



Timber Sale Appraisal
Foster Home
Sale 341-08-22

"STEWARDSHIP IN FORESTRY"

District: Astoria

Date: October 04, 2007

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,715,077.91	\$731,103.90	\$2,446,181.81
		Project Work:	\$(426,514.00)
		Advertised Value:	\$2,019,667.81



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timber description

Location: Portions of Sections 18, 19, & 30, T7N, R6W, W.M., Clatsop County, Oregon.

Stand Stocking: 100%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	18	0	98
Western Hemlock / Fir	16	0	97
Alder (Red)	14	0	96

Volume by Grade	2S	3S	4S	Camprur	Total
Douglas - Fir	3,247	1,937	339	0	5,523
Western Hemlock / Fir	510	266	66	0	842
Alder (Red)	0	0	0	1,630	1,630
Total	3,757	2,203	405	1,630	7,995



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comments: Pond Values Used: 3rd Quarter Calendar Year 2007.

Expected Log Markets: Tillamook, Longview, Mist.

Western Red Cedar Stumpage Price = Pond Value minus Logging Cost
\$786.53/MBF = \$1,000/MBF - \$213.47/MBF

HAULING

Hauling costs equivalent to \$700 daily truck cost.

Other Costs (Profit and Risk to be added):

100% Branding and Painting: \$1/MBF x 7,995/MBF = \$7,995

Skyline placement of logs in 3 locations:

5 logs/site x 3 sites = 15 logs x \$100/log = \$1,500

TOTAL Other Costs (Profit and Risk to be added) = \$9,495

OTHER COSTS (No Profit and Risk added):

"Loggers Choise" roads (Areas 2&4):

19 sta. X \$125/sta. = \$2,375

Pile slash at MC cable landings:

\$130/landing x 10 landings = \$1,300

Excavator Slash piling: 124 Hrs x \$120/Hr = \$14,880

Excavator Slash Piler Move-in:

\$945/Move X 3 Moves = \$2,835

Road Use Fee = \$9,184

Snag creation: 150 snags X \$45/snag = \$6,750

TOTAL Other Costs (No Profit and Risk added) = \$37,324



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logging conditions

combination#: 1	Douglas - Fir	22.00%	
	Western Hemlock / Fir	22.00%	
	Alder (Red)	22.00%	
yarding distance:	Medium (800 ft)	downhill yarding:	No
logging system:	Shovel	Process:	Manual Delimiting
tree size:	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF		
loads / day:	7.0	bd. ft / load:	4,000
cost / mbf:	\$89.45		
machines:	Shovel Logger		
combination#: 2	Douglas - Fir	74.00%	
	Western Hemlock / Fir	74.00%	
	Alder (Red)	74.00%	
yarding distance:	Long (1,500 ft)	downhill yarding:	No
logging system:	Cable: Medium Tower >40 - <70	Process:	Stroke Delimber
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:	\$119.43		
machines:	Log Loader (A) Stroke Delimber (A) Tower Yarder (Medium)		
combination#: 3	Douglas - Fir	4.00%	
	Western Hemlock / Fir	4.00%	
	Alder (Red)	4.00%	
yarding distance:	Medium (800 ft)	downhill yarding:	No
logging system:	Track Skidder	Process:	Manual Falling/Delimiting
tree size:	Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF		
loads / day:	6.0	bd. ft / load:	4,000
cost / mbf:	\$143.35		
machines:	Log Loader (B) Track Skidder		



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logging costs

Operating Seasons:	3.00	Profit Risk:	14.00%
Project Costs:	\$426,514.00	Other Costs (P/R):	\$9,495.00
Slash Disposal:	\$0.00	Other Costs:	\$37,324.00

Miles of Road

Road Maintenance: \$5.02

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

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	3.0	3.5
Western Hemlock / Fir	\$0.00	2.0	4.0
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									
\$113.79	\$5.12	\$1.65	\$59.65	\$1.19	\$25.40	\$0.00	\$2.00	\$4.67	\$213.47
Western Hemlock / Fir									
\$113.79	\$5.17	\$1.65	\$79.06	\$1.19	\$28.12	\$0.00	\$2.00	\$4.67	\$235.65
Alder (Red)									
\$113.79	\$5.22	\$1.65	\$70.96	\$1.19	\$26.99	\$0.00	\$2.00	\$4.67	\$226.47

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$504.88	\$291.41	\$0.00
Western Hemlock / Fir	\$0.00	\$361.09	\$125.44	\$0.00
Alder (Red)	\$0.00	\$675.00	\$448.53	\$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	5,523	\$291.41	\$1,609,457.43
Western Hemlock / Fir	842	\$125.44	\$105,620.48
Alder (Red)	1,630	\$448.53	\$731,103.90

Gross Timber Sale Value

Recovery: \$2,446,181.81

Prepared by: Bryce Rodgers

Phone: 503-325-5451

Road Maintenance Cost Summary (Interim and Post Harvest)

Sale: Foster Home
 Date: July 21, 2007
 By: Bryce Rodgers

MBF: 7,995
 \$\$/MBF: \$5.02

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost
Progressive Operations Entries (1)	Grader 14G	\$570	1	47	\$84	\$4,518
	Dump Truck 12CY	\$119	2	16	\$59	\$1,182
	FE Loader C966	\$570	1	8	\$79	\$1,202
Final Haul Road Maintenance Haul Route	Grader 14G	\$570	1	117	\$84	\$10,373
	Dump Truck 12CY	\$119	3	72	\$59	\$4,605
	FE Loader C966	\$570	1	24	\$79	\$2,466
	Vibratory Roller	\$570	1	117	\$79	\$9,789
	Water Truck 2,500 gallon Labor	\$139	1	80	\$70	\$5,739
				10	\$25	\$250
Total						\$40,124

Interim Maintenance (1)

Production Rates
 Grader

Miles/day	Distance(miles)	Days	Hours
1.5	7.0	5	47

Final Road Maintenance

Production Rates
 Grader
 Vibratory Roller

Miles/day	Distance(miles)	Days	Hours
1.5	17.5	11.7	116.67
1.5	17.5	11.7	116.67

Total Miles: 17.5

SUMMARY OF ALL PROJECT COSTS

SALE NAME: Foster Home

NEW CONSTRUCTION:

Project No.	Road segment	Length/Sta	Cost
Project No. 1	1A-1B, 1C-1D, 1E-1F, 1G-1H 2A-2B, 2C-2D, 3A-3B, 3C-3D, 3E-3F	138.75	\$98,320.00
TOTALS	2.63 miles	138.75 Stations	\$98,320

ROAD IMPROVEMENT

Project No.	Road segment	Length/Sta	Cost
Project No. 2	I1-I2, I3-I4, I5-I6	306.90	\$53,733
TOTALS	5.81 miles	306.90 Stations	\$53,733

SPECIAL PROJECTS

Project No.	Description	Cost
Project No. 3	Knob Point Rock Crushing (14,314 cy)	\$94,950
Project No. 4	Hunt Creek Rock Crushing and Stockpile Construction (23,200 cy)	\$165,366
Project No. 5	Vacating (0.02 miles)	\$1,324
	Project Road Maintenance	\$5,900
TOTALS		\$267,540

MOVE IN:

Equipment	Cost
Grader (14G)	\$570
Vibratory Roller x 2 @ \$570 each	\$1,140
Water Truck (2,500 gal)	\$139
D-8 Dozer x 2 @ \$1,030 each	\$2,060
Excavator (C330) x 2 @ \$1,030 each	\$2,060
12cy Dump Trucks x 8 @ \$119 each	\$952
TOTAL	\$6,921

GRAND TOTAL **\$426,514**

Compiled By: Bryce Rodgers *FL*

Date: 08/21/2007

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Foster Home
 ROAD: 1A-1B(3.8), 1C-1D(10.7), 1E-1F(3.0), 1G-1H(1.8)
 2A-2B(54.7), 2C-2D(25.4), 3A-3B(31.0), 3C-3D(1.7), 3E-3F(6.65)

NEW CONSTRUCTION: 138.75 STATIONS
 IMPROVEMENT: STATIONS

2.63 MILES
 MILES

CLEARING & GRUBBING					
Method	Acres/amount	x	Rate	=	Cost
Scatter Outside of R/W	13.50	x	\$980.00	=	\$13,230.00
		x		=	
		x		=	
SUB TOTAL FOR CLEARING & GRUBBING					\$13,230

EXCAVATION					
Material	Cy/amount	x	Rate	=	Cost
Field Design (Drift up to 200') \$\$/sta.		x		=	
1E-1F, 1G-1H, 2C-2D, 3A-3B, 3C-3D, 3E-3F	68.55	x	\$139.00	=	\$9,528.45
Common Excavation(≤50% slopes)	11,201.00	x	\$1.28	=	\$14,337.28
1A-1B, 1C-1D, 2A-2B		x		=	
End-haul Excavation 2A-2B to 1A-1B (load and haul up to 5,000')	900.00	x	\$2.90	=	\$2,610.00
Embankment Compaction \$\$/cy	12,101.00	x	\$0.45	=	\$5,445.45
Cut Slope Rounding 1C-1D, 2A-2B \$\$/sta.	9.00	x	\$31.00	=	\$279.00
Undesigned Landing Construction \$\$/ldg	9.00	x	\$285.00	=	\$2,565.00
Side Cast Pullback 2A-2B (C330) \$\$/hr	2.00	x	\$138.00	=	\$276.00
Push and Spread Waste 2A-2B (DB) \$\$/hr	2.00	x	\$126.00	=	\$252.00
Full Containment 3A-3B (C330) \$\$/hr	2.00	x	\$138.00	=	\$276.00
End-Haul 3A-3B (12yd ³ Highway Dump)	2.00	x	\$59.00	=	\$118.00
Embankment Compaction 3A-3B \$\$/cy	120.00	x	\$0.45	=	\$54.00
SUB TOTAL FOR EXCAVATION					\$34,765

CULVERT MATERIALS AND INSTALLATION						
Location	Dia/type	Lineal ft.	Rate	Cost		
1A to 1B	2+25	18"CPP	30	\$13.60	\$408.00	
1C to 1D	0+50	18"CPP	30	\$13.60	\$408.00	
1C to 1D	2+75	18"CPP	30	\$13.60	\$408.00	
1C to 1D	4+00	18"CPP	35	\$13.60	\$476.00	
1C to 1D	6+24	18"CPP	40	\$13.60	\$544.00	
1C to 1D	9+07	24"CPP	40	\$22.00	\$880.00	
1C to 1D	9+75	18"CPP	30	\$13.60	\$408.00	
2A to 2B	5+00	18"CPP	30	\$13.60	\$408.00	
2A to 2B	11+00	18"CPP	30	\$13.60	\$408.00	
2A to 2B	14+00	18"CPP	40	\$13.60	\$544.00	
2A to 2B	20+00	18"CPP	30	\$13.60	\$408.00	
2A to 2B	24+00	18"CPP	40	\$13.60	\$544.00	
2A to 2B	30+00	18"CPP	30	\$13.60	\$408.00	
2A to 2B	34+00	18"CPP	30	\$13.60	\$408.00	
2A to 2B	40+00	18"CPP	40	\$13.60	\$544.00	
2A to 2B	48+50	18"CPP	30	\$13.60	\$408.00	
2A to 2B	50+50	18"CPP	35	\$13.60	\$476.00	
2A to 2B	53+00	18"CPP	30	\$13.60	\$408.00	
2C to 2D	12+00	18"CPP	30	\$13.60	\$408.00	
3A to 3B	5+00	18"CPP	30	\$13.60	\$408.00	
3A to 3B	11+00	18"CPP	30	\$13.60	\$408.00	
Other/miscellaneous:			Description	Quantity	Rate	Cost
			Fill Armor Placement (2A to 2B)	40.00	\$2.00	\$80.00
Culvert stakes & markers:			6" FIBERGLASS MARKERS	21	\$14.10	\$296.10
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION					\$10,096	

Subtotal of Clearing, Exc., Culv. **\$58,091**

SURFACING		Subgrade prep:	Description	Stations/ amount	x	Rate/ sta/amt	Cost
			Grade, Shape and Ditch 16'	104.30	x	\$18.20	\$1,898.26
			Subgrade Compaction	104.30	x	\$14.80	\$1,543.64
			Grade, Shape and Ditch 14'	34.45	x	\$13.45	\$463.35

ROAD SEGMENT 1A to 1B		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1A to 1B Volume (CY) per	0+00 to 3+80 Number of			
Base Rock	4"-0" Crushed	0+00 to 3+80	9	station 49	stations 3.8	186	\$4.02	\$749
Traction Rock	3/4"-0" Crushed	0+00 to 3+80	2	station 11	stations 3.8	42	\$4.02	\$168
Junctions	4"-0" Crushed	0+00	9	junction 20	junctions 1	20	\$4.02	\$80
Turnouts	4"-0" Crushed	2+75	9	TO 22	TO's 1	22	\$4.02	\$88
Curve Widening	4"-0" Crushed	0+00 to 1+65	9	station 30	stations 1	30	\$4.02	\$121
Turnarounds	4"-0" Crushed	2+75	9	TA 13	TA's 1	13	\$4.02	\$52
Landings	6"-0" Pit-Run	3+80	N/A	Landing 80	Landings 1	80	\$4.15	\$332
Total Rock for Road Segment:						393		\$1,590

ROAD SEGMENT 1C to 1D		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1C to 1D Volume (CY) per	0+00 to 10+70 Number of			
Base Rock	4"-0" Crushed	0+00 to 10+70	9	station 49	stations 10.7	524	\$4.02	\$2,108
Traction Rock	3/4"-0" Crushed	0+00 to 3+00	2	station 11	stations 3.0	33	\$4.02	\$133
Junctions	4"-0" Crushed	0+00	9	junction 20	junctions 1	20	\$4.02	\$80
Turnouts	4"-0" Crushed	7+56	9	TO 22	TO's 1	22	\$4.02	\$88
Turnarounds	4"-0" Crushed	7+56	9	TA 13	TA's 1	13	\$4.02	\$52
Dissipator	24"-6" Riprap	0+50, 9+75	N/A	culvert 10	culverts 2	20	\$4.24	\$85
Landings	6"-0" Pit-Run	10+70	N/A	Landing 80	Landings 1	80	\$4.15	\$332
Total Rock for Road Segment:						712		\$2,878

ROAD SEGMENT 1E to 1F		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1E to 1F Volume (CY) per	0+00 to 3+00 Number of			
Base Rock	4"-0" Crushed	0+00 to 3+00	9	station 49	station 3.0	147	\$4.02	\$591
Junctions	4"-0" Crushed	0+00	9	junction 20	junctions 1	20	\$4.02	\$80
Curve Widening	4"-0" Crushed	0+00 to 2+00	9	station 33	stations 1	33	\$4.02	\$133
Landings	6"-0" Pit-Run	3+00	N/A	Landing 60	Landings 1	60	\$4.15	\$249
Total Rock for Road Segment:						260		\$1,053

ROAD SEGMENT 1G to 1H		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1G to 1H Volume (CY) per	0+00 Number of			
Junctions	4"-0" Crushed	0+00	9	junction 20	junctions 1	20	\$4.02	\$80
Junctions	3/4"-0" Crushed	0+00	N/A	junction 20	junctions 1	20	\$4.02	\$80
Total Rock for Road Segment:						40		\$80

ROAD SEGMENT 2A to 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 to 2B Volume (CY) per	0+00 to 54+70 Number of			
Base Rock	4"-0" Crushed	0+00 to 54+70	9	station 49	stations 54.7	2,880	\$4.02	\$10,775
Traction Rock	3/4"-0" Crushed	0+00 to 30+00	2	station 11	stations 30	330	\$4.02	\$1,327
Traction Rock	3/4"-0" Crushed	35+00 to 45+50	2	station 11	stations 10.5	116	\$4.02	\$464
Turnouts	4"-0" Crushed	9+00, 19+70, 29+15	9	TO 22	TO's 3	66	\$4.02	\$265
Turnouts	4"-0" Crushed	36+80, 41+70, 48+50	9	TO 22	TO's 3	66	\$4.02	\$265
Curve Widening	4"-0" Crushed		9	station	stations	200	\$4.02	\$804
Turnarounds	4"-0" Crushed	9+00	9	TA 13	TA's 1	13	\$4.02	\$52
Junctions	4"-0" Crushed	0+00	9	junction 20	junctions 1	20	\$4.02	\$80
Junctions	3/4"-0" Crushed	0+00	N/A	junction 20	junctions 1	20	\$4.02	\$80
Dissipator	24"-6" Riprap	11+00, 20+00, 24+00, 30+00, 50+50	N/A	culvert 10	culverts 5	50	\$4.33	\$217
Fill Armor	24"-6" Riprap	26+90 to 27+90	N/A	fill 40	fills 1	40	\$4.33	\$173
Subgrade Reinforcement	24"-6" Riprap					200	\$4.33	\$866
Landings	6"-0" Pit-Run	11+45, 54+70	N/A	Landing 80	Landings 2	160	\$4.15	\$664
Total Rock for Road Segment:						3,961		\$16,033

ROAD SEGMENT 2C to 2D		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2C to 2D Volume (CY) per	0+00 to 17+80 Number of			
Base Rock	4"-0" Crushed	0+00 to 17+80	9	station 49	stations 17.8	872	\$4.02	\$3,506
Junctions	4"-0" Crushed	0+00	9	junction 20	junctions 1	20	\$4.02	\$80
Turnouts	4"-0" Crushed	3+45, 6+45, 9+40, 14+80	9	TO 22	TO's 4	88	\$4.02	\$354
Landings	6"-0" Pit-Run	17+80	N/A	Landing 60	Landings 1	60	\$4.15	\$249
Total Rock for Road Segment:						1,040		\$4,189

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 Volume (CY) per	0+00 to 12+60 Number of			
Base Rock	4"-0" Crushed	0+00 to 12+60	9	station 49	stations 12.6	617	\$4.02	\$2,482
Junctions	4"-0" Crushed	0+00	9	junction 20	junctions 1	20	\$4.02	\$80
Turnouts	4"-0" Crushed	6+64, 12+00	9	TO 22	TO's 2	44	\$4.02	\$177
Traction Rock	3/4"-0" Crushed	7+00 to 12+60	2	station 11	stations 6	62	\$4.02	\$248
Total Rock for Road Segment:						743		\$2,987

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 Volume (CY)	0+00 to 1+70 Number of					
Base Rock	4"-0" Crushed	0+00 to 1+70	9	station	49	stations	1.7	83	\$4.02	\$335
Junctions	4"-0" Crushed	0+00	9	junction	20	junctions	1	20	\$4.02	\$80
Landings	6"-0" Pit-Run	1+70	N/A	Landing	80	Landings	1	80	\$4.15	\$332
Total Rock for Road Segment				3C to 3D				183		\$747
Processing:				Description				No. sta	Rate/sta	Cost
				Water, Process & Compact (4"-0" Crushed 1 lift)				104.30	\$41.40	\$4,318
				(3/4"-0" Crushed 1 lift)				52.90	\$41.40	\$2,190
SUB TOTAL FOR SURFACING				2 1/2"	3"-0" pr	4"-0"	3/4"-0"	Total		
				310	520	5,881	622	7,333	7,333	\$39,972
SPECIAL PROJECTS										
				Description				Cost		
				Grass seed & mulch Waste Areas						
				0.2 ac. X \$460/ac =				\$92		
				3 hrs labor X \$25/hr =				\$75		
				20 bales X \$4.50/bale =				\$90		
SUB TOTAL FOR SPECIAL PROJECTS								\$257		
								Subtotal of Surfacing & Spec. Proj. \$40,229		
								Subtotal of Clearing, Exc., Culv. \$58,091		
GRAND TOTAL								\$98,320		

Compiled By: Bryce Rodgers

Date: 08/21/2007

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Foster Home
 ROAD: I1-I2 (75.2), I3-I4 (64.4), I5-I6 (167.3)

NEW CONSTRUCTION: _____ STATIONS _____ MILES
 IMPROVEMENT: 306.90 STATIONS _____ 5.61 MILES

CLEARING & GRUBBING					
Method	Acres/amount	x	Rate	=	Cost
		x		=	
		x		=	
		x		=	
SUB TOTAL FOR CLEARING & GRUBBING					

EXCAVATION					
Material	Cy/amount	x	Rate	=	Cost
I1 to I2 Scatter Ditch Waste Materials \$\$/sta.	4.00	x	\$9.10	=	\$36.40
I3 to I4 Load & haul ditch waste materials \$\$/sta.		x		=	
11+50-40+00	26.50	x	\$16.80	=	\$478.80
I5 to I6 Load & haul ditch waste materials \$\$/sta.		x		=	
9+00-13+90, 17+10-23+30, 57+40-62+00	15.70	x	\$16.80	=	\$263.76
Culvert Clean Out (C315) \$\$/hr.		x		=	
25+65, 101+75	2.00	x	\$89.00	=	\$178.00
SUB TOTAL FOR EXCAVATION					\$957

CULVERT MATERIALS AND INSTALLATION					
Location	Dia/type	Lineal ft.	Rate	Cost	
I1 to I2 20+15	18"CPP	40	\$13.60	\$544.00	
I3 to I4 56+80	18"CPP	40	\$13.60	\$544.00	
I3 to I4 63+80	18"CPP	40	\$13.60	\$544.00	
I5 to I6 49+55*	18"CPP	40	\$10.12	\$404.80	
I5 to I6 90+00*	18"CPP	35	\$10.12	\$354.20	
I5 to I6 93+35*	18"CPP	35	\$10.12	\$354.20	
I5 to I6 96+30*	18"CPP	50	\$10.12	\$506.00	
I5 to I6 111+75*	18"CPP	35	\$10.12	\$354.20	

*Indicates culvert materials only.

	Description	Quantity	Rate	Cost
Other/miscellaneous:	See attached sheet for installation cost			\$3,325.00
	Dissipator Placement \$\$/cy	40	\$2.00	\$80.00
Culvert stakes & markers:	6" FIBERGLASS MARKERS	32	\$14.10	\$451.20

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION \$7,462

Subtotal of Clearing, Exc., Culv. **\$8,419**

SURFACING		Stations/ amount	x	Rate/ sta/amt	Cost
Subgrade prep:	Description				
Grade, Shape and Ditch 16'	I3-14, I5-16	231.70	x	\$18.20	\$4,216.94
Subgrade Compaction	I3-4, I5-16	231.70	x	\$14.80	\$3,429.16

ROAD SEGMENT I1 to I2		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost			
Application	Rock Size and Type	Location	Depth of Rock (Inches)	I1 to I2 Volume (CY) per	0+00 to 75+20 Number of						
Leveling Rock	3/4"-0" Crushed			N/A	10	N/A	34	340	\$4.02	\$1,367	
Turnouts	3/4"-0" Crushed			TO	10	TO's	10	100	\$4.02	\$402	
Turnarounds	3/4"-0" Crushed			TA	10	TA's	1	10	\$4.02	\$40	
Backfill Rock	3/4"-0" Crushed	20+15		culvert	30	culverts	1	30	\$4.02	\$121	
Total Rock for Road Segment				I1 to I2				480			\$1,930

ROAD SEGMENT I3 to I4		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost			
Application	Rock Size and Type	Location	Depth of Rock (Inches)	I3 to I4 Volume (CY) per	0+00 to 64+40 Number of						
Surface Rock	3/4"-0" Crushed			station	16	stations	64.4	1,030	\$4.02	\$4,142	
Leveling Rock	3/4"-0" Crushed			N/A	10	N/A	23	230	\$4.02	\$925	
Turnouts	3/4"-0" Crushed			TO	10	TO's	9.0	90	\$4.02	\$362	
Turnarounds	3/4"-0" Crushed			TA	10	TA's	2	20	\$4.02	\$80	
Curve Widening	3/4"-0" Crushed		3	N/A	20	N/A	1	20	\$4.02	\$80	
Backfill Rock	3/4"-0" Crushed	56+80, 63+80		N/A	10	N/A	5	50	\$4.02	\$201	
Base Rock	4"-0" Crushed	63+80		N/A	10	N/A	2	20	\$4.02	\$80	
Total Rock for Road Segment				I3 to I4				1,460			\$5,871

ROAD SEGMENT I5 to I6		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost			
Application	Rock Size and Type	Location	Depth of Rock (Inches)	I5 to I6 Volume (CY) per	0+00 to 167+30 Number of						
Surface Rock	3/4"-0" Crushed	0+00 to 167+30	4	station	22	stations	167.30	3,681	\$4.02	\$14,796	
Leveling Rock	3/4"-0" Crushed			N/A		N/A		730	\$4.02	\$2,935	
Turnouts	3/4"-0" Crushed			TO	10	TO's	30	300	\$4.02	\$1,206	
Turnarounds	3/4"-0" Crushed			TA	10	TA's	1	10	\$4.02	\$40	
Junction Rock	3/4"-0" Crushed			N/A	10	N/A	14	140	\$4.02	\$563	
Curve Widening	3/4"-0" Crushed			N/A	80	N/A	1	80	\$4.02	\$322	
Culvert/Fill	4"-0" Crushed	49+55,90+00,		Fill	10	Fills	6	60	\$4.02	\$241	
Base Rock Replacement		93+35,96+30,111+75									
Dissipator	24"-6" Rip Rap	90+00, 93+35, 96+30, 111+75		Disp.	10	Disps.	4	40	\$4.33	\$173	
Total Rock for Road Segment				I5 to I6				5,041			\$20,276

Processing:		Description	No. sta	Rate/sta	Cost
		Water, Process & Compact	231.70	\$41.40	\$9,592
SUB TOTAL FOR SURFACING					
		24"-6"	40		
		4"-0"	80		
		3/4"-0"	6,861		
		Total	6,981	6,981	\$45,315

SPECIAL PROJECTS		Description	Cost
SUB TOTAL FOR SPECIAL PROJECTS			\$0

Subtotal of Surfacing & Spec. Proj. \$45,315
Subtotal of Clearing, Exc., Culv. \$8,419

GRAND TOTAL \$53,733

Compiled By: Bryce Rodgers

Date: 08/21/2007

Project No. 2: Culvert and Fill Replacement

sta.	Description	C330	Mechanical Tamper w/operator	Labor (hrs)	Seeding (ac.)	Straw Mulch (bales)	Total
49+55	Fill Reconstruction 18"x40'	4 hr	2 hr	0.5	0.05	3	
90+00	Fill Reconstruction 18"x35'	4 hr	2 hr	0.5	0.05	3	
93+35	Fill Reconstruction 18"x35'	4 hr	2 hr	0.5	0.05	3	
96+30	Fill Reconstruction 18"x350'	4 hr	2 hr	0.5	0.05	3	
111+75	Fill Reconstruction 18"x35'	4 hr	2 hr	0.5	0.05	3	
	Total	20 hr	10 hr	2.5	0.25	15	
	Rate	\$138 /hr	\$32 /hr	\$25.00	\$460.00	\$4.50	
	Cost	\$2,760	\$320	\$63	\$115	\$68	\$3,325

PIT-RUN ROCK COST

SALE NAME: Foster Home
 PROJECT: Project No. 1
 QUARRY: Knob Point

ROCK TYPE: Pit-run

DATE: 08/20/2007
 BY: B. Rodgers

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 to 1B	3.80	80			1	0.50	0.25	0.20	0.25	2.20
1C to 1D	10.70	80			1	0.50	0.25	0.20	0.73	2.68
1E to 1F	3.00	60			1	0.50	0.25	0.20	0.72	2.67
2A to 2B	54.70	160			1	0.50	0.25	0.20	0.65	2.60
2C to 2D	17.80	60			1	0.50	0.25	0.20	1.25	3.20
3C to 3D	1.70	80			3	2.00	1.00	0.50	0.55	7.05
TOTAL	91.70	520								
CUBIC YARD WEIGHTED HAUL	STA./NO.	CU. YD.								
					1.31	0.73	0.37	0.25	0.66	AVERAGE HAUL 3.31
Average Round Trip Distance (miles) 6.63										

ROCK HAUL:

Truck type:	D20	No. trucks:		Ave haul:	\$3.62	/cy
Delay min.:	8	Efficiency:	85%	Load:	\$0.53	/cy
Truck type:	D12	No. trucks:	6	Spread:		/cy
Delay min.:	6	Efficiency:	85%			
Truck type:	D10	No. trucks:		Production: cy/day =	782	
Delay min.:	5	Efficiency:	85%			

PIT RUN ROCK HAUL COSTS 520 cy @ \$4.15 /cy

RIPRAP ROCK COST

SALE NAME: Foster Home
 PROJECT: Project No. 1
 QUARRY: Knob Point

ROCK TYPE: Rip Rap

DATE: 08/20/2007
 BY: B. Rodgers

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	
1C to 1D	10.70	20			1	0.50	0.25	0.20	0.73	2.68
2A to 2B	54.70	290			1	0.50	0.25	0.20	0.65	2.60
15 to 16	167.30	40			2	1.00	0.20	0.20	0.06	3.46
TOTAL	232.70	350								
	STA./NO.	CU. YD.								
CUBIC YARD WEIGHTED HAUL					1.11	0.56	0.24	0.20	0.59	
AVERAGE HAUL										2.70
Average Round Trip Distance (miles)										5.41

ROCK HAUL:

Truck type: D12 No. trucks: 3
 Delay min.: 6 Efficiency: 85%

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

Ave haul: \$3.11 /cy
 Load: \$1.22 /cy
 Develop: _____ /cy

Production: cy/day = 455

RIP RAP ROCK HAUL COSTS 350 cy @ \$4.33 /cy

SUMMARY OF ROCK DEVELOPMENT AND CRUSHING COSTS

PROJECT NO. 3

Timber Sale Name: Foster Home

Quarry: Knob Point
 Location: NW1/4,NW1/4 S18, T7N,R6W
 County: Clatsop
 By: d.mellison
 Date: 06/11/07

Swell: _____
 Shrink: 16%

ROCK SIZE	REJECT	GRADATION	STOCKPILE CU. YDS.	TRUCK MEAS CU. YDS.	TOTAL CU. YDS.
3/4"-0"	2%	CR	_____	7,483	7,483
1-1/2"-0"	2%	CR	_____	_____	_____
4"-0"		CR	_____	5,961	5,961
6"-0"		PR	_____	520	520
24"-6"		RR	_____	350	350
36"		RR	_____	_____	_____
TOTAL CUBIC YARDS OF ROCK:				14,314	14,314

1) MOBILIZATION & SET UP:

EQUIPMENT MOBILIZATION	DISTANCE IN MILES	DIST. FACTOR	BASE RATE	COST
3 Stage Crusher	75	1.40	\$2,353	\$3,294
Screening Plants (2)	75	1.40	\$954	\$1,336
D7 Cat	75	1.40	\$590	\$826
Loader	75	1.40	\$590	\$826
Drill & Compressor	75	1.40	\$570	\$798
Powder	75	1.40	\$286	\$400
1 Dump Trucks	75	1.40	\$119	\$167
Excavator	75	1.40	\$1,030	\$1,442
SUB TOTAL FOR MOBILIZATION				\$9,089

EQUIPMENT SET UP	TIMES	RATE	COST
3 Stage Crusher	1	\$2,682	\$2,682
Screening Plants (2)	1	\$451	\$451
Change Gradation	2	\$424	\$848
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

SUB TOTAL FOR SET UP COSTS **\$3,981**

TOTAL MOBILIZATION & SET UP COSTS **\$13,070**

2) CLEARING & GRUBBING

DESCRIPTION	QUANTITY	UNIT	RATE	COST
Pile and burn developed area	0.15	acres	\$1,980	\$297
Additional Equipment time (C 330)	4	hours	\$138	\$552
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

TOTAL CLEARING & GRUBBING COSTS **\$849**

3) EXCAVATION

MATERIAL DESCRIPTION	QUANTITY	UNIT	RATE	COST
Piled Overburden (Pile B) waste at (Pile A) (dig, load,haul, spread)	3,000	bcy	\$1.76	\$5,280
Developed Overburden waste @ (Pile A) (Excavate, load, haul, and spread)	711	bcy	\$1.76	\$1,251
Compact / shape waste area	3,861	bcy	\$0.25	\$965

TOTAL EXCAVATION COSTS \$7,497

4) DEVELOP ROCK

ROCK SUMMARY			METHOD	%	QUANTITY	RATE	COST
Type	Cu. yd.	Vol.	Weight	Ripping		\$1.85	
crushed	13,444		94%	Drill & shoot	100%	\$1.95	\$28,204
pit run	520		4%	Oversize red	1%	\$5.04	\$704
rip rap	350		2%	Other			
Total	14,314						
reject	150		1.0%				

TOTAL ROCK DEVELOPMENT COSTS \$28,908

5) CALIBRATION & TESTING

DESCRIPTION	NO.	\$/TEST	COST
Calibrate	2	\$400	\$800
Calibrate			
Test	7	\$50	\$350
Test			

TOTAL CALIBRATION & TESTING COSTS \$1,150

6) FEEDING & LOADING

DESCRIPTION	CU. YD. QUANTITY	COST CU. YD.	TOTAL COST
Dig & Feed Rock	13,594	\$0.77	\$10,473

TOTAL FEEDING & LOADING COSTS \$10,473

7) ROCK CRUSHING

ROCK SIZE	ROCK TYPE	CU. YD. QUANTITY	CRUSHER TYPE	HOURLY PRODUCTIO	RATE CU. YD.	TOTAL COST
3/4"-0"	crushed	7,483	3 stage w/s	110	\$2.95	\$22,109
1-1/2"-0"	crushed		3 stage w/s			
4"-0"	crushed	5,961	2 stage	140	\$1.71	\$10,219

TOTAL ROCK CRUSHING COSTS \$32,328

8) STOCKPILING

STOCKPILE PREPARATION OR CONST	COST
Construct Stockpile Site	
(See Footnote)	

SUB TOTAL

HAUL & STOCKPILE STOCKPILE LOCATION	SIZE	# of TRUCKS	CU. YDS.	RATE	COST
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					

SUB TOTAL

TOTAL STOCKPILING COSTS

9) MISCELLANEOUS COSTS

DESCRIPTION	COST
Load, Haul, and Spread reject material at the waste area.	
\$2.00 /CY 150 CY	\$299
Block and waterbar Equipment Access Road, Slope Quarry Floor to Drain.	
4 hrs. D7 @ \$94.00 \Hour	\$376

TOTAL MISCELLANEOUS COSTS

\$675

10) GRAND TOTAL:

\$94,950

\$/Cubic Yard

\$7.06

Footnotes:

Construct/Reconstruct Stockpile Floor

Equipment	Hours	Rate	Total
Dozer		\$120.00	
Compactor		\$75.00	
Grader		\$80.00	
Excavator		\$130.00	

Rock for Floor (CY)	\$/CY Haul	Total

Total Construct Stockpile Floor

SUMMARY OF ROCK DEVELOPMENT AND CRUSHING COSTS

PROJECT NO. 4

Timber Sale Name: Foster Home

Quarry: Hunt Creek
 Location: NE 1/4 S29 T8N R6W
 County: Clatsop
 By: S. Cadman
 Date: 06/26/2007

Swell: _____
 Shrink: 16%

ROCK SIZE	REJECT	GRADATION	STOCKPILE CU. YDS.	TRUCK MEAS CU. YDS.	TOTAL CU. YDS.
3/4"-0"		CR			
1-1/2"-0"	2%	CR	8,000		9,280
4"-0"		CR	12,000		13,920
6"-0"		PR			
24"-6"		RR			
36"		RR			
TOTAL CUBIC YARDS OF ROCK:			20,000		23,200

1) MOBILIZATION & SET UP:

EQUIPMENT MOBILIZATION	DISTANCE IN MILES	DIST. FACTOR	BASE RATE	COST
3 Stage Crusher	75	1.40	\$2,353	\$3,294
Screening Plants (2)	75	1.40	\$954	\$1,336
D7 Cat	75	1.40	\$590	\$826
Loader	75	1.40	\$590	\$826
Drill & Compressor	75	1.40	\$570	\$798
Powder	75	1.40	\$286	\$400
2 Dump Trucks	75	1.40	\$238	\$333
Excavator	75	1.40	\$1,030	\$1,442
SUB TOTAL FOR MOBILIZATION				\$9,255

EQUIPMENT SET UP	TIMES	RATE	COST
3 Stage Crusher	1	\$2,682	\$2,682
Screening Plants (2)	2	\$451	\$902
Change Gradation	2	\$424	\$848

SUB TOTAL FOR SET UP COSTS \$4,432

TOTAL MOBILIZATION & SET UP COSTS \$13,687

2) CLEARING & GRUBBING

DESCRIPTION	QUANTITY	UNIT	RATE	COST

TOTAL CLEARING & GRUBBING COSTS

3) EXCAVATION

MATERIAL DESCRIPTION	QUANTITY	UNIT	RATE	COST

TOTAL EXCAVATION COSTS

4) DEVELOP ROCK

ROCK SUMMARY			METHOD	%	QUANTITY	RATE	COST
Type	Cu. yd. Vol.	Weight	Ripping			\$1.85	
crushed	23,200	100%	Drill & shoot	100%	23,386	\$1.95	\$45,602
pit run	0	0	Oversize red	3%	696	\$5.04	\$3,508
rip rap	0	0	Other				
Total	23,200						
reject	186	0.8%					

TOTAL ROCK DEVELOPMENT COSTS

\$49,110

5) CALIBRATION & TESTING

DESCRIPTION	NO.	\$/TEST	COST
Calibrate	3	\$400	\$1,200
Calibrate			
Test	12	\$50	\$600
Test			

TOTAL CALIBRATION & TESTING COSTS

\$1,800

6) FEEDING & LOADING

DESCRIPTION	CU. YD. QUANTITY	COST CU. YD.	TOTAL COST
Dig & Feed Rock	23,386	\$0.72	\$16,831

TOTAL FEEDING & LOADING COSTS

\$16,831

7) ROCK CRUSHING

ROCK SIZE	ROCK TYPE	CU. YD. QUANTITY	CRUSHER TYPE	HOURLY PRODUCTIO	RATE CU. YD.	TOTAL COST
3/4"-0"	crushed		3 stage w/s	110		
1-1/2"-0"	crushed	9,280	3 stage w/s	120	\$2.71	\$25,133
4"-0"	crushed	13,920	2 stage	140	\$1.71	\$23,863

TOTAL ROCK CRUSHING COSTS

\$48,996

8) STOCKPILING

STOCKPILE PREPARATION OR CONST	COST
Construct Stockpile Site	\$188
level and grade stockpile floor	
SUB TOTAL	\$188

HAUL & STOCKPILE STOCKPILE LOCATION	SIZE	# of TRUCKS	CU. YDS.	RATE	COST
1. Hunt Creek	1-1/2"-0"	2	9,280	\$1.46	\$13,580
2. Hunt Creek	4"-0"	2	13,920	\$1.46	\$20,370
3.					
4.					
5.					
6.					
SUB TOTAL					\$33,950

TOTAL STOCKPILING COSTS **\$34,138**

9) MISCELLANEOUS COSTS

DESCRIPTION	COST
Load, Haul, and Spread the reject material at the waste area.	
\$2.25/CY 186 CY	\$522
Final Quarry Dev., Access Road Const., Waterbarring, Drainage, Block Quarry Access	
3 hrs D7 Cat @ \$95 \ hr	\$282

TOTAL MISCELLANEOUS COSTS **\$804**

10) GRAND TOTAL: **\$165,366**

\$/Cubic Yard \$7.13

Footnotes:

Construct/Reconstruct Stockpile Floor

Equipment	Hours	Rate	Total
Dozer	2	\$94.00	\$188.00
Compactor		\$75.00	
Grader		\$80.00	
Excavator		\$130.00	
			\$188.00

Rock for Floor (CY)	\$/CY Haul	Total

Total Construct Stockpile Floor \$188.00

Foster Home

Project No. 5 Road and Fill Vacating

V1 to V2

Location/Description	C330 Excavator	Labor	Seeding	Straw Mulch	Total
V1 to V2 Fill Removal	8 hrs				
V1 to V2 Erosion Control Mulch Hand Grass Seeding labor & seed		3 hr	0.12 ac	20 bales	
Total	8 hrs	3 hr	0.12 ac	20 Bales	
Rate	\$138 /hr	\$25 /hr	\$460.00 /ac	\$4.50 /Bale	
Cost	\$1,104	\$75	\$55	\$90.00	\$1,324

Prepared by: Bryce Rodgers

Date: 08/21/2007

Projects Road Maintenance Cost Summary

Sale: Foster Home
Date: July 5, 2007
By: Bryce Rodgers

Type	Equipment/Rationale	Hours	Rate	Cost
Post-Projects Road	Grader 14G	25	\$84	\$2,100
	Dump Truck 12CY (2 trucks)	10	\$59	\$590
	FE Loader C966	5	\$79	\$395
	Vibratory Roller	25	\$79	\$1,975
	Water Truck 2500 gallon	12	\$70	\$840
Total				\$5,900

Interim Maintenance

Production Rates

Grader

Vibratory Roller

Miles/day	Distance(miles)	Days	Hours

Final Road Maintenance

Production Rates

Grader

Vibratory Roller

Miles/day	Distance(miles)	Days	Hours
1.5	3.8	2.5	25
1.5	3.8	2.5	25

*Maintenance calculations were determined as follows:

Maintain from Knob Point Quarry to Pt. I2 and from Pt. I6, junction of Big Creek ML, to Pt. 3A.

Total Miles: 3.8 miles.

**Foster Home
FY 2008
TIMBER CRUISE REPORT**

1. **Sale Area Location:** Areas 1, 2, 3, 4, and 5 R/W are located in portions of Sections 18, 19 and 30, T7N, R6W, W.M., Clatsop County, Oregon.

All timber sale areas are posted with ODF "Timber Sale Boundary" signs, pink ribbon. The boundary between Areas 3 and 4 is posted with "Area Boundary" signs and pink ribbon. R/W areas are posted with ODF "Right-of-Way Boundary" signs and orange ribbon.

2. **Fund Distribution:** **Fund:** BOF (100%)
 Tax Code: 30-05

3. **Sale Acreage by Area:**

Area	Harvest Type	Gross Acreage	New R/W Acreage	Existing R/W Acreage	Stream Buffer Acreage	Wildlife Tree Area	Net Acreage
1	MC	95.9	0.0	0.0	-2.7	-0.7	92.5
2	MC	72.8	0.0	0.0	-2.7	-1.8	68.3
3	MC	82.6	0.0	0.0	-1.9	0.0	80.7
4	PC	23.0	0.0	0.0	-1.2	0.0	21.8
5	R/W		2.3	0.0			2.3
Totals		274.3	2.3	0.0	-8.5	-2.5	265.6

4. **Cruisers and Cruise Dates:** Areas 1, 2 and 3 were cruised by Nate Agalzoff, Dave Horning, Kraig Kirkpatrick and Bryce Rodgers. Area 4 was cruised by Ed Holloran, Kraig Kirkpatrick, Nate Agalzoff and Bryce Rodgers. Areas 1, 2 and 3 were cruised on 5/30/07 and Area 4 was cruised on 6/1/07.
5. **Cruise Method and Computation:** All cruises used Corvallis MicroTechnology (CMT) or 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.

Areas 1, 2, and 3 (Modified Clear Cut), were variable plot cruised with a 40 BAF for Conifer and 27.78 BAF for Alder. 99 plots were sampled on a cruise grid of 6 chains by 4 chains, with a count/cruise plot ratio of 3:1.

Area 4 (Partial Cut), was variable plot cruised with a 33.61 BAF for Conifer and 27.78 BAF for Alder. 20 grade plots were sampled on a cruise grid of 3 chains by 3 chains.

All "take" and "leave" trees were measured and graded.

<u>AREAS</u>	<u>PROJECT</u>	<u>CRUISE TYPE</u>
1, 2 and 3	FOSTER	0001, Take, Leave
4	FOSTER	0002, Take, Leave
5 R/W	FOSTER	0001, Area 5 R/W

6. Timber Description:

Areas 1, 2 and 3 (Modified Clear cut) – These stands are approximately 55 years old, consisting of Douglas-fir with some hemlock and some patches of alder. These stands average 16.3 inches in DBH, with an average merchantable height of 49 feet to a merchantable top. The average volume (net) is 31 MBF/acre.

Area 4 (Partial Cut) – This stand is a diameter cut thinning unit, approximately 55 years old, Douglas-fir dominated mixed conifer stand with patches and stringers of alder. In this stand, Douglas-fir from 17" - 25" diameter will be harvested and also harvesting all of the hardwoods. Approximately 103 trees per acre and 19.8 MBF/acre will be removed. The average "take" tree size is 16.5" DBH and 57 feet to a merchantable top (6" d.i.b).

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

Area	Target CV	Target SE%	Actual CV	Actual SE%
1, 2, and 3	45	8	43.2	4.3
4	45	8	36.5	8.4

The statistics for All cruises are "Take" and "Leave" stands combined.

8. Volumes by Species and Log Grades for All Sale Areas by MBF: (See "Species, Sort, Grade, Length % Type Reports" 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	17.7	5,523	3,247	1,937	339	0	3.5	69
Hemlock/fir	15.5	842	510	266	66	0	6.3	11
Alder	14.2	1,630	0	0	0	1,630	7.1	20
TOTAL	15.8	7,995	3,757	2,203	405	1,630	4.5	100

9. Prepared by: Bryce Rodgers

Date: 6/14/07

10. Approved by: *Dan Brady*

Date: 8/16/07

11. Attachments: Species, Sort, Grade Reports (4 pages)
 Statistics Stand Summary Reports (8 pages)
 Log Stock Table Reports (3 pages)
 Leave Tree Stand Table Reports (1 pages)
 Cruise Plans & Maps (7 pages)

TC PSPCSTGR Species, Sort Grade - Board Foot Volumes (Project)

T07N R06W S19 Ty0001	241.50	Project: FOSTER	Page 1
T07N R06W S19 Ty0001	2.30		
T07N R06W S30 Ty0002	21.80		
		Acres 265.60	Date 6/14/2007
			Time 3:10:00PM

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					
D	DOCU			100.0	677											9		0.00	11.6	
D	DO2S		58	.3	12,265	12,224	3,247		1	66	33		4	6	13	78	35	293	1.95	41.7
D	DO3S		35	.4	7,318	7,292	1,937			99	1		1	8	30	62	36	94	0.75	77.2
D	DO4S		7	.0	1,277	1,276	339		3	97			53	41	4	2	20	27	0.45	48.1
D Totals			69	3.5	21,537	20,792	5,522		0	41	39	20	6	9	18	68	30	116	1.01	178.6
H	DOCU			100.0	207												9		0.00	3.4
H	DO2S		60	.2	1,924	1,919	510			80	20					100	40	297	1.75	6.5
H	DO3S		32	.2	1,005	1,003	266		100					1	13	86	38	79	0.68	12.8
H	DO4S		8		248	248	66		100				29	71			23	30	0.47	8.3
H Totals			11	6.3	3,383	3,169	842		39	48	12		2	6	4	88	31	103	0.90	30.9
A	DOCU			100.0	424												7		0.00	19.2
A	DOCR		100	.8	6,184	6,136	1,630		74	24	2		18	16	21	45	27	73	0.78	84.3
A Totals			20	7.1	6,608	6,136	1,630		74	24	2		18	16	21	45	23	59	0.74	103.5
Totals				4.5	31,528	30,097	7,994		0	48	37	15	8	10	17	65	28	96	0.93	313.0

T07N R06W S19 T0001 T07N R06W S19 T0001
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt
 07N 06W 19 AREA 123TAKE 0001 241.50 99 215 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				
D		DO	CU		00.0	721										9		0.00	12.2	
D		DO	2S	58	.3	12,525	12,486	3,015		1	65	35	3	6	13	78	35	297	1.98	42.1
D		DO	3S	35	.3	7,628	7,604	1,836		99	1		1	8	29	62	36	94	0.74	80.5
D		DO	4S	7		1,351	1,351	326	4	96			52	42	4	2	20	27	0.45	50.8
D	Totals			69	3.5	22,225	21,442	5,178	0	42	38	20	6	9	18	68	30	116	1.01	185.6
A		DO	CU		00.0	431											7		0.00	19.9
A		DO	CR	100	.5	6,133	6,106	1,475		75	24	2	17	15	20	48	27	74	0.79	82.4
A	Totals			20	7.0	6,564	6,106	1,475		75	24	2	17	15	20	48	23	60	0.74	102.3
H		DO	CU		00.0	225											9		0.00	3.7
H		DO	2S	60	.2	2,095	2,090	505			80	20				100	40	297	1.75	7.0
H		DO	3S	32	.2	1,094	1,091	264		100				1	13	86	38	79	0.68	13.9
H		DO	4S	8		270	270	65		100			29	71			23	30	0.47	9.0
H	Totals			11	6.3	3,684	3,451	833		39	48	12	2	6	4	88	31	103	0.90	33.7
Type Totals					4.5	32,473	30,999	7,486	0	48	36	16	7	10	17	66	28	96	0.92	321.5

T07N R06W S30 T0002	T07N R06W S30 T0002
Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt	
07N 06W 30 AREA 4 TAKE 0002 21.80 20 100 1 W	

Spp	So	Gr	% 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					
D	DO	CU		00.0	185												3		0.00	5.0
D	DO	2S	68	.7	9,235	9,171	200		1	86	14		6	3	13	78	36	247	1.68	37.1
D	DO	3S	28	1.5	3,831	3,773	82		96	4			6	37	56		36	95	0.79	39.8
D	DO	4S	4	1.7	441	433	9		100				81	12	7		17	24	0.46	17.8
D	Totals		67	2.3	13,692	13,377	292		31	60	9		7	4	20	69	31	134	1.14	99.8
A	DO	CU		00.0	351												7		0.00	11.7
A	DO	CR	100	4.0	6,748	6,481	141		70	27	3		30	21	33	16	24	62	0.77	105.1
A	Totals		33	8.7	7,099	6,481	141		70	27	3		30	21	33	16	22	56	0.74	116.8
Type Totals				4.5	20,791	19,858	433		44	49	7		14	10	24	52	26	92	0.96	216.6

T07N R06W S19 T0001 T07N R06W S19 T0001
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt
 07N 06W 19 AREA 5 R/W 0001 2.30 99 226 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					
D		DO	CU		00.0	785											9		0.00	13.0	
D		DO	2S	59	.4	13,651	13,591	31		1	63	36		3	7	12	78	35	304	2.01	44.7
D		DO	3S	34	.3	7,824	7,801	18		99	1			1	8	30	61	36	94	0.75	82.6
D		DO	4S	7		1,394	1,394	3	3	97				53	41	4	2	20	27	0.45	52.2
D	Totals			70	3.7	23,654	22,786	52	0	40	38	22		6	9	17	68	29	118	1.03	192.6
A		DO	CU		00.0	431												7		0.00	19.9
A		DO	CR	100	.5	6,133	6,106	14		75	24	2		17	15	20	48	27	74	0.79	82.4
A	Totals			19	7.0	6,564	6,106	14		75	24	2		17	15	20	48	23	60	0.74	102.3
H		DO	CU		00.0	228												9		0.00	3.8
H		DO	2S	58	.2	2,121	2,116	5			80	20					100	40	297	1.75	7.1
H		DO	3S	33	.2	1,208	1,205	3		100					1	20	79	37	82	0.70	14.8
H		DO	4S	9		294	294	1		100				26	74			23	30	0.47	9.8
H	Totals			11	6.1	3,851	3,615	8		41	47	12		2	6	7	85	31	102	0.90	35.5
Type Totals					4.6	34,069	32,507	75	0	47	36	17		7	10	17	66	28	98	0.94	330.4

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT FOSTER		DATE 6/13/2007				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	06W	19	AREA123	0001	241.50	99	662	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
		PLOTS	TREES		TREES	TREES				
TOTAL		99	662	6.7						
CRUISE		38	227	6.0	39,248		.6			
DBH COUNT										
REFOREST										
COUNT		61	419	6.9						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	112	84.2	17.6	68		142.6	22,225	21,442	5,672	5,519
R ALDER	72	54.2	14.2	47		59.8	6,564	6,106	1,880	1,768
WHEMLOCK	31	20.5	15.5	53		27.1	3,684	3,451	988	940
DOUGLEAV	4	1.7	28.0	95		7.3	1,549	1,446	337	324
SNAG	6	.5	30.8	53		2.8				
HEMLEAV	1	1.0	15.0	63		1.2	168	168	44	44
CEDLEAV	1	.3	15.0	27		.4	10	10	6	6
TOTAL	227	162.5	16.5	59		241.2	34,200	32,622	8,927	8,602
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	98.8	9.3	380	419	458					
R ALDER	59.2	7.0	134	144	155					
WHEMLOCK	77.9	14.0	232	269	307					
DOUGLEAV	30.5	17.4	753	913	1,072					
SNAG										
HEMLEAV										
CEDLEAV										
TOTAL	112.0	7.4	284	306	329	500	125	56		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	79.2	8.0	78	84	91					
R ALDER	128.7	12.9	47	54	61					
WHEMLOCK	265.6	26.7	15	21	26					
DOUGLEAV	282.9	28.4	1	2	2					
SNAG	544.4	54.7	0	1	1					
HEMLEAV	568.6	57.1	0	1	2					
CEDLEAV	995.0	99.9	0	0	1					
TOTAL	40.0	4.0	156	163	169	64	16	7		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	73.6	7.4	132	143	153					
R ALDER	126.4	12.7	52	60	67					
WHEMLOCK	252.3	25.3	20	27	34					
DOUGLEAV	276.3	27.7	5	7	9					
SNAG	463.0	46.5	2	3	4					
HEMLEAV	568.6	57.1	1	1	2					
CEDLEAV	995.0	99.9	0	0	1					
TOTAL	35.0	3.5	233	241	250	49	12	5		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		

STATISTICS
PROJECT FOSTER

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	06W	19	AREA123	0001	241.50	99	662	1	W
CL:	68.1%	COEFF		NET BF/ACRE			# OF PLOTS REQ.	INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR		74.9	7.5	19,829	21,442	23,055			
R ALDER		125.5	12.6	5,336	6,106	6,875			
WHEMLOCK		258.1	25.9	2,557	3,451	4,345			
DOUGLEAV		276.7	27.8	1,044	1,446	1,847			
SNAG									
HEMLEAV		568.6	57.1	72	168	264			
CEDLEAV		995.0	99.9	0	10	20			
TOTAL		43.2	4.3	31,206	32,622	34,038	75	19	8

TC TSTATS		STATISTICS						PAGE	1	
		PROJECT		FOSTER		DATE		6/13/2007		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	06W	19	AREA 123TAKE	0001	241.50	99	633	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		99	633	6.4						
CRUISE		35	215	6.1	38,388	.6				
DBH COUNT REFOREST COUNT		64	418	6.5						
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
DOUG FIR	112	84.2	17.6	68		142.6	22,225	21,442	5,672	5,519
R ALDER	72	54.2	14.2	47		59.8	6,564	6,106	1,880	1,768
WHEMLOCK	31	20.5	15.5	53		27.1	3,684	3,451	988	940
TOTAL	<i>215</i>	<i>159.0</i>	<i>16.3</i>	<i>59</i>		<i>229.5</i>	<i>32,473</i>	<i>30,999</i>	<i>8,540</i>	<i>8,228</i>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF					# OF TREES REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	98.8	9.3	380	419	458					
R ALDER	59.2	7.0	134	144	155					
WHEMLOCK	77.9	14.0	232	269	307					
TOTAL	<i>110.1</i>	<i>7.5</i>	<i>283</i>	<i>306</i>	<i>329</i>	<i>484</i>	<i>121</i>	<i>54</i>		
CL: 68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	79.2	8.0	78	84	91					
R ALDER	128.7	12.9	47	54	61					
WHEMLOCK	265.6	26.7	15	21	26					
TOTAL	<i>42.4</i>	<i>4.3</i>	<i>152</i>	<i>159</i>	<i>166</i>	<i>72</i>	<i>18</i>	<i>8</i>		
CL: 68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	73.6	7.4	132	143	153					
R ALDER	126.4	12.7	52	60	67					
WHEMLOCK	252.3	25.3	20	27	34					
TOTAL	<i>37.9</i>	<i>3.8</i>	<i>221</i>	<i>229</i>	<i>238</i>	<i>57</i>	<i>14</i>	<i>6</i>		
CL: 68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	74.9	7.5	19,829	21,442	23,055					
R ALDER	125.5	12.6	5,336	6,106	6,875					
WHEMLOCK	258.1	25.9	2,557	3,451	4,345					
TOTAL	<i>43.9</i>	<i>4.4</i>	<i>29,631</i>	<i>30,999</i>	<i>32,366</i>	<i>77</i>	<i>19</i>	<i>9</i>		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	FOSTER		DATE	6/13/2007		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	06W	19	AREA123LEAVE	0001	241.50	99	73	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	99	73	.7							
CRUISE	38	56	1.5	3,872	1.4					
DBH COUNT										
REFOREST										
COUNT	13	16	1.2							
BLANKS	48									
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	22	7.6	18.8	73		14.5	2,376	2,277	599	584
ALDRLEAV	19	4.6	14.5	47		5.3	601	543	168	154
HEMLEAV	8	3.0	15.8	46		4.0	489	468	133	130
SNAG	6	.5	30.8	53		2.8				
CEDLEAV	1	.3	15.0	27		.4	10	10	6	6
TOTAL	56	16.0	17.6	59		27.1	3,477	3,297	906	874
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	83.7	18.2	399	488	577					
ALDRLEAV	60.6	14.3	130	152	173					
HEMLEAV	67.3	25.4	184	246	309					
SNAG										
CEDLEAV										
TOTAL	114.9	15.3	236	279	322	527	132	59		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	178.8	18.0	6	8	9					
ALDRLEAV	228.7	23.0	4	5	6					
HEMLEAV	352.7	35.4	2	3	4					
SNAG	544.4	54.7	0	1	1					
CEDLEAV	995.0	99.9	0	0	1					
TOTAL	124.7	12.5	14	16	18	621	155	69		
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	159.4	16.0	12	15	17					
ALDRLEAV	206.2	20.7	4	5	6					
HEMLEAV	299.8	30.1	3	4	5					
SNAG	463.0	46.5	2	3	4					
CEDLEAV	995.0	99.9	0	0	1					
TOTAL	112.5	11.3	24	27	30	506	126	56		
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	166.8	16.8	1,896	2,277	2,659					
ALDRLEAV	225.5	22.6	420	543	666					
HEMLEAV	325.4	32.7	315	468	620					
SNAG										
CEDLEAV	995.0	99.9	0	10	20					
TOTAL	130.2	13.1	2,866	3,297	3,729	677	169	75		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	FOSTER			DATE	6/13/2007	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	06W	30	AREA 4	0002	21.80	20	162	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		20	162	8.1						
CRUISE		20	162	8.1	4,092	4.0				
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
DOUG FIR	50	37.7	20.2	85		84.0	13,692	13,377	3,547	3,513
DOUGLEAV	49	59.5	15.9	50		82.3	11,383	10,753	2,912	2,773
R ALDER	50	65.3	14.0	42		69.5	7,099	6,481	2,003	1,924
SNAG	7	17.3	11.2	60		11.8				
HEMLEAV	6	7.8	15.4	43		10.1	1,306	1,113	330	301
TOTAL	162	187.7	15.9	55		257.7	33,480	31,724	8,792	8,511
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF			# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		34.8	4.9	364	382	401				
DOUGLEAV		93.8	13.4	379	437	496				
R ALDER		63.2	8.9	117	129	141				
SNAG										
HEMLEAV		76.2	33.9	163	247	330				
TOTAL		94.3	7.4	277	299	321	355	89	39	
CL:	68.1 %	COEFF	TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		78.7	18.0	31	38	44				
DOUGLEAV		89.9	20.6	47	60	72				
R ALDER		147.9	33.9	43	65	87				
SNAG		269.9	61.9	7	17	28				
HEMLEAV		231.1	53.0	4	8	12				
TOTAL		53.8	12.3	165	188	211	122	30	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	
DOUG FIR		75.1	17.2	70	84	98				
DOUGLEAV		64.2	14.7	70	82	94				
R ALDER		133.9	30.7	48	69	91				
SNAG		232.2	53.2	6	12	18				
HEMLEAV		219.0	50.2	5	10	15				
TOTAL		34.8	8.0	237	258	278	51	13	6	
CL:	68.1 %	COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		76.0	17.4	11,045	13,377	15,708				
DOUGLEAV		64.9	14.9	9,152	10,753	12,353				
R ALDER		128.8	29.5	4,567	6,481	8,395				
SNAG										
HEMLEAV		235.1	53.9	513	1,113	1,713				
TOTAL		36.5	8.4	29,069	31,724	34,379	56	14	6	

TC TSTATS		STATISTICS							PAGE	1
		PROJECT		FOSTER			DATE		6/13/2007	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	06W	30	AREA 4 TAKE	0002	21.80	20	100	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		20	100	5.0						
CRUISE		19	100	5.3	2,246	4.5				
DBH COUNT										
REFOREST COUNT										
BLANKS		1								
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	50	37.7	20.2	85		84.0	13,692	13,377	3,547	3,513
R ALDER	50	65.3	14.0	42		69.5	7,099	6,481	2,003	1,924
TOTAL	100	103.0	16.5	57		153.5	20,791	19,858	5,551	5,437
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		34.8	4.9	364	382	401				
R ALDER		63.2	8.9	117	129	141				
TOTAL		65.7	6.6	239	256	272	173	43	19	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		78.7	18.0	31	38	44				
R ALDER		147.9	33.9	43	65	87				
TOTAL		84.9	19.5	83	103	123	303	76	34	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		75.1	17.2	70	84	98				
R ALDER		133.9	30.7	48	69	91				
TOTAL		53.9	12.4	135	153	172	122	31	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	
DOUG FIR		76.0	17.4	11,045	13,377	15,708				
R ALDER		128.8	29.5	4,567	6,481	8,395				
TOTAL		48.2	11.0	17,666	19,858	22,050	97	24	11	

TC TSTATS		STATISTICS						PAGE 1		
		PROJECT FOSTER		DATE 6/13/2007						
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	06W	30	AREA 4 LEAVE	0002	21.80	20	62	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		20	62	3.1						
CRUISE		18	62	3.4	1,846	3.4				
DBH COUNT										
REFOREST										
COUNT										
BLANKS		2								
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	49	59.5	15.9	50		82.3	11,383	10,753	2,912	2,773
SNAG	7	17.3	11.2	60		11.8				
HEMLEAV	6	7.8	15.4	43		10.1	1,306	1,113	330	301
TOTAL	62	84.7	15.0	52		104.2	12,689	11,866	3,242	3,074
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	93.8	13.4	379	437	496					
SNAG										
HEMLEAV	76.2	33.9	163	247	330					
TOTAL	106.9	13.6	319	370	420	456	114	51		
CL: 68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	89.9	20.6	47	60	72					
SNAG	269.9	61.9	7	17	28					
HEMLEAV	231.1	53.0	4	8	12					
TOTAL	96.5	22.1	66	85	103	392	98	44		
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	64.2	14.7	70	82	94					
SNAG	232.2	53.2	6	12	18					
HEMLEAV	219.0	50.2	5	10	15					
TOTAL	60.9	14.0	90	104	119	156	39	17		
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	64.9	14.9	9,152	10,753	12,353					
SNAG										
HEMLEAV	235.1	53.9	513	1,113	1,713					
TOTAL	57.6	13.2	10,299	11,866	13,433	139	35	15		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	FOSTER			DATE	6/14/2007	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	06W	19	AREA 5 R/W	0001	2.30	99	661	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	99	661	6.7							
CRUISE	37	226	6.1		375		60.3			
DBH COUNT										
REFOREST										
COUNT	62	424	6.8							
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	116	86.7	17.8	68		149.9	23,654	22,786	5,995	5,830
R ALDER	72	54.2	14.2	47		59.8	6,564	6,106	1,880	1,768
WHEMLOCK	32	21.5	15.5	53		28.3	3,851	3,615	1,032	984
SNAG	6	.5	30.8	53		2.8				
TOTAL	226	162.9	16.5	59		240.8	34,069	32,507	8,907	8,583
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	96.1	8.9	397	436	475					
R ALDER	59.2	7.0	134	144	155					
WHEMLOCK	77.8	13.7	230	266	303					
SNAG										
TOTAL	111.6	7.4	285	308	330	497	124	55		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	77.7	7.8	80	87	93					
R ALDER	128.7	12.9	47	54	61					
WHEMLOCK	258.3	25.9	16	22	27					
SNAG	544.4	54.7	0	1	1					
TOTAL	40.4	4.1	156	163	170	65	16	7		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	72.2	7.2	139	150	161					
R ALDER	126.4	12.7	52	60	67					
WHEMLOCK	246.0	24.7	21	28	35					
SNAG	463.0	46.5	2	3	4					
TOTAL	35.5	3.6	232	241	249	50	13	6		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	74.0	7.4	21,093	22,786	24,478					
R ALDER	125.5	12.6	5,336	6,106	6,875					
WHEMLOCK	251.3	25.2	2,703	3,615	4,527					
SNAG										
TOTAL	43.2	4.3	31,095	32,507	33,918	75	19	8		

TC		TSTNDSUM		Stand Table Summary													
Project FOSTER																	
T07N R06W S30 T0002										T07N R06W S30 T0002							
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees			Page:	1						
07N	06W	30	AREA 4 LEAVE	0002	21.80	20	62			Date:	06/13/2006						
										Time:	10:06:31AM						
Spc	S 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	
DL		8	2	88	17	9.629	3.36										
DL		10	1	91	62	3.081	1.68	3.08	12.0	50.0		37	154		8	3	
DL		11	4	84	63	10.434	6.72	12.98	11.8	36.1		154	468		34	10	
DL		12	2	85	80	4.469	3.36	6.80	13.5	46.3		92	315		20	7	
DL		13	2	86	61	3.646	3.36	5.47	14.3	40.0		78	219		17	5	
DL		14	5	87	89	7.860	8.40	15.72	18.5	66.0		291	1,038		63	23	
DL		15	3	87	68	4.108	5.04	6.85	20.0	62.0		137	425		30	9	
DL		16	6	88	101	7.221	10.08	15.65	25.8	99.2		404	1,553		88	34	
DL		26	7	86	109	3.191	11.76	8.66	56.4	222.6		489	1,928		107	42	
DL		27	4	82	106	1.691	6.72	3.80	61.6	246.7		234	938		51	20	
DL		28	4	85	112	1.572	6.72	4.32	66.7	282.7		288	1,222		63	27	
DL		30	4	84	114	1.369	6.72	4.11	69.1	284.2		284	1,167		62	25	
DL		31	1	77	124	.321	1.68	.64	67.5	290.0		43	186		9	4	
DL		32	1	85	112	.301	1.68	.90	76.0	356.7		69	322		15	7	
DL		34	1	86	125	.267	1.68	.53	93.0	440.0		50	235		11	5	
DL		38	1	83	117	.213	1.68	.64	111.7	543.3		71	348		16	8	
DL		45	1	70	140	.152	1.68	.46	113.0	516.7		52	236		11	5	
DL	Totals	49	86	73		59.525	82.34	90.61	30.6	118.7		2,773	10,753		604	234	
HL		10	1	83	20	3.414	1.68	3.41	6.0	20.0		20	68		4	1	
HL		15	1	89	62	1.369	1.68	2.74	16.5	60.0		45	164		10	4	
HL		17	1	82	74	1.066	1.68	2.13	20.0	75.0		43	160		9	3	
HL		18	1	86	88	.951	1.68	2.85	21.3	83.3		61	238		13	5	
HL		24	1	89	98	.535	1.68	1.07	69.5	235.0		74	251		16	5	
HL		25	1	86	99	.493	1.68	.99	58.5	235.0		58	232		13	5	
HL	Totals	6	85	53		7.828	10.08	13.19	22.8	84.4		301	1,113		66	24	
SN		9	1	86	68	3.804	1.68										
SN		10	2	80	50	6.495	3.36										
SN		11	1	85	62	2.546	1.68										
SN		12	2	85	70	4.279	3.36										
SN		38	1	89	17	.213	1.68										
SN	Totals	7	83	60		17.338	11.76										
Totals		62	86	68		84.692	104.19	103.81	29.6	114.3		3074	11,866		670	259	

Log Stock Table - MBF

T07N R06W S19 Ty0001	241.50
T07N R06W S19 Ty0001	2.30
T07N R06W S30 Ty0002	21.80

Project: **FOSTER**
 Acres **265.60**

Page **3**
 Date **6/14/2007**
 Time **3:13:50PM**

Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches												
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+	
A		DO	CU	6	16	100.0														
A		DO	CU	8	11	100.0														
A		DO	CU	10	1	100.0														
A		DO	CU	12	2	100.0														
A		DO	CU	14	4	100.0														
A		DO	CU	16	39	100.0														
A		DO	CU	23	1	100.0														
A		DO	CU	24	9	100.0														
A		DO	CR	10	58	4.5	55	3.4			0	15	17	1	8	13				
A		DO	CR	16	132	4.1	127	7.8			63	15	4	19	14	13				
A		DO	CR	18	17		17	1.0					14			2				
A		DO	CR	20	100		100	6.1			63	2	15	18	2					
A		DO	CR	24	57		57	3.5			30	4	23							
A		DO	CR	26	47		47	2.9			29		18							
A		DO	CR	28	1		1	.0			1									
A		DO	CR	30	153		153	9.4			65	17	3	46	23					
A		DO	CR	32	342	1.1	338	20.8			111	16	132	54	25					
A		DO	CR	36	100		100	6.1			15	61	23							
A		DO	CR	38	34		34	2.1			5		29							
A		DO	CR	40	603		603	37.0			79	85	258	180						
A		Totals			1,755	7.1	1,630	20.4			461	215	536	317	73	28				
Total		All Species			8,374	4.5	7,994	100.0		12	1407	884	1518	1580	889	1175	380	148		

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Foster Home Area(s) 1,2,3

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

Approx. Cruise Acres: 241 Estimated CV% 45% BA/Acre SE% Objective 8% BA/Acre

Planned Sale Volume: 5.0 MMBF Estimated Sale Area Value/Acre: \$3,500

A. **Cruise Goals:** (a) Grade minimum 100 conifer and 50 hardwood trees:
(b) Sample 65 cruise plots; Grade 36 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:

- Plot Cruises:** BAF 40 conifer/ 27.78 Alder (Full point) Half point) (circle one)
Fixed Plot Size _____ Plot Radius _____ feet
Cruise Line Direction(s) Areas 1,3 East/West Area 2 N53w
Cruise Line Spacing 6 (chains) (feet)
Cruise Plot Spacing 4 (chains) (feet)
Grade/Count Ratio Grade 1 out of 3
- 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" or at least 20 board feet 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. **Cruise snags 15 DBH inches and over. Cruise all "W" (wildlife) trees and all reserved trees (cedar) as Leave trees by species.**
- 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", 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.
- 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" Lengths for Alder are 8 and 10 foot multiples.

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 indivisible 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.

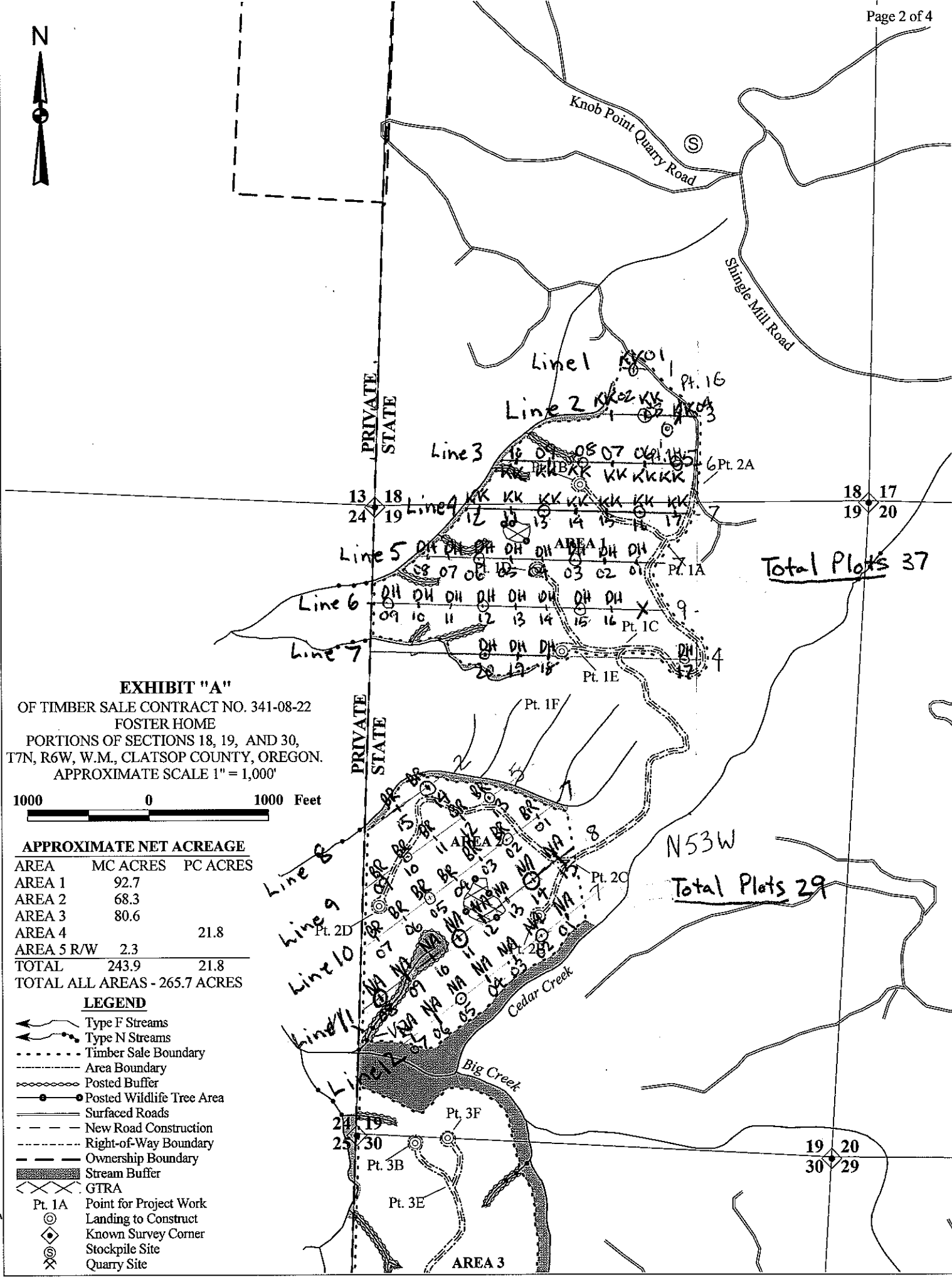
9. **Cruising Equipment:** Relaskop Rangefinder Logger's Tape (with DBH on back) Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.

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: Bryce Rodgers and Dan Goody

Approved by: Dan Goody

Date: 5/29/07



Total Plots 37

N53W
Total Plots 29

EXHIBIT "A"

OF TIMBER SALE CONTRACT NO. 341-08-22
FOSTER HOME
PORTIONS OF SECTIONS 18, 19, AND 30,
T7N, R6W, W.M., CLATSOP COUNTY, OREGON.
APPROXIMATE SCALE 1" = 1,000'



APPROXIMATE NET ACREAGE

AREA	MC ACRES	PC ACRES
AREA 1	92.7	
AREA 2	68.3	
AREA 3	80.6	
AREA 4		21.8
AREA 5 R/W	2.3	
TOTAL	243.9	21.8
TOTAL ALL AREAS - 265.7 ACRES		

LEGEND

- Type F Streams
- Type N Streams
- Timber Sale Boundary
- Area Boundary
- Posted Buffer
- Posted Wildlife Tree Area
- Surfaced Roads
- New Road Construction
- Right-of-Way Boundary
- Ownership Boundary
- Stream Buffer
- GTRA
- Pt. 1A Point for Project Work
- Landing to Construct
- Known Survey Corner
- Stockpile Site
- Quarry Site

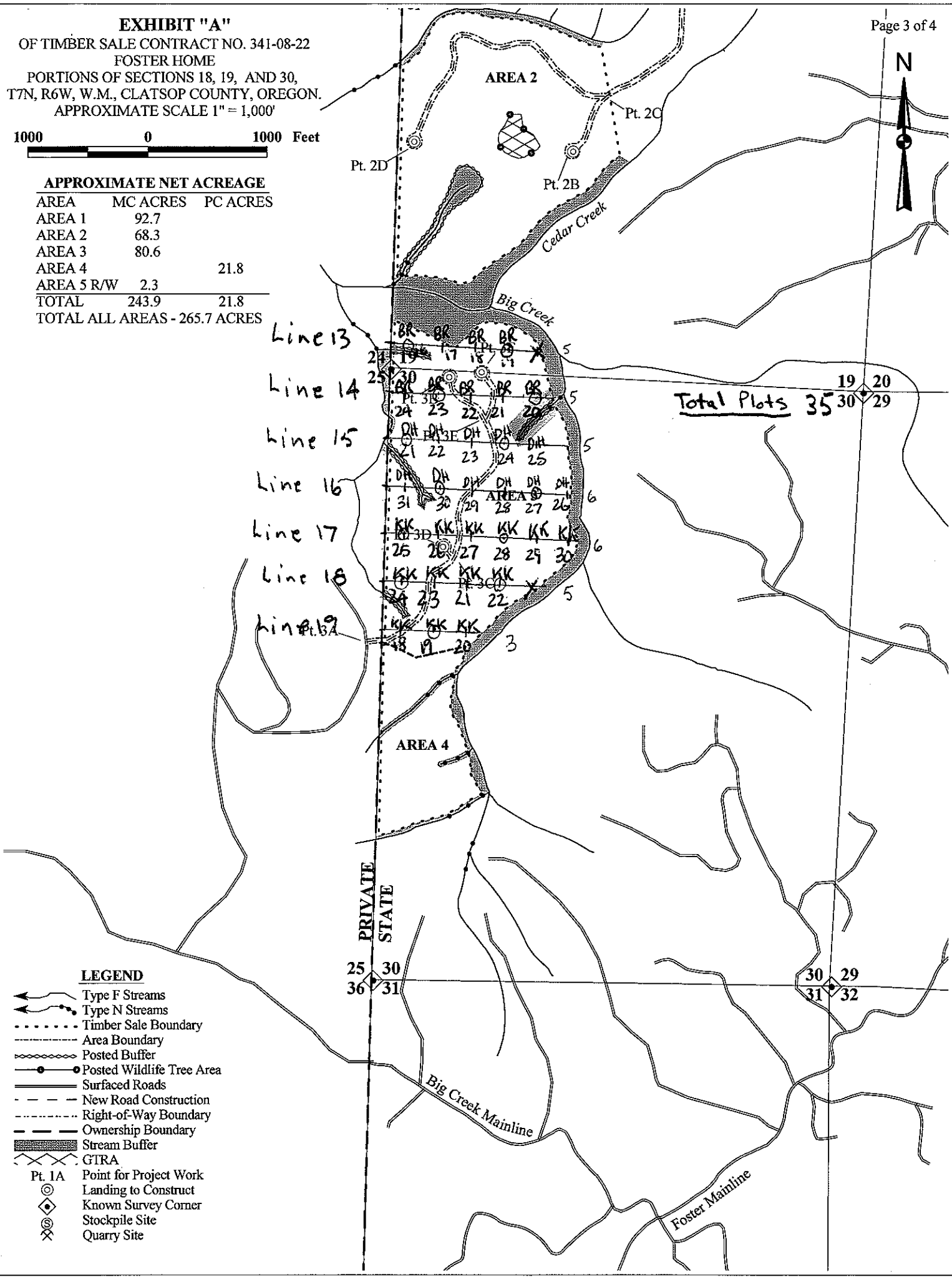
EXHIBIT "A"

OF TIMBER SALE CONTRACT NO. 341-08-22
 FOSTER HOME
 PORTIONS OF SECTIONS 18, 19, AND 30,
 T7N, R6W, W.M., CLATSOP COUNTY, OREGON.
 APPROXIMATE SCALE 1" = 1,000'



APPROXIMATE NET ACREAGE

AREA	MC ACRES	PC ACRES
AREA 1	92.7	
AREA 2	68.3	
AREA 3	80.6	
AREA 4		21.8
AREA 5 R/W	2.3	
TOTAL	243.9	21.8
TOTAL ALL AREAS - 265.7 ACRES		



LEGEND

- Type F Streams
- Type N Streams
- Timber Sale Boundary
- Area Boundary
- Posted Buffer
- Posted Wildlife Tree Area
- Surfaced Roads
- New Road Construction
- Right-of-Way Boundary
- Ownership Boundary
- Stream Buffer
- GTRA
- Pt. 1A Point for Project Work
- Landing to Construct
- Known Survey Corner
- Stockpile Site
- Quarry Site

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Foster Home Area(s) 4

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

Approx. Cruise Acres: 22 Estimated CV% 45 Net BF or BA/Acre SE% Objective 8% Net BF or BA/Acre

Planned Sale Volume: 5.0 MMBF Estimated Sale Area Value/Acre: \$3,500

A. **Cruise Goals:** (a) Grade minimum 100 conifer and 50 hardwood trees:
(b) Sample cruise plots; Grade 20 plots; (c) Other goals (Determine
"automark" thinning standards; X Determine log grades for sale value; X
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 7 leave trees per plot.

All Alder are to be recorded as take trees.

B. Cruise Design:

1. **Plot Cruises:** BAF 33.6/Conifer 27.78 Alder Full point Half point (circle one)

Fixed Plot Size Plot Radius feet

Cruise Line Direction(s) North/South

Cruise Line Spacing 3 (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" or at least 20 board feet 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" Lengths for Alder are 8 and 10 foot multiples.

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 indivisible 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.

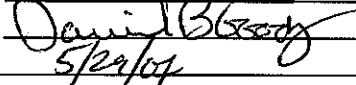
Cruise Design by: Bryce Rodgers
Approved by: 
Date: 5/29/09

EXHIBIT "A"

OF TIMBER SALE CONTRACT NO. 341-08-22

FOSTER HOME

PORTIONS OF SECTIONS 18, 19, AND 30,

T7N, R6W, W.M., CLATSOP COUNTY, OREGON.

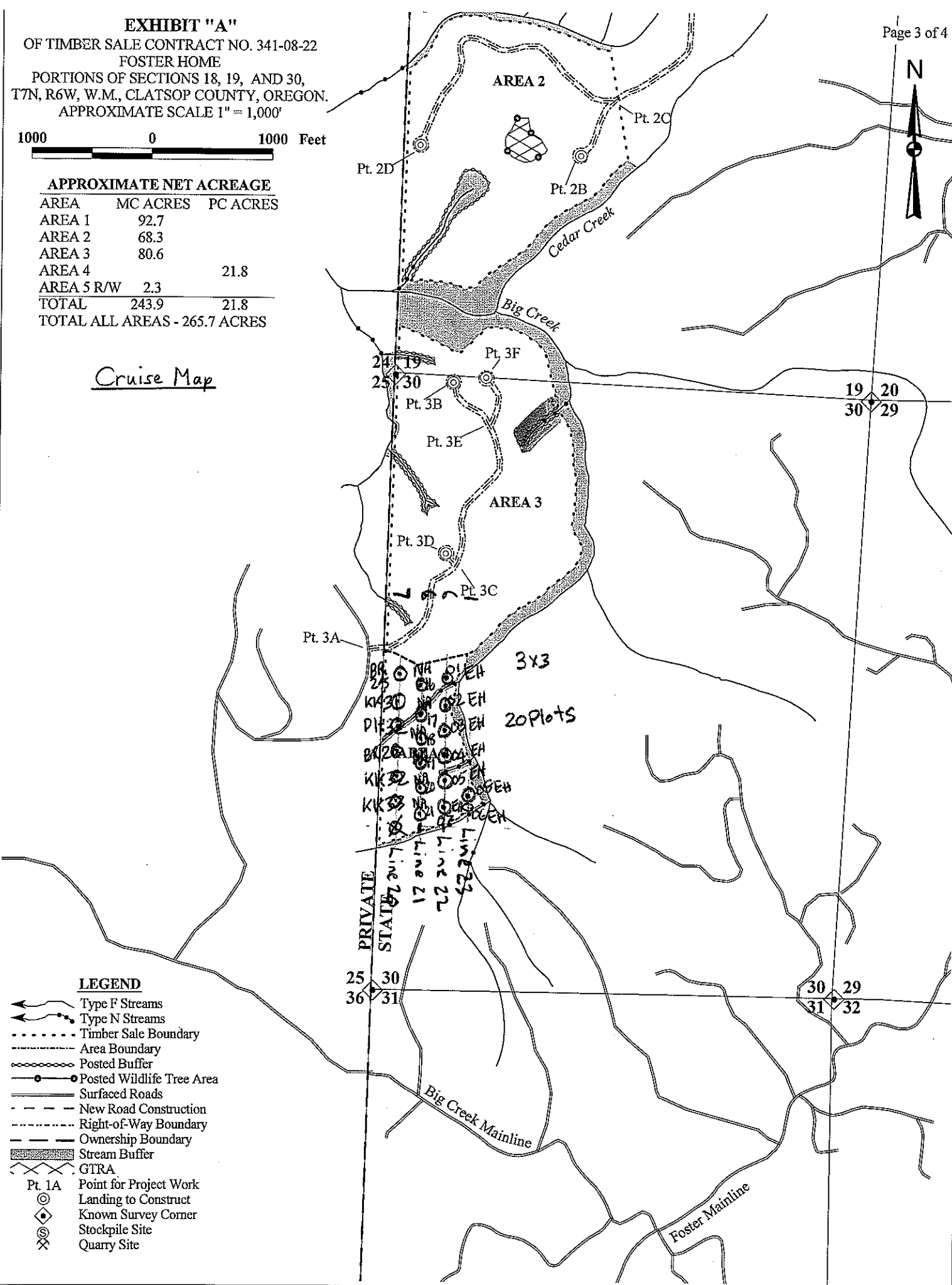
APPROXIMATE SCALE 1" = 1,000'

1000 0 1000 Feet

APPROXIMATE NET ACREAGE

AREA	MC ACRES	PC ACRES
AREA 1	92.7	
AREA 2	68.3	
AREA 3	80.6	
AREA 4		21.8
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TOTAL	243.9	21.8
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Cruise Map



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LOGGING PLAN MAP

OF TIMBER SALE CONTRACT NO. 341-08-22

FOSTER HOME

PORTIONS OF SECTIONS 18, 19, AND 30,
T7N, R6W, W.M., CLATSOP COUNTY, OREGON.

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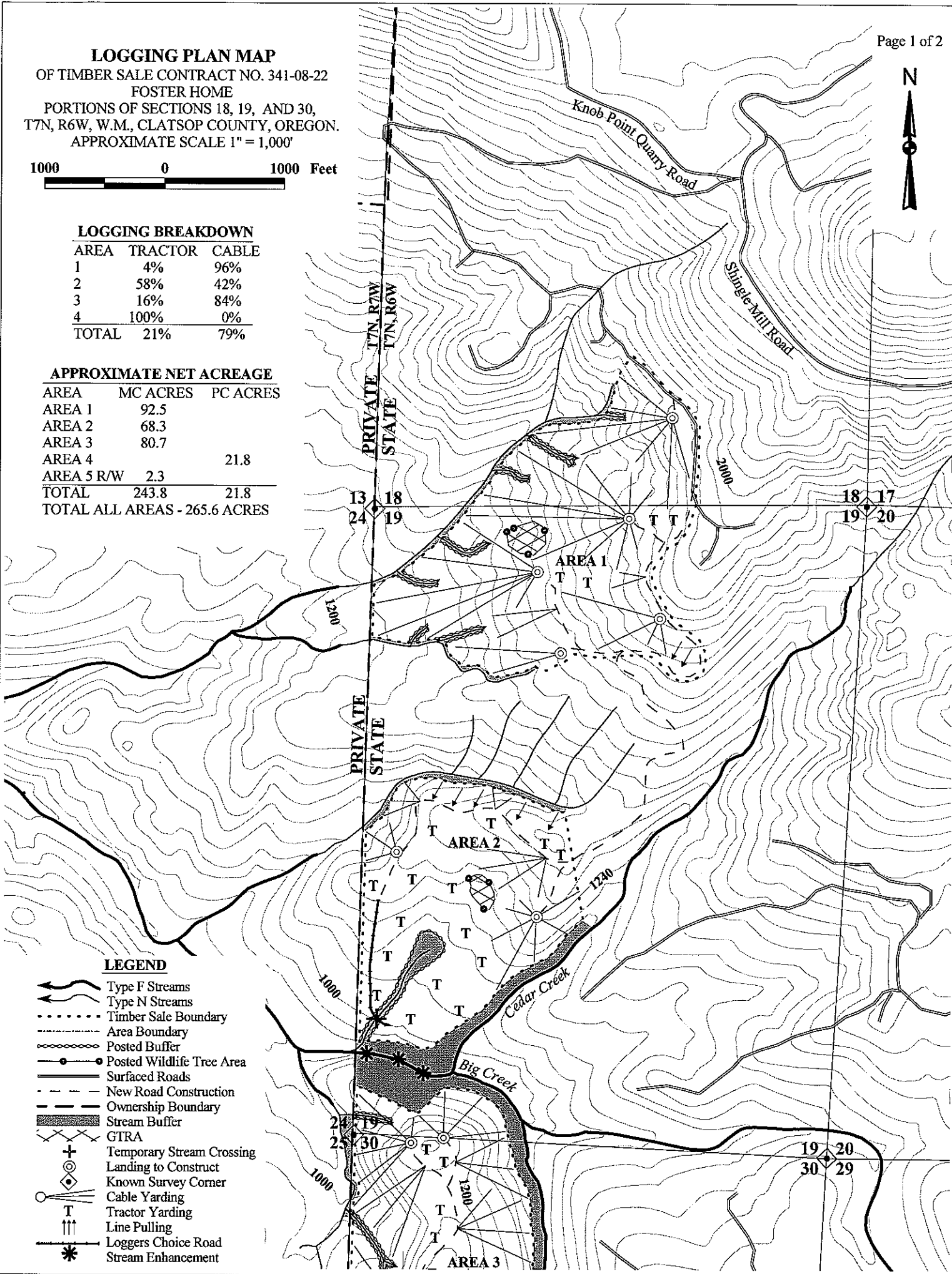


LOGGING BREAKDOWN

AREA	TRACTOR	CABLE
1	4%	96%
2	58%	42%
3	16%	84%
4	100%	0%
TOTAL	21%	79%

APPROXIMATE NET ACREAGE

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- GIRA
- Temporary Stream Crossing
- Landing to Construct
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- Cable Yarding
- Tractor Yarding
- Line Pulling
- Loggers Choice Road
- Stream Enhancement



LOGGING PLAN MAP
 OF TIMBER SALE CONTRACT NO. 341-08-22
 FOSTER HOME
 PORTIONS OF SECTIONS 18, 19, AND 30,
 T7N, R6W, W.M., CLATSOP COUNTY, OREGON.
 APPROXIMATE SCALE 1" = 1,000'



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- Tractor Yarding
- Line Pulling
- Loggers Choice Road
- Gate
- Stream Enhancement

