



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Toucan Two
Sale 341-15-28

District: Forest Grove

Date: August 25, 2014

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$2,551,727.25	\$4,893.64	\$2,556,620.89
		Project Work:	\$(248,200.00)
		Advertised Value:	\$2,308,420.89



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
 Toucan Two
 Sale 341-15-28

District: Forest Grove

Date: August 25, 2014

timber description

Location: Portions of Sections 17, 20, and 21, T3N, R6W, W.M., Tillamook County, Oregon.

Stand Stocking: 20%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	19	0	98
Alder (Red)	11	0	95

Volume by Grade	2S	3S	4S	Camprun	Total
Douglas - Fir	4,437	1,570	248	0	6,255
Alder (Red)	0	0	0	19	19
Total	4,437	1,570	248	19	6,274



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Toucan Two
Sale 341-15-28

District: Forest Grove

Date: August 25, 2014

comments: Pond Values Used: 2nd Quarter Calendar Year 2014.

Western Hemlock and other Conifers Stumpage Price = Pond Value
minus Logging Cost:
 $\$282.51/\text{MBF} = \$505/\text{MBF} - \$222.49/\text{MBF}$

Western redcedar and Other Cedars Stumpage Price = Pond Value
minus Logging Cost:
 $\$827.51/\text{MBF} = \$1,050/\text{MBF} - \$222.49/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$4.00/Gallon

HAULING COST ALLOWANCE

Hauling costs equivalent to \$780 daily truck cost.

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

Brand and Paint: 6,274 MBF @ \$2/MBF = \$12,548

TOTAL Other Costs (with Profit & Risk to be added) = \$12,548

Other Costs (No Profit & Risk added):

Machine time to block/waterbar road and skid trails:

20 Hours @ \$150/Hr. = \$3,000

Equipment Cleaning: 2 x \$1,000/Machine = \$2,000

TOTAL Other Costs (No Profit & Risk added) = \$5,000

ROAD MAINTENANCE

Move-in: \$2,000

General Road Maintenance: 13.4 miles x \$1,000/mile = \$13,400

TOTAL: \$15,400/6,274 MBF = \$2.45/MBF



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Toucan Two
Sale 341-15-28

District: Forest Grove

Date: August 25, 2014

logging conditions

combination#: 1 Douglas - Fir 100.00%
 Alder (Red) 100.00%

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

logging system: Cable: Small Tower <=40 **Process:** Stroke Delimber

tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF

loads / day: 6.0 **bd. ft / load:** 4,200

cost / mbf: \$112.47

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



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
 Toucan Two
 Sale 341-15-28

District: Forest Grove

Date: August 25, 2014

logging costs

Operating Seasons:	2.00	Profit Risk:	10.00%
Project Costs:	\$248,200.00	Other Costs (P/R):	\$12,548.00
Slash Disposal:	\$0.00	Other Costs:	\$5,000.00

Miles of Road

Road Maintenance: \$2.45

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	2.0	4.6
Alder (Red)	\$0.00	1.0	3.7



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
 Toucan Two
 Sale 341-15-28

District: Forest Grove

Date: August 25, 2014

logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$112.47	\$2.50	\$1.40	\$78.62	\$2.00	\$19.70	\$0.00	\$5.00	\$0.80	\$222.49
Alder (Red)									
\$112.47	\$2.57	\$1.40	\$201.23	\$2.00	\$31.97	\$0.00	\$5.00	\$0.80	\$357.44

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$630.44	\$407.95	\$0.00
Alder (Red)	\$0.00	\$615.00	\$257.56	\$0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Toucan Two
Sale 341-15-28

District: Forest Grove

Date: August 25, 2014

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	6,255	\$407.95	\$2,551,727.25
Alder (Red)	19	\$257.56	\$4,893.64

Gross Timber Sale Value

Recovery: \$2,556,620.89

Prepared by: Eric Foucht

Phone: 503-359-7473

TIMBER SALE SUMMARY
Toucan Two
Contract No. 341-15-28

1. **Location:** Portions of Sections 17, 20, and 21, T3N, R6W, W.M., Tillamook County, Oregon.
2. **Type of Sale:** This timber sale is 126 acres of Modified Clearcut in two stands of Douglas-fir. The timber will be sold on a recovery basis at a sealed bid auction.
3. **Revenue Distribution:** 100% BOF, Tillamook County, Tax Code 56-1.
4. **Sale Acreage:** Acres are net of stream buffers and road prisms. Acreage was determined using ESRI ArcMap GIS software.
5. **Cruise :** The Timber Sale was cruised by ODF Cruisers in May of 2014. For more information see Cruise Report.
6. **Timber Description:** The Timber Sale Area consists of two medium to well stocked 61 and 70 year old Douglas-fir stands . The average “take” Douglas-fir DBH is 18 inches in both Area 1 and Area 2. The estimated average net Douglas-fir volume in Area 1 is 37.4 MBF/acre, and it is 55.2 MBF/acre in Area 2.
7. **Topography and Logging Method:** Slopes within the sale areas range from 10% to 80% and are variable in aspect. Area 1 and Area 2 are both 100% cable-based yarding. The average horizontal cable yarding distance in Area 1 is approximately 1,000 feet and the maximum is approximately 1,800 feet. The average horizontal cable yarding distance in Area 2 is approximately 600 feet and the maximum is approximately 1,400 feet.
8. **Access:** Access to the Timber Sale Areas is on surfaced all-weather roads. From Forest Grove, travel north on Highway 47 through Banks then merge onto Highway 26 westbound and continue for approximately 20 miles. Between the 31 and the 32 mile markers, turn south onto the Salmonberry Road and continue south for approximately 4.6 miles to the east side of Area 1.

9. Projects:

Project No. 1: Road Construction and Improvement	\$59,599.08
Project No. 2: Surfacing	\$180,284.46
Project No. 3: Grass Seed, Fertilize, & Mulch	\$2,158.74
Move in and equipment cleaning;	\$6,154.97

Total Credit for all Projects (rounded)	\$248,200
---	-----------

PROJECT COST SUMMARY SHEET

Timber Sale: Toucan Two

Sale Number: 341-15-28

PROJECT NO. 1: ROAD CONSTRUCTION AND IMPROVEMENT

CONSTRUCTION

<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
<u>F to G</u>	<u>2+50</u>	<u>\$1,012.97</u>
	2+50 stations	
	0.05 miles	

SUBTOTAL CONSTRUCTION \$1,012.97

IMPROVEMENTS

<u>Road Segment</u>	<u>Length</u>	<u>Cost</u>
A to B	110+40	\$20,185.48
C to D	108+60	\$22,547.82
D to E	18+50	\$1,490.95
H to I	110+60	\$7,514.11
J to K	95+60	\$6,847.75
	443+70 stations	
	8.40 miles	

SUBTOTAL IMPROVEMENTS \$58,586.11

TOTAL PROJECT NO. 1 COST = \$59,599.08

PROJECT NO. 2: SURFACING

<u>Road Segment</u>	<u>Amount</u>	<u>Type</u>	<u>Cost</u>
A to B	3,856 cy	1 1/2" - 0	\$58,225.60
	20 cy	Riprap	\$112.40
	216 cy	Reject	\$1,213.92
C to D	3,789 cy	1 1/2" - 0	\$57,820.14
	228 cy	Reject	\$1,317.84
D to E	12 cy	1 1/2" - 0	\$80.16
	12 cy	Reject	\$179.28
F to G	363 cy	Pit-Run	\$2,798.73
H to I	3,509 cy	1 1/2" - 0	\$55,652.74
	48 cy	Reject	\$306.24
J to K	48 cy	1 1/2" - 0	\$860.64
	346 cy	Pit-Run	\$1,319.81
	48 cy	Reject	\$396.96
Total	11,214 cy	1 1/2" - 0	
	346 cy	Pit-Run from Salmonback Pit	
	363 cy	Pit-Run from Camp 5 Pit	
	20 cy	Riprap	
	552 cy	Rock Crusher Reject	

TOTAL PROJECT NO. 2 COST = \$180,284.46

PROJECT NO. 3: GRASS SEED, FERTILIZE, & MULCH

TOTAL PROJECT NO. 3 COST = \$2,158.74

MOVE IN & EQUIPMENT CLEANING

Graders	\$473.57
Rollers (smooth/grid) & Compactors	\$470.84
Excavators (Large) - Equipment Cleaning	\$1,980.39
Tractors (D8) - Equipment Cleaning	\$1,792.76
Dump Trucks (10 cy +)	\$700.00
Water Trucks (1500 Gal)	\$106.40

TOTAL MOVE IN & EQUIPMENT CLEANING COST = \$6,154.97

TOTAL ALL PROJECTS \$248,197.25

TOTAL CREDITS \$248,200.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Toucan Two Timber Sale No. : 341-15-28
 Road Segment: A to B (Section 10 Road) Improvement 110+40 stations
2.09 miles

PROJECT NO. 1

EXCAVATION

Clean Ditch and Endhaul Waste Material	32.35	sta @	\$100.00	per sta =	\$3,235.00	
Grade, Ditch, and Roll	110.40	sta @	\$28.70	per sta =	\$3,168.48	
				TOTAL EXCAVATION COSTS=	<u>\$6,403.48</u>	

CULVERTS - MATERIALS & INSTALLATION

Culverts						
420 LF of 18"	\$8,400.00	50 LF of 24"	\$1,450.00			
60 LF of 42"	\$3,660.00					
Culvert Markers						
15 markers	\$150.00					
Bands						
2 ea of 42" @	\$61.00	per ea =	122.00			
				TOTAL CULVERT COSTS =	\$13,782.00	

PROJECT NO. 1 TOTAL COST = \$20,185.48

PROJECT NO. 2:

SURFACING

	6	" deep =	31 cy/sta			
A to B (Section 10 Road)	3,422	cy of	1 1/2" - 0	@	\$15.10	per cy = \$51,672.20
Turnouts (14)	154	cy of	1 1/2" - 0	@	\$15.10	per cy = \$2,325.40
Junctions (2)	40	cy of	1 1/2" - 0	@	\$15.10	per cy = \$604.00
Culvert Bedding 18" & 24"	180	cy of	Reject	@	\$5.62	per cy = \$1,011.60
Culvert Backfill 18" & 24"	180	cy of	1 1/2" - 0	@	\$15.10	per cy = \$2,718.00
Culvert Bedding 42"	36	cy of	Reject	@	\$5.62	per cy = \$202.32
Culvert Backfill 42"	36	cy of	1 1/2" - 0	@	\$15.10	per cy = \$543.60
Curve Widening	24	cy of	1 1/2" - 0	@	\$15.10	per cy = \$362.40
Energy Dissipator	20	cy of	36" - 24"	@	\$5.62	per cy = \$112.40
Total =	<u>4,092</u>					
	3,856	cy of	1 1/2" - 0	@	\$15.10	per cy = \$58,225.60
	20	cy of	36" - 24"	@	\$5.62	per cy = \$112.40
	216	cy of	Reject	@	\$5.62	per cy = \$1,213.92
				PROJECT NO. 2 TOTAL COST =	<u>\$59,551.92</u>	

PROJECT NO. 3:

Install Bio-bags	40	each @	\$5.00	per each =	\$200.00
Grass seed and fertilize areas of disturbed soil.	0.27	acres @	\$220.00	per acre =	\$58.82
Mulch areas of disturbed soil.	0.27	acres @	\$600.00	per acre =	\$160.41
Mulch inlet and outlet of new culverts.	32.00	bales @	\$4.50	per bale =	\$144.00
				PROJECT NO. 3 TOTAL COST =	<u>\$563.23</u>

TOTAL COST = \$80,300.63

SUMMARY OF CONSTRUCTION COST

Timber Sale: Toucan Two Timber Sale No. : 341-15-28
 Road Segment: C to D (Fire Road 2) Improvement: 108+60 stations
2.06 miles

PROJECT NO. 1

EXCAVATION

Cutbank layback	3.00	sta @	\$90.00	per sta =	\$270.00
Clean Ditch and Waste Material	26.25	sta @	\$60.00	per sta =	\$1,575.00
Grade, Ditch, and Roll	108.60	sta @	\$28.70	per sta =	\$3,116.82
TOTAL EXCAVATION COSTS=					\$4,961.82

CULVERTS - MATERIALS & INSTALLATION

Culverts

320 LF of 18"	\$6,400.00	60 LF of 24"	\$1,740.00
180 LF of 30"	\$7,020.00	40 LF of 36"	\$2,000.00

Culvert Markers

11 markers	\$110.00
------------	----------

Bands

6 ea of 30" @	\$44.00	per ea =	264.00
1 ea of 36" @	\$52.00	per ea =	52.00

TOTAL CULVERT COSTS = **\$17,586.00**

PROJECT NO. 1 TOTAL COST = \$22,547.82

PROJECT NO. 2:

SURFACING

	6	" deep =	31 cy/sta			
C to D (Fire Road 2)	3,367	cy of	1 1/2" - 0	@	\$15.26	per cy = \$51,380.42
Turnouts (14)	154	cy of	1 1/2" - 0	@	\$15.26	per cy = \$2,350.04
Junctions (2)	40	cy of	1 1/2" - 0	@	\$15.26	per cy = \$610.40
Culvert Bedding 18" & 24"	132	cy of	Reject	@	\$5.78	per cy = \$762.96
Culvert Backfill 18" & 24"	132	cy of	1 1/2" - 0	@	\$15.26	per cy = \$2,014.32
Culvert Bedding 30" & 36"	96	cy of	Reject	@	\$5.78	per cy = \$554.88
Culvert Backfill 30" & 36"	96	cy of	1 1/2" - 0	@	\$15.26	per cy = \$1,464.96
Total =	4,017					
	3,789	cy of	1 1/2" - 0	@	\$15.26	per cy = \$57,820.14
	228	cy of	Reject	@	\$5.78	per cy = \$1,317.84

PROJECT NO. 2 TOTAL COST = \$59,137.98

PROJECT NO. 3:

Install Bio-bags	40	each @	\$5.00	per each =	\$200.00
Grass seed and fertilize areas of disturbed soil.	0.22	acres @	\$220.00	per acre =	\$47.73
Mulch areas of disturbed soil.	0.22	acres @	\$600.00	per acre =	\$130.17
Mulch inlet and outlet of new culverts.	32.00	bales @	\$4.50	per bale =	\$144.00

PROJECT NO. 3 TOTAL COST = \$521.89

TOTAL COST = \$82,207.69

SUMMARY OF CONSTRUCTION COST

Timber Sale: Toucan Two
 Road Segment: D to E (Giveout Grade)

Timber Sale No. : 341-15-28
 Improvement: 18+50 stations
0.35 miles

PROJECT NO. 1

EXCAVATION

Cutbank lay back	1.00	sta @	\$90.00	per sta =	\$90.00	
Clean Ditch and Waste Material	1.00	sta @	\$60.00	per sta =	\$60.00	
Grade, Ditch, and Roll	18.50	sta @	\$28.70	per sta =	\$530.95	
				TOTAL EXCAVATION COSTS=		\$680.95

CULVERTS - MATERIALS & INSTALLATION

Culverts

40 LF of 18" \$800.00

Culvert Markers

1 markers \$10.00

TOTAL CULVERT COSTS = \$810.00

PROJECT NO. 1 TOTAL COST = \$1,490.95

PROJECT NO. 2:

SURFACING

Culvert Bedding 18"	12	cy of	Reject	@	\$6.68	per cy =	\$80.16
Culvert Backfill 18"	12	cy of	1 1/2" - 0	@	\$14.94	per cy =	\$179.28
Total =	24		1 1/2" - 0				
	12	cy of	1 1/2" - 0	@	\$6.68	per cy =	\$80.16
	12	cy of	Reject	@	\$14.94	per cy =	\$179.28
							PROJECT NO. 2 TOTAL COST = \$259.44

PROJECT NO. 3:

Mulch inlet and outlet of new culverts. 2.00 bales @ \$4.50 per bale = \$9.00

PROJECT NO. 3 TOTAL COST = \$9.00

TOTAL COST = \$1,759.39

SUMMARY OF CONSTRUCTION COST

Timber Sale: Toucan Two
 Road Segment: F to G

Timber Sale No. : 341-15-28
 Construction: 2+50 stations
0.05 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.29	acres @	\$980.00	per acre =	\$281.22
Drift	2.50	sta @	\$150.00	per sta =	\$375.00
Landing	1	ea @	\$285.00	per ea =	\$285.00
Grade, Ditch, and Roll	2.50	sta @	\$28.70	per sta =	\$71.75
				TOTAL EXCAVATION COSTS=	\$1,012.97

PROJECT NO. 1 TOTAL COST = \$1,012.97

PROJECT NO. 2:

SURFACING

	12	" deep =	65 cy/sta		
F to G	163	cy of	Pit-Run @	\$7.71 per cy =	\$1,256.73
Turnaround (1)	20	cy of	Pit-Run @	\$7.71 per cy =	\$154.20
Landing (1)	180	cy of	Pit-Run @	\$7.71 per cy =	\$1,387.80
Total =	363				
	363	cy of	Pit-Run @	\$7.71 per cy =	\$2,798.73

PROJECT NO. 2 TOTAL COST = \$2,798.73

PROJECT NO. 3:

Grass seed and fertilize areas of disturbed soil.	0.14	acres @	\$220.00	per acre =	\$31.57
---	------	---------	----------	------------	---------

PROJECT NO. 3 TOTAL COST = \$31.57

TOTAL COST = \$3,843.27

SUMMARY OF CONSTRUCTION COST

Timber Sale: Toucan Two
 Road Segment: H to I (Ellis Road)

Timber Sale No. : 341-15-28
 Improvement: 110+60 stations
2.09 miles

PROJECT NO. 1

EXCAVATION

Clean Ditch and Endhaul Waste Material	12.00	sta @	\$100.00	per sta =	\$1,200.00
Remove Culvert	1	ea @	\$150.00	per ea =	\$150.00
Compact removed culvert backfill	0.25	hr @	\$145.00	per ea =	\$36.25
Grade and Roll (Outslope)	127.80	sta @	\$28.70	per sta =	\$3,667.86
					TOTAL EXCAVATION COSTS=
					\$5,054.11

CULVERTS - MATERIALS & INSTALLATION

Culverts
 120 LF of 18" \$2,400.00
Culvert Markers
 6 markers \$60.00

TOTAL CULVERT COSTS = \$2,460.00

PROJECT NO. 1 TOTAL COST = \$7,514.11

PROJECT NO. 2:

SURFACING

	6	" deep =	31 cy/sta		
H to I (Ellis Road)	3,429	cy of	1 1/2" - 0	@	\$15.86 per cy = \$54,383.94
Junction	20	cy of	1 1/2" - 0	@	\$15.86 per cy = \$317.20
Culvert Bedding	48	cy of	Reject	@	\$6.38 per cy = \$306.24
Culvert Backfill	60	cy of	1 1/2" - 0	@	\$15.86 per cy = \$951.60
Total =	<u>3,557</u>				
	3,509	cy of	1 1/2" - 0	@	\$15.86 per cy = \$55,652.74
	48	cy of	Reject	@	\$6.38 per cy = \$306.24

PROJECT NO. 2 TOTAL COST = \$55,958.98

PROJECT NO. 3:

Install Bio-bags	75 each @	\$5.00	per each =	\$375.00
Grass seed and fertilize areas of disturbed soil.	0.10 acres @	\$220.00	per acre =	\$21.82
Mulch areas of disturbed soil.	0.10 acres @	\$600.00	per acre =	\$59.50
Mulch inlet and outlet of new culverts.	8.00 bales @	\$4.50	per bale =	\$36.00

PROJECT NO. 3 TOTAL COST = \$492.32

TOTAL COST = \$63,965.41

SUMMARY OF CONSTRUCTION COST

Timber Sale: Toucan Two
 Road Segment: J to K (Salmonback Road)

Timber Sale No. : 341-15-28
 Improvement: 95+60 stations
1.81 miles

PROJECT NO. 1

EXCAVATION

Clean Ditch and Waste Material	67.10	sta @	\$60.00	per sta =	\$4,026.00
Construct Roadside Landing	2	ea @	\$150.00	per ea =	\$300.00
Grade, Ditch, and Roll	2.50	sta @	\$28.70	per sta =	\$71.75
					TOTAL EXCAVATION COSTS=
					\$4,397.75

CULVERTS - MATERIALS & INSTALLATION

Culverts

120 LF of 18" \$2,400.00

Culvert Markers

5 markers \$50.00

TOTAL CULVERT COSTS = **\$2,450.00**

PROJECT NO. 1 TOTAL COST = \$6,847.75

PROJECT NO. 2:

SURFACING

	10	" deep =	53 cy/sta		
Surfacing	186	cy of	Pit-Run @	\$7.07 per cy =	\$1,311.49
Roadside Landing (2)	160	cy of	Pit-Run @	\$7.07 per cy =	\$1,131.20
Culvert Bedding	48	cy of	Reject @	\$8.27 per cy =	\$396.96
Culvert Backfill	48	cy of	1 1/2" - 0 @	\$17.93 per cy =	\$860.64
Total =	442				
	48	cy of	1 1/2" - 0 @	\$17.93 per cy =	\$860.64
	346	cy of	Pit-Run @	\$7.07 per cy =	\$2,442.69
	48	cy of	Reject @	\$8.27 per cy =	\$396.96

PROJECT NO. 2 TOTAL COST = \$3,700.29

PROJECT NO. 3:

Install Bio-bags	10 each @	\$5.00 per each =	\$50.00
Grass seed and fertilize areas of disturbed soil.	0.55 acres @	\$220.00 per acre =	\$122.00
Mulch areas of disturbed soil.	0.55 acres @	\$600.00 per acre =	\$332.73
Mulch inlet and outlet of new culverts	8.00 bales @	\$4.50 per bale =	\$36.00

PROJECT NO. 3 TOTAL COST = \$540.73

TOTAL COST = \$11,088.76

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Timber Sale:	Toucan Two
Sale Number:	341-15-28
Pit Name:	Camp 5

Swell:	130%	1-1/2"-0 (trk measure)	11,214 cy
Shrinkage:	116%	3"-0 (trk measure)	cy
Drill Pct.:	85%	6"-0 (trk measure)	cy
Screening Loss:	15%	Stockpile (stockpile measurement)	cy
		Total Truck Yardage:	11,214 cy
		Total In Place Yardage:	8,626 cy

Pit Development & Cleanup: Clearing and grubbing of Pit Development Area, removing and placing overburden in Waste Area. Shaping and compacting waste area.

\$6,028.81

Drill & Shoot (Downholes):	\$2.50 /cy x	10,148 cy	=	\$25,371.04
Push Rock:	\$0.70 /cy x	13,193 cy	=	\$9,235.06
Load Crusher:	\$0.70 /cy x	13,193 cy	=	\$9,235.06
Crushing (1-1/2" - 0):	\$3.00 /cy x	11,214 cy	=	\$33,642.00
Screen Rock	\$0.75 /cy x	13,193 cy	=	\$9,894.71
Load, Haul and Shape Waste Reject:	\$1.77 /cy x	1,979 cy	=	\$3,502.73
Load Dump Truck:	\$0.70 /cy x	11,214 cy	=	\$7,849.80
		Subtotal		\$104,759.20

Equipment Cleaning (Dozer and Excavator)		\$2,000.00	
Move in Crusher (Stage 3)		\$2,987.00	
Set up Crusher		\$3,024.00	
Move in Drill and Compressor		\$364.72	
Move in Screening Plant		\$465.00	
Move in Excavator		\$667.23	
Move in D-8		\$661.75	
Move in Loader		\$593.30	
Clean Up Pit		\$300.00	
Gradation Tests (\$65/2000 cy)	\$65.00 cy/2000cy x	6 tests	\$390.00
		Subtotal	\$11,453.00

ROCK DEVELOPMENT COST = \$10.36/cy TOTAL PRODUCTION COST \$116,212.20

ROCK DEVELOPMENT COST SUMMARY

Timber Sale: Toucan Two

Sale Number: 341-15-28

Pit Name: Salmonback

Swell:	<u>1.30</u>	Pit Run (trk measure)	<u>346 cy</u>
Shrinkage:	<u>1.16</u>	Total Truck Yardage:	<u>346 cy</u>
Drill Pct.:	<u>100%</u>	Total In Place Yardage:	<u>266 cy</u>
Scalp & Clear Overburden:	<u>\$150.00</u> /hr x	<u>1</u> hr =	\$75.00
Rip Rock:	<u>\$1.90</u> /cy x	<u>266</u> cy =	\$504.96
Load Dump Truck:	<u>\$0.70</u> /cy x	<u>346</u> cy =	\$241.85
		Subtotal	<u>\$821.81</u>
Move in Excavator			\$0.00
Clean Up Pit			<u>\$300.00</u>
		Subtotal	<u>\$300.00</u>

ROCK DEVELOPMENT COST = \$3.25/cy

TOTAL PRODUCTION COST \$1,121.81

**CRUISE REPORT
TOUCAN TWO
341-15-28**

1. LOCATION: Portions of Sections 17, 20, and 21, T3N, R6W, W.M., Tillamook County, Oregon.

2. CRUISE DESIGN:

The cruise design assumed a Coefficient of Variation (CV%) of 45%, an average stand diameter of 18 inches, a desired sampling error (SE%) of 8% and a minimum sample size of 100 grade trees. Pre-cruise plots indicated that approximately 5-6 trees per plot could be realized with a 40 BAF prism.

3. SAMPLING METHOD:

The Timber Sale Area was cruised in May of 2014 with 21 variable radius grade plots and 21 variable radius count plots using a 40 BAF prism. Plots were laid out on a 4 chain x 5 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain.

4. CRUISE RESULTS

123 trees were measured and graded producing a cumulative SE% of 5.9% on the Douglas-fir Basal Area and a SE% of 6.5% on the Douglas-fir Board Foot Volume.

5. TREE MEASUREMENT AND GRADING:

All grade plot sample trees were measured and graded following Columbia River Log Scale grade rules and favoring 40 foot segments.

a) **Height Standards:**

Total tree heights were measured to the nearest foot. Bole heights were calculated to a six inch top.

b) **Diameter Standards:** Diameters were measured outside bark at breast height to the nearest inch.

c) **Form Factors** were measured for each grade tree using a form point of 16 feet.

5. DATA PROCESSING

a) **Volumes and Statistics,** Cruise volume estimates and sampling statistics were derived from Super Ace 2008 cruise software.

b) **Deductions:** Two percent of the volume was subtracted from the computed volumes to account for hidden defect and breakage.

6. Cruisers: The sale was cruised by ODF cruisers Mark Savage and Joe Koch.

Prepared by: Mark Savage

Reviewed by: Eric Foucht

TC PSTATS		PROJECT STATISTICS							PAGE	1	
		PROJECT		TOUCAN2			DATE		5/15/2014		
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt	
03N	06	17	0001	00A1		126.00	42	274	S	W	
03N	06W	17	0001	00A2							
		PLOTS		TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
					TREES	TREES					
TOTAL			42	274	6.5						
CRUISE			22	123	5.6	17,902		.7			
DBH COUNT											
REFOREST											
COUNT			20	148	7.4						
BLANKS											
100 %											
STAND SUMMARY											
SAMPLE		TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
TREES		/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
DOUG FIR	118	134.6	18.6	108	59.0	254.3	51,035	50,648	10,857	10,857	
NOB FIR	2	3.3	14.4	107	1.0	3.8	681	681	150	150	
R ALDER	3	4.1	11.1	70	0.8	2.8	151	151	45	45	
TOTAL	<i>123</i>	<i>142.1</i>	<i>18.3</i>	<i>106</i>	<i>60.9</i>	<i>260.9</i>	<i>51,868</i>	<i>51,480</i>	<i>11,052</i>	<i>11,052</i>	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL	68.1	COEFF	SAMPLE TREES - BF			# OF TREES REQ.		INF. POP.			
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15		
DOUG FIR		83.2	7.7	745	806	868					
NOB FIR		83.8	78.5	58	270	482					
R ALDER		50.0	34.6	26	40	54					
TOTAL		<i>86.2</i>	<i>7.8</i>	<i>718</i>	<i>779</i>	<i>839</i>	<i>297</i>	<i>74</i>	<i>33</i>		
CL	68.1	COEFF	SAMPLE TREES - CF			# OF TREES REQ.		INF. POP.			
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15		
DOUG FIR		74.4	6.8	154	165	177					
NOB FIR		79.4	74.3	15	58	102					
R ALDER		45.1	31.2	8	12	15					
TOTAL		<i>77.3</i>	<i>7.0</i>	<i>149</i>	<i>160</i>	<i>171</i>	<i>238</i>	<i>60</i>	<i>26</i>		
CL	68.1	COEFF	TREES/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15		
DOUG FIR		60.9	9.4	122	135	147					
NOB FIR		340.3	52.5	2	3	5					
R ALDER		459.7	70.9	1	4	7					
TOTAL		<i>57.1</i>	<i>8.8</i>	<i>130</i>	<i>142</i>	<i>155</i>	<i>130</i>	<i>33</i>	<i>14</i>		
CL	68.1	COEFF	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15		
DOUG FIR		38.4	5.9	239	254	269					
NOB FIR		312.0	48.1	2	4	6					
R ALDER		478.3	73.7	1	3	5					
TOTAL		<i>35.6</i>	<i>5.5</i>	<i>247</i>	<i>261</i>	<i>275</i>	<i>51</i>	<i>13</i>	<i>6</i>		
CL	68.1	COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15		
DOUG FIR		43.7	6.7	47,233	50,648	54,062					
NOB FIR		321.4	49.5	344	681	1,019					
R ALDER		519.2	80.0	30	151	272					
TOTAL		<i>42.3</i>	<i>6.5</i>	<i>48,125</i>	<i>51,480</i>	<i>54,836</i>	<i>71</i>	<i>18</i>	<i>8</i>		
CL	68.1	COEFF	NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15		
DOUG FIR		41.1	6.3	10,170	10,857	11,545					
NOB FIR		318.2	49.1	76	150	224					

TC PSTATS										PROJECT STATISTICS					PAGE	2
										PROJECT		TOUCAN2			DATE	5/15/2014
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt					
03N	06	17	0001	00A1		126.00		42	274	S	W					
03N	06W	17	0001	00A2												
CL	68.1	COEFF		NET CUFT FT/ACRE							# OF PLOTS REQ.		INF. POP.			
SD:	1.00	VAR.		S.E.%	LOW	AVG	HIGH			5	10	15				
R ALDER		509.3	78.5		10	45	80									
TOTAL		39.3	6.1		10,382	11,052	11,722			62	15	7				

Log Stock Table - MBF
Project: TOUCAN2

T03N R06W S17 T00A1

T03N R06W S17 T00A1

Twp Rge Sec Tract Type Acres Plots Sample Trees Page
 03N 06W 17 0001 00A1 41.00 14 43 Date 5/15/2014
 Time 10:59:46AM

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
DF				CU	4														
DF				2M	40	629	2.9	610	39.2					318	125	54	114		
DF				3M	32	40		40	2.6			40							
DF				3M	34	95		95	6.1			42	53						
DF				3M	36	40		40	2.6			30	10						
DF				3M	38	10		10	.6			10							
DF				3M	40	630	.3	628	40.3			151	244	233					
DF				4M	12	24		24	1.6			15	10						
DF				4M	14	23		23	1.5			16	7						
DF				4M	16	27		27	1.7			10		17					
DF				4M	18	12		12	.8			12							
DF				4M	20	2		2	.1				2						
DF				4M	22	9		9	.6			7	2						
DF				4M	24	13		13	.8			13							
DF				4M	28	7		7	.5			7							
DF				4M	30	17		17	1.1			17							
DF				Totals		1,579	1.3	1,558	96.8			371	327	250	318	125	54	114	
RA				R	14	7		7	35.9			7							
RA				R	16	5		5	26.7				5						
RA				R	22	7		7	37.3			7							
RA				Totals		19		19	1.2			14	5						
NF				3M	40	27		27	81.8			27							
NF				4M	20	6		6	18.2			6							
NF				Totals		33		33	2.0			6	27						
Total All Species						1,630	1.3	1,610	100.0			390	359	250	318	125	54	114	

T03N R06W S17 T00A1										T03N R06W S17 T00A1				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
03N	06W	17	0001	00A1	41.00	14	43	S	W					

S T	So rt	Gr ad	%	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre					
								Net BdFt	Def%	Gross	Net	Log Scale Dia.				Log Length					Ln Ft	Dia In	Bd Ft	CF/ Lf	
												4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
DF		CU																							
DF		2M	39	2.9	15,336	14,890	610			72	28						100	4	22				0.00		5.3
DF		3M	52	.3	19,874	19,821	813			100						17	83	38	8			90	0.58		219.8
DF		4M	9		3,292	3,292	135			100			66	34				17	7			24	0.33		140.1
DF	Totals		97	1.3	38,502	38,003	1,558			61	28	11	6	3	9	83		31	8			91	0.71		416.7
RA		R	100		464	464	19			100			63	37				17	7			29	0.52		15.8
RA	Totals		1		464	464	19			100			63	37				17	7			29	0.52		15.8
NF		3M	81		655	655	27			100						100		40	8			90	0.50		7.3
NF		4M	19		146	146	6			100			100					20	6			20	0.27		7.3
NF	Totals		2		800	800	33			100			18			82		30	7			55	0.43		14.6
Type	Totals			1.3	39,766	39,267	1,610			62	27	10	7	3	8	82		30	8			88	0.70		447.0

TC		TSTNDSUM		Stand Table Summary												
Project														TOUCAN2		
T03N R06W S17 T00A1										T03N R06W S17 T00A1						
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page:	1							
03N	06W	17	0001	00A1	41.00	14	43	Date:	05/15/2014							
								Time:	10:59:46AM							
S Spc	T	Sample		Av	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals			
		DBH	Trees	FF 16'				Ht Tot	Net Cu.Ft.				Net Bd.Ft.	Tons	Cunits	MBF
DF		9	1	87	85	14.593	6.45	14.59	9.3	50.0	3.86	135	730	158	55	30
DF		10	2	86	92	23.640	12.89	35.46	9.0	43.3	9.06	318	1,537	371	130	63
DF		11	1	87	96	9.769	6.45	19.54	9.5	40.0	5.30	186	781	217	76	32
DF		12	2	85	105	16.417	12.89	32.83	13.0	52.5	12.15	426	1,724	498	175	71
DF		13	2	86	91	13.988	12.89	41.97	8.9	40.0	10.67	374	1,679	437	153	69
DF		14	4	84	99	24.123	25.79	48.25	17.7	66.3	24.34	854	3,196	998	350	131
DF		15	5	88	105	26.267	32.23	52.53	21.5	93.0	32.18	1,129	4,886	1,319	463	200
DF		16	2	87	119	9.234	12.89	18.47	27.8	122.5	14.63	513	2,262	600	210	93
DF		17	4	89	119	16.360	25.79	40.90	26.0	110.0	30.35	1,065	4,499	1,244	437	184
DF		18	2	88	119	7.296	12.89	21.89	23.4	93.3	14.63	513	2,043	600	210	84
DF		19	3	87	115	9.823	19.34	26.19	30.3	123.8	22.61	793	3,242	927	325	133
DF		20	2	85	111	5.910	12.89	14.78	33.7	126.0	14.18	498	1,862	581	204	76
DF		21	1	87	123	2.680	6.45	8.04	33.4	143.3	7.66	269	1,153	314	110	47
DF		23	2	84	119	4.469	12.89	13.41	36.7	151.7	14.03	492	2,033	575	202	83
DF		26	1	76	105	1.749	6.45	3.50	51.6	175.0	5.14	180	612	211	74	25
DF		28	1	84	127	1.508	6.45	4.52	64.2	210.0	8.28	290	950	339	119	39
DF		30	3	85	122	3.940	19.34	11.82	69.8	305.6	23.51	825	3,612	964	338	148
DF		36	1	78	128	.912	6.45	2.74	102.5	440.0	8.00	281	1,204	328	115	49
DF		Totals	39	86	104	192.678	251.43	411.42	22.2	92.4	260.57	9,143	38,003	10,683	3,749	1,558
NF		12	1	89	101	7.276	5.71	14.55	12.8	55.0	4.48	187	800	184	76	33
NF		Totals	1	89	101	7.276	5.71	14.55	12.8	55.0	4.48	187	800	184	76	33
RA		10	1	74	71	5.238	2.86	5.24	6.5	20.0	.94	34	105	38	14	4
RA		11	1	73	67	4.329	2.86	4.33	11.6	40.0	1.38	50	173	57	21	7
RA		13	1	73	73	3.100	2.86	6.20	8.5	30.0	1.45	53	186	60	22	8
RA		Totals	3	73	70	12.667	8.57	15.77	8.7	29.4	3.77	137	464	154	56	19
Totals		43	86	102		212.621	265.71	441.74	21.4	88.9	268.81	9466	39,267	11,021	3,881	1,610

Log Stock Table - MBF
Project: TOUCAN2

T03N R06W S17 T00A2

T03N R06W S17 T00A2

Twp Rge Sec Tract Type Acres Plots Sample Trees Page
 03N 06W 17 0001 00A2 85.00 28 80 Date 5/15/2014
 Time 11:09:28AM

Spp	S	So	Gr	Log	Gross	% Def	Net	% Spc	Net Volume by Scaling Diameter in Inches											
									MBF	MBF	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29
DF				CU																
DF				CU																
DF				2M	15		15	.3									15			
DF				2M	26		26	.5								26				
DF				2M	32		33	.7												33
DF				2M	34		87	1.8									42			45
DF				2M	40	3,782	.7	3,755	77.8					270	392	1273	1199	569		51
DF				3M	22	2	2	.0				2								
DF				3M	26	8	8	.2				8								
DF				3M	28	15	15	.3			10	5								
DF				3M	30	9	9	.2				9								
DF				3M	32	73	73	1.5			57	15								
DF				3M	34	73	73	1.5			35	24	14							
DF				3M	36	40	40	.8			11	24	5							
DF				3M	38	10	10	.2				10								
DF				3M	40	560	.2	559	11.6		96	171	246	46						
DF				4M	12	13	13	.3			12		1							
DF				4M	14	1	1	.0				1								
DF				4M	16	12	12	.3			12									
DF				4M	18	9	9	.2			9									
DF				4M	20	8	8	.2			8									
DF				4M	22	12	12	.2			9	2								
DF				4M	24	3	3	.1			3									
DF				4M	26	13	13	.3			13									
DF				4M	28	19	19	.4			19									
DF				4M	30	28	28	.6			28									
DF				Totals	4,852		4,824	98.9			322	273	266	316	392	1300	1256	648		51
NF				2M	36		36	67.4						36						
NF				3M	15		15	27.9			15									
NF				4M	2		2	4.7			2									
NF				Totals	53		53	1.1			2	15		36						
Total All Species					4,905		4,877	100.0			324	288	266	316	428	1300	1256	648		51

T03N R06W S17 T00A2										T03N R06W S17 T00A2				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
03N	06W	17	0001	00A2	85.00	28	80	S	W					

S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre					
								Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/ Lf						
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf						
DF		CU																							
DF		2M	81	.7	46,400	46,079	3,917			21	79	0	1	3	96	28	11				0.00			1.6	
DF		3M	16	.1	9,293	9,281	789		94	6				4	18	77	40	18		552	2.66			83.5	
DF		4M	3		1,388	1,388	118		100			37	63			37	8		94	0.69				99.1	
DF	Totals		99	.6	57,081	56,747	4,824		18	18	64	1	3	6	90	20	6		24	0.31					57.1
DF	Totals		99	.6	57,081	56,747	4,824		18	18	64	1	3	6	90	34	11		235	1.43					241.3
NF		2M	67		421	421	36			100						40	14		290	1.42				1.5	
NF		3M	28		174	174	15		100							40	9		120	0.76				1.5	
NF		4M	5		29	29	2		100			100				12	7		20	0.35				1.5	
NF	Totals		1		624	624	53		33	67		5			95	31	10		143	0.99				4.4	
Type	Totals			.6	57,705	57,371	4,877		18	19	63	1	3	5	91	34	11		234	1.42				245.7	

TC		TSTNDSUM		Stand Table Summary												
Project														TOUCAN2		
T03N R06W S17 T00A2										T03N R06W S17 T00A2						
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page:	1							
03N	06W	17	0001	00A2	85.00	28	80	Date:	05/15/2014							
								Time:	11:09:27AM							
Spc	S T	Sample		Av	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals			
		DBH	Trees	FF 16'				Ht Tot	Net Cu.Ft.				Net Bd.Ft.	Tons	Cunits	MBF
DF		9	3	86	73	21.980	9.71	21.98	8.4	40.0	5.24	184	879	445	156	75
DF		10	1	87	91	5.935	3.24	11.87	7.1	35.0	2.39	84	415	203	71	35
DF		12	2	86	91	8.243	6.47	16.49	11.5	42.5	5.41	190	701	460	161	60
DF		13	1	84	97	3.512	3.24	7.02	15.4	55.0	3.09	108	386	263	92	33
DF		14	3	88	106	9.084	9.71	18.17	19.5	85.0	10.11	355	1,544	859	301	131
DF		16	4	89	117	9.273	12.95	20.86	25.0	110.0	14.86	521	2,295	1,263	443	195
DF		18	2	88	123	3.663	6.47	10.99	24.9	101.7	7.81	274	1,117	664	233	95
DF		19	1	86	123	1.644	3.24	4.93	27.5	113.3	3.86	136	559	328	115	48
DF		21	1	89	129	1.346	3.24	4.04	37.3	180.0	4.29	150	727	364	128	62
DF		22	4	86	131	4.905	12.95	14.71	39.7	175.8	16.63	584	2,587	1,414	496	220
DF		23	1	90	139	1.122	3.24	3.37	49.1	236.7	4.71	165	797	400	140	68
DF		24	3	86	113	3.091	9.71	7.21	49.6	225.7	10.19	358	1,628	867	304	138
DF		25	4	89	139	3.798	12.95	11.39	57.0	274.2	18.51	649	3,124	1,573	552	266
DF		26	1	89	146	.878	3.24	2.63	64.1	316.7	4.81	169	834	409	144	71
DF		27	4	88	133	3.256	12.95	9.77	62.7	295.0	17.47	613	2,882	1,485	521	245
DF		28	3	86	133	2.271	9.71	6.81	67.9	318.9	13.18	463	2,173	1,121	393	185
DF		29	3	83	131	2.117	9.71	5.65	78.4	347.5	12.61	442	1,962	1,072	376	167
DF		30	2	88	140	1.319	6.47	3.96	81.8	416.7	9.23	324	1,649	784	275	140
DF		31	5	88	142	3.088	16.18	9.26	89.3	460.0	23.58	828	4,261	2,005	703	362
DF		32	11	88	141	6.375	35.61	19.13	92.9	464.8	50.65	1,777	8,891	4,305	1,511	756
DF		33	5	87	138	2.725	16.18	8.17	97.9	498.0	22.81	800	4,071	1,939	680	346
DF		34	5	88	144	2.567	16.18	7.70	109.1	578.7	23.95	840	4,456	2,036	714	379
DF		35	5	85	137	2.422	16.18	7.27	106.8	520.0	22.12	776	3,779	1,880	660	321
DF		37	2	89	146	.867	6.47	2.60	131.6	733.3	9.76	342	1,907	829	291	162
DF		39	2	89	158	.780	6.47	2.73	135.7	764.3	10.56	371	2,087	898	315	177
DF		42	1	89	157	.336	3.24	1.01	180.0	1026.7	5.18	182	1,036	440	154	88
DF		Totals	79	87	111	106.597	255.71	239.73	48.7	236.7	333.01	11,684	56,747	28,306	9,932	4,824
NF		19	1	89	121	1.451	2.86	4.35	30.4	143.3	3.18	132	624	270	112	53
NF		Totals	1	89	121	1.451	2.86	4.35	30.4	143.3	3.18	132	624	270	112	53
Totals		80	87	111		108.048	258.57	244.08	48.4	235.0	336.18	11817	57,371	28,576	10,044	4,877

VOLUME SUMMARY

Volume in Mbf

Toucan Two**341-15-28****July 2014****AREA 1: MC (41 ACRES)**

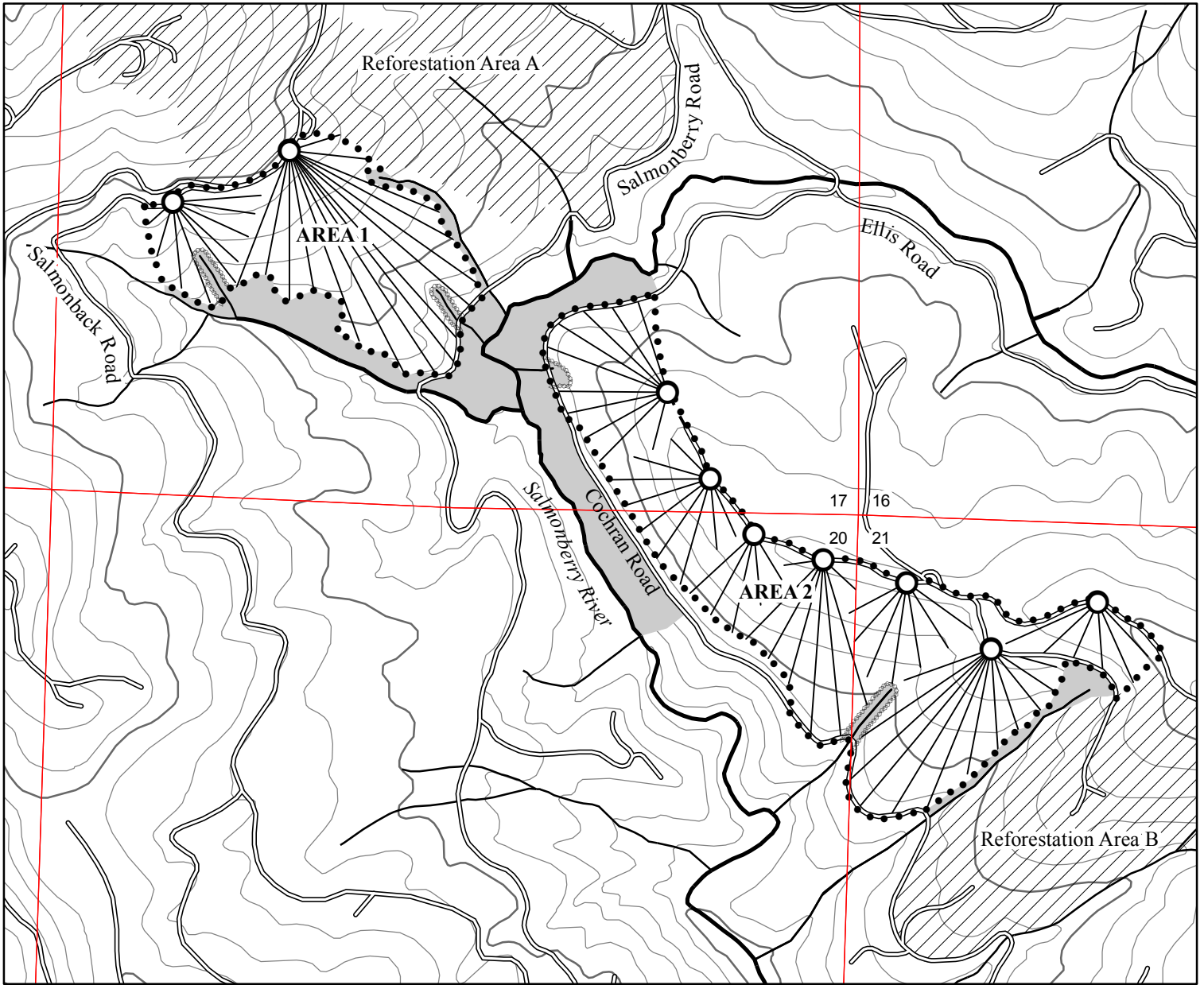
SPECIES		2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	Cruise Volume	610	813	135	0	1,558
	Hidden D&B (2%)	(12)	(16)	(3)	()	(31)
	NET TOTAL	598	797	132	0	1,527
	% of Total	39	52	9	0	
SPECIES		2 SAW	3 SAW	4 SAW	CR	TOTAL
Red alder	Cruise Volume	0	0	0	19	19
	Hidden D&B (2%)	()	()	()	()	()
	NET TOTAL	0	0	0	19	19
	% of Total	0	0	0	100	

AREA 2: MC (85 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	Cruise Volume	3,917	789	118	0	4,824
	Hidden D&B (2%)	(78)	(16)	(2)	()	(96)
	NET TOTAL	3,839	773	116	0	4,728
	% of Total	81	16	2	0	

SALE TOTAL

SPECIES		2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir		4,437	1,570	248		6,255
Red alder					19	19
TOTAL						6,274



LOGGING PLAN

FOR TIMBER SALE CONTRACT # 341-15-28
TOUCAN TWO
PORTIONS OF SECTIONS 17, 20 & 21, T3N, R6W, W.M.
TILLAMOOK COUNTY, OREGON

Forest Grove District GIS
August, 2014

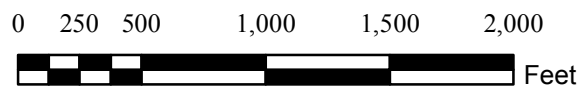
This product is for informational use and may not be
suitable for legal, engineering, or surveying purposes.

Legend

- Landings
- Sections
- Posted Stream Buffer Boundary
- Timber Sale Boundary
- Roads
- New Road Construction
- Type F Stream
- Type N Stream
- Stream Buffer
- Cable Yarding Area
- Reforestation Area
- 400 Foot Contour Band
- 80 Foot Contour Band



1:12,000
1 inch = 1,000 feet



APPROXIMATE NET ACRES

	TRACTOR	CABLE
AREA 1	0	41
AREA 2	0	85
TOTAL	0	126