



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal  
Donut Combination  
Sale 341-14-40

District: Astoria

Date: June 10, 2013

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**cost summary**

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$967,808.48	\$258,976.55	\$1,226,785.03
Project Work:			\$(370,449.00)
Advertised Value:			\$856,336.03



Timber Sale Appraisal  
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Sale 341-14-40

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## timber description

**Location:** Portions of Sections 20, 21, 28, 29 and 33, T4N, R8W,, Clatsop County, Oregon.

**Stand Stocking:** 60%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	22	0	97
Western Hemlock / Fir	16	0	97
Sitka Spruce	22	0	97
Red Cedar	19	0	97
Alder (Red)	13	0	96

Volume by Grade	1S	2S	3S	4S	Other	Total
Douglas - Fir	0	170	38	10	0	218
Western Hemlock / Fir	0	1,440	984	210	0	2,634
Sitka Spruce	0	114	57	22	171	364
Red Cedar	0	1	0	0	0	1
Alder (Red)	200	199	148	258	0	805
Total	200	1,924	1,227	500	171	4,022



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

Expected Log Markets: Warrenton, Tillamook, Garibaldi, Forest Grove, Clatskanie, Mist and Springfield, OR; Morton and Longview, WA.

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$3.00/Gallon

HAULING COST ALLOWANCE

Hauling Costs equivalent to \$780 daily truck cost.

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

Additional Logging Costs:

Branding and Painting:  $\$1\text{MBF} \times 4,022\text{MBF} = \$4,022$

Log Loader Slash & Landing Piling (includes Move-in and Pile Materials) = \$11,946 (see attached appraisal)

Machine washing for noxious weed compliance = \$2,000

Total Other Costs (with Profit & Risk to be added) = \$17,968

Other Costs (No Profit & Risk added)

TOTAL Other Costs (No Profit & Risk added) = None

NOTE:

Sitka spruce has been split apart as follows:

Note Volume:

SS < 20" Scaling Diameter: Total Volume 193 MBF

2Saw = 114 MBF

3Saw = 57 MBF

4Saw = 22 MBF

SS = 20" or > Scaling Diameter \*: Total Volume 171 MBF

2Saw = 70 MBF

3Saw = 101 MBF

4Saw = 0 MBF

\* SS = 20" or > Scaling Diameter was listed as "Other" for grade in this appraisal.

This volume was appraised at 1 load per day to Springfield, OR.



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**logging conditions**

**combination#: 1**

Douglas - Fir	68.00%
Western Hemlock / Fir	68.00%
Sitka Spruce	68.00%
Red Cedar	68.00%
Alder (Red)	68.00%

**yarding distance:** Medium (800 ft)      **downhill yarding:** No  
**logging system:** Shovel      **Process:** Stroke Delimber  
**tree size:** Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF  
**loads / day:** 6.0      **bd. ft / load:** 3,500  
**cost / mbf:** \$68.49

**machines:** Stroke Delimber (B)

**combination#: 2**

Douglas - Fir	32.00%
Western Hemlock / Fir	32.00%
Sitka Spruce	32.00%
Red Cedar	32.00%
Alder (Red)	32.00%

**yarding distance:** Medium (800 ft)      **downhill yarding:** No  
**logging system:** Cable: Small Tower <=40      **Process:** Manual Falling/Delimbing  
**tree size:** Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF  
**loads / day:** 8.0      **bd. ft / load:** 3,500  
**cost / mbf:** \$96.46

**machines:** Log Loader (A)  
Tower Yarder (Small)

**combination#: 3**

**yarding distance:** Medium (800 ft)      **downhill yarding:** No  
**logging system:** Track Skidder      **Process:** Manual Falling/Delimbing  
**tree size:** Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF  
**loads / day:** 11.0      **bd. ft / load:** 3,500  
**cost / mbf:** \$89.36

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

**combination#: 4**



Timber Sale Appraisal  
Donut Combination  
Sale 341-14-40

*"STEWARDSHIP IN FORESTRY"*

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<b>yarding distance:</b>	Medium (800 ft)	<b>downhill yarding:</b>	No
<b>logging system:</b>	Cable: Small Tower <=40	<b>Process:</b>	Manual Falling/Delimbing
<b>tree size:</b>	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
<b>loads / day:</b>	6.0	<b>bd. ft / load:</b>	3,700
<b>cost / mbf:</b>	\$121.67		
<b>machines:</b>	Log Loader (A) Tower Yarder (Small)		



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal  
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**logging costs**

Operating Seasons:	2.00	Profit Risk:	12.00%
Project Costs:	\$370,449.00	Other Costs (P/R):	\$17,968.00
Slash Disposal:	\$0.00	Other Costs:	\$0.00

**Miles of Road**

Road Maintenance: \$6.70

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	4.0	4.5
Western Hemlock / Fir	\$0.00	3.0	4.0
Sitka Spruce	\$0.00	2.0	5.0
Red Cedar	\$0.00	2.0	3.5
Alder (Red)	\$0.00	2.0	3.5

**Local Pond Values**

Date	Specie	Grade	Value
4/22/13	Sitka Spruce	Other	\$200.00



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### logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
<b>Douglas - Fir</b>									
\$77.44	\$6.90	\$2.18	\$39.85	\$4.47	\$15.70	\$0.00	\$5.00	\$0.00	\$151.54
<b>Western Hemlock / Fir</b>									
\$77.44	\$6.90	\$2.18	\$59.78	\$4.47	\$18.09	\$0.00	\$5.00	\$0.00	\$173.86
<b>Sitka Spruce</b>									
\$77.44	\$6.90	\$2.18	\$71.73	\$4.47	\$19.53	\$0.00	\$5.00	\$0.00	\$187.25
<b>Red Cedar</b>									
\$77.44	\$6.90	\$2.18	\$102.47	\$4.47	\$23.22	\$0.00	\$5.00	\$0.00	\$221.68
<b>Alder (Red)</b>									
\$77.44	\$6.97	\$2.18	\$103.47	\$4.47	\$23.34	\$0.00	\$5.00	\$0.00	\$222.87

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$624.17	\$472.63	\$0.00
Western Hemlock / Fir	\$0.00	\$485.07	\$311.21	\$0.00
Sitka Spruce	\$0.00	\$308.87	\$121.62	\$0.00
Red Cedar	\$0.00	\$1,000.00	\$778.32	\$0.00
Alder (Red)	\$0.00	\$544.58	\$321.71	\$0.00



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**summary**

**Amortized**

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Western Hemlock / Fir	0	\$0.00	\$0.00
Sitka Spruce	0	\$0.00	\$0.00
Red Cedar	0	\$0.00	\$0.00
Alder (Red)	0	\$0.00	\$0.00

**Unamortized**

Specie	MBF	Value	Total
Douglas - Fir	218	\$472.63	\$103,033.34
Western Hemlock / Fir	2,634	\$311.21	\$819,727.14
Sitka Spruce	364	\$121.62	\$44,269.68
Red Cedar	1	\$778.32	\$778.32
Alder (Red)	805	\$321.71	\$258,976.55

**Gross Timber Sale Value**

Recovery: \$1,226,785.03

Prepared by: Bryce Rodgers

Phone: 503-325-5451

## Site Prep Appraisal

**Sale Number:** 341-14-40  
**Sale Name:** Donut Combo  
**Date:** 04/19/2013

Vegetation Type/Zone	Vegetation Type/Zone Code	Production Rate (hr/ac)	Estimated Piles/Acre
Doug-fir	A	1.0	3.0
Hemlock/Fir	B	1.5	4.5
Hemlock/Spruce	C	2.0	6.0
Hemlock	D	2.0	6.0
Conifer/Hardwood	E	1.5	4.5
Whole Tree Yarding	F	0.5	0.5

Sale Area	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area	
1	MC	C	13.0	26	\$110.00	\$2,860.00	
3	MC	C	29.0	58	\$110.00	\$6,380.00	
						In-unit Piling	Sub Total = \$9,240.00
Sale Area	Number of Landings to be Piled	Cost/Landing Pile	Total Cost/Area	Number of In-Unit Piles	Material Cost/Pile	Total Cost/Area	
1	0	\$220.00	\$0.00	26	\$5.00	\$130.00	
3	4	\$220.00	\$880.00	58	\$5.00	\$290.00	
						Materials	Sub Total = \$420.00
						Landing Piling	Sub Total = \$880.00
Move-In Allowance	Number of Move-In's	Total Move-In Allowance					
\$1,406.00	1	\$1,406.00			Move-In	Sub Total =	\$1,406.00
							Grand Total = \$11,946.00

\*Cost includes separating firewood

DONUT COMBINATION  
341-14-40  
**SUMMARY OF ALL PROJECT COSTS**

**SALE NAME:** Donut Combo

**ROAD CONSTRUCTION:**

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
Surfaced	2E-2F,	25.75	\$20,840
	3A-3B, 3C-3D,		
	4A		
Dirt	2A-2B, 2C-2D	11.60	\$4,132
<b>TOTALS</b>		37.35	\$24,972
	miles	0.71	

**ROAD IMPROVEMENT:**

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
	I1-I2, I3-I4, I5-I6, I7-I8	274.15	\$105,670
	I9-I10, I11-I12, I13-I14		
<b>TOTALS</b>			\$105,670
	miles	5.19	

**SPECIAL PROJECTS:**

<u>Description</u>	<u>Cost</u>
PROJECT NO. 3: Fall Creek Quarry Development and Crushing	\$220,622
PROJECT NO.4: Road Vacating 20.4 Sta./0.39 miles	\$7,661
PROJECT ROAD MAINTENANCE	\$3,306
<b>TOTAL</b>	\$231,589

**MOVE IN:**

<u>Equipment</u>	<u>Cost</u>
Dozer (D8)	\$1,406.00
Dump Trucks (12 cy x 6 )	\$978.00
Dump Trucks (20 cy x 2 )	\$382.00
F E Loader (C966)	\$778.00
Grader (14G)	\$778.00
Rubber Tire Skidder (C518)	\$717.00
Vibratory Roller	\$778.00
Water Truck (2,500 gallon)	\$190.00
Excavator (C315)	\$805.00
Excavator (C330)	\$1,406.00
<b>TOTAL</b>	\$8,218.00

**GRAND TOTAL** **\$370,449.00**

Compiled By: Kraig Kirkpatrick

Date: 04/20/2013

SALE NAME:	Donut Combination
ROAD:	(Dirt Sprurs) 2A-2B (4+00)
POINTS:	2C-2D (7+60)

NEW CONSTRUCTION:	11.60	STATIONS	0.22	MILES
IMPROVEMENT:		STATIONS		MILES

Method	Acres/amount	x	Rate	=	Cost
Scatter Outside R/W	1	x	\$1,337	=	\$1,337.00
2E-2F(18+90), 3A-3B(5+00)		x		=	
3C-3D(1+85) Pt. 4A(0+00)		x		=	
		x		=	

Material	Cy/amount	x	Rate	=	Cost
Balanced Construction	11.60	x	\$122.00	=	\$1,415.20
2A-2B, 2C-2D		x		=	
		x		=	
		x		=	
		x		=	
Landing Construction	3.00	x	\$389.00	=	\$1,167.00
Pt. 2B,2C-2D sta. 5+30, Pt. 2D		x		=	
		x		=	
		x		=	
		x		=	

[illegible]

	Description	Quantity	Rate	Cost
Other/miscellaneous:	Subgrade Prep. 14' Outslope	11.60	\$18.35	\$212.86
Culvert stakes & markers:				

<i>Subtotal of Clearing, Exc., Culv.</i>	<b>\$4,132</b>
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SPECIAL PROJECTS		Description	Cost
SUB TOTAL FOR SPECIAL PROJECTS			\$0
		Subtotal of Surfacing & Spec. Proj.	\$12,020
		Subtotal of Clearing, Exc., Culv.	\$8,819
GRAND TOTAL			\$20,840

Date: 04/03/2013

**SUMMARY OF CONSTRUCTION COSTS**

**SALE NAME:** Donut Combination  
**ROAD:** I1-I2(29.15), I3-I4(55.5), I5-I6(29.9), I7-I8(55.0),  
**POINTS:** I9-I10(45.4), I11-I12(52.7), I13-I14(6.5)

**NEW CONSTRUCTION:** \_\_\_\_\_ **STATIONS** \_\_\_\_\_ **MILES** \_\_\_\_\_  
**IMPROVEMENT:** 274.15 **STATIONS** \_\_\_\_\_ **5.19 MILES**

**CLEARING & GRUBBING**

Method	Acres/amount	x	Rate	=	Cost
		x		=	
		x		=	
		x		=	
		x		=	

**SUB TOTAL FOR CLEARING & GRUBBING**

**EXCAVATION**

Material	Cy/amount	x	Rate	=	Cost
I1 - I2					
Fill Replacements 12+75 & 20+25		x		=	
End-haul excavation \$/CY	690.00	x	\$4.00	=	\$2,760.00
Waste material compaction \$/CY	690.00	x	\$0.40	=	\$276.00
Common drift - backfill \$/CY	830	x	\$1.80	=	\$1,494.00
Backfill compaction \$/CY	830	x	\$0.70	=	\$581.00
Fill Armor Placement w/330 \$/hr	10	x	\$155.00	=	\$1,550.00
		x		=	
Dissipator placement w/315 \$/hr	1.00	x	\$101.00	=	\$101.00
Construct turnaround w/315 \$/hr	0.50	x	\$101.00	=	\$50.50
Excavate, load, and haul ditch waste material \$/sta	55	x	\$22.92	=	\$1,260.60
I3 - I4					
I7 - I8					
I9 - I10					
1+80-2+80					
Excavate, load, and haul ditch waste material \$/sta	1.00	x	\$22.92	=	\$22.92
Dissipator & ditchline armor placement w/315 \$/hr	2.00	x		=	
Fill Replacements 40+80		x		=	
End-haul excavation \$/CY	1000	x	\$4.00	=	\$4,000.00
Waste material compaction \$/CY	1000	x	\$0.40	=	\$400.00
Second 330 excavator \$/hr	16		\$155.00	=	\$2,480.00
Common drift - backfill \$/CY	1200	x	\$1.80	=	\$2,160.00
Backfill compaction \$/CY	1,200	x	\$0.70	=	\$840.00
Fill Armor Placement w/330 \$/hr	10	x	\$155.00	=	\$1,550.00
38+60-40+40					
End-haul excavation \$/CY	270	x	\$4.00	=	\$1,080.00
Cut slope rounding \$/sta	2.00	x	\$43.00	=	\$86.00
Sidecast pullback & hauled to waste area \$/sta	1.00	x	\$557.00	=	\$557.00
I11 - I12					
Excavate, load, and haul ditch waste material \$/sta	2.00	x	\$22.92	=	\$45.84
I13 - I14					
Excavate, load, and haul ditch waste material \$/sta	2.00	x	\$22.92	=	\$45.84

**SUB TOTAL FOR EXCAVATION**

\$21,341

**CULVERT MATERIALS AND INSTALLATION**

Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
I1-I2					I9-I10				
6+25	30" ACSP	50	\$34.01	\$1,700.50	6+40	18" CPP	30	\$19.53	\$585.90
7+30	18" CPP	30	\$19.53	\$585.90	15+75	18" CPP	35	\$19.53	\$683.55
9+90	18" CPP	30	\$19.53	\$585.90	40+80	24" ACSP	75	\$27.04	\$2,028.00
12+75	24" ACSP	80	\$27.04	\$2,163.20	41+45	18" CPP	30	\$19.53	\$585.90
14+40	18" CPP	30	\$19.53	\$585.90	45+40	18" CPP	30	\$19.53	\$585.90
18+40	18" CPP	30	\$19.53	\$585.90	I13-I14				
20+25	24" ACSP	45	\$27.04	\$1,216.80	2+40	18" CPP	30	\$19.53	\$585.90
22+00	18" CPP	30	\$19.53	\$585.90					
24+00	18" CPP	30	\$19.53	\$585.90					
29+15	18" CPP	40	\$19.53	\$781.20					
I3-I4									
10+00	18" CPP	30	\$19.53	\$585.90					
16+60	18" CPP	30	\$19.53	\$585.90					
26+20	18" CPP	40	\$19.53	\$781.20					
I5-I6									
5+75	18" CPP	40	\$19.53	\$781.20					
16+20	18" CPP	30	\$19.53	\$585.90					
I7-I8									
0+85	18" CPP	30	\$19.53	\$585.90					
12+35	18" CPP	30	\$19.53	\$585.90					
14+50	18" CPP	30	\$19.53	\$585.90					
16+80	18" CPP	30	\$19.53	\$585.90					
25+20	18" CPP	30	\$19.53	\$585.90					
28+60	18" CPP	30	\$19.53	\$585.90					
34+20	18" CPP	30	\$19.53	\$585.90					
36+25	18" CPP	30	\$19.53	\$585.90					
48+55	18" CPP	30	\$19.53	\$585.90					

Other/miscellaneous:

Culvert stakes & markers:

Description	Quantity	Rate	Cost
Install @ new culverts	28	\$20.00	\$560.00
Install @ existing culverts	7	\$20.00	\$140.00

**SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION**

\$23,725

*Subtotal of Clearing, Exc., Culv.*

**\$45,066**

SURFACING		Stations/		Rate/	Cost
Subgrade prep:	Description	amount	x	sta/amt	
	Grade, Shape and Ditch 16'	274.15	x	\$24.83	\$6,807.14
	Subgrade Compaction	274.15	x	\$20.19	\$5,535.09

ROAD SEGMENT				I1 to I2		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I1 to I2		0+00 to 29+15						
				Volume (CY) per		Number of						
Subgrade Leveling	1 1/2"-0" Crushed		N/A					121	\$4.19	\$507		
Surface Rock	1 1/2"-0" Crushed	0+00-29+15	3	station	19	station	29.15	554	\$4.19	\$2,321		
Base Rock Replacement	4"-0" Crushed	6+25, 7+30, 9+90, 12+75, 14+40, 18+40, 20+25, 22+00, 24+00, 29+15	N/A					231	\$4.58	\$1,058		
Turnouts	1 1/2"-0" Crushed	1+50, 11+65, 17+50, 25+60,	3	to	22	to's	4	88	\$4.19	\$369		
Fill Replacement Backfill	Screened Reject	12+75, 20+25	N/A	fill	n/a	fill	n/a	830	\$5.29	\$4,391		
Fill Armor	24"-6" Rip-rap	12+75, 20+25	N/A	fill	n/a	fill	n/a	528	\$4.85	\$2,561		
Culvert Dissipator	24"-6" Rip-rap	22+00, 24+00	N/A	culvert	11	culverts	2	22	\$4.85	\$107		
Culvert Bedding/Backfill	Screened Reject	6+25, 7+30, 9+90, 14+40, 18+40, 22+00, 24+00, 29+15	N/A									
		culvert			culverts		297	\$5.29	\$1,571			
Total Rock for Road Segment:				I1 to I2				2,671		\$12,884		

ROAD SEGMENT I3 to I4				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (Inches)	I3 to I4		0+00 to 55+50				
				Volume (CY) per		Number of				
Subgrade Leveling	1 1/2"-0" Crushed	0+00-26+20	N/A					132	\$4.19	\$553
Subgrade Leveling	4"-0" Crushed	26+20-55+50	N/A					88	\$4.58	\$403
Surface Rock	1 1/2"-0" Crushed	0+00-26+20	3	station	19	station	26.20	498	\$4.19	\$2,086
Surface Rock	4"-0" Crushed	26+20-55+50	4	station	25	station	29.30	733	\$4.58	\$3,355
Turnouts	1 1/2"-0" Crushed	1+60, 3+30, 7+10, 13+00, 17+80, 22+80	3	to	11	to's	6	66	\$4.19	\$277
Turnouts	4"-0" Crushed	28+80, 46+00	4	to	11	to's	2	22	\$4.58	\$101
Base Replacement	4"-0" Crushed	10+00, 16+60, 26+20	N/A					33	\$4.58	\$151
Culvert Bedding/Backfill	Screened Reject	10+00, 16+60, 26+20	N/A	culvert		culverts		110	\$5.29	\$582
Turnarounds	4"-0" Crushed	43+90, 53+50	N/A	TA	22	TA's	2	44	\$4.58	\$202
Landings	6"-0" Pit-run	55+50	N/A	Landing	44	Landings	1	44	\$3.42	\$150

Total Rock for Road Segment:				I3 to I4				1,769				\$7,859
ROAD SEGMENT				I5 to I6		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I5 to I6		0+00 to 29+90						
				Volume (CY) per	Number of							
Subgrade Leveling	4"-0" Crushed		N/A					132	\$4.58		\$605	
Traction Rock	1 1/2"-0" Crushed	20+20-23+50	2	station	13	station	3	44	\$4.19		\$184	
Turnouts	4"-0" Crushed	8+60, 17+70	N/A	to	11	to's	2	22	\$4.58		\$101	
Turnarounds	4"-0" Crushed	24+75	N/A	TA	22	TA's	1	22	\$4.58		\$101	
Base Replacement	4"-0" Crushed	5+75, 16+20	N/A					22	\$4.58		\$101	
Culvert Bedding/Backfill	Screened Reject	5+75, 16+20	N/A	culvert		culverts		77	\$5.29		\$407	
Total Rock for Road Segment:				I5 to I6				319				\$1,499

ROAD SEGMENT I7 to I8				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I7 to I8		0+00 to 55+00				
				Volume (CY) per		Number of				
Subgrade Leveling	4"-0" Crushed		N/A					330	\$4.58	\$1,511
Surface Rock	1 1/2"-0" Crushed	0+00-55+00	3	station	19	station	55	1,045	\$4.19	\$4,379
Turnouts	1 1/2"-0" Crushed	8+00, 20+50, 25+60, 32+45, 35+70, 42+45, 46+35, 52+90	N/A	TA	11	TA's	8	88	\$4.19	\$369
				culvert	11	culverts	2	22	\$4.85	\$107
Culvert Dissipator	24"-6" Rip-rap	14+50, 16+80	N/A							
Culvert Bedding/Backfill	Screened Reject	0+85, 12+35, 14+50, 16+80, 25+20, 28+60, 34+20, 36+25, 48+55	N/A	culvert				297	\$5.29	\$1,571
Total Rock for Road Segment:				I7 to I8				1,782		\$7,937

ROAD SEGMENT I9 to I10				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I9 to I10		0+00 to 45+40				
				Volume (CY) per		Number of				
Subgrade Leveling	1 1/2"-0" Crushed		N/A					275	\$4.19	\$1,152
Base Rock Replacement	4"-0" Crushed	38+60-41+60	8	station	50	station	3	154	\$4.58	\$705
Surface Rock	1 1/2"-0" Crushed	38+60-41+60	3	station	19	station	3	55	\$4.19	\$230
Check Dam	6"-4" Pit-run	40+00-40+50	N/A	dam	n/a	dam	3	33	\$3.42	\$113
Fill Replacement Backfill	Screened Reject	40+80	N/A	fill	n/a	fill	n/a	1,200	\$5.29	\$6,348
Fill Armor	24"-6" Rip-rap	40+80	N/A	fill	n/a	fill	n/a	583	\$4.85	\$2,828
Ditchout Armor	24"-6" Rip-rap	1+80	N/A	ditchout	22	ditchout	1	22	\$4.85	\$107
Culvert Dissipator	24"-6" Rip-rap	15+75	N/A	culvert	11	culverts	1	11	\$4.85	\$53
Culvert Bedding/Backfill	Screened Reject	6+40, 15+75, 41+45, 45+40	N/A	culvert		culverts		132	\$5.29	\$698

Total Rock for Road Segment:				I9 to I10				2,465			\$12,235
ROAD SEGMENT		I11 to I12		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	I11 to I12		0+00 to 52+70					
				Volume (CY) per		Number of					
Subgrade Leveling	4"-0" Crushed		N/A					319	\$4.58	\$1,461	
Turnouts	4"-0" Crushed	29+90, 50+75	N/A	to	22	to's	2	44	\$4.58	\$202	
Turnarounds	4"-0" Crushed	29+90, 50+75	N/A	TA	11	TA's	2	22	\$4.58	\$101	

Total Rock for Road Segment:				I11 to I12		385					\$1,763	
ROAD SEGMENT				I13 to I14		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
				I13 to I14		0+00 to 6+50						
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per		Number of						
Subgrade Leveling	4"-0" Crushed		N/A					44	\$4.58	\$202		
Turnouts	4"-0" Crushed	1+40	N/A	to	22	to's	1	22	\$4.58	\$101		
Culvert Bedding/Backfill	Screened Reject	2+40	N/A	culvert		culverts		33	\$5.29	\$175		
Total Rock for Road Segment:				I13 to I14				99				\$477

Processing:	Description	No.sta	Rate/sta	Cost
	Water, Process & Compact:	148.65	\$24.28	\$3,609

SUB TOTAL FOR SURFACING							Total		
	24"-6"	6"-4"	6"-0"pr	4"-0"	1 1/2"-0"	Screened Reject	9,490	9,490	\$60,604
	1,188	33	44	2,284	2,966	2,976			
SPECIAL PROJECTS									
Description							Cost		
SUB TOTAL FOR SPECIAL PROJECTS									\$0
							Subtotal of Surfacing & Spec. Proj.		\$60,604
							Subtotal of Clearing, Exc., Culv.		\$45,066
GRAND TOTAL									\$105,670

MATERIAL: 1 1/2" Crushed

DATE: 04/04/2013  
BY: Kraig Kirkpatrick

ROCK HAUL:

Ave haul:	\$3.41	/cy
Load:	\$0.30	/cy
Spread:	\$0.48	/cy

Production: cy/day = 1,582

CRUSHED ROCK HAUL COSTS      3,234 cy @      \$4.19 /cy

SCREENED REJECT FILL MATERIAL HAUL COSTS      3,009 cy @      \$5.29 /cy

### CRUSHED ROCK COST

SALE NAME:	Donut Combination
PROJECT:	No. 1 and 2
QUARRY:	Fall Creek

MATERIAL: 4"-0" Crushed

DATE: 04/03/2013  
BY: \_\_\_\_\_

[illegible]

ROCK HAUL:

Truck type:	<u>D20</u>	No. trucks:	<u>2</u>
Delay min.:	<u>8</u>	Efficiency:	<u>85%</u>

Ave haul:	\$3.80	/cy
Load:		/cy
Spread:	\$0.78	/cy

Truck type: D12 No. trucks: 6  
 Delay min.: 6 Efficiency: 85%

Truck type: \_\_\_\_\_ No. trucks: \_\_\_\_\_  
 Delay min.: \_\_\_\_\_ Efficiency: \_\_\_\_\_

Production: cy/day = 1,417

CRUSHED ROCK HAUL COSTS            3,748 cy @        \$4.58 /cy

## PIT RUN ROCK COST

SALE NAME:	Donut Combination
PROJECT:	No. 1 and 2
QUARRY:	Fall Creek

MATERIAL: Pit Run

DATE: 04/03/2013  
BY: \_\_\_\_\_

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES								Total Haul
			50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH		
3A to 3B	5.00	60								2.30 3.40	
3C to 3B	1.85	60									
Pt. 4A		60									
I3 to I4	55.50	44				0.30	0.90	1.00	0.10		
I9 to I10	45.40	33				0.50	1.30	1.50	0.10		

ROCK HAUL:

Truck type: _____	No. trucks: _____
Delay min.: _____	Efficiency: _____
Truck type: <u>D12</u>	No. trucks: <u>2</u>
Delay min.: <u>6</u>	Efficiency: <u>85%</u>

Ave haul:	\$1.74	/cy
Load:	\$0.60	/cy
Spread:	\$1.08	/cy

Truck type: \_\_\_\_\_ No. trucks: \_\_\_\_\_  
 Delay min.: \_\_\_\_\_ Efficiency: \_\_\_\_\_

Production: cy/day = 728

PIT RUN ROCK HAUL COSTS	257 cy @	\$3.42 /cy
-------------------------	----------	------------

MATERIAL: Pit Run

DATE: 04/03/2013  
BY: \_\_\_\_\_

ROCK HAUL:

257 cy @ \$3.42 /cy

RIP RAP ROCK COST

SALE NAME:	Donut Combo
PROJECT:	No. 2
QUARRY:	Fall Creek

MATERIAL: Rip Rap

DATE: 04/04/2013  
BY: \_\_\_\_\_

[illegible]

ROCK HAUL:

Truck type:	<u>D12</u>	No. trucks:	<u>4</u>
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>

Truck type:	<u>                    </u>	No. trucks:	<u>                    </u>
Delay min.:	<u>                    </u>	Efficiency:	<u>                    </u>

Ave haul:	\$3.95	/cy
Load:	\$0.90	/cy
Develop:		/cy

Production: cy/day = 640

RIP RAP ROCK HAUL COSTS                    1,188 cy @            \$4.85 /cy

# Donut Combination

## Project No.4 Road Vacating

Location/Description	C330 Excavator	C315 Excavator	C330 Excavator	C330 Excavator	Labor	Seeding	Straw Mulch	Total
V1 to V2 0+00-20+40								
Fill Removals	17 hrs	12 hrs						
Sidecast Pullback				2.5 sta				
Waterbar			10					
Total	17 hrs	12 hrs	10	2.5	2 ac	200 lb	100 Bales	
Rate	\$155 /hr	\$101 /hr	\$35 ea	\$362 sta	\$628 /ac	\$1.15 /lb	\$10.73 /Bale	
Cost	\$2,635	\$1,212	\$350	\$905	\$1,256	\$230	\$1,073.00	<b>\$7,661</b>

Prepared by: Kraig Kirkpatrick Date: 03/15/2013

Sale: Donut Combination  
Road: 11 to 12  
Points:  
Date: \_\_\_\_\_  
By: \_\_\_\_\_  
Armor Thickness (feet): 3

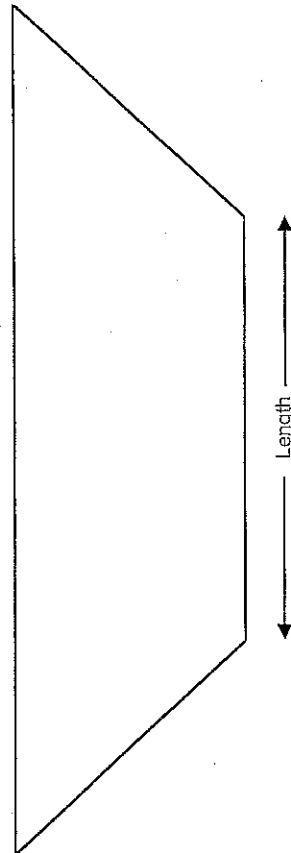
Total CY to Apply\*: 0

A diagram of a trapezoid with a vertical line segment on its right side. The line segment is labeled "Length" with arrows at both ends, indicating the height of the trapezoid.

Sale: Donut Combination  
Road: 19-110  
Points:  
Date: \_\_\_\_\_  
By: \_\_\_\_\_  
Armor Thickness (feet): 3

Total CY to Apply\*: 0

\* Volume rounded off to the nearest 10 cubic yard load



# SUMMARY OF ROCK DEVELOPMENT AND CRUSHING COSTS

PROJECT NO: 3 Timber Sale Name: Donut Combo  
 Quarry: Fall Creek Swell:             
 Location: NE 1/4, SE 1/4, Sec. 20, T4N, R8W Shrink: 16%  
 County: Clatsop  
 By: d.mellison Loading Hopper: Yes  
 Date: 03/04/13

ROCK SIZE	REJECT	GRADATION	STOCKPILE CU. YDS.	TRUCK MEAS CU. YDS.	TOTAL CU. YDS.
3/4"-0"		CR			
6"-0"		PR		257	257
4"-0"	40%	CR	10,000	3,748	15,348
4"-0"	40%	CR	3,000		3,480
24"-6"		RR		1,188	1,188
36"		RR			
<b>TOTAL CUBIC YARDS OF ROCK:</b>			<b>13,000</b>	<b>5,193</b>	<b>20,273</b>

## 1) MOBILIZATION & SET UP:

EQUIPMENT	QUANTITY	RATE	COST	EQUIPMENT	QUANTITY	RATE	COST
Screening Plant	1	\$553	\$553	Off Highway Dump Truck	1	\$774	\$774
Loading Hopper	1	\$553	\$553	2 Stage Crusher	1	\$2,175	\$2,175
D6 Cat	1	\$533	\$533				
Drill & Compressor	1	\$1,406	\$1,406				
Powder	1	\$351	\$351				
Excavator	1	\$1,406	\$1,406				
Loader	1	\$805	\$805				

SUB TOTAL FOR MOBILIZATION

\$8,555

EQUIPMENT SET UP	TIMES	RATE	COST
2 Stage Crusher	1	\$2,175	\$2,175
Screening Plants	1	\$293	\$293
Loading Hopper	1	\$293	\$293
Original Calibration	1	\$544	\$544

SUB TOTAL FOR SET UP COSTS

\$3,305

**TOTAL MOBILIZATION & SET UP COSTS**

**\$11,860**

## 2) CLEARING & GRUBBING

DESCRIPTION	QUANTITY	UNIT	RATE	COST

**TOTAL CLEARING & GRUBBING COSTS**

# 8) STOCKPILING

## STOCKPILE SITE PREPARATION

Equipment	Hours	Rate	Total
Dozer	1.5	\$113.00	\$169.50
Compactor		\$72.00	
Grader	1	\$90.00	\$90.00
Excavator		\$138.00	

Rock for Floor (CY)	\$/CY Haul	Total

\$259.50

SUB TOTAL

\$260

## HAUL & STOCKPILE

STOCKPILE LOCATION	SIZE	# of TRUCKS	CU. YDS.	RATE	COST
1. Sweethome	4"-0"	4	11,600	\$2.99	\$34,704
2. Fall Creek	4"-0"	2	3,480	\$1.41	\$4,897
3.					
4.					
5.					
6.					

SUB TOTAL

\$39,601

**TOTAL STOCKPILING COSTS**

**\$39,860**

# 9) MISCELLANEOUS COSTS

DESCRIPTION	COST
Load, haul, dump, spread, and compact the reject material at the waste area.	
\$2.27 /CY 7,531 Cubic yards	\$17,096

**TOTAL MISCELLANEOUS COSTS**

**\$17,096**

# 10) GRAND TOTAL:

**\$220,622**

\$/Cubic Yard

**\$11.72**

Footnotes:


**Road Maintenance after completion of Projects**

**Sale:** Donut Combo  
**Date:** 05-Apr-13  
**By:** Kraig Kirkpatrick

Type	Equipment/Rationale		Hours	Rate	Cost
Final Haul Road Maintenance Haul Route	Grader 14G Dump Truck 12CY x 2 FE Loader C966 Vibratory Roller Water Truck 2,500 gallon		12 4 4 12 6	\$100 \$79 \$83 \$77 \$89	\$1,200 \$316 \$332 \$924 \$534
<b>Total</b>					<b>\$3,306</b>

Production Rates	Miles/day	Distance(miles)	Days
Grader	1.5	2.0	1.3
Vibratory Roller	1.5	2.0	1.3

\*Project work road maintenance  
Fall Creek Rd: Quarry to Sweethome Creek Rd  
Sweethome Creek Rd: Jct of Fall Creek Rd to Pt. 18

### Road Maintenance Cost Summary (Interim and Post Harvest)

**Sale:** Donut Combination  
**Date:** June 10, 2013  
**By:** Bryce Rodgers

**MBF:** 4,022  
**\$/MBF:** \$6.70

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost
Interim Operations Entries - 1	Grader 14G	\$778	1	17	\$100	\$2,478
	Dump Truck 12CY	\$163	2	8	\$79	\$958
	FE Loader C966	\$778	1	1	\$83	\$861
Final Road Maintenance	Grader 14G	\$778	1	73	\$100	\$8,078
	Dump Truck 12CY	\$163	2	8	\$79	\$958
	FE Loader C966	\$778	1	4	\$83	\$1,110
	Vibratory Roller	\$778	1	73	\$108	\$8,662
	Water Truck 2,500 gallon	\$190	1	20	\$89	\$1,970
	Backhoe-small	\$321	1	16	\$77	\$1,553
	Labor			8	\$40	\$320
<b>Total</b>						<b>\$26,948</b>

#### Interim Operations Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Grader	3.5	6.0	1.7	17

#### Final Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Process - Grader	1.5	11	7.3	73
Vibratory Roller	1.5	11.0	7.3	73

Process and Compact: North Fork Road, Sweethome Creek Road, Rector Ridge Road,  
 And all spurs used during log hauling.

TOTAL MILES = 11.0

# Donut Combination TIMBER CRUISE REPORT FY 2013

1. **Sale Area Location:** Areas 1, 2, 3, 4, 5, 6 and 7 are located in portions of Sections 20, 21, 28, 29 and 33, T4N, R8W, W.M., Clatsop County, Oregon.

2. **Fund Distribution:** BOF 100%  
Tax Code 8-01 (100%)

3. **Sale Acreage by Area:**

Area	Treatment	Gross Acres	Posted Buffers	New R/W	Old R/W	Net Acres	Survey Method
1	Modified Clearcut	18	2	0	3	13	GIS
2	Partial Cut	77	0	3	4	70	GIS
3	Modified Clearcut	65	9	1	5	50	GIS
4	Partial Cut	8	0	0	0	8	GIS
5	Partial Cut	46	0	0	3	43	GIS
6	Retention Cut	6	0	0	1	5	GIS
7	Retention Cut	6	1	0	0	5	GIS
8 (R/W)	Right of Way	4				4	LxW
<b>TOTALS</b>		<b>230</b>	<b>12</b>	<b>4</b>	<b>16</b>	<b>198</b>	

4. **Cruisers and Cruise Dates:** All areas were cruised by Will Lawrence, Jon Long, Ed Holloran, Bryce Rodgers, Derek Bangs, Nick Haile, and Kevin Berry in April 2013.

5. **Cruise Method and Computation:** All cruisers used Corvallis Micro Technology (CMT) data collectors, and were downloaded to the Atterbury Super A.C.E. program at the Astoria District for computing. See the attached Cruise Design for more details on the cruise method. The cruise calculations were processed in the Astoria District office.

Areas 1 and 3 are modified clearcut units and were variable plot cruised using a 40 BAF. These plots are located on a 5 chain by 2.5 chain grid, with every third plot measured and graded. A total of 51 plots were sampled, with 18 measured and graded plots, and 33 count plots.

Area 2 is a partial cut and was variable plot cruised using a 40 BAF for conifer and 33.61 BAF for hardwoods. These plots are located on a 5.5 chain by 3 chain grid, with every third plot measured and graded. A total of 41 plots were sampled, with 17 measured and graded plots, and 24 count plots.

Area 4 is a partial cut. An individual tree selection cruise was used. 126 trees were 100% cruised.

Area 5 is a partial cut and was variable plot cruised using a 40 BAF. These plots are located on a 5 chain by 3 chain grid, with every third plot measured and graded. A total of 30 plots were sampled, with 14 measured and graded plots, and 16 count plots.

Areas 6 and 7 are retention cuts and were variable plot cruised using a 40 BAF. These plots are located on a 3 chain by 2 chain grid, a total of 13 plots were all measured and graded.

Area 8 R/W Right-of-way volume was calculated by multiplying the R/W acreage and the average volume per acre from the plots in Areas 1 and 3(MC) and Area 2(PC). Right-of-way totals 4 acres.

AREA	CRUISE	TRACT	TYPE	ACRES
1 and 3	T04N R08W 20	1&3	TAKE	63
Area 2	T04N R08W 20	AREA2	TAKE	70
Area 4	T04N R08W 29	AREA4	TAKE	8
Area 5	T04N R08W 20	AREA5	TAKE	43
6 and 7	T04N R08W 33	6&7	TAKE	10
Area 8 R/W	T04N R08W 20	R/W	R/W	4

## 6. Timber Description:

Areas 1 and 3 are modified clearcut units, approximately 65 to 70 years old, consisting of western hemlock, Sitka spruce, Douglas-fir and red alder. The average western hemlock tree size to be harvested is approximately 20 inches DBH, with an average height of 64 feet to a merchantable top (6 inch d.i.b./40% fp). The average volume per acre to be harvested (net) is 32 MBF.

Area 2 is a partial cut unit, approximately 65 to 70 years old, consisting of western hemlock, Sitka spruce, and red alder. The leave stand will have an average Basal Area of 180, and SDI of around 30%, and have approximately 42 trees per acre. The average western hemlock tree size to be harvested is approximately 13 inches DBH, with an average height of 46 feet to a merchantable top (6 inch d.i.b./40% fp). The average volume per acre to be harvested (net) is 10 MBF.

Area 4 is a partial cut unit, approximately 60 years old, consisting of red alder. The leave stand will have an average Basal Area of 180. The average red alder tree size to be harvested is approximately 15 inches DBH, with an average height of 45 feet to a merchantable top (6 inch d.i.b./40% fp). The average volume per acre to be harvested (net) is 1.9 MBF.

Area 5 is a partial cut unit, approximately 65 years old, consisting of western hemlock, Sitka spruce, Douglas-fir and red alder. The leave stand will have an average Basal Area of 160, and SDI of around 31%, and have approximately 60 trees per acre. The average western hemlock tree size to be harvested is approximately 15 inches DBH, with an average height of 62 feet to a merchantable top (6 inch d.i.b./40% fp). The average volume per acre to be harvested (net) is 19 MBF.

Areas 6 and 7 are retention cut units, approximately 65 years old, consisting of western hemlock and red alder. The average western hemlock tree size to be harvested is approximately 14 inches DBH, with an average height of 52 feet to a merchantable top (6 inch d.i.b./40% fp). The average volume per acre to be harvested (net) is 22 MBF.

Area 8 R/W is similar to the timber description mentioned above for Areas 1, 2 and 3. The average volume (net) is 42 MBF/acre.

## 7. Statistical Analysis and Stand Summary: (See "Statistics" - Type Reports, attached)

Statistics for Stand B.F. volumes

Area	Estimated CV	Target SE%	Actual CV	Actual SE%
1 & 3	60	10	35.8	5
2	60	12	30.1	4.7
4	N/A	N/A	N/A	N/A
5	40	12	22.2	4.1
6 & 7	70	12	45.9	13.2

8. **Take Volumes by Species and Log Grades for All Sale Areas by MBF:** (See "Species, Sort Grade-Board Feet Volumes (Project)", "Statistics (Project)", and the "Stand Table Summary" attached). Volumes do not include "in-growth." The majority of defect and breakage was taken out during the cruise.

Species	DBH	Net Vol.	2 Saw	3Saw	4 Saw	Camp Run	% D & B	% Sale
Douglas-fir	22"	218	170	38	10		2	5
Western Hemlock	16"	2,634	1,440	984	210		2	65
Sitka Spruce	22"	193	114	57	22		8	5
Sitka Spruce 20"+	*	171					8	4
Cedar	19"	1		1			2	1

\* All logs greater or equal to 20" (Scaling End)

Species	DBH	Net Vol.	12"+	10"-11"	8"-9"	6"-7"	% D & B	% Sale
Red Alder	13"	805	200	199	148	258	1	20

<b>TOTAL NET VOLUME</b>	<b>4,022</b>
-------------------------	--------------

Alder grades based on scaling end diameter. Diameter break downs for each size class were: 12"+ = 1 Saw; 10" – 11" = 2 Saw; 8" – 9" = 3 Saw; 6" – 7" = 4 Saw. These volumes were converted and reported as shown above.

9. **Approvals:**

Prepared by: Bryce Rodgers

Date: April 17, 2013

Unit Forester Approval: 

Date: MAY 31, 2013

10. **Attachments:**
- Cruise Design and Map - 12 pages
  - Volume Report - 7 pages
  - Statistics Report - 23 pages
  - Log Stock Tables - 3 pages
  - Stand Table Summary – 3 pages

X:\Sunset Unit\2013 FY Sales\Donut Combination\Sale Prep\Cruise\Cruise\_Report.docx

**CRUISE DESIGN  
ASTORIA DISTRICT**

**Sale Name:** Donut Combo **Areas** 1 & 3

**Harvest Type:** (CC) Clearcut

**Approx. Cruise Acres:** 71 **Estimated CV%** 60 Net BF/Acre **SE% Objective** 10 Net BF/Acre

**Planned Sale Volume :** 5.5 MMBF **Estimated Sale Area Value/Acre:** \$10,000/Ac

- A. Cruise Goals:** (a) Grade minimum 70 conifer and 30 hardwood trees:  
(b) Sample 52 cruise plots ( 1 grade/ 2 count); (c) Other goals ( X Determine volume and quality;    Determine pole density for sale value

**B. Cruise Design:**

- 1. Plot Cruises:** BAF 40.0 (Full point) Half point) (circle one)  
Cruise Line Direction(s) (North /South)  
Cruise Line Spacing 5 (chains)  
Cruise Plot Spacing 2 1/2 (chains)  
Grade/Count Ratio 1/2

If a cruise plot ends up near a buffer adjust where feasible by 1/2 chain. If plot falls clearly inside a buffer, and major adjustment is necessary, drop the plot. Take plots as marked on map. All cedar are leave trees. Record all snags as SN. Grade all hardwoods.

**C. Tree Measurements:**

- 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 8" for hardwoods.  
Record dbh to nearest 1/2" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24".
- 2. Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.
- 3. Top Cruise Diameter (TCD):** Minimum top outside bark is 7" for conifers and 7" for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for trees > 18" dbh.
- 4. Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.
- 5. Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for

hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merchantable segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.

**6. Species, Sort, and Grade Codes:**

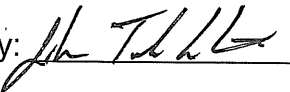
- A. Species: Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple). For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DL, HL, CL, etc.)
- B. Sort: Use code "1" (Domestic).
- C. Grade: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; R = Camp Run; 0 = Cull; R = Camp Run.
- D. Alder Grades: 12" + = 1 Sawmill; 10" - 11" = 2 Sawmill; 8"-9" = 3 Sawmill; 6"-7" = 4 Sawmill

- 7. Deductions:** Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally results in higher breakage percentages than gentler topography, and hemlock generally breaks more than D-fir and spruce.

- 8. Standard Field Procedures:** Plot Type Cruises: Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden stake marking plot center. On each yellow flagging, write the plot identification number. Between plots, along the cruise line, tie blue flagging at inter-visible points, not to exceed 100' apart. On "measure/grade" plots write the tree number and/or tree diameter on at least the first measured tree (clockwise from the line direction) in yellow paint. All trees on the plot may be marked this way, if the cruiser chooses.

- 9. Cruising Equipment:** Relaskop, Rangefinder, Logger's Tape (with dbh on back) Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.

- 10. Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: Bryce Rodgers Approved by:  Date: 03/06/13

5x2 1/2 uans

Areas 1 & 3

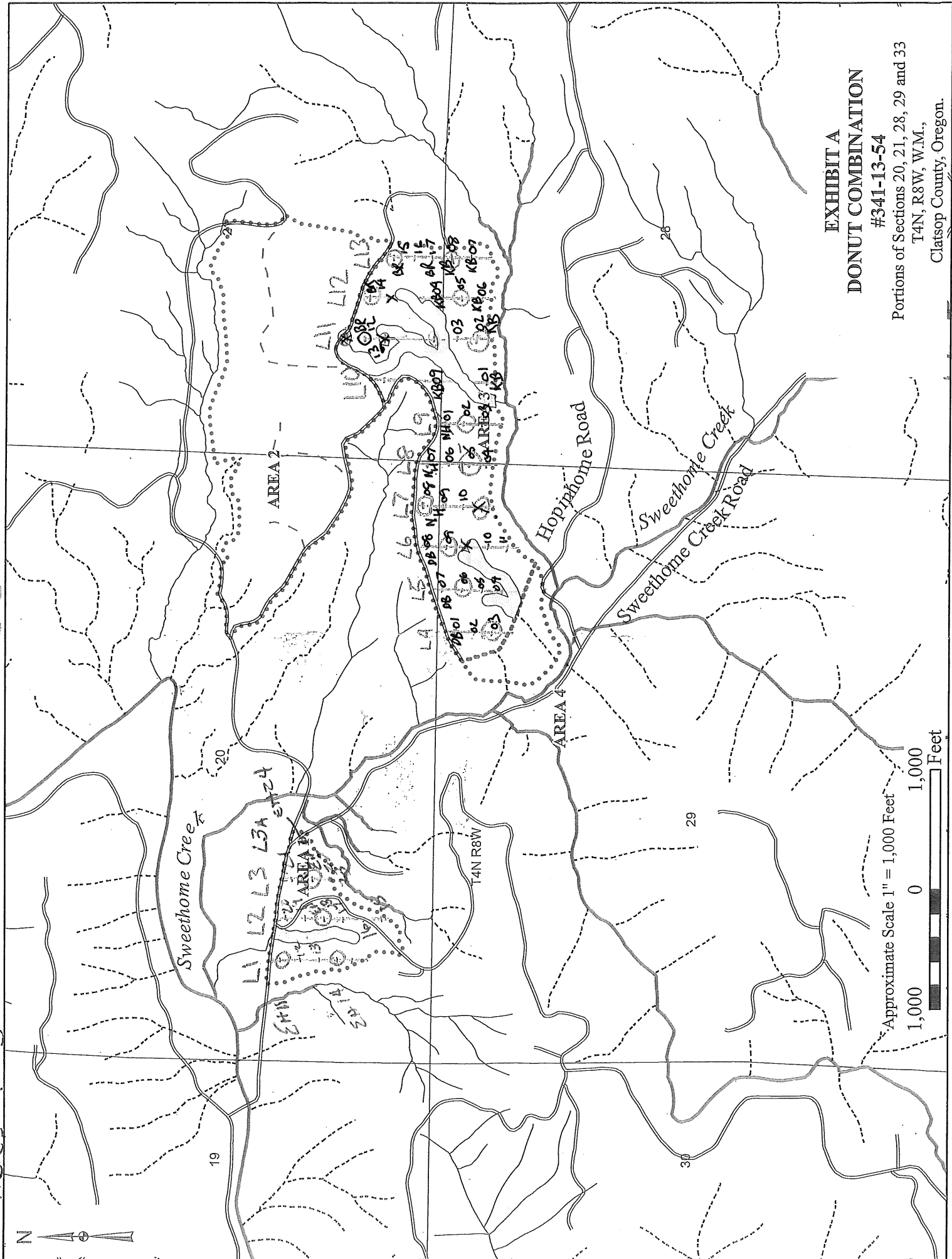
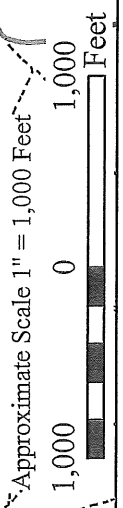


EXHIBIT A  
DONUT COMBINATION  
#341-13-54  
Portions of Sections 20, 21, 28, 29 and 33  
T4N, R8W, W.M.,  
Clatsop County, Oregon.



## CRUISE DESIGN ASTORIA DISTRICT

**Sale Name:** Donut Combination **Area(s)** 2

**Harvest Type:** (PC) "Automark Thinning"

**Approx. Cruise Acres:** 77 **Estimated CV%** 60 Net BF/Acre **SE% Objective** 12 Net BF/Acre

**Planned Sale Volume :** 5.5 MMBF **Estimated Sale Area Value/Acre:** \$3,000/Ac

**A. Cruise Goals:** (a) Grade minimum 70 conifer and 30 hardwood trees  
(b) Sample 42 cruise plots (1 grade/ 2 count); (c) Other goals (       Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes.

**B. Cruise Design:**

**1. Plot Cruises:** BAF 40.0 (Conifer) 33.61 (Hardwoods) (Full point; Half point) (circle one)  
Cruise Line Direction(s) (North / South)  
Cruise Line Spacing 5.5 (chains)  
Cruise Plot Spacing 3 (chains)  
Grade/Count Ratio 1/2

Basal Area leave target is 180 sq. ft. Cruiser needs to select 4.5 conifer leave trees per plot. Cruise all take and leave trees. All conifer less than 8" DBH and all hardwoods less than 10" are reserved. All Cedar are reserved. Record all snags as SN. Grade all alder. Take all hardwoods over 10" DBH. All trees greater than 35" DBH are leave trees.

**C. Tree Measurements:**

- 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 8" for hardwoods.  
Record dbh to nearest 1/2" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.
- 2. Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.
- 3. Top Cruise Diameter (TCD):** Minimum top outside bark is 7" for conifers and 7" for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for trees > 18" dbh.
- 4. Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.
- 5. Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each

merch. segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.

**6. Species, Sort, and Grade Codes:**

- A. Species: Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple). For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DL, HL, CL, etc.)
- B. Sort: Use code "1" (Domestic).
- C. Grade: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; R = Camp Run; 0 = Cull; R = Camp Run.
- D. Alder Grades: 12" + = 2 Sawmill; 10" – 12" = 3 Sawmill; under 10" = 4 Sawmill

- 7. Deductions:** Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally results in higher breakage percentages than gentler topography, and hemlock generally breaks more than D-fir and spruce.

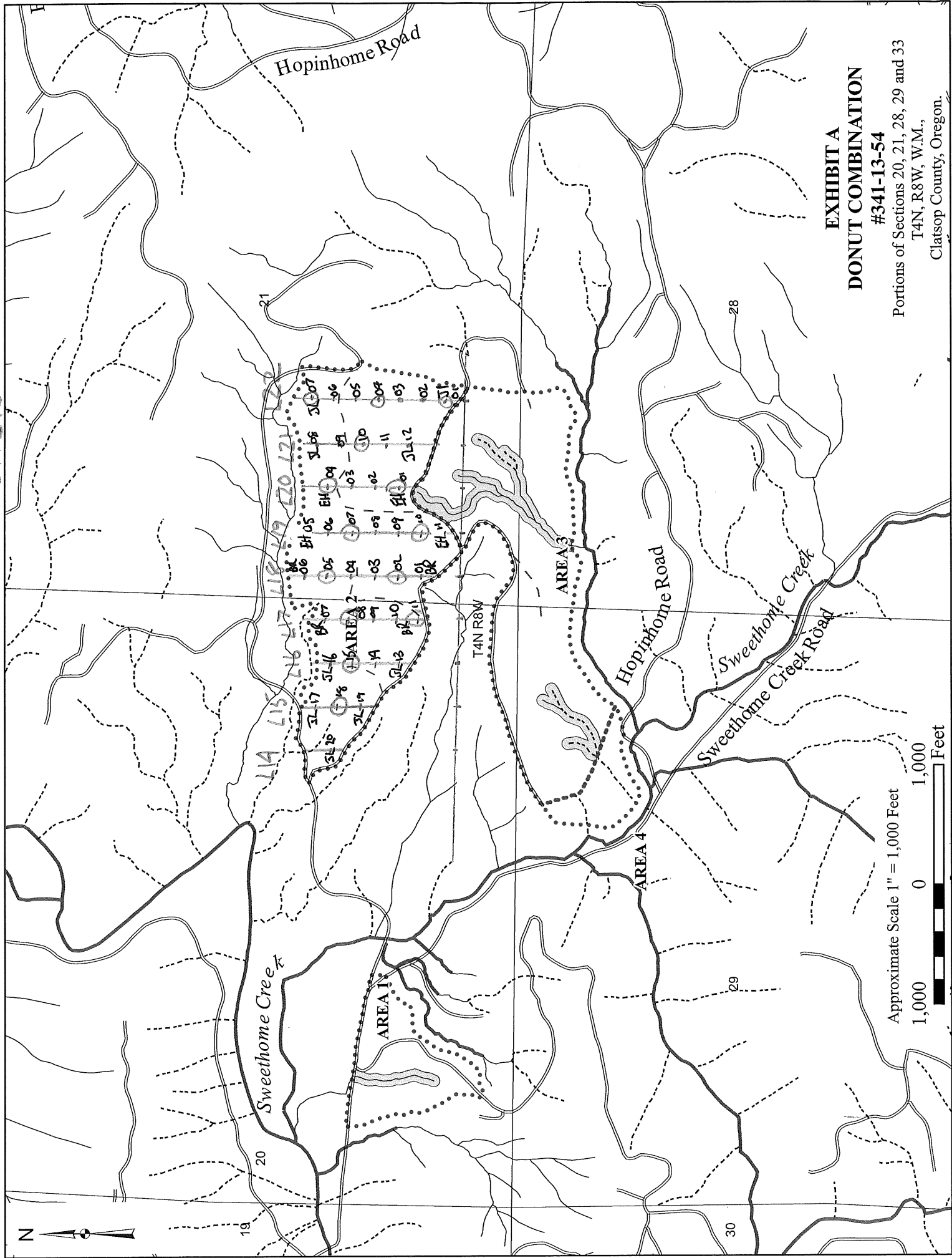
- 8. Standard Field Procedures:** Plot Type Cruises: Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden stake marking plot center. On each yellow flagging, write the plot identification number. Between plots, along the cruise line, tie blue flagging at inter-visible points, not to exceed 100' apart. On "measure/grade" plots write the tree number and/or tree diameter on at least the first measured tree (clockwise from the line direction) in yellow paint. All trees on the plot may be marked this way, if the cruiser chooses.

- 9. Cruising Equipment:** Relaskop, Rangefinder, Logger's Tape (with dbh on back) Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.

- 10. Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: Bryce Rodgers  
Approved by: JL 7/2/13 3/6/13  
Date: 03/06/2013

3X5.5



**EXHIBIT A**  
**DONUT COMBINATION**  
**#341-13-54**  
Portions of Sections 20, 21, 28, 29 and 33  
T4N, R8W, W.M.,  
Clatsop County, Oregon.

**CRUISE DESIGN  
ASTORIA DISTRICT**

**Sale Name:** Donut Combination **Area(s)** 5

**Harvest Type:** (PC) "Automark Thinning"

**Approx. Cruise Acres:** 46 **Estimated CV%** 40 Net BF/Acre **SE% Objective** 12 Net BF/Acre

**Planned Sale Volume :** 5.5 MMBF **Estimated Sale Area Value/Acre:** \$3,000/Ac

**A. Cruise Goals:** (a) Grade minimum 70 conifer and 30 hardwood trees  
(b) Sample 28 cruise plots (1 grade/ 2 count); (c) Other goals (      Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes.

**B. Cruise Design:**

**1. Plot Cruises:** BAF 40.0 (Conifer) (Full point) Half point) (circle one)  
Cruise Line Direction(s) 295  
Cruise Line Spacing 5 (chains)  
Cruise Plot Spacing 3 (chains)  
Grade/Count Ratio 1/2

Basal Area leave target is 160 sq. ft. Cruiser needs to select 4 conifer leave trees per plot.  
Cruise all take and leave trees. All conifer less than 8" DBH are reserved. All Cedar are reserved. Record all snags as SN. Grade all alder.

**C. Tree Measurements:**

- 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 8" for hardwoods.  
Record dbh to nearest 1/2" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.
- 2. Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.
- 3. Top Cruise Diameter (TCD):** Minimum top outside bark is 7" for conifers and 7" for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for trees > 18" dbh.
- 4. Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.
- 5. Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each

merch. segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.

**6. Species, Sort, and Grade Codes:**

- A. Species: Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple). For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DL, HL, CL, etc.)
- B. Sort: Use code "1" (Domestic).
- C. Grade: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; R = Camp Run; 0 = Cull; R = Camp Run.
- D. Alder Grades: 12" + = 1 Sawmill; 10" - 11" = 2 Sawmill; 8"-9" = 3 Sawmill; 6"-7" = 4 Sawmill

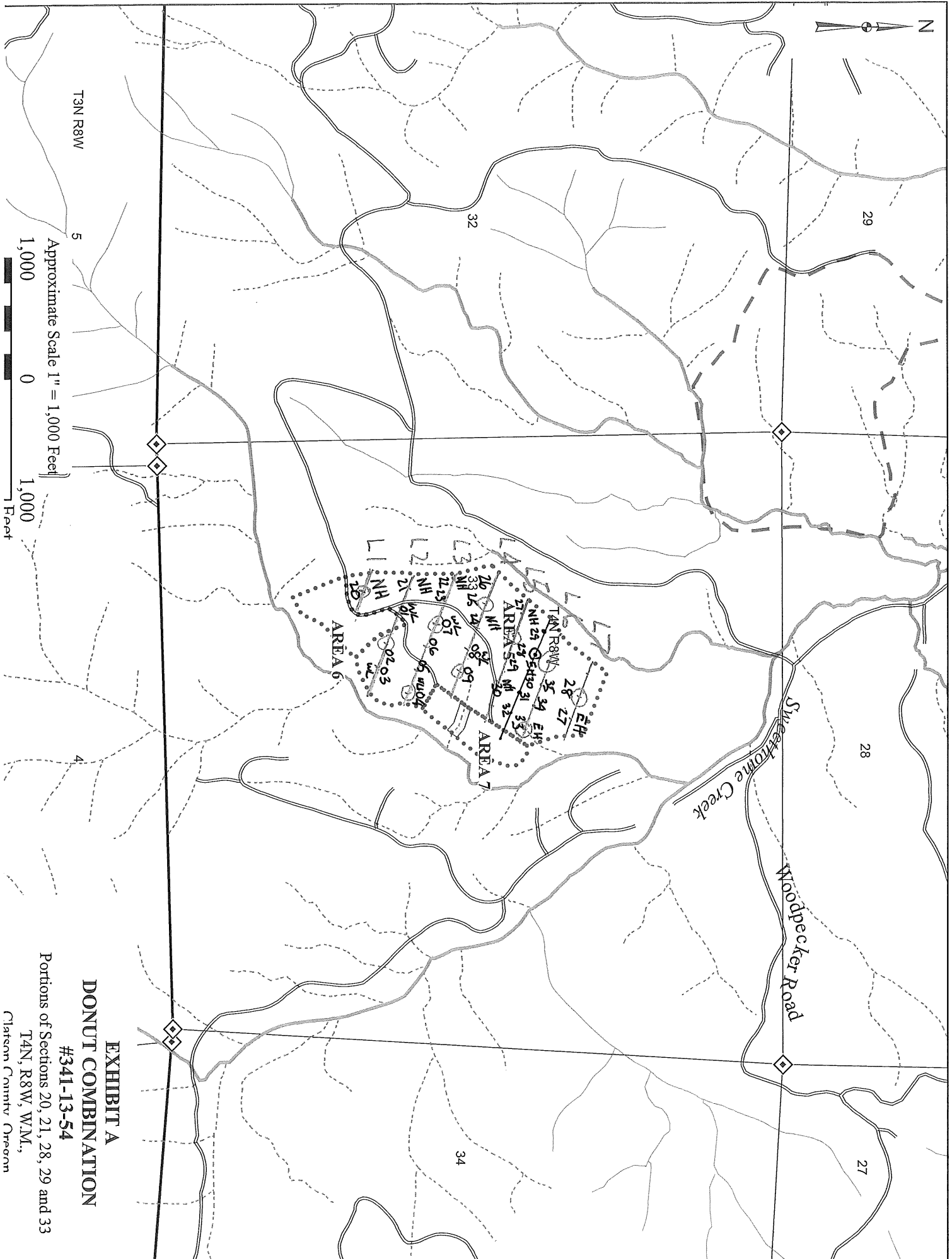
- 7. Deductions:** Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally results in higher breakage percentages than gentler topography, and hemlock generally breaks more than D-fir and spruce.

- 8. Standard Field Procedures: Plot Type Cruises:** Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden stake marking plot center. On each yellow flagging, write the plot identification number. Between plots, along the cruise line, tie blue flagging at inter-visible points, not to exceed 100' apart. On "measure/grade" plots write the tree number and/or tree diameter on at least the first measured tree (clockwise from the line direction) in yellow paint. All trees on the plot may be marked this way, if the cruiser chooses.

- 9. Cruising Equipment:** Relaskop, Rangefinder, Logger's Tape (with dbh on back) Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.

- 10. Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: Bryce Rodgers  
Approved by: T. L. B. 4/5/13  
Date: 04/05/2013



**EXHIBIT A**

**DONUT COMBINATION**

**#341-13-54**

Portions of Sections 20, 21, 28, 29 and 33

T4N, R8W, W.M.,  
Clatsop County Oregon

## CRUISE DESIGN ASTORIA DISTRICT

**Sale Name:** Donut Combination **Area(s)** 6 & 7

**Harvest Type:** (PC) "Automark Thinning"

**Approx. Cruise Acres:** 1 **Estimated CV%** 70 Net BF/Acre **SE% Objective** 12 Net BF/Acre

**Planned Sale Volume :** 5.5 MMBF **Estimated Sale Area Value/Acre:** \$1,500/Ac

- A. Cruise Goals:** (a) Grade minimum 70 conifer and 30 hardwood trees  
(b) Sample 14 cruise plot **All Grade**; (c) Other goals (       Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes.

**B. Cruise Design:**

- 1. Plot Cruises:** BAF 40.0 (Conifer) (Full point; Half point) (circle one)  
Cruise Line Direction(s) 310  
Cruise Line Spacing 3 (chains)  
Cruise Plot Spacing 2 (chains)  
Grade/Count Ratio All Grade

Basal Area leave target is 80 sq. ft. Cruiser needs to select 2 conifer leave trees per plot. Cruise all take and leave trees. All conifer less than 8" DBH are reserved. All Cedar are reserved.  
Record all snags as SN.

**C. Tree Measurements:**

- 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 8" for hardwoods.  
Record dbh to nearest 1/2" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.
- 2. Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.
- 3. Top Cruise Diameter (TCD):** Minimum top outside bark is 7" for conifers and 7" for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for trees > 18" dbh.
- 4. Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.
- 5. Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each

merch. segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.

**6. Species, Sort, and Grade Codes:**

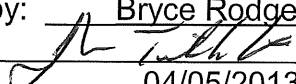
- A. Species: Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple). For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DL, HL, CL, etc.)
- B. Sort: Use code "1" (Domestic).
- C. Grade: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; R = Camp Run; 0 = Cull; R = Camp Run.
- D. Alder Grades: 12" + = 1 Sawmill; 10" – 11" = 2 Sawmill; 8"-9" = 3 Sawmill; 6"-7" = 4 Sawmill

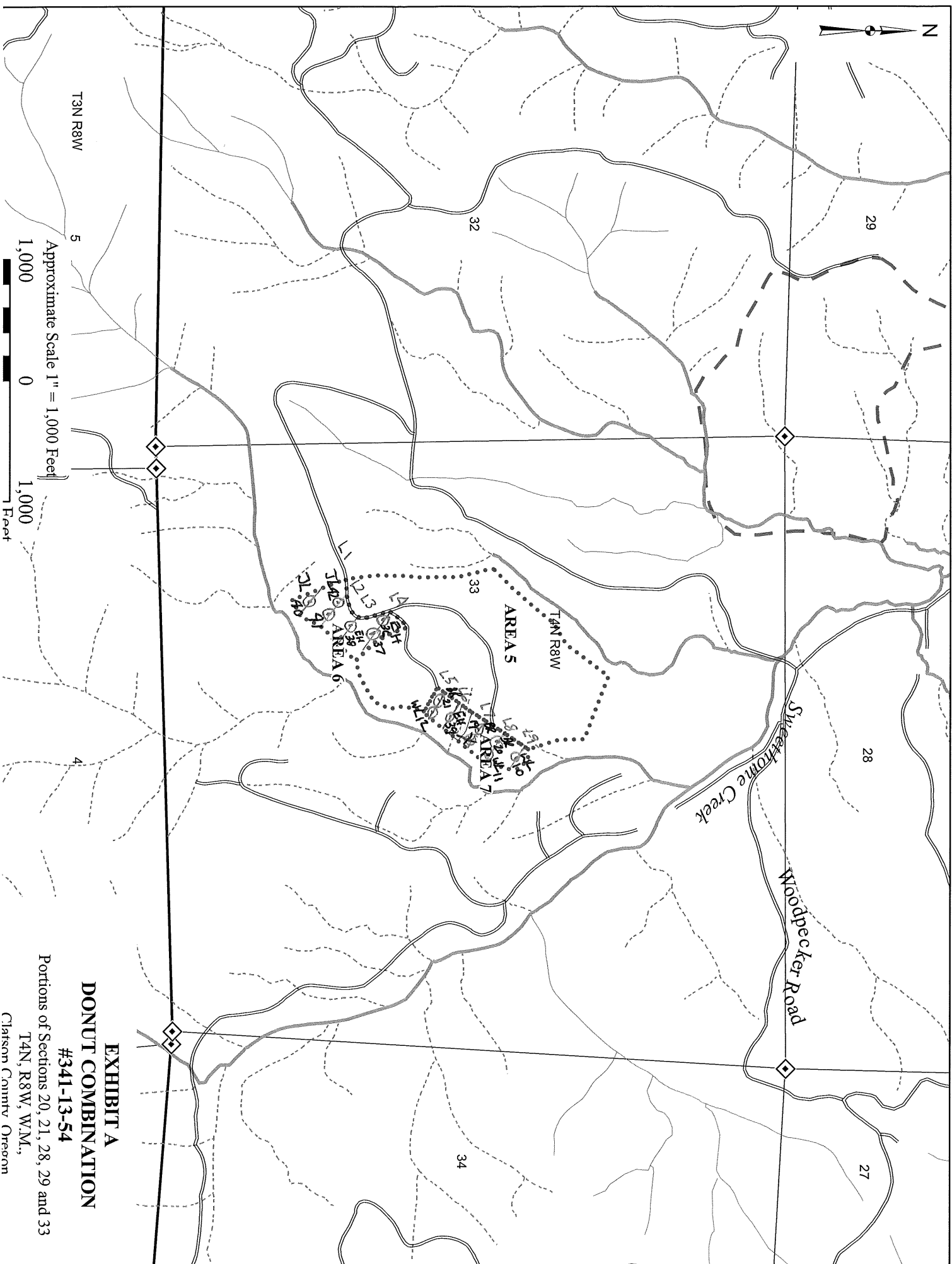
7. **Deductions**: Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally results in higher breakage percentages than gentler topography, and hemlock generally breaks more than D-fir and spruce.

8. **Standard Field Procedures: Plot Type Cruises**: Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden stake marking plot center. On each yellow flagging, write the plot identification number. Between plots, along the cruise line, tie blue flagging at inter-visible points, not to exceed 100' apart. On "measure/grade" plots write the tree number and/or tree diameter on at least the first measured tree (clockwise from the line direction) in yellow paint. All trees on the plot may be marked this way, if the cruiser chooses.

9. **Cruising Equipment**: Relaskop, Rangefinder, Logger's Tape (with dbh on back) Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.

10. **Attachments**: A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: Bryce Rodgers  
Approved by:   
Date: 04/05/2013



**EXHIBIT A**

**DONUT COMBINATION**

**#341-13-54**

Portions of Sections 20, 21, 28, 29 and 33

T4N, R8W, W.M.,

Clatsop County, Oregon

TC		PSPCSTGR Species, Sort Grade - Board Foot Volumes (Project)																
T04N R08W S20 TyR/W THRU T04N R08W S33 TyTAKE						Project: DONUT						Page 1						
						Acres 198.00						Date 4/22/2013						
												Time 11:39:46AM						
S Spp	So Gr T rt ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log			Logs Per /Acre
							Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf	
							4-5	6-11	12-19	20+	12-20	21-30	31-35	36-99				
A	DOCU														11		0.00	5.0
A	DO1S	24	.6	1,018	1,012	200		21	79		10	42	23	24	29	167	1.48	6.1
A	DO2S	25	1.2	1,015	1,003	199		100			3	22	26	49	35	129	1.01	7.8
A	DO3S	18	1.0	754	747	148		99	1		22	28	1	49	29	69	0.80	10.8
A	DO4S	33	1.1	1,320	1,305	258	0	100			18	18	15	49	29	44	0.54	29.6
A Totals		20	1.0	4,108	4,068	805	0	80	20		13	27	17	43	28	69	0.74	59.3
S	DOCU														7		0.00	.8
S	DO2S	50	3.3	960	928	184			62	38			5	95	39	633	3.63	1.5
S	DO3S	43	13.2	917	796	158		10	26	65	2	1	29	68	35	344	2.70	2.3
S	DO4S	7	.2	115	115	22		96	4		55	43		2	22	33	0.62	3.5
S Totals		9	7.7	1,992	1,839	364		10	43	47	4	3	15	78	28	227	2.13	8.1
H	CU																0.00	.5
H	DOCU														10		0.00	7.2
H	DO2S	54	3.2	7,516	7,272	1,440		3	65	32	1	3	12	84	37	353	2.14	20.6
H	DO3S	38	1.3	5,033	4,967	984	1	92	5	1	2	6	27	65	36	94	0.77	53.1
H	DO4S	8	2.3	1,089	1,065	210	5	95	0		49	37	4	11	22	28	0.42	37.5
H Totals		65	2.4	13,638	13,304	2,634	1	44	37	18	5	7	17	71	30	112	0.97	118.9
C	DOCU														15		0.00	.0
C	DO2S	83	5.6	3	3	1				100			39	61	37	918	6.84	.0
C	DO3S	17		1	1	0			100				36	64	37	183	2.07	.0
C Totals		0	4.7	4	4	1			17	83			39	61	21	140	2.03	.0
D	DO2S	78	2.3	878	858	170			100	0				100	40	319	1.99	2.7
D	DO3S	17	.0	192	192	38		100				0	19	81	38	90	0.81	2.1
D	DO4S	5		50	50	10		100			0			100	40	89	0.85	.6
D Totals		5	1.8	1,121	1,100	218		22	78	0	0	0	3	97	39	204	1.42	5.4
M	DOCU														15		0.00	.6
M Totals															15		0.00	.6
Totals			2.6	20,862	20,315	4,022	0	47	37	16	6	10	16	67	29	106	0.97	192.3

T		TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)												Page		1		
				Project: DONUT												Date		4/17/2013		
																Time		7:38:12AM		
T04N R08W S20 TTAKE																T04N R08W S20 TTAKE				
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		CuFt		BdFt		
04N		08W		20		1&3		TAKE		63.00		51		105		1		W		
S So Gr Spp T rt ad			% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre	
								Log Scale Dia.				Log Length				Ln	Bd	CF/ Lf		
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	Ft			
H DO CU									2	40	58	0	4	11	85	9		0.00	4.5	
H DO 2S			77	3.8 15,344 14,760			930		2	40	58	0	4	11	85	37	411	2.44	36.0	
H DO 3S			15	.6 3,069 3,051			192		80	14	7	3	18	27	52	34	113	1.03	27.0	
H DO 4S			8	5.3 1,426 1,351			85		100			32	40	3	25	26	42	0.51	32.3	
H Totals			59	3.4 19,839 19,163			1,207		21	33	46	3	9	13	76	32	192	1.48	99.7	
A DO CU																2		0.00	7.3	
A DO 1S			32	.6 2,691 2,674			168		24	76		12	48	14	26	28	166	1.47	16.1	
A DO 2S			25	1.6 2,138 2,104			133		100			4	8	19	69	36	130	0.99	16.2	
A DO 3S			7	2.7 576 561			35		100			19	62		19	27	67	0.83	8.4	
A DO 4S			36	2,902 2,902			183		100			20	10	13	57	29	46	0.56	63.2	
A Totals			25	.8 8,307 8,240			519		75	25		13	25	14	47	28	74	0.78	111.2	
S DO CU																7		0.00	2.3	
S DO 2S			36	2.1 800 783			49				100				16	84	38	721	4.05	1.1
S DO 3S			52	15.0 1,339 1,137			72		8	8	84	4		11	86	34	497	3.81	2.3	
S DO 4S			12	244 244			15		100			39	61			24	29	0.56	8.4	
S Totals			7	9.2 2,382 2,164			136		15	4	80	6	7	11	75	24	154	1.72	14.0	
D DO 2S			77	2.8 2,247 2,185			138		100						100	40	341	2.05	6.4	
D DO 3S			17	478 478			30		100					23	77	37	102	0.90	4.7	
D DO 4S			6	154 154			10		100						100	40	90	0.85	1.7	
D Totals			9	2.2 2,880 2,817			177		22	78				4	96	39	220	1.48	12.8	
M DO CU																15		0.00	1.9	
M Totals																15		0.00	1.9	
Type Totals				3.1 33,408 32,384			2,040		35	33	32	6	12	12	70	30	135	1.18	239.7	

T		TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)												Page		1	
				Project: DONUT												Date		4/17/2013	
																Time		7:38:37AM	
T04N R08W S20 TTAKE												T04N R08W S20 TTAKE							
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		CuFt		BdFt	
04N		08W		20		AREA2		TAKE		70.00		41		34		1		W	
S So Gr T rt ad Spp			% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre
								Log Scale Dia.				Log Length				Ln	Bd	CF/	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	Ft	Lf	
H DO CU																14		0.00	8.2
H DO 2S			36	4.2	2,145	2,054	144		20	13	66	11		13	76	37	269	1.70	7.6
H DO 3S			52	1.6	3,040	2,991	209		100			3		17	79	37	87	0.68	34.5
H DO 4S			12		634	634	44		100			69	31			19	21	0.39	29.5
H Totals			53	2.4	5,818	5,678	397		71	5	24	13	3	14	69	28	71	0.70	79.8
A DO CU																34		0.00	3.9
A DO 1S			10		291	291	20			100				100		32	160	1.50	1.8
A DO 2S			12		350	350	24		100					100		32	120	1.00	2.9
A DO 3S			46		1,321	1,321	92		100			16	18		66	31	73	0.79	18.1
A DO 4S			32	4.2	933	894	63		100			7	41	22	31	30	42	0.51	21.5
A Totals			27	1.3	2,895	2,856	200		90	10		10	21	29	40	31	59	0.64	48.3
S DO 2S			74	3.6	1,717	1,656	116				100			100		40	579	3.35	2.9
S DO 3S			22	11.3	534	474	33		17	83				83	17	34	165	1.52	2.9
S DO 4S			4		85	85	6		100			100				17	40	0.82	2.1
S Totals			21	5.2	2,336	2,214	155		8	18	75	4		18	78	32	282	2.26	7.8
Type Totals				2.7	11,049	10,748	752		63	9	28	10	7	19	63	29	79	0.78	135.9

T		TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)										Page		1			
				Project: DONUT										Date		4/17/2013			
														Time		7:39:21AM			
T04N R08W S29 T00PC										T04N R08W S29 T00PC									
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		CuFt		BdFt	
04N		08W		29		AREA4		00PC		8.00		3		126		1		W	
S So Gr T rt ad Spp			% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre
								Log Scale Dia.				Log Length				Ln	Bd	CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	Ft		
A DO CU																5	0.00		1.5
A DO 1S			33	1.5 656 646			5		91	9		5	19	76		38	259	1.78	2.5
A DO 2S			25	1.0 486 481			4	100				3	36	60		36	148	1.13	3.3
A DO 3S			16	1.3 300 296			2	100			5	4	25	66		34	85	0.83	3.5
A DO 4S			26	.7 503 499			4	100			35	20	14	31		25	38	0.53	13.1
A Totals			100	1.2 1,945 1,923			15	66	31	3	10	8	23	59		28	81	0.86	23.9
Type Totals				1.2 1,945 1,923			15	66	31	3	10	8	23	59		28	81	0.86	23.9

T		TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)												Page		1	
				Project: DONUT												Date		4/17/2013	
																Time		7:38:57AM	
T04N R08W S20 TTAKE												T04N R08W S20 TTAKE							
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees				CuFt	BdFt	T04N R08W S20 TTAKE						
04N	08W	20	AREA5	TAKE	43.00	30	33				1	W							
S So Gr T rt ad Spp			% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre
								Log Scale Dia.				Log Length				Ln	Bd	CF/ Lf	
							4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	Ft			
H		CU															0.00	2.2	
H	DO	CU													7		0.00	11.0	
H	DO	2S	30	.8	5,255	5,213	224		78	22			19	81	38	262	1.69	19.9	
H	DO	3S	62	1.5	10,876	10,712	461	2	93	5		1	5	34	60	35	94	0.78	114.5
H	DO	4S	8		1,348	1,348	58	17	83			61	31	8		21	24	0.35	57.3
H	Totals		91	1.2	17,479	17,273	743	3	64	27	7	5	6	27	62	29	84	0.80	204.9
D	DO	2S	80		665	665	29		100					100	40	240	1.78	2.8	
D	DO	3S	20		166	166	7		100					100	40	60	0.60	2.8	
D	Totals		4		832	832	36		20	80				100	40	150	1.19	5.5	
A	DO	CU															0.00	4.8	
A	DO	2S	72		621	621	27		100				100		30	130	1.13	4.8	
A	DO	3S	28		239	239	10		100			100			20	50	0.65	4.8	
A	Totals		5		859	859	37		100			28	72		17	60	0.94	14.3	
S	DO	3S	100		65	65	3		100					100	40	60	0.75	1.1	
S	Totals		0		65	65	3		100					100	40	60	0.75	1.1	
Type Totals				1.1	19,235	19,029	818	2	64	28	6	6	8	25	61	29	84	0.82	225.9

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)												Page 1					
		Project: DONUT												Date 4/17/2013					
														Time 7:39:40AM					
T04N R08W S33 TTAKE										T04N R08W S33 TTAKE									
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt										
04N	08W	33	6&7	TAKE	10.00	13	59	1	W										
S So Gr T rt ad Spp			% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre
								Log Scale Dia.				Log Length				Ln	Bd	CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	Ft		
H	DO	CU														5		0.00	6.1
H	DO	2S	40	1.6	8,772	8,632	86		75	25			7	93		39	285	1.78	30.3
H	DO	3S	50	1.0	10,694	10,589	106	96	4			0	1	19	80	38	81	0.63	130.8
H	DO	4S	10		1,938	1,938	19	100				38	55		7	21	27	0.38	72.0
H	Totals		93	1.1	21,404	21,159	212	57	32	10		4	5	13	79	32	88	0.75	239.2
A	DO	CU														4		0.00	2.5
A	DO	1S	17		293	293	3		100				100			30	150	1.30	2.0
A	DO	2S	47	1.8	805	791	8	100					70		30	32	123	1.14	6.4
A	DO	3S	17	14.3	328	281	3	39	61				61	39		28	90	1.29	3.1
A	DO	4S	19		309	309	3	100				100				17	26	0.41	12.0
A	Totals		7	3.5	1,736	1,675	17	72	28			18	61	7	14	22	64	0.90	26.0
Type Totals				1.3	23,140	22,834	228	58	32	9		5	9	12	74	31	86	0.76	265.2

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																
		Area 8 (RW)																		
<div>T04N R08W S20 TyR/W1.00 T04N R08W S20 TyR/W3.00</div>				Project: DONUT												Page 1 Date 4/17/2013 Time 10:38:14AM				
				Acres 4.00																
Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log			Logs Per /Acre
									Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf	
					Def%	Gross	Net		4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99				
A			DOCU														22		0.00	4.8
A			DO1S	20	.5	897	893	4		18	82		9	36	36	20	29	164	1.48	5.4
A			DO2S	19	1.1	804	796	3		100			3	5	46	46	35	127	0.99	6.3
A			DO3S	26	.3	1,163	1,159	5		100			17	23		60	30	72	0.80	16.1
A			DO4S	35	2.0	1,508	1,478	6	4	96			17	24	17	42	28	38	0.51	38.7
A Totals				10	1.1	4,373	4,326	17	1	82	17		13	23	22	43	28	61	0.68	71.3
S			DOCU														12		0.00	3.2
S			DO2S	26	4.7	4,870	4,639	19			2	98			3	97	39	863	5.02	5.4
S			DO3S	71	12.2	14,250	12,506	50		2	5	93	1	3	21	74	34	744	5.38	16.8
S			DO4S	3	2.8	366	355	1		37	43	21	34	34		32	22	71	1.07	5.0
S Totals				42	10.2	19,486	17,500	70		2	5	93	2	3	16	79	31	577	4.57	30.3
H			DOCU														12		0.00	8.4
H			DO2S	74	3.1	14,396	13,949	56		3	28	69	2	2	9	88	38	471	2.71	29.6
H			DO3S	20	2.9	3,970	3,857	15		88	5	7	8	6	22	64	35	91	0.80	42.4
H			DO4S	6	3.2	1,030	997	4		95	5		50	40	1	8	21	28	0.44	35.8
H Totals				45	3.1	19,397	18,803	75		25	22	53	6	5	11	79	30	162	1.31	116.2
C			DOCU														15		0.00	.9
C			DO2S	83	5.6	155	146	1				100			39	61	37	918	6.84	.2
C			DO3S	17		29	29	0			100				36	64	37	183	2.07	.2
C Totals				0	4.7	184	175	1			17	83			39	61	21	140	2.03	1.2
D			DO2S	79	2.7	938	913	4			73	27				100	40	386	2.27	2.4
D			DO3S	16	2.2	189	185	1		100				10	40	50	35	104	0.93	1.8
D			DO4S	5		47	47	0		100			18			82	27	55	0.76	.8
D Totals				3	2.5	1,174	1,145	5		20	58	22	1	2	6	91	36	230	1.61	5.0
M			DOCU														15		0.00	.5
M Totals																	15		0.00	.5
Totals					6.0	44,613	41,949	168	0	21	15	63	5	6	14	76	30	187	1.59	224.6

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	DONUT			DATE	5/28/2013		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
04N	08W	20	1&3	00CC	63.00	51	323	1	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
					TREES	TREES					
TOTAL				51	323	6.3					
CRUISE				18	114	6.3	9,284	1.2			
DBH COUNT											
REFOREST											
COUNT				33	196	5.9					
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	
WHEMLOCK		47	53.1	20.1	64	116.9	19,839	19,163	4,653	4,653	
R ALDER		43	73.8	14.2	45	80.8	8,307	8,240	2,459	2,459	
S SPRUCE		9	9.9	18.7	36	18.8	2,382	2,164	581	581	
DOUG FIR		4	6.4	22.7	85	18.0	2,880	2,817	741	741	
SPRUCELV		3	.7	50.9	104	9.4	1,707	1,596	356	356	
SNAG		4	1.2	28.6	38	5.5					
HEMLEAV		2	.3	36.6	100	2.4	529	529	102	102	
BL MAPLE		2	1.9	12.2	14	1.6					
TOTAL		114	147.4	17.8	53	253.3	35,643	34,509	8,893	8,893	
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		
WHEMLOCK		87.3	12.7	627	718	810					
R ALDER		69.8	10.6	130	145	161					
S SPRUCE		94.7	33.4	706	1,060	1,414					
DOUG FIR		17.6	10.1	398	443	487					
SPRUCELV		51.9	35.9	2,093	3,267	4,440					
SNAG											
HEMLEAV		31.1	29.1	1,208	1,705	2,202					
BL MAPLE											
TOTAL		139.0	13.0	492	566	640	772	193	86		
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK		82.7	11.6	47	53	59					
R ALDER		148.6	20.8	58	74	89					
S SPRUCE		228.6	32.0	7	10	13					
DOUG FIR		389.9	54.6	3	6	10					
SPRUCELV		271.3	38.0	0	1	1					
SNAG		261.0	36.5	1	1	2					
HEMLEAV		407.7	57.0	0	0	1					
BL MAPLE		714.1	99.9	0	2	4					
TOTAL		72.7	10.2	132	147	162	211	53	23		
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK		75.9	10.6	104	117	129					
R ALDER		128.5	18.0	66	81	95					
S SPRUCE		171.9	24.0	14	19	23					
DOUG FIR		389.9	54.6	8	18	28					
SPRUCELV		263.2	36.8	6	9	13					
SNAG		253.2	35.4	4	5	7					
HEMLEAV		404.0	56.5	1	2	4					
BL MAPLE		714.1	99.9	0	2	3					

TC TSTATS				STATISTICS				PAGE	2
				PROJECT	DONUT			DATE	5/28/2013
<b>TWP</b>	<b>RGE</b>	<b>SECT</b>	<b>TRACT</b>	<b>TYPE</b>	<b>ACRES</b>	<b>PLOTS</b>	<b>TREES</b>	<b>CuFt</b>	<b>BdFt</b>
<b>04N</b>	<b>08W</b>	<b>20</b>	<b>1&amp;3</b>	<b>00CC</b>	63.00	51	323	1	W
CL:	68.1 %	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
<b>TOTAL</b>		37.2	5.2	240	253	267	55	14	6
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK		76.7	10.7	17,106	19,163	21,219			
R ALDER		130.2	18.2	6,739	8,240	9,741			
S SPRUCE		177.3	24.8	1,627	2,164	2,701			
DOUG FIR		389.9	54.6	1,280	2,817	4,354			
SPRUCELV		263.3	36.8	1,008	1,596	2,184			
SNAG									
HEMLEAV		404.5	56.6	229	529	828			
BL MAPLE									
<b>TOTAL</b>		35.8	5.0	32,779	34,509	36,239	51	13	6

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT	DONUT	DATE 5/28/2013				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	08W	20	AREA2	00PC	70.00	41	317	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		41	317	7.7						
CRUISE		17	111	6.5	9,946	1.1				
DBH COUNT										
REFOREST										
COUNT		24	189	7.9						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
SPRUCELV		43	9.6	45.9	99	110.2	22,314	19,940	4,838	4,838
HEMLEAV		22	18.8	25.1	70	64.7	13,423	12,982	2,909	2,909
WHEMLOCK		19	50.9	13.6	46	51.7	5,818	5,678	1,569	1,569
R ALDER		12	45.4	13.2	35	42.9	2,895	2,856	953	953
S SPRUCE		3	2.9	27.4	90	11.7	2,336	2,214	561	561
SNAG		6	1.1	35.4	63	7.8				
ALDRLEAV		1	11.1	9.0	17	4.9	111	111	45	45
DOUGLEAV		2	.8	26.1	96	2.9	605	587	139	139
CEDLEAV		3	1.5	19.2	24	2.9	245	234	69	69
TOTAL		111	142.1	19.7	48	299.9	47,748	44,602	11,082	11,082
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	
SPRUCELV		53.4	8.1	2,567	2,795	3,022				
HEMLEAV		59.5	13.0	1,110	1,275	1,441				
WHEMLOCK		117.6	27.7	171	237	302				
R ALDER		65.1	19.6	59	73	88				
S SPRUCE		8.4	5.8	728	773	818				
SNAG										
ALDRLEAV										
DOUGLEAV		82.3	77.0	225	980	1,735				
CEDLEAV		87.1	60.3	289	727	1,165				
TOTAL		105.7	10.0	1,298	1,442	1,587	447	112		50
CL: 68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15	
SPRUCELV		79.5	12.4	8	10	11				
HEMLEAV		116.3	18.1	15	19	22				
WHEMLOCK		120.9	18.9	41	51	61				
R ALDER		134.6	21.0	36	45	55				
S SPRUCE		247.7	38.7	2	3	4				
SNAG		302.6	47.2	1	1	2				
ALDRLEAV		360.3	56.2	5	11	17				
DOUGLEAV		381.5	59.5	0	1	1				
CEDLEAV		548.6	85.6	0	1	3				
TOTAL		58.4	9.1	129	142	155	136	34		15
CL: 68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15	
SPRUCELV		76.4	11.9	97	110	123				
HEMLEAV		91.1	14.2	56	65	74				
WHEMLOCK		112.4	17.5	43	52	61				
R ALDER		137.1	21.4	34	43	52				
S SPRUCE		244.5	38.2	7	12	16				
SNAG		307.9	48.0	4	8	12				
ALDRLEAV		360.3	56.2	2	5	8				

TC TSTATS				STATISTICS			PAGE	2	
				PROJECT	DONUT		DATE	5/28/2013	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
04N	08W	20	AREA2	00PC	70.00	41	317	1	W
CL: 68.1 %		COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0		VAR.	S.E. %	LOW	AVG	HIGH	5	10	15
DOUGLEAV		360.3	56.2	1	3	5			
CEDLEAV		360.3	56.2	1	3	5			
TOTAL		28.6	4.5	287	300	313	33	8	4
CL: 68.1 %		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0		VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15
SPRUCELV		75.5	11.8	17,591	19,940	22,288			
HEMLEAV		94.9	14.8	11,059	12,982	14,905			
WHEMLOCK		118.1	18.4	4,632	5,678	6,724			
R ALDER		137.9	21.5	2,241	2,856	3,471			
S SPRUCE		247.8	38.7	1,358	2,214	3,070			
SNAG									
ALDRLEAV		360.3	56.2	49	111	174			
DOUGLEAV		366.9	57.2	251	587	923			
CEDLEAV		459.3	71.7	66	234	401			
TOTAL		30.1	4.7	42,505	44,602	46,699	36	9	4

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	DONUT			DATE	5/28/2013	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	08W	29	AREA4	00PC	8.00	3	126	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		3	126	42.0						
CRUISE		3	126	42.0	126	100.0				
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
SAMPLE TREES		TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
R ALDER		126	15.8	14.7	45	18.6	1,945	1,923	574	574
TOTAL		126	15.8	14.7	45	18.6	1,945	1,923	574	574
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		
R ALDER		81.5	7.3	113	122	131				
TOTAL		81.5	7.3	113	122	131	265	66	29	
CL: 68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
R ALDER		15.6	10.8	14	16	17				
TOTAL		15.6	10.8	14	16	17	14	4	2	
CL: 68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
R ALDER		30.6	21.2	15	19	23				
TOTAL		30.6	21.2	15	19	23	54	13	6	
CL: 68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
R ALDER		41.5	28.7	1,371	1,923	2,474				
TOTAL		41.5	28.7	1,371	1,923	2,474	99	25	11	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	DONUT			DATE	5/28/2013	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	08W	20	AREA5	OOPC	43.00	30	241	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	30	241	8.0							
CRUISE	14	76	5.4	7,517	1.0					
DBH COUNT										
REFOREST										
COUNT	16	128	8.0							
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
WHEMLOCK	29	100.8	15.3	62		128.0	17,479	17,273	4,795	4,795
HEMLEAV	31	45.1	22.0	77		118.7	21,233	20,692	5,030	5,030
DOUGLEAV	4	11.5	23.0	87		33.3	6,473	6,473	1,497	1,497
SNAG	5	5.3	24.5	28		17.3				
DOUG FIR	1	2.8	21.0	82		6.7	832	832	263	263
R ALDER	1	4.8	16.0	56		6.7	859	859	224	224
SPRUCELV	2	.4	43.9	98		4.0	892	821	187	187
ALDRLEAV	1	2.3	18.0	64		4.0	656	656	158	158
S SPRUCE	1	1.1	15.0	41		1.3	65	65	33	33
CEDLEAV	1	.8	18.0	42		1.3				
TOTAL	76	174.8	18.4	66		321.3	48,490	47,672	12,188	12,188
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	
WHEMLOCK	66.2	12.5	203	232	261					
HEMLEAV	72.0	12.9	601	690	779					
DOUGLEAV	51.8	29.6	507	720	933					
SNAG										
DOUG FIR										
R ALDER										
SPRUCELV	10.6	9.9	1,928	2,140	2,352					
ALDRLEAV										
S SPRUCE										
CEDLEAV										
TOTAL	106.3	12.2	417	475	533	452	113	50		
CL: 68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15	
WHEMLOCK	76.3	14.2	87	101	115					
HEMLEAV	46.7	8.7	41	45	49					
DOUGLEAV	170.5	31.7	8	12	15					
SNAG	171.2	31.8	4	5	7					
DOUG FIR	355.3	66.0	1	3	5					
R ALDER	276.7	51.4	2	5	7					
SPRUCELV	306.1	56.8	0	0	1					
ALDRLEAV	402.6	74.7	1	2	4					
S SPRUCE	547.7	101.7		1	2					
CEDLEAV	547.7	101.7		1	2					
TOTAL	34.6	6.4	164	175	186	49	12	5		
CL: 68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15	
WHEMLOCK	69.8	13.0	111	128	145					
HEMLEAV	42.0	7.8	109	119	128					
DOUGLEAV	167.0	31.0	23	33	44					
SNAG	168.0	31.2	12	17	23					

TC TSTATS				STATISTICS				PAGE	2
				PROJECT	DONUT	DATE 5/28/2013			
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
04N	08W	20	AREA5	OOPC	43.00	30	241	1	W
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		355.3	66.0	2	7	11			
R ALDER		276.7	51.4	3	7	10			
SPRUCELV		305.1	56.6	2	4	6			
ALDRLEAV		402.6	74.7	1	4	7			
S SPRUCE		547.7	101.7		1	3			
CEDLEAV		547.7	101.7		1	3			
TOTAL		19.7	3.7	310	321	333	16	4	2
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK		68.9	12.8	15,062	17,273	19,483			
HEMLEAV		45.8	8.5	18,931	20,692	22,453			
DOUGLEAV		166.6	30.9	4,471	6,473	8,475			
SNAG									
DOUG FIR		355.3	66.0	283	832	1,380			
R ALDER		276.7	51.4	418	859	1,301			
SPRUCELV		308.2	57.2	351	821	1,291			
ALDRLEAV		402.6	74.7	166	656	1,147			
S SPRUCE		547.7	101.7		65	131			
CEDLEAV									
TOTAL		22.2	4.1	45,707	47,672	49,636	20	5	2

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	DONUT	DATE				5/28/2013
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	08W	33	6&7	OOPC	10.00	13	99	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL				13	99	7.6				
CRUISE				13	98	7.5	2,108	4.6		
DBH COUNT										
REFOREST										
COUNT										
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
WHEMLOCK		52	152.9	13.9	52	160.0	21,404	21,159	5,779	5,779
HEMLEAV		22	22.3	23.6	75	67.7	13,522	13,022	3,072	3,072
SNAG		13	13.7	24.0	31	43.1				
R ALDER		7	18.5	14.6	32	21.5	1,736	1,675	506	506
DOUGLEAV		3	3.2	22.9	91	9.2	1,814	1,814	415	415
CEDLEAV		1	.2	56.0	55	3.1	315	315	81	81
TOTAL		98	210.8	16.3	52	304.6	38,791	37,985	9,853	9,853
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		
WHEMLOCK		103.0	14.3	207	242	276				
HEMLEAV		61.0	13.3	809	934	1,058				
SNAG										
R ALDER		42.7	17.4	93	113	132				
DOUGLEAV		24.1	16.7	489	587	685				
CEDLEAV										
TOTAL		125.2	12.6	333	382	430	626	156	70	
CL: 68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
WHEMLOCK		95.2	27.5	111	153	195				
HEMLEAV		73.7	21.2	18	22	27				
SNAG		132.4	38.2	8	14	19				
R ALDER		232.7	67.1	6	18	31				
DOUGLEAV		195.0	56.2	1	3	5				
CEDLEAV		360.6	103.9		0	0				
TOTAL		62.0	17.9	173	211	248	166	41	18	
CL: 68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
WHEMLOCK		79.1	22.8	124	160	196				
HEMLEAV		28.4	8.2	62	68	73				
SNAG		133.8	38.6	26	43	60				
R ALDER		209.2	60.3	9	22	35				
DOUGLEAV		190.0	54.8	4	9	14				
CEDLEAV		360.6	103.9		3	6				
TOTAL		27.6	8.0	280	305	329	33	8	4	
CL: 68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
WHEMLOCK		79.8	23.0	16,290	21,159	26,029				
HEMLEAV		36.3	10.5	11,659	13,022	14,385				
SNAG										
R ALDER		206.2	59.4	679	1,675	2,670				
DOUGLEAV		190.2	54.8	819	1,814	2,809				
CEDLEAV		360.6	103.9		315	642				
TOTAL		45.9	13.2	32,954	37,985	43,016	91	23	10	

TC TSTATS				STATISTICS			PAGE	2		
				PROJECT	DONUT		DATE	5/28/2013		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	08W	33	6&7	OOPC	10.00	13	99	1	W	
CL: 68.1 %				COEFF			NET BF/ACRE		# OF PLOTS REQ.	INF. POP.
SD: 1.0				VAR. S.E.%			LOW AVG HIGH		5 10	15

TC PSTATS			PROJECT STATISTICS							PAGE	1	
			PROJECT		DONUT			DATE		5/28/2013		
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt	
04N 04N	08 08W	20 33	1&3 6&7		R/W TAKE	THR	198.00	230	1,335	1	W	
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES		PERCENT SAMPLE TREES				
TOTAL			230	1335	5.8							
CRUISE			88	571	6.5		23,201		2.5			
DBH COUNT												
REFOREST												
COUNT			135	718	5.3							
BLANKS			7									
100 %												
STAND SUMMARY												
			SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK			237	65.9	16.1	57		93.7	13,638	13,304	3,460	3,460
R ALDER			245	43.3	13.8	41		45.3	4,108	4,068	1,245	1,245
S SPRUCE			71	4.6	22.2	50		12.4	1,992	1,839	476	476
DOUG FIR			11	2.7	22.4	85		7.3	1,121	1,100	299	299
BL MAPLE			4	.6	12.2	14		.5				
WR CEDAR			3	.0	19.2	24		.0	4	4	1	1
TOTAL			571	117.2	15.8	51		159.3	20,862	20,315	5,481	5,481
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	
WHEMLOCK		110.9	7.2	498	537	576						
R ALDER		77.4	4.9	119	125	131						
S SPRUCE		72.9	8.6	1,978	2,165	2,353						
DOUG FIR		65.8	20.8	418	527	637						
BL MAPLE												
WR CEDAR		87.1	60.3	289	727	1,165						
TOTAL		166.2	6.9	521	560	599	1,102		276		122	
CL	68.1	COEFF		TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH			5	10	15	
WHEMLOCK		151.5	10.0	59	66	72						
R ALDER		233.5	15.4	37	43	50						
S SPRUCE		378.0	24.9	3	5	6						
DOUG FIR		675.8	44.5	1	3	4						
BL MAPLE		1493.0	98.4	0	1	1						
WR CEDAR		1304.0	85.9	0	0	0						
TOTAL		121.0	8.0	108	117	127	584		146		65	
CL	68.1	COEFF		BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH			5	10	15	
WHEMLOCK		134.1	8.8	85	94	102						
R ALDER		218.0	14.4	39	45	52						
S SPRUCE		277.9	18.3	10	12	15						
DOUG FIR		687.4	45.3	4	7	11						
BL MAPLE		1493.0	98.4	0	1	1						
WR CEDAR		871.8	57.4	0	0	0						
TOTAL		104.8	6.9	148	159	170	439		110		49	
CL	68.1	COEFF		NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH			5	10	15	
WHEMLOCK		137.0	9.0	12,103	13,304	14,505						
R ALDER		228.1	15.0	3,457	4,068	4,679						
S SPRUCE		300.6	19.8	1,475	1,839	2,203						
DOUG FIR		704.2	46.4	590	1,100	1,610						

TC PSTATS		PROJECT STATISTICS							PAGE	2
		PROJECT DONUT							DATE	5/28/2013
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
04N	08	20	1&3	R/W	THR	198.00	230	1,335	1	W
04N	08W	33	6&7	TAKE						
CL	68.1		COEFF	NET BF/ACRE				# OF PLOTS REQ.	INF. POP.	
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
BL MAPLE										
WR CEDAR			1098.0	72.3	1	4	6			
<b>TOTAL</b>			108.2	7.1	18,867	20,315	21,762	467	117	52

TC TSTATS				STATISTICS PROJECT      DONUT				PAGE 1 DATE 5/28/2013		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	08W	20	1&3	TAKE	63.00	51	301	1	W	
				TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
PLOTS		TREES								
TOTAL		51	301	5.9						
CRUISE		17	105	6.2	9,145	1.1				
DBH COUNT										
REFOREST										
COUNT		34	193	5.7						
BLANKS										
100 %										
STAND SUMMARY										
SAMPLE TREES		TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK		47	53.1	20.1	64	116.9	19,839	19,163	4,653	4,653
R ALDER		43	73.8	14.2	45	80.8	8,307	8,240	2,459	2,459
S SPRUCE		9	9.9	18.7	36	18.8	2,382	2,164	581	581
DOUG FIR		4	6.4	22.7	85	18.0	2,880	2,817	741	741
BL MAPLE		2	1.9	12.2	14	1.6				
TOTAL		105	145.2	17.3	53	236.1	33,408	32,384	8,435	8,435
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		
WHEMLOCK		87.3	12.7	627	718	810				
R ALDER		69.8	10.6	130	145	161				
S SPRUCE		94.7	33.4	706	1,060	1,414				
DOUG FIR		17.6	10.1	398	443	487				
BL MAPLE										
TOTAL		123.0	12.0	430	489	547	604	151	67	
CL: 68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
WHEMLOCK		82.7	11.6	47	53	59				
R ALDER		148.6	20.8	58	74	89				
S SPRUCE		228.6	32.0	7	10	13				
DOUG FIR		389.9	54.6	3	6	10				
BL MAPLE		714.1	99.9	0	2	4				
TOTAL		74.2	10.4	130	145	160	220	55	24	
CL: 68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
WHEMLOCK		75.9	10.6	104	117	129				
R ALDER		128.5	18.0	66	81	95				
S SPRUCE		171.9	24.0	14	19	23				
DOUG FIR		389.9	54.6	8	18	28				
BL MAPLE		714.1	99.9	0	2	3				
TOTAL		42.2	5.9	222	236	250	71	18	8	
CL: 68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
WHEMLOCK		76.7	10.7	17,106	19,163	21,219				
R ALDER		130.2	18.2	6,739	8,240	9,741				
S SPRUCE		177.3	24.8	1,627	2,164	2,701				
DOUG FIR		389.9	54.6	1,280	2,817	4,354				
BL MAPLE										
TOTAL		40.9	5.7	30,529	32,384	34,239	67	17	7	

TC TSTATS				STATISTICS PROJECT DONUT				PAGE 1 DATE 5/28/2013		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	08W	20	AREA2	TAKE	70.00	41	117	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		41	117	2.9						
CRUISE		12	34	2.8	6,941	.5				
DBH COUNT										
REFOREST										
COUNT		26	80	3.1						
BLANKS		3								
100 %										
STAND SUMMARY										
SAMPLE TREES		TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK		19	50.9	13.6	46	51.7	5,818	5,678	1,569	1,569
R ALDER		12	45.4	13.2	35	42.9	2,895	2,856	953	953
S SPRUCE		3	2.9	27.4	90	11.7	2,336	2,214	561	561
TOTAL		34	99.2	14.0	42	106.4	11,049	10,748	3,083	3,083
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		
WHEMLOCK	117.6	27.7	171	237	302					
R ALDER	65.1	19.6	59	73	88					
S SPRUCE	8.4	5.8	728	773	818					
TOTAL	124.2	21.3	178	226	275	616	154	68		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	120.9	18.9	41	51	61					
R ALDER	134.6	21.0	36	45	55					
S SPRUCE	247.7	38.7	2	3	4					
TOTAL	73.4	11.5	88	99	111	215	54	24		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	112.4	17.5	43	52	61					
R ALDER	137.1	21.4	34	43	52					
S SPRUCE	244.5	38.2	7	12	16					
TOTAL	65.5	10.2	95	106	117	171	43	19		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	118.1	18.4	4,632	5,678	6,724					
R ALDER	137.9	21.5	2,241	2,856	3,471					
S SPRUCE	247.8	38.7	1,358	2,214	3,070					
TOTAL	73.3	11.4	9,519	10,748	11,977	214	54	24		

TC TSTATS				STATISTICS				PAGE	1			
				PROJECT	DONUT			DATE	5/28/2013			
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt			
04N	08W	29	AREA4	00PC	8.00	3	126	1	W			
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL			3	126	42.0							
CRUISE			3	126	42.0	126	100.0					
DBH COUNT												
REFOREST												
COUNT												
BLANKS												
100 %												
STAND SUMMARY												
			SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
R ALDER			126	15.8	14.7	45		18.6	1,945	1,923	574	574
TOTAL			126	15.8	14.7	45		18.6	1,945	1,923	574	574
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		
R ALDER			81.5	7.3	113	122	131					
TOTAL			81.5	7.3	113	122	131	265	66	29		
CL:	68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15		
R ALDER			15.6	10.8	14	16	17					
TOTAL			15.6	10.8	14	16	17	14	4	2		
CL:	68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15		
R ALDER			30.6	21.2	15	19	23					
TOTAL			30.6	21.2	15	19	23	54	13	6		
CL:	68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15		
R ALDER			41.5	28.7	1,371	1,923	2,474					
TOTAL			41.5	28.7	1,371	1,923	2,474	99	25	11		

TC TSTATS				STATISTICS PROJECT      DONUT				PAGE    1		
								DATE   5/28/2013		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	08W	20	AREA5	TAKE	43.00	30	107	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		30	107	3.6						
CRUISE		10	32	3.2	4,708	.7				
DBH COUNT										
REFOREST										
COUNT		18	64	3.6						
BLANKS		2								
100 %										
STAND SUMMARY										
SAMPLE TREES		TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK		29	100.8	15.3	62	128.0	17,479	17,273	4,795	4,795
DOUG FIR		1	2.8	21.0	82	6.7	832	832	263	263
R ALDER		1	4.8	16.0	56	6.7	859	859	224	224
S SPRUCE		1	1.1	15.0	41	1.3	65	65	33	33
TOTAL		32	109.5	15.5	62	142.7	19,235	19,029	5,315	5,315
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		
WHEMLOCK	66.2	12.5	203	232	261					
DOUG FIR										
R ALDER										
S SPRUCE										
TOTAL	66.0	11.7	200	227	253	174	43	19		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	76.3	14.2	87	101	115					
DOUG FIR	355.3	66.0	1	3	5					
R ALDER	276.7	51.4	2	5	7					
S SPRUCE	547.7	101.7		1	2					
TOTAL	66.8	12.4	96	109	123	185	46	21		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	69.8	13.0	111	128	145					
DOUG FIR	355.3	66.0	2	7	11					
R ALDER	276.7	51.4	3	7	10					
S SPRUCE	547.7	101.7		1	3					
TOTAL	58.3	10.8	127	143	158	141	35	16		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	68.9	12.8	15,062	17,273	19,483					
DOUG FIR	355.3	66.0	283	832	1,380					
R ALDER	276.7	51.4	418	859	1,301					
S SPRUCE	547.7	101.7		65	131					
TOTAL	59.0	11.0	16,945	19,029	21,113	144	36	16		

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	DONUT	DATE 5/28/2013					
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
04N	08W	33	6&7	TAKE	10.00	13	59	1	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
					TREES	TREES					
PLOTS		TREES									
TOTAL		13		59		4.5					
CRUISE		11		59		5.4		1,714 3.4			
DBH COUNT											
REFOREST											
COUNT											
BLANKS		2									
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
WHEMLOCK		52		152.9	13.9	52	160.0	21,404	21,159	5,779	5,779
R ALDER		7		18.5	14.6	32	21.5	1,736	1,675	506	506
TOTAL		59		171.4	13.9	50	181.5	23,140	22,834	6,285	6,285
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		
WHEMLOCK		103.0		14.3	207	242	276				
R ALDER		42.7		17.4	93	113	132				
TOTAL		105.0		13.7	196	226	257	440	110	49	
CL:	68.1 %	COEFF		TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
WHEMLOCK		95.2		27.5	111	153	195				
R ALDER		232.7		67.1	6	18	31				
TOTAL		81.1		23.4	131	171	211	284	71	32	
CL:	68.1 %	COEFF		BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
WHEMLOCK		79.1		22.8	124	160	196				
R ALDER		209.2		60.3	9	22	35				
TOTAL		64.0		18.4	148	182	215	177	44	20	
CL:	68.1 %	COEFF		NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
WHEMLOCK		79.8		23.0	16,290	21,159	26,029				
R ALDER		206.2		59.4	679	1,675	2,670				
TOTAL		69.7		20.1	18,247	22,834	27,421	210	52	23	

TC PSTATS		PROJECT STATISTICS							PAGE	1		
		PROJECT		DONUT					DATE	5/28/2013		
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt		
04N	08	20	1&3	R/W		4.00	92	625	1	W		
04N	08W	20	AREA2	R/W								
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL			92	625	6.8							
CRUISE			35	215	6.1	568	37.9					
DBH COUNT REFOREST COUNT			57	381	6.7							
BLANKS												
100 %												
STAND SUMMARY												
			SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK			90	66.6	18.0	54		117.1	19,397	18,803	4,525	4,525
S SPRUCE			58	11.8	39.1	83		98.5	19,486	17,500	4,268	4,268
R ALDER			56	59.7	13.1	36		56.1	4,373	4,326	1,375	1,375
DOUG FIR			6	2.2	23.7	88		6.7	1,174	1,145	289	289
WR CEDAR			3	1.1	19.2	24		2.2	184	175	52	52
BL MAPLE			2	.5	12.2	14		.4				
TOTAL			215	141.9	19.1	49		281.0	44,613	41,949	10,509	10,509
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			
WHEMLOCK		91.5	9.6	700	775	849						
S SPRUCE		64.2	8.4	2,239	2,445	2,651						
R ALDER		76.3	10.2	115	128	140						
DOUG FIR		73.8	32.9	417	622	826						
WR CEDAR		87.1	60.3	289	727	1,165						
BL MAPLE												
TOTAL		123.9	8.4	956	1,045	1,133	613	153	68			
CL	68.1	COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15			
WHEMLOCK		134.0	14.0	57	67	76						
S SPRUCE		131.5	13.7	10	12	13						
R ALDER		152.2	15.9	50	60	69						
DOUG FIR		412.2	42.9	1	2	3						
WR CEDAR		823.7	85.8	0	1	2						
BL MAPLE		959.2	99.9	0	0	1						
TOTAL		91.3	9.5	128	142	155	333	83	37			
CL	68.1	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15			
WHEMLOCK		108.2	11.3	104	117	130						
S SPRUCE		147.8	15.4	83	99	114						
R ALDER		145.5	15.2	48	56	65						
DOUG FIR		392.9	40.9	4	7	9						
WR CEDAR		547.7	57.0	1	2	3						
BL MAPLE		959.2	99.9	0	0	1						
TOTAL		75.7	7.9	259	281	303	229	57	25			
CL	68.1	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15			
WHEMLOCK		108.1	11.3	16,686	18,803	20,920						
S SPRUCE		151.0	15.7	14,747	17,500	20,253						
R ALDER		135.4	14.1	3,716	4,326	4,936						
DOUG FIR		383.6	40.0	687	1,145	1,602						

PROJECT STATISTICS								PAGE	2
TC PSTATS			PROJECT		DONUT			DATE	5/28/2013
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
04N	08	20	1&3	R/W	4.00	92	625	1	W
04N	08W	20	AREA2	R/W					
CL	68.1		COEFF		NET BF/ACRE			# OF PLOTS REQ.	INF. POP.
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10
WR CEDAR			692.4	72.1	49	175	302		
BL MAPLE									
TOTAL			81.0	8.4	38,411	41,949	45,486	262	65
									29

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT		DONUT		DATE	5/28/2013	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	08W	20	AREA2	LEAV	70.00	41	200	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
PLOTS		TREES								
TOTAL		41	200	4.9						
CRUISE		17	77	4.5		3,005		2.6		
DBH COUNT										
REFOREST										
COUNT		24	113	4.7						
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
SPRUCELV		43	9.6	45.9	99	110.2	22,314	19,940	4,838	4,838
HEMLEAV		22	18.8	25.1	70	64.7	13,423	12,982	2,909	2,909
SNAG		6	1.1	35.4	63	7.8				
ALDRLEAV		1	11.1	9.0	17	4.9	111	111	45	45
DOUGLEAV		2	.8	26.1	96	2.9	605	587	139	139
CEDLEAV		3	1.5	19.2	24	2.9	245	234	69	69
TOTAL		77	42.9	28.8	61	193.6	36,699	33,854	7,999	7,999
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	
SPRUCELV		53.4	8.1	2,567	2,795	3,022				
HEMLEAV		59.5	13.0	1,110	1,275	1,441				
SNAG										
ALDRLEAV										
DOUGLEAV		82.3	77.0	225	980	1,735				
CEDLEAV		87.1	60.3	289	727	1,165				
TOTAL		77.9	8.9	1,803	1,979	2,155	243	61	27	
CL: 68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5		10	15	
SPRUCELV		79.5	12.4	8	10	11				
HEMLEAV		116.3	18.1	15	19	22				
SNAG		302.6	47.2	1	1	2				
ALDRLEAV		360.3	56.2	5	11	17				
DOUGLEAV		381.5	59.5	0	1	1				
CEDLEAV		548.6	85.6	0	1	3				
TOTAL		101.3	15.8	36	43	50	409	102	45	
CL: 68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5		10	15	
SPRUCELV		76.4	11.9	97	110	123				
HEMLEAV		91.1	14.2	56	65	74				
SNAG		307.9	48.0	4	8	12				
ALDRLEAV		360.3	56.2	2	5	8				
DOUGLEAV		360.3	56.2	1	3	5				
CEDLEAV		360.3	56.2	1	3	5				
TOTAL		30.8	4.8	184	194	203	38	9	4	
CL: 68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5		10	15	
SPRUCELV		75.5	11.8	17,591	19,940	22,288				
HEMLEAV		94.9	14.8	11,059	12,982	14,905				
SNAG										
ALDRLEAV		360.3	56.2	49	111	174				

TC TSTATS				<b>STATISTICS</b>			PAGE	2		
				PROJECT	DONUT		DATE	5/28/2013		
<b>TWP</b>	<b>RGE</b>	<b>SECT</b>	<b>TRACT</b>	<b>TYPE</b>	<b>ACRES</b>	<b>PLOTS</b>	<b>TREES</b>	<b>CuFt</b>	<b>BdFt</b>	
<b>04N</b>	<b>08W</b>	<b>20</b>	<b>AREA2</b>	<b>LEAV</b>	70.00	41	200	1	W	
CL: 68.1 %		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD: 1.0		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUGLEAV		366.9	57.2	251	587	923				
CEDLEAV		459.3	71.7	66	234	401				
<b>TOTAL</b>		29.8	4.7	32,279	33,854	35,429	35	9	4	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT		DONUT		DATE	5/28/2013	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	08W	20	AREA5	LEAV	43.00	30	134	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		30	134	4.5						
CRUISE		12	44	3.7	2,810		1.6			
DBH COUNT										
REFOREST										
COUNT		18	79	4.4						
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
HEMLEAV		31	45.1	22.0	77	118.7	21,233	20,692	5,030	5,030
DOUGLEAV		4	11.5	23.0	87	33.3	6,473	6,473	1,497	1,497
SNAG		5	5.3	24.5	28	17.3				
SPRUCELV		2	.4	43.9	98	4.0	892	821	187	187
ALDRLEAV		1	2.3	18.0	64	4.0	656	656	158	158
CEDLEAV		1	.8	18.0	42	1.3				
TOTAL		44	65.3	22.4	74	178.7	29,254	28,643	6,872	6,872
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		
HEMLEAV		72.0	12.9	601	690	779				
DOUGLEAV		51.8	29.6	507	720	933				
SNAG										
SPRUCELV		10.6	9.9	1,928	2,140	2,352				
ALDRLEAV										
CEDLEAV										
TOTAL		90.2	13.6	566	655	744	325	81	36	
CL: 68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
HEMLEAV		46.7	8.7	41	45	49				
DOUGLEAV		170.5	31.7	8	12	15				
SNAG		171.2	31.8	4	5	7				
SPRUCELV		306.1	56.8	0	0	1				
ALDRLEAV		402.6	74.7	1	2	4				
CEDLEAV		547.7	101.7		1	2				
TOTAL				65	65	65				
CL: 68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
HEMLEAV		42.0	7.8	109	119	128				
DOUGLEAV		167.0	31.0	23	33	44				
SNAG		168.0	31.2	12	17	23				
SPRUCELV		305.1	56.6	2	4	6				
ALDRLEAV		402.6	74.7	1	4	7				
CEDLEAV		547.7	101.7		1	3				
TOTAL				179	179	179				
CL: 68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
HEMLEAV		45.8	8.5	18,931	20,692	22,453				
DOUGLEAV		166.6	30.9	4,471	6,473	8,475				
SNAG										
SPRUCELV		308.2	57.2	351	821	1,291				
ALDRLEAV		402.6	74.7	166	656	1,147				
CEDLEAV										
TOTAL				28,643	28,643	28,643				

TC TSTATS				STATISTICS			PAGE	2		
				PROJECT	DONUT		DATE	5/28/2013		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	08W	20	AREA5	LEAV	43.00	30	134	1	W	
CL: 68.1 %				COEFF			NET BF/ACRE		# OF PLOTS REQ.	INF. POP.
SD: 1.0				VAR. S.E. %			LOW AVG HIGH		5 10	15

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	DONUT	DATE 5/28/2013				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
04N	08W	33	E	LEAV	10.00	13	40	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		13	40	3.1						
CRUISE		13	39	3.0	394		9.9			
DBH COUNT										
REFOREST										
COUNT										
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
HEMLEAV		22	22.3	23.6	75	67.7	13,522	13,022	3,072	3,072
SNAG		13	13.7	24.0	31	43.1				
DOUGLEAV		3	3.2	22.9	91	9.2	1,814	1,814	415	415
CEDLEAV		1	.2	56.0	55	3.1	315	315	81	81
TOTAL		39	39.4	23.9	61	123.1	15,651	15,151	3,568	3,568
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	
HEMLEAV		61.0	13.3	809	934	1,058				
SNAG										
DOUGLEAV		24.1	16.7	489	587	685				
CEDLEAV										
TOTAL		102.9	16.5	515	617	718	423	106	47	
CL: 68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15	
HEMLEAV		73.7	21.2	18	22	27				
SNAG		132.4	38.2	8	14	19				
DOUGLEAV		195.0	56.2	1	3	5				
CEDLEAV		360.6	103.9		0	0				
TOTAL		47.6	13.7	34	39	45	98	24	11	
CL: 68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15	
HEMLEAV		28.4	8.2	62	68	73				
SNAG		133.8	38.6	26	43	60				
DOUGLEAV		190.0	54.8	4	9	14				
CEDLEAV		360.6	103.9		3	6				
TOTAL		42.9	12.4	108	123	138	80	20	9	
CL: 68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15	
HEMLEAV		36.3	10.5	11,659	13,022	14,385				
SNAG										
DOUGLEAV		190.2	54.8	819	1,814	2,809				
CEDLEAV		360.6	103.9		315	642				
TOTAL		22.4	6.5	14,174	15,151	16,129	22	5	2	

TC PLOGSTVB				Log Stock Table - MBF																
T04N R08W S20 TyR/W THRU T04N R08W S33 TyTAKE					Project:		DONUT										Page 1			
					Acres		198.00										Date 5/28/2013			
																	Time 8:43:48AM			
S T  Spp	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches												
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+	
A	DO	1S	16	4		4	.5					4								
A	DO	1S	20	16		16	2.0					8	8							
A	DO	1S	24	21		21	2.6					10	11							
A	DO	1S	30	63		63	7.9					24	39	0						
A	DO	1S	32	48	2.4	46	5.8						22	25						
A	DO	1S	40	49		49	6.1						2	16	31					
A	DO	2S	20	5		5	.7					5								
A	DO	2S	30	44		44	5.4					44								
A	DO	2S	32	52		52	6.5					52								
A	DO	2S	40	100	2.3	98	12.1				24	74								
A	DO	3S	16	0		0	.0				0									
A	DO	3S	20	33		33	4.1				33									
A	DO	3S	24	23		23	2.8				21		2							
A	DO	3S	30	19	5.1	18	2.3				9	10								
A	DO	3S	32	2	17.5	2	.2				2									
A	DO	3S	34	0		0	.0				0									
A	DO	3S	36	0		0	.0				0									
A	DO	3S	38	7		7	.9				7									
A	DO	3S	40	65		65	8.1				65									
A	DO	4S	10	1		1	.1			1										
A	DO	4S	14	0		0	.0			0										
A	DO	4S	16	26		26	3.3		0	20	0	6								
A	DO	4S	18	4		4	.5			4	0									
A	DO	4S	20	15		15	1.9			15										
A	DO	4S	24	9		9	1.1			9	0									
A	DO	4S	30	37		37	4.6			37										
A	DO	4S	32	25		25	3.1			25										
A	DO	4S	34	17	16.6	14	1.8			14										
A	DO	4S	36	0		0	.0			0										
A	DO	4S	40	127		127	15.7			115	12									
A	Totals			813		805	20.0		0	240	172	232	88	41	31					
S	DO	2S	32	9	6.2	8	2.3						0	8						
S	DO	2S	40	181	3.2	175	48.1							106	37	28	4	0		
S	DO	3S	16	2	19.1	1	.4					0	0	1	0					
S	DO	3S	18	2		2	.5				0	2		0	0					
S	DO	3S	22	0		0	.0						0							



## Log Stock Table - MBF

T04N R08W S20 TyR/W  
THRU  
T04N R08W S33 TyTAKE

Project: **DONUT**  
Acres **198.00**

Page **3**  
Date **5/28/2013**  
Time **8:43:48AM**

S T  Spp	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
H	DO	3S	28	3		3	.1			1	3								
H	DO	3S	30	43		43	1.6			7	5	31		0					
H	DO	3S	32	272	1.9	267	10.1	4		49	114	78	9			14			
H	DO	3S	34	1		1	.0				1								
H	DO	3S	36	11		11	.4			8	3								
H	DO	3S	38	12		12	.5			7		5							
H	DO	3S	40	620		615	23.3			148	178	251	27	12					
H	DO	4S	12	3		3	.1			3									
H	DO	4S	14	0	23.2	0	.0						0						
H	DO	4S	16	53		53	2.0			48	5								
H	DO	4S	18	28		28	1.1			23	4								
H	DO	4S	20	19		19	.7			17	2		0						
H	DO	4S	22	8		8	.3			8									
H	DO	4S	24	8		8	.3			8									
H	DO	4S	26	12		12	.5			12									
H	DO	4S	28	10		10	.4	5		5									
H	DO	4S	30	39		39	1.5			39									
H	DO	4S	32	7		7	.3	5		3									
H	DO	4S	36	14	33.3	10	.4			10									
H	DO	4S	40	13		13	.5			13									
H	Totals			2,700	2.4	2,634	65.5	20		416	319	417	352	156	474	257	191	31	
C	DO	2S	32	0	6.5	0	32.5									0			
C	DO	2S	40	0	5.0	0	50.9									0			
C	DO	3S	32	0		0	6.0					0							
C	DO	3S	40	0		0	10.6					0							
C	Totals			1	4.7	1	.0					0				1			
D	DO	2S	40	174	2.3	170	78.0					29		104	37	1			
D	DO	3S	26	0		0	.0					0							
D	DO	3S	32	7		7	3.3				7	0							
D	DO	3S	40	31		31	14.1			7	10	14							
D	DO	4S	14	0		0	.0			0									
D	DO	4S	40	10		10	4.5				10								
D	Totals			222	1.8	218	5.4			7	27	14	29	104	37	1			
Total	All Species			4,131	2.6	4,022	100.0	20		682	535	666	484	320	665	308	259	77	7

TC		PSTNDSUM										Stand Table Summary										Page		1				
																						Date:		4/17/2013				
T04N R08W S20 TyR/W THRU T04N R08W S33 TyTAKE					Project										DONUT										Time:		8:38:28AM	
					Acres										198.00										Grown Year:			
S Spec	T	Sample		Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	T o t a l s														
		DBH	Trees	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF												
H		8	1	85	20	.445	.16	.45	5.0	20.0		2	9		4	2												
H		9	4	85	20	4.797	2.12	4.80	5.0	20.0		24	96		47	19												
H		10	11	87	31	6.736	3.48	6.74	8.2	26.8		55	180		109	36												
H		11	13	89	70	7.875	5.20	9.33	15.4	53.0		144	495		284	98												
H		12	18	87	77	9.000	6.98	15.19	14.9	50.4		227	766		449	152												
H		13	9	89	79	3.008	2.69	5.51	16.6	60.6		91	334		181	66												
H		14	8	87	84	5.380	5.75	10.76	19.7	69.6		212	749		421	148												
H		15	5	90	99	2.508	3.08	5.02	26.5	101.9		133	511		263	101												
H		16	19	87	94	5.893	8.23	11.79	26.8	98.6		316	1,163		626	230												
H		17	20	88	93	6.466	10.19	12.42	31.6	111.9		392	1,389		776	275												
H		18	9	82	95	2.651	4.68	4.28	34.5	117.5		148	503		292	100												
H		19	6	87	90	1.482	2.92	2.96	39.5	132.0		117	391		232	77												
H		20	2	84	99	.511	1.11	1.02	46.0	149.2		47	152		93	30												
H		21	6	88	105	.406	.98	.85	53.6	212.5		45	180		90	36												
H		22	15	88	98	2.120	5.60	4.85	50.0	199.8		242	969		480	192												
H		23	8	86	109	.943	2.72	2.72	47.0	180.5		128	491		253	97												
H		24	2	88	112	.256	.80	.51	63.5	260.0		32	133		64	26												
H		25	5	87	96	.576	1.96	1.20	68.3	249.9		82	299		162	59												
H		26	5	87	95	.344	1.27	.69	68.2	263.2		47	181		93	36												
H		27	8	86	110	1.088	4.33	2.58	67.3	290.7		174	750		344	149												
H		28	9	88	96	.881	3.77	1.81	84.3	341.8		153	618		302	122												
H		29	7	87	101	.579	2.66	.98	92.2	337.8		91	332		179	66												
H		30	5	81	107	.336	1.65	.68	81.9	320.4		56	218		110	43												
H		31	3	88	116	.161	.85	.48	90.0	419.5		44	203		86	40												
H		32	4	88	121	.179	1.00	.54	87.3	442.1		47	238		93	47												
H		33	3	88	98	.143	.85	.29	125.1	481.4		37	141		72	28												
H		34	8	83	120	.423	2.67	.98	95.3	437.3		94	430		185	85												
H		35	3	86	123	.019	.13	.06	115.4	545.6		7	32		13	6												
H		38	6	89	121	.215	1.69	.64	137.4	706.0		89	455		175	90												
H		40	5	87	107	.186	1.62	.37	199.4	947.1		74	353		147	70												
H		41	4	87	108	.175	1.61	.44	170.2	792.0		75	347		148	69												
H		42	2	83	124	.084	.80	.25	124.3	650.0		31	163		62	32												
H		45	2	73	123	.008	.09	.02	125.7	633.3		3	15		6	3												
H		48	1	82	116	.003	.04	.01	201.0	910.0		2	9		4	2												
H		50	1	82	122	.003	.04	.01	174.7	900.0		2	9		3	2												
H		Totals	237	87	77	65.882	93.71	111.23	31.1	119.6		3,460	13,304		6,851	2,634												
A		8	2	87	30	.010	.00	.01	5.5	20.0		0	0		0	0												
A		9	14	87	45	3.434	1.44	3.43	7.9	32.8		27	113		54	22												
A		10	15	86	53	2.393	1.36	2.39	12.9	39.9		31	95		61	19												
A		11	15	87	59	4.887	3.17	4.89	15.3	51.7		75	253		148	50												
A		12	20	86	57	4.131	3.19	4.15	19.7	55.8		82	232		162	46												
A		13	34	87	46	7.160	6.60	5.75	18.9	50.0		109	287		215	57												
A		14	23	87	66	4.732	5.01	6.49	22.9	67.4		149	438		295	87												
A		15	35	86	69	6.950	8.49	11.32	23.1	78.8		261	892		517	177												
A		16	26	87	71	5.498	7.68	8.30	28.5	93.4		236	775		468	154												
A		17	14	87	79	.915	1.44	1.73	28.3	107.2		49	185		97	37												
A		18	12	86	73	.728	1.29	1.45	27.1	100.5		39	146		78	29												
A		19	11	87	58	1.162	2.29	1.49	40.2	130.8		60	195		119	39												
A		20	12	87	81	.663	1.45	1.52	34.2	123.8		52	189		103	37												
A		21	4	87	86	.263	.63	.53	47.4	164.6		25	86		49	17												
A		22	1	87	82	.005	.01	.01	87.0	400.0		0	2		1	0												
A		23	2	87	88	.010	.03	.02	55.3	205.0		1	4		2	1												
A		24	4	87	83	.387	1.21	.77	61.5	225.0		48	174		94	34												

TC		PSTNDSUM										Stand Table Summary										Page		2	
																						Date:		4/17/2013	
T04N R08W S20 TyR/W THRU T04N R08W S33 TyTAKE						Project					DONUT					Time:		8:38:28AM							
						Acres					198.00					Grown Year:									
S Spc	T	DBH	Sample Trees	FF 16'	Tot Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals											
									Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF									
A		27	1	87	77	.005	.02	.01	67.5	235.0		1	2		1	0									
A		Totals	245	87	61	43.332	45.31	54.26	22.9	75.0		1,245	4,068		2,464	805									
S		9	2	86	43	1.533	.68	1.53	8.0	20.0		12	31		24	6									
S		14	2	85	41	.634	.68	.63	22.0	50.0		14	32		28	6									
S		15	3	85	47	.788	.97	.79	22.3	39.0		18	31		35	6									
S		26	4	87	113	.770	2.84	2.31	62.2	258.3		144	597		284	118									
S		27	3	86	98	.180	.72	.36	90.3	353.8		33	128		65	25									
S		28	2	85	110	.019	.08	.05	80.4	322.0		4	15		7	3									
S		29	1	72	102	.009	.04	.01	33.0	70.0		0	1		1	0									
S		31	2	80	99	.271	1.42	.54	111.5	385.0		60	209		120	41									
S		35	1	82	92	.006	.04	.01	124.5	415.0		1	5		3	1									
S		37	3	83	113	.092	.69	.28	125.0	584.2		35	162		69	32									
S		38	1	89	120	.005	.04	.02	139.7	613.3		2	9		4	2									
S		40	6	73	107	.096	.84	.21	120.8	445.2		25	92		49	18									
S		41	2	72	127	.009	.08	.03	148.7	511.7		4	13		8	3									
S		42	1	83	122	.004	.04	.01	223.5	1005.0		2	8		4	2									
S		44	3	77	109	.068	.72	.14	156.3	722.2		22	101		43	20									
S		45	2	73	117	.007	.08	.02	140.8	556.7		3	12		6	2									
S		46	1	83	122	.003	.04	.01	279.0	1175.0		2	8		4	2									
S		50	1	68	132	.003	.04	.01	219.7	766.7		2	7		4	1									
S		51	1	69	148	.003	.04	.01	245.3	953.3		2	8		4	2									
S		52	2	70	142	.005	.08	.02	246.2	980.0		4	16		8	3									
S		53	1	89	132	.003	.04	.01	291.7	1376.7		2	11		5	2									
S		54	3	74	134	.008	.12	.02	231.7	1011.1		5	23		10	5									
S		55	3	75	110	.043	.72	.09	226.7	910.1		20	81		40	16									
S		56	1	72	131	.002	.04	.01	278.7	1020.0		2	7		4	1									
S		57	6	76	116	.047	.84	.14	273.3	1017.8		39	144		77	29									
S		60	1	69	148	.002	.04	.01	337.3	1323.3		2	8		4	2									
S		61	1	71	127	.002	.04	.01	240.3	953.3		1	6		3	1									
S		64	2	70	119	.004	.08	.01	306.2	1176.0		3	11		5	2									
S		65	3	76	131	.005	.12	.02	311.7	1372.2		5	22		10	4									
S		66	1	83	122	.002	.04	.01	400.0	1833.3		2	9		4	2									
S		68	1	71	127	.000	.01	.00	255.0	1326.7		0	2		1	0									
S		69	2	70	136	.002	.05	.01	308.5	1581.0		2	9		3	2									
S		70	1	66	148	.002	.04	.00	257.7	1540.0		1	7		2	1									
S		71	1	66	126	.001	.04	.00	242.3	1366.7		1	6		2	1									
S		75	1	83	129	.001	.04	.00	533.7	2463.3		2	10		4	2									
S		Totals	71	85	67	4.631	12.41	7.30	65.2	251.9		476	1,839		943	364									
D		21	1	83	103	.602	1.45	1.20	47.5	150.0		57	181		113	36									
D		22	5	87	108	1.113	2.94	2.23	54.5	206.7		122	462		241	91									
D		23	2	86	97	.505	1.46	1.01	55.5	195.0		56	197		111	39									
D		24	2	89	116	.464	1.46	.93	67.5	275.0		63	255		124	51									
D		34	1	86	140	.004	.02	.01	110.7	516.7		1	5		2	1									
D		Totals	11	86	106	2.687	7.32	5.39	55.5	204.2		299	1,100		592	218									
C		12	1	74	17	.019	.01																		
C		38	1	83	111	.002	.01	.00	158.5	580.0		1	2		1	0									
C		45	1	71	88	.001	.01	.00	170.5	510.0		0	1		1	0									
C		Totals	3	75	29	.022	.04	.01	163.5	550.9		1	4		2	1									
M		11	2	87	17	.384	.25																		
M		14	2	87	17	.237	.25																		

TC		PSTNDSUM		Stand Table Summary								Page		3				
												Date:		4/17/2013				
T04N R08W S20 TyR/W THRU T04N R08W S33 TyTAKE				Project		DONUT				Time:		8:38:28AM						
				Acres		198.00				Grown Year:								
S	T	Sample		FF	Av	Tot	Trees/		BA/	Logs	Average Log		Net		Net	Totals		
Spc		DBH	Trees	16'	Ht		Acre	Acre	Acre		Net	Net	Tons/	Cu.Ft.	Bd.Ft.	Tons	Cunits	MBF
											Cu.Ft.	Bd.Ft.	Acre	Acre				
M		Totals	4	87	17		.621	.51										
	Totals		571	87	71		117.175	159.30	178.19		30.8	114.0		5,481	20,315		10,852	4,022

