Timber Sale Appraisal
Whirling Derby

Sale FG-341-2016-47-

District: Forest Grove **Date: October 08, 2015**

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	$1,446,234.40	$0.00	$1,446,234.40
		Project Work:	($111,000.00)
		Advertised Value:	$1,335,234.40

Timber Sale Appraisal
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Sale FG-341-2016-47-

District: Forest Grove **Date: October 08, 2015**

Timber Description

Location: Portions of Sections 22 and 23, T3N, R6W, W.M., Tillamook County, Oregon.

Stand Stocking: 20%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	19	0	98

Volume by Grade	2S	3S	4S	Total
Douglas - Fir	2,589	1,160	203	3,952
Total	2,589	1,160	203	3,952

Comments: Pond Values Used: 3rd Quarter Calendar Year 2015.

Western Hemlock and Other Conifers Stumpage Price = Pond Value minus Logging Cost:
$221.03/MBF = $440/MBF - $218.97/MBF

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
$1,031.03/MBF = $1,250/MBF - $218.97/MBF

Red Alder and Other Hardwoods Stumpage Price = Pond Value minus Logging Cost:
$391.03/MBF = $610/MBF - $218.97/MBF

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):
Brand and Paint: 3,952 MBF x $2/MBF = $7,904
TOTAL Other Costs (with Profit & Risk to be added) = $7,904

Other Costs (No Profit & Risk added):
Block/Waterbar Roads/Skid Trails: 20 hrs x $150/hour = $3,000
Pile Landing Slash/Sort Firewood: 15 hrs x $150/hour = $2,250
Slash Treatment: 10 acres x $150/acre = $1,500
Non-Merch Hardwood Slashing: 30 acres @ $70/acre = $2,100
Equipment Cleaning: 3 x $1,000/Piece = $3,000
TOTAL Other Costs (No Profit & Risk added) = $11,850

ROAD MAINTENANCE
Move-in: $4,000
General Road Maintenance: 7.3 miles x $1,200/mile = $8,760
TOTAL Road Maintenance: $12,760 / 3,952 MBF = $3.23/MBF

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District: Forest Grove **Date: October 08, 2015**

Logging Conditions

Combination#: 1 Douglas - Fir 80.00%

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

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

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

loads / day: 12 **bd. ft / load:** 4600

cost / mbf: $108.70

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

Combination#: 2 Douglas - Fir 20.00%

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

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

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

loads / day: 10 **bd. ft / load:** 4600

cost / mbf: $68.96

machines: Stroke Delimber (B)

Timber Sale Appraisal
Whirling Derby

Sale FG-341-2016-47-

District: Forest Grove **Date: October 08, 2015**

Logging Costs

Operating Seasons:	1.00	**Profit Risk:**	10%
Project Costs:	$111,000.00	**Other Costs (P/R):**	$7,904.00
Slash Disposal:	$0.00	**Other Costs:**	$11,850.00

Miles of Road

Road Maintenance: $3.23

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

Hauling Costs

Species	$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	$0.00	2.0	4.7

Timber Sale Appraisal
Whirling Derby

Sale FG-341-2016-47-

District: Forest Grove

Date: October 08, 2015

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
$100.75	$3.29	$1.11	$84.64	$2.00	$19.18	$0.00	$5.00	$3.00	$218.97

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	$0.00	$584.92	$365.95	$0.00

Timber Sale Appraisal
Whirling Derby

Sale FG-341-2016-47-

District: Forest Grove **Date: October 08, 2015**

Summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	$0.00	$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	3,952	$365.95	$1,446,234.40

Gross Timber Sale Value

Recovery: $1,446,234.40

Prepared By: Eric Foucht **Phone:** 503-359-7473

TIMBER SALE SUMMARY
Whirling Derby
Contract No. 341-16-47

1. **Location:** Portion of Section 22 and 23, T3N, R6W, W.M., Tillamook County, Oregon

2. **Type of Sale:** This timber sale is a 109 acre modified clearcut. The timber will be sold on a recovery basis at a sealed bid auction.

3. **Revenue Distribution:** 100% BOF, Tillamook County 100% (56-01).

4. **Sale Acreage:** Acres are net of stream buffers and road prisms. Acreage was determined using ESRI ArcMap GIS software.

5. **Cruise**: The Timber Sale was cruised by ODF Cruisers in June of 2015. For more information see Cruise Report.

6. **Timber Description:** The Timber Sale Area consists of medium to well stocked 58 to 73 year old Douglas-fir stands with minor amounts of western hemlock and noble fir firs. The average Douglas-fir DBH is 19 inches. The estimated average net volume of Douglas-fir is 37 MBF per acre.

7. Volume (MBF)

SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	Cruise Volume	2,642	1,184	207	4,033
	Hidden D&B (2%)	(53)	(24)	(4)	(81)
	NET TOTAL	2,589	1,160	203	3,952
	% of Total	66	29	5	

8. **Topography and Logging Method:** Slopes within the sale areas range from 15% to 65% and is generally northern in aspect. The Timber Sale Area is 20% ground-based yarding, and 80% cable-based logging. The average horizontal cable corridor length is around 630 feet and the maximum is approximately 1320 feet. The approximate average horizontal tractor skid trail length is 450 feet and the maximum is 700 feet.

9. **Access:** All access roads to the Timber Sale Area are on surfaced all-weather roads. From Forest Grove, travel north on Highway 47 through Banks then merge onto Highway 26 and continue west. Between MP 31 and MP 32 turn left on Salmonberry Road and continue for 1.2 miles to Section 10 Road. Turn left on Section 10 Road and continue 2 miles to Fire Road #2. Turn right and continue 2 miles to Derby Creek Road. Spurs leading into the sale are approximately 0.8 miles down Derby Creek Road.

10.Projects:

Project No. 1: Road construction and Improvement	$11,884.41
Project No. 2: Rock Crushing and Road Surfacing	$92,248.99
Project No. 3: Grass Seed, Fertilize and Mulch	$841.99
Move in and equipment cleaning	$6,019.92
Total Credit for all Projects (rounded)	$111,000

PROJECT COST SUMMARY SHEET

Timber Sale: Whirling Derby

Sale Number: 341-16-47

PROJECT NO. 1: ROAD CONSTRUCTION AND IMPROVEMENT

CONSTRUCTION

Road Segment	Length	Cost
A to B	8+60	$3,083.19
C to D	21+90	$5,959.78
E to F	5+00	$1,621.45
	35+50 stations	
	0.67235 miles	

SUBTOTAL CONSTRUCTION = **$10,664.41**

IMPROVEMENTS

Road Segment	Length	Cost
G to C	66+90	$1,220.00
	66+90 stations	
	1.26705 miles	

SUBTOTAL IMPROVEMENTS = **$1,220.00**

TOTAL PROJECT NO. 1 COST = **$11,884.41**

PROJECT NO. 2: SURFACING

Road Segment	Rock Amount	Rock Type	Cost
A to B	1,061 cy	4" - 0	$18,015.78
C to D	1,712 cy	4" - 0	$29,566.24
E to F	0,547 cy	4" - 0	$9,556.09
G to C	2,162 cy	4" - 0	$35,110.88
Total	5,482 cy		

TOTAL PROJECT NO. 2 COST = **$92,248.99**

PROJECT NO. 3 GRASS SEED, FERTILIZE, & MULCH

TOTAL PROJECT NO. 3 COST = **$841.99**

MOVE-IN & EQUIPMENT CLEANING

Grader	$911.66
Roller (smooth/grid) & Compactor	$581.46
Excavator (Large) - Equipment Cleaning	$1,911.66
Dozer (Large) - Equipment Cleaning	$1,956.24
Dump Truck (10cy +)	$658.90

TOTAL MOVE-IN & EQUIPMENT CLEANING COST = $6,019.92

TOTAL ALL PROJECTS $110,995.32

TOTAL CREDITS $111,000.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Whirling Derby Sale Number: 341-16-47

Road Segment: A to B Costruction: 8+60 stations

0.16 miles

PROJECT NO. 1

EXCAVATION					
Clearing & grubbing (scatter)	0.93	ac @	$1,078.00	per acre =	$999.80
Balanced road construction	5.10	sta @	$110.00	per sta =	$561.00
Drift	3.50	sta @	$180.00	per sta =	$630.00
Turnouts	1	ea @	$66.00	per ea =	$66.00
Approach to landing	1.50	sta @	$110.00	per sta =	$165.00
Landing	2	ea @	$314.00	per ea =	$628.00
Grade, ditch, & roll	0.93	sta @	$36.00	per sta =	$33.39

PROJECT NO. 1 TOTAL COST = $3,083.19

PROJECT NO. 2:

SURFACING		12	" deep =	65 cy/sta				
A to B		559	cy of	4" - 0	@	$16.98	per cy =	$9,491.82
Turnout		22	cy of	4" - 0	@	$16.98	per cy =	$373.56
Junction		22	cy of	4" - 0	@	$16.98	per cy =	$373.56
Landing		360	cy of	4" - 0	@	$16.98	per cy =	$6,112.80
Approach to landing		98	cy of	4" - 0	@	$16.98	per cy =	$1,664.04
	Rock Total =	1,061						
		1,061	cy of	4" - 0		$16.98	per cy =	$18,015.78

PROJECT NO. 2 TOTAL COST = $18,015.78

PROJECT NO. 3:

Grass seed & fertilizer	0.46	acres	@	$425.00	per acre =	$197.08
Mulch	5	bales	@	$8.00	per bale =	$40.00

PROJECT NO. 3 TOTAL COST = $237.08

TOTAL COST = $21,336.05

SUMMARY OF CONSTRUCTION COST

Timber Sale: Whirling Derby Sale Number: 341-16-47

Road Segment: C to D Costruction: 21+90 stations

0.41 miles

PROJECT NO. 1

EXCAVATION						
Clearing & grubbing (scatter)	2.01	ac @	$1,078.00	per acre =	$2,167.88	
Balanced road construction	21.90	sta @	$110.00	per sta =	$2,409.00	
Turnouts	3	ea @	$66.00	per ea =	$198.00	
Turnarounds	1	ea @	$82.50	per ea =	$82.50	
Landing	1	ea @	$314.00	per ea =	$314.00	
Grade, ditch, & roll	21.90	sta @	$36.00	per sta =	$788.40	

PROJECT NO. 1 TOTAL COST = $5,959.78

PROJECT NO. 2:

SURFACING		12	" deep =	65 cy/sta				
C to D		1,424	cy of	4" - 0	@	$17.27	per cy =	$24,592.48
Turnouts (3)		66	cy of	4" - 0	@	$17.27	per cy =	$1,139.82
Turnaround		20	cy of	4" - 0	@	$17.27	per cy =	$345.40
Junction		22	cy of	4" - 0	@	$17.27	per cy =	$379.94
Landing		180	cy of	4" - 0	@	$17.27	per cy =	$3,108.60
	Rock Total =	1,712						
		1,712	cy of	4" - 0		$17.27	per cy =	$29,566.24

PROJECT NO. 2 TOTAL COST = $29,566.24

PROJECT NO. 3:

Grass seed & fertilizer	1.01	acres	@	$425.00	per acre =	$427.34
Mulch	5	bales	@	$8.00	per bale =	$40.00

PROJECT NO. 3 TOTAL COST = $467.34

TOTAL COST = $35,993.36

SUMMARY OF CONSTRUCTION COST

Timber Sale: Whirling Derby Sale Number: 341-16-47

Road Segment: E to F Costruction: 5+00 stations

0.09 miles

PROJECT NO. 1

EXCAVATION						
Clearing & grubbing (scatter)	0.46	ac @	$1,078.00	per acre =	$494.95	
Balanced road construction	5.00	sta @	$110.00	per sta =	$550.00	
Turnarounds	1	ea @	$82.50	per ea =	$82.50	
Landing	1	ea @	$314.00	per ea =	$314.00	
Grade, ditch, & roll	5.00	sta @	$36.00	per sta =	$180.00	

PROJECT NO. 1 TOTAL COST = $1,621.45

PROJECT NO. 2:

SURFACING	12	" deep =	65 cy/sta				
E to F	325	cy of	4" - 0	@	$17.47	per cy =	$5,677.75
Turnaround	20	cy of	4" - 0	@	$17.47	per cy =	$349.40
Junction	22	cy of	4" - 0	@	$17.47	per cy =	$384.34
Landing	180	cy of	4" - 0	@	$17.47	per cy =	$3,144.60
Rock Total =	547						
	547	cy of	4" - 0		$17.47	per cy =	$9,556.09

PROJECT NO. 2 TOTAL COST = $9,556.09

PROJECT NO. 3:

Grass seed & fertilizer	0.23	acres	@	$425.00	per acre =	$97.57
Mulch	5	bales	@	$8.00	per bale =	$40.00

PROJECT NO. 3 TOTAL COST = $137.57

TOTAL COST = $11,315.11

SUMMARY OF CONSTRUCTION COST

Timber Sale: Whirling Derby Sale Number: 341-16-47

Road Segment: G to C (Derby Creek) Improvement: 66+90 stations

1.27 miles

PROJECT NO. 1

CULVERTS - MATERIALS & INSTALLATION

Culverts

60 LF of 18" $1,200.00

Culvert Markers

2 markers $20.00

PROJECT NO. 1 TOTAL COST = $1,220.00

PROJECT NO. 2:

SURFACING	6	" deep =	31 cy/sta				
G to C	2,074	cy of	4" - 0	@	$16.24	per cy =	$33,681.76
Turnouts (8)	88	cy of	4" - 0	@	$16.24	per cy =	$1,429.12
Rock Total =	2,162						
	2,162	cy of	4" - 0		$16.24	per cy =	$35,110.88

PROJECT NO. 2 TOTAL COST = $35,110.88

TOTAL COST = $36,330.88

ROCK PIT DEVELOPMENT & CRUSHING COST SUMMARY

Timber Sale:	Whirling Derby
Sale Number:	341-16-47
Pit Name:	Straight Arrow Pit

4" - 0:	5,482	(truck measure)
Total truck yardage:	5,482	
Total in place yardage:	4,217	
Swell:	130%	
Shrinkage:	116%	

Pit development, including clearing & grubbing of waste area, place overburden in waste area, spread & compact.					$1,750.00
Drill & shoot	$2.80	/ cy x	4,217	cy =	$11,807.38
Oversize reduction	$5.80	/ cy x	422	cy =	$2,445.82
Load crusher	$0.80	/ cy x	5,482	cy =	$4,385.60
Crush (4" - 0)	$2.60	/ cy x	5,482	cy =	$14,253.20
Load dump truck	$0.80	/ cy x	5,482	cy =	$4,385.60
				Subtotal:	$39,027.60

Move in & setup drill					$576.33
Move in excavator					$973.16
Move in dozer					$946.19
Move in loader					$852.83
Move in crusher					$2,109.00
Setup crusher					$2,110.00
Gradation tests	$71.50 /2,000cy x		3	tests	$214.50
Clean up pit					$875.00
				Subtotal:	$8,657.01

TOTAL PRODUCTION COST =	$47,684.61
ROCK DEVELOPMENT COST =	$8.70/cy

CRUISE REPORT
Whirling Derby
341-16-47

1. LOCATION: Portions of Section 22 and 23, T3N, R6W, W.M., Tillamook County, Oregon.

2. CRUISE DESIGN:
The cruise design assumed a Coefficient of Variation of 50%, an average stand diameter of 19 inches, a desired sampling error (SE%) of 9% and a minimum sample size of 100 grade trees. Pre-cruise estimates indicated that approximately 5-6 trees per plot could be realized with a 40 BAF prism.

3. SAMPLING METHOD:
The Sale Area was cruised in June, 2015 with 38 variable radius grade plots using a 40 BAF prism. Plots were laid out on a 5 chain x 5 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain.

4. CRUISE RESULTS
A 1.7% sample (208 trees) were measured and graded producing a cumulative SE of 6.9% on the basal area and 7.1% on the Board Foot Volume.

5. TREE MEASUREMENT AND GRADING:
All grade plot sample trees were measured and graded following Columbia River Log Scale grade rules and favoring 40 foot segments.

a) **Height Standards:**
Total tree heights were measured to the nearest foot. Bole heights were calculated to a six inch top or one quarter of the DBH for trees over twenty-four inches in diameter.

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

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

5. DATA PROCESSING

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

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

6. Cruisers: The sale was cruised by ODF cruisers Mark C. Savage, Joe P. Koch and Dax M. Strubb.

Prepared by: Dax Strubb June, 2015

Reviewed by: Eric Foucht June, 2015

TC PSTATS

PROJECT STATISTICS

PROJECT WHIRL

DATE 7/27/2015

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
03N	06	23	00A1	00MC	109.00	38	208	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	38	208	5.5		
CRUISE	37	208	5.6	12,458	1.7
DBH COUNT					
REFOREST COUNT					
BLANKS	1				
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
DOUG FIR-T	198	107.9	18.8	108	48.0	208.4	37,722	37,004	8,651	8,651
NOB FIR-L	7	2.8	22.1	111	1.6	7.4	1,394	1,394	314	314
WHEMLOCK-L	3	3.7	12.6	63	0.9	3.2	313	313	71	71
TOTAL	*208*	*114.3*	*18.7*	*107*	*50.6*	*218.9*	*39,429*	*38,711*	*9,036*	*9,036*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	SAMPLE TREES - BF LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
DOUG FIR-T	66.0	4.7	550	577	604			
NOB FIR-L	69.5	28.3	539	751	964			
WHEMLOCK-L	59.1	40.9	61	103	146			
TOTAL	*67.2*	*4.7*	*549*	*576*	*603*	*181*	*45*	*20*

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	SAMPLE TREES - CF LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
DOUG FIR-T	61.9	4.4	127	133	139			
NOB FIR-L	60.2	24.5	123	162	202			
WHEMLOCK-L	60.2	41.6	14	24	34			
TOTAL	*62.9*	*4.4*	*127*	*133*	*138*	*158*	*39*	*18*

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	TREES/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR-T	80.2	13.0	94	108	122			
NOB FIR-L	341.4	55.3	1	3	4			
WHEMLOCK-L	430.6	69.8	1	4	6			
TOTAL	*75.1*	*12.2*	*100*	*114*	*128*	*225*	*56*	*25*

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	BASAL AREA/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR-T	40.7	6.6	195	208	222			
NOB FIR-L	278.1	45.1	4	7	11			
WHEMLOCK-L	454.5	73.7	1	3	5			
TOTAL	*38.9*	*6.3*	*205*	*219*	*233*	*60*	*15*	*7*

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	NET BF/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR-T	43.9	7.1	34,373	37,004	39,634			
NOB FIR-L	275.2	44.6	772	1,394	2,016			
WHEMLOCK-L	462.2	74.9	79	313	548			
TOTAL	*42.7*	*6.9*	*36,034*	*38,711*	*41,388*	*73*	*18*	*8*

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	NET CUFT FT/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR-T	42.2	6.8	8,060	8,651	9,242			
NOB FIR-L	275.7	44.7	174	314	454			

TC PSTATS

PROJECT STATISTICS

PROJECT **WHIRL**

DATE 7/27/2015

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
03N	06	23	00A1	00MC	109.00	38	208	S	W

CL 68.1
SD: 1.00

	COEFF VAR.	S.E.%	NET CUFT FT/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK-L	473.4	76.7	17	71	126			
TOTAL	*40.8*	*6.6*	*8,439*	*9,036*	*9,634*	*66*	*17*	*7*

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T03N R06W S23 Ty00MC 109.00

Project: WHIRL
Acres 109.00

Page 1
Date 7/27/2015
Time 1:14:29PM

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	T		CU														5	15		0.00	6.8
DF	T		2M	65	2.5	24,858	24,238	2,642			53	47		0	0	99	40	15	373	2.07	65.0
DF	T		3M	29	.9	10,962	10,863	1,184		88	12		1	1	8	90	38	8	104	0.69	104.8
DF	T		4M	6		1,902	1,902	207		100			36	50	1	13	21	6	25	0.33	74.7
DF	**Totals**			96	1.9	37,722	37,004	4,033		31	38	31	2	3	3	92	33	10	147	1.06	251.4
WH	L		CU														6	13		0.00	1.7
WH	L		3M	95		298	298	33		100					32	68	36	7	81	0.51	3.7
WH	L		4M	5		15	15	2		100			100				18	6	20	0.37	.8
WH	**Totals**			1		313	313	34		100			5		31	64	25	9	51	0.46	6.2
NF	L		CU														8	25		0.00	.1
NF	L		2M	68		949	949	103			50	50				100	40	17	480	2.49	2.0
NF	L		3M	27		381	381	41		69	31				4	96	39	9	133	0.87	2.9
NF	L		4M	5		64	64	7		100			62	19	19		19	6	26	0.41	2.5
NF	**Totals**			4		1,394	1,394	152		23	43	34	3	1	2	94	32	11	187	1.31	7.4
Totals					1.8	39,429	38,711	4,219		31	38	31	2	3	3	92	32	10	146	1.05	265.0

TC PSTNDSUM

Stand Table Summary

Page 1
Date: 7/27/2015

T03N R06W S23 Ty00MC 109.00

Project WHIRL
Acres 109.00

Time: 1:14:28PM
Grown Year:

Spc	S T	DBH	Sample Trees	FF 16'	Tot Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Cu.Ft.	Average Log Net Bd.Ft.	Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals Tons	Totals Cunits	Totals MBF
DF	T	8	3	90	74	9.047	3.16	9.05	5.7	26.7	1.47	52	241	161	56	26
DF	T	9	1	88	85	2.383	1.05	2.38	9.8	60.0	.67	23	143	73	25	16
DF	T	10	3	85	68	5.790	3.16	5.79	11.0	50.0	1.81	63	289	197	69	32
DF	T	11	8	87	85	12.760	8.42	20.74	10.1	42.3	5.94	209	877	648	227	96
DF	T	12	3	88	92	4.021	3.16	8.04	11.5	48.3	2.65	93	389	289	101	42
DF	T	13	2	87	94	2.284	2.11	4.57	13.7	55.0	1.78	63	251	194	68	27
DF	T	14	6	87	91	5.908	6.32	10.83	17.2	68.2	5.30	186	739	578	203	80
DF	T	15	4	86	106	3.431	4.21	6.86	21.8	91.2	4.27	150	626	466	163	68
DF	T	16	4	87	111	3.016	4.21	6.79	22.9	96.7	4.43	156	656	483	170	71
DF	T	17	10	85	105	6.678	10.53	15.36	24.3	98.3	10.66	374	1,509	1,161	408	165
DF	T	18	9	87	125	5.361	9.47	15.49	25.5	101.5	11.26	395	1,573	1,227	431	171
DF	T	19	11	86	124	5.881	11.58	16.57	29.5	120.0	13.93	489	1,989	1,518	533	217
DF	T	20	10	86	118	4.825	10.53	12.54	34.4	131.9	12.31	432	1,655	1,342	471	180
DF	T	21	10	87	127	4.376	10.53	12.69	36.6	156.6	13.25	465	1,987	1,445	507	217
DF	T	22	16	86	126	6.380	16.84	18.34	40.2	172.0	21.00	737	3,154	2,289	803	344
DF	T	23	10	86	134	3.648	10.53	10.94	44.7	199.7	13.95	490	2,185	1,521	534	238
DF	T	24	18	86	136	6.031	18.95	18.43	48.7	211.6	25.56	897	3,900	2,786	978	425
DF	T	25	8	85	131	2.470	8.42	7.41	52.0	226.7	10.97	385	1,680	1,196	420	183
DF	T	26	5	85	138	1.427	5.26	4.28	59.1	257.3	7.21	253	1,102	786	276	120
DF	T	27	9	84	134	2.383	9.47	7.15	60.3	257.4	12.28	431	1,840	1,339	470	201
DF	T	28	12	85	132	2.954	12.63	8.86	63.3	277.8	15.99	561	2,462	1,743	612	268
DF	T	29	3	85	140	.688	3.16	2.29	67.9	316.0	4.44	156	725	484	170	79
DF	T	30	11	83	130	2.359	11.58	7.51	69.4	299.1	14.84	521	2,245	1,618	568	245
DF	T	31	3	83	126	.602	3.16	1.81	77.5	326.7	3.99	140	590	435	153	64
DF	T	32	3	82	133	.565	3.16	1.70	85.8	365.6	4.15	146	620	452	159	68
DF	T	33	5	83	138	.886	5.26	2.84	86.3	391.3	6.97	245	1,109	760	267	121
DF	T	34	5	83	137	.835	5.26	2.67	92.9	423.1	7.07	248	1,130	771	270	123
DF	T	35	1	84	141	.158	1.05	.47	108.5	516.7	1.46	51	244	159	56	27
DF	T	36	3	84	139	.447	3.16	1.34	103.5	456.7	3.95	139	612	431	151	67
DF	T	37	1	81	146	.141	1.05	.42	123.8	576.7	1.49	52	244	163	57	27
DF	T	39	1	79	148	.127	1.05	.38	135.0	620.0	1.46	51	236	160	56	26
DF	T	Totals	198	86	108	107.862	208.42	244.55	35.4	151.3	246.55	8,651	37,004	26,874	9,430	4,033
NF	L	14	1	87	81	.985	1.05	1.97	14.9	55.0	.70	29	108	77	32	12
NF	L	22	1	85	131	.399	1.05	1.20	40.6	180.0	1.16	49	215	127	53	23
NF	L	23	2	86	119	.730	2.11	2.19	40.9	171.7	2.15	89	376	234	97	41
NF	L	25	1	84	136	.309	1.05	.93	54.2	236.7	1.21	50	219	131	55	24
NF	L	31	1	85	134	.201	1.05	.60	83.2	393.3	1.20	50	237	131	55	26
NF	L	37	1	88	128	.141	1.05	.42	109.3	563.3	1.11	46	238	121	50	26
NF	L	Totals	7	86	111	2.764	7.37	7.31	42.9	190.8	7.53	314	1,394	821	342	152
WH	L	10	1	89	56	1.930	1.05	1.93	10.2	50.0	.63	20	96	69	21	11
WH	L	14	1	89	78	.985	1.05	.98	22.7	90.0	.71	22	89	78	24	10
WH	L	16	1	89	88	.754	1.05	1.51	19.5	85.0	.94	29	128	102	32	14
WH	L	Totals	3	89	68	3.669	3.16	4.42	16.1	70.8	2.29	71	313	249	78	34
Totals			208	86	107	114.294	218.95	256.27	35.3	151.1	256.37	9,036	38,711	27,944	9,850	4,219

TC PLOGSTVB

Log Stock Table - MBF

T03N R06W S23 Ty00MC 109.00

Project: WHIRL
Acres 109.00

Date 7/27/2015
Time 1:14:29PM

Spp	ST	So Grade	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+
DF	T	2M	24	6		6	.2								6				
DF	T	2M	32	12		12	.3						12						
DF	T	2M	40	2,692	2.5	2,624	65.1						490	575	1062	417	80		
DF	T	3M	16	7		7	.2						7						
DF	T	3M	22	3		3	.1			1		2							
DF	T	3M	30	6		6	.1				3	2							
DF	T	3M	32	40		40	1.0			32	7								
DF	T	3M	33	2		2	.1			2									
DF	T	3M	34	44		44	1.1			23	21								
DF	T	3M	35	12		12	.3			12									
DF	T	3M	36	63		62	1.5			48	14								
DF	T	3M	38	61		61	1.5			55	6								
DF	T	3M	39	3		3	.1			3									
DF	T	3M	40	954	1.1	944	23.4			97	266	445	124	12					
DF	T	4M	12	18		18	.5			18									
DF	T	4M	14	16		16	.4			15	1								
DF	T	4M	16	11		11	.3			11									
DF	T	4M	18	20		20	.5			19	1								
DF	T	4M	20	10		10	.3			10									
DF	T	4M	21	3		3	.1			3									
DF	T	4M	22	19		19	.5			19									
DF	T	4M	23	2		2	.0			2									
DF	T	4M	24	9		9	.2			9									
DF	T	4M	26	9		9	.2			9									
DF	T	4M	27	1		1	.0			1									
DF	T	4M	28	32		32	.8			31	1								
DF	T	4M	30	29		29	.7			29									
DF	T	4M	34	2		2	.0			2									
DF	T	4M	36	16		16	.4			16									
DF	T	4M	38	1		1	.0			1									
DF	T	4M	40	10		10	.3			10									
DF		Totals		4,112	1.9	4,033	95.6			478	321	449	632	588	1069	417	80		
WH	L	3M	32	11		11	30.8			11									
WH	L	3M	40	22		22	64.4				10	12							
WH	L	4M	18	2		2	4.8			2									
WH		Totals		34		34	.8			12	10	12							

TC PLOGSTVB

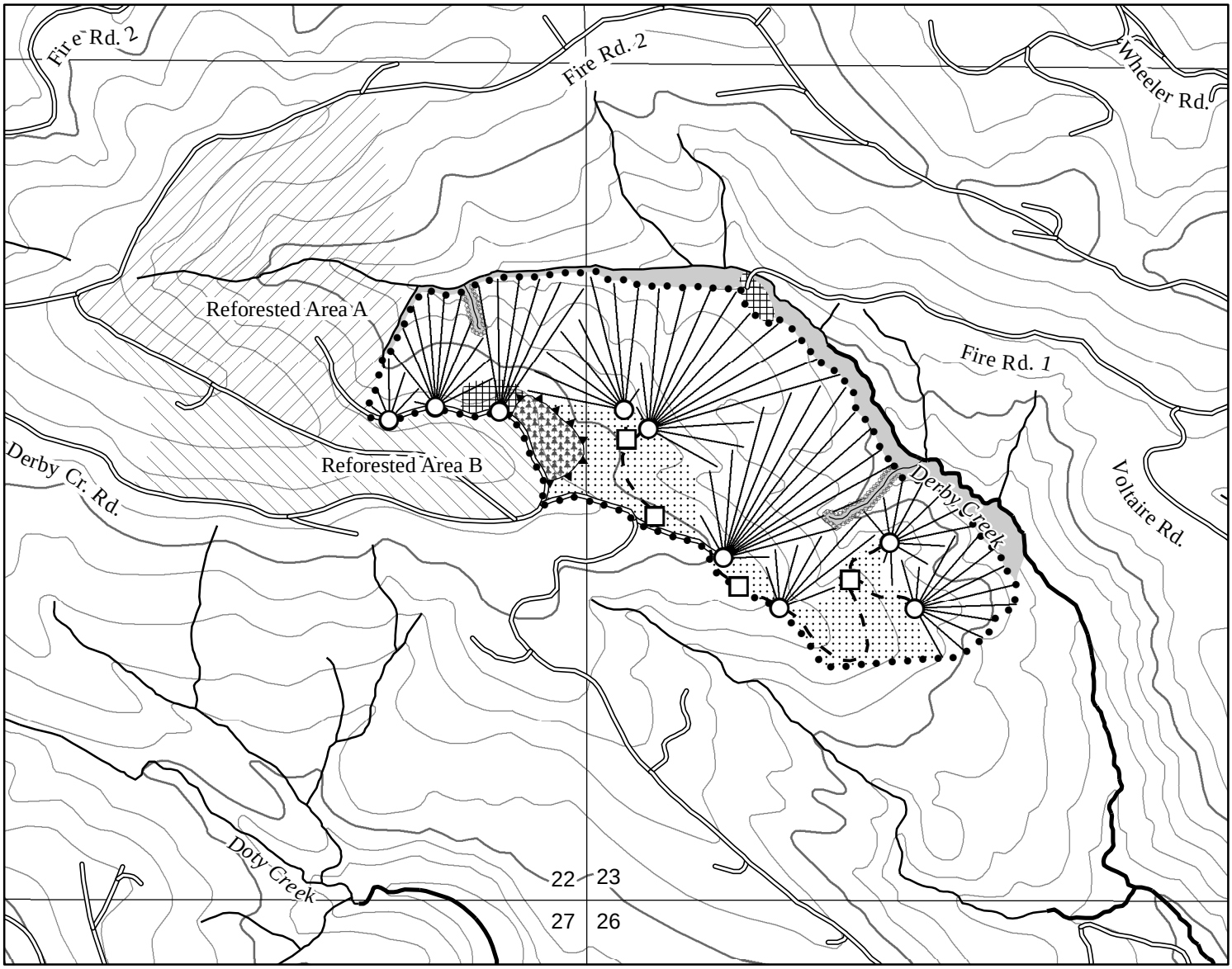
Log Stock Table - MBF

T03N R06W S23 Ty00MC 109.00

Project: WHIRL
Acres 109.00

Date 7/27/2015
Time 1:14:29PM

Spp	ST	So Grade	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+
NF	L	2M	40	103		103	68.1							52	15	17	19		
NF	L	3M	32	2		2	1.1			2									
NF	L	3M	40	40		40	26.2				14	12	7		6				
NF	L	4M	16	3		3	1.9			3									
NF	L	4M	18	1		1	.9			1	1								
NF	L	4M	24	1		1	.9			1									
NF	L	4M	32	1		1	.9			1									
NF		Totals		152		152	3.6			8	15	12	7	52	22	17	19		
Total		All Species		4,298	1.8	4,219	100.0			498	346	474	639	640	1090	433	99		



LOGGING PLAN

FOR TIMBER SALE CONTRACT # 341-16-47
WHIRLING DERBY
PORTIONS OF SECTONS 22, & 23, T3N, R6W, W.M.
TILLAMOOK COUNTY, OREGON

Legend

- Timber Sale Boundary
- Reserve Area Boundary
- Stream Buffer Boundary
- Roads
- New Construction
- Type F Stream
- Type N Stream
- Stream Buffer
- Reforested Area A
- Reforested Area B
- Green Tree Retention Area
- Unforested Area
- Cable Yarding Area
- Tractor Yarding Area
- Cable Landing
- Tractor Landing
- Section Line
- 400 Foot Contour Band
- 80 Foot Contour Band

N

Forest Grove District GIS
July, 2015
This product is for informational use and may not be suitable for legal, engineering, or surveying purposes.

1:12,000

1 inch = 1,000 feet

0 500 1,000 2,000 Feet

APPROXIMATE NET ACRES

	TRACTOR	CABLE
	22	87