



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Cost Summary West Hunt Creek Sale 341-05-56

District: Astoria

Date: 2/2/05

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$890,706.66	\$170,603.16	\$1,061,309.82
		Project Work	(\$55,493.00)
		Advertised Value	\$1,005,816.82



Timber Sale Appraisal Timber Description West Hunt Creek Sale 341-05-56

"STEWARDSHIP IN FORESTRY"

District: Astoria

Location: Secs. 4 & 5, T7N, R6W, and Secs. 29 & 32, T8N, R6W, WM, Clatsop Co., OR

Date: 2/2/05

Stand Stocking: 80%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	17	0	98
Western Hemlock / Fir	16	0	94
Sitka Spruce	12	0	94
Red Cedar	13	0	95
Alder (Red)	12	0	95

Volume by Grade	Douglas - Fir	Western Hemlock / Fir	Sitka Spruce	Red Cedar	Alder (Red)	Total
SM	53	0	0	0	0	53
2S	768	1,193	84	0	0	2,045
3S	301	729	56	0	167	1,253
4S	57	156	58	2	309	582
Total	1,179	2,078	198	2	476	3,933

Comments: Pond Values Used: 4th Quarter 2004.

Log Markets: Longview; St. Helens; Clatskanie

Other Costs +P&R:

Additional Logging Costs:

Line Pull in Area 1 - 20 hours of work X \$24/hour = \$480

100% branding and Painting - \$1/MBF x 3,933 MBF= \$3,933

Thinning Tree selection (Areas 1 and 2) - \$3/MBF x 2,495 MBF= \$7,485

Skid Road and Cable Corridor layout - \$3/MBF x 2,495 MBF= \$7,485

"Loggers Choice" Dirt Spurs in Area 2 - 7 sta. X \$125/sta. = \$875

Close all dirt spurs - D6 5 hrs X \$80/hr = \$400

TOTAL Other Costs +P&R = \$20,658

Non P&R Costs:

Slash Piling in Area 3 - 58 hrs X \$95/hr = \$5,510

Slash Piling Excavator Move-in: \$500

TOTAL Other Cost Non P&R = \$6,010



Timber Sale Appraisal

Logging Conditions

West Hunt Creek

Sale 341-05-56

"STEWARDSHIP IN FORESTRY"

Combination#: 1	Douglas - Fir	2.14%	
	Western Hemlock / Fir	5.35%	
	Sitka Spruce	8.18%	
	Alder (Red)	1.26%	
Yarding Distance:	Short (400 ft)		Downhill Yarding: No
Logging System:	Cable: Medium Tower >40 - <70		Process: Stroke Delimber
Tree Size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
Loads/Day:	3		Bd. Ft./Load: 3,700
Cost/MBF:	\$295.73		
Machines:			
	Log Loader (A)		
	Stroke Delimber (A)		
	Tower Yarder (Medium)		
Combination#: 2	Douglas - Fir	64.46%	
	Western Hemlock / Fir	32.39%	
	Red Cedar	100.00%	
Yarding Distance:	Medium (800 ft)		Downhill Yarding: Yes
Logging System:	Track Skidder		Process: Manual Falling/Delimiting
Tree Size:	Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF		
Loads/Day:	8		Bd. Ft./Load: 4,000
Cost/MBF:	\$102.05		
Machines:			
	Log Loader (B)		
	Track Skidder		
Combination#: 3	Douglas - Fir	12.11%	
	Western Hemlock / Fir	30.31%	
	Sitka Spruce	46.36%	
	Alder (Red)	7.14%	
Yarding Distance:	Medium (800 ft)		Downhill Yarding: Yes
Logging System:	Track Skidder		Process: Feller Buncher
Tree Size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
Loads/Day:	5		Bd. Ft./Load: 3,700
Cost/MBF:	\$190.21		
Machines:			
	Feller Buncher w/ Delimber		
	Log Loader (B)		
	Stroke Delimber (B)		
	Track Skidder		

Combination#: 4 Douglas - Fir 21.29%
Western Hemlock / Fir 31.95%
Sitka Spruce 45.45%
Alder (Red) 91.60%

Yarding Distance: Medium (800 ft) **Downhill Yarding:** Yes
Logging System: Track Skidder **Process:** Feller Buncher
Tree Size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
Loads/Day: 10 **Bd. Ft./Load:** 3,700
Cost/MBF: \$95.10

Machines:
Feller Buncher w/ Delimber
Log Loader (B)
Stroke Delimber (B)
Track Skidder



Timber Sale Appraisal

Logging Costs

West Hunt Creek

Sale 341-05-56

"STEWARDSHIP IN FORESTRY"

Date: 2/2/05

Operating Seasons: 1.5

Profit & Risk: 15%

Project Costs: \$55,493

Other Costs (P/R): \$20,658

Slash Disposal: \$0

Other Costs: \$6,010

Miles of Road			
Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Road Maintenance: \$4.57

Hauling Costs

Species	\$/MBF	Trips/Day	MBF/Load
Douglas - Fir	\$0.00	3.0	4.0
Western Hemlock / Fir	\$0.00	3.0	3.5
Sitka Spruce	\$0.00	3.0	3.0
Red Cedar	\$0.00	3.0	3.5
Alder (Red)	\$0.00	3.0	3.5



Timber Sale Appraisal Logging Costs Breakdown West Hunt Creek Sale 341-05-56

"STEWARDSHIP IN FORESTRY"

Costs	Douglas - Fir	Western Hemlock / Fir	Sitka Spruce	Red Cedar	Alder (Red)
Logging	115.39	136.91	155.61	102.05	104.42
Road Maintenance	4.66	4.86	4.86	4.81	4.81
Fire Protection	1.03	1.03	1.03	1.03	1.03
Hauling	39.13	46.60	54.36	46.11	46.11
Other (P/R appl.)	5.25	5.25	5.25	5.25	5.25
Profit & Risk	24.82	29.20	33.17	23.89	24.24
Slash Disposal	0.00	0.00	0.00	0.00	0.00
Scaling	2.00	2.00	2.00	2.00	2.00
Other	1.53	1.53	1.53	1.53	1.53
Total	193.81	227.38	257.81	186.67	189.39

Amortization	0.00	0.00	0.00	0.00	0.00
Pond Value	607.31	406.35	408.89	875.00	547.80
Stumpage	413.50	178.97	151.08	688.33	358.41
Amortized	0.00	0.00	0.00	0.00	0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Summary West Hunt Creek Sale 341-05-56

Amortized

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

Unamortized

	Douglas - Fir	Western Hemlock / Fir	Sitka Spruce	Red Cedar	Alder (Red)
MBF	1,179.00	2,078.00	198.00	2.00	476.00
Value	413.50	178.97	151.08	688.33	358.41
Total	487,516.50	371,899.66	29,913.84	1,376.66	170,603.16

Gross Timber Sale Value

Recovery \$1,061,309.82

Prepared by: Edward Holloran

Date: 2/2/05

District: Astoria

Phone: (503) 325-5451

Road Maintenance Cost Summary (Interim and Post Harvest)

Sale: West Hunt Creek
Date: January 20, 2005
By: Ed Holloran

MBF: 3,933
\$/MBF: \$4.57

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost
Interim Operations Entries (1) Shingle Mill	Grader 14G	\$540	1	20	\$80	\$2,140
	Dump Truck 12CY	\$114	1	10	\$57	\$684
	FE Loader C966	\$540	1	10	\$75	\$1,290
Final Road Maintenance Haul Route	Grader 14G	\$540	1	52	\$80	\$4,700
	Dump Truck 12CY (1 @ \$114)	\$114	1	20	\$57	\$1,254
	FE Loader C966	\$540	1	18	\$75	\$1,890
	Vibratory Roller	\$540	1	52	\$75	\$4,440
	Vibratory Roller (extra Move)*	\$132	1			\$132
	Water Truck 2,500 gallon	\$132	1	16	\$67	\$1,204
	Labor				10	\$25
Total						\$17,984

* Move from Nicholai to Shingle Mill - One Hour with roller and Dump Truck.

Interim Operations Road Maintenance

Production Rates	Miles/day	Distance(miles)	Days	Hours
Grader	2.0	2.5	1.3	12.5

Final Road Maintenance

Production Rates	Miles/day	Distance(miles)	Days	Hours
Grader	1.5	7.8	5.2	52.0
Vibratory Roller	1.5	7.8	5.2	52.0

Hunt Creek Quarry - 1.5 miles on Nicolai M.L. to Highway 30 + 2.9 miles to Pt. 3A up Nicolai M.L.=4.4miles.
 Then 1.6 miles up Shingle Mill Road to Pt. 11 and 1.17 miles to Pt. 12 = 2.8 miles.
 Plus New Roads Construction (Area 2 = 0.49mi., & Area 3 = 0.18 mi.) of 0.6 miles for a total of 7.8 miles.

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: West Hunt Creek
 ROAD: 2A to 2B(25.7), 3A to 3B(9.25), and 3C to 3D(14.85)

NEW CONSTRUCTION: 49.80 STATIONS 0.94 MILES
 IMPROVEMENT: STATIONS MILES

CLEARING & GRUBBING

Method	Acres/amount	x	Rate/Acre	=	Cost
Scatter Outside of R/W	5.00	x	\$840.00	=	\$4,200.00
		x		=	
		x		=	

SUB TOTAL FOR CLEARING & GRUBBING \$4,200

EXCAVATION

Material	Cy/amount	x	Rate	=	Cost
2A to 2B(3+50-12+00) Common Excavation w/ 200 ft. Drift \$\$/bcy	1,000.0	x	\$1.35	=	\$1,350.00
2A to 2B(3+50-12+00) Embankment Compaction \$\$/bcy	600.0	x	\$0.40	=	\$240.00
3C to 3D(2+70-5+80) Common Excavation w/ 200 ft. Drift \$\$/bcy	410.0	x	\$1.35	=	\$553.50
3C to 3D(2+70-5+80) Embankment Compaction \$\$/cy	246.0	x	\$0.40	=	\$98.40
Common (low Standard Design) \$\$/sta.	38.20	x	\$117.00	=	\$4,469.40
2A to 2B (0+00 to 3+50, & 12+00 to 25+70)		x		=	
3C to 3D (0+00 to 2+70 & 5+80 to 14+85)		x		=	
(17+20, 9+25, 11+75) = 38+20		x		=	
Undesigned Landing Construction \$\$/landing	3	x	\$270.00	=	\$810.00
Extra hours for rock removal in Subgrade \$\$/Hr.	10.0	x	\$120.00	=	\$1,200.00
Cut Slope Rounding - 2A - 2B	5.0	x	\$27.00	=	\$135.00

SUB TOTAL FOR EXCAVATION \$8,856

CULVERT MATERIALS AND INSTALLATION

Location	Dia/type	Lineal ft.	Rate	Cost	No. bands	Rate	Cost
2A-2B 13+10	18"CPP	30	\$11.00	\$330.00			
2A-2B 16+20	18"CPP	30	\$11.00	\$330.00			
2A-2B 21+70	18"CPP	30	\$11.00	\$330.00			
3A-3B 0+38	18"CPP	50	\$11.00	\$550.00			
3A-3B 0+83 *	24" CPP **	50	\$11.45	\$572.50			
3A-3B 5+90	18"CPP	40	\$11.00	\$440.00			
3A-3B 8+80	18"CPP	40	\$11.00	\$440.00			

* Pipe cost only.

Other/miscellaneous:

Description	Quantity/Hrs.	Rate	Cost
Fill removal & pipe Installation:			
Culvert @ 0+83 on 3A to 3B			
Medium Excavator (C325)	4	\$115.00	\$460.00
Dump Truck	4	\$57.00	\$228.00
Skidder (\$75/hr.) and hand labor (\$25/hr.)	3	\$100.00	\$300.00
Beveled inlet (\$25 each)	1	\$25.00	\$25.00
Mulching Waste Areas-15 bales(\$72)+ labor(\$75)		\$147.00	\$147.00
Culvert stakes & markers:			
6' x 2 1/2" White Fiberglass (Carsonite)	7	\$14.10	\$98.70

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION \$4,251

Subtotal \$17,308

Compiled by: Ed Holloran

Date: 1/20/2005

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: West Hunt Creek

SURFACING:		Description	Stations/amount	x	Rate/sta/amt	Cost
Subgrade prep:		Grade, Shape and Ditch 16' (2A-2B, 3A-3B)	34.95	x	\$15.20	\$531.24
		Grade, Shape and Ditch 14' (3C-3D)	14.85	x	\$11.20	\$166.32
		Subgrade Compaction (2A to 2B, 3A to 3B)	34.95	x	\$12.50	\$436.88
				x		

\$1,134.44

ROAD SEGMENT	2A to 2B		POINT TO POINT	Sta. to Sta.		TOTAL	Rate/	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	2A to 2B Volume (CY) per	0+00 to 25+70 Number of	VOLUME (CY)	Sta./amt.		
Base Rock	4"-0" Crushed	0+00 to 25+70	8	station	50	25.70	1,285	\$4.41	\$5,667
Curve widening	4"-0" Crushed	4+50 to 6+40, 8+50 to 11+00	8	station	25	stations 4.4	110	\$4.41	\$485
Junctions	4"-0" Crushed	0+00	8	junction	30	junctions 1	30	\$4.41	\$132
Turnouts	4"-0" Crushed	6+10, 10+20, 17+80	8	turnout	22	turnouts 3	66	\$4.41	\$291
Turnaround	4"-0" Crushed	23+60	N/A	TA	24	TAs 1	24	\$4.41	\$106
Traction Rock	1 1/2"-0" Crushed	0+00 to 11+00		station	11	stations 11.00	121	\$4.41	\$534
Curve Widening Traction Rock	1 1/2"-0" Crushed	4+50 to 6+40, 8+50 to 11+00	N/A	station	5	stations 4.40	22	\$4.41	\$97
Junctions	1 1/2"-0" Crushed	2A	N/A	junction	20	junctions 1	20	\$4.41	\$88
Turnouts - Traction	1 1/2"-0" Crushed	6+10, 10+20	N/A	turnout	10	turnouts 2	20	\$4.41	\$88
Landings	6"-0" Pit-run	2B	N/A	landing	60	landings 1	60	\$3.50	\$210
Total Rock for Road Segment: 2A to 2B						1,758			

\$7,698

ROAD SEGMENT	3A to 3B		POINT TO POINT	Sta. to Sta.		TOTAL	Rate/	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	3A to 3B Volume (CY) per	0+00 to 9+25 Number of	VOLUME (CY)	Sta./amt.		
Base Rock	4"-0" Crushed		8	station	50	stations 9.25	464	\$4.41	\$2,044
Turnouts	4"-0" Crushed	5+00	8	turnout	22	turnouts 1	22	\$4.41	\$97
Junction	4"-0" Crushed	Pt. 3C	N/A	junction	20	junction 1	20	\$4.41	\$88
Ditch Armor	24"-6" Riprap	0+83 to 1+45		station	33	stations 0.62	20	\$2.93	\$60
Culvert Bedding Rock	24"-6" Riprap	0+83		culvert	30	culvert 1	30	\$2.93	\$88
Culvert Bedding Rock	1 1/2"-0" Crushed	0+83		culvert	20	culvert 1	20	\$4.41	\$88
Energy Dissipater	24"-6" Riprap	0+38, 0+83		culvert	12	culvert 2	24	\$2.93	\$70
Landings	6"-0" Pit-run	3B	N/A	landing	60	landings 1	60	\$3.50	\$210
Total Rock for Road Segment: 3A to 3B						660			

\$2,746

2,418

Processing:	Description	No. sta.	Rate/sta	Cost
	Water, Process & Compact Crushed Rock (sta.):			
	8" roads in 1 lift (2A to 2B [25.7] + 3A to 3B [9.25] = 34.95 stations)	34.95	\$37.00	\$1,293

\$1,293

SUB TOTAL FOR SURFACING	24"-6" rip	6"-0" pr	4"-0"	1 1/2"-0"	Total
	74	120	2,021	203	2,418

\$12,871

SPECIAL PROJECTS:	No. sta./ft./cy.	Rate per sta./ft./cy.	Cost
Placement of Dissipater Rock (44cyds. X \$2.00/cyd on 3A to 3B):	44	\$2.00	\$88
Develop Pit- Run (pr) rock 6"-0" (120 cy)	120	\$1.85	\$222
85	74	\$2.60	\$192
Install Mirafi 600X Fabric: 3A to 3B 925ft X 110% = 1,018ft	1018	\$1.25	\$1,273
SUB TOTAL FOR SPECIAL PROJECTS			\$1,775

\$1,775

GRAND TOTAL	Cost per Mile	\$33.879	\$31,954
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Compiled By: Ed Holloran

Date: 1/18/2004

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: West Hunt Creek

SURFACING		Stations/amount	x	Rate/ sta/amt	Cost
Subgrade prep:	Description				
	Grade, Shape and Ditch 16'	61.60	x	\$15.20	\$936.32
	Subgrade Compaction	61.60	x	\$12.50	\$770.00
			x		

\$1,706.32

ROAD SEGMENT	I1 to I2		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
	Rock Size and Type	Location	Depth of Rock (Inches)	Volume (CY) per	Number of	0+00 to 61+60			
Leveling Rock	1 1/2"-0" Crushed		station	5	stations	61.60	308	\$4.41	\$1,358
Surface Rock	1 1/2"-0" Crushed	52+00 to 56+50	3	station	19	stations	4.50	\$4.41	\$377
Culvert Bedding/Backfill	1 1/2"-0" Crushed	10+30, 59+10		culvert	30	culverts	2	\$4.41	\$265
Turn Outs	1 1/2"-0" Crushed		3	turn out	10	turn out	6	\$4.41	\$265
Total Rock for Road Segment:			I1 to I2				514		\$2,265

\$2,265

Processing:		514	
Description	No. sta	Rate/sta	Cost
Water, Process & Compact Crushed Rock (1 lift < 8"):	61.60	\$37.00	\$2,279

\$2,279.20

SUB TOTAL FOR SURFACING	24"-6" pr	6"-0" pr	4"-0"	1 1/2"-0"	3/4"-0"	Total
		0	0	0	514	0

\$6,250

SPECIAL PROJECTS:			
Description	No. cy	Rate/cy	Cost

SUB TOTAL FOR SPECIAL PROJECTS

\$0

GRAND TOTAL

Cost per Mile \$6,222

\$7,260

Compiled By: Ed Holloran

Date: 12/30/2004

Project Work Road Maintenance Cost Summary

Sale: West Hunt Creek
Date: December 17, 2004
By: Ed Holloran

Type	Equipment/Rationale	Hours	Rate	Cost
Post-Projects Road	Grader 14G	45	\$80	\$3,600
	Dump Truck 12CY (2 trucks)	20	\$57	\$1,140
	FE Loader C966	10	\$60	\$600
	Vibratory Roller	45	\$75	\$3,375
	Water Truck 2500 gallon	10	\$67	\$670
Total				\$9,385

Production Rates
 Grader - Processing
 Vibratory Roller

Miles/day	Distance(miles)	Days	Hours
1.50	6.7	4.5	44.7
1.50	6.7	4.5	44.7

Hunt Creek Quarry - 2.2 miles on Nicolai M.L. to Highway 30 + 2.9 miles to Pt. 3A up Nicolai M.L.
 Then 1.6 miles up Shingle Mill road to Pt. 11 for a total of 6.7 miles.

TIMBER CRUISE REPORT
WEST HUNT CREEK
FY 2005

1. Sale Area Location:

Area 1 is located in portions of Sections 29 and 32, T8N, R6W; Area 2 is located in portions of Section 32, T8N, R6W and portions of Section 5, T7N, R6W; Area 3 is located in portions of Sections 4 and 5, T8N, R7W, W. M., Clatsop County, Oregon.

2. Fund Distribution:

BOF = 100%
 Tax Code = 1-02 39.8 %
 Tax Code = 1-03 60.2 %

3. Sale Acreage and Treatments by Area:

Area	Harvest Type	Gross Acres	Existing R/W	Stream Buffers	Net Acres *	Survey Method
1	PC	64	2	**	62	GIS
2	PC	72	0	**	72	GIS
3	MC	58	0	<1	58	GPS & GIS
4 R/W	R/W	2			2	Rd. Eng. Survey
TOTAL		196	2		194	

* Rounded to nearest acre.

** Stream Buffers were posted outside of the Timber Sale Boundary, except for one small Type N stream in Area 3.

4. Cruisers and Cruise Dates:

Area 1 was cruised by John Tillotson and Kraig Kirkpatrick on 10/13/04 and 10/14/04. Area 2 was cruised on 10/12/04 and 10/14/04 by Ed Holloran, Eric Perkins and Dave Horning. Area 3 was cruised by Kevin Berry, Dave Horning, Bryce Rodgers and Eric Perkins on 10/13/04 and 10/14/04.

5. Cruise Method and Computations:

Area 1 (2nd entry partial cut) was designed for a variable plot cruise using a 40 Basal Area Factor. 33 plots were sampled on a 4 x 3 chain grid, with a count to cruise plot ratio of 2:1. All "take" and "leave" trees were measured a graded on the cruise plots.

Area 2 (1st entry partial cut) was designed for a 1/25 acre fixed plot cruise. 22 plots were sampled on a 5 x 6 chain grid, with 100% cruise on all plots. All "take" and "leave" trees were measured a graded.

Area 3 (modified clearcut) was designed for a variable plot cruise using a 33.6 Basal Area Factor. 41 plots were sampled on a 5 x 3 chain grid, with a count to cruise plot ratio of 2:1. All "take" and "leave" trees were measured a graded on the cruise plots.

Cruises used Corvallis Micro Technology (CMT) and Allegro data collectors and were downloaded to the Atterbury SUPER A.C.E. program in the Astoria District for computing. See the attached Cruise Design for more details on the cruise method. The cruise calculations were processed in the Astoria District office.

6. Timber Description:

Area 1 (PC)– This stand is an “auto-mark” thinning unit, about 85 to 89 years old, consisting of a moderate sized, Douglas-fir dominated, mixed conifer stand. Hardwoods are present along the existing road and old skid trails, with a carpet of hemlock seedlings in the understory. The stand will be harvested to a Stand Density Index (SDI) of 30% with a target basal area of 160 square feet, while removing approximately 55 trees per acre and 23.1 MBF per acre. The average “take” tree size is about 21 inches DBH and 75 feet to a merchantable top.

Area 2 (PC) – This stand is also an “auto-mark” thinning unit, about 45 to 50 years old, consisting of a mixed conifer stand with some hardwoods. The stand will be harvested to an SDI of 30% with a target basal area of 140 square feet, while removing approximately 153 trees per acre and 14.7 MBF per acre. The average “take” tree size is about 13 inches DBH and 43 feet to a merchantable top.

Area 3 (MC)– This stand is modified clearcut unit of mixed conifer with patches of Alder. The age of this stand is about 45 and 50 years old. The harvest will remove approximately 175 trees per acre for about 23.7 MBF per acre, with an average DBH of around 15 inches and an average merchantable height of 45 feet.

7. Statistical Analysis and Stand Summary: (See also “Statistical Summary-Type Reports”, attached.) Evaluated on Net BF/Acre.

Area	Target CV %	Target SE %	Actual CV %	Actual SE %
1	70	11	25	4.4
2	70	11	55.2	11.8
3	70	11	41.8	6.5

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

8. Volumes by Species and Sale Areas: (See the Species, Sort, Grade, and the Log Stock Table attached.) Volumes do not include “in-growth”. The majority of defect and breakage was culled during the cruise. The total net MBF volumes by species and grade are as follows:

Species	DBH	Net. Vol.	Spec. Mill	2 Saw	3 Saw	4 Saw	% D&B	Sale %
Douglas-fir	17.7	1,179	53	768	301	57	1.7	30
W. Hemlock/fir *	16.1	2,078	0	1,193	729	156	1.3	53
Sitka Spruce	11.7	198	0	84	56	58	3.3	5
W. Red Cedar	13.0	2	0	0	0	2	0	<1
Red Alder	12.4	476	0	0	167	309	0	12
Totals	15.1	3,933	53	2,045	1,253	582	1.4	100

* Includes 1 MBF of Silver/Noble Fir.

9. Approvals:

Prepared by : Ed Holloran Date: December 16, 2004

Approved by: *Dan Coody* Date: 12/30/04

10. Attachments:

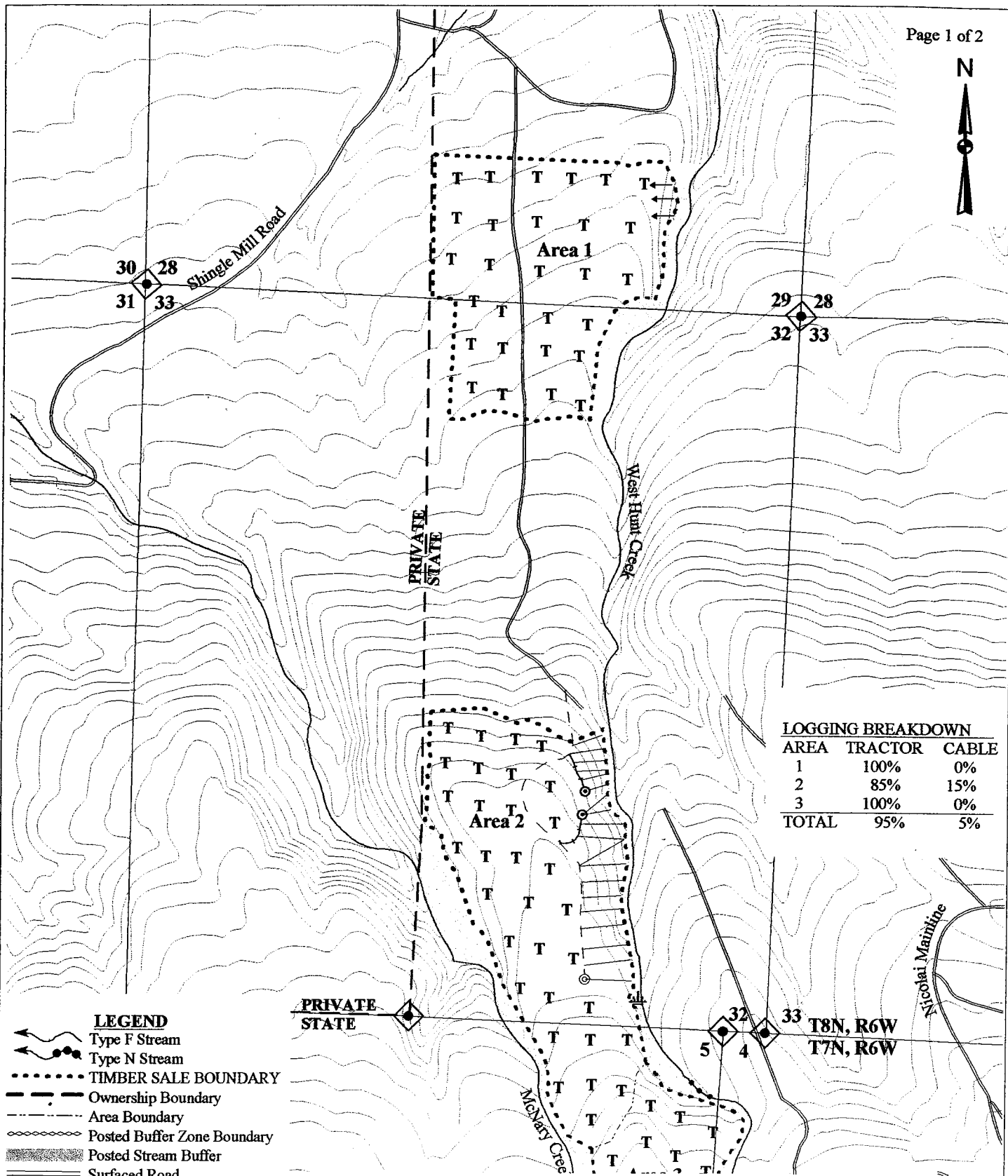
Species, Sort & Grade (Volume) Reports: 5 pages

Statistical Reports: 9 pages

Stand Tables: 3 pages

Log Stock Table - MBF(take): 5 pages

Cruise Designs and Maps: 9 pages

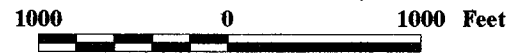


LOGGING BREAKDOWN

AREA	TRACTOR	CABLE
1	100%	0%
2	85%	15%
3	100%	0%
TOTAL	95%	5%

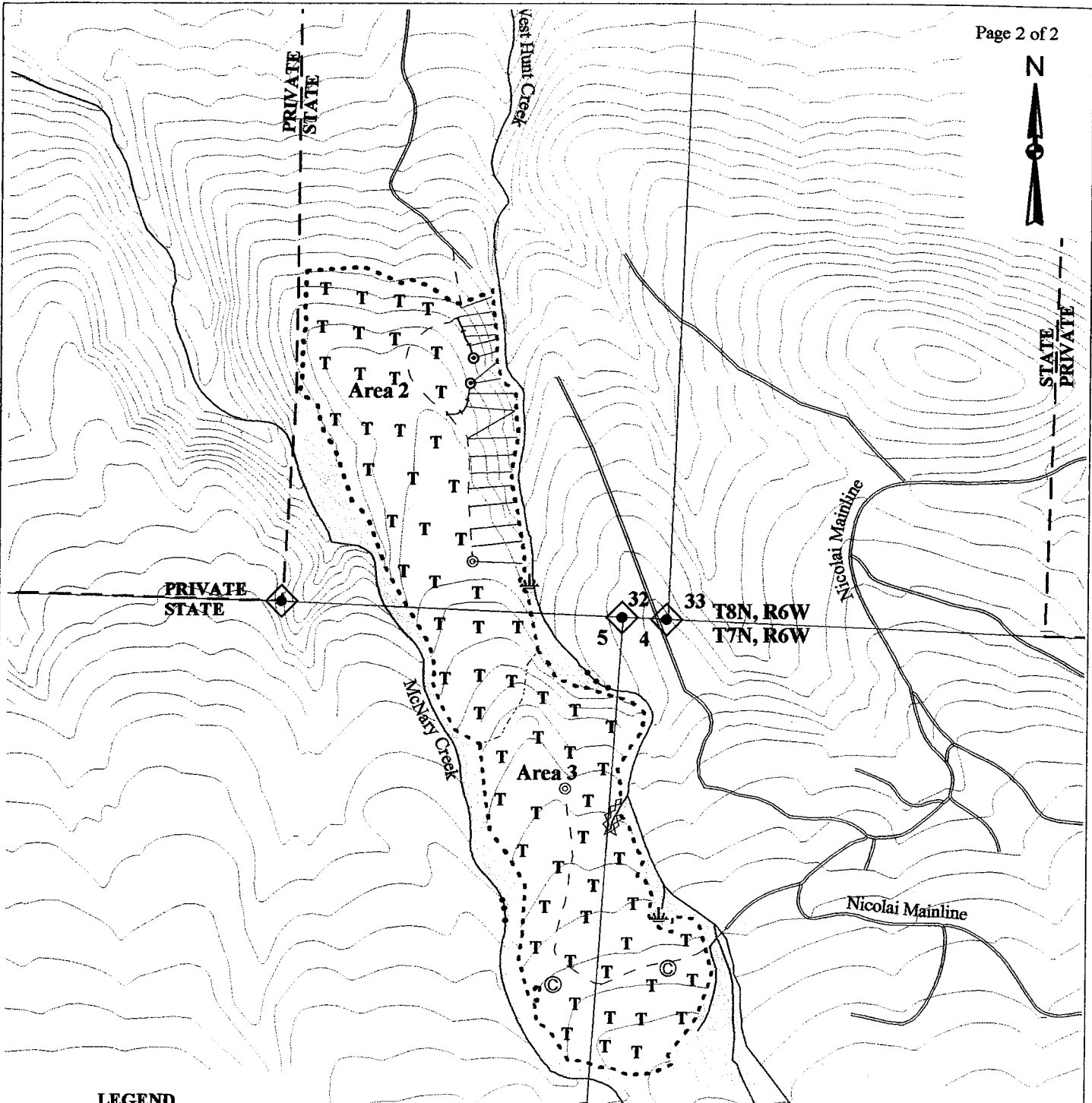
- LEGEND**
- Type F Stream
 - Type N Stream
 - TIMBER SALE BOUNDARY
 - Ownership Boundary
 - Area Boundary
 - Posted Buffer Zone Boundary
 - Posted Stream Buffer
 - Surfaced Road
 - New Road Construction
 - Logger's Choice Road
 - Landing to Construct
 - Known Land Survey Corner
 - Logger's Choice Landing
 - Cable Yarding
 - Tractor Yarding
 - Line Pulling Area
 - Wetland
 - Cultural Site

LOGGING PLAN MAP
 OF TIMBER SALE CONTRACT NO. 341-05-56
 WEST HUNT CREEK
 PORTIONS OF SECTIONS 4 AND 5,
 T7N, R6W,
 SECTIONS 29 AND 32,
 T8N, R6W, W.M., CLATSOP COUNTY, OREGON.
 APPROX. SCALE 1"=1,000'



APPROXIMATE NET ACREAGE

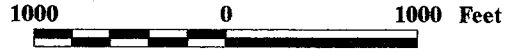
AREA	MC ACRES	PC ACRES
AREA 1		62
AREA 2		72
AREA 3	58	
AREA 4 (R/W)	2	
TOTAL	60	134
TOTAL NET ACREAGE		194



- LEGEND**
- Type F Stream
 - Type N Stream
 - TIMBER SALE BOUNDARY
 - Ownership Boundary
 - Area Boundary
 - Posted Buffer Zone Boundary
 - Posted Stream Buffer
 - Surfaced Road
 - New Road Construction
 - Logger's Choice Road
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 - Wetland
 - Cultural Site

LOGGING BREAKDOWN		
AREA	TRACTOR	CABLE
1	100%	0%
2	85%	15%
3	100%	0%
TOTAL	95%	5%

LOGGING PLAN MAP
 OF TIMBER SALE CONTRACT NO. 341-05-56
 WEST HUNT CREEK
 PORTIONS OF SECTIONS 4 AND 5,
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 APPROX. SCALE 1"=1,000'



APPROXIMATE NET ACREAGE		
AREA	MC ACRES	PC ACRES
AREA 1		62
AREA 2		72
AREA 3	58	
AREA 4 (R/W)	2	
TOTAL	60	134
TOTAL NET ACREAGE		194

Species, Sort Grade - Board Foot Volumes (Project)

T07N R06W S05 TyTAKE
THRU
T08N R06W S32 TyTAKE

Project: WHUNTCR

Page 1

Acres 194.00

Date 12/9/2004

Time 10:52:05AM

S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net		Total Net MBF	Percent of Net Board Foot Volume								Average Log			Logs Per /Acre		
							Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf			
							4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
A	?	?												14		0.00	6.4			
A	?	2S	2	396	396	77		100		17	10	36	38	30	177	1.49	2.2			
A	?	3S	2	463	463	90		100		5	71	18	6	29	92	0.83	5.0			
A	?	4S	8	1,591	1,591	309		100		13	31	11	45	29	60	0.61	26.6			
A Totals			12	2,449	2,449	475		84	16	12	35	16	36	27	61	0.64	40.2			
D	?	?												11		0.00	3.4			
D	?	2S	20	1.5	4,017	3,956	768		4	61	35		0	9	18	72	35	289	1.91	13.7
D	?	3S	8	1.7	1,578	1,551	301		91	5	4		4	8	56	32	34	80	0.72	19.4
D	?	4S	1	2.8	310	301	58		7	93			44	51	4		21	27	0.45	11.4
D	?	SM	1	3.4	281	271	53				100		59			41	24	539	4.10	.5
D Totals			30	1.7	6,185	6,080	1,179		0	30	41	29	6	10	26	57	29	126	1.08	48.4
H	?	?												9		0.00	8.9			
H	?	2S	30	1.0	6,206	6,142	1,192		2	69	29		2	3	25	70	36	279	1.82	22.0
H	?	3S	19	1.6	3,820	3,760	729		85	10	5		4	8	42	47	34	84	0.75	44.7
H	?	4S	4	1.9	819	804	156		1	99			59	35	6		20	27	0.46	30.2
H Totals			53	1.3	10,845	10,706	2,077		0	38	43	18	7	7	29	57	28	101	0.95	105.9
S	?	?												17		0.00	2.1			
S	?	2S	2	1.9	439	431	84			81	19		11	19	33	37	28	187	1.57	2.3
S	?	3S	1	.2	291	291	56		96	1	3		15		15	70	35	69	0.63	4.2
S	?	4S	1	8.0	328	301	58		100				56	28	16		21	26	0.45	11.4
S Totals			5	3.3	1,058	1,023	198		57	34	9	26	16	23	35	24	51	0.62	20.0	
SN	?	?												35		0.00	.0			
SN Totals														35		0.00	.0			
SF	?	?												10		0.00	.0			
SF	?	2S	0	5.6	4	4	1			100				40	340	1.97	.0			
SF	?	3S	0		1	1	0		100				100	32	70	0.87	.0			
SF Totals			0	4.7	5	5	1		17	83			17	83	27	137	1.30	.0		
C	?	4S	0		13	13	2		100			100		16	30	0.69	.4			
C Totals			0		13	13	2		100			100		16	30	0.69	.4			
Totals				1.4	20,555	20,275	3,933		0	42	39	19	8	12	26	53	28	94	0.90	214.9

T08N R06W S29 TTAKE	T08N R06W S29 TTAKE
Twp 08N Rge 06W Sec 29 Tract AREA 1	BdFt W
Type TAKE	
Acre 62.00	
Plots 33	
Sample Trees 58	
CuFt 1	

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	?	?																					
H	?	2S		75	.1	8,157	8,148	505		2	58	40		5	9	86		37	324	1.95		25.1	
H	?	3S		20	.4	2,132	2,124	132		87	13			7	21	72		36	97	0.83		21.9	
H	?	4S		5	2.0	592	580	36		100				64	28	8		19	27	0.51		21.7	
H	Totals			47	.3	10,880	10,852	673		24	46	30		3	6	11	79	30	151	1.24		71.9	
D	?	?																					
D	?	2S		83	1.6	10,292	10,132	628		3	56	42		0	7	10	83	36	319	1.97		31.8	
D	?	3S		8	1.2	988	977	61		88	12			26	44	30		32	78	0.79		12.6	
D	?	4S		2		293	293	18		100				64	36			20	28	0.57		10.5	
D	?	SM		7	3.4	878	848	53				100		59		41		24	539	4.10		1.6	
D	Totals			53	1.6	12,451	12,249	759		12	47	41		6	9	11	74	30	201	1.56		60.8	
C	?	4S		100		39	39	2		100				100				16	30	0.69		1.3	
C	Totals			0		39	39	2		100				100				16	30	0.69		1.3	
Type Totals					1.0	23,371	23,141	1,435		18	47	36		5	8	11	76	30	173	1.39		134.0	

T08N R06W S32 TTAKE	T08N R06W S32 TTAKE
Twp 08N Rge 06W Sec 32 Tract AREA 2	BdFt W
Type TAKE Acre 72.00 Plots 22 Sample Trees 135 CuFt 1	

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	?	?																				
H	?	2S		37	3.5	3,932	3,795	273		4	72	24		3	4	31	63	34	239	1.66		15.9
H	?	3S		52	2.7	5,500	5,352	385		91	5	4		4	3	53	39	34	77	0.66		69.3
H	?	4S		11	1.9	1,182	1,159	83	2	98				66	26	8		20	24	0.41		47.7
H	Totals			70	2.9	10,614	10,307	742	0	60	29	11		11	6	40	44	28	71	0.72		144.3
D	?	2S		12		273	273	20								100		24	120	1.42		2.3
D	?	3S		71	2.7	1,705	1,659	119		100						71	29	34	73	0.64		22.7
D	?	4S		17	5.3	432	409	29	14	86				39	53	8		22	26	0.38		15.9
D	Totals			16	2.8	2,409	2,341	169	2	86	12			7	21	52	20	29	57	0.60		40.9
S	?	?																19		0.00		1.1
S	?	2S		20		307	307	22						30		70		24	135	1.27		2.3
S	?	3S		31		466	466	34		100						17	83	39	68	0.55		6.8
S	?	4S		49	8.5	807	739	53		100				57	26	17		21	26	0.44		28.4
S	Totals			10	4.3	1,580	1,511	109		80	20			34	13	28	26	24	39	0.51		38.6
A	?	?																8		0.00		1.1
A	?	3S		67		375	375	27		100					42	58		32	83	0.72		4.5
A	?	4S		33		182	182	13		100				50	50			22	40	0.51		4.5
A	Totals			4		557	557	40		100				16	45	39		25	54	0.61		10.2
Type Totals					2.9	15,159	14,716	1,060	1	67	24	8		13	11	40	36	27	63	0.66		234.1

T07N R06W S05 TTAKE T07N R06W S05 TTAKE
 Twp Rge Sec Tract Type Acre Plots Sample Trees CuFt BdFt
 07N 06W 05 AREA 3 TAKE 58.00 41 141 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	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99				
H	?	?														10		0.00	12.1
H	?	2S		63	.4	6,832	6,802	395		82	18		5	41	55	35	263	1.81	25.9
H	?	3S		31		3,337	3,337	194	72	19	9	4	20	31	44	32	92	0.89	36.2
H	?	4S		5	1.7	594	584	34	100			36	64			23	35	0.57	16.8
H	Totals			45	.4	10,764	10,724	622	28	58	14	6	10	36	49	28	118	1.13	90.9
A	?	?														14		0.00	19.8
A	?	2S		18		1,324	1,324	77		100		17	10	36	38	30	177	1.49	7.5
A	?	3S		14		1,066	1,066	62	100			7	84		9	28	97	0.89	11.0
A	?	4S		68		5,082	5,082	295	100			12	30	11	47	29	61	0.61	83.0
A	Totals			32		7,472	7,472	433	82	18		12	34	14	40	27	62	0.64	121.3
D	?	?														15		0.00	6.7
D	?	2S		48	1.4	1,963	1,935	112	7	83	10		7	68	25	33	233	1.76	8.3
D	?	3S		48	.8	1,956	1,940	113	84	6	10	11	6	45	38	34	90	0.79	21.6
D	?	4S		4		163	163	9	100			24	76			23	27	0.47	6.1
D	Totals			17	1.1	4,082	4,038	234	48	43	9	6	9	55	30	29	95	0.90	42.7
S	?	?														16		0.00	5.5
S	?	2S		73	2.6	1,077	1,049	61		74	26	4	26	19	51	30	219	1.72	4.8
S	?	3S		23		323	323	19	100			46			54	29	64	0.76	5.1
S	?	4S		4		61	61	4	100			39	61			23	35	0.61	1.7
S	Totals			6	1.9	1,461	1,433	83	27	54	19	15	22	14	49	24	84	0.91	17.1
Type Totals					.5	23,780	23,667	1,373	48	42	9	9	18	31	43	28	87	0.87	271.9

TC TSPCSTGR										Species, Sort Grade - Board Foot Volumes (Type)					Page 1					
Project: WHUNTCR										Date 12/9/2004		Time 10:54:08AM								
T08N R06W S32 TRWAY										T08N R06W S32 TRWAY										
Twp	Rge	Sec	Tract	Type	Acre	Plots	Sample Trees	CuFt	BdFt											
08N	06W	32	AREA 2	RWAY	2.00	22	206	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	?0	?															9	0.00	12.5	
H	?0	2S		46	1.8	9,477	9,307	19	2	68	30	1	1	24	74	36	273	1.82	34.1	
H	?0	3S		47	2.5	9,659	9,420	19	77	11	12	3	2	61	34	34	86	0.76	109.1	
H	?0	4S		7	2.5	1,341	1,307	3	2	98		62	27	11		20	25	0.42	52.3	
H	Totals			60	2.2	20,477	20,034	40	0	44	37	20	6	4	40	50	29	96	0.90	208.0
D	?0	?															2	0.00	2.3	
D	?0	2S		43	2.7	3,841	3,739	7	9	91			15	29	55	34	206	1.74	18.2	
D	?0	3S		49	2.1	4,284	4,193	8	91		9			71	29	35	80	0.74	52.3	
D	?0	4S		8	4.7	727	693	1	8	92		41	48	11		22	27	0.41	26.1	
D	Totals			26	2.6	8,852	8,625	17	1	55	40	5	3	10	48	38	31	87	0.88	98.9
S	?0	?															26	0.00	2.3	
S	?0	2S		10		307	307	1		100		30		70		24	135	1.27	2.3	
S	?0	3S		63	2.7	2,091	2,034	4	42	15	42			69	31	36	138	1.11	14.8	
S	?0	4S		27	9.3	977	886	2	100			55	26	19		21	27	0.46	33.0	
S	Totals			10	4.4	3,375	3,227	6	54	19	27	18	7	56	19	26	62	0.73	52.3	
A	?0	?															8	0.00	1.1	
A	?0	3S		56		455	455	1	100				35	65		32	80	0.70	5.7	
A	?0	4S		44		352	352	1	100			26	45		29	26	52	0.54	6.8	
A	Totals			2		807	807	2	100			11	39	37	13	27	59	0.60	13.6	
SN	?0	?															35	0.00	3.4	
SN	Totals																35	0.00	3.4	
SF	?0	?															10	0.00	1.1	
SF	?0	2S		83	5.6	409	386	1		100					100	40	340	1.97	1.1	
SF	?0	3S		17		80	80	0	100					100		32	70	0.87	1.1	
SF	Totals			1	4.7	489	466	1	17	83				17	83	27	137	1.30	3.4	
Type Totals					2.5	34,000	33,159	66	0	49	36	16	6	6	44	44	29	87	0.86	379.5

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT WHUNTCR				DATE 12/9/2004		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
08N	06W	29	AREA 1	0001	62.00	33	246	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		33	246	7.5						
CRUISE		18	130	7.2	6,767		1.9			
DBH COUNT										
REFOREST										
COUNT		15	111	7.4						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUGLEAV	37	21.1	27.3	92		86.1	20,307	20,200	4,328	4,314
WHEMLOCK	31	33.8	18.7	66		64.2	11,223	10,852	2,769	2,704
DOUG FIR	26	20.4	24.0	92		64.2	12,970	12,249	2,949	2,858
HEMLEAV	26	27.1	20.4	76		61.8	13,389	13,329	3,035	3,035
CEDLEAV	4	3.0	25.9	60		10.9	807	807	351	351
SNAG	5	2.3	27.7	41		9.7	734		181	
WR CEDAR	1	1.3	13.0	17		1.2	39	39	14	14
TOTAL	130	109.1	22.4	77		298.2	59,470	57,477	13,628	13,277
	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	57.4	10.0	19	21	23					
WHEMLOCK	122.6	21.3	27	34	41					
DOUG FIR	91.3	15.9	17	20	24					
HEMLEAV	79.5	13.8	23	27	31					
CEDLEAV	225.0	39.2	2	3	4					
SNAG	200.3	34.9	2	2	3					
WR CEDAR	574.5	100.0		1	3					
TOTAL	40.4	7.0	101	109	117	65	16	7		
	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	48.1	8.4	79	86	93					
WHEMLOCK	95.9	16.7	54	64	75					
DOUG FIR	86.6	15.1	55	64	74					
HEMLEAV	66.9	11.6	55	62	69					
CEDLEAV	229.6	40.0	7	11	15					
SNAG	179.5	31.3	7	10	13					
WR CEDAR	574.5	100.0		1	2					
TOTAL	22.0	3.8	287	298	310	19	5	2		
	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	52.7	9.2	18,347	20,200	22,053					
WHEMLOCK	88.0	15.3	9,189	10,852	12,516					
DOUG FIR	86.5	15.1	10,404	12,249	14,095					
HEMLEAV	78.3	13.6	11,512	13,329	15,147					
CEDLEAV	238.5	41.5	472	807	1,141					
SNAG										
WR CEDAR	574.5	100.0	0	39	79					
TOTAL	25.0	4.4	54,977	57,477	59,978	25	6	3		

TC TSTATS		STATISTICS				PAGE	1			
		PROJECT WHUNTCR				DATE	12/9/2004			
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
08N	06W	29	AREA 1	STAY	62.00	33	139	1	W	
	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL	33	139	4.2							
CRUISE	18	72	4.0	3,323	2.2					
DBH COUNT										
REFOREST										
COUNT	15	63	4.2							
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	37	21.1	27.3	92		86.1	20,307	20,200	4,328	4,314
HEMLEAV	26	27.1	20.4	76		61.8	13,389	13,329	3,035	3,035
CEDLEAV	4	3.0	25.9	60		10.9	807	807	351	351
SNAG	5	2.3	27.7	41	SD ¹ ₉₀₀	9.7	734		181	
TOTAL	72	53.6	24.0	80	= 30	168.5	35,237	34,336	7,895	7,700
	COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	57.4	10.0	19	21	23					
HEMLEAV	79.5	13.8	23	27	31					
CEDLEAV	225.0	39.2	2	3	4					
SNAG	200.3	34.9	2	2	3					
TOTAL	40.5	7.1	50	54	57	66	16	7		
	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	48.1	8.4	79	86	93					
HEMLEAV	66.9	11.6	55	62	69					
CEDLEAV	229.6	40.0	7	11	15					
SNAG	179.5	31.3	7	10	13					
TOTAL			168	168	168					
	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	52.7	9.2	18,347	20,200	22,053					
HEMLEAV	78.3	13.6	11,512	13,329	15,147					
CEDLEAV	238.5	41.5	472	807	1,141					
SNAG										
TOTAL	21.6	3.8	33,044	34,336	35,628	19	5	2		

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT WHUNTCR		DATE 12/9/2004				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
08N	06W	29	AREA 1	TAKE	62.00	33	107	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	33	107	3.2							
CRUISE	16	58	3.6	3,445		1.7				
DBH COUNT										
REFOREST										
COUNT	15	49	3.3							
BLANKS	2									
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
WHEMLOCK	31	33.8	18.7	66		64.2	11,223	10,852	2,769	2,704
DOUG FIR	26	20.4	24.0	92		64.2	12,970	12,249	2,949	2,858
WR CEDAR	1	1.3	13.0	17		1.2	39	39	14	14
TOTAL	58	55.6	20.7	75		129.7	24,233	23,141	5,733	5,577
	COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	122.6	21.3	27	34	41					
DOUG FIR	91.3	15.9	17	20	24					
WR CEDAR	574.5	100.0		1	3					
TOTAL	77.6	13.5	48	56	63	241	60	27		
	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	95.9	16.7	54	64	75					
DOUG FIR	86.6	15.1	55	64	74					
WR CEDAR	574.5	100.0		1	2					
TOTAL	52.3	9.1	118	130	142	109	27	12		
	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	88.0	15.3	9,189	10,852	12,516					
DOUG FIR	86.5	15.1	10,404	12,249	14,095					
WR CEDAR	574.5	100.0	0	39	79					
TOTAL	50.5	8.8	21,108	23,141	25,174	102	25	11		

TC TSTATS		STATISTICS							PAGE 1	
		PROJECT WHUNTCR							DATE 12/9/2004	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
08N	06W	32	AREA 2	0002	72.00	22	206	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		22	206	9.4						
CRUISE		22	206	9.4	16,855	1.2				
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK	76	86.4	13.7	48		88.0	11,205	10,307	2,993	2,866
HEMLEAV	29	33.0	19.3	67		67.1	9,977	9,727	2,643	2,623
DOUGLEAV	26	29.5	18.8	64		56.7	6,455	6,284	1,956	1,952
DOUG FIR	24	27.3	12.8	45		24.2	2,409	2,341	703	703
S SPRUCE	30	34.1	10.4	28		20.2	1,602	1,511	478	472
SPRUCELV	7	8.0	19.4	53		16.4	1,864	1,716	533	503
SNAG	5	5.7	13.7	45		5.8	398		122	
R ALDER	5	5.7	12.6	46		4.9	591	557	164	155
SFIRLEAV	1	1.1	26.0	84	1	4.2	682	466	155	117
ALDRLEAV	3	3.4	11.0	35		2.2	250	250	68	68
TOTAL	206	234.1	15.1	49		289.8	35,432	33,159	9,815	9,459
		COEFF VAR.%	S.E.%	TREES/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1			LOW	AVG	HIGH	5	10	15	
WHEMLOCK	124.0	26.4		64	86	109				
HEMLEAV	108.3	23.1		25	33	41				
DOUGLEAV	112.7	24.0		22	30	37				
DOUG FIR	174.2	37.1		17	27	37				
S SPRUCE	157.7	33.6		23	34	46				
SPRUCELV	203.1	43.3		5	8	11				
SNAG	232.5	49.6		3	6	8				
R ALDER	382.4	81.5		1	6	10				
SFIRLEAV	469.0	100.0		0	1	2				
ALDRLEAV	469.0	100.0			3	7				
TOTAL	47.0	10.0		211	234	258	88	22	10	
		COEFF VAR.%	S.E.%	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1			LOW	AVG	HIGH	5	10	15	
WHEMLOCK	133.3	28.4		63	88	113				
HEMLEAV	91.9	19.6		54	67	80				
DOUGLEAV	103.5	22.1		44	57	69				
DOUG FIR	182.0	38.8		15	24	34				
S SPRUCE	155.0	33.0		14	20	27				
SPRUCELV	255.2	54.4		7	16	25				
SNAG	288.4	61.5		2	6	9				
R ALDER	411.3	87.7		1	5	9				
SFIRLEAV	469.0	100.0			4	8				
ALDRLEAV	469.0	100.0			2	4				
TOTAL	43.3	9.2		263	290	317	75	19	8	
		COEFF VAR.%	S.E.%	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1			LOW	AVG	HIGH	5	10	15	
WHEMLOCK	148.9	31.8		7,034	10,307	13,580				
HEMLEAV	98.1	20.9		7,693	9,727	11,761				
DOUGLEAV	101.9	21.7		4,919	6,284	7,649				
DOUG FIR	177.8	37.9		1,454	2,341	3,228				

TC TSTATS				STATISTICS				PAGE 2	
				PROJECT WHUNTCR				DATE 12/9/2004	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
08N	06W	32	AREA 2	0002	72.00	22	206	1	W
SD: 1		COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
S SPRUCE		179.9	38.4	932	1,511	2,091			
SPRUCELV		250.9	53.5	798	1,716	2,634			
SNAG									
R ALDER		430.6	91.8	46	557	1,068			
SFIRLEAV		469.0	100.0	0	466	932			
ALDRLEAV		469.0	100.0		250	500			
TOTAL		55.2	11.8	29,260	33,159	37,058	122	30	14

TC TSTATS		STATISTICS						PAGE 1		
		PROJECT WHUNTCR						DATE 12/9/2004		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
08N	06W	32	AREA 2	STAY	72.00	22	71	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		22	71	3.2						
CRUISE		22	71	3.2	5,809	1.2				
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
HEMLEAV	29	33.0	19.3	67		67.1	9,977	9,727	2,643	2,623
DOUGLEAV	26	29.5	18.8	64		56.7	6,455	6,284	1,956	1,952
SPRUCELV	7	8.0	19.4	53		16.4	1,864	1,716	533	503
SNAG	5	5.7	13.7	45		5.8	398		122	
SFIRLEAV	1	1.1	26.0	84	1	4.2	682	466	155	117
ALDRLEAV	3	3.4	11.0	35		2.2	250	250	68	68
TOTAL	71	80.7	18.6	62	SD 1.700 = 2.9	152.5	19,625	18,443	5,476	5,264
		COEFF	TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
HEMLEAV	108.3	23.1	25	33	41					
DOUGLEAV	112.7	24.0	22	30	37					
SPRUCELV	203.1	43.3	5	8	11					
SNAG	232.5	49.6	3	6	8					
SFIRLEAV	469.0	100.0	0	1	2					
ALDRLEAV	469.0	100.0		3	7					
TOTAL	44.8	9.5	73	81	88	80	20	9		
		COEFF	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
HEMLEAV	91.9	19.6	54	67	80					
DOUGLEAV	103.5	22.1	44	57	69					
SPRUCELV	255.2	54.4	7	16	25					
SNAG	288.4	61.5	2	6	9					
SFIRLEAV	469.0	100.0		4	8					
ALDRLEAV	469.0	100.0		2	4					
TOTAL	23.2	5.0	145	152	160	22	5	2		
		COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
HEMLEAV	98.1	20.9	7,693	9,727	11,761					
DOUGLEAV	101.9	21.7	4,919	6,284	7,649					
SPRUCELV	250.9	53.5	798	1,716	2,634					
SNAG										
SFIRLEAV	469.0	100.0	0	466	932					
ALDRLEAV	469.0	100.0		250	500					
TOTAL	32.9	7.0	17,151	18,443	19,735	43	11	5		

TC TSTATS		STATISTICS				PAGE	1			
		PROJECT WHUNTCR				DATE	12/9/2004			
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
08N	06W	32	AREA 2	TAKE	72.00	22	135	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		22	135	6.1						
CRUISE		19	135	7.1	11,045	1.2				
DBH COUNT										
REFOREST COUNT										
BLANKS		3								
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK	76	86.4	13.7	48		88.0	11,205	10,307	2,993	2,866
DOUG FIR	24	27.3	12.8	45		24.2	2,409	2,341	703	703
S SPRUCE	30	34.1	10.4	28		20.2	1,602	1,511	478	472
R ALDER	5	5.7	12.6	46		4.9	591	557	164	155
TOTAL	135	153.4	12.8	43		137.3	15,807	14,716	4,339	4,195
	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	124.0	26.4	64	86	109					
DOUG FIR	174.2	37.1	17	27	37					
S SPRUCE	157.7	33.6	23	34	46					
R ALDER	382.4	81.5	1	6	10					
TOTAL	63.9	13.6	133	153	174		163	41	18	
	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	133.3	28.4	63	88	113					
DOUG FIR	182.0	38.8	15	24	34					
S SPRUCE	155.0	33.0	14	20	27					
R ALDER	411.3	87.7	1	5	9					
TOTAL	76.1	16.2	115	137	160		232	58	26	
	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	148.9	31.8	7,034	10,307	13,580					
DOUG FIR	177.8	37.9	1,454	2,341	3,228					
S SPRUCE	179.9	38.4	932	1,511	2,091					
R ALDER	430.6	91.8	46	557	1,068					
TOTAL	95.5	20.4	11,721	14,716	17,711		365	91	41	

TC TSTATS		STATISTICS					PAGE 1			
		PROJECT WHUNTCR					DATE 12/9/2004			
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	06W	05	AREA 3	TAKE	58.00	41	269	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		41	269	6.6						
CRUISE		21	141	6.7	10,157	1.4				
DBH COUNT REFOREST COUNT		20	128	6.4						
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	54	45.0	19.0	60		88.5	12,354	10,724	3,210	2,910
R ALDER	53	94.7	12.3	36		78.7	8,289	7,472	2,291	2,094
DOUG FIR	25	23.4	17.2	57		37.7	4,500	4,038	1,221	1,125
S SPRUCE	9	12.0	15.4	35		15.6	1,637	1,433	440	380
TOTAL	<i>141</i>	<i>175.1</i>	<i>15.2</i>	<i>45</i>		<i>220.5</i>	<i>26,780</i>	<i>23,667</i>	<i>7,162</i>	<i>6,509</i>
	COEFF		TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15	
WHEMLOCK	96.1	15.0	38	45	52					
R ALDER	94.8	14.8	81	95	109					
DOUG FIR	184.9	28.9	17	23	30					
S SPRUCE	191.4	29.9	8	12	16					
TOTAL	<i>36.3</i>	<i>5.7</i>	<i>165</i>	<i>175</i>	<i>185</i>		<i>53</i>	<i>13</i>	<i>6</i>	
	COEFF		BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15	
WHEMLOCK	93.3	14.6	76	89	101					
R ALDER	95.3	14.9	67	79	90					
DOUG FIR	158.4	24.7	28	38	47					
S SPRUCE	187.5	29.3	11	16	20					
TOTAL	<i>32.2</i>	<i>5.0</i>	<i>209</i>	<i>221</i>	<i>232</i>		<i>41</i>	<i>10</i>	<i>5</i>	
	COEFF		NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH		5	10	15	
WHEMLOCK	100.8	15.7	9,035	10,724	12,412					
R ALDER	101.5	15.9	6,288	7,472	8,657					
DOUG FIR	143.3	22.4	3,135	4,038	4,941					
S SPRUCE	200.7	31.3	984	1,433	1,882					
TOTAL	<i>41.8</i>	<i>6.5</i>	<i>22,122</i>	<i>23,667</i>	<i>25,212</i>		<i>70</i>	<i>17</i>	<i>8</i>	

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT WHUNTCR				DATE	1/20/2005		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
07N	06W	05	AREA 3	STAY	58.00	41	15	1	W		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		41	15	.4							
CRUISE		6	10	1.7	585	1.7					
DBH COUNT											
REFOREST											
COUNT		4	5	1.3							
BLANKS		31									
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	
HEMLEAV	5	5.7	13.6	26		5.7	373	373	117	117	
SNAG	2	2.6	16.9	22		4.1	117		52		
SPRUCELV	2	1.1	16.7	49		1.6	156	156	51	51	
SFIRLEAV	1	.7	15.0	41	0	.8	40	40	18	18	
TOTAL	10	10.1	14.9	28		12.3	686	569	238	186	
	COEFF VAR.	S.E.%	TREES/ACRE			# OF PLOTS REQ.		INF. POP.			
SD: 1			LOW	AVG	HIGH	5	10	15			
HEMLEAV	365.0	57.0	2	6	9						
SNAG	272.5	42.6	2	3	4						
SPRUCELV	640.3	100.0	0	1	2						
SFIRLEAV	640.3	100.0		1	1						
TOTAL	234.6	36.6	6	10	14	2,201	550	245			
	COEFF VAR.	S.E.%	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.			
SD: 1			LOW	AVG	HIGH	5	10	15			
HEMLEAV	318.2	49.7	3	6	9						
SNAG	271.7	42.4	2	4	6						
SPRUCELV	640.3	100.0	0	2	3						
SFIRLEAV	640.3	100.0	0	1	2						
TOTAL	209.6	32.7	8	12	16	1,757	439	195			
	COEFF VAR.	S.E.%	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.			
SD: 1			LOW	AVG	HIGH	5	10	15			
HEMLEAV	282.9	44.2	208	373	538						
SNAG											
SPRUCELV	640.3	100.0		156	312						
SFIRLEAV	640.3	100.0		40	80						
TOTAL	311.7	48.7	292	569	846	3,887	972	432			

Stand Table Summary

Project WHUNTCR

T08N R06W S29 TSTAY

T08N R06W S29 TSTAY

Twp Rge Sec Tract
08N 06W 29 AREA 1

Type
STAY

Acres
62.00

Plots
33

Sample Trees
72

Page: 1
Date: 12/9/2004
Time: 11:08:32AM

S Spc	T	Sample			Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
		DBH	Trees	16'					Tot	Net Cu.Ft.				Net Bd.Ft.	Tons	Cunits
DL		11	1	86	39	3.524	2.33	3.52	11.0	30.0		39	106		24	7
DL		18	1	86	126	1.316	2.33	3.95	29.0	103.3		115	408		71	25
DL		20	1	85	120	1.066	2.33	3.20	32.0	116.7		102	373		63	23
DL		24	1	86	128	.740	2.33	2.22	50.7	200.0		113	444		70	28
DL		25	1	91	129	.682	2.33	2.05	57.7	273.3		118	560		73	35
DL		26	4	86	120	2.523	9.30	6.94	61.6	256.4		428	1,779		265	110
DL		27	2	90	128	1.170	4.65	3.51	67.0	311.7		235	1,094		146	68
DL		28	2	89	141	1.088	4.65	3.26	76.5	360.0		250	1,175		155	73
DL		29	4	84	147	2.028	9.30	6.09	81.6	362.5		496	2,206		308	137
DL		30	1	88	130	.474	2.33	1.42	81.3	410.0		116	583		72	36
DL		31	1	88	153	.444	2.33	1.33	98.7	480.0		131	639		81	40
DL		32	2	83	149	.833	4.65	2.50	92.7	433.3		232	1,083		144	67
DL		33	3	90	137	1.175	6.98	3.52	104.7	527.8		369	1,860		229	115
DL		34	1	86	154	.369	2.33	1.11	118.3	570.0		131	631		81	39
DL		35	2	86	131	.696	4.65	2.09	109.8	553.3		229	1,156		142	72
DL		36	4	86	144	1.316	9.30	3.95	122.6	620.0		484	2,448		300	152
DL		38	4	85	145	1.181	9.30	3.84	128.2	650.0		492	2,496		305	155
DL		40	1	89	121	.267	2.33	.80	137.0	690.0		110	552		68	34
DL		41	1	82	151	.254	2.33	.76	164.3	800.0		125	609		78	38
DL	Totals		37	86	119	21.147	86.06	56.06	77.0	360.3		4,314	20,200		2,674	1,252
HL		11	1	86	37	3.603	2.38	3.60	11.0	30.0		40	108		25	7
HL		13	1	85	39	2.579	2.38	2.58	16.0	40.0		41	103		26	6
HL		14	1	82	56	2.224	2.38	2.22	27.0	60.0		60	133		37	8
HL		16	1	86	84	1.703	2.38	3.41	26.5	90.0		90	307		56	19
HL		17	1	91	91	1.508	2.38	4.53	20.3	83.3		92	377		57	23
HL		18	1	89	133	1.345	2.38	4.04	34.0	140.0		137	565		85	35
HL		19	1	89	125	1.208	2.38	3.62	36.0	143.3		130	519		81	32
HL		21	2	91	121	1.977	4.76	5.93	42.8	190.0		254	1,127		158	70
HL		24	6	88	123	4.541	14.27	13.62	55.6	244.4		758	3,330		470	206
HL		25	2	88	121	1.395	4.76	4.18	59.3	261.7		248	1,095		154	68
HL		26	3	89	127	1.935	7.13	5.80	67.1	295.6		389	1,715		241	106
HL		27	2	91	134	1.196	4.76	4.19	67.6	345.7		283	1,447		175	90
HL		28	1	91	107	.556	2.38	1.67	69.7	343.3		116	573		72	36
HL		30	1	85	106	.484	2.38	1.45	75.3	333.3		109	484		68	30
HL		31	1	88	144	.454	2.38	1.36	105.3	533.3		143	726		89	45
HL		32	1	88	144	.426	2.38	1.28	112.0	563.3		143	719		89	45
HL	Totals		26	88	95	27.134	61.82	63.48	47.8	210.0		3,035	13,329		1,882	826
CL		21	1	72	55	1.134	2.73	1.13	57.0	60.0		65	68		40	4
CL		26	1	78	99	.740	2.73	1.48	69.5	210.0		103	311		64	19
CL		30	2	72	88	1.111	5.45	2.22	82.5	192.5		183	428		114	27
CL	Totals		4	73	78	2.985	10.91	4.84	72.5	166.8		351	807		217	50
SN		21	1	89	80	.806	1.94									
SN		22	1	89	17	.735	1.94									
SN		35	2	88	25	.581	3.88									
SN		42	1	89	55	.202	1.94									
SN	Totals		5	89	44	2.323	9.70									
Totals			72	86	101	53.589	168.48	124.38	61.9	276.1		7700	34,336		4,774	2,129

TC TSTNDSUM

Stand Table Summary

Project WHUNTCR

T08N R06W S32 TSTAY

T08N R06W S32 TSTAY

Twp Rge Sec Tract
08N 06W 32 AREA 2

Type
STAY

Acres
 72.00

Plots
 22

Sample Trees
 71

Page: 2
Date: 12/9/200
Time: 11:08:32AM

S Spc T	Sample DBH	FF Trees	Av Ht 16'	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	
SN	Totals	5	79	45	5.682	5.82										
	Totals	71	84	83	80.682	152.46	136.36	38.6	135.2		5264	18,443		3,790	1,328	

Log Stock Table - MBF

T07N R06W S05 TyTAKE
THRU
T08N R06W S32 TyTAKE

Project: WHUNTCR
Acres 194.00

S T	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches															
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+				
A	?	?	6	2	100.0																		
A	?0	?	8	3	100.0																		
A	?	?	10	9	100.0																		
A	?	?	15	4	100.0																		
A	?	?	16	17	100.0																		
A	DO	CU	20	5	100.0																		
A	?	?	30	10	100.0																		
A	DO	2S	20	13		13	2.8						7		6								
A	DO	2S	24	7		7	1.6						7										
A	?	2S	32	27		27	5.8						20		8								
A	?	2S	40	29		29	6.1						10		18								
A	?	3S	16	4		4	.9				4												
A	?	3S	24	7		7	1.5					7											
A	?0	3S	30	57		57	11.9				12		45										
A	?0	3S	32	10		10	2.2				0		10										
A	?0	3S	34	6		6	1.2				6												
A	?	3S	40	6		6	1.2				6												
A	?	4S	16	20		20	4.1				20												
A	DO	4S	18	4		4	.8				4												
A	?0	4S	20	18		18	3.7				18												
A	DO	4S	22	6		6	1.3				6												
A	?0	4S	24	17		17	3.5				3		13										
A	?	4S	26	14		14	3.1				6		8										
A	DO	4S	28	9		9	1.8						9										
A	?0	4S	30	50		50	10.6				16		35										
A	?	4S	32	33		33	6.9				9		23										
A	?	4S	36	35		35	7.4						35										
A	?0	4S	40	103		103	21.7						103										
A	Totals			525	9.5	475	12.1				35	301	62	45	32								
D	DO	CU	3	2	100.0																		
D	?0	?	4	1	100.0																		
D	?	?	6	32	100.0																		
D	?	?	10	9	100.0																		
D	DO	CU	12	9	100.0																		
D	DO	CU	27	4	100.0																		
D	?	2S	14	1		1	.1						1										

Log Stock Table - MBF

T07N R06W S05 TyTAKE
THRU
T08N R06W S32 TyTAKE

Project: WHUNTCR
Acres 194.00

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
D		?	SM	20	31		31	2.6								31		
D		?	SM	40	24	7.8	22	1.8									22	
D		Totals			1,256	6.1	1,179	30.0		4	157	94	105	184	172	298	120	45
H		?	?	2	1	100.0												
H		DO	CU	3	1	100.0												
H		?0	?	4	10	100.0												
H		?0	?	6	23	100.0												
H		?0	?	8	29	100.0												
H		?0	?	10	11	100.0												
H		?0	?	12	22	100.0												
H		DO	CU	14	6	100.0												
H		?	?	16	7	100.0												
H		?	?	20	19	100.0												
H		DO	CU	26	11	100.0												
H		?0	?	32	17	100.0												
H		?0	2S	12	8		8	.4						8				
H		DO	2S	14	8		8	.4								8		
H		?	2S	20	11		11	.5					3		8			
H		?0	2S	24	10		10	.5					10					
H		?	2S	26	14		14	.7						14				
H		?	2S	28	10		10	.5					4	7				
H		?0	2S	32	298		295	14.2					17	142	42	59	34	
H		?	2S	36	20		20	1.0						20				
H		?0	2S	40	826	1.2	817	39.3						176	238	367	35	
H		DO	3S	12	1		1	.0										
H		?0	3S	16	20	12.5	18	.9								18		
H		?	3S	20	7		7	.4					1	6				
H		?	3S	22	13		13	.6								10		
H		?	3S	23	2		2	.1										
H		?0	3S	24	8		8	.4										
H		?	3S	26	6		6	.3					1	3	2			
H		?0	3S	28	18		18	.9					4	2	12			
H		?	3S	29	2	20.0	2	.1					2					
H		?0	3S	30	11		11	.5						6				
H		?0	3S	32	282	1.8	276	13.3					81	98	95	1		2
H		?	3S	33	3		3	.1					3					

Log Stock Table - MBF

T07N R06W S05 TyTAKE
THRU
T08N R06W S32 TyTAKE

Project: WHUNTCR
Acres 194.00

Spp	S T	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches													
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+		
S		?0	3S	40	37		37	18.5			29	8	0									
S		?0	4S	14	2		2	.8				2										
S		?0	4S	16	19	4.3	19	9.4			19	0										
S		?0	4S	18	2		2	.8			2											
S		?0	4S	19	1		1	.7				1										
S		?0	4S	20	9		9	4.7			9											
S		?0	4S	22	0	25.0	0	.0			0											
S		?0	4S	24	11		11	5.3			7	3										
S		?0	4S	26	3		3	1.7			3											
S		?0	4S	30	3	25.0	3	1.3			3											
S		?0	4S	32	13	26.6	9	4.7			9											
S		Totals			217	8.7	198	5.0			83	24	5	44	25	18						
SN		?0	?	38	1	100.0																
SN		Totals			1	100.0																
SF		?0	?	10	0	100.0																
SF		?0	2S	40	1	5.6	1	82.9						1								
SF		?0	3S	32	0		0	17.1				0										
SF		Totals			1	33.9	1	.0				0			1							
C		?0	4S	16	2		2	100.0			2											
C		Totals			2		2	.1			2											
Total		All Species			4,265	7.8	3,933	100.0		6	665	609	387	653	574	777	217	45				

CRUISE DESIGN
ASTORIA DISTRICT

Sale Name: West Hunt Creek Area (B) 1

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

Approx. Cruise Acres: 52 Estimated CV% 70 ^{Net BF or} BA/Acre SE% Objective 11 ^{Net BF or} BA/Acre

Planned Sale Volume: 3.1 ^{Gross} MMBF Estimated Sale Area Value/Acre: \$ 4,326

- A. **Cruise Goals:** (a) Grade minimum 150 conifer and 10 hardwood trees;
 (b) Sample cruise plots; (c) Other goals (Determine "automark" thinning standards; Determine log grades for sale value; Determine ~~sample~~ leave tree species and sizes; Determine LWD (down wood) cubic feet and decay classes; Determine "diameter limit" harvest parameters;

Estimate of the 150 conifer 80 leave 70 total

a) Leave BA to be 160 s/ft b) 20 s/ft can't should be small DBH w/50% crown

B. **Cruise Design:**

1. **Plot Cruises:** BAF 40 (Full point) Half point (circle one) ^{c) Cedar over 24" Reserved.}
 Fixed Plot Size Plot Radius feet ^{d) Stand structure to be layered}
 Cruise Line Direction(s) East - West
 Cruise Line Spacing 4 (chains) (feet)
 Cruise Plot Spacing 3 (chains) (feet)
 Grade/Count Ratio 1:2 *Grade every other plot as shown on map*
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 is " or % of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for trees > 18" dbh. *consider 7" or 40% Hardwood 9" min*
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
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
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).
 B. Data Recorder Instructions
 C. Other

Cruise Design by: Edward M. Halloran
 Approved by: Dan Goody
 Date: 10/11/04

3chs
x
4chs
E-W

8chs
x
5chs
V-S

3chs
x
5chs

Line 5 2plots
Line 4 12plots
Line 3 - 15plots

FY2005
West Hunt Creek
Portions of Sections 4 and 5,
T7N, R6W,
and Sections 29 and 32,
T8N, R6W,
W.M., Clatsop County, Oregon.

- LEGEND**
- Timber Sale Boundary
 - Roads
 - Road Construction
 - Old Railroad Grade
 - GTRA
 - OOF Ownership
 - Streams
 - Type F Stream
 - Type N Stream
 - Unknown Stream

APPROX. NET ACREAGE:

Area 1 (PC)	52 Acres
Area 2 (PC)	63 Acres
Area 3 (RH)	63 Acres
Total PC	115 Acres
Total RH	63 Acres
Total	178 Acres

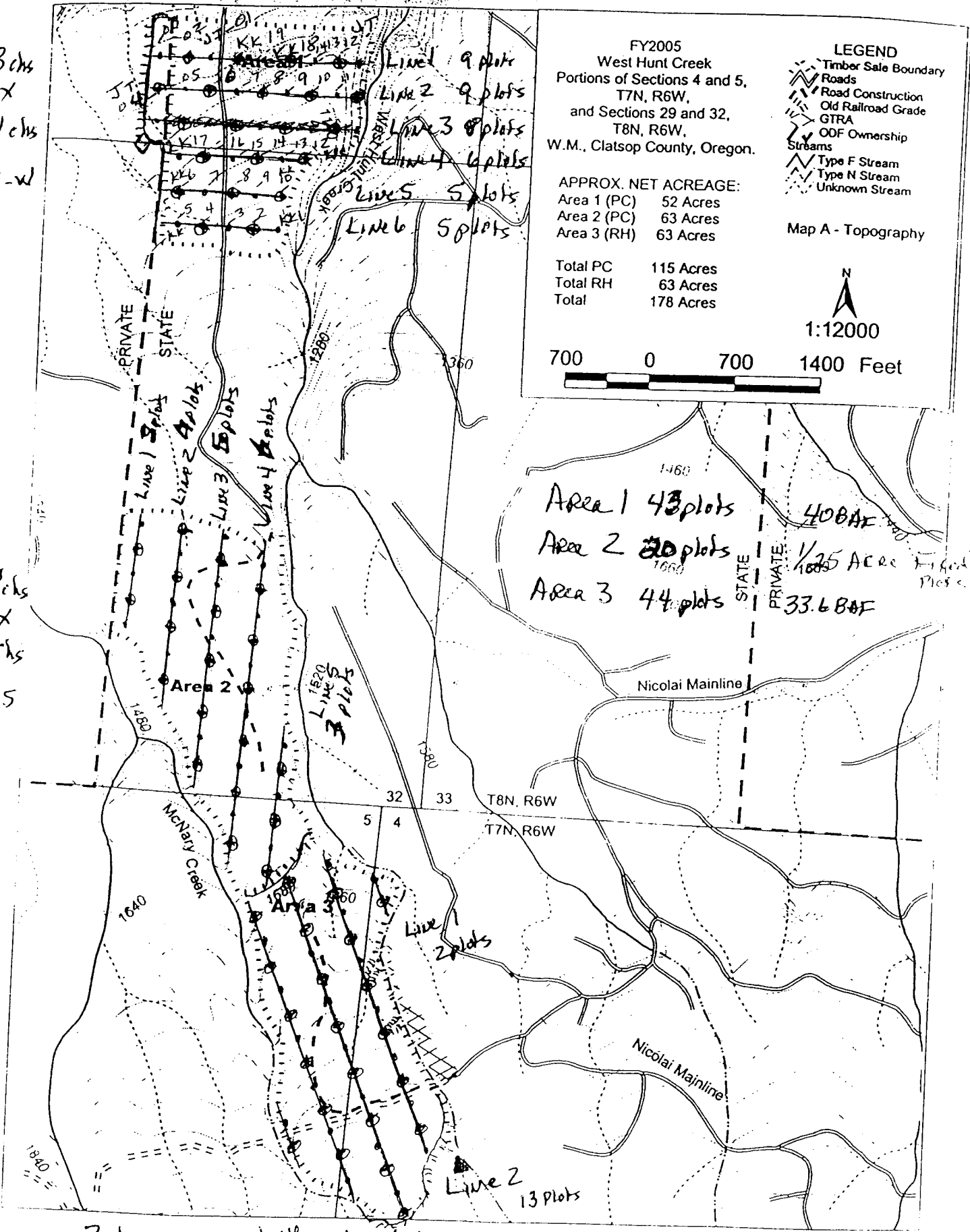
Map A - Topography

N
1:12000

700 0 700 1400 Feet

Area 1 43plots
Area 2 20plots
Area 3 44plots

408AF
PRIVATE: 1/25 Acre
33.68AF



CRUISE DESIGN
ASTORIA DISTRICT

Sale Name: West Hunt Creek Area 2

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

Approx. Cruise Acres: 63 Estimated CV% 70 ^{(Net BF or} BA/Acre SE% Objective 11 ^{Net BF or} BA/Acre

Planned Sale Volume: 3.1 ^(gross) MMBF Estimated Sale Area Value/Acre: \$4,326

- A. **Cruise Goals:** (a) Grade minimum 250 conifer and 50 hardwood trees;
 (b) Sample 20 cruise plots; (c) Other goals (Determine "automark" thinning standards; Determine log grades for sale value; Determine ~~some~~ leave tree species and sizes; Determine LWD (down wood) cubic feet and decay classes; Determine "diameter limit" harvest parameters;

Estimate of the 250 conifer 70 leave, 180 take

- B. **Cruise Design:** (a) All cedar reserved (b) Small Alder to be left. (c) Stand planned for Layered Structure

1. **Plot Cruises:** BAF (Full point; Half point) (circle one) (a) Leave BA to be 140 sq ft.
 Fixed Plot Size 1/25 Plot Radius 23.55 feet (b) Cut Hemlock with moderate & Heavy Mistletoe.
 Cruise Line Direction(s) North-South
 Cruise Line Spacing 5 (chains) (feet)
 Cruise Plot Spacing 6 (chains) (feet)
 Grade/Count Ratio 100% Grade

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 is Conifer 7" or 40% Hardwood 9" or " or % 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

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

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).
 - B. Data Recorder Instructions
 - C. Other

Cruise Design by: Edward M. Halloran
 Approved by: Dave Good
 Date: 10/11/04

3 chs
x
4 chs
E-W

8 chs
x
5 chs
1-5

3 chs
x
5 chs

Line 5 2 plots
Line 4 12 plots
Line 3 - 15 plots

FY2005
West Hunt Creek
Portions of Sections 4 and 5,
T7N, R6W,
and Sections 29 and 32,
T8N, R6W,
W.M., Clatsop County, Oregon.

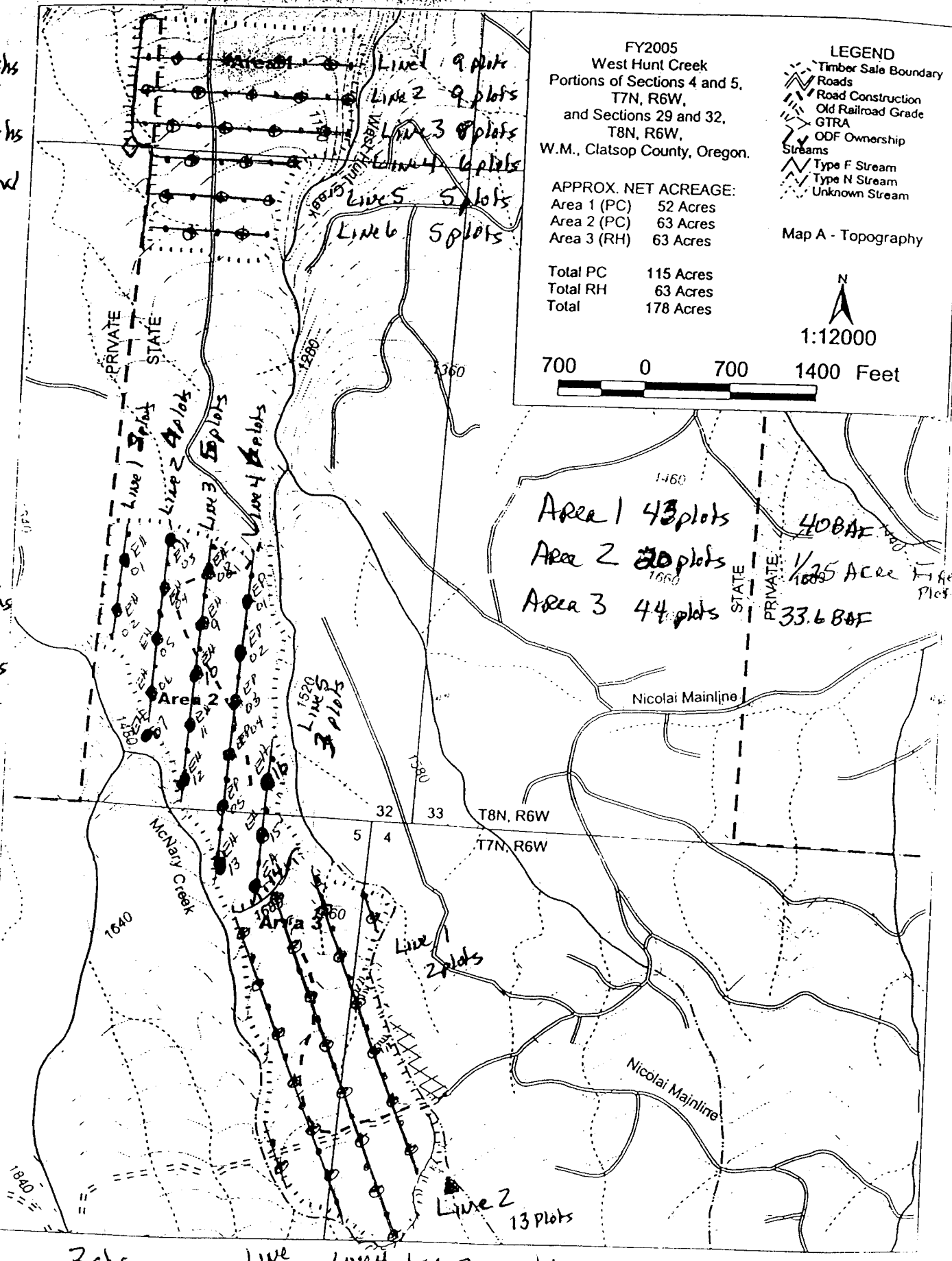
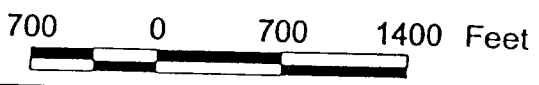
APPROX. NET ACREAGE:
Area 1 (PC) 52 Acres
Area 2 (PC) 63 Acres
Area 3 (RH) 63 Acres

Total PC 115 Acres
Total RH 63 Acres
Total 178 Acres

- LEGEND**
- Timber Sale Boundary
 - Roads
 - Road Construction
 - Old Railroad Grade
 - GTRA
 - ODF Ownership
 - Streams
 - Type F Stream
 - Type N Stream
 - Unknown Stream

Map A - Topography

N
1:12000



Area 1 43 plots
Area 2 30 plots
Area 3 44 plots

PRIVATE 40 BAR
PRIVATE 1/1075 Acre Field Plots
PRIVATE 33.6 BAR

5
4

CRUISE DESIGN
ASTORIA DISTRICT

Sale Name: West Hunt Creek Area(g) 3

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

Approx. Cruise Acres: 63 Estimated CV% 70 (Net BF) or BA/Acre SE% Objective 1) (Net BF) or BA/Acre

Planned Sale Volume: 3.1 MMBF Estimated Sale Area Value/Acre: \$ 4,326

- A. **Cruise Goals:** (a) Grade minimum 80 conifer and 50 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;

All Take Trees with some millage limit

a) Trees over 34" Reserved b) All cedar Reserved c) Reg. Harvest,

B. **Cruise Design:**

1. Plot Cruises: BAF 33.6 (Full point) Half point (circle one) 11 bars 10 to 2+5
 Fixed Plot Size _____ Plot Radius _____ feet (2 big and 5 Little)
 Cruise Line Direction(s) 156° & 336°
 Cruise Line Spacing 5 (chains) (feet)
 Cruise Plot Spacing 3 (chains) (feet)
 Grade/Count Ratio _____

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 is 7" 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. conifer 7" Hardwood 9" min

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
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
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).
 B. Data Recorder Instructions
 C. Other

Cruise Design by: Ed Holloman
 Approved by: Doug Good
 Date: 10/11/02

3chs
x
4chs
E-W

6chs
x
5chs
V-S

5
6
3chs
x
5chs

Line 5 2 plots
Line 4 12 plots
Line 3 - 15 plots

FY2005
West Hunt Creek
Portions of Sections 4 and 5,
T7N, R6W,
and Sections 29 and 32,
T8N, R6W,
W.M., Clatsop County, Oregon.

APPROX. NET ACREAGE:
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Area 2 (PC) 63 Acres
Area 3 (RH) 63 Acres

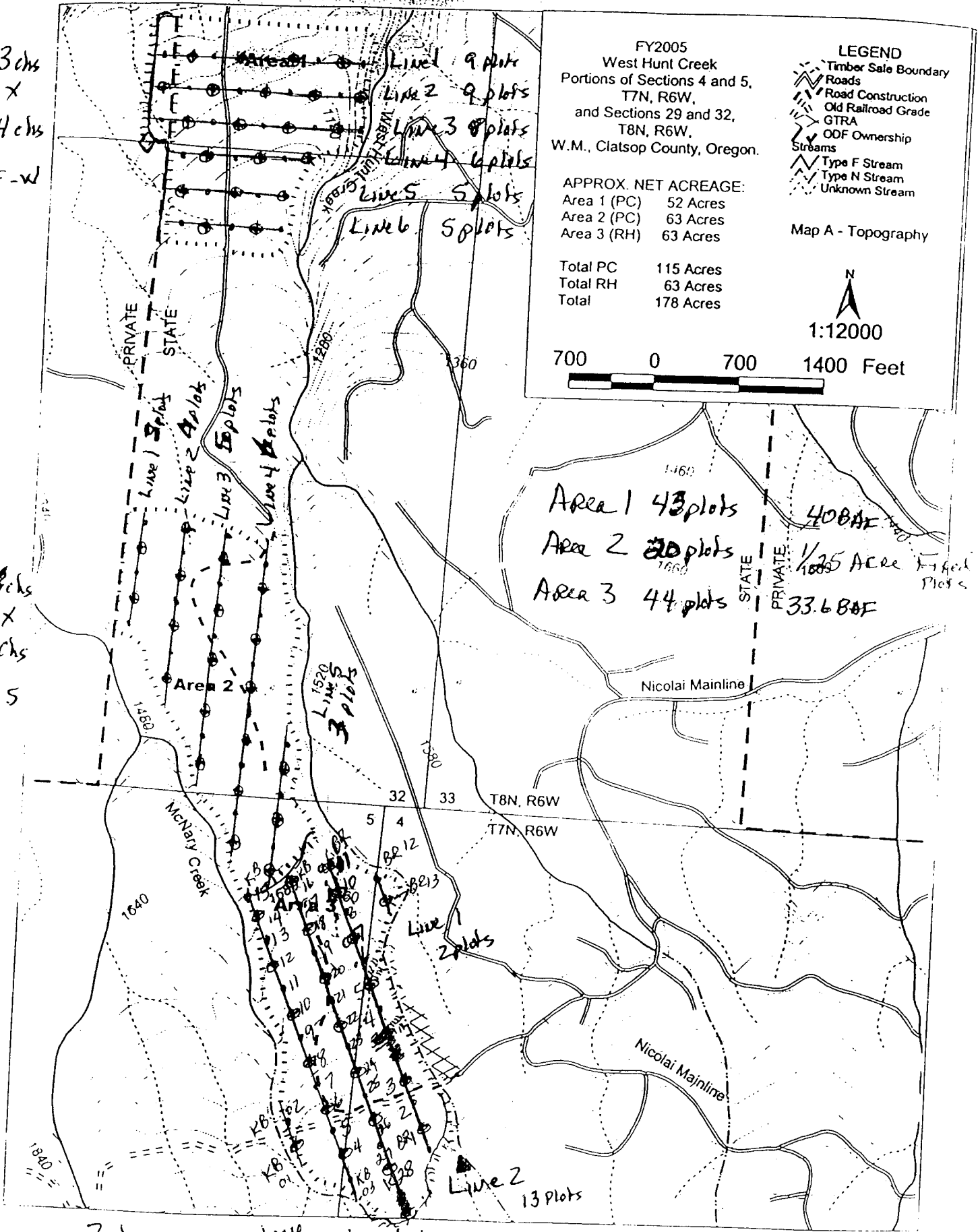
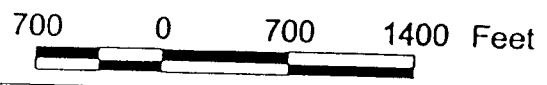
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 - Streams
 - Type F Stream
 - Type N Stream
 - Unknown Stream

Map A - Topography



1:12000



Area 1 43 plots
Area 2 20 plots
Area 3 44 plots

408 AF
PRIVATE: 1/25 Acre
33.68 AF

Line 1 2 plots
Line 2 13 plots