



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Gale Force
Sale 341-12-60

District: Forest Grove

Date: May 08, 2012

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,439,797.30	\$22,629.53	\$1,462,426.83
		Project Work:	\$(55,700.00)
		Advertised Value:	\$1,406,726.83



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timber description

Location: Portions of Sections 1, 2, and 11, T2N, R6W, W.M., Washington County, Oregon.

Stand Stocking: 20%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	15	0	98
Alder (Red)	14	0	98

Volume by Grade	2S	3S	4S	Camprur	Total
Douglas - Fir	1,430	2,678	487	0	4,595
Alder (Red)	0	0	0	77	77
Total	1,430	2,678	487	77	4,672



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comments: Pond Values Used: 1st Quarter Calendar Year 2012.

Western Hemlock and Other Conifers Stumpage Price = Pond Value
minus Logging Cost:
 $\$223.31/\text{MBF} = \$415/\text{MBF} - \$191.69/\text{MBF}$

Western redcedar and Other Cedars Stumpage Price = Pond Value
minus Logging Cost:
 $\$753.31/\text{MBF} = \$945/\text{MBF} - \$191.69/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$4.00/Gallon

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

Other Costs (with Profit & Risk to be added):
Brand and Paint: $\$4,672 \text{ MBF} \times \$1/\text{MBF} = \$4,672$
Intermediate Supports: 30 each $\times \$100/\text{support} = \$3,000$
Total Other Costs (with Profit & Risk to be added) = \$7,672

Other Costs (No Profit & Risk added):
Machine time to block/waterbar roads:
 $10 \text{ hours} \times \$110/\text{hr.} = \$1,100$
Machine time to pile landing slash:
 $10 \text{ hours} \times \$110/\text{hr.} = \$1,100$
Equipment Cleaning: 2 machines $\times \$1,000/\text{machine} = \$2,000$
Snags (Tree Topping): 119 trees $\times \$40/\text{tree} = \$4,760$
Stimson Lumber Co. Road Use Fee = \$920
TOTAL Other Costs (No Profit & Risk added) = \$9,880

ROAD MAINTENANCE
Move-in: \$2,000
General Road Maintenance: 6.2 miles $\times \$1,000/\text{mile} = \$6,200$
TOTAL: $\$8,200 / 4,672 \text{ MBF} = \$1.76/\text{MBF}$



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logging conditions

combination#: 1 Douglas - Fir 93.00%
 Alder (Red) 93.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Cable: Small Tower <=40 **Process:** Stroke Delimber

tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 6.0 **bd. ft / load:** 4,200
cost / mbf: \$112.47

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

combination#: 2 Douglas - Fir 7.00%
 Alder (Red) 7.00%

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

tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 7.0 **bd. ft / load:** 4,200
cost / mbf: \$48.92

machines: Stroke Delimber (B)



"STEWARDSHIP IN FORESTRY"

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Sale 341-12-60

District: Forest Grove

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logging costs

Operating Seasons:	2.00	Profit Risk:	10.00%
Project Costs:	\$55,700.00	Other Costs (P/R):	\$7,672.00
Slash Disposal:	\$0.00	Other Costs:	\$9,880.00

Miles of Road

Road Maintenance: \$1.76

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

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	3.0	4.2
Alder (Red)	\$0.00	2.0	3.2



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Gale Force
Sale 341-12-60

District: Forest Grove

Date: May 08, 2012

logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$108.02	\$1.80	\$1.88	\$57.41	\$1.64	\$17.08	\$0.00	\$5.00	\$2.11	\$194.94
Alder (Red)									
\$108.02	\$1.80	\$1.88	\$113.02	\$1.64	\$22.64	\$0.00	\$5.00	\$2.11	\$256.11

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$508.28	\$313.34	\$0.00
Alder (Red)	\$0.00	\$550.00	\$293.89	\$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	4,595	\$313.34	\$1,439,797.30
Alder (Red)	77	\$293.89	\$22,629.53

Gross Timber Sale Value

Recovery: \$1,462,426.83

Prepared by: Mark Savage

Phone: 503-359-7437

TIMBER SALE SUMMARY

Gale Force

341-12-60

1. **Type of Sale:** Modified clear cut, recovery, sealed bid auction.
2. **Revenue Distribution:** 100% BOF, Washington County.
3. **Sale Acreage:** Approximately 119 acres of modified clearcut. Acres are net of buffers and existing roads, and were determined using ESRI Arcmap GIS software.
4. **Cruise:** The Timber Sale was cruised with ODF cruiser variable radius plots. Volume estimates and plot data statistics were computed using SuperACE timber cruise software. For more information see the Cruise Report.
5. **Timber Description:** The Sale Area is 61 year old stand of Douglas-fir with minor amounts of alder. The DBH averages approximately 15 inches for Douglas-fir and 14 inches for red alder. The average net volume per acre is approximately 40 MBF.
6. **Topography and Logging Method:** This sale area is 93% cable yarding and 7% ground yarding. The maximum cable yarding distance is approximately 1,700 feet horizontal distance, with an average yarding distance of about 800 feet. The maximum ground yarding distance is approximately 500 feet horizontal distance, with an average yarding distance of about 250 feet. Slopes range from 15% to 65%.
7. **Access:** The access route consists of paved or gravel all-weather roads. From Forest Grove follow Highway 8 to Highway 6. Turn north onto Highway 6 and follow to Timber Road. Turn onto Timber Road and proceed north 6.6 miles to Cochran road. Turn onto Cochran Road and follow for 3.8 miles to Round Top Road. Turn onto Round Top Road and continue for 3.8 miles to Rogers Road. Turn onto Rogers Road and follow for .9 miles to the Timber Sale Area. See Exhibit A "Vicinity Map" for detailed access and haul route information.

8. **Projects:**

Project No. 1: .55 miles of road construction and .61 miles of road improvement:	\$11,353.09
Project No. 2: Road surfacing:	\$38,502.35
Project No. 3: Grass seed, fertilize, and mulch:	\$125.79
Project No. 4: Road vacating:	\$330.23
<u>Move in and equipment cleaning:</u>	\$5,360.70
Total Credit for all Projects (rounded)	\$55,700.00

9. **Other Costs:**

<u>Other Costs with (P/R)</u>	
Brand and Paint: 4,672 MBF @ \$1.00/MBF	\$4,672.00
Intermediate Supports: 30 @ \$100.00	\$3,000.00
Total Other Costs with (P/R):	\$7,672.00

Other Costs (no P/R)

Blocking/Waterbarring skid roads: 10 Hours @ \$110.00/hour	\$1,100.00
Piling Landing Slash: 10 hours @ \$110.00/hour	\$1,100.00
Equipment Cleaning: 2 machines @1000/machine	\$2,000.00
Tree Topping: 119 trees @ \$40.00/ acre	\$4,760.00
Stimson Lumber Co. Road Use Fee:	\$920
Total Other Costs (no P/R):	\$9,880.00

Total Other Costs: \$17,552.00

PROJECT COST SUMMARY SHEET

Timber Sale: Gale Force

Sale Number: 341-12-60

PROJECT NO. 1: ROAD CONSTRUCTION AND IMPROVEMENT

CONSTRUCTION

Road Segment	Length	Cost
C to D	20+00	\$4,879.00
E to F	3+25	\$901.36
G to H	6+00	\$1,612.13
	29+25 stations	
	0.55 miles	

SUBTOTAL CONSTRUCTION \$7,392.49

IMPROVEMENTS

Road Segment	Length	Cost
A to B	32+00	\$3,960.60
	32+00 stations	
	0.61 miles	

SUBTOTAL IMPROVEMENTS \$3,960.60

TOTAL PROJECT NO. 1 COST = \$11,353.09

PROJECT NO. 2: SURFACING

Road Segment	Amount	Type	Cost
A to B	2,076 cy	6" - 0	\$18,891.60
C to D	1,280 cy	6" - 0	\$12,032.00
E to F	322 cy	6" - 0	\$3,029.15
G to H	484 cy	6" - 0	\$4,549.60
Total	4,162 cy	6" - 0	

TOTAL PROJECT NO. 2 COST = \$38,502.35

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

Grass seed and fertilize areas of disturbed soil. \$125.79

TOTAL PROJECT NO. 3 COST = \$125.79

PROJECT NO. 4: VACATING

Vacate road section. \$330.21

TOTAL PROJECT NO. 4 COST = \$330.21

MOVE IN & EQUIPMENT CLEANING \$5,360.70

TOTAL ALL PROJECTS \$55,672.15

TOTAL CREDITS \$55,700.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Gale Force Timber Sale No. : 341-12-60
 Road Segment: A to B Improvement: 32+00 stations
0.61 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)						\$600.00
Balanced Road Construction						
7+30 - 8+30	1.00	sta @	\$90.00	per sta =		\$90.00
11+90 - 12+75	0.85	sta @	\$90.00	per sta =		\$76.50
14+00 - 15+20	1.20	sta @	\$90.00	per sta =		\$108.00
Construct Turnouts	2	ea @	\$60.00	per ea =		\$120.00
Construct Turnaround	1	ea @	\$75.00	per ea =		\$75.00
Construct / Improve Landing	2	ea @	\$150.00	per ea =		\$300.00
Grade, Ditch, and Roll 18+20 - 32+00	13.80	sta @	\$28.70	per sta =		\$396.06
Grade and Roll (Outslope) 0+00 - 18+20	18.20	sta @	\$27.20	per sta =		\$495.04
Repair Gate						\$500.00
TOTAL EXCAVATION COSTS=						\$2,760.60

CULVERTS - MATERIALS & INSTALLATION

Culverts						
50 LF of 24"	\$1,200.00					
TOTAL CULVERT COSTS =						\$1,200.00
PROJECT NO. 1 TOTAL COST =						\$3,960.60

PROJECT NO. 2:

SURFACING	10	" deep =	53 cy/sta			
A to B	1,696	cy of	6" - 0	@	\$9.10 per cy =	\$15,433.60
Turnouts (4)	72	cy of	6" - 0	@	\$9.10 per cy =	\$655.20
Junction (3)	60	cy of	6" - 0	@	\$9.10 per cy =	\$546.00
Landing (2)	230	cy of	6" - 0	@	\$9.10 per cy =	\$2,093.00
Turnaround (1)	18	cy of	6" - 0	@	\$9.10 per cy =	\$163.80
Total =	2,076	cy of	6" - 0			\$18,891.60
PROJECT NO. 2 TOTAL COST =						\$18,891.60

PROJECT NO. 3:

Mulch	2.00 bales @	\$4.50 per bale =	\$9.00
PROJECT NO. 3 TOTAL COST =			\$9.00

PROJECT NO. 4:

Remove culvert	1.00 each @	\$150.00 per each =	\$150.00
Construct tank traps	3.00 each @	\$50.00 per each =	\$150.00
Grass seed areas of disturbed soil.	0.10 acres @	\$220.00 per acre =	\$21.21
Mulch	2.00 bales @	\$4.50 per bale =	\$9.00
PROJECT NO. 4 TOTAL COST =			\$330.21

TOTAL COST = \$23,191.41

SUMMARY OF CONSTRUCTION COST

Timber Sale:	Gale Force	Timber Sale No. :	341-12-60
Road Segment:	C to D	Construction:	20+00 stations
			0.38 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)						\$1,000.00
Balanced Road Construction	20.00	sta @	\$90.00	per sta =		\$1,800.00
Construct Turnouts	3	ea @	\$60.00	per ea =		\$180.00
Construct Turnaround	1	ea @	\$75.00	per ea =		\$75.00
Improve Landing	1	ea @	\$150.00	per ea =		\$150.00
Grade, Ditch, and Roll	20.00	sta @	\$28.70	per sta =		\$574.00
TOTAL EXCAVATION COSTS=						\$3,779.00

CULVERTS - MATERIALS & INSTALLATION

Culverts

60 LF of 18" \$1,080.00

Culvert Markers

2 markers \$20.00

TOTAL CULVERT COSTS = \$1,100.00

PROJECT NO. 1 TOTAL COST = \$4,879.00

PROJECT NO. 2:

SURFACING

	10	" deep =	53 cy/sta			
C to D	1,060	cy of	6" - 0	@	\$9.40 per cy =	\$9,964.00
Turnouts (3)	54	cy of	6" - 0	@	\$9.40 per cy =	\$507.60
Turnaround (1)	16	cy of	6" - 0	@	\$9.40 per cy =	\$150.40
Landing (1)	150	cy of	6" - 0	@	\$9.40 per cy =	\$1,410.00
Total =	1,280	cy of	6" - 0			\$12,032.00

PROJECT NO. 2 TOTAL COST = \$12,032.00

TOTAL COST = \$16,911.00

SUMMARY OF CONSTRUCTION COST

Timber Sale:	Gale Force	Timber Sale No. :	341-12-60
Road Segment:	E to F	Construction:	3+25 stations 0.06 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.37	acres @	\$980.00	per acre =	\$365.59
Balanced Road Construction	3.25	sta @	\$90.00	per sta =	\$292.50
Construct Landing	1	ea @	\$150.00	per ea =	\$150.00
Grade, Ditch, and Roll	3.25	sta @	\$28.70	per sta =	\$93.28

PROJECT NO. 1 TOTAL COST = \$901.36

PROJECT NO. 2:

SURFACING	10	" deep =	53 cy/sta		
E to F	172	cy of	6" - 0	@	\$9.40 per cy = \$1,619.15
Landing (1)	150	cy of	6" - 0	@	\$9.40 per cy = \$1,410.00
Total =	322	cy of	6" - 0		\$3,029.15

PROJECT NO. 2 TOTAL COST = \$3,029.15

PROJECT NO. 3:

Grass seed and fertilize areas of disturbed soil.	0.19	acres @	\$220.00	per acre =	\$41.04
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PROJECT NO. 3 TOTAL COST = \$41.04

TOTAL COST = \$3,971.55

SUMMARY OF CONSTRUCTION COST

Timber Sale:	Gale Force	Timber Sale No. :	341-12-60
Road Segment:	G to H	Construction:	6+00 stations 0.11 miles

PROJECT NO. 1

EXCAVATION

Clearing and Grubbing (Scatter)	0.69	acres @	\$980.00	per acre =	\$674.93
Balanced Road Construction	6.00	sta @	\$90.00	per sta =	\$540.00
Construct Turnaround	1	ea @	\$75.00	per ea =	\$75.00
Construct Landing	1	ea @	\$150.00	per ea =	\$150.00
Grade, Ditch, and Roll	6.00	sta @	\$28.70	per sta =	\$172.20

PROJECT NO. 1 TOTAL COST = \$1,612.13

PROJECT NO. 2:

SURFACING	10	" deep =	53 cy/sta		
G to H	318	cy of	6" - 0	@	\$9.40 per cy = \$2,989.20
Turnaround (1)	16	cy of	6" - 0	@	\$9.40 per cy = \$150.40
Landing (1)	150	cy of	6" - 0	@	\$9.40 per cy = \$1,410.00
Total =	484	cy of	6" - 0		\$4,549.60

PROJECT NO. 2 TOTAL COST = \$4,549.60

PROJECT NO. 3:

Grass seed and fertilize areas of disturbed soil.	0.34	acres @	\$220.00	per acre =	\$75.76
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PROJECT NO. 3 TOTAL COST = \$75.76

TOTAL COST = \$6,237.49

Move-In & Equipment Cleaning

Timber Sale: Gale Force
Sale Number: 341-12-60

LOWBOY HAUL (One-way)		
DIST. (mi)	ROAD	AVE SPEED (mph)
5.6	Main Lines	7
2.0	Steep Grades	2

No.	EQUIPMENT DESCRIPTION	Equipment Cleaning	Base Cost	Woods Cost	Pilot Cars	Within			Within		
						Area Move	Begin Mileage	End Mileage	Total Miles	Area Cost	Total Cost
0	Drill & Compressor		\$0.00	\$0.00		\$46.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
0	Brush Cutter		\$0.00	\$0.00		\$4.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1	Graders		\$300.00	\$259.72		\$3.65	\$0.00	\$0.00	\$0.00	\$0.00	\$559.72
0	Loader (Small)		\$0.00	\$0.00	1	\$3.55	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
0	Loader (Med. & Large)		\$0.00	\$0.00	1	\$9.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1	Rollers (smooth/grid) & Compactors		\$308.59	\$215.05		\$5.00	\$0.00	\$0.00	\$0.00	\$0.00	\$523.64
0	Excavators (Small)	\$0	\$0.00	\$0.00		\$22.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
0	Excavators (Med.)	\$0	\$0.00	\$0.00		\$35.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1	Excavators (Large)	\$1,000	\$466.14	\$396.26	1	\$44.80	\$0.00	\$0.00	\$0.00	\$0.00	\$1,862.40
0	Tired Backhoes/Skidlers	\$0	\$0.00	\$0.00		\$3.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
0	Tractors (D6)	\$0	\$0.00	\$0.00	2	\$7.10	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
0	Tractors (D7)	\$0	\$0.00	\$0.00	2	\$11.30	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1	Tractor (D8)	\$1,000	\$473.80	\$363.14	2	\$15.10	\$0.00	\$0.00	\$0.00	\$0.00	\$1,836.94
3	Dump Truck (10 cy +)		\$350.00	\$228.00		\$2.85	\$0.00	\$0.00	\$0.00	\$0.00	\$578.00
0	Dump Truck (Off Hiway)		\$0.00	\$0.00	1	\$4.75	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
0	Water Truck (1500 Gal)		\$0.00	\$0.00		\$2.85	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
0	Water Truck (2500 Gal)		\$0.00	\$0.00		\$2.85	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
TOTAL MOVE-IN COSTS:										\$5,360.70	

ROCK DEVELOPMENT COST SUMMARY

Timber Sale: Gale Force

Sale Number: 341-12-60

Pit Name: Roundtop Pit

Swell:	<u>1.30</u>	Pit Run (trk measure)	<u>4,162 cy</u>
Shrinkage:	<u>1.16</u>	Total Truck Yardage:	<u>4,162 cy</u>
Drill Pct.:	<u>100%</u>	Total In Place Yardage:	<u>3,202 cy</u>

Scalp & Clear Overburden:				\$7,000.00
Rip Rock:	<u>\$1.90 /cy</u>	x	<u>3,202 cy</u>	= \$6,083.29
Load Dump Truck:	<u>\$0.70 /cy</u>	x	<u>4,162 cy</u>	= \$2,913.58
			Subtotal	\$15,996.86

Equipment Cleaning		\$2,000.00
Move in D8		\$836.94
Move in Excavator		\$862.40
Clean Up Pit		\$300.00
	Subtotal	\$3,999.34

PIT DEVELOPMENT COST \$4.80/cy

TOTAL PRODUCTION COST \$19,996.20

TC PSTATS				PROJECT STATISTICS				PAGE	1			
				PROJECT		GALEFOR		DATE	2/29/2012			
TWP	RGE	SC	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt		
02N	06	02	01	01MC	119.00		31	202	S	W		
				TREES		ESTIMATED	PERCENT					
				PER PLOT		TOTAL	SAMPLE					
				PLOTS	TREES	TREES	TREES					
TOTAL			31	202	6.5							
CRUISE			17	118	6.9		24,935	.5				
DBH COUNT												
REFOREST												
COUNT			14	82	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	
DOUG FIR			107	192.8	15.3	106	63.0	246.5	39,415	39,415	9,007	9,007
R ALDER			7	9.1	13.5	86	2.5	9.0	660	660	210	210
SNAG			4	7.7	11.1	83	1.5	5.2				
TOTAL			118	209.5	15.1	105	67.1	260.6	40,075	40,075	9,218	9,218
CONFIDENCE LIMITS OF THE SAMPLE												
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR												
CL	68.1	COEFF		SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5		10	15		
DOUG FIR		66.8	6.4	261	279	297						
R ALDER		56.0	22.8	76	99	121						
SNAG												
TOTAL		73.1	6.7	241	259	276	213		53	24		
CL	68.1	COEFF		SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5		10	15		
DOUG FIR		62.1	6.0	60	63	67						
R ALDER		54.8	22.3	24	31	38						
SNAG												
TOTAL		67.4	6.2	56	59	63	181		45	20		
CL	68.1	COEFF		TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5		10	15		
DOUG FIR		50.5	9.1	175	193	210						
R ALDER		253.6	45.5	5	9	13						
SNAG		332.9	59.7	3	8	12						
TOTAL		43.3	7.8	193	210	226	75		19	8		
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		43.6	7.8	227	246	266						
R ALDER		248.1	44.5	5	9	13						
SNAG		331.3	59.5	2	5	8						
TOTAL		38.0	6.8	243	261	278	58		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		
DOUG FIR		45.7	8.2	36,183	39,415	42,646						
R ALDER		280.1	50.3	328	660	992						
SNAG												
TOTAL		43.1	7.7	36,979	40,075	43,172	74		19	8		

TC		PLOGSTVB		Log Stock Table - MBF															
T02N R06W S02 Ty01MC				119.00		Project:		GALEFOR						Page		1			
						Acres		119.00						Date		2/29/2012			
														Time		2:27:47PM			
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
DF		2M	20		19		19	.4							19				
DF		2M	24		21		21	.4						21					
DF		2M	40		1,420		1,420	30.3						432	799	143	45		
DF		3M	24		28		28	.6							28				
DF		3M	26		34		34	.7				11	23						
DF		3M	28		36		36	.8			26	11							
DF		3M	30		9		9	.2				9							
DF		3M	32		162		162	3.5			64	59	40						
DF		3M	34		81		81	1.7			22	60							
DF		3M	36		107		107	2.3			82	25							
DF		3M	38		41		41	.9			41								
DF		3M	40		2,234		2,234	47.6			167	1098	772	196					
DF		4M	12		59		59	1.3			59								
DF		4M	14		6		6	.1			6								
DF		4M	16		29		29	.6			29								
DF		4M	18		15		15	.3			15								
DF		4M	20		52		52	1.1			33		20						
DF		4M	22		28		28	.6			28								
DF		4M	24		111		111	2.4			111								
DF		4M	26		32		32	.7			32								
DF		4M	28		46		46	1.0			46								
DF		4M	30		38		38	.8			38								
DF		4M	32		41		41	.9			41								
DF		4M	38		37		37	.8			37								
DF		Totals			4,690		4,690	98.4			878	1273	836	668	819	171	45		
RA		3M	40		65		65	82.1			22	31	12						
RA		4M	12		1		1	1.4			1								
RA		4M	14		5		5	6.4					5						
RA		4M	18		4		4	5.0			4								
RA		4M	20		4		4	5.2			4								
RA		Totals			79		79	1.6			31	31	17						
Total		All Species			4,769		4,769	100.0			909	1303	852	668	819	171	45		

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
<div>T02N R06W S02 Ty01MC119.00</div>				Project: GALEFOR												Page 1					
				Acres 119.00												Date 2/29/2012					
																Time 2:27:48PM					
Spp	S ort ad	Gr	%	Bd. Ft. per Acre			Total	Percent of Net Board Foot Volume								Average Log				Logs	
								Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/		
				Def%	Gross	Net		Net MBF	4-5	6-11	12-16	17+	12-20	21-30	31-35						36-99
DF	CU																25	9		0.00	9.8
DF	2M	31		12,271	12,271	1,460			91	9	1	1		97	39	14	290	1.60		42.3	
DF	3M	58		22,963	22,963	2,733			92	7	1		4	9	87	38	9	107	0.66	213.6	
DF	4M	11		4,180	4,180	497			96	4			33	52	8	7	20	6	26	0.31	163.6
DF Totals			98		39,415	39,415	4,690		64	33	3		4	8	6	82	31	8	92	0.67	429.3
RA		CU															9	8		0.00	7.7
RA		3M	82		542	542	65		100					100	40	8	88	0.72		6.1	
RA		4M	18		118	118	14		100				100		17	7	22	0.38		5.3	
RA Totals			2		660	660	79		100				18			82	21	8	34	0.52	19.2
SN		CU															40	9		0.00	2.6
SN Totals																	40	9		0.00	2.6
Totals					40,075	40,075	4,769		64	32	3		4	8	6	82	31	8	89	0.66	451.1

TC		PSTNDSUM		Stand Table Summary										Page		1	
														Date:		2/29/2012	
T02N R06W S02 Ty01MC 119.00				Project				GALEFOR				Time:		2:27:49PM			
				Acres				119.00				Grown Year:					
S Sp	T	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				
		Sample DBH	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF		
DF		9	3	87	82	15.641	6.91	15.64	7.8	40.0	3.48	122	626	415	146	74	
DF		10	2	88	99	8.446	4.61	12.67	7.5	36.7	2.72	96	465	324	114	55	
DF		11	5	88	93	17.450	11.52	31.41	9.7	42.2	8.72	306	1,326	1,037	364	158	
DF		12	4	87	101	11.731	9.21	23.46	12.6	53.7	8.44	296	1,261	1,004	352	150	
DF		13	8	88	105	19.991	18.43	39.98	15.5	65.6	17.65	619	2,624	2,101	737	312	
DF		14	18	89	108	38.783	41.46	79.72	18.0	80.3	40.92	1,436	6,399	4,870	1,709	761	
DF		15	5	88	104	9.384	11.52	22.52	17.9	73.3	11.50	403	1,652	1,368	480	197	
DF		16	8	88	109	13.197	18.43	31.34	20.7	91.6	18.50	649	2,870	2,201	772	342	
DF		17	6	88	115	8.767	13.82	24.84	21.3	91.2	15.11	530	2,265	1,799	631	270	
DF		18	9	88	113	11.731	20.73	31.28	25.6	107.9	22.79	800	3,376	2,712	952	402	
DF		19	6	88	113	7.019	13.82	16.38	29.4	124.3	13.71	481	2,035	1,631	572	242	
DF		20	13	88	124	13.725	29.94	40.12	32.0	136.6	36.56	1,283	5,479	4,351	1,527	652	
DF		21	8	87	128	7.661	18.43	22.98	35.8	163.7	23.48	824	3,763	2,794	980	448	
DF		22	5	87	118	4.363	11.52	13.09	36.5	162.7	13.60	477	2,129	1,619	568	253	
DF		23	3	87	113	2.395	6.91	7.18	39.0	166.7	7.98	280	1,197	950	333	142	
DF		24	1	89	103	.733	2.30	1.47	49.1	235.0	2.05	72	345	244	86	41	
DF		25	1	86	115	.676	2.30	2.03	47.1	206.7	2.72	95	419	324	114	50	
DF		26	1	90	135	.625	2.30	1.87	61.1	296.7	3.26	114	556	388	136	66	
DF		29	1	89	149	.502	2.30	1.51	81.5	416.7	3.50	123	628	416	146	75	
DF		Totals	107	88	106	192.818	246.45	419.49	21.5	94.0	256.71	9,007	39,415	30,549	10,719	4,690	
RA		9	1	74	72	2.921	1.29										
RA		12	1	74	111	1.643	1.29	3.29	14.0	45.0	1.26	46	148	150	55	18	
RA		14	1	74	70	1.207	1.29	1.21	22.4	60.0	.74	27	72	88	32	9	
RA		15	1	74	116	1.051	1.29	3.15	12.3	50.0	1.07	39	158	127	46	19	
RA		16	1	73	76	.924	1.29	1.85	20.9	50.0	1.06	39	92	126	46	11	
RA		19	2	78	86	1.311	2.58	1.97	30.4	96.7	1.64	60	190	195	71	23	
RA		Totals	7	74	86	9.057	9.03	11.46	18.3	57.6	5.78	210	660	688	250	79	
SN		8	1	87	70	3.697	1.29										
SN		12	1	89	100	1.643	1.29										
SN		13	1	88	100	1.400	1.29										
SN		16	1	88	80	.924	1.29										
SN		Totals	4	88	83	7.663	5.16										
Totals		118	87	105		209.538	260.65	430.96	21.4	93.0	262.49	9,218	40,075	31,236	10,969	4,769	

Gale Force
341-12-60
Volume Summary (Shown in MBF)
March 2012

Area 1: Modified Clearcut (119 Acres)

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL
Douglas-fir	Cruise Volume	1,460	2,733	497	0	4,690
-2%	Hidden D&B	(30)	(55)	(10)		(95)
	Total	1,430	2,678	487		4,595
	<i>% Total</i>	<i>31</i>	<i>58</i>	<i>11</i>		

SPECIES		2 SAW	3 SAW	4 SAW	CAMPRUN	STOTAL
Red alder	Cruise Volume	0	0	0	79	79
	Hidden D&B				(2)	(2)
	Total				77	77
	<i>% Total</i>				<i>100</i>	

SALE TOTALS

SPECIES	2 SAW	3 SAW	4 SAW	CAMPRUN	TOTAL (MBF)
Douglas-fir	1,430	2,678	487		4,595
Red alder				77	77
Total	1,430	2,678	487	77	4,672

CRUISE REPORT
Gale Force
341-12-60

1. CRUISE DESIGN:

The cruise design assumed a Coefficient of Variation (CV%) of 45%, an average stand diameter of 17 inches, a desired sampling error (SE%) of 10% and a minimum sample size of 100 grade trees. Inventory plots indicated that approximately 6 trees per plot could be realized with a 40 BAF prism.

2. SAMPLING METHOD:

The Sale Area was cruised in February, 2012 with 16 variable radius grade plots and 15 variable radius count plots using a 40 BAF prism. Plots were laid out on a 5 chain x 7 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain.

3. CRUISE RESULTS

114 trees were measured and graded producing a cumulative Basal Area sampling error of 6.8% and 7.7% on the Board Foot Volume.

4. TREE MEASUREMENT AND GRADING:

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

a) **Height Standards:**

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

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

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

5. DATA PROCESSING

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

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

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

Prepared by:

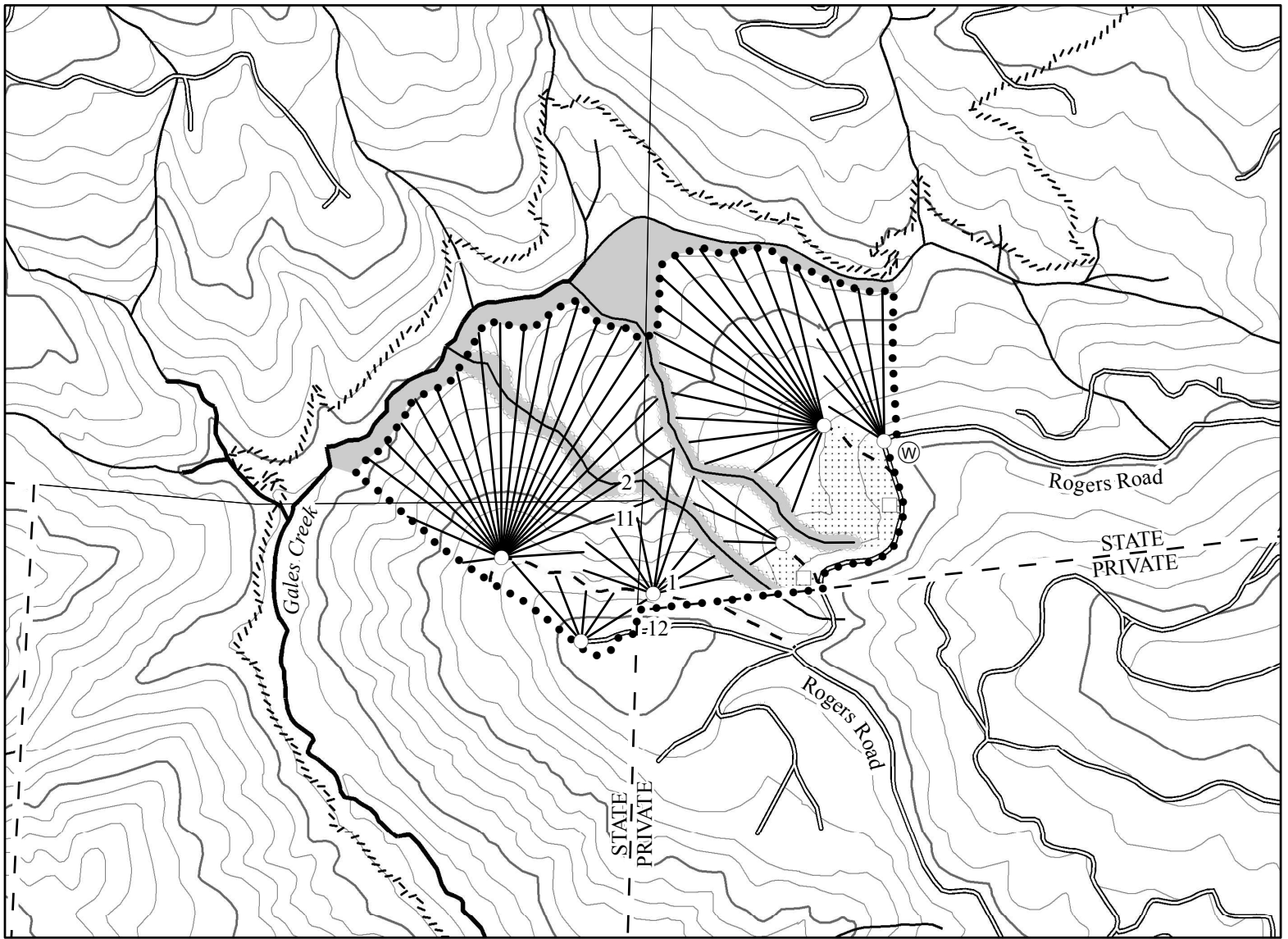
ODF Forester

Date

Reviewed by:

Eric Foucht

Date



LEGEND

- Timber Sale Boundary
- ODF Ownership Boundary
- Sections
- - - New Construction
- Roads
- //// Recreation Trail
- Type F Stream
- Type N Stream
- Stream Buffer
- Posted Stream Buffer Boundary
- Cable Landing
- Tractor Landing
- ◀ Cable Yarding Area
- ▤ Tractor Yarding Area
- 400 Foot Contour Band
- 80 Foot Contour Band
- Ⓢ Waste Area

LOGGING PLAN

FOR TIMBER SALE CONTRACT # 341-12-60
 GALE FORCE
 PORTIONS OF SECTIONS 1, 2, & 11, T2N, R6W, W.M.
 WASHINGTON COUNTY, OREGON



APPROXIMATE NET ACRES

CABLE	TRACTOR
111	8

Forest Grove District GIS
 March, 2012
 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

