



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Wallhanger
Sale 341-11-32

District: Astoria

Date: June 03, 2010

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$739,953.95	\$231,345.05	\$971,299.00
		Project Work:	\$(286,621.00)
		Advertised Value:	\$684,678.00



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timber description

Location: Portions of Sections 5, 6, 7, and 8, T8N, R6W, W.M., Clatsop County, Oregon.

Stand Stocking: 60%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	13	0	97
Western Hemlock / Fir	15	0	95
Alder (Red)	13	0	100

Volume by Grade	2S	3S	4S	Camprur	Total
Douglas - Fir	106	673	150	0	929
Western Hemlock / Fir	1,165	1,796	210	0	3,171
Alder (Red)	0	0	0	685	685
Total	1,271	2,469	360	685	4,785



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comments: Pond Values Used: 1st Quarter Calendar Year 2010.

Expected Log Markets: Tillamook, OR; Garibaldi, OR; Forest Grove, OR; Mist, OR; Longview, WA.

Western redcedar Stumpage Price = Pond Value minus Logging Cost
 $\$676.36/\text{MBF} = \$820.00/\text{MBF} - \$143.64/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$3.00/Gallon

HAULING COST ALLOWANCE

Hauling costs equivalent to \$700 daily truck cost.

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

100% branding and painting - $1\$/\text{MBF} \times 4,746\text{MBF} = \$4,746$

Close Roads in Areas 1 & 2: 8 hours x \$110/hr. = \$880.

Slash Piling:

Slash Piling Estimates: 49.5 hours @ \$110/hr = \$5,445

Cover Material for Piles: 148 piles x \$5/pile = \$742.

Move in cost for Excavator to pile slash post harvest:
\$945.

Pile cable landings in Areas 2 and 3: 6 piles x \$220/pile =
\$1,320.

TOTAL Other Costs (with Profit & Risk to be added) = \$14,078

Other Costs (No Profit & Risk added):

"Loggers Choice" spur roads in Area 1 - 14 sta. X \$106/sta. = \$1,484

TOTAL Other Costs (No Profit & Risk added) = \$1,484



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logging conditions

combination#: 1 Douglas - Fir 46.99%
 Western Hemlock / Fir 45.78%
 Alder (Red) 12.48%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Cable: Medium Tower >40 - <70 **Process:** Manual Falling/Delimiting
tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
loads / day: 9.0 **bd. ft / load:** 3,700
cost / mbf: \$103.91

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

combination#: 2 Douglas - Fir 9.63%
 Western Hemlock / Fir 9.38%
 Alder (Red) 2.56%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Shovel **Process:** Manual Falling/Delimiting
tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
loads / day: 9.0 **bd. ft / load:** 3,700
cost / mbf: \$75.21

machines: Shovel Logger

combination#: 3 Douglas - Fir 18.59%
 Western Hemlock / Fir 24.00%
 Alder (Red) 55.54%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Cable: Large Tower >=70 **Process:** Stroke Delimber
tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF
loads / day: 11.0 **bd. ft / load:** 4,000
cost / mbf: \$86.97

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

combination#: 4 Douglas - Fir 24.79%
 Western Hemlock / Fir 20.84%
 Alder (Red) 29.42%

yarding distance: Short (400 ft) **downhill yarding:** No
logging system: Shovel **Process:** Feller Buncher
tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF
loads / day: 7.0 **bd. ft / load:** 4,000
cost / mbf: \$51.38

machines: Feller Buncher w/ Delimber



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District: Astoria

Date: June 03, 2010

logging costs

Operating Seasons:	2.00	Profit Risk:	12.00%
Project Costs:	\$286,621.00	Other Costs (P/R):	\$14,078.00
Slash Disposal:	\$0.00	Other Costs:	\$1,484.00

Miles of Road

Road Maintenance: \$5.48

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
Western Hemlock / Fir	\$0.00	3.0	2.8
Alder (Red)	\$0.00	3.0	3.0



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logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$84.97	\$5.64	\$1.83	\$91.97	\$2.94	\$22.48	\$0.00	\$5.00	\$0.31	\$215.14
Western Hemlock / Fir									
\$86.20	\$5.75	\$1.83	\$78.12	\$2.94	\$20.98	\$0.00	\$5.00	\$0.31	\$201.13
Alder (Red)									
\$78.31	\$5.48	\$1.83	\$69.44	\$2.94	\$18.96	\$0.00	\$5.00	\$0.31	\$182.27

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$440.90	\$225.76	\$0.00
Western Hemlock / Fir	\$0.00	\$368.34	\$167.21	\$0.00
Alder (Red)	\$0.00	\$520.00	\$337.73	\$0.00



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summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	929	\$225.76	\$209,731.04
Western Hemlock / Fir	3,171	\$167.21	\$530,222.91
Alder (Red)	685	\$337.73	\$231,345.05

Gross Timber Sale Value

Recovery: \$971,299.00

Prepared by: Kraig Kirkpatrick

Phone: 503-325-5451

Site Prep Appraisal

Sale Number: 341-10-12
Sale Name: WALLHANGER
Date: 03/04/2010

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

Sale Area	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area	
2	MC	B	20	30	\$110.00	\$3,300.00	
3	MC	B	13	19.5	\$110.00	\$2,145.00	
In-unit Piling						Sub Total =	\$5,445.00
Sale Area	Number of Landings to be Piled	Cost/Landing Pile*	Total Cost/Area	Number of In-Unit Piles	Material Cost/Pile	Total Cost/Area	
2	3	\$220.00	\$660.00	90	\$5.00	\$450.00	
3	3	\$220.00	\$660.00	58.5	\$5.00	\$292.50	
Materials						Sub Total =	\$742.50
Landing Piling						Sub Total =	\$1,320.00
Move-In Allowance	Number of Move-In's	Total Move-In Allowance					
\$945.00	1	\$945.00	Move-In Sub Total =				\$945.00
Grand Total =						\$8,452.50	

*Cost includes separating firewood

Road Maintenance Cost Summary (Interim and Post Harvest)

Sale: WALLHANGER
 Date: March 9, 2010
 By: Kraig Kirkpatrick

MBF: 4,785
 \$/MBF: \$5.48

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost
Progressive Operations Entries (1)	Grader 14G	\$675	1	10	\$93	\$1,605
	Dump Truck 12CY	\$141	1	10	\$73	\$871
	FE Loader C966	\$675	1	5	\$77	\$1,060
Final Haul Road Maintenance Haul Route	Grader 14G	\$675	1	72	\$93	\$7,371
	Dump Truck 12CY	\$141	1	30	\$73	\$2,331
	FE Loader C966	\$675	1	15	\$77	\$1,830
	Vibratory Roller	\$675	1	63	\$72	\$5,211
	Water Truck 2,500 gallon Labor	\$165	1	63	\$83	\$5,394
				15	\$38	\$570
Total						\$26,243

Interim Maintenance (2)

Production Rates
 Grader

Miles/day	Distance(miles)	Days	Hours
1.5	1.5	1	10

Final Road Maintenance

Production Rates
 Grader
 Vibratory Roller

Miles/day	Distance(miles)	Days	Hours
1.5	10.8	7.2	72.00
1.5	9.5	6.3	63.33

***Maintenance calculations were determined as follows:**

Gnat Creek Rd, Davis Bottum Rd, Peterson Rd, Windy Ridge Rd, and Clifton Rd. = 7.2 miles

New Road Construction = 2.3 miles.

Grade and Shape Private Road from Clifton Co. Rd. to Pt 1K. = 1.3 miles

Total Miles: 10.8 Miles

SUMMARY OF ALL PROJECT COSTS

SALE NAME: WALLHANGER

NEW CONSTRUCTION:

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
Project No. 1	1A-1B, 1C-1D, 1G-1H, 1I-1J, 1M-1N	82.00	\$ 133,311
	2A-2B	9.35	\$ 17,435
	3A-3B, 3G-3H	13.20	\$ 43,621
Dirt Spurs	1K-1L, 2G-2H	23.05	\$ 3,900
	3C-3D, 3E-3F	22.20	\$ 9,058
TOTALS		149.80	\$ 207,325

ROAD IMPROVEMENT:

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
Project No. 2	1I-12	39.15	\$ 43,256
TOTALS		39.15	\$ 43,256

SPECIAL PROJECTS:

	<u>Description</u>	<u>Cost</u>
Project No. 3	V1-V2, V3 Road Vacating	\$ 7,671
Project No. 4	Gate Construction and Installation	\$ 6,000
Project Road Maintenance		\$ 13,769
TOTAL		\$ 27,440

MOVE IN:

	<u>Equipment</u>	<u>Cost</u>
	Excavator (C330)	\$ 1,220
	Excavator (C312 @ \$699)	\$ 1,398
	Dozer (D8)	\$ 1,220
	Rubber Tired Skidder	\$ 622
	Vibratory Roller	\$ 675
	Front End Loader (C966 @ \$675)	\$ 675
	10-12 yd dump truck (X 2(@ \$141 each)	\$ 282
	Large Grader (14G)	\$ 675
	Water Truck (2,500 gal)	\$ 165
	24yd off Highway Dump Truck	\$ 672
	20yd dump truck w/pup trailer (X 6 @ \$166 each)	\$ 996
TOTAL		\$ 8,600

GRAND TOTAL **\$ 286,621**

Compiled By: Kraig Kirkpatrick

Date: 04/12/2010

SURFACING		Stations/amount	x	Rate/ sta/amt	Cost
Subgrade prep: Description					
Grade, Shape and Ditch 16'		82.00	x	21.55	1,767.10
Grade, Shape and Outslope 14' 1K-1L		17.60	x	15.93	280.37
Subgrade Compaction		99.60	x	17.52	1,744.99

ROAD SEGMENT		1A-1B		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	0+00 - 36+05	Number of			
Base Rock	4"-0"	0+00-36+05	9	station	56	stations	36.05	2,019	\$6.72	13,566.34
Curve Widening Base Rock	4"-0"	2+10-2+95, 5+70-6+80, 16+15-17+35, 19+50-21+10, 21+65-22+20, 25+15-25+95	9	curve	N/A	curves	6.00	154	\$6.72	1,034.88
Junctions	4"-0"	0+00	9	junction	33	junctions	1	33	\$6.72	221.76
Turnouts	4"-0"	2+60, 6+15, 11+30, 15+25, 17+00, 25+55, 30+75	9	TO	25	TO's	7	175	\$6.72	1,176.00
Turnarounds	4"-0"	35+20	9	TA	15	TA's	1	15	\$6.72	100.80
Traction Rock	3/4"-0"	1+20-3+00, 7+20-7+90, 10+50-11+40, 13+50-14+50, 16+50-20+10, 22+30-28+50	3	station	19	stations	14.25	271	\$6.72	1,819.44
Curve Widening Traction Rock	3/4"-0"	2+10-2+95, 16+50-17+35, 19+50-20+10, 25+15-25+95	3	curve	N/A	curves	4.00	36	\$6.72	241.92
Turnouts	3/4"-0"	2+60, 11+30, 17+00, 25+55	3	TO	11	TO's	4.00	44	\$6.72	295.68
Fill Armor	24"-6"	1+00-1+40, 7+40-7+75, 8+50-8+90, 19+20-18+10	N/A	fill	N/A	fills	4.00	530	\$11.65	6,174.50
Dissipator Rock	24"-6"	10+70, 18+05, 24+65	N/A	dissipator	11	dissipator	3.00	33	\$11.78	388.74
Subgrade Reinforcement	6"-0" Pit-run		N/A	reinforcement	N/A	reinforcement	N/A	100	\$10.90	1,090.00
Landings	6"-0" Pit-run	36+05	N/A	Landing	60	Landings	1	60	\$10.90	654.00
Total Rock for Road Segment:		1A-1B						3,470		

26,764.06

ROAD SEGMENT		1C-1D		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	0+00-2+40	Number of			
Base Rock	4"-0"	0+00-2+40	9	station	56	stations	2.40	134	\$6.72	903.17
Junctions	4"-0"	0+00	9	junction	33	junctions	1	33	\$6.72	221.76
Traction Rock	3/4"-0"		3	station	19	stations	1.00	19	\$6.72	127.68
Landings	6"-0" Pit-run	2+40	N/A	Landing	60	Landings	1	60	\$10.90	654.00
Total Rock for Road Segment:		1C-1D						246		

1,906.61

ROAD SEGMENT		1G-1H		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	0+00-30+35	Number of			
Base Rock	4"-0"	0+00-30+35	9	station	56	stations	30.35	1,700	\$6.72	11,421.31
Curve Widening Base Rock	4"-0"	0+00-0+40, 3+25-3+75, 10+50-11+05, 15+70-16+35, 19+10-19+90	9	curve	N/A	curves	5.00	88	\$6.72	591.36
Junctions	4"-0"	0+00	9	junction	33	junctions	1	33	\$6.72	221.76
Turnouts	4"-0"	2+25, 5+85, 10+65, 15+95, 24+80	9	TO	25	TO's	5	125	\$6.72	840.00
Turnarounds	4"-0"	28+45	9	TA	15	TA's	1	15	\$6.72	100.80
Traction Rock	3/4"-0"	5+40-6+80, 11+40-12+30, 16+50-18+50, 20+00-24+90	3	station	19	stations	9.20	175	\$6.72	1,174.66
Fill Armor	24"-6"	23+20-24+00	N/A	fill	N/A	fills	1	280	\$11.78	3,298.40
Subgrade Reinforcement	6"-0" Pit-run		N/A	reinforcement	N/A	reinforcement	N/A	100	\$10.90	1,090.00
Landings	6"-0"	30+35	N/A	Landing	60	Landings	1	60	\$10.90	654.00
Total Rock for Road Segment:		1G-1H						2,575		

19,392.29

ROAD SEGMENT		1I-1J		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	0+00-10+70	Number of			
Base Rock	4"-0"	0+00-10+70	9	station	56	stations	10.70	599	\$6.72	4,026.62
Junctions	4"-0"	0+00	9	junction	33	junctions	1	33	\$6.72	221.76
Turnouts	4"-0"	7+30	9	TO	25	TO's	1	25	\$6.72	168.00
Turnarounds	4"-0"	9+60	9	TA	15	TA's	1	15	\$6.72	100.80
Traction Rock	3/4"-0"	0+75-6+00	3	station	19	stations	5.25	100	\$6.72	670.32
Fill Armor	24"-6"	4+70-5+75	N/A	fill	N/A	fills	1	297	\$11.78	3,498.66
Landings	6"-0"	10+70	N/A	Landing	60	Landings	1	60	\$10.90	654.00
Total Rock for Road Segment:		1I-1J						1,129		

9,340.16

ROAD SEGMENT		1M-1N		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	0+00-2+50	Number of			
Base Rock	4"-0"	0+00-2+50	9	station	56	stations	2.50	140	\$6.72	940.80
Junctions	4"-0"	0+00	9	junction	33	junctions	1	33	\$6.72	221.76
Landings	6"-0"	2+00	N/A	Landing	80	Landings	1	80	\$10.90	872.00
Total Rock for Road Segment:		1M-1N						253		

2,034.56

Processing:	Description	No sta	Rate/sta	Cost
	Water, Process & Compact Base Rock:	82.00	49.02	4,019.64
	Water, Process & Compact Traction Rock:	30.40	49.02	1,490.21

SUB TOTAL FOR SURFACING

24"-6"	6"-0" pr	4"-0"	3/4"-0"	Total		
1,140	520	5,369	644	7,673	7,673.30	\$68,739.98

SPECIAL PROJECTS

Description	Cost
Develop Pit-Run \$2.30/CY x 520CY	\$1,196.00
6 1/2 oz. woven Road Fabric \$1.20/ft X 40sta.	\$4,800.00

SUB TOTAL FOR SPECIAL PROJECTS

5,996.00

Subtotal of Surfacing & Spec. Proj. 74,735.98
Subtotal of Clearing, Exc., Culv. 61,029.30

GRAND TOTAL

135,765.28

SURFACING		Stations/ amount	x	Rate/ sta/amt	Cost
Subgrade prep:	Description				
	Grade, Shape and Ditch 16'	9.35	x	\$21.55	\$201.49
	Grade, Shape and Outslope 14' 2G-2H	5.45		\$15.93	\$86.82
	Subgrade Compaction	14.80	x	\$17.52	\$259.30

ROAD SEGMENT 2A-2B				POINT TO POINT	Sta. to Sta.	TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2A-2B Volume (CY) per	0+00 - 9+35 Number of			
Base Rock	4"-0"	0+00-9+80	9	station 56	stations 9.35	524	\$6.72	3,518.59
Curve Widening Base Rock	4"-0"	1+05-2+60	9	curve N/A	curves 1.00	99	\$6.72	665.28
Junctions	4"-0"	0+00	9	junction 33	junctions 1	33	\$6.72	221.76
Turnouts	4"-0"	5+95	9	TO 25	TO's 1	25	\$6.72	168.00
Traction Rock	3/4"-0"	1+90-3+00	3	station 19	stations 1.2	23	\$6.72	153.22
Curve Widening Traction Rock	3/4"-0"	1+05-2+60	3	curve N/A	curves 1.0	33	\$6.72	221.76
Subgrade Reinforcement	6"-0" Pit-run		N/A	reinforcement N/A	reinforcement N/A	100	\$10.90	1,090.00
Fill Armor	24"-6"	2+05-2+60	N/A	fill armor 11	fill armor 1	35	\$11.78	412.30
Total Rock for Road Segment:				2A-2B		871		6,450.91

ROAD SEGMENT 2G-2H				POINT TO POINT	Sta. to Sta.	TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2G-2H Volume (CY) per	0+00 - 5+45 Number of			
Junctions	4"-0"	0+00	9	junction 33	junctions 1	33	\$6.72	221.76
Total Rock for Road Segment:				2G-2H		33		221.76

Processing:		Description	No. sta	Rate/sta	Cost
		Water, Process & Compact Base Rock:	9.35	49.02	458.34
		Water, Process & Compact Traction Rock:	1.20	49.02	58.82
SUB TOTAL FOR SURFACING					
		24"-6"	35		
		6"-0" pr	100		
		4"-0"	714		
		3/4"-0"	56		
		Total		904	904
					\$7,737

SPECIAL PROJECTS		Description	Cost
		6 1/2 oz. woven Road Fabric \$1.20/lf X 5sta.	\$ 600.00
		Develop Pit-Run \$2.30/CY x 100 CY	\$230.00
SUB TOTAL FOR SPECIAL PROJECTS			\$830

Subtotal of Surfacing & Spec. Proj. \$8,567
Subtotal of Clearing, Exc., Culv. \$10,313

GRAND TOTAL \$18,880.64

Compiled By: Kraig Kirkpatrick

Date: 04/12/2010

SURFACING		Subgrade prep:	Description	Stations/ amount	x	Rate/ sta/amt	Cost
			Grade, Shape and Ditch 16'	13.20	x	\$21.55	\$284.46
			Subgrade Compaction	35.40	x	\$17.52	\$620.21
			Grade and Shape - Dirt Spurs 3C-3D, 3E-3F.	22.20	x	\$15.93	\$353.65

ROAD SEGMENT 3A to 3B				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	3A to 3B	0+00-5+65	Number of				
Base Rock	4'-0"	0+00 to 5+65	9	station	56	stations	5.65	316	\$6.72	\$2,126
Junctions	4'-0"	0+00	9	junction	33	junctions	1	33	\$6.72	\$222
Culvert Dissipator	24'-6"	1+30, 4+00	N/A	dissipator	11	dissipator	2	22	\$11.78	\$259
Subgrade Reinforcement	6'-0" Pit-run		N/A	reinforcement	N/A	reinforcement	N/A	50	\$10.90	\$545
Landing	6'-0"		N/A	landing	80	landing	1	80	\$10.90	\$872
Total Rock for Road Segment:				3A to 3B				501		

\$4,024

ROAD SEGMENT 3C to 3D				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	3C to 3D	11+80	Number of				
Junctions	4'-0"	0+00	9	junction	33	junctions	1	33	\$6.72	\$222
Total Rock for Road Segment:				3C to 3D				33		

\$222

ROAD SEGMENT 3E to 3F				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	3E to 3F	9+15	Number of				
Junctions	4'-0"	0+00	9	junction	33	junctions	1	33	\$6.72	\$222
Ditchout Dissipator	24'-6"	0+00	N/A	dissipator	11	dissipator	1	11	\$11.78	\$130
Total Rock for Road Segment:				3E to 3F				44		

\$351

ROAD SEGMENT 3G-3H				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	3G-3H	0+00-7+55	Number of				
Base Rock	4'-0"	0+00-7+55	9	station	56	stations	7.55	423	\$6.72	\$2,841
Curve Widening Base Rock	4'-0"	0+40-1+40, 3+80-4+20	9	curve	N/A	curve	2.00	99	\$6.72	\$665
Junctions	4'-0"	0+00, 7+00	9	junction	33	junctions	2	66	\$6.72	\$444
Turnouts	4'-0"	4+00, 6+45	9	TO	25	TO's	2	50	\$6.72	\$336
Traction Rock	3/4'-0"	0+00-7+55	3	station	19	stations	7.55	143	\$6.72	\$964
Curve Widening Traction Rock	3/4'-0"	0+40-1+40, 3+80-4+20	3	curve	2	curve	2.00	44	\$6.72	\$296
Dissipator	24'-6"	4+50	N/A	dissipator	11	dissipators	1.0	11	\$11.78	\$130
Fill Armor	24'-6"	5+50-6+50	N/A	fill	N/A	fill	1	105	\$11.78	\$1,237
Total Rock for Road Segment:				3G-3H				941		

\$6,912

Processing:

Description	No. sta	Rate/sta	Cost
Water, Process & Compact Base Rock:	13.20	\$49.02	\$647
Water, Process & Compact Traction Rock:	7.55	\$49.02	\$370

SUB TOTAL FOR SURFACING

24'-6"	6'-0"	4'-0"	3/4'-0"	Total		
149	130	1,053	167	1,520	1,520	\$13,785

SPECIAL PROJECTS

Description	Cost
6 1/2 oz. woven Road Fabric \$1.20/lf X 11 sta.	\$ 1,320.00
Develop Pit-Run \$2.30/CY x 130 CY	\$299.00

SUB TOTAL FOR SPECIAL PROJECTS

\$1,619

Subtotal of Surfacing & Spec. Proj. \$15,404
Subtotal of Clearing, Exc., Culv. \$37,275

GRAND TOTAL

\$52,679.27

Compiled By: Kraig Kirkpatrick

Date: 04/12/2010

SURFACING		Stations/amount	x	Rate/ sta/amt	Cost
Subgrade prep:	Description				
	Grade, Shape and Ditch 16'	39.15	x	\$21.55	\$843.68
	Subgrade Compaction	19.15	x	\$17.52	\$335.51

ROAD SEGMENT		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (Inches)	I1-I2 Volume (CY) per	0+00-39+15 Number of			
Base Rock	4"-0"	0+00-5+40, 9+45-21+90, 24+40-27+85, 31+95-39+15	6	station 25	stations 28.50	713	\$6.72	\$4,788
Base Rock	4"-0"	5+40-9+45, 21+90-24+40, 27+85-31+95	9	station 56	stations 10.65	596	\$6.72	\$4,008
Curve Widening Base Rock	4"-0"	6+25-7+25, 8+70-9+45, 22+05-23+10, 27+85-29+15, 30+95-31+95	9	curve N/A	curves 5.00	227	\$6.72	\$1,525
Junctions	4"-0"	0+00, 33+10	6	junction 2	junctions 33	66	\$6.72	\$444
Turnouts	4"-0"	8+80, 15+50, 22+50	6	TO 3	TO's 25	75	\$6.72	\$504
Traction Rock	3/4"-0"	0+00-9+00, 28+00-31+00	3	station 19	stations 14	266	\$6.72	\$1,788
Curve Widening Traction Rock	3/4"-0"	6+25-7+25, 8+70-9+45, 22+05-23+10, 27+85-29+15, 30+95-31+95	3	curve N/A	curves 5.00	87	\$6.72	\$585
Total Rock for Road Segment: I1-I2						2,030		\$13,056

Processing:		Description	No. sta	Rate/sta	Cost
		Water, Process & Compact Base Rock	39.15	\$49.02	\$1,919
		Water, Process & Compact Traction Rock	14.00	\$49.02	\$686
SUB TOTAL FOR SURFACING				Total	
			1,677	353	2,030
				2,030	\$16,841

SPECIAL PROJECTS		Description	Cost
		6 1/2 oz. woven Road Fabric \$1.20/lf X 10 sta.	1200
SUB TOTAL FOR SPECIAL PROJECTS			\$1,200

		Subtotal of Surfacing & Spec. Proj.	\$18,041
		Subtotal of Cleaning, Exc., Culv.	\$25,215
GRAND TOTAL			\$43,256.04

Compiled By: Kraig Kirkpatrick

Date: 04/12/2010

CRUSHED ROCK COST

SALE NAME: Wallhanger
 PROJECT: Project No.1 and 2
 QUARRY: Hunt Creek Stockpile

MATERIAL: Crushed

DATE: 04/14/2010
 BY: Kraig Kirkpatrick

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES							Total Haul
			50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	
1A-1B	36.05	2,647	0.50	3.10	0.10	1.35	1.00	0.45	0.85	7.35
1C-1D	2.40	180	0.50	3.10	0.10	1.35	1.00	0.45	0.60	7.10
1G-1H	30.35	2,080	0.50		0.25	2.00	1.00	1.00	0.70	5.45
1I-1J	10.70	740	0.50		0.25	2.00	1.00	1.00	0.75	5.50
1M-1N	2.50	173	0.50		0.25	2.00	1.00	1.00	0.65	5.40
2A-2B	9.80	754	0.50		0.25	2.00	0.70	0.50	0.40	4.35
2G-2H	5.45	33	0.50		0.25	2.00	1.00	0.50	0.55	4.80
3A-3B	5.65	349	0.50		0.25	2.00	2.00	1.00	0.40	6.15
3C-3D		33	0.50		0.25	2.00	2.00	1.00	0.35	6.10
3E-3F		33	0.50		0.25	2.00	2.00	1.00	0.35	6.10
3G-3H	7.55	758	0.50		0.25	2.00	2.00	0.50	0.25	5.50
1I-12	39.15	1,694	0.50		0.25	2.00	0.70	1.00	0.50	4.95
TOTAL	149.60	9,474								
CUBIC YARD WEIGHTED HAUL			0.50	0.93	0.21	1.81	1.05	0.75	0.63	AVERAGE HAUL 5.87
Average Round Trip Distance (miles) 11.74										

ROCK HAUL:

Truck type: D20 No. trucks: 6
 Delay min.: 8 Efficiency: 85%

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

Truck type: D10 No. trucks: 2
 Delay min.: 5 Efficiency: 85%

Ave haul: \$5.55 /cy
 Load: \$0.45 /cy
 Spread: \$0.73 /cy

Production: cy/day = 1,024

CRUSHED ROCK HAUL COSTS 9,474 cy @ \$6.72 /cy

WALLHANGER

Project No. 3 Road Vacating

Location/Description	C330 Excavator	C330 Excavator	C330 Excavator	Truck	Labor	Seeding	Straw Mulch	Total
V1 to V2 0+00-20+30 Fill Removal Sidecast Pullback Waterbar	20 hrs	6 sta.	20					
V3 Fill Removal	8 hrs							
Walk excavator between sites.	0 hrs							
Total	28 hrs	6 sta.	20	0 hr	1 ac	100 lb	50 Bales	
Rate	\$144 /hr	\$314 /hr	\$30 ea	\$57 /hr	\$540 /ac	\$1.15 /lb	\$10.00 /Bale	
Cost	\$4,032	\$1,884	\$600	\$0	\$540	\$115	\$500.00	\$7,671

Prepared by: Kraig Kirkpatrick Date: 03/03/2010

Projects Road Maintenance Cost Summary

Sale: WALLHANGER
Date: March 9, 2010
By: Kraig Kirkpatrick

Type	Equipment/Rationale	Hours	Rate	Cost
Post-Projects Road	Grader 14G	48	\$93	\$4,464
	Dump Truck 12CY (2 trucks)	15	\$73	\$1,095
	FE Loader C966	10	\$77	\$770
	Vibratory Roller	48	\$72	\$3,456
	Water Truck 2500 gallon	48	\$83	\$3,984
Total				\$13,769

Interim Maintenance

Production Rates	Miles/day	Distance(miles)	Days	Hours
Grader				
Vibratory Roller				

Final Road Maintenance

Production Rates	Miles/day	Distance(miles)	Days	Hours
Grader	1.5	7.20	4.8	48.00
Vibratory Roller	1.5	7.20	4.8	48.00

***Maintenance calculations were determined as follows:**

Maintain from Hunt Creek Quarry-Nicolai Mainline, Gnat Creek Rd-Davis Bottum Rd-Peterson Rd, Peterson Rd to Pt. 3A-I1 Pt. 2A, and Clifton Rd from pavement to Pt. 1A

Total Miles: 7.2 miles.

**WALLHANGER
FY 2010
TIMBER CRUISE REPORT**

1. **Sale Area Location:** Areas 1, 2, 3, and 4R/W are located in portions of Sections 5, 6, 7, and 8, T8N, R6W; W.M., Clatsop County, Oregon.

All timber sale areas are posted with ODF "Timber Sale Boundary", "Area Boundary" signs and pink ribbon. Area 4 R/W is posted with ODF "Right-of-Way Boundary" signs.

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

3. **Sale Acreage by Area:**

Area	Harvest Type	Gross Acreage	New R/W Acreage	Existing R/W Acreage	Stream Buffer Acreage	Non-Merch\Non-Thinnable Acreage	Net Acreage
1	PC	254.0	-8.4	0.0	-16.1	-21.3	208.2
2	MC	50.4	-1.7	0.0	-8.2	-0.7	39.8
3	MC	60.6	-2.1	0.0	-5.9	-1.7	50.9
4R/W	R/W	13.5					13.5*
TOTALS		378.5	-12.2	0.0	-30.2	-23.7	312.4

*An additional 1.3 acres of R/W is located outside of the sale area, Pt 3G to 3H.

4. **Cruisers and Cruise Dates:** Area 1 was cruised by Bryce Rodgers, John Long, Jay Morey, and Kraig Kirkpatrick. Area 2 was cruised by Bryce Rodgers, Jay Morey, and Kraig Kirkpatrick. Area 3 was cruised by Ed Holloran and John Long. Cruise for Area 4 R/W was calculated using total cruise per acre volumes for all areas, and applying road R/W acreage.
5. **Cruise Method and Computation:** Cruises used Corvallis MicroTechnology (CMT) and Juniper Allegro data collectors, and were downloaded to the Atterbury Super A.C.E. program in District for computing. See the attached Cruise Design for more details on the cruise method. The cruise calculations were processed in the Astoria District office.

Area 1 (Partial Cut), were variable plot cruised with a 40.0 BAF. 57 plots were sampled on a cruise grid of 4 chains by 9 chains, with a count/cruise ratio of 2:1.

Area 2 (Modified Clear Cut), were variable plot cruised with a 40 BAF for conifers. 35 plots were sampled on a cruise grid of 4 chains by 5 chains, with a count/cruise plot ratio of 1:1.

Area 3 (Modified Clear Cut), were variable plot cruised with a 40 BAF. 37 plots were sampled on a cruise grid of 3 chains by 5 chains, with a count/cruise plot ratio of 1:1.

Area 4 R/W (Right-of-Way). The right-of-way volume within the harvest areas was calculated by multiplying the R/W acreage and the average volume per acre from the plots in Areas 1 through 3. In-sale right-of-way totals 13.5 acres. There is no merchantable timber within the right-of-way outside the sale areas.

All "take" and "leave" trees were measured and graded, on cruise plots.

<u>AREAS</u>	<u>PROJECT</u>	<u>CRUISE TYPE</u>
1	WALLHNGR	0001, LEAV, TAKE
2	WALLHNGR	02.2, LEAV, TAKE
3A	WALLHNGR	0003, LEAV, TAKE
4 R/W	WALLHNGR	RW

6. Timber Description:

Area 1 (Partial Cut) – This stand is approximately 33 to 51 years old, consisting of conifer stands with patches of hardwoods. This stand will be harvested to an SDI of 30, with a basal area target of 140 ft², while removing approximately 108 trees per acre and 11 MBF/acre. The average “take” tree size is 13” DBH and 46 feet to a merchantable top (6” d.i.b.).

Area 2 (Modified Clear Cut) – This stand is approximately 57 years old, consisting of mixed conifer stands with patches of hardwoods. This stand averages 17 inches in DBH, with an average merchantable height of 53 feet to a merchantable top (6” d.i.b.). The average volume (net) to be harvested is 17 MBF/acre.

Area 3 (Modified Clear Cut) – These stands are approximately 46 years old, consisting of mixed conifer stands with patches of hardwoods. This stand averages 14 inches in DBH, with an average merchantable height of 54 feet to a merchantable top (6” d.i.b.). The average volume (net) to be harvested is 26 MBF/acre.

Area 4 R/W – The average volume (net) is approximately 31 MBF/acre.

7. Statistical Analysis: (See also “Statistics Reports,” attached.)

Area	Target CV	Target SE%	Actual CV	Actual SE%
1	65	12	49.1	6.5
2	70	12	65.1	11.0
3	70	12	42.9	7.1

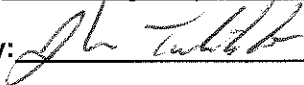
The statistics for Areas 1, 2, and 3 are “Take” and “Leave” stands combined.

8. Volumes by Species and Log Grades for All Sale Areas by MBF: (See “Species, Sort, Grade, attached, of the thinning and regeneration harvest areas combined.) Volumes do not include “ingrowth.” The majority of defect and breakage was culled out during the cruise.

Species	DBH	Net Vol.	2 Saw	3Saw	4 Saw	Camp Run	% D & B	% Sale
Douglas-fir	12.8	929	106	673	150		5%	19%
Hemlock / fir/ Spruce	15.1	3,171	1,165	1,796	210		4%	67%
Hardwoods	12.8	685				685	3%	14%
TOTAL		4,785						

9. Prepared by: Kraig Kirkpatrick

Date: March 2, 2010

10. Approved by: 

Date: MAY 18, 2010

11. Attachments: Species, Sort, Grade Reports (5 pages)
Statistics Stand Summary Reports (12 pages)
Log Stock Table Reports (3 pages)
Stand Table Summary Take (2 pages)
Stand Table Summary Leave (3 pages)
Cruise Plans & Maps (12 pages)

Species, Sort Grade - Board Foot Volumes (Project)

TT8N RR6W S06 TyTAK THRU TT8N RR6W S08 TyRW	Project: WALLHNGR Acres: 312.40	Page 1 Date 5/11/2010 Time 7:54:53AM
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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								Average Log			Logs Per /Acre
									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				
A	DOCU				100.0	26											15		0.00	.9
A	DOCR	100			1.8	2,230	2,189	684		76	18	6	10	7	50	34	30	73	0.73	29.9
A	Totals			14	3.0	2,256	2,189	684		76	18	6	10	7	50	34	29	71	0.72	30.9
D	DOCU				100.0	96											13		0.00	4.1
D	DO2S	11			2.8	348	338	106		20	77	3		2	11	86	39	208	1.45	1.6
D	DO3S	72			1.6	2,189	2,153	673	0	100			0		44	55	36	82	0.67	26.2
D	DO4S	17			2.7	494	481	150	1	99			60	37	3	0	21	24	0.38	19.7
D	Totals			19	5.0	3,126	2,972	928	0	91	9	0	10	6	34	50	28	58	0.60	51.6
H	DOCU				100.0	272											10		0.00	3.0
H	DO2S	36			1.8	3,798	3,729	1,165		2	77	21	1	1	6	93	39	263	1.67	14.2
H	DO3S	57			2.0	5,855	5,739	1,793		96	4		0		40	59	35	84	0.67	68.3
H	DO4S	7			1.3	680	672	210	2	98			74	18	4	4	19	25	0.40	26.8
H	Totals			66	4.4	10,605	10,139	3,168	0	62	30	8	5	2	25	68	31	90	0.78	112.2
S	DO3S	100			4.5	11	10	3		100					48	52	36	70	0.92	.1
S	Totals			0	4.5	11	10	3		100					48	52	36	70	0.92	.1
M	DOCU				100.0	9											12		0.00	.2
M	DOCR	100				4	4	1	100				100				16	20	0.37	.2
M	Totals			0	66.7	13	4	1	100				100				14	10	0.21	.4
Totals					4.3	16,012	15,315	4,785	0	69	24	6	7	3	30	59	30	78	0.73	195.2

TT8N RR6W S08 TTAKE									TT8N RR6W S08 TTAKE			
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt			
T8N	R6W	08	AREA1	TAKE	208.20	57	48	1	W			

Spp	S T	So rt	Gr ad	% 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	
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99				
H		DO	CU		100.0	122											12		0.00	.5
H		DO	2S	29	.0	2,468	2,468	514			90	10			5	95	39	235	1.45	10.5
H		DO	3S	63	1.1	5,320	5,262	1,095	100						42	58	35	82	0.63	64.5
H		DO	4S	8		661	661	138	100				78	22			19	24	0.38	27.3
H	Totals			73	2.1	8,571	8,391	1,747		71	27	3	6	2	28	65	31	82	0.70	102.8
D		DO	CU		100.0	110											16		0.00	3.7
D		DO	3S	84	.5	2,161	2,149	447	100						46	54	35	84	0.68	25.6
D		DO	4S	16		389	389	81	100				58	42			21	25	0.36	15.7
D	Totals			22	4.6	2,660	2,538	529	100				9	6	39	46	29	56	0.56	45.0
A		DO	CR	100		495	495	103	100						100		32	50	0.53	9.9
A	Totals			4		495	495	103	100						100		32	50	0.53	9.9
Type Totals					2.6	11,726	11,424	2,379		78	19	2	6	3	33	58	31	72	0.65	157.7

TT8N RR6W S06 TTAKE										TT8N RR6W S06 TTAKE			
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt				
T8N	R6W	06	AREA2	TAKE	39.80	35	58	1	W				

S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre		
								Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf			
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
H	DO	CU		00.0	1,034											11		0.00	16.0		
H	DO	2S	61	3.7	7,453	7,176	286		65	35			4	96	40	311	2.00	23.1			
H	DO	3S	35	1.7	4,248	4,174	166		72	28			5	9	87	37	102	0.89	40.8		
H	DO	4S	4	7.4	415	384	15	25	75				29	20	52	29	39	0.57	9.9		
H	Totals		70	10.8	13,150	11,733	467	1	28	49	22		3	6	91	32	131	1.15	89.8		
A	DO	CU		00.0	81											15		0.00	4.1		
A	DO	CR	100	3.9	4,258	4,092	163		43	34	24		12	17	16	56	28	105	1.13	39.1	
A	Totals		24	5.7	4,340	4,092	163		43	34	24		12	17	16	56	27	95	1.07	43.1	
D	DO	3S	38		352	352	14	10	90							100	40	115	0.84	3.1	
D	DO	4S	62	2.8	567	551	22		100				41	47	12		23	28	0.44	20.0	
D	Totals		5	1.8	919	903	36	4	96				25	29	7	39	25	39	0.52	23.1	
Type Totals					9.1	18,409	16,728	666	1	35	43	21		6	6	8	80	30	107	1.05	156.0

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)										Page 1											
		Project: WALLHNGR										Date 5/11/2010											
												Time 7:56:42AM											
TT8N RR6W S06 TTAKE										TT8N RR6W S06 TTAKE													
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt														
T8N	R6W	06	AREA3	TAKE	50.90	37	105	1	W														
Spp	S T	So rt	Gr ad	% 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				
	H	DO	CU		00.0	260																	
	H	DO	2S	33	4.0	4,945	4,745	242		9	66	26		3	6	9	82	37	271	1.83			17.5
	H	DO	3S	60	4.5	8,751	8,354	425		96	4					50	50	35	85	0.72			97.9
	H	DO	4S	7	3.2	910	881	45		100				75	12	13		20	25	0.40			35.3
	H	Totals		54	6.0	14,865	13,979	712		67	25	9		6	3	34	58	31	91	0.82			153.8
	A	DO	CU		00.0	99												16		0.00			2.5
	A	DO	CR	100	1.5	8,033	7,915	403		83	17			12	5	50	34	29	73	0.72			107.7
	A	Totals		30	2.7	8,131	7,915	403		83	17			12	5	50	34	29	72	0.71			110.2
	D	DO	CU		00.0	78												8		0.00			7.8
	D	DO	2S	22	3.7	956	921	47		20	80					18	82	38	200	1.43			4.6
	D	DO	3S	60	6.0	2,588	2,434	124		100						59	41	35	72	0.62			34.0
	D	DO	4S	18	9.0	767	698	36		100			79	14	7			19	22	0.40			32.2
	D	Totals		16	7.7	4,390	4,052	206		82	18			14	2	41	43	26	52	0.61			78.6
	M	DO	CU		00.0	55												12		0.00			1.4
	M	DO	CR	100		28	28	1	100				100					16	20	0.37			1.4
	M	Totals		0	66.7	83	28	1	100				100					14	10	0.21			2.8
Type Totals					5.4	27,469	25,974	1,322		0	74	21	5	9	3	40	48	29	75	0.74			345.3

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)							Page 1												
		Project: WALLHNGR							Date	5/5/2010											
									Time	10:12:38AM											
TT8N RR6W S08 TRW									TT8N RR6W S08 TRW												
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt												
T8N	R6W	08	AREARW	RW	13.50	57	115	1	W												
Spp	S T	So rt	Gr ad	% 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		
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
H		DO	CU		00.0	375											9		0.00	1.9	
H		DO	2S	51	.3	9,201	9,174	124		1	75	24			6	94	39	288	1.76	31.8	
H		DO	3S	44	.8	7,927	7,860	106		98	2		0		36	64	36	82	0.65	96.1	
H		DO	4S	5		894	894	12		100			84	16			18	25	0.41	36.3	
H	Totals			58	2.6	18,397	17,928	242		49	39	12	4	1	19	76	33	108	0.88	166.1	
D		DO	CU		100.0	235											16		0.00	7.8	
D		DO	2S	37	2.0	4,436	4,346	59		20	74	6			4	6	90	39	215	1.47	20.2
D		DO	3S	55	.9	6,530	6,474	87		100			0		26	73	37	86	0.70	75.0	
D		DO	4S	8		858	858	12		9	91		50	45		5	22	27	0.38	32.3	
D	Totals			38	3.2	12,060	11,678	158		1	70	27	2	4	5	17	75	33	86	0.77	135.3
A		DO	CR	100		1,127	1,127	15		100					87	13	33	59	0.61	19.0	
A	Totals			4		1,127	1,127	15		100					87	13	33	59	0.61	19.0	
S		DO	3S	100	4.5	250	239	3		100					48	52	36	70	0.92	3.4	
S	Totals			1	4.5	250	239	3		100					48	52	36	70	0.92	3.4	
Type Totals					2.7	31,835	30,972	418		0	59	33	8	4	2	21	73	33	96	0.81	323.8

TC TSTATS		STATISTICS								PAGE	1
		PROJECT WALLHNG								DATE	5/6/2010
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
T8N	R6W	08	AREA1	0001	208.20	57	338	1	W		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		57	338	5.9							
CRUISE		22	116	5.3	40,367	.3					
DBH COUNT											
REFOREST											
COUNT		35	214	6.1							
BLANKS											
100 %											
STAND SUMMARY											
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC	
DOUGLEAV	32	44.0	17.2	72		70.9	9,609	9,356	2,740	2,705	
WHEMLOCK	29	68.1	12.8	49		61.1	8,571	8,391	2,250	2,227	
HEMLEAV	28	30.9	18.4	74		56.8	9,792	9,505	2,542	2,493	
DOUG FIR	16	29.9	12.6	45		26.0	2,660	2,538	754	732	
R ALDER	3	9.9	13.0	33		9.1	495	495	168	168	
ALDRLEAV	5	7.6	13.6	40		7.7	575	575	194	194	
SPRUCELV	2	2.9	16.2	38		4.2	214	205	97	97	
SNAG	1	.5	16.0	50		.7					
TOTAL	116	193.9	15.0	56		236.5	31,917	31,066	8,747	8,616	
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		
DOUGLEAV		87.8	15.5	225	266	308					
WHEMLOCK		74.2	14.0	167	194	221					
HEMLEAV		62.1	11.9	385	437	489					
DOUG FIR		58.9	15.2	89	105	121					
R ALDER				50	50	50					
ALDRLEAV		73.9	36.7	52	82	112					
SPRUCELV		53.0	49.7	40	80	120					
SNAG											
TOTAL		93.1	8.6	227	248	270	346	87	38		
CL:	68.1 %	COEFF	TREES/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV		83.2	11.0	39	44	49					
WHEMLOCK		154.2	20.4	54	68	82					
HEMLEAV		114.6	15.2	26	31	36					
DOUG FIR		172.5	22.8	23	30	37					
R ALDER		287.3	38.0	6	10	14					
ALDRLEAV		271.5	35.9	5	8	10					
SPRUCELV		350.0	46.3	2	3	4					
SNAG		755.0	99.9	0	1	1					
TOTAL		57.7	7.6	179	194	209	133	33	15		
CL:	68.1 %	COEFF	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV		78.4	10.4	64	71	78					
WHEMLOCK		141.8	18.8	50	61	73					
HEMLEAV		105.5	14.0	49	57	65					
DOUG FIR		171.0	22.6	20	26	32					
R ALDER		287.3	38.0	6	9	13					
ALDRLEAV		284.5	37.6	5	8	11					
SPRUCELV		344.6	45.6	2	4	6					
SNAG		755.0	99.9	0	1	1					

TC TSTATS				STATISTICS				PAGE 2			
				PROJECT WALLHNG				DATE 5/6/2010			
TWP	RGE	SECT	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt	
T8N	R6W	08	AREA1	0001	208.20		57	338	1	W	
CL: 68.1%		COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1.0		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
TOTAL		40.2	5.3	224	236	249	65	16	7		
CL: 68.1%		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV		77.6	10.3	8,395	9,356	10,318					
WHEMLOCK		141.9	18.8	6,815	8,391	9,967					
HEMLEAV		106.9	14.2	8,160	9,505	10,850					
DOUG FIR		181.9	24.1	1,927	2,538	3,150					
R ALDER		287.3	38.0	307	495	683					
ALDRLEAV		264.3	35.0	374	575	777					
SPRUCELV		344.7	45.6	111	205	298					
SNAG											
TOTAL		49.1	6.5	29,046	31,066	33,086	96	24	11		

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT WALLHNG		DATE 5/6/2010				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
T8N	R6W	08	AREA1	TAKE	208.20	57	138	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	57	138	2.4							
CRUISE	17	48	2.8		22,470		2			
DBH COUNT										
REFOREST										
COUNT	29	90	3.1							
BLANKS	11									
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
WHEMLOCK	29	68.1	12.8	49		61.1	8,571	8,391	2,250	2,227
DOUG FIR	16	29.9	12.6	45		26.0	2,660	2,538	754	732
R ALDER	3	9.9	13.0	33		9.1	495	495	168	168
TOTAL	48	107.9	12.8	46		96.1	11,726	11,424	3,173	3,127
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF					# OF TREES REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	74.2	14.0	167	194	221					
DOUG FIR	58.9	15.2	89	105	121					
R ALDER			50	50	50					
TOTAL	81.6	11.8	137	155	173	266	66	30		
CL: 68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	154.2	20.4	54	68	82					
DOUG FIR	172.5	22.8	23	30	37					
R ALDER	287.3	38.0	6	10	14					
TOTAL	92.7	12.3	95	108	121	343	86	38		
CL: 68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	141.8	18.8	50	61	73					
DOUG FIR	171.0	22.6	20	26	32					
R ALDER	287.3	38.0	6	9	13					
TOTAL	85.4	11.3	85	96	107	291	73	32		
CL: 68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	141.9	18.8	6,815	8,391	9,967					
DOUG FIR	181.9	24.1	1,927	2,538	3,150					
R ALDER	287.3	38.0	307	495	683					
TOTAL	99.4	13.2	9,922	11,424	12,927	395	99	44		

TC TSTATS		STATISTICS								PAGE	1
		PROJECT WALLHNG								DATE	5/6/2010
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
T8N	R6W	08	AREA1	LEAV	208.20	57	200	1	W		
				TREES	ESTIMATED		PERCENT				
				PER PLOT	TOTAL		SAMPLE				
					TREES		TREES				
TOTAL	57	200	3.5								
CRUISE	22	68	3.1	17,898			.4				
DBH COUNT											
REFOREST											
COUNT	35	126	3.6								
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	
DOUGLEAV	32	44.0	17.2	72		70.9	9,609	9,356	2,740	2,705	
HEMLEAV	28	30.9	18.4	74		56.8	9,792	9,505	2,542	2,493	
ALDRLEAV	5	7.6	13.6	40		7.7	575	575	194	194	
SPRUCELV	2	2.9	16.2	38		4.2	214	205	97	97	
SNAG	1	.5	16.0	50		.7					
TOTAL	68	86.0	17.3	69		140.4	20,191	19,641	5,574	5,489	
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			
DOUGLEAV	87.8	15.5	225	266	308						
HEMLEAV	62.1	11.9	385	437	489						
ALDRLEAV	73.9	36.7	52	82	112						
SPRUCELV	53.0	49.7	40	80	120						
SNAG											
TOTAL	84.2	10.2	282	314	346	283	71	31			
CL: 68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUGLEAV	83.2	11.0	39	44	49						
HEMLEAV	114.6	15.2	26	31	36						
ALDRLEAV	271.5	35.9	5	8	10						
SPRUCELV	350.0	46.3	2	3	4						
SNAG	755.0	99.9	0	1	1						
TOTAL	28.1	3.7	83	86	89	32	8	4			
CL: 68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUGLEAV	78.4	10.4	64	71	78						
HEMLEAV	105.5	14.0	49	57	65						
ALDRLEAV	284.5	37.6	5	8	11						
SPRUCELV	344.6	45.6	2	4	6						
SNAG	755.0	99.9	0	1	1						
TOTAL	16.3	2.2	137	140	143	11	3	1			
CL: 68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUGLEAV	77.6	10.3	8,395	9,356	10,318						
HEMLEAV	106.9	14.2	8,160	9,505	10,850						
ALDRLEAV	264.3	35.0	374	575	777						
SPRUCELV	344.7	45.6	111	205	298						
SNAG											
TOTAL	29.3	3.9	18,879	19,641	20,403	34	9	4			

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT WALLHNG				DATE	5/6/2010	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
T8N	R6W	06	AREA2	02.2	39.80	35	138	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		35	138	3.9						
CRUISE		19	65	3.4	3,715	1.7				
DBH COUNT										
REFOREST										
COUNT		16	73	4.6						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK	30	42.5	19.6	71		89.1	13,150	11,733	3,586	3,346
R ALDER	18	27.9	16.2	42		40.0	4,340	4,092	1,249	1,221
DOUG FIR	10	20.8	11.4	29		14.9	919	903	301	301
HEMLEAV	4	1.3	36.5	89		9.1	1,893	1,559	397	332
CEDLEAV	3	.9	26.0	59		3.4	282	282	100	100
TOTAL	65	93.3	17.5	53		156.6	20,584	18,569	5,634	5,300
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	63.0	11.7	328	372	415					
R ALDER	70.3	17.0	199	240	281					
DOUG FIR	117.1	39.0	37	60	83					
HEMLEAV	75.4	43.1	827	1,453	2,078					
CEDLEAV	19.6	13.6	268	310	352					
TOTAL	121.7	15.1	298	351	404	591	148	66		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	105.5	17.8	35	42	50					
R ALDER	185.6	31.3	19	28	37					
DOUG FIR	220.2	37.2	13	21	29					
HEMLEAV	264.6	44.7	1	1	2					
CEDLEAV	413.3	69.8	0	1	2					
TOTAL	56.8	9.6	84	93	102	129	32	14		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	103.9	17.5	74	89	105					
R ALDER	179.9	30.4	28	40	52					
DOUG FIR	207.4	35.0	10	15	20					
HEMLEAV	261.8	44.2	5	9	13					
CEDLEAV	435.7	73.6	1	3	6					
TOTAL	56.6	9.6	142	157	172	128	32	14		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	107.0	18.1	9,612	11,733	13,854					
R ALDER	183.0	30.9	2,827	4,092	5,356					
DOUG FIR	199.9	33.8	598	903	1,207					
HEMLEAV	281.0	47.5	819	1,559	2,299					
CEDLEAV	416.4	70.3	84	282	480					
TOTAL	65.1	11.0	16,526	18,569	20,612	169	42	19		

TC TSTATS				STATISTICS				PAGE 1		
PROJECT WALLHNG				DATE 5/6/2010						
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
T8N	R6W	06	AREA2	TAKE	39.80	35	126	1	W	
				TREES	ESTIMATED		PERCENT			
				PER PLOT	TOTAL		SAMPLE			
					TREES		TREES			
TOTAL	35	126	3.6							
CRUISE	18	58	3.2	3,628			1.6			
DBH COUNT										
REFOREST										
COUNT	16	68	4.3							
BLANKS	1									
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
WHEMLOCK	30	42.5	19.6	71		89.1	13,150	11,733	3,586	3,346
R ALDER	18	27.9	16.2	42		40.0	4,340	4,092	1,249	1,221
DOUG FIR	10	20.8	11.4	29		14.9	919	903	301	301
TOTAL	58	91.2	17.0	53		144.0	18,409	16,728	5,137	4,868
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF			SAMPLE TREES - BF			# OF TREES REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10		15
WHEMLOCK	63.0	11.7	328	372	415					
R ALDER	70.3	17.0	199	240	281					
DOUG FIR	117.1	39.0	37	60	83					
TOTAL	81.2	10.7	248	277	307		263	66		29
CL: 68.1 %	COEFF			TREES/ACRE			# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10		15
WHEMLOCK	105.5	17.8	35	42	50					
R ALDER	185.6	31.3	19	28	37					
DOUG FIR	220.2	37.2	13	21	29					
TOTAL	58.1	9.8	82	91	100		135	34		15
CL: 68.1 %	COEFF			BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10		15
WHEMLOCK	103.9	17.5	74	89	105					
R ALDER	179.9	30.4	28	40	52					
DOUG FIR	207.4	35.0	10	15	20					
TOTAL	59.6	10.1	130	144	158		142	35		16
CL: 68.1 %	COEFF			NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10		15
WHEMLOCK	107.0	18.1	9,612	11,733	13,854					
R ALDER	183.0	30.9	2,827	4,092	5,356					
DOUG FIR	199.9	33.8	598	903	1,207					
TOTAL	70.3	11.9	14,741	16,728	18,715		198	49		22

TC TSTATS		STATISTICS							PAGE	1
		PROJECT WALLHNG							DATE	5/6/2010
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
T8N	R6W	06	AREA2	LEAV	39.80	35	12	1	W	
				TREES	ESTIMATED		PERCENT			
				PER PLOT	TOTAL		SAMPLE			
					TREES		TREES			
TOTAL		35	12	.3						
CRUISE		4	7	1.8	87		8.0			
DBH COUNT										
REFOREST										
COUNT		3	5	1.7						
BLANKS		28								
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
HEMLEAV	4	1.3	36.5	89		9.1	1,893	1,559	397	332
CEDLEAV	3	.9	26.0	59		3.4	282	282	100	100
TOTAL	7	2.2	32.5	76		12.6	2,175	1,841	497	432
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF			SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15	
HEMLEAV	75.4	43.1	827	1,453	2,078					
CEDLEAV	19.6	13.6	268	310	352					
TOTAL	102.5	41.7	561	963	1,365		487	122	54	
CL: 68.1 %	COEFF			TREES/ACRE				# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15	
HEMLEAV	264.6	44.7	1	1	2					
CEDLEAV	413.3	69.8	0	1	2					
TOTAL	221.5	37.4	1	2	3		1,959	490	218	
CL: 68.1 %	COEFF			BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15	
HEMLEAV	261.8	44.2	5	9	13					
CEDLEAV	435.7	73.6	1	3	6					
TOTAL	215.1	36.3	8	13	17		1,848	462	205	
CL: 68.1 %	COEFF			NET BF/ACRE				# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15	
HEMLEAV	281.0	47.5	819	1,559	2,299					
CEDLEAV	416.4	70.3	84	282	480					
TOTAL	240.9	40.7	1,092	1,841	2,590		2,317	579	257	

TC TSTATS				STATISTICS				PAGE	I	
				PROJECT	WALLING		DATE	5/11/2010		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
T8N	R6W	06	AREA3	0003	50.90	37	204	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		37	204	5.5						
CRUISE		21	116	5.5	10,109	1.1				
DBH COUNT										
REFORĒST										
COUNT		15	81	5.4						
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
WHEMLOCK	52	77.6	15.3	64		99.5	14,865	13,979	3,977	3,932
R ALDER	30	70.9	13.3	46		68.1	8,131	7,915	2,269	2,247
DOUG FIR	22	44.3	12.9	48		40.0	4,390	4,052	1,256	1,236
SNAG	4	1.6	22.2	27		4.3				
CEDLEAV	4	.9	30.3	61		4.3	470	448	141	141
HEMLEAV	2	1.3	17.5	85		2.2	402	402	101	101
ALDRLEAV	1	.6	18.0	74		1.1	153	153	45	45
BL MAPLE	1	1.4	12.0	27		1.1	83	28	21	8
TOTAL	116	198.6	14.3	54		220.5	28,494	26,977	7,809	7,709
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	77.9	10.8	227	255	282					
R ALDER	61.5	11.4	127	143	159					
DOUG FIR	80.4	17.5	106	129	151					
SNAG										
CEDLEAV	80.9	46.2	390	725	1,060					
HEMLEAV	61.2	57.3	158	370	582					
ALDRLEAV										
BL MAPLE										
TOTAL	102.1	9.5	189	209	229	416	104	46		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	114.2	18.8	63	78	92					
R ALDER	132.4	21.7	56	71	86					
DOUG FIR	153.4	25.2	33	44	55					
SNAG	474.8	78.0	0	2	3					
CEDLEAV	525.9	86.4	0	1	2					
HEMLEAV	608.3	99.9	0	1	3					
ALDRLEAV	608.3	99.9	0	1	1					
BL MAPLE	608.3	99.9	0	1	3					
TOTAL	48.3	7.9	183	199	214	93	23	10		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	106.7	17.5	82	99	117					
R ALDER	126.0	20.7	54	68	82					
DOUG FIR	143.4	23.5	31	40	49					
SNAG	476.9	78.3	1	4	8					
CEDLEAV	476.9	78.3	1	4	8					
HEMLEAV	608.3	99.9	0	2	4					
ALDRLEAV	608.3	99.9	0	1	2					
BL MAPLE	608.3	99.9	0	1	2					

TC TSTATS				STATISTICS				PAGE	2		
				PROJECT		WALLHNG		DATE	5/11/2010		
TWP	RGE	SECT	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt	
T8N	R6W	06	AREA3	0003	50.90		37	204	1	W	
CL: 68.1%		COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1.0		VAR.		LOW	AVG	HIGH	5	10	15		
TOTAL		38.4	6.3	207	221	234	59	15	7		
CL: 68.1%		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1.0		VAR.%		LOW	AVG	HIGH	5	10	15		
WHEMLOCK		111.5	18.3	11,419	13,979	16,539					
R ALDER		118.2	19.4	6,378	7,915	9,452					
DOUG FIR		142.7	23.4	3,103	4,052	5,002					
SNAG											
CEDLEAV		435.4	71.5	128	448	769					
HEMLEAV		608.3	99.9	0	402	804					
ALDRLEAV		608.3	99.9	0	153	306					
BL MAPLE		608.3	99.9	0	28	55					
TOTAL		42.9	7.1	25,075	26,977	28,880	74	18	8		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT WALLHNG				DATE	5/11/2010	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
T8N	R6W	06	AREA3	TAKE	50.90	37	193	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		37	193	5.2						
CRUISE		19	105	5.5	9,886	1.1				
DBH COUNT										
REFOREST										
COUNT		17	88	5.2						
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
WHEMLOCK	52	77.6	15.3	64		99.5	14,865	13,979	3,977	3,932
R ALDER	30	70.9	13.3	46		68.1	8,131	7,915	2,269	2,247
DOUG FIR	22	44.3	12.9	48		40.0	4,390	4,052	1,256	1,236
BL MAPLE	1	1.4	12.0	27		1.1	83	28	21	8
TOTAL	105	194.2	14.0	54		208.6	27,469	25,974	7,523	7,423
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	77.9	10.8	227	255	282					
R ALDER	61.5	11.4	127	143	159					
DOUG FIR	80.4	17.5	106	129	151					
BL MAPLE										
TOTAL	85.2	8.3	178	194	210	290	73	32		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	114.2	18.8	63	78	92					
R ALDER	132.4	21.7	56	71	86					
DOUG FIR	153.4	25.2	33	44	55					
BL MAPLE	608.3	99.9	0	1	3					
TOTAL	52.9	8.7	177	194	211	112	28	12		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	106.7	17.5	82	99	117					
R ALDER	126.0	20.7	54	68	82					
DOUG FIR	143.4	23.5	31	40	49					
BL MAPLE	608.3	99.9	0	1	2					
TOTAL	45.9	7.5	193	209	224	84	21	9		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	111.5	18.3	11,419	13,979	16,539					
R ALDER	118.2	19.4	6,378	7,915	9,452					
DOUG FIR	142.7	23.4	3,103	4,052	5,002					
BL MAPLE	608.3	99.9	0	28	55					
TOTAL	49.6	8.1	23,860	25,974	28,089	98	25	11		

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT WALLHNG				DATE 5/11/2010		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
T8N	R6W	06	AREA3	LEAV	50.90	37	19	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		37	19	.5						
CRUISE		3	11	3.7	222	4.9				
DBH COUNT										
REFOREST										
COUNT		1	8	8.0						
BLANKS		33								
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
SNAG	4	1.6	22.2	27		4.3				
CEDLEAV	4	.9	30.3	61		4.3	470	448	141	141
HEMLEAV	2	1.3	17.5	85		2.2	402	402	101	101
ALDRLEAV	1	.6	18.0	74		1.1	153	153	45	45
TOTAL	11	4.4	22.3	58		11.9	1,025	1,003	287	287
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		
SNAG										
CEDLEAV	80.9	46.2	390	725	1,060					
HEMLEAV	61.2	57.3	158	370	582					
ALDRLEAV										
TOTAL	131.0	41.4	207	354	500	753	188	84		
CL: 68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
SNAG	474.8	78.0	0	2	3					
CEDLEAV	525.9	86.4	0	1	2					
HEMLEAV	608.3	99.9	0	1	3					
ALDRLEAV	608.3	99.9	0	1	1					
TOTAL	376.8	61.9	2	4	7	5,669	1,417	630		
CL: 68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
SNAG	476.9	78.3	1	4	8					
CEDLEAV	476.9	78.3	1	4	8					
HEMLEAV	608.3	99.9	0	2	4					
ALDRLEAV	608.3	99.9	0	1	2					
TOTAL	379.1	62.3	4	12	19	5,739	1,435	638		
CL: 68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
SNAG										
CEDLEAV	435.4	71.5	128	448	769					
HEMLEAV	608.3	99.9	0	402	804					
ALDRLEAV	608.3	99.9	0	153	306					
TOTAL	382.1	62.8	374	1,003	1,633	5,830	1,457	648		

Log Stock Table - MBF

TT8N RR6W S06 TyTAK
THRU
TT8N RR6W S08 TyRW

Project: WALLHNGR
Acres 312.40

Page 2
Date 5/11/2010
Time 7:58:56AM

S Spp	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	20-21	22-29	30-39	40+
D		DO 4S	40	1		1	.1		1										
D		Totals		977	5.0	928	19.4		2	326	330	185	62	10	8		4		
H		DO CU	3	1	100.0														
H		DO CU	4	2	100.0														
H		DO CU	6	19	100.0														
H		DO CU	8	11	100.0														
H		DO CU	10	10	100.0														
H		DO CU	12	27	100.0														
H		DO CU	16	6	100.0														
H		DO CU	17	2	100.0														
H		DO CU	23	4	100.0														
H		DO CU	24	3	100.0														
H		DO 2S	16	7		7	.2						7						
H		DO 2S	28	15	6.3	14	.4										14		
H		DO 2S	32	67		66	2.1					7	52	7					
H		DO 2S	40	1,098	1.8	1,078	34.0					16	556	219	238	48			
H		DO 3S	16	8		8	.2					8							
H		DO 3S	20	0		0	.0					0							
H		DO 3S	32	666	4.1	639	20.2			399	106	126	8						
H		DO 3S	33	1		1	.0					1							
H		DO 3S	34	81		80	2.5			61		10	9						
H		DO 3S	35	1		1	.0			1									
H		DO 3S	36	18		18	.6			18									
H		DO 3S	40	1,054		1,046	33.0			157	302	539	33	14					
H		DO 4S	12	0		0	.0				0								
H		DO 4S	16	105		105	3.3			1	98	5	0						
H		DO 4S	18	6		6	.2				6								
H		DO 4S	20	45		45	1.4				45								
H		DO 4S	24	12		12	.4				12								
H		DO 4S	28	25		25	.8				25								
H		DO 4S	32	10	14.2	9	.3				9								
H		DO 4S	40	9	13.4	8	.3			3	5								
H		Totals		3,313	4.4	3,168	66.2			4	836	414	707	659	247	238	48	14	
S		DO 3S	34	2		2	48.1				2								
S		DO 3S	40	2	8.3	2	51.9					2							

Log Stock Table - MBF

TT8N RR6W S06 TyTAK
THRU
TT8N RR6W S08 TyRW

Project: WALLHNGR
Acres 312.40

Page 3
Date 5/11/2010
Time 7:58:56AM

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	20-21	22-29	30-39	40+
S		Totals			3	4.5	3	.1			2	2								
M		DO	CU	12	3	100.0														
M		DO	CR	16	1		1	100.0		1										
M		Totals			4	66.7	1	.0		1										
Total		All Species			5,002	4.3	4,784	100.0		8	1421	810	1092	798	295	295	48	18		

TC		PSTNDSUM		Stand Table Summary								Page		1			
												Date:		5/28/2010			
TT8N RR6W S06 TyTAK THRU TT8N RR6W S08 TyRW				Project				WALLHNGR				Time:		7:48:44AM			
				Acres				312.40				Grown Year:					
S Spc	T	Sample		Tot		Trees/ Acres	BA/ Acres	Logs Acres	Average Log		Tons/ Acres	Net Cu.Ft. Acres	Net Bd.Ft. Acres	Totals			
		DBH	Trees	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cumits	MBF	
H		8	2	89	20	4.276	1.49	4.28	5.0	20.0			21	86		67	27
H		9	8	88	43	13.513	5.97	13.51	8.3	37.5			111	507		348	158
H		10	6	86	68	6.208	3.39	6.78	13.6	49.2			92	333		288	104
H		11	4	87	52	3.252	2.12	3.25	14.0	45.4			46	148		142	46
H		12	11	89	92	6.047	4.72	11.70	15.5	53.8			182	629		568	197
H		13	7	86	93	3.382	3.12	6.35	19.4	75.4			124	479		386	150
H		14	13	87	91	5.478	5.86	10.25	22.0	82.5			226	845		705	264
H		15	16	87	98	5.935	7.28	11.25	27.0	101.6			304	1,143		949	357
H		16	9	87	94	3.302	4.61	6.60	29.0	98.9			192	653		599	204
H		17	14	86	96	4.917	7.75	10.03	31.6	110.8			317	1,112		991	347
H		18	15	88	102	4.021	7.11	8.89	35.5	124.9			316	1,110		987	347
H		19	14	88	89	2.749	5.41	5.50	38.8	136.5			213	751		666	235
H		20	8	87	100	.766	1.67	1.53	47.0	147.7			72	226		225	71
H		21	6	85	101	.768	1.85	1.67	48.9	169.6			82	283		255	88
H		22	7	86	115	.928	2.45	2.61	46.1	189.9			120	495		376	155
H		23	4	86	105	.401	1.16	.93	52.6	183.9			49	172		153	54
H		24	2	83	120	.128	.40	.38	52.3	207.0			20	79		63	25
H		25	2	82	110	.202	.69	.50	57.7	238.8			29	119		89	37
H		26	3	81	114	.151	.56	.45	58.0	223.6			26	101		82	32
H		27	5	84	112	.644	2.56	1.29	74.2	302.3			96	389		298	122
H		28	3	80	99	.250	1.07	.59	66.7	235.1			39	138		123	43
H		29	3	86	116	.058	.27	.18	75.4	332.2			13	58		41	18
H		30	2	80	112	.154	.76	.39	75.0	324.0			29	125		90	39
H		31	1	91	104	.059	.31	.12	103.0	490.0			12	58		38	18
H		32	1	83	110	.056	.31	.11	99.0	345.0			11	39		35	12
H		35	2	78	112	.070	.47	.14	100.2	437.8			14	61		44	19
H		Totals	168	87	76	67.717	73.35	109.27	25.2	92.8			2,755	10,139		8,608	3,168
D		9	3	86	21	3.074	1.36	.43	5.0	20.0			2	9		7	3
D		10	7	86	44	5.719	3.12	5.72	9.3	29.1			53	166		166	52
D		11	9	81	57	3.435	2.24	4.38	10.3	29.4			45	129		141	40
D		12	12	86	67	6.325	4.97	8.57	14.7	47.4			126	406		393	127
D		13	7	86	85	3.157	2.91	6.11	15.0	49.8			92	304		286	95
D		14	12	86	96	4.451	4.76	8.90	18.9	66.8			168	595		525	186
D		15	7	86	101	2.288	2.81	4.58	23.3	91.6			106	419		332	131
D		16	7	86	98	1.861	2.60	3.72	25.0	85.2			93	317		291	99
D		17	9	84	83	1.261	1.99	1.73	35.8	110.9			62	191		193	60
D		18	11	85	105	.955	1.69	2.03	33.2	111.8			67	227		211	71
D		19	3	84	107	.133	.26	.27	39.7	126.7			11	34		33	11
D		20	4	85	95	.160	.35	.32	40.0	132.5			13	42		40	13
D		21	2	85	104	.246	.59	.62	38.6	140.0			24	86		74	27
D		24	1	86	108	.028	.09	.06	64.5	245.0			4	14		11	4
D		25	1	82	125	.026	.09	.08	51.7	200.0			4	15		12	5
D		36	1	81	129	.012	.09	.04	109.3	473.3			4	18		13	5
D		Totals	96	85	70	33.132	29.90	47.53	18.4	62.5			874	2,972		2,729	928
A		8	1	87	20	1.060	.37	1.06	5.0	20.0			5	21		17	7
A		10	5	86	33	2.561	1.40	2.04	9.4	29.1			19	59		60	19
A		11	3	87	54	1.681	1.11	1.68	15.7	46.7			26	78		82	25
A		12	2	86	54	.873	.65	.87	16.8	45.9			15	40		46	13
A		13	9	86	48	7.793	7.18	8.60	16.4	49.5			141	426		440	133
A		14	10	86	79	3.379	3.61	6.07	20.6	75.1			125	456		390	142
A		15	5	87	79	1.209	1.48	2.42	22.6	81.8			55	198		171	62
A		16	6	87	77	1.465	2.05	2.46	28.7	98.5			71	243		220	76

Stand Table Summary

TT8N RR6W S06 TyTAK
THRU
TT8N RR6W S08 TyRW

Project WALLHNGR
Acres 312.40

Time: 7:48:44AM
Grown Year:

S Spec T	Sample DBH	Trees	Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
			FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
A	17	6	87	90	1.176	1.85	2.29	32.9	116.4		76	267		236	83
A	18	3	86	69	.372	.66	.69	29.8	94.7		21	66		64	20
A	20	1	87	74	.130	.28	.26	37.5	110.0		10	29		30	9
A	22	2	86	81	.214	.57	.43	48.3	167.5		21	72		65	22
A	23	1	86	89	.128	.37	.26	57.0	200.0		15	51		46	16
A	24	2	87	85	.180	.57	.36	58.3	220.0		21	79		66	25
A	26	2	86	83	.154	.57	.31	68.5	222.5		21	68		66	21
A	27	1	87	81	.071	.28	.14	73.0	255.0		10	36		32	11
A	Totals	59	86	58	22.448	23.00	29.94	21.7	73.1		650	2,189		2,031	684
S	14	1	80	47	.099	.11	.10	23.0	50.0		2	5		7	2
S	20	1	85	55	.049	.11	.05	54.0	110.0		3	5		8	2
S	Totals	2	82	50	.148	.21	.15	33.2	69.7		5	10		15	3
M	12	1	86	36	.224	.18	.22	6.0	20.0		1	4		4	1
M	Totals	1	86	36	.224	.18	.22	6.0	20.0		1	4		4	1
Totals		326	87	71	123.670	126.63	187.12	22.9	81.8		4,285	15,315		13,387	4,784

TC TSTNDSUM		Stand Table Summary														
Project WALLHNG											TT8N RR6W S08 TLEA					
TT8N RR6W S08 TLEAV											TT8N RR6W S08 TLEA					
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees		Page:	1						
T8N	R6W	08	AREA1	LEAV	208.20	57	68		Date:	5/28/2011						
									Time:	7:52:48AM						
S Spc	T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
									Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
HL		10	1	86	63	3.722	2.03	3.72	14.0	50.0		52	186		108	39
HL		12	2	88	97	5.170	4.06	10.34	16.5	55.0		171	569		355	118
HL		15	2	88	108	3.309	4.06	6.62	28.0	110.0		185	728		386	152
HL		17	1	89	105	1.288	2.03	2.58	37.0	130.0		95	335		198	70
HL		18	2	88	104	2.298	4.06	4.60	39.5	132.5		182	609		378	127
HL		19	4	89	96	4.124	8.12	8.25	41.6	150.0		343	1,237		715	258
HL		20	4	87	97	3.722	8.12	7.44	46.6	162.5		347	1,210		723	252
HL		21	1	92	99	.844	2.03	1.69	53.5	215.0		90	363		188	76
HL		22	3	89	108	2.307	6.09	6.15	47.4	196.3		291	1,207		607	251
HL		23	1	85	99	.704	2.03	1.41	60.0	215.0		84	303		176	63
HL		24	1	88	116	.646	2.03	1.94	52.3	220.0		101	426		211	89
HL		26	2	82	121	1.101	4.06	3.30	60.8	238.3		201	787		418	164
HL		29	3	86	116	1.328	6.09	3.98	75.4	332.2		301	1,323		626	276
HL		35	1	80	121	.304	2.03	.61	80.0	365.0		49	222		101	46
HL		Totals	28	88	98	30.866	56.84	62.62	39.8	151.8		2,493	9,505		5,190	1,979
DL		12	1	86	58	2.820	2.21	2.82	18.0	60.0		51	169		106	35
DL		13	1	82	102	2.403	2.21	4.81	18.0	55.0		87	264		180	55
DL		14	2	85	98	4.144	4.43	8.29	19.5	65.0		162	539		336	112
DL		15	2	86	104	3.610	4.43	7.22	23.7	90.0		171	650		357	135
DL		16	3	84	92	4.759	6.64	9.52	25.2	86.7		240	825		499	172
DL		17	6	85	102	8.431	13.29	15.46	32.3	112.7		499	1,742		1,039	363
DL		18	7	87	104	8.774	15.50	16.29	37.4	126.2		609	2,056		1,268	428
DL		19	3	85	107	3.375	6.64	6.75	39.7	126.7		268	855		557	178
DL		20	4	85	95	4.061	8.86	8.12	40.0	132.5		325	1,076		676	224
DL		24	1	87	108	.705	2.21	1.41	64.5	245.0		91	345		189	72
DL		25	1	83	125	.650	2.21	1.95	51.7	200.0		101	390		210	81
DL		36	1	80	129	.313	2.21	.94	109.3	473.3		103	445		214	93
DL		Totals	32	85	99	44.044	70.88	83.57	32.4	112.0		2,705	9,356		5,632	1,948
AL		10	1	87	61	2.831	1.54	2.83	14.0	50.0		40	142		83	29
AL		13	1	86	44	1.675	1.54	1.67	17.0	50.0		28	84		59	17
AL		15	1	87	89	1.258	1.54	2.52	25.0	95.0		63	239		131	50
AL		17	1	86	50	.979	1.54	.98	32.0	60.0		31	59		65	12
AL		18	1	87	49	.874	1.54	.87	36.0	60.0		31	52		65	11
AL		Totals	5	87	59	7.617	7.72	8.87	21.8	64.8		194	575		403	120
SL		14	1	80	47	1.969	2.11	1.97	23.0	50.0		45	98		94	21
SL		20	1	85	55	.965	2.11	.96	54.0	110.0		52	106		108	22
SL		Totals	2	82	50	2.934	4.21	2.93	33.2	69.7		97	205		203	43
SN		16	1	88	65	.503	.70									
SN		Totals	1	88	65	.503	.70									
Totals			68	86	93	85.963	140.35	158.00	34.7	124.3		5489	19,641		11,428	4,089

TC TSTNDSUM		Stand Table Summary														
Project WALLHG											TT8N RR6W S06 TLEA					
TT8N RR6W S06 TLEAV											TT8N RR6W S06 TLEA					
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees				Page:	1				
T8N	R6W	06	AREA2	LEAV	39.80	35	7				Date:	5/28/2011				
											Time:	7:52:48AM				
Spc	T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
									Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
HL		31	1	81	94	.436	2.29	.87	56.0	225.0	49	196		19	8	
HL		37	2	80	111	.612	4.57	1.53	108.6	512.0	166	784		66	31	
HL		45	1	83	127	.207	2.29	.62	189.0	933.3	117	579		47	23	
HL		Totals	4	81	107	1.255	9.14	3.02	109.9	515.7	332	1,559		132	62	
CL		22	1	81	87	.433	1.14	.87	43.0	140.0	37	121		15	5	
CL		28	1	69	82	.267	1.14	.53	70.5	135.0	38	72		15	3	
CL		30	1	69	50	.233	1.14	.23	107.0	380.0	25	88		10	4	
CL		Totals	3	75	76	.933	3.43	1.63	61.1	172.6	100	282		40	11	
Totals			7	78	94	2.188	12.57	4.66	92.8	395.4	432	1,841		172	73	

TC TSTNDSUM		Stand Table Summary														
Project WALLHG											TT8N RR6W S06 TLEA					
TT8N RR6W S06 TLEAV											TT8N RR6W S06 TLEA					
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees		Page:							
T8N	R6W	06	AREA3	LEAV	50.90	37	11		Date:	5/28/2010						
									Time:	7:52:48AM						
Spc	T	DBH	Sample Trees	FF	Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
									Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
CL		23	1	82	36	.375	1.08	.37	43.0	30.0		16	11		8	1
CL		32	1	71	111	.194	1.08	.39	106.0	260.0		41	101		21	5
CL		34	1	85	111	.171	1.08	.34	127.5	475.0		44	163		22	8
CL		40	1	85	99	.124	1.08	.25	162.0	700.0		40	173		20	9
CL		Totals	4	81	77	.864	4.32	1.35	104.3	331.4		141	448		72	23
HL		15	1	86	113	.881	1.08	1.76	28.0	105.0		49	185		25	9
HL		22	1	86	111	.410	1.08	1.23	42.0	176.7		52	217		26	11
HL		Totals	2	86	112	1.290	2.16	2.99	33.8	134.4		101	402		51	20
AL		18	1	86	93	.612	1.08	1.22	36.5	125.0		45	153		23	8
AL		Totals	1	86	93	.612	1.08	1.22	36.5	125.0		45	153		23	8
SN		19	1	82	32	.549	1.08									
SN		22	1	77	17	.410	1.08									
SN		23	1	71	36	.375	1.08									
SN		27	1	67	22	.272	1.08									
SN		Totals	4	76	27	1.605	4.32									
Totals			11	81	71	4.371	11.89	5.57	51.5	180.2		287	1,003		146	51

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Walhangex Area(s) 1

Harvest Type: CC CT "Automark Thinning" (circle one)

Approx. Cruise Acres: 241 Estimated CV% 65 ^{Net BF or} BA/Acre SE% Objective 12 ^{Net BF or} BA/Acre

Planned Sale Volume: 5800 MMBF Estimated Sale Area Value/Acre: \$ 2,700

- A. Cruise Goals:** (a) Grade minimum 100 conifer and _____ hardwood trees:
 (b) Sample _____ cruise plots; (c) Other goals (_____ Determine "automark" thinning standards; Determine log grades for sale value; Determine snag and leave tree species and sizes; _____ Determine LWD (down wood) cubic feet and decay classes; _____ Determine "diameter limit" harvest parameters;)
 Basal Area leave target 140 sq. ft. Cruiser needs to select 3 or 4 leave trees per plot.

B. Cruise Design:

1. Plot Cruises: BAF 40 (Full point, Half point) (circle one)

Fixed Plot Size _____ Plot Radius _____ feet

Cruise Line Direction(s) E-W

Cruise Line Spacing 9 (chains) (feet)

Cruise Plot Spacing 4 (chains) (feet)

Grade/Count Ratio 1:2

2. ITS (Sample Tree) Cruises: Measure-grade ratios: D-fir _____ Hemlock _____
Spruce _____ True Fir _____ Cedar _____ Hardwood _____

C. Tree Measurements:

1. Diameter: Minimum DBH to cruise is 8" for conifers and 10" for hardwoods. Record dbh to nearest 1/2" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.

2. Bole Length: Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.

3. Top Cruise Diameter (TCD): Minimum top outside bark for conifer is 7" , 7" for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for trees > 18" dbh.

4. Form Factors: (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.

5. **Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch. segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.

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

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

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

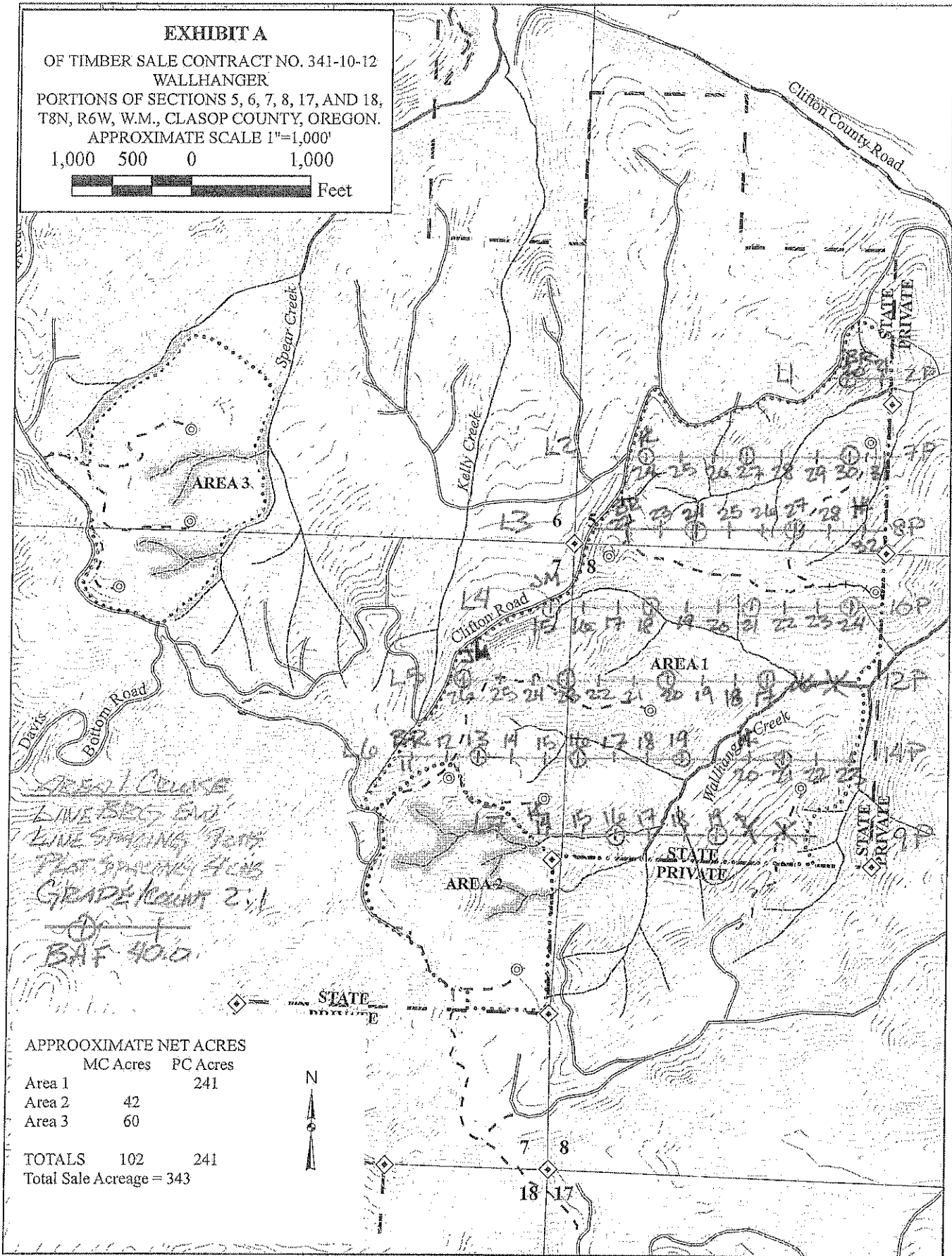
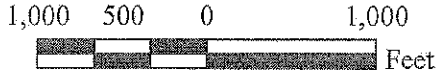
9. **Cruising Equipment:** Relaskop Rangefinder Logger's Tape (with dbh on back) Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.

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

Cruise Design by: Naig Kirkpatrick
Approved by: Ann Jones
Date: 2-18-10

EXHIBIT A

OF TIMBER SALE CONTRACT NO. 341-10-12
 WALLHANGER
 PORTIONS OF SECTIONS 5, 6, 7, 8, 17, AND 18,
 T8N, R6W, W.M., CLASOP COUNTY, OREGON.
 APPROXIMATE SCALE 1"=1,000'



APPROXIMATE NET ACRES

	MC Acres	PC Acres
Area 1		241
Area 2	42	
Area 3	60	
TOTALS	102	241
Total Sale Acreage = 343		



**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Wallhanger Area(s) 2

Harvest Type: PC CT "Automark Thinning" (circle one)

Approx. Cruise Acres: 42 Estimated CV% 70 ^{Net BF or} BA/Acre SE% Objective 12 ^{Net BF or} BA/Acre

Planned Sale Volume: 5,800 MMBF Estimated Sale Area Value/Acre: \$ 2,700

- A. Cruise Goals:** (a) Grade minimum 100 conifer and _____ hardwood trees:
 (b) Sample _____ cruise plots; (c) Other goals (_____ Determine "automark" thinning standards; Determine log grades for sale value; _____ Determine snag and leave tree species and sizes; _____ Determine LWD (down wood) cubic feet and decay classes; _____ Determine "diameter limit" harvest parameters;)
 Basal Area leave target _____ sq. ft. Cruiser needs to select or leave trees per plot.

B. Cruise Design:

1. Plot Cruises: BAF ^{40 = conifer} ~~_____~~ Full point Half point (circle one)

Fixed Plot Size _____ Plot Radius _____ feet

Cruise Line Direction(s) SE

Cruise Line Spacing 5 ~~(chains)~~ (feet)

Cruise Plot Spacing 2 ~~(chains)~~ (feet)

Grade/Count Ratio 1:1

2. ITS (Sample Tree) Cruises: Measure-grade ratios: D-fir _____ Hemlock _____
Spruce _____ True Fir _____ Cedar _____ Hardwood _____

C. Tree Measurements:

- Diameter:** Minimum DBH to cruise is 8" for conifers and 10" for hardwoods. Record dbh to nearest 1/2" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.
- Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.
- Top Cruise Diameter (TCD):** Minimum top outside bark for conifer is 7", 8" for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for trees > 18" dbh.
- Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.

5. **Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch. segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.

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

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

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

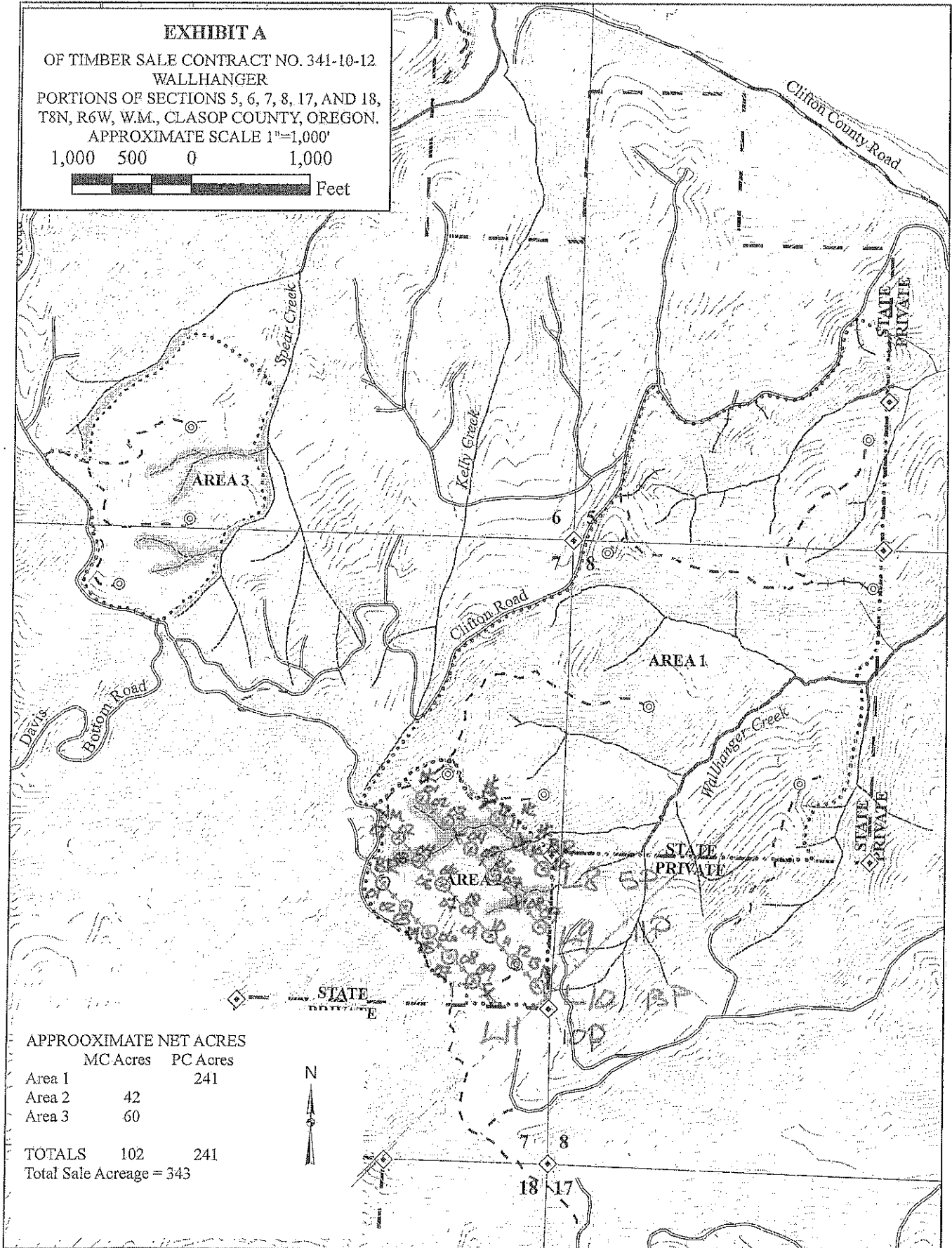
9. **Cruising Equipment:** Relaskop Rangefinder Logger's Tape (with dbh on back) Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.

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

Cruise Design by: Kevan Kirkpatrick
Approved by: Jon J...
Date: 2-18-10

EXHIBIT A

OF TIMBER SALE CONTRACT NO. 341-10-12
 WALLHANGER
 PORTIONS OF SECTIONS 5, 6, 7, 8, 17, AND 18,
 T8N, R6W, W.M., CLASOP COUNTY, OREGON.
 APPROXIMATE SCALE 1"=1,000'



APPROOXIMATE NET ACRES

	MC Acres	PC Acres
Area 1		241
Area 2	42	
Area 3	60	
TOTALS	102	241
Total Sale Acreage = 343		

CRUISE DESIGN
ASTORIA DISTRICT

Sale Name: Walhanger Area(s) 3

Harvest Type: CC PC CT "Automark Thinning" (circle one)

Approx. Cruise Acres: 190 Estimated CV% 70 ^{Net BF or} BA/Acre SE% Objective 12 ^{Net BF or} BA/Acre

Planned Sale Volume: 5800 MMBF Estimated Sale Area Value/Acre: \$2700

A. **Cruise Goals:** (a) Grade minimum 100 conifer and _____ hardwood trees:
(b) Sample _____ cruise plots; (c) Other goals (_____ Determine "automark" thinning standards; _____ Determine log grades for sale value; _____ Determine snag and leave tree species and sizes; _____ Determine LWD (down wood) cubic feet and decay classes; _____ Determine "diameter limit" harvest parameters;)
Basal Area leave target _____ sq. ft. Cruiser needs to select or leave trees per plot.

B. **Cruise Design:**

1. **Plot Cruises:** BAF 40 (Full point; Half point) (circle one)
Fixed Plot Size _____ Plot Radius _____ feet
Cruise Line Direction(s) E-W
Cruise Line Spacing 5 (chains) (feet)
Cruise Plot Spacing 3 (chains) (feet)
Grade/Count Ratio 1:1

2. **ITS (Sample Tree) Cruises:** Measure-grade ratios: D-fir _____ Hemlock _____
Spruce _____ True Fir _____ Cedar _____ Hardwood _____

C. **Tree Measurements:**

1. **Diameter:** Minimum DBH to cruise is 8 " for conifers and 10 " for hardwoods. Record dbh to nearest 1/2" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.

2. **Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.

3. **Top Cruise Diameter (TCD):** Minimum top outside bark for conifer is 7 ", 7 " for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for trees > 18" dbh.

4. **Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.

5. **Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch. segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.

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

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

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

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

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

Cruise Design by: Kyrie Burkpatrick
Approved by: [Signature]
Date: 2-18-2016

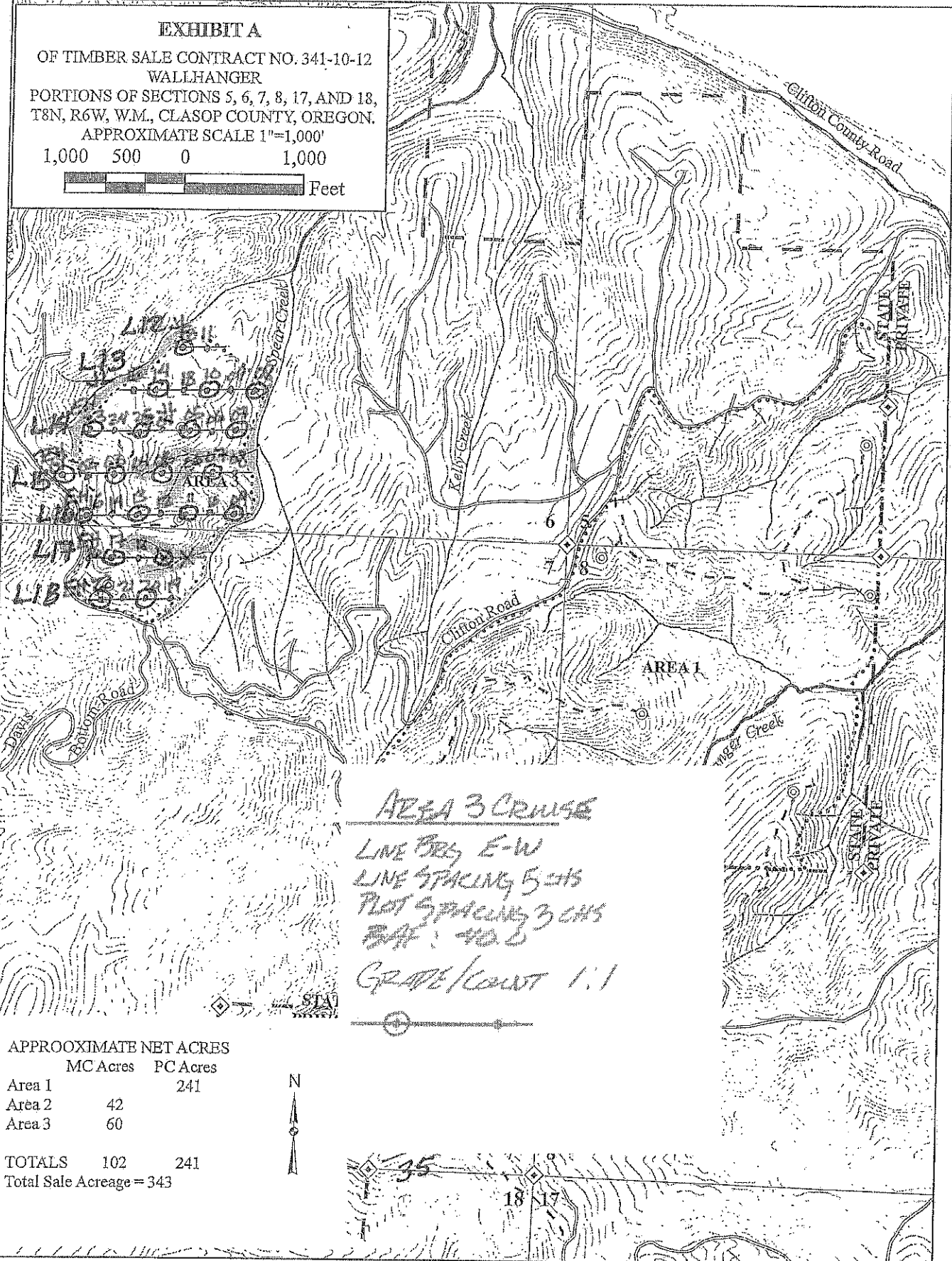
EXHIBIT A

OF TIMBER SALE CONTRACT NO. 341-10-12
 WALLHANGER
 PORTIONS OF SECTIONS 5, 6, 7, 8, 17, AND 18,
 T8N, R6W, W.M., CLASOP COUNTY, OREGON.
 APPROXIMATE SCALE 1"=1,000'

1,000 500 0 1,000



2
6
7
6
7
4
4
4
36
20



AREA 3 CRUISE
 LINE BRS E-W
 LINE SPACING 50 FS
 PLOT SPACING 30 FS
 GRADE/COUNT 1:1

APPROXIMATE NET ACRES

	MC Acres	PC Acres
Area 1		241
Area 2	42	
Area 3	60	
TOTALS	102	241
Total Sale Acreage = 343		

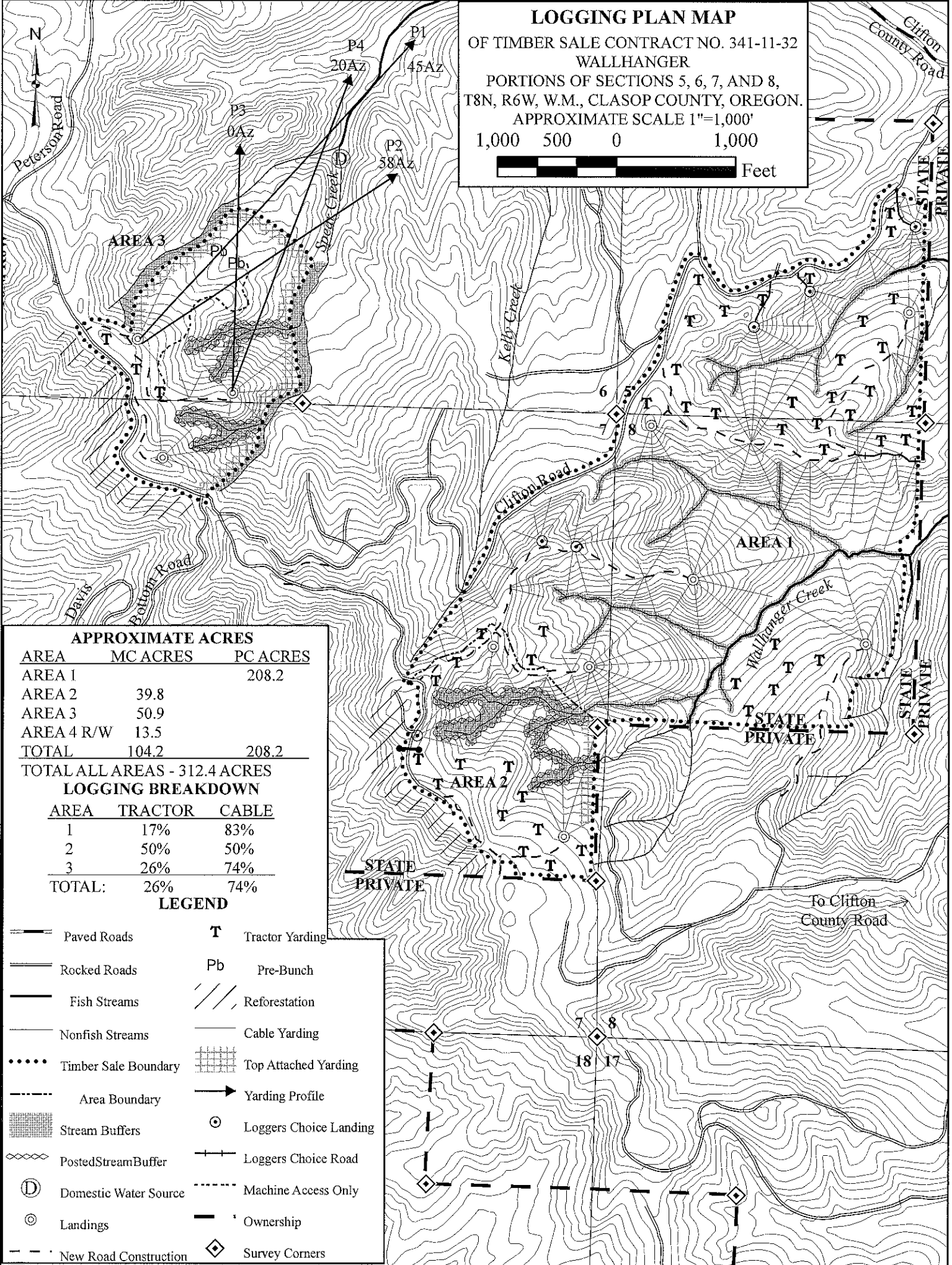


LOGGING PLAN MAP

OF TIMBER SALE CONTRACT NO. 341-11-32
 WALLHANGER
 PORTIONS OF SECTIONS 5, 6, 7, AND 8,
 T8N, R6W, W.M., CLASOP COUNTY, OREGON.
 APPROXIMATE SCALE 1"=1,000'

1,000 500 0 1,000

Feet



APPROXIMATE ACRES

AREA	MC ACRES	PC ACRES
AREA 1		208.2
AREA 2	39.8	
AREA 3	50.9	
AREA 4 R/W	13.5	
TOTAL	104.2	208.2

TOTAL ALL AREAS - 312.4 ACRES

LOGGING BREAKDOWN

AREA	TRACTOR	CABLE
1	17%	83%
2	50%	50%
3	26%	74%
TOTAL:	26%	74%

LEGEND

- Paved Roads
- Rocked Roads
- Fish Streams
- Nonfish Streams
- Timber Sale Boundary
- Area Boundary
- Stream Buffers
- Posted Stream Buffer
- Domestic Water Source
- Landings
- New Road Construction
- Tractor Yarding
- Pre-Bunch
- Reforestation
- Cable Yarding
- Top Attached Yarding
- Yarding Profile
- Loggers Choice Landing
- Loggers Choice Road
- Machine Access Only
- Ownership
- Survey Corners