



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Fire Whirl
Sale 341-12-66

District: Tillamook

Date: December 30, 2011

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$681,274.44	\$71,569.20	\$752,843.64
Project Work:			\$(208,400.00)
Advertised Value:			\$544,443.64



"STEWARDSHIP IN FORESTRY"

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Date: December 30, 2011

timber description

Location: Portions of Sections 35 and 36, T1S, R7W and portions of Sections 1, 2, 3, 11 and 12, T2S, R7W, W.M., Tillamook County, Oregon.

Stand Stocking: 60%

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

Volume by Grade	10" - 11"	12"+	2S	3S	4S	6" - 7"	8" - 9"	Total
Douglas - Fir	0	0	658	3,220	973	0	0	4,851
Alder (Red)	72	58	0	0	0	120	42	292
Total	72	58	658	3,220	973	120	42	5,143



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comments: Pond Values Used: 4th Quarter Calendar Year 2011.

Western Hemlock and Other Conifers Stumpage Price = Pond Value
minus Logging Costs
 $\$130/\text{MBF} = \$430/\text{MBF} - \$300/\text{MBF}$

Western redcedar and Other Cedars Stumpage Price = Pond Value
minus Logging Costs
 $\$500/\text{MBF} = \$800/\text{MBF} - \$300/\text{MBF}$

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

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

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

HAULING COST ALLOWANCE

Hauling cost equivalent to \$740 daily truck cost.

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

Branding and Painting: $\$2/\text{MBF} \times 5143 \text{ MBF} = \$10,286$

Snag Creation (girdling): $\$10/\text{snag} \times 396 \text{ snags} = \$3,960$

TOTAL Other Costs (with Profit & Risk to be added) = $\$14,246$

Other Costs (No Profit & Risk added):

Non-Project Roads 1-10: $100/\text{sta.} \times \$75/\text{sta.} = \$7,500$

Non-Project Roads 11-20: $133/\text{sta.} \times \$100/\text{sta.} = \$13,300$

Non-Project Roads 21-24: $26/\text{sta.} \times \$150/\text{sta.} = \$3,900$

Filters: $26 \text{ filters} \times \$75/\text{filter} = \$1,950$

Trail Clearing: $\$40/\text{station} \times 286/\text{stations} = \$11,440$

Non-project Road Blocking: $\$50/\text{block} \times 14/\text{roads} = \700

Trask Public Safety Road Fee: $\$20/\text{MBF} \times 5,143 \text{ MBF} = \$102,860$

TOTAL Other Costs (No Profit & Risk added) = $\$141,650$

ROAD MAINTENANCE

Maintenance Rock: $(\$9.00/\text{cu. yd.} \times 18.2 \text{ miles} \times 20 \text{ cu. yd.}/\text{MMBF}/\text{mile} \times 5.143 \text{ MMBF})/5,143 \text{ MBF} = \$3.28/\text{MBF}$

Interim Maintenance:

Grading - $\$250/\text{Mile} \times 18.2 \text{ miles} \times 1 \text{ grading}/5143 \text{ MBF} = \$.88/\text{MBF}$

Final Maintenance:

Grading - $\$500/\text{Mile} \times 18.2 \text{ miles} \times 1 \text{ grading}/5143 \text{ MBF} = \$1.77/\text{MBF}$

Vibratory Roller: $\$17.75/\text{station} \times 52.8 \text{ stations}/\text{mile} \times 5.2 \text{ miles}/5,143 = \$.95/\text{MBF}$

TOTAL Maintenance Cost = $\$6.88/\text{MBF}$



"STEWARDSHIP IN FORESTRY"

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logging conditions

combination#: 1 Douglas - Fir 30.00%
Alder (Red) 30.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Cable: Small Tower <=40 **Process:** Stroke Delimber
tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
loads / day: 3.0 **bd. ft / load:** 3,500
cost / mbf: \$269.93

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

combination#: 2 Douglas - Fir 30.00%
Alder (Red) 30.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Shovel **Process:** Stroke Delimber
tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
loads / day: 3.0 **bd. ft / load:** 3,500
cost / mbf: \$136.97

machines: Stroke Delimber (B)

combination#: 3 Douglas - Fir 40.00%
Alder (Red) 40.00%

yarding distance: Short (400 ft) **downhill yarding:** No
logging system: Track Skidder **Process:** Stroke Delimber
tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
loads / day: 4.0 **bd. ft / load:** 3,500
cost / mbf: \$102.73

machines: Stroke Delimber (B)



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Fire Whirl Sale 341-12-66

District: Tillamook

Date: December 30, 2011

logging costs

Operating Seasons:	3.00	Profit Risk:	15.00%
Project Costs:	\$208,400.00	Other Costs (P/R):	\$14,246.00
Slash Disposal:	\$0.00	Other Costs:	\$141,650.00

Miles of Road

Road Maintenance: \$6.88

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	3.5
Alder (Red)	\$0.00	3.0	3.2

Local Pond Values

Date	Specie	Grade	Value
12/30/11	Douglas - Fir	2S	\$515.00
12/30/11	Douglas - Fir	3S	\$485.00
12/30/11	Douglas - Fir	4S	\$470.00



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District: Tillamook

Date: December 30, 2011

logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$163.16	\$7.22	\$2.56	\$96.53	\$2.77	\$40.84	\$0.00	\$5.00	\$27.54	\$345.62
Alder (Red)									
\$163.16	\$7.57	\$2.56	\$73.73	\$2.77	\$37.47	\$0.00	\$5.00	\$27.54	\$319.80

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$486.06	\$140.44	\$0.00
Alder (Red)	\$0.00	\$564.90	\$245.10	\$0.00



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summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	4,851	\$140.44	\$681,274.44
Alder (Red)	292	\$245.10	\$71,569.20

Gross Timber Sale Value

Recovery: \$752,843.64

Prepared by: David Luttrell

Phone: 503-815-7025



PROJECT SUMMARY SHEET

Sale: Fire Whirl

CONSTRUCTION

Point	A to B	23+70	stations =	\$8,723.29
Point	C to D	22+50	stations =	\$27,356.85
Point	E to F	40+00	stations =	\$49,025.60
Point	G to H	9+00	stations =	\$2,741.90
SUBTOTAL CONSTRUCTION				<u>\$87,847.64</u>

IMPROVEMENT

Point	I to C	59+00	stations =	\$2,041.95
Point	J to K	74+00	stations =	\$44,241.80
Point	L to M	136+60	stations =	\$43,149.72
SUBTOTAL IMPROVEMENT				<u>\$89,433.47</u>

SPECIAL PROJECTS

Trail Filter Rock (125 cy) - Project 5	\$1,741.25
Trail Rock Stockpiles @ Points N & O - Project 5	\$2,476.00
2000 cy Stockpile Construction	\$23,940.00
SUBTOTAL SPECIAL PROJECTS	<u>\$28,157.25</u>

MOVE IN \$2,961.64

GRAND TOTAL \$208,400.00

Sale:		<u>Fire Whirl</u>		Road:		<u>A to B</u>		
Construction -	23+70 0.45	stations miles	Improvement -	0+00 0.00	stations miles	Reconstruction -	0+00 0.00	stations miles
CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -								
Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch Outslope	Cost per Station		
0+00		23+70	30%			\$191	=	\$4,526.70
							TOTAL	\$4,526.70
CULVERTS - MATERIALS & INSTALLATION								
<u>Culverts</u>								
			30	LF of 18"		\$525.00		
<u>Culvert Stakes & Markers</u>								
			1	markers		\$8.00		
							TOTAL CULVERTS	\$533.00
ROCK								
0+00	to	2+00	100	cy. of	Crushed	@	\$14.92 per c.y.=	\$1,492.00
							TOTAL ROCK	\$1,492.00
SPECIAL PROJECTS								
Grade and shape road -				23.70	stations @	\$15.50	per station	\$367.35
Roll subgrade -				23.70	stations @	\$13.20	per station	\$312.84
Remove large stumps -				1.00	lump sum @	\$1,300.00		\$1,300.00
Grass seed and fertilize -				0.87	acres @	\$220.00	per acre	\$191.40
							TOTAL SPECIAL PROJECTS	\$2,171.59
GRAND TOTAL								\$8,723.29

SUMMARY OF CONSTRUCTION COST

Sale:

Fire Whirl

Road:

C to D

Construction -	22+50	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.43	miles		0.00	miles		0.00	miles

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

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station			
0+00		22+50	40%		Outslope	\$243	=	\$5,467.50	
								TOTAL	\$5,467.50

ROCK

0+00	to	22+50	1,250	cy. of	Crushed	@	\$13.95 per c.y.=	\$17,437.50	
Landing Rock		22+50	130	cy. of	Crushed	@	\$13.95 per c.y.=	\$1,813.50	
								TOTAL ROCK	\$19,251.00

SPECIAL PROJECTS

Grade and shape road -	22.50	stations @	\$15.50	per station	\$348.75	
Construct Landing -	1.00	@	\$250.00	each	\$250.00	
Roll subgrade w/ vibratory roller prior to rocking -	22.50	stations @	\$13.20	per station	\$297.00	
Remove large stumps -	1.00	lump sum @	\$1,560.00		\$1,560.00	
Grass seed and fertilize -	0.83	acres @	\$220.00	per acre	\$182.60	
					TOTAL SPECIAL PROJECTS	\$2,638.35

GRAND TOTAL

\$27,356.85

SUMMARY OF CONSTRUCTION COST

Sale:

Fire Whirl

Road:

E to F

Construction -	40+00	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.76	miles		0.00	miles		0.00	miles

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

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station			
0+00		40+00	40%		Outslope	\$243	=	\$9,720.00	
								TOTAL	\$9,720.00

CULVERTS - MATERIALS & INSTALLATION

Culverts

80	LF of 18"	\$1,400.00
		<u>\$1,400.00</u>

Culvert Stakes & Markers

2	markers	\$16.00
		<u>\$16.00</u>

TOTAL CULVERTS \$1,416.00

ROCK

0+00 to	40+00	2,190	cy. of	Crushed	@	\$13.70 per c.y.=	\$30,003.00	
Landing Rock	40+00 & *	260	cy. of	Crushed	@	\$13.70 per c.y.=	\$3,562.00	
Junction Rock	14+00 (Pt. G)	30	cy. of	Crushed	@	\$13.44 per c.y.=	\$403.20	
								TOTAL ROCK \$33,968.20

SPECIAL PROJECTS

Grade and shape road -	40.00	stations @	\$15.50	per station	\$620.00	
Construct Landings -	2.00	@	\$250.00	each	\$500.00	
Roll subgrade w/ vibratory roller prior to rocking -	40.00	stations @	\$13.20	per station	\$528.00	
Remove large stumps -	1.00	lump sum @	\$1,950.00		\$1,950.00	
Grass seed and fertilize -	1.47	acres @	\$220.00	per acre	\$323.40	
						TOTAL SPECIAL PROJECTS \$3,921.40

GRAND TOTAL \$49,025.60

SUMMARY OF CONSTRUCTION COST

Sale:

Fire Whirl

Road:

G to H

Construction -	9+00	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.17	miles		0.00	miles		0.00	miles

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

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station			
0+00		9+00	20%		Outslope	\$139	=	\$1,251.00	
								TOTAL	\$1,251.00

SPECIAL PROJECTS

Grade and shape road -	9.00	stations @	\$15.50	per station	\$139.50	
Construct Landing -	1.00	@	\$250.00	each	\$250.00	
Roll subgrade -	9.00	stations @	\$13.20	per station	\$118.80	
Remove large stumps -	1.00	lump sum @	\$910.00		\$910.00	
Grass seed and fertilize -	0.33	acres @	\$220.00	per acre	\$72.60	
					TOTAL SPECIAL PROJECTS	\$1,490.90
GRAND TOTAL						\$2,741.90

SUMMARY OF CONSTRUCTION COST

Sale:

Fire Whirl

Road:

I to C

Construction -	0+00	stations	Improvement -	59+00	stations	Reconstruction -	0+00	stations
	0.00	miles		1.12	miles		0.00	miles

ROCK

10+00	to	25+00	180	cy. of	1 1/2"-0"	@	\$7.27	per c.y.=	\$1,308.60	
Leveling		37+50	10	cy. of	Crushed	@	\$11.63	per c.y.=	\$116.30	
									TOTAL ROCK	\$1,424.90

SPECIAL PROJECTS

Grade and shape road - 37+50 to 59+00 (Jaw Run Surfacing)					21.50	stations @	\$15.50	per station	\$333.25	
Roll Road @ - 37+50 to 59+00 (Jaw Run Surfacing)					21.50	stations @	\$13.20	per station	\$283.80	
									TOTAL SPECIAL PROJECTS	\$617.05

GRAND TOTAL

\$2,041.95

SUMMARY OF CONSTRUCTION COST

Sale:

Fire Whirl

Road:

J to K

Construction -	0+00	stations	Improvement -	74+00	stations	Reconstruction -	0+00	stations
	0.00	miles		1.40	miles		0.00	miles

IMPROVEMENT: CLEARING AND GRUBBING -

Widening	0.400	acres @	\$660.00	per acre =	\$264.00	
TOTAL CLEARING AND GRUBBING						\$264.00

IMPROVEMENT: EXCAVATION -

Ditchline excavation, endhaul and culvert basin cleaning	74.00	sta. @	\$50.00	per sta. =	\$3,700.00	
Widening	650	cy. @	\$2.00	per c.y. =	\$1,300.00	
TOTAL EXCAVATION						\$5,000.00

IMPROVEMENT: ENDHAUL -

Widening	38+00	to	42+50	650	cy. @	\$1.46	per c.y. =	\$949.00	
Spread & compact				650	cy. @	\$0.25	per c.y. =	\$162.50	
TOTAL ENDHAUL									\$1,111.50

CULVERTS - MATERIALS & INSTALLATION

Culverts

110	LF of 18"	\$1,925.00
		<u>\$1,925.00</u>

Culvert Stakes & Markers

3 markers	\$24.00
	<u>\$24.00</u>

TOTAL CULVERTS \$1,949.00

ROCK

0+00 to	74+00	2,604	cy. of	Crushed	@	\$12.80	per c.y. =	\$33,331.20	
Culvert Backfill	15+20, 31+25, 70+20	30	cy. of	Crushed	@	\$11.87	per c.y. =	\$356.10	
TOTAL ROCK									\$33,687.30

SPECIAL PROJECTS

Grade and shape road -	74.00	stations @	\$15.50	per station	\$1,147.00	
Roll subgrade w/ vibratory roller prior to rocking -	74.00	stations @	\$13.20	per station	\$976.80	
Grass seed and fertilize -	0.21	acres @	\$220.00	per acre	\$46.20	
Mulching -	0.100	acres @	\$600.00	per acre	\$60.00	
TOTAL SPECIAL PROJECTS						\$2,230.00

GRAND TOTAL \$44,241.80

SUMMARY OF CONSTRUCTION COST

Sale:

Fire Whirl

Road:

L to M

Construction -	0+00	stations	Improvement -	136+60	stations	Reconstruction -	0+00	stations
	0.00	miles		2.59	miles		0.00	miles

ROCK

0+00 to	76+00	2,670	cy. of	Crushed	@	\$13.59 per c.y. =	\$36,285.30	
Leveling Rock	*	200	cy. of	Crushed	@	\$14.72 per c.y. =	\$2,944.00	
TOTAL ROCK								\$39,229.30

SPECIAL PROJECTS

Grade and shape road -	136.60	stations @	\$15.50	per station	\$2,117.30	
Roll subgrade w/ vibratory roller prior to rocking -	136.60	stations @	\$13.20	per station	\$1,803.12	
TOTAL SPECIAL PROJECTS						\$3,920.42

GRAND TOTAL

\$43,149.72

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Crushed	Location:	Sec. , TN, RW, W.M.
Size:	Fire Whirl	Road:	9599 c.y.
Swell:	1.40	Stockpiles:	2200 c.y.
Shrinkage	1.16	Total Truck Loads:	11799 c.y.
Drill Pct.:	100%	In Place Total:	8428 c.y.

Pit Development & Cleanup including Cleaning and grubbing of					\$5,280.00
Waste Area @ adjacent to pit, place overburden					
in Waste Area, spread and compact.					
Drill & Shoot:	\$2.50 /cu.yd.	x	8428 cu.yds.	=	\$21,070.00
Push Rock:	\$0.70 /cu.yd.	x	11799 cu.yds.	=	\$8,259.30
Load Crusher:	\$0.70 /cu.yd.	x	11799 cu.yds.	=	\$8,259.30
Crush Rock:	\$2.35 /cu.yd.	x	3970 cu.yds.	=	\$9,329.50
Crush Rock:	\$2.60 /cu.yd.	x	7674 cu.yds.	=	\$19,952.40
Load Dump Truck:	\$0.70 /cu.yd.	x	11799 cu.yds.	=	\$8,259.30
Oversize Reduction:	\$4.50 /cu.yd.	x	1645 cu.yds.	=	\$7,402.50
Subtotal					\$87,812.30

Move In/Set-up Crusher					\$3,400.00
Move In and set up Drill and Compressor	1	@	\$754.78	=	\$754.78
Move in Roller and Compactor	1	@	\$754.78	=	\$754.78
Move in Grader	1	@	\$209.27	=	\$209.27
Move in D-8	1	@	\$1,108.75	=	\$1,108.75
Move in Loader	1	@	\$947.22	=	\$947.22
Move in Excavator	1	@	\$1,223.27	=	\$1,223.27
Move in Trucks	6	@	\$252.97	=	\$1,517.82
Move in Water Truck	1	@	\$297.35	=	\$297.35
Change Gradation			\$300.00		\$300.00
Subtotal					\$10,513.24

TOTAL PRODUCTION COSTS	\$98,325.54
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Base Cost= \$8.33 Per Cu.Yd.

Road Segment	Haul Cost \$/cu.yd.	Proc Cost \$/cu.yd.	Base Cost. \$/cu.yd.	Cost \$/cu.yd.	Number Cu. Yds	ROCK COST
A to B 0' 200' (Crushed)	4.14	2.45	8.33	14.92	100	\$1,492.00
C to D 0 2250' (Crushed)	3.17	2.45	8.33	13.95	1250	\$17,437.50
C to D Landing Rock (Crushed)	3.17	2.45	8.33	13.95	130	\$1,813.50
E to F 0 4000' (Crushed)	2.92	2.45	8.33	13.70	2190	\$30,003.00
E to F Landing Rock (Crushed)	2.92	2.45	8.33	13.70	260	\$3,562.00
E to F Junction Rock (Crushed)	2.66	2.45	8.33	13.44	30	\$403.20
I to C 1000 2500 (1 1/2"-0")	4.12	2.45	0.70	7.27	180	\$1,308.60
I to C Leveling - 37+50	2.30	1.00	8.33	11.63	10	\$116.30
J to K 0 7400' (Crushed)	2.02	2.45	8.33	12.80	2604	\$33,331.20
J to K Culvert Backfill (Crushed)	2.54	1.00	8.33	11.87	30	\$356.10
L to M 0 7600' (Crushed)	2.81	2.45	8.33	13.59	2670	\$36,285.30
L to M Level Rock	2.94	3.45	8.33	14.72	200	\$2,944.00
Stockpile	2.34	1.30	8.33	11.97	2000	\$23,940.00
N & O Stockpiles	3.05	1.00	8.33	12.38	200	\$2,476.00
Rip Rap - Trail Filters	2.80	2.80	8.33	13.93	125	\$1,741.25
Total C.Y.					9599	Sub Total \$157,209.95

TOTAL ROCKING COSTS	\$157,209.95
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"STEWARDSHIP IN FORESTRY"

Fire Whirl

Volume Summary

Area 1-Partial Cut					
572 acres					
		Cruised Net	Cruised Net	Hidden	Net Sale
SPECIES		MBF/Acre	MBF	D&B	MBF
Douglas-fir	6.3		3607	5%	3427
Hemlock			0	5%	0
Spruce			0	5%	0
Noble Fir			0	5%	0
Alder			0	10%	0
TOTAL	6.3		3607		3427

Areas 2-Modified Clearcut					
110 acres					
		Cruised Net	Cruised Net	Hidden	Net Sale
SPECIES		MBF/Acre	MBF	D&B	MBF
Douglas-fir	13.1		1446	5%	1373
Hemlock			0	5%	0
Spruce			0	5%	0
Noble Fir			0	5%	0
Alder	2.6		281	10%	253
TOTAL	15.7		1727		1626

Areas 3-Road Daylighting					
15 acres					
		Cruised Net	Cruised Net	Hidden	Net Sale
SPECIES		MBF/Acre	MBF	D&B	MBF
Douglas-fir	3.6		54	5%	51
Hemlock			0	5%	0
Spruce			0	5%	0
Noble Fir			0	5%	0
Alder	2.9		43	10%	39
TOTAL	6.4		97		90

TOTAL SALE VOLUME			697	acres
SPECIES	Cruised Net (MBF)		Net Sale (MBF)	
Douglas-fir	5106		4851	
Hemlock	0		0	
Spruce	0		0	
Noble Fir	0		0	
Red Alder	324		291	



"STEWARDSHIP IN FORESTRY"

Fire Whirl

Volume Summary

TOTAL	5430	5143
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OREGON DEPARTMENT OF FORESTRY CRUISE REPORT

Fire Whirl

1. Type of Sale

Thinning and Regeneration Harvest
Recovery

2. Legal Description

Portions of Sections 35 and 36, T1S, R7W and Portions of Sections 1, 2, 3, 11 and 12, T2S, R7W, W.M., Tillamook County, Oregon.

3. Sale Acreage

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

	ACRES	
	<u>Gross</u>	<u>Net</u>
Area 1 (Partial Cut)	752	572
Area 2 (Clearcut)	123	110
Area 3 (Road Daylighting)	15	15

Gross Acres

Area within the Timber Sale Boundary signs

Net acres

Used for calculating the advertised volume.

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

4. Cruising Procedures

A. Cruise Method

- **Area 1 and 2:** 113 plots were sampled on a rectangular grid pattern spaced 350' between plots and 700' between cruise lines.
- **Area 3:** 9 strip cruise plots were sampled in Area every 1056' on a 1.6 mile stretch of Bark Shanty Road.

All conifers 8 inches DBH and greater containing 20 net board feet and all hardwoods 9 inches DBH and greater containing 30 net board feet were sampled for tree species, DBH, form factor, merchantable height, visible defect and grade. Diameters were measured outside bark to the nearest inch and merchantable heights were recorded to the nearest foot. The point of tree observation was 4.5 feet on all plots.

B. Plot size

Variable radius plots used BAF's of 27.78 and 33.61 in Area 1 and 25.15 in Area

2 for all species. In Area 3 a 52.8'x 50' strip cruise plot used a blow up factor of 19.78 to calculate volumes for all species.

C. Grading System

Tree heights were measured to a 6" merchantable top for conifers, and 7" for hardwoods. All measurements were outside the bark. All species were graded using Columbia River Log Scaling and Grading Bureau rules, favoring a 40' log.

5. Computation Procedure

The volumes and statistics for the timber cruised were computed using SuperACE 2004, developed by Atterbury Consultants, Inc. The standard error and the coefficient of variation for the cruise as based on net board feet per acre shown in the table below.

Area	C.V. (%)	S.E. (%)
1	38.0	3.9
2	46.7	11.3
3	71.3	25.2

6. Hidden Defect and Breakage

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

7. Timber Description

The sale areas were burned by 3 historic fires, the 1939 Salmonberry Fire, the 1951 North Fork Fire and the 1958 Elkhorn Fire.

- **Area 1:** Area 1 was planted 3 times in the 1950's. In years 1964-1966 another 46 acres were planted in the northern portions and approximately 236 acre were planted on the western side. Finally 101 acres, mostly in the center of Area 1 was planted in the 1970-1973 planting seasons.
- **Area 2:** Area 2 was planted in the 1967-1968 season.
- **Area 3:** 4 acres in Area 3 were planted in the 1950-1951 planting season and again in 1952.

The sale area is dominated by Douglas-fir with red alder on the western side of Area 2. The southern portion of Area 1 and the eastern half of Area 2 were thinned with the Murphy Simmons Thin and Gobblers Thin Timber Sales.

Sale Area – Species (%)	DBH	Merchantable Bole Height	Merchantable Top
Area 1 - Douglas-fir (100%)	14.3	64	5"
Area 2 – Douglas-fir (84%)	15.8	66	5"
Area 2 - Alder (16%)	14.0	62	6"
Area 3 - Douglas-fir (56%)	16.3	76	5"
Area 3 - Alder (44%)	13.1	45	6"

8. **Cruiser Names/Dates**

2012 Contract Cruise

9. **Revenue Distribution**

FDF 100%

Tax Code: 9-1, 9-2

Deed Numbers: 161, 169

10. **Attachments**

Volume Summary

SuperAce tables by Area

- Log Stock Tables
- Stand Table Summary
- Species Sort and Grade

Logging Plan

11. **SuperAce Tables Species Key**

DL – Douglas-fir leave

DF – Douglas-fir take

NF – Noble fir Reserved

RL – Red alder leave

RA – Red alder take

RC – Western red cedar reserved

SS – Sitka spruce Reserved

WH – Western hemlock Reserved

OC – Conifer snag

TC		PLOGSTVB		Log Stock Table - MBF																	
T02S R07W S02 Ty0200272.00 T02S R07W S02 Ty0400300.00								Project: FIREWIRL Acres572.00								Page1 Date10/27/2011 Time2:40:49PM					
Spp	S T	So Gr rt 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+		
DF		CO 2	16	23	8.1	21	.6					21									
DF		CO 2	32	42		42	1.2					14	28								
DF		CO 2	40	225	1.3	222	6.1					173	49								
DF		CO 3	16	17		17	.5					17									
DF		CO 3	20	44		44	1.2				12	32									
DF		CO 3	22	10		10	.3					10									
DF		CO 3	28	18		18	.5					18									
DF		CO 3	32	103		103	2.8			19	26	14	28	15							
DF		CO 3	34	31		31	.8				31										
DF		CO 3	36	466	1.8	458	12.7			149	264	44									
DF		CO 3	38	15		15	.4					15									
DF		CO 3	40	1,888		1,873	51.9			223	877	716	57								
DF		CO 4	12	18		18	.5		14	4											
DF		CO 4	13	8		8	.2		6	2											
DF		CO 4	14	24		24	.7		24												
DF		CO 4	15	17		17	.5		17												
DF		CO 4	16	31		31	.8		31												
DF		CO 4	17	27		27	.7		24	2											
DF		CO 4	18	30		30	.8		25	5											
DF		CO 4	19	22		22	.6		22												
DF		CO 4	20	32		32	.9		32												
DF		CO 4	21	14		14	.4		14												
DF		CO 4	22	30		30	.8		30												
DF		CO 4	23	6		6	.2		6												
DF		CO 4	24	18		18	.5		18												
DF		CO 4	25	19		19	.5		19												
DF		CO 4	26	12		12	.3		12												
DF		CO 4	27	10		10	.3		6	4											
DF		CO 4	28	39		39	1.1		39												
DF		CO 4	29	37	10.4	33	.9		18	15											
DF		CO 4	30	18		18	.5		18												
DF		CO 4	31	3		3	.1		3												
DF		CO 4	32	10		10	.3		10												
DF		CO 4	33	9		9	.3		9												
DF		CO 4	34	13		13	.4		13												
DF		CO 4	35	39		39	1.1		39												
DF		CO 4	36	12		12	.3		12												

TC		PLOGSTVB																		Log Stock Table - MBF									
T02S R07W S02 Ty0200272.00 T02S R07W S02 Ty0400300.00				Project: FIREWIRL Acres572.00														Page2 Date10/27/2011 Time2:40:49PM											
S T Spp	So Gr rt 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+											
DF	CO	4	37	30		30	.8	30																					
DF	CO	4	38	37		37	1.0	37																					
DF	CO	4	39	15		15	.4	15																					
DF	CO	4	40	172		172	4.8	128	34	10																			
DF	CO	4	41	7		7	.2	7																					
DF	Totals			3,640		3,607	32.7	678	459	1221	866	292	92																
DL	CO	2	16	25		25	.3					8	17																
DL	CO	2	20	21	14.5	18	.3					18																	
DL	CO	2	24	40	7.3	37	.5						24	14															
DL	CO	2	26	21		21	.3					21																	
DL	CO	2	28	12		12	.2							12															
DL	CO	2	30	24		24	.3					24																	
DL	CO	2	32	349		346	4.9					77	181	88															
DL	CO	2	34	13		13	.2						13																
DL	CO	2	36	91	1.3	90	1.3					58			31														
DL	CO	2	40	1,940	1.3	1,915	27.0					940	713	262															
DL	CO	3	16	9	12.5	8	.1						8																
DL	CO	3	18	4		4	.1					4																	
DL	CO	3	20	16		16	.2					16																	
DL	CO	3	24	15		15	.2			4		10																	
DL	CO	3	26	26		26	.4			4		17	5																
DL	CO	3	27	3		3	.0			3																			
DL	CO	3	28	8		8	.1			8																			
DL	CO	3	29	2		2	.0		2																				
DL	CO	3	30	3		3	.0		3																				
DL	CO	3	32	81	5.0	77	1.1		21	23		33																	
DL	CO	3	33	4		4	.1			4																			
DL	CO	3	34	52		52	.7		4	15		33																	
DL	CO	3	35	22		22	.3		4			19																	
DL	CO	3	36	539		535	7.5		19	287		229																	
DL	CO	3	37	3		3	.0		3																				
DL	CO	3	38	19		19	.3			19																			
DL	CO	3	40	2,950		2,924	41.3		176	784	1646	275	29	14															
DL	CO	4	12	9		9	.1	9																					
DL	CO	4	13	10		10	.1	9	1																				
DL	CO	4	14	11		11	.2	11																					
DL	CO	4	15	20		20	.3	20																					

TC		PLOGSTVB																		Log Stock Table - MBF									
T02S R07W S02 Ty0200					272.00		Project: FIREWIRL										Page 3												
T02S R07W S02 Ty0400					300.00		Acres 572.00										Date 10/27/2011												
																	Time 2:40:49PM												
Spp	S T	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+									
DL		CO	4	16	45		45	.6		40		5																	
DL		CO	4	17	19		19	.3		18		1																	
DL		CO	4	18	62		62	.9		62																			
DL		CO	4	19	54		54	.8		54																			
DL		CO	4	20	47	5.9	44	.6		29		4	11																
DL		CO	4	21	28		28	.4		27		1																	
DL		CO	4	22	28		28	.4		28																			
DL		CO	4	23	23		23	.3		18		3	2																
DL		CO	4	24	20		20	.3		17			3																
DL		CO	4	25	11		11	.2		11																			
DL		CO	4	26	28		28	.4		28																			
DL		CO	4	27	9		9	.1		8		1																	
DL		CO	4	28	29		29	.4		29																			
DL		CO	4	29	31		31	.4		31																			
DL		CO	4	30	12		12	.2		10		2																	
DL		CO	4	31	15		15	.2		12		3																	
DL		CO	4	32	32		32	.4		32																			
DL		CO	4	33	10		10	.1		10																			
DL		CO	4	34	38		38	.5		38																			
DL		CO	4	35	29		29	.4		27		2																	
DL		CO	4	36	29		29	.4		29																			
DL		CO	4	37	17		17	.2		17																			
DL		CO	4	38	9	5.2	9	.1		9																			
DL		CO	4	39	22		22	.3		22																			
DL		CO	4	40	143	1.7	141	2.0		55		85																	
DL		CO	4	41	5		5	.1		5																			
DL		CO	UT	12	7		7	.1							7														
DL		CO	UT	13	2		2	.0		2																			
DL		CO	UT	16	8	25.0	6	.1							6														
DL		CO	UT	22	11	18.8	9	.1							9														
DL		Totals			7,164	1.1	7,084	64.3		718		335	1173	2005	1426	991	403	31											
RL		H	2	40	25	12.4	22	6.6					22																
RL		H	4	13	3		3	.9				3																	
RL		H	4	14	6		6	1.7				6																	
RL		H	4	17	6		6	1.7				6																	
RL		H	4	18	10		10	3.1				10																	
RL		H	4	19	13		13	4.0				13																	

TC		PLOGSTVB		Log Stock Table - MBF															
T02S R07W S02 Ty0200272.00 T02S R07W S02 Ty0400300.00		Project: FIREWIRL										Page 4							
		Acres 572.00										Date 10/27/2011							
												Time 2:40:49PM							
Spp	S T	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
RL		H	4	22	7		7	2.2			7								
RL		H	4	28	4	33.3	2	.8			2								
RL		H	4	30	19	16.7	16	5.0				16							
RL		H	4	32	33	8.3	30	9.3				30							
RL		H	4	36	161		161	49.3				161							
RL		H	4	38	14		14	4.3			14								
RL		H	4	40	36		36	11.1			24	13							
RL		Totals			337	3.1	326	3.0			85	190	30	22					
Total		All Species			11,140	1.1	11,018	100.0		1396	878	2583	2902	1740	1083	403	31		

TC TLOGSTVB				Log Stock Table - MBF																	
				Project: FIREWIRL																	
T02S R07W S02 T0300										T02S R07W S02 T0300											
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		Page		1			
02S		07W		02		AREA2		0300		110.00		18		114		Date		10/25/2011			
																Time		8:46:10AM			
Spp	T	S	So	Gr	Log	Gross	%	Net	%	Net Volume by Scaling Diameter in Inches											
										MBF	Def	MBF	Spc	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19
DF		CO	D		12																
DF		CO	D		14																
DF		CO	D		15																
DF		CO	D		18																
DF		CO	2		24	16	4.8	15	1.0						15						
DF		CO	2		26	14		14	1.0					14							
DF		CO	2		36	30	2.4	29	2.0					29							
DF		CO	2		40	358	.6	356	24.6					251	106						
DF		CO	3		32	14		14	1.0			14									
DF		CO	3		34	12		12	.8			12									
DF		CO	3		36	79		79	5.5			27	36	16							
DF		CO	3		40	678	.6	674	46.6			59	173	410	31						
DF		CO	4		14	3		3	.2		3										
DF		CO	4		15	9		9	.6		9										
DF		CO	4		16	13		13	.9		9			4							
DF		CO	4		17	8		8	.5		8										
DF		CO	4		18	15		15	1.1		15										
DF		CO	4		19	3		3	.2		3										
DF		CO	4		20	3		3	.2		3										
DF		CO	4		22	6		6	.4		6										
DF		CO	4		23	3		3	.2		3										
DF		CO	4		24	2		2	.1		2										
DF		CO	4		25	3		3	.2		3										
DF		CO	4		26	24		24	1.6		24										
DF		CO	4		27	14		14	.9		14										
DF		CO	4		28	24		24	1.7		24										
DF		CO	4		30	13		13	.9		13										
DF		CO	4		31	5		5	.3		5										
DF		CO	4		32	12		12	.8		12										
DF		CO	4		34	22		22	1.5		22										
DF		CO	4		35	5		5	.4		5										
DF		CO	4		37	13		13	.9		13										
DF		CO	4		38	6		6	.4		6										
DF		CO	4		39	3		3	.2		3										
DF		CO	4		40	44		44	3.0		44										
DF		Totals				1,453		1,446	83.0		248	112	209	430	325	121					
RA		H	D		12																
RA		H	D		14																
RA		H	D		15																
RA		H	D		18																
RA		H	D		20																
RA		H	D		22																
RA		H	D		23																
RA		H	D		27																
RA		H	D		30																
RA		H	D		32																
RA		H	D		37																
RA		H	2		20	25	10.6	22	8.0					10	12						
RA		H	2		24	13	4.8	13	4.5						13						
RA		H	2		32	18	13.5	16	5.6							16					

TC TLOGSTVB				Log Stock Table - MBF																			
				Project: FIREWIRL																			
T02S R07W S02 T0300												T02S R07W S02 T0300											
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		Page		2					
02S		07W		02		AREA2		0300		110.00		18		114		Date		10/25/2011					
																Time		8:46:10AM					
Spp	T	S	So	Gr	Log	Len	Gross	%	Net	%	Net Volume by Scaling Diameter in Inches												
											MBF	Def	MBF	Spc	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23
RA		H	2	36			14	3.8	14	5.0					14								
RA		H	3	20			11	10.0	10	3.5					10								
RA		H	3	24			28	3.9	27	9.7					15	12							
RA		H	3	32			9		9	3.3					9								
RA		H	3	40			18		18	6.3					18								
RA		H	4	19			2		2	.6			2										
RA		H	4	22			3		3	1.2			3										
RA		H	4	24			3		3	.9				3									
RA		H	4	26			8		8	3.0				8									
RA		H	4	27			5		5	1.8			5										
RA		H	4	30			8	20.9	7	2.4			2		5								
RA		H	4	32			3	20.0	2	.8			2										
RA		H	4	34			20		20	7.0			20										
RA		H	4	35			7		7	2.6			7										
RA		H	4	36			5		5	1.8				5									
RA		H	4	40			92	.9	91	32.3			65	25									
RA		Totals				293		4.0	281	16.1			106	41	47	32	39	16					
DL		CO	3	40			13		13	85.7			13										
DL		CO	4	23			2		2	14.3		2											
DL		Totals				15			15	.9		2	13										
Total All Species							1,761	1.1	1,742	100.0	250	218	264	477	357	160	16						

TC TLOGSTVB				Log Stock Table - MBF																	
				Project: FIREWIRL																	
T02S R07W S10 T0100										T02S R07W S10 T0100											
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page	1												
02S	07W	10	ROAD	0100	15.00	9	38	Date	10/25/2011												
										Time	9:10:45AM										
Spp	S	So	Gr	Log	Gross	%	Net	%	Net Volume by Scaling Diameter in Inches												
									MBF	Def	MBF	Spc	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23
RA	CO	4	37		1		1	2.9			1										
RA	H	3	31		1		1	3.3			1										
RA	H	3	32		10	2.0	10	23.0			2	8									
RA	H	3	40		7	8.6	7	15.3				3	3								
RA	H	4	15		2		2	3.8			0		1								
RA	H	4	16		0		0	1.0			0										
RA	H	4	17		1		1	1.9			1										
RA	H	4	18		0		0	1.0			0										
RA	H	4	19		0		0	1.0			0										
RA	H	4	20		1		1	1.9			1										
RA	H	4	21		1		1	2.9			1										
RA	H	4	24		1		1	1.4			1										
RA	H	4	25		2		2	3.8			1	1									
RA	H	4	31		2		2	4.3			2										
RA	H	4	32		4	4.8	4	9.6				1	3								
RA	H	4	37		6		6	14.4			6										
RA	H	4	38		1		1	2.9			1										
RA	H	4	39		1		1	2.9			1										
RA	H	4	40		1		1	2.9			1										
RA	Totals				44	2.3	43	44.4			19	6	15	3							
DF	CO	2	40		35		35	65.4					13		8	14					
DF	CO	3	32		2		2	3.3			2										
DF	CO	3	40		10		10	19.5			4		7								
DF	CO	4	15		0		0	.7		0											
DF	CO	4	16		0		0	.7		0											
DF	CO	4	17		0		0	.7			0										
DF	CO	4	19		0		0	.7		0											
DF	CO	4	20		0		0	.7		0											
DF	CO	4	21		0		0	.7		0											
DF	CO	4	26		1		1	1.5			1										
DF	CO	4	27		1		1	1.1		1											
DF	CO	4	32		1	40.0	1	1.1			1										
DF	CO	4	34		1		1	1.5		1											
DF	CO	4	40		1		1	2.2			1										
DF	Totals				54		54	55.6		3	7	2	7	13		8	14				
Total All Species					98	1.4	97	100.0		3	26	8	22	17		8	14				

TC		Species, Sort Grade - Board Foot Volumes (Project)																		
PSPCSTGR																				
T02S R07W S02 Ty0200272.00 T02S R07W S02 Ty0400300.00		Project:		FIREWIRL												Page		1		
		Acres		572.00												Date		10/27/2011		
																Time		2:51:19PM		
Spp	S T	So rt	Gr ad	%	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log			Logs Per /Acre
				Net BdFt	Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf	
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99				
DF		CO	D														19		0.00	3.4
DF		CO	2	7	1.7	506	497	284				100	7		15	78	35	197	1.49	2.5
DF		CO	3	72	.9	4,531	4,490	2,568			96	4	2	1	5	91	38	102	0.74	44.2
DF		CO	4	21	.5	1,326	1,319	755	90	10			28	27	10	36	25	27	0.31	49.4
DF		CO	UT														11		0.00	.4
DF Totals				33	.9	6,363	6,306	3,607	19	71	11		8	6	7	79	31	63	0.57	99.9
DL		CO	D														21		0.00	2.7
DL		CO	2	35	1.4	4,431	4,370	2,499				91	2	4	14	80	37	249	1.71	17.6
DL		CO	3	52	.9	6,564	6,502	3,719			91	8	1	2	4	94	38	126	0.94	51.6
DL		CO	4	12	.7	1,481	1,471	841	85	15			33	26	15	26	24	27	0.39	55.3
DL		CO	UT	1	14.8	49	41	24	8		92		61	39			14	47	0.81	.9
DL Totals				64	1.1	12,524	12,385	7,084	10	50	37	3	5	5	9	81	32	97	0.87	128.1
RL		H	D														13		0.00	1.0
RL		H	2	6	12.4	43	38	22				100				100	40	175	1.66	.2
RL		H	4	94	2.3	545	533	305		100			12	8	10	69	28	58	0.51	9.2
RL Totals				3	3.1	589	571	326		93	7		11	8	9	71	27	54	0.52	10.5
Totals					1.1	19,476	19,262	11,018	13	58	27	2	6	6	8	80	31	81	0.73	238.5

T	Species, Sort Grade - Board Foot Volumes (Type)										Page		1						
Project: FIREWIRL										Date	10/25/2011								
										Time	8:57:21AM								
T02S R07W S02 T0300										T02S R07W S02 T0300									
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt										
02S	07W	02	AREA2	0300	110.00	18	114	S	W										
S So Gr T rt ad Spp		% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre	
		Def%	Gross	Net	Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf				
DF	CO	D													15		0.00	4.6	
DF	CO	2	28	.8	3,799	3,768	414		100			7		93	38	225	1.42	16.8	
DF	CO	3	54	.5	7,115	7,079	779	96	4				3	97	39	119	0.79	59.5	
DF	CO	4	18		2,295	2,295	252	98	2		21	35	17	26	27	29	0.37	78.9	
DF	Totals		83	.5	13,209	13,142	1,446	17	52	31	4	8	5	83	32	82	0.69	159.8	
RA	H	D													24		0.00	22.4	
RA	H	2	23	8.9	646	589	65		76	24	35	20	24	21	25	182	1.73	3.2	
RA	H	3	22	3.3	602	582	64	66	34		15	42	15	27	28	110	0.91	5.3	
RA	H	4	55	2.0	1,412	1,384	152	100			1	17	19	63	35	57	0.48	24.1	
RA	Totals		16	4.0	2,660	2,554	281	69	25	6	12	23	19	45	29	46	0.42	55.1	
DL	CO	3	85		120	120	13	100						100	40	120	0.83	1.0	
DL	CO	4	15		20	20	2	100				100			23	20	0.29	1.0	
DL	Totals		1		140	140	15	14	86			14		86	32	70	0.64	2.0	
Type Totals				1.1	16,009	15,836	1,742	14	55	30	1	5	11	7	77	31	73	0.62	216.9

T	Species, Sort Grade - Board Foot Volumes (Type)														Page 1				
	Project: FIREWIRL														Date	10/25/2011			
															Time	9:12:02AM			
T02S R07W S10 T0100														T02S R07W S10 T0100					
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt										
02S	07W	10	ROAD	0100	15.00	9	38	S	W										
S So Gr T rt ad Spp			% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre
			Def%	Gross	Net	Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf			
RA	CO	4	2	82	82	1	100				100				37	60	0.37	1.4	
RA	H	3	42	4.4	1,246	1,191	18	80	20	63 37				34	124	1.00	9.6		
RA	H	4	56	.9	1,602	1,588	24	100				19	15	25	41	27	45	0.47	35.6
RA	Totals		44	2.3	2,930	2,862	43	92	8	11	8	40	41	29	61	0.59	46.6		
DF	CO	2	65	2,347	2,347	35	61 39				100				40	356	1.90	6.6	
DF	CO	3	23	818	818	12	100				15 85				39	103	0.63	7.9	
DF	CO	4	12	5.9	448	422	6	53	47	31	28	22	19	24	29	0.33	14.5		
DF	Totals		56	.7	3,613	3,587	54	6	28	40	26	4	3	6	87	32	124	0.88	29.0
Type Totals				1.4	6,544	6,449	97	3	57	26	14	7	5	21	67	30	85	0.71	75.6

TC		PSTNDSUM										Stand Table Summary										Page		1	
																						Date:		10/27/2011	
T02S R07W S02 Ty0200					272.00					Project					FIREWIRL					Time:		2:52:19PM			
T02S R07W S02 Ty0400					300.00					Acres					572.00					Grown Year:					
S T	Sp	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									
DL		9	1	85	53	.559	.25	.56	7.0	30.0	.11	4	17	62	23	10									
DL		10	1	82	48	.453	.25	.45	8.4	30.0	.10	4	14	60	22	8									
DL		11	1	83	56	.374	.25	.37	12.3	40.0	.13	5	15	72	26	9									
DL		12	3	86	72	1.746	1.33	2.93	11.4	43.9	.92	33	128	525	191	73									
DL		13	5	88	80	2.194	2.02	4.39	12.7	50.1	1.53	56	220	877	319	126									
DL		14	5	86	78	1.892	2.02	3.37	16.8	59.6	1.55	56	201	888	323	115									
DL		15	15	84	74	4.539	5.48	8.52	17.0	59.1	4.00	145	503	2,289	829	288									
DL		16	24	86	80	6.336	8.68	12.35	20.0	71.7	6.78	247	886	3,879	1,411	507									
DL		17	38	85	80	8.422	13.13	15.68	23.3	84.4	10.09	366	1,322	5,772	2,091	756									
DL		18	57	84	81	11.226	19.59	22.20	25.4	87.5	15.48	563	1,943	8,856	3,220	1,111									
DL		19	50	84	86	8.362	16.29	16.37	29.1	101.2	13.14	477	1,656	7,517	2,727	947									
DL		20	41	83	93	5.316	11.50	11.20	33.8	115.7	10.48	379	1,295	5,992	2,166	741									
DL		21	34	84	95	3.842	9.18	8.52	36.3	126.0	8.51	309	1,073	4,869	1,767	614									
DL		22	24	83	103	2.394	6.32	5.56	39.5	149.1	6.07	220	828	3,470	1,257	474									
DL		23	23	83	99	1.984	5.68	4.74	42.3	153.5	5.55	201	728	3,176	1,147	416									
DL		24	18	83	96	1.478	4.64	3.35	48.6	166.9	4.47	163	559	2,557	930	320									
DL		25	12	80	91	.869	2.96	2.03	48.6	158.6	2.71	99	322	1,550	564	184									
DL		26	8	83	109	.591	2.17	1.45	57.5	224.0	2.29	83	325	1,311	477	186									
DL		27	1	83	115	.062	.25	.19	50.7	220.0	.26	9	41	149	54	23									
DL		28	3	82	87	.219	.94	.54	56.8	213.2	.85	31	116	485	176	66									
DL		29	3	81	101	.204	.94	.41	82.3	295.0	.93	34	121	529	193	69									
DL		35	1	83	106	.066	.44	.20	80.3	366.7	.44	16	73	252	92	42									
DL		Totals	368	84	84	63.132	114.32	125.36	27.9	98.8	96.39	3,497	12,385	55,136	20,003	7,084									
DF		8	2	84	46	1.415	.49	1.41	4.4	20.0	.18	6	28	102	36	16									
DF		9	5	86	66	4.133	1.83	4.13	8.2	36.2	.96	34	150	550	193	86									
DF		10	6	81	76	2.717	1.48	3.62	9.0	35.0	.93	33	127	530	186	73									
DF		11	5	89	75	3.065	2.02	4.78	10.4	40.8	1.41	50	195	809	284	112									
DF		12	10	87	76	5.201	4.05	8.34	11.5	43.2	2.74	96	360	1,565	549	206									
DF		13	12	86	72	4.925	4.54	8.14	14.0	48.8	3.25	114	397	1,858	652	227									
DF		14	24	85	74	8.202	8.68	15.08	14.7	51.1	6.34	222	771	3,625	1,271	441									
DF		15	36	86	82	10.470	12.63	18.47	18.6	68.1	9.80	343	1,259	5,603	1,965	720									
DF		16	19	85	78	4.563	6.27	8.14	20.5	72.1	4.76	167	587	2,723	955	336									
DF		17	33	85	91	6.062	9.53	12.16	24.8	89.3	8.59	301	1,086	4,912	1,723	621									
DF		18	19	84	91	2.893	5.09	5.65	28.3	98.5	4.57	160	556	2,615	914	318									
DF		19	6	83	106	.759	1.48	1.90	28.6	105.2	1.55	54	199	887	310	114									
DF		20	9	85	98	1.121	2.42	2.58	33.0	114.4	2.43	85	295	1,389	488	169									
DF		21	6	84	99	.616	1.48	1.33	37.1	130.8	1.43	49	175	818	283	100									
DF		22	3	83	96	.289	.74	.58	45.1	151.3	.74	26	88	426	149	50									
DF		24	1	84	102	.079	.25	.16	58.6	215.0	.26	9	34	150	53	19									
DF		Totals	196	85	79	56.509	62.98	96.47	18.1	65.4	49.93	1,750	6,306	28,562	10,011	3,607									
RL		11	3	85	93	1.768	1.13	2.44	12.6	54.5	.85	31	133	485	176	76									
RL		12	1	86	92	.565	.44	.57	17.0	50.0	.26	10	28	151	55	16									
RL		13	4	89	85	1.927	1.78	3.85	14.2	61.2	1.50	55	236	860	313	135									
RL		14	3	86	83	1.079	1.13	2.16	16.6	60.8	.98	36	131	563	205	75									
RL		20	1	80	88	.113	.25	.23	39.0	100.0	.24	9	23	138	51	13									
RL		21	1	80	87	.103	.25	.21	41.5	95.0	.23	9	20	133	49	11									
RL		Totals	13	87	88	5.555	4.98	9.45	15.7	60.4	4.07	148	571	2,331	848	326									
OC		14	3	84	65	1.062	1.13																		
OC		17	1	84	59	.282	.44																		
OC		Totals	4	84	64	1.343	1.58																		

TC		PSTNDSUM		Stand Table Summary										Page		2	
														Date:		10/27/2011	
T02S R07W S02 Ty0200272.00 T02S R07W S02 Ty0400300.00				Project		FIREWIRL						Time:		2:52:19PM			
				Acres		572.00						Grown Year:					
S				Tot					Average Log								
Spc	T	DBH	Sample Trees	FF 16'	Av Ht	Trees/Acre	BA/Acre	Logs Acre	Net Cu.Ft.	Net Bd.Ft.	Tons/Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	T o t a l s			
														Tons	Cunits	MBF	
Totals		581		85	82	126.539	183.86	231.28	23.3	83.3	150.40	5,396	19,262	86,029	30,862	11,018	

TC		TSTNDSUM		Stand Table Summary												
				Project		FIREWIRL										
T02S R07W S02 T0300												T02S R07W S02 T0300				
Twp	Rge	Sec	Tract	Type				Acres		Plots	Sample Trees			Page: 1		
02S	07W	02	AREA2	0300				110.00		18	114			Date: 10/25/2011		
												Time: 8:58:26AM				
S Spc	T	Sample		Av	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net	Net	T o t a l s			
		DBH	Trees	FF 16'				Ht Tot	Net Cu.Ft.		Net Bd.Ft.	Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF
DF		10	2	87	57	5.465	2.83	5.47	9.4	34.7	1.47	52	190	162	57	21
DF		11	4	87	77	8.571	5.66	15.00	9.5	41.4	4.04	142	621	445	156	68
DF		12	5	88	73	9.322	7.07	15.04	11.4	43.7	4.90	172	657	539	189	72
DF		13	4	87	77	6.136	5.66	9.20	16.0	56.7	4.21	148	522	463	162	57
DF		14	5	86	80	6.614	7.07	11.90	15.6	58.9	5.28	185	701	581	204	77
DF		15	6	89	83	7.172	8.48	13.19	18.7	74.5	7.05	247	983	775	272	108
DF		16	7	89	86	7.222	9.90	14.44	21.7	86.8	8.95	314	1,254	984	345	138
DF		17	8	88	85	7.177	11.31	13.46	25.8	98.0	9.88	347	1,319	1,087	382	145
DF		18	10	88	89	8.133	14.14	16.27	28.3	103.5	13.10	460	1,683	1,441	506	185
DF		19	13	87	90	9.526	18.38	19.05	31.7	110.8	17.24	605	2,111	1,896	665	232
DF		20	7	88	84	4.665	9.90	9.33	32.5	119.1	8.63	303	1,111	949	333	122
DF		21	5	88	89	2.998	7.07	5.41	41.8	150.8	6.44	226	816	708	248	90
DF		22	6	87	89	3.214	8.48	6.43	43.9	158.3	8.04	282	1,018	884	310	112
DF		23	1	88	88	.490	1.41	.98	47.3	160.0	1.32	46	157	145	51	17
DF		Totals	83	88	81	86.704	117.37	155.17	22.7	84.7	100.55	3,528	13,142	11,060	3,881	1,446
RA		10	6	89	75	15.371	8.38	7.69	12.1	56.7	2.56	93	435	282	102	48
RA		11	1	86	84	2.117	1.40									
RA		13	3	88	74	4.548	4.19	6.06	14.3	60.0	2.39	87	364	262	95	40
RA		14	1	86	77	1.307	1.40	1.31	15.0	50.0	.54	20	65	59	22	7
RA		15	2	84	85	2.357	2.79	2.36	20.7	80.3	1.34	49	189	147	54	21
RA		16	4	87	82	4.068	5.59	6.07	21.8	87.4	3.64	133	530	401	146	58
RA		17	1	81	59	.866	1.40	.87	38.5	90.0	.92	33	78	101	37	9
RA		18	1	86	84	.791	1.40	.79	26.7	70.0	.58	21	55	64	23	6
RA		19	3	84	82	2.168	4.19	2.88	22.1	89.6	1.86	64	258	205	70	28
RA		21	2	84	73	1.162	2.79	1.74	31.8	106.7	1.52	55	186	167	61	20
RA		22	1	80	80	.529	1.40	.53	22.0	80.0	.42	12	42	47	13	5
RA		23	2	83	81	.990	2.79	1.50	44.6	127.2	1.84	67	190	202	73	21
RA		24	1	88	82	.445	1.40	.89	49.7	180.0	1.22	44	160	134	49	18
RA		Totals	28	87	77	36.718	39.12	32.67	20.7	78.2	18.83	677	2,554	2,071	744	281
DL		16	1	85	83	1.001	1.40	2.00	20.0	70.0	1.10	40	140	121	44	15
DL		Totals	1	85	83	1.001	1.40	2.00	20.0	70.0	1.10	40	140	121	44	15
OC		16	1	98	17	1.001	1.40									
OC		Totals	1	98	17	1.001	1.40									
Totals		113		88	80	125.424	159.28	189.85	22.4	83.4	120.48	4245	15,836	13,253	4,669	1,742

TC		TSTNDSUM													Stand Table Summary																		
Project													FIREWIRL																				
T02S R07W S10 T0100													T02S R07W S10 T0100																				
Twp		Rge		Sec		Tract		Type			Acres		Plots		Sample Trees			Page:		1													
02S		07W		10		ROAD		0100			15.00		9		38			Date:		10/25/2011													
																		Time:		9:13:26AM													
S		Sample			Av					Average Log			Net		Net		T o t a l s																
Spc		T		DBH		Trees		FF		Ht		Trees/		BA/		Logs		Net		Net		Tons/		Cu.Ft.		Bd.Ft.		Tons		Cunits		MBF	
						16'		Tot		Acre		Acre		Acre		Cu.Ft.		Bd.Ft.		Acre		Acre		Acre									
DF				8		2		85		30		2.637		.92		2.64		3.7		20.0		.28		10		53		4		1		1	
DF				9		1		87		66		1.319		.58		1.32		8.7		30.0		.33		12		40		5		2		1	
DF				10		1		87		100		1.319		.72		2.64		7.6		40.0		.57		20		105		9		3		2	
DF				11		1		87		113		1.319		.87		2.64		10.9		50.0		.82		29		132		12		4		2	
DF				12		1		87		91		1.319		1.04		2.64		11.3		45.0		.85		30		119		13		4		2	
DF				16		1		90		110		1.319		1.84		2.64		27.4		120.0		2.06		72		316		31		11		5	
DF				19		2		90		103		2.637		5.19		6.59		29.6		118.0		5.55		195		778		83		29		12	
DF				24		1		84		121		1.319		4.14		3.96		45.3		190.0		5.11		179		752		77		27		11	
DF				28		1		90		130		1.319		5.64		3.96		66.9		326.7		7.54		265		1,292		113		40		19	
DF				Totals		11		87		91		14.505		20.94		29.01		28.0		123.6		23.11		811		3,587		347		122		54	
RA				9		3		83		47		4.108		1.81		4.11		7.3		30.0		.82		30		123		12		4		2	
RA				10		2		87		36		2.739		1.49		2.74		7.0		25.0		.53		19		68		8		3		1	
RA				11		5		86		73		6.847		4.52		8.22		13.9		56.7		3.13		114		466		47		17		7	
RA				12		6		87		58		8.216		6.45		8.22		17.3		56.7		3.90		142		466		59		21		7	
RA				13		2		86		67		2.739		2.52		4.11		16.2		56.7		1.83		66		233		27		10		3	
RA				15		2		84		42		2.739		3.36		4.11		16.0		66.7		1.81		66		274		27		10		4	
RA				16		3		89		66		4.108		5.74		6.85		21.4		80.0		4.03		147		548		60		22		8	
RA				17		2		88		66		2.739		4.32		5.48		21.0		77.5		3.17		115		425		48		17		6	
RA				20		1		85		76		1.369		2.99		2.74		34.6		95.0		2.60		95		260		39		14		4	
RA				Totals		26		86		60		35.604		33.21		46.56		17.0		61.5		21.82		793		2,862		327		119		43	
Totals				37		87		69		50.109		54.15		75.57		21.2		85.3		44.93		1604		6,449		674		241		97			

