
DF	CO	4	30		11	5.0	11	1.0		11										
DF	CO	4	31		11	5.0	11	1.0			11									
DF	CO	4	32		6	5.0	6	.5		6										
DF	CO	4	33		31	5.0	29	2.7		29										
DF	CO	4	35		14	5.0	13	1.2		13										
DF	CO	4	36		11	5.0	11	1.0		11										
DF	CO	4	37		2	5.0	2	.2		2										
DF	CO	4	38		6	5.0	5	.5		5										
DF	CO	4	40		173	5.0	164	15.1		101	63									
DF	Totals				1,161	6.7	1,083	67.8		292	176	268	91	108	69	80				
RA	D	D																		
RA	D	D		2																
RA	D	D		3																
RA	D	D		4																
RA	D	D		8																
RA	D	D		10																
RA	D	D		11																
RA	D	D		12	4	100.0														
RA	D	D		17	12	100.0														
RA	H	2	20		8	10.0	7	1.3						7						
RA	H	3	12		5	10.0	5	1.0					5							

TC TLOGSTVB				Log Stock Table - MBF																
				Project: HOLLYBSH																
T02S R08W S12 T0100										T02S R08W S12 T0100										
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		Page		2		
02S		08W		12		AREA 2		0100		100.00		18		124		Date		2/25/2013		
																Time		2:05:22PM		
Spp	S	So	Gr	Log	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
RA	H	3		15	11	10.0	10	2.0							10					
RA	H	3		18	7	10.0	6	1.2					6							
RA	H	3		20	10	10.0	9	1.9						9						
RA	H	3		21	8	10.0	7	1.4					7							
RA	H	3		23	9	38.1	6	1.1							6					
RA	H	3		24	11	10.0	10	1.9							10					
RA	H	3		26	21	10.0	18	3.7							18					
RA	H	3		40	108	11.5	96	19.0					82	14						
RA	H	4		12	6	10.0	5	1.0			5									
RA	H	4		14	5	10.0	4	.8			4									
RA	H	4		16	2	10.0	1	.3			1									
RA	H	4		21	7	10.0	6	1.3			6									
RA	H	4		22	15	26.9	11	2.2			11									
RA	H	4		23	2	10.0	2	.4			2									
RA	H	4		24	5	10.0	5	.9				5								
RA	H	4		25	9	10.0	8	1.6			8									
RA	H	4		26	3	10.0	2	.5			2									
RA	H	4		27	7	10.0	6	1.3			6									
RA	H	4		30	3	10.0	3	.6			3									
RA	H	4		31	3	10.0	3	.6			3									
RA	H	4		32	28	10.0	25	5.0			13			13						
RA	H	4		33	14	10.0	12	2.5				12								
RA	H	4		35	18	10.0	16	3.3			5				11					
RA	H	4		36	52	10.0	47	9.3			37	10								
RA	H	4		37	15	18.5	13	2.5			13									
RA	H	4		40	186	13.9	160	31.7			125	24		11						
RA Totals					594	15.1	504	31.6			244	51	117	69	23					
RC		CO		4	16	9	9	100.0		9										
RC Totals					9		9	.6		9										
OC		2	D	D	36	22	100.0													
OC Totals					22	100.0														
Total All Species					1,786	10.6	1,597	100.0		301	420	319	208	176	92	80				

TC		TSTNDSUM														Stand Table Summary																			
																		Project		HOLLYBSH															
T02S R08W S12 T0100																		T02S R08W S12 T0100																	
Twp		Rge		Sec		Tract		Type				Acres		Plots		Sample Trees				Page:		1													
02S		08W		12		AREA 1		0100				109.00		20		118				Date:		02/25/2015													
																				Time: 2:06:28PM															
S T Spc		Sample DBH		FF Trees		Av Ht 16' Tot		Trees/ Acre		BA/ Acre		Logs Acre		Average Log Net Cu.Ft.		Net Cu.Ft.		Bd.Ft.		Tons/ Acre		Cu.Ft. Acre		Bd.Ft. Acre		T o t a l s									
																										Tons			Cunits			MBF			
RA		10		2		78 62		5.093		2.78		5.09		11.6		40.0		1.68		59		204		183 64 22											
RA		11		7		76 82		14.733		9.72		14.73		15.2		44.3		6.74		224		652		735 244 71											
RA		12		9		79 64		15.917		12.50		15.92		13.9		44.4		7.62		222		707		830 242 77											
RA		13		7		80 82		10.548		9.72		13.56		16.5		56.7		6.87		223		769		749 244 84											
RA		14		4		78 65		5.197		5.56		7.80		15.8		51.7		3.48		123		403		379 134 44											
RA		15		7		78 69		7.923		9.72		11.32		20.0		61.0		6.97		226		690		759 246 75											
RA		16		7		75 63		6.964		9.72		9.95		22.0		57.0		6.54		219		567		713 239 62											
RA		17		7		77 79		6.168		9.72		9.69		26.9		82.7		7.85		260		802		855 284 87											
RA		18		2		58 84		1.572		2.78		1.57		21.4		65.0		.95		34		102		103 37 11											
RA		19		1		76 95		.705		1.39		1.41		25.1		95.0		.97		35		134		106 39 15											
RA		20		5		80 73		3.183		6.95		5.73		35.0		100.0		5.71		200		573		623 218 62											
RA		21		12		72 84		6.930		16.67		10.97		38.2		112.6		13.83		419		1,236		1,508 457 135											
RA		22		2		81 74		1.052		2.78		1.58		48.2		126.7		2.34		76		200		255 83 22											
RA		23		2		79 90		.963		2.78		2.41		34.6		122.0		2.51		83		294		274 91 32											
RA		24		2		81 68		.884		2.78		2.21		31.5		128.0		1.92		70		283		209 76 31											
RA		25		2		81 84		.815		2.78		1.63		54.5		170.0		2.62		89		277		285 97 30											
RA		28		1		49 69		.325		1.39		.32		59.8		90.0		.53		19		29		58 21 3											
RA		Totals		79		77 74		88.974		109.73		115.90		22.3		68.4		79.13		2,583		7,922		8,625 2,815 864											
DF		9		1		71 64		3.144		1.39		3.14		9.0		30.0		.80		28		94		88 31 10											
DF		11		2		80 95		4.209		2.78		8.42		9.5		37.5		2.27		80		316		248 87 34											
DF		12		2		75 86		3.537		2.78		5.31		14.0		46.7		2.12		74		248		231 81 27											
DF		13		2		81 77		3.014		2.78		6.03		12.7		37.5		2.17		76		226		237 83 25											
DF		14		2		82 97		2.599		2.78		5.20		18.4		67.5		2.72		96		351		297 104 38											
DF		15		1		80 99		1.132		1.39		2.26		17.0		65.0		1.19		38		147		130 42 16											
DF		16		5		80 96		4.974		6.95		9.95		22.8		78.0		6.58		227		776		718 248 85											
DF		17		3		77 92		2.644		4.17		5.29		23.8		81.7		3.71		126		432		405 137 47											
DF		18		2		72 78		1.572		2.78		3.14		20.7		65.0		1.96		65		204		214 71 22											
DF		19		1		81 111		.705		1.39		1.41		37.4		130.0		1.50		53		183		164 57 20											
DF		20		1		80 88		.637		1.39		1.27		27.8		100.0		1.01		35		127		110 39 14											
DF		21		1		75 106		.577		1.39		1.15		38.8		115.0		1.45		45		133		158 49 14											
DF		22		1		84 118		.526		1.39		1.58		36.3		143.3		1.63		57		226		178 63 25											
DF		23		5		79 104		2.407		6.95		6.26		40.4		133.1		7.21		253		833		786 276 91											
DF		24		1		83 116		.442		1.39		1.33		41.8		166.7		1.58		55		221		172 60 24											
DF		25		3		82 118		1.222		4.17		3.26		51.8		202.5		4.84		169		660		527 184 72											
DF		26		2		79 109		.753		2.78		1.88		56.6		194.0		3.04		107		365		331 116 40											
DF		Totals		35		78 92		34.095		48.62		66.88		23.7		82.9		45.81		1,585		5,543		4,993 1,728 604											
GF		29		1		83 101		.303		1.39		.61		87.9		310.0		1.17		53		188		128 58 20											
GF		Totals		1		83 101		.303		1.39		.61		87.9		310.0		1.17		53		188		128 58 20											
WH		29		1		76 103		.303		1.39		.61		87.4		275.0		1.69		53		167		185 58 18											
WH		Totals		1		76 103		.303		1.39		.61		87.4		275.0		1.69		53		167		185 58 18											
RC		13		1		72 62		1.507		1.39		1.51		24.1		40.0		.85		36		60		93 40 7											
RC		15		1		69 61		1.132		1.39		1.13		35.5		60.0		.94		40		68		103 44 7											
RC		Totals		2		71 62		2.639		2.78		2.64		29.0		48.6		1.80		76		128		196 83 14											
Totals				118		77 78		126.313		163.90		186.63		23.3		74.7		129.60		4350		13,948		14,126 4,742 1,520											

TC		TSTNDSUM													Stand Table Summary																													
															Project													HOLLYBSH																
T02S R08W S12 T0100																														T02S R08W S12 T0100														
Twp		Rge		Sec		Tract					Type			Acres			Plots			Sample Trees			Page:		1																			
02S		08W		12		AREA 2					0100			100.00			18			124			Date:		02/25/2013																			
																							Time:		2:06:28PM																			
S T Spc		Sample DBH		FF Trees		Ht 16'		Av Tot		Trees/ Acre		BA/ Acre		Logs Acre		Average Log		Tons/ Acre		Net		Net		T o t a l s																				
																Net				Cu.Ft.		Bd.Ft.																						
																										Tons		Cunits		MBF														
DF		9		6		74		55		20.960		9.26		20.96		7.6		25.0		4.52		159		524		452		159		52														
DF		10		9		80		82		25.467		13.89		28.30		12.2		39.0		10.01		347		1,104		1,001		347		110														
DF		11		8		80		80		18.708		12.35		25.72		11.9		44.5		8.69		305		1,146		869		305		115														
DF		12		5		82		76		9.825		7.72		13.76		15.1		50.0		5.92		208		688		592		208		69														
DF		13		6		81		93		10.046		9.26		18.42		15.1		54.5		8.04		278		1,005		804		278		100														
DF		14		7		82		88		10.106		10.80		18.77		17.6		59.2		9.52		331		1,112		952		331		111														
DF		15		2		80		87		2.515		3.09		5.03		19.2		65.0		2.76		97		327		276		97		33														
DF		16		8		80		84		8.843		12.35		17.69		21.6		68.8		10.90		383		1,216		1,090		383		122														
DF		17		3		80		91		2.937		4.63		5.87		25.5		86.7		4.28		150		509		428		150		51														
DF		18		3		78		95		2.620		4.63		5.24		23.7		83.3		4.18		124		437		418		124		44														
DF		20		3		83		97		2.122		4.63		4.24		39.2		128.3		4.75		167		545		475		167		54														
DF		22		2		79		102		1.169		3.09		2.34		47.7		145.0		3.18		112		339		318		112		34														
DF		23		1		79		94		.535		1.54		1.07		50.4		140.0		1.54		54		150		154		54		15														
DF		24		6		78		97		2.948		9.26		6.88		45.3		140.7		9.15		312		968		915		312		97														
DF		26		2		75		116		.837		3.09		2.09		49.2		168.0		3.18		103		352		318		103		35														
DF		27		1		83		118		.388		1.54		1.16		57.1		243.3		1.90		67		283		190		67		28														
DF		28		1		84		113		.361		1.54		1.08		57.4		233.3		1.77		62		253		177		62		25														
DF		31		2		76		121		.589		3.09		1.47		84.7		304.0		3.55		125		448		355		125		45														
DF		Totals		75		79		80		120.977		115.75		180.10		18.8		63.3		97.84		3,380		11,403		9,784		3,380		1,140														
RA		10		3		78		62		8.489		4.63		8.49		10.7		43.3		2.60		91		368		260		91		37														
RA		11		4		78		93		9.354		6.17		11.69		16.1		58.0		5.22		188		678		522		188		68														
RA		12		3		80		73		5.895		4.63		5.90		18.9		63.3		3.25		111		373		325		111		37														
RA		13		4		77		84		6.697		6.17		10.05		17.1		48.3		5.10		172		486		510		172		49														
RA		14		4		76		76		5.775		6.17		8.66		17.9		48.3		4.38		155		419		438		155		42														
RA		15		3		80		67		3.773		4.63		5.03		24.4		72.5		3.38		123		365		338		123		36														
RA		16		6		75		63		6.632		9.26		7.74		19.1		70.0		4.51		148		542		451		148		54														
RA		17		5		80		74		4.896		7.72		7.83		28.2		83.7		6.25		221		656		625		221		66														
RA		18		4		81		69		3.493		6.17		6.11		25.7		97.1		4.44		157		594		444		157		59														
RA		19		4		74		67		3.135		6.17		4.70		29.6		83.3		3.82		139		392		382		139		39														
RA		20		1		79		63		.707		1.54		1.41		26.4		90.0		1.03		37		127		103		37		13														
RA		21		3		79		68		1.925		4.63		3.85		32.3		108.3		3.42		124		417		342		124		42														
RA		22		1		79		56		.585		1.54		1.17		25.3		70.0		.95		30		82		95		30		8														
RA		23		1		84		63		.535		1.54		.53		35.3		60.0		1.10		19		32		110		19		3														
RA		26		1		81		28		.419		1.54		.42		49.1		180.0		.57		21		75		57		21		8														
RA		Totals		47		78		73		62.310		72.54		83.59		20.8		67.1		50.02		1,737		5,605		5,002		1,737		561														
RC		8		1		82		21		4.421		1.54		4.42		3.9		20.0		.40		17		88		40		17		9														
RC		Totals		1		82		21		4.421		1.54		4.42		3.9		20.0		0.40		17		88		40		17		9														
OC		2		16		1		89		92		1.105		1.54						1.33						133																		
OC		Totals		1		89		92		1.105		1.54								1.33						133																		
Totals				124		79		77		188.814		191.37		268.11		19.1		63.8		149.60		5134		17,097		14,960		5,134		1,710														



"STEWARDSHIP IN FORESTRY"

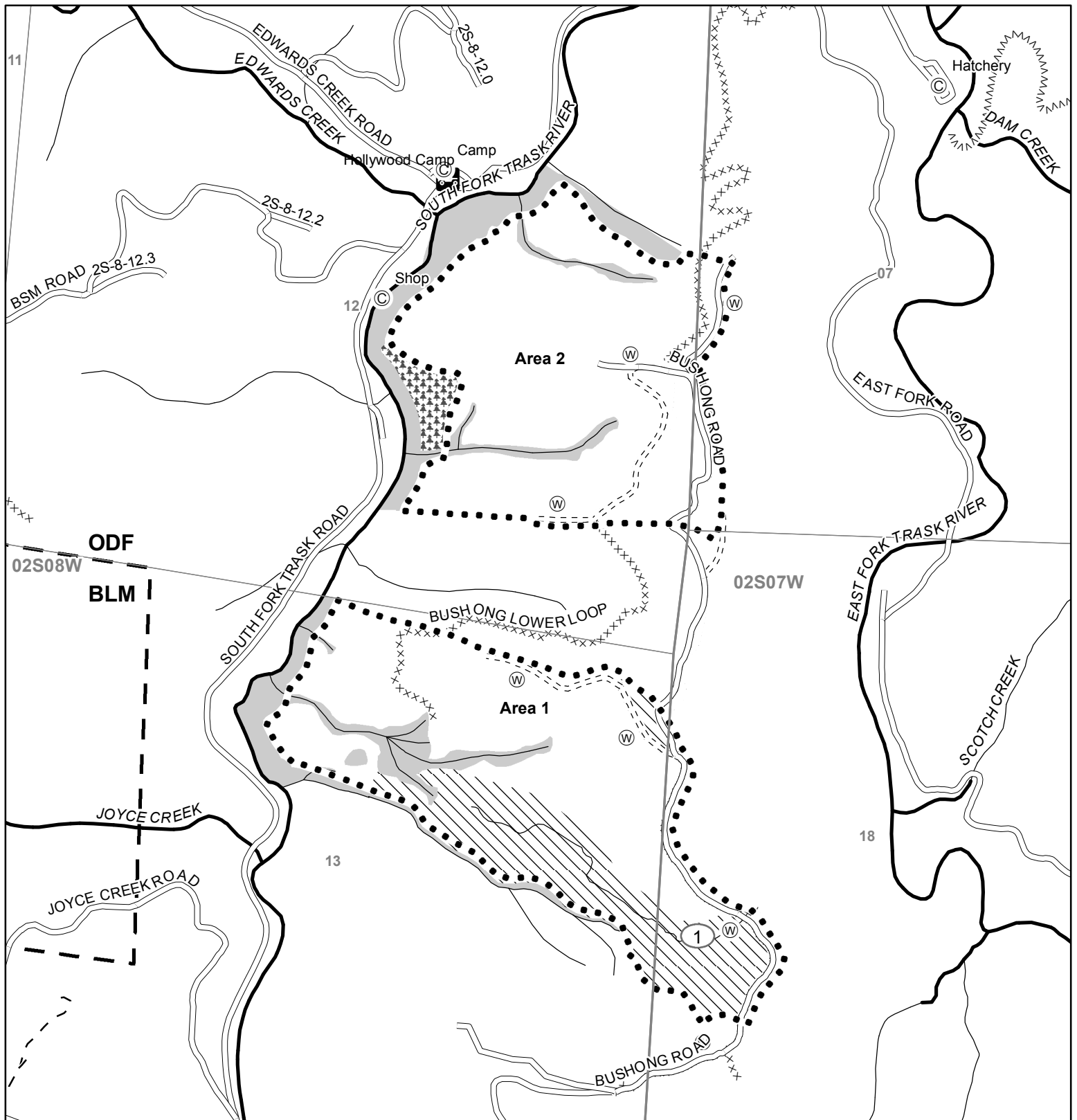
Holly Bush

Volume Summary

Area 1-Modified Clear Cut				
109 acres				
SPECIES	Cruised Net	Cruised Net	Hidden	Net Sale
	MBF/ Acre	MBF	D&B	MBF
Douglas-fir	5.5	604	5%	574
Hemlock		0	5%	0
Spruce		0	5%	0
Noble Fir		0	5%	0
Alder	7.9	864	10%	777
TOTAL	13.5	1468		1351

Areas 2-Modified Clear Cut				
100 acres				
SPECIES	Cruised Net	Cruised Net	Hidden	Net Sale
	MBF/ Acre	MBF	D&B	MBF
Douglas-fir	11.4	1140	5%	1083
Hemlock		0	5%	0
Spruce		0	5%	0
Noble Fir		0	5%	0
Alder	5.6	561	10%	504
TOTAL	17.0	1701		1588

TOTAL SALE VOLUME			209	acres
SPECIES	Cruised Net (MBF)		Net Sale (MBF)	
Douglas-fir	1744		1657	
Hemlock	0		0	
Spruce	0		0	
Noble Fir	0		0	
Red Alder	1424		1282	
TOTAL	3169		2939	



- | | | |
|---|---|---|
| <ul style="list-style-type: none"> Rock source Stock pile Waste area Bridge Gate Survey corner Domestic water supply intake Truck turn-around Helicopter landing zone Cultural site Landing Buffer Non-required thinning | <ul style="list-style-type: none"> Cable yarding Ground yarding Helicopter yarding Downhill yarding Green tree retention area Restricted area Area boundary Sale boundary Ownership boundary | <ul style="list-style-type: none"> Perennial Type-F stream Perennial Type-N stream Unsurfaced road Surfaced road Paved road Abandoned road Swing road Non-project road Blocked road OHV trail Non-motorized trail Transmission line Railroad |
|---|---|---|

LOGGING PLAN

Timber Sale Contract No. 341-13-099
HOLLY BUSH
 Portions of Sections 12 & 13 T2S, R8W,
 Portions of Sections 7 & 18 T2S, R7W, W.M.,
 Tillamook County, Oregon

1,000 0 1,000 Feet

Area	Type of Operation	Acres	
		Gross	Net
1	Modified Clearcut	128	109
2	Modified Clearcut	131	100
Total		259	209

Tillamook District GIS
 3/7/2013

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

