



Timber Sale Appraisal Cost Summary Bigfoot Combination Sale 341-05-64

District: Astoria

Date: 1/10/05

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$3,374,519.15	\$263,045.49	\$3,637,564.64
		Project Work	(\$440,587.00)
		Advertised Value	\$3,196,977.64



Timber Sale Appraisal Timber Description Bigfoot Combination Sale 341-05-64

"STEWARDSHIP IN FORESTRY"

District: Astoria

Location: Portions of Section 25, 26, & 36, T8N, R7W, Section 1, T7N, R7W, and Section 6, T7N, R6W, W.M., Clatsop County, Oregon.

Date: 1/10/05

Stand Stocking: 40%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	19	0	99
Western Hemlock / Fir	16	0	97
Sitka Spruce	20	0	80
Red Cedar	30	0	100
Alder (Red)	14	0	90

Volume by Grade	Douglas - Fir	Western Hemlock / Fir	Sitka Spruce	Red Cedar	Alder (Red)	Total
SM	35	0	0	0	0	35
2S	3,182	5,065	71	0	65	8,383
3S	1,096	3,663	89	2	430	5,280
4S	200	580	12	2	258	1,052
Total	4,513	9,308	172	4	753	14,750

Comments: Pond Values Used: 4th Quarter 2004.

Log Markets: Tillamook; Longview; Mist.

Other Costs + P&R: 100% branding & painting - \$1/MBF x 14,750 MBF = \$14,750.

Thinning tree selection - \$3/MBF x 5,039 MBF = \$15,117.

Skid trail/cable corridor layout - \$4/MBF x 5,039 MBF = \$20,156.

Rig intermediate supports - 5 man-days x \$150/day = \$750.

Total Other Costs + P&R = \$50,773.

Other Costs No P&R: "Loggers Choice" spur road in Area 10 - 10 sta. x \$125/sta. = \$1,250.

Pile slash at MC cable landings - \$130/landing x 17 landings = \$2,210.

Area 4: Use of dump truck to haul slash to waste area - 10 hours x
\$57/hour = \$570.

Area 4: Additional shovel time to load slash - 6 hours x \$65 = \$390.

Slash Piling in Areas 1, 4, 5, 7 & 9: 219 Hrs X \$95/Hr = \$20,805

Slash Piling Excavator: Move-in x 2 = \$1000.

Total Other Costs No P&R = \$26,225.



Timber Sale Appraisal Logging Conditions Bigfoot Combination Sale 341-05-64

"STEWARDSHIP IN FORESTRY"

Combination#: 1	Douglas - Fir	12.52%	
	Western Hemlock / Fir	26.68%	
	Sitka Spruce	20.51%	
	Alder (Red)	12.05%	
Yarding Distance:	Short (400 ft)		Downhill Yarding: Yes
Logging System:	Track Skidder		Process: Manual Falling/Delimiting
Tree Size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
Loads/Day:	6		Bd. Ft./Load: 4,000
Cost/MBF:	\$148.43		
Machines:			
	Log Loader (B)		
	Track Skidder		
Combination#: 2	Douglas - Fir	7.35%	
	Western Hemlock / Fir	15.67%	
	Sitka Spruce	12.05%	
	Alder (Red)	7.08%	
Yarding Distance:	Medium (800 ft)		Downhill Yarding: No
Logging System:	Cable: Medium Tower >40 - <70		Process: Manual Delimiting
Tree Size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
Loads/Day:	5		Bd. Ft./Load: 4,000
Cost/MBF:	\$184.26		
Machines:			
	Log Loader (A)		
	Tower Yarder (Medium)		
Combination#: 3	Douglas - Fir	52.88%	
	Western Hemlock / Fir	38.05%	
	Sitka Spruce	44.51%	
	Red Cedar	66.00%	
	Alder (Red)	53.38%	
Yarding Distance:	Short (400 ft)		Downhill Yarding: Yes
Logging System:	Track Skidder		Process: Manual Falling/Delimiting
Tree Size:	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF		
Loads/Day:	8		Bd. Ft./Load: 4,000
Cost/MBF:	\$108.85		
Machines:			
	Log Loader (B)		
	Track Skidder		

Combination#: 4	Douglas - Fir	27.24%	
	Western Hemlock / Fir	19.60%	
	Sitka Spruce	22.93%	
	Red Cedar	34.00%	
	Alder (Red)	27.50%	
Yarding Distance:	Medium (800 ft)		Downhill Yarding: No
Logging System:	Cable: Medium Tower >40 - <70		Process: Manual Delimiting
Tree Size:	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF		
Loads/Day:	6		Bd. Ft./Load: 4,000
Cost/MBF:	\$150.75		
Machines:			
	Log Loader (A)		
	Tower Yarder (Medium)		



Timber Sale Appraisal Logging Costs Bigfoot Combination Sale 341-05-64

"STEWARDSHIP IN FORESTRY"

Date: 1/10/05

Operating Seasons: 2.0

Profit & Risk: 15%

Project Costs: \$440,587

Other Costs (P/R): \$50,773

Slash Disposal: \$0

Other Costs: \$26,225

Road Maintenance: \$2.75

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

Hauling Costs

Species	\$/MBF	Trips/Day	MBF/Load
Douglas - Fir	\$0.00	3.0	4.0
Western Hemlock / Fir	\$0.00	2.0	4.0
Sitka Spruce	\$0.00	2.0	3.5
Red Cedar	\$0.00	2.0	3.5
Alder (Red)	\$0.00	3.0	3.0



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Logging Costs Breakdown Bigfoot Combination Sale 341-05-64

Costs	Douglas - Fir	Western Hemlock / Fir	Sitka Spruce	Red Cedar	Alder (Red)
Logging	130.77	139.44	135.66	123.10	130.48
Road Maintenance	2.78	2.84	3.44	2.75	3.06
Fire Protection	0.37	0.37	0.37	0.37	0.37
Hauling	38.74	59.28	82.12	65.70	56.78
Other (P/R appl.)	3.44	3.44	3.44	3.44	3.44
Profit & Risk	26.42	30.81	33.75	29.30	29.12
Slash Disposal	0.00	0.00	0.00	0.00	0.00
Scaling	2.00	2.00	2.00	2.00	2.00
Other	1.78	1.78	1.78	1.78	1.78
Total	206.30	239.96	262.56	228.44	227.03

Amortization	0.00	0.00	0.00	0.00	0.00
Pond Value	605.01	406.11	413.90	875.00	576.36
Stumpage	398.71	166.15	151.34	646.56	349.33
Amortized	0.00	0.00	0.00	0.00	0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Summary Bigfoot Combination Sale 341-05-64

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	4,513.00	9,308.00	172.00	4.00	753.00
Value	398.71	166.15	151.34	646.56	349.33
Total	1,799,378.23	1,546,524.20	26,030.48	2,586.24	263,045.49

Gross Timber Sale Value

Recovery \$3,637,564.64

Prepared by: Kraig Kirkpatrick

Date: 1/10/05

District: Astoria

Phone: (503) 325-5451

Road Maintenance Cost Summary (Interim and Post Harvest)

Sale: Bigfoot Combination
Date: September 15, 2004
By: Kraig Kirkpatrick

MBF: 14,750
\$/MBF: \$2.75

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost
Progressive Operations Entries (2)	Grader 14G	\$540	2	65	\$80	\$6,280
	Dump Truck 12CY (2 @ \$114)	\$114	2	50	\$57	\$3,078
	FE Loader C966	\$540	2	20	\$75	\$2,580
	Vibratory Roller	\$540	2	65	\$75	\$5,955
Final Haul Road Maintenance Haul Route	Grader 14G	\$540	1	85	\$80	\$7,340
	Dump Truck 12CY (2 @ \$114)	\$228	1	55	\$57	\$3,363
	FE Loader C966	\$540	1	20	\$75	\$2,040
	Vibratory Roller	\$540	1	85	\$75	\$6,915
	Water Truck 2,500 gallon Labor	\$132	1	40	\$67	\$2,812
				10	\$25	\$250
Total						\$40,613

Interim Maintenance

Production Rates

Grader
 Vibratory Roller

Miles/day	Distance(miles)	Days	Hours
1.5	9.8	6.5	65.00
1.5	9.8	6.5	65.00

Final Road Maintenance

Production Rates

Grader
 Vibratory Roller

Miles/day	Distance(miles)	Days	Hours
1.5	12.5	8.5	85.00
1.5	12.5	8.5	85.00

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

- W. Big Noise Rd. (Area 1 to E. Big Noise Rd.) .8 miles.
- E. Big Noise Rd. (All Areas, Hwy 30 to Jct. Of Quarry Rd.) 3.7 miles.
- Bigfoot Rd. (Areas 3 & 5) 2.5 miles.
- Quarry Rd. (Areas 2, 3, 4, 7, 9, & 10) 1.6 miles.
- Big Noise Ridge Rd. (Areas 6, 7, & 8) 1.2 miles.
- New Road Construction (Area 11 R/W) 2.7 miles.

Total Miles: 12.5

SUMMARY OF ALL PROJECT COSTS

SALE NAME: Bigfoot Combination

NEW CONSTRUCTION:

Project No.	Road segment	Length/Sta	Cost
Project No. 1	1A-1B, 2A-2B, 6A-6B, 6C-6D, 7A-7B-7C, 7D-7E, 7F-7G, 7H-7I, 7J-7K, 9A-9B, 10A-10B, 10C-10D	142.85	\$74,593
TOTALS	2.71 miles	142.85 Stations	\$74,593

ROAD IMPROVEMENT:

Project No.	Road segment	Length/Sta	Cost
Project No. 2	11 to 12	282.00	\$78,500
	13 to 14	140.35	\$55,412
	15 to 16	64.20	\$11,765
TOTALS	9.21 miles	486.55 Stations	\$145,677

SPECIAL PROJECTS:

Project No.	Description	Cost
Project No. 3	Rock Crushing - Big Noise Quarry [29,085 cubic yards]	\$189,370
Project No. 4	Roadside Brushing [13 miles]	\$13,056
Project No. 5	Road Vacating (V1, V2)	\$3,083
	Project Work Road Maintenance	\$8,995
TOTALS		\$214,504

MOVE IN:

Equipment	Cost
518 Rubber Tired Skidder	\$520
D-8 Dozer	\$980
12cy Dump Truck (6 @ \$114 each)	\$684
Grader (14G) X 2	\$1,080
Vibratory Roller X 2	\$1,080
Water Truck (2,500 gal.) X 2	\$264
Excavator (large C330)	\$980
Medium Brush Cutter	\$225
TOTAL	\$5,813

GRAND TOTAL **\$440,587**

Compiled By: Kraig Kirkpatrick *Ret*

Date: 1/4/2005

X:\Sunset Unit\FY2005 Sales\Bigfoot Combination\Sale Prep\Write up\Projects\Costing\Project Summary.xls

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Bigfoot Combination
 ROAD: 1A to 1B(8.3), 2A to 2B(6.85), 6A to 6B(7.3), 6C to 6D(16.2),
 7A to 7B to 7C(8.3), 7D to 7E(25.5), 7F to 7G(2.2), 7H to 7K(3.8), 7J to 7K(2.1),
 9A to 9B(13.0), 10A to 10B(29.8) & 10C to 10D(19.

NEW CONSTRUCTION: 142.85 STATIONS 2.71 MILES
 IMPROVEMENT: STATIONS MILES

CLEARING & GRUBBING					
Method	Acres/amount	x	Rate/Acre	=	Cost
Scatter Outside of R/W	14.75	x	\$840.00	=	\$12,390.00
		x		=	
		x		=	
SUB TOTAL FOR CLEARING & GRUBBING					\$12,390

EXCAVATION					
Material	Cy/amount	x	Rate	=	Cost
Common (low Standard Design) \$\$/sta.	142.85	x	\$117.00	=	\$16,713.45
Undesigned Landing Construction \$\$/landing	13	x	\$270.00	=	\$3,510.00
(1B, 2B, 4A, 6B, 6D, 7C, 7E, 7G, 7I, 7K, 9B, 10B, 10C)					
Cut-slope Rounding \$\$/sta.	18.0	x	\$27.00	=	\$486.00
SUB TOTAL FOR EXCAVATION					\$20,709

CULVERT MATERIALS AND INSTALLATION							
Location	Dia/type	Lineal ft.	Rate	Cost	No. bands	Rate	Cost
1A to 1B							
0+00	18/CPP	40	\$11.00	\$440.00	N/A		
2A to 2B							
0+00	18/CPP	40	\$11.00	\$440.00	N/A		
7+00	18/CPP	30	\$11.00	\$330.00	N/A		
6A to 6B							
2+10	18/CPP	30	\$11.00	\$330.00	N/A		
6C to 6D							
5+50	18/CPP	30	\$11.00	\$330.00	N/A		
8+50	18/CPP	30	\$11.00	\$330.00	N/A		
12+50	18/CPP	30	\$11.00	\$330.00	N/A		
7D to 7E							
9+30	18/CPP	30	\$11.00	\$330.00	N/A		
14+30	18/CPP	30	\$11.00	\$330.00	N/A		
16+70	18/CPP	30	\$11.00	\$330.00	N/A		
20+15	18/CPP	30	\$11.00	\$330.00	N/A		
24+15	18/CPP	30	\$11.00	\$330.00	N/A		
9A to 9B							
4+00	18/CPP	30	\$11.00	\$330.00	N/A		
11+00	18/CPP	30	\$11.00	\$330.00	N/A		
10A to 10B							
5+80	18/CPP	30	\$11.00	\$330.00	N/A		
9+00	18/CPP	30	\$11.00	\$330.00	N/A		
16+00	18/CPP	30	\$11.00	\$330.00	N/A		
22+00	18/CPP	30	\$11.00	\$330.00	N/A		
27+00	18/CPP	30	\$11.00	\$330.00	N/A		
10C to 10D							
5+00	18/CPP	30	\$11.00	\$330.00	N/A		
10+20	18/CPP	30	\$11.00	\$330.00	N/A		
16+00	18/CPP	30	\$11.00	\$330.00	N/A		
Other/miscellaneous:							
Culvert stakes & markers:							
6' x 2 1/2" White Fiberglass (Carsonite)					22	\$14.10	\$310.20
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION							\$7,790

Subtotal \$40,890

Compiled by: K. Kirkpatrick

Date: 1/3/2005

SURFACING:		Stations/	Rate/	Cost
Subgrade prep:		amount	sta/amt	
Description		x		
Grade, Shape and Ditch 16'		124.15	\$15.20	\$1,887.08
Subgrade Compaction		124.15	\$12.50	\$1,551.88
Grade and Shape (1A to 1B, 7A to 7B to 7C, & 7J to 7K) 14' Outslope		18.70	\$11.20	\$209.44

\$3,648.40

ROAD SEGMENT	1A to 1B	Dirt Spur	POINT TO POINT	Sta. to Sta.	TOTAL	Rate/	Cost
Application	Rock Size and Type	Location	Volume (CY) per	Number of	VOLUME (CY)	Sta./amt.	
Junctions	4"-0" Crushed	0+00	N/A junction	20	junctions	1	\$2.96 \$59
Total Rock for Road Segment: 1A to 1B					20		\$59

\$59

ROAD SEGMENT	2A to 2B	Dirt Spur	POINT TO POINT	Sta. to Sta.	TOTAL	Rate/	Cost
Application	Rock Size and Type	Location	Volume (CY) per	Number of	VOLUME (CY)	Sta./amt.	
Base Rock	4"-0" Crushed	0+00 to 6+85	8 station	50	stations	6.85	\$2.96 \$1,015
Traction Rock	3/4"-0" Crushed	1+20 to 4+60	3 station	19	stations	3.4	\$2.96 \$191
Junctions	4"-0" Crushed	0+00	8 junction	36	junctions	1	\$2.96 \$107
Junctions	1 1/2"-0" Crushed	0+00	3 junction	24	junctions	1	\$2.96 \$71
Curve widening	4"-0" Crushed	1+00 to 2+00	8 station	11	station	1.00	\$2.96 \$33
Turnarounds	4"-0" Crushed		8 TA	24	TAs	1	\$2.96 \$71
Landings	6"-0" Pit-run	2B	N/A landings	60	Landings	1	\$2.34 \$140
Total Rock for Road Segment: 2A to 2B					563		\$1,628

\$1,628

ROAD SEGMENT	4A	Dirt Spur	POINT TO POINT	Sta. to Sta.	TOTAL	Rate/	Cost
Application	Rock Size and Type	Location	Volume (CY) per	Number of	VOLUME (CY)	Sta./amt.	
Base Rock	4"-0" Crushed	4A	8 station	70	Landings	1.00	\$2.96 \$207

ROAD SEGMENT	6A to 6B	Dirt Spur	POINT TO POINT	Sta. to Sta.	TOTAL	Rate/	Cost
Application	Rock Size and Type	Location	Volume (CY) per	Number of	VOLUME (CY)	Sta./amt.	
Base Rock	4"-0" Crushed	0+00 to 7+30	8 station	50	stations	7.30	\$2.96 \$1,080
Junctions	4"-0" Crushed	0+00	8 junction	36	junctions	1	\$2.96 \$107
Junctions	1 1/2"-0" Crushed	0+00	3 junction	24	junctions	1	\$2.96 \$71
Turnarounds	4"-0" Crushed	6+50	8 TA	24	TAs	1	\$2.96 \$71
Landings	6"-0" Pit-run	6B	N/A landings	60	Landings	1	\$2.34 \$140
Total Rock for Road Segment: 6A to 6B					509		\$1,469

\$1,469

ROAD SEGMENT	6C to 6D	Dirt Spur	POINT TO POINT	Sta. to Sta.	TOTAL	Rate/	Cost
Application	Rock Size and Type	Location	Volume (CY) per	Number of	VOLUME (CY)	Sta./amt.	
Base Rock	4"-0" Crushed	0+00 to 16+20	8 station	50	stations	16.20	\$2.96 \$2,398
Traction Rock	3/4"-0" Crushed	1+00 to 15+10	2 station	13	stations	14.10	\$2.96 \$543
Turnouts	4"-0" Crushed	4+30, 11+50	8 turnout	22	turnouts	2	\$2.96 \$130
Turnouts	3/4"-0" Crushed	4+30, 11+50	2 turnout	11	turnouts	2	\$2.96 \$65
Junctions	4"-0" Crushed	0+00	8 junction	36	junctions	1	\$2.96 \$107
Junctions	3/4"-0" Crushed	0+00	3 junction	24	junctions	1	\$2.96 \$71
Curve widening	4"-0" Crushed	3+90 to 5+20	8 station	11	station	2.00	\$2.96 \$65
Curve widening	3/4"-0" Crushed	3+90 to 5+20	3 station	11	station	1.00	\$2.96 \$33
Turnarounds	4"-0" Crushed		8 TA	24	TAs	1	\$2.96 \$71
Landings	6"-0" Pit-run	6D	N/A landing	60	landings	1	\$2.34 \$140
Total Rock for Road Segment: 6C to 6D					1,236		\$3,622

\$3,622

ROAD SEGMENT	7A to 7B to 7C	Dirt Spur	POINT TO POINT	Sta. to Sta.	TOTAL	Rate/	Cost
Application	Rock Size and Type	Location	Volume (CY) per	Number of	VOLUME (CY)	Sta./amt.	
Junctions	4"-0" Crushed	0+00	N/A junction	20	junctions	1	\$2.96 \$59
Total Rock for Road Segment: 7A to 7B to 7C					20		\$59

\$59

ROAD SEGMENT	7D to 7E	Dirt Spur	POINT TO POINT	Sta. to Sta.	TOTAL	Rate/	Cost
Application	Rock Size and Type	Location	Volume (CY) per	Number of	VOLUME (CY)	Sta./amt.	
Base Rock	4"-0" Crushed	0+00 to 25+50	8 station	50	stations	25.50	\$2.96 \$3,774
Turnouts	4"-0" Crushed	10+90, 15+70, 18+75	8 turnout	22	turnouts	3	\$2.96 \$195
Junctions	4"-0" Crushed	0+00	8 junction	36	junctions	1	\$2.96 \$107
Junctions	1 1/2"-0" Crushed	0+00	3 junction	24	junctions	1	\$2.96 \$71
Curve widening	4"-0" Crushed	4+15 to 5+45	8 station	11	station	2.00	\$2.96 \$65
Turnarounds	4"-0" Crushed		8 TA	24	TAs	1	\$2.96 \$71
Landings	6"-0" Pit-run	7E	N/A landing	80	landings	1	\$2.34 \$187
Total Rock for Road Segment: 7D to 7E					1,527		\$4,470

\$4,470

ROAD SEGMENT	7F to 7G	Dirt Spur	POINT TO POINT	Sta. to Sta.	TOTAL	Rate/	Cost
Application	Rock Size and Type	Location	Volume (CY) per	Number of	VOLUME (CY)	Sta./amt.	
Base Rock	4"-0" Crushed	0+00 to 2+20	8 station	50	stations	2.20	\$2.96 \$326
Junctions	4"-0" Crushed	0+00	8 junction	36	junctions	1	\$2.96 \$107
Landings	6"-0" Pit-run	7G	N/A landing	80	landings	1	\$2.34 \$187
Total Rock for Road Segment: 7F to 7G					226		\$619

\$619

ROAD SEGMENT	7H to 7I	Dirt Spur	POINT TO POINT	Sta. to Sta.	TOTAL	Rate/	Cost
Application	Rock Size and Type	Location	Volume (CY) per	Number of	VOLUME (CY)	Sta./amt.	
Base Rock	4"-0" Crushed	0+00 to 3+80	8 station	50	stations	3.80	\$2.96 \$562
Junctions	4"-0" Crushed	0+00	8 junction	36	junctions	1	\$2.96 \$107
Turnarounds	4"-0" Crushed		8 TA	24	TAs	1	\$2.96 \$71
Landings	6"-0" Pit-run	7I	N/A landing	80	landings	1	\$2.34 \$187
Total Rock for Road Segment: 7H to 7I					330		\$927

\$927

ROAD SEGMENT	7J to 7K			POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost								
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	7J to 7K	2+10											
Junctions	4"-0" Crushed	0+00	N/A	junction	20	junctions	1	20	\$2.96	\$59								
Total Rock for Road Segment:								7J to 7K										
ROAD SEGMENT								9A to 9B		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost		
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	9A to 9B	13+00											
Base Rock	4"-0" Crushed	0+00 to 13+00	8	station	50	stations	13.00	650	\$2.96	\$1,924								
Turnouts	4"-0" Crushed	4+50, 7+50	8	turnout	22	turnouts	2	44	\$2.96	\$130								
Junctions	4"-0" Crushed	0+00	8	junction	36	junctions	1	36	\$2.96	\$107								
Junctions	1 1/2"-0" Crushed	0+00	3	junction	24	junctions	1	24	\$2.96	\$71								
Turnarounds	4"-0" Crushed		8	TA	24	TAs	1	24	\$2.96	\$71								
Landings	6"-0" Pit-run	9B	N/A	landing	80	landings	1	80	\$2.34	\$187								
Total Rock for Road Segment:								9A to 9B			\$2,490							
ROAD SEGMENT								10A to 10B		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost		
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	10A to 10B	0+00 to 29+80											
Base Rock	4"-0" Crushed	0+00 to 29+80	8	station	50	stations	29.80	1,490	\$2.96	\$4,410								
Traction Rock	3/4"-0" Crushed	2+00 to 9+50	2	station	13	stations	7.50	98	\$2.96	\$289								
Turnouts	4"-0" Crushed	7+30, 10+10, 17+00, 24+00	8	turnout	22	turnouts	4	88	\$2.96	\$260								
Turnouts	3/4"-0" Crushed	7+30	2	turnout	11	turnouts	1	11	\$2.96	\$33								
Junctions	4"-0" Crushed	0+00	8	junction	36	junctions	1	36	\$2.96	\$107								
Junctions	1 1/2"-0" Crushed	0+00	3	junction	24	junctions	1	24	\$2.96	\$71								
Turnarounds	4"-0" Crushed		8	TA	24	TAs	1	24	\$2.96	\$71								
Landings	6"-0" Pit-run	10B	N/A	landing	60	landings	1	60	\$2.34	\$140								
Total Rock for Road Segment:								10A to 10B			\$5,381							
ROAD SEGMENT								10 C to 10D		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost		
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	10 C to 10D	0+00 to 19+50											
Base Rock	4"-0" Crushed	0+00 to 19+50	8	station	50	stations	19.50	975	\$2.96	\$2,886								
Turnouts	4"-0" Crushed	5+50, 9+40, 15+00	8	turnout	22	turnouts	3	66	\$2.96	\$195								
Junctions	4"-0" Crushed	0+00	8	junction	36	junctions	1	36	\$2.96	\$107								
Curve widening	4"-0" Crushed	14+60 to 15+50	8	station	11	station	2.00	22	\$2.96	\$65								
Turnarounds	4"-0" Crushed		8	TA	24	TAs	1	24	\$2.96	\$71								
Landings	6"-0" Pit-run	10D	N/A	landing	60	landings	1	60	\$2.34	\$140								
Total Rock for Road Segment:								10 C to 10D			\$3,464							
Processing:								Description	No. sta.	Rate/sta	Cost							
								Water, Process & Compact Crushed Rock, 4"-0" (sta.); (8" roads in 1 lift, more than 8" = 2lifts)	124.15	\$37.00	\$4,594							
								Water, Process & Compact 3/4"-0" (Traction Rock)	21.60	\$37.00	\$799							
Other/miscellaneous:								Geotextile Fabric (10A to 10B)	3.30	\$1.25	\$413							
											\$5,805							
SUB TOTAL FOR SURFACING								24"-6" rr	620	4"-0"	7,239	1 1/2"-0"	120	3/4"-0"	413	Total	8,392	\$33,704

SPECIAL PROJECTS:	No. sta./ft./cy.	Rate per sta./ft./cy.	Cost
SUB TOTAL FOR SPECIAL PROJECTS			\$0

GRAND TOTAL Cost per Mile \$27,571 \$74,593

Compiled By: Kraig Kirkpatrick
 x:\document\2005sales\Bigfoot Combination\Sale Prep\Projects\Costing\Summary of New Construction-Bigfoot Combination.xls

Date: 1/3/2005

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Bigfoot Combination
 ROAD: East Big Noise (EB)
 POINTS: I1 to I2

NEW CONSTRUCTION: _____ STATIONS _____ MILES
 IMPROVEMENT: 282.00 STATIONS 5.34 MILES

CLEARING & GRUBBING						
Method	Amount	x	Rate	=	Cost	
Realignment: Scatter outside of R/W (w/excavator or cat)	0.25	x	\$840.00	=	\$210.00	
SUB TOTAL FOR CLEARING & GRUBBING						\$210

EXCAVATION						
Material	BCY	x	Rate	=	Cost	
Realignment: End Haul up to 5000' (excavation, load, haul up to 5,000')	1,745.00	x	\$2.75	=	\$4,798.75	
Realignment: Sidecast Pullback (excavation, load, haul up to 5,000')	366.00	x	\$5.03	=	\$1,840.98	
SUB TOTAL FOR EXCAVATION						\$6,640

CULVERT MATERIALS AND INSTALLATION									
Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
77+20	18"/CPP	40	\$11.00	\$440.00	244+62	60"/12ga AC	76	*	\$15,338.12
177+25	18"/CPP	40	\$11.00	\$440.00	249+10	48"/12ga AC	54	*	\$6,817.14
241+83	24"/CPP	60	*	\$4,685.52	279+86	24"/CPP	35	\$16.30	\$570.50
* See Fill Reconstruction Sheet									
					Description	Quantity	Rate	Cost	
					Culvert stakes & markers: 6' x 2-1/2" white fibreglass (Carsonite)	3	\$14.10	\$42.30	
					I beam posts				
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION									\$28,334

SURFACING				
Subgrade prep:	Description	amount	Stations/ x	Rate/ Cost
	Grade, Shape and Ditch 16'	282.00	x	\$15.20 \$4,286.40
	Subgrade Compaction	282.00	x	\$12.50 \$3,525.00

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	Sta. to Sta. Number of	
Surface Rock	1 1/2"-0" Crushed	0+00 - 101+88	4	station 25	stations 101.88	\$2.96 \$7,539
Turnouts	1 1/2"-0" Crushed	0+00 - 101+88	4	turnout 11	turnouts 12	\$2.96 \$391
Junction	1 1/2"-0" Crushed		4	junction 25	junctions 5	\$2.96 \$370
Leveling Rock	1 1/2"-0" Crushed	0+00 - 282+00				\$2.96 \$888
Energy Dissipator	24"-6" Riprap	68+08		dissipator 50	dissipator 1	\$4.29 \$215

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	Sta. to Sta. Number of	
Base Rock (Fills)	4"-0" Crushed	241+83, 244+62, 249+10	10	fill 63	fills 3	\$2.96 \$559
Base Rock (Realignment)	4"-0" Crushed	111+35 - 116+15	10	station 63	stations 4.80	\$2.96 \$895
Surface Rock	1 1/2"-0" Crushed	101+88 - 282+00	3	station 19	stations 180.12	\$2.96 \$10,130
Turnouts (Realignment)	4"-0" Crushed	112+67	10	turnout 28	turnouts 1	\$2.96 \$83
Turnouts	1 1/2"-0" Crushed	101+88 - 282+00	3	turnout 8	turnouts 30	\$2.96 \$710
Junction	1 1/2"-0" Crushed		3	junction 19	junctions 6	\$2.96 \$337
Turnaround	4"-0" Crushed	282+00	3	turnaround 12	turnarounds 1	\$2.96 \$36

Fill Armor	24"-6" Riprap	241+83						60	\$4.29	\$257	
Fill Armor	24"-6" Riprap	244+62						130	\$4.29	\$558	
Fill Armor	24"-6" Riprap	249+11						70	\$4.29	\$300	
Embedded Dissip.	24"-6" Riprap	241+83, 244+62, 249+10		dissipator	20	dissipator	3	60	\$4.29	\$257	
Energy Dissipator	24"-6" Riprap	273+55		dissipator	10	dissipator	1	10	\$4.29	\$43	
Bedding/Backfill	1 1/2"-0" Crushed							350	\$2.96	\$1,036	
Total Rock for Road Segment:			I1 to I2					8,142		\$24,605	
Processing:		Description						No. sta	Rate/sta	Cost	
		Water, Process & Compact Crushed Rock:						294.60	\$37.00	\$10,900	
		(8" roads in 1 lift)									
SUB TOTAL FOR SURFACING										\$43,316	
		24"-6" rip	6"-0" p	4"-0"	1 1/2"-0"	3/4"-0"	Total				
		380		531	7,230		8,142				
GRAND TOTAL										\$78,500	

Compiled By: F. Lertora

Date: 11/29/2004

Sale Name: Bigfoot Combination
 Project: Point I1 to Point I2, Sta. 241+83
 Project Type: Culvert Replacement/Fill Reconstruction

Prepared by: F. Lertora

Date: 12/1/04

Phase I: Fill and Culvert Removal

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
1	Excavator w/ 1-1/2 cy bucket	4	\$115.00	\$460.00
2	12-yard Dump Truck	4	\$57.00	\$456.00
				\$916.00

Phase II: Development of Culvert Bed & De-watering

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
1	Excavator w/ 1-1/2 cy bucket	2	\$115.00	\$230.00
2	12-yard Dump Truck	2	\$57.00	\$228.00
30*	1 1/2"-0" Crushed Bedding Rock (\$/cy)			
10*	24"-6" Embedded Energy Dissipator			
1	Sand Bags (40 bags, \$25; sand 10cy \$110)		\$135.00	\$135.00
1	Hand Held Tamper	2	\$6.00	\$12.00
1	6 mil. Plastic (10' x 50' roll) (\$/roll)		\$13.50	\$13.50
4	Bands for De-Watering Culvert, 24"x100' Poly (\$/band)		\$17.18	\$68.72
2	Laborer	2	\$25.00	\$100.00
				\$787.22

Phase III: Pipe Installation and Fill Reconstruction

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
1	Excavator w/ 1-1/2 cy bucket	5	\$115.00	\$575.00
2	12-yard Dump Truck	5	\$57.00	\$570.00
1	Vibratory Roller	8	\$75.00	\$600.00
1	Loader (w/o operator)	5	\$45.00	\$225.00
1	Tamper	5	\$6.00	\$30.00
1	Laborer	5	\$25.00	\$125.00
40*	1 1/2"-0" Crushed Backfill Rock (\$/cy)			
50*	24"-6" Armor Rock (\$/cy)			
54	Poly Culvert, 24"		\$11.45	\$618.30
				\$2,743.30

Phase IV: Surfacing and Mulching

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
63**	4"-0" Rock			
0.2	Straw Mulch w/Seed Application EC mix (\$/ac.)		\$1,195.00	\$239.00
				\$239.00

* Rock haul is included with the Summary of Construction for the road segment I1 to I2.

** Surfacing is included with the Summary of Construction for the road segment I1 to I2.

Total Project Cost = \$4,685.52

Sale Name: Bigfoot Combination
 Project: Point I1 to Point I2, Sta. 244+62
 Project Type: Culvert Replacement/Fill Reconstruction

Prepared by: F. Lertora

Date: 12/1/04

Phase I: Fill and Culvert Removal

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
1	Excavator w/ 1-1/2 cy bucket	8	\$115.00	\$920.00
2	12-yard Dump Truck	8	\$57.00	\$912.00
				\$1,832.00

Phase II: Development of Culvert Bed & De-watering

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
1	Excavator w/ 1-1/2 cy bucket	8	\$115.00	\$920.00
2	12-yard Dump Truck	8	\$57.00	\$912.00
40*	1 1/2"-0" Crushed Bedding Rock (\$/cy)			
30*	24"-6" Embedded Energy Dissipator			
1	Sand Bags (40 bags, \$25; sand 10cy \$110)		\$135.00	\$135.00
1	Hand Held Tamper	8	\$6.00	\$48.00
1	6 mil. Plastic (10' x 50' roll) (\$/roll)		\$13.50	\$13.50
4	Bands for De-Watering Culvert, 24"x100' Poly (\$/band)		\$17.18	\$68.72
2	Laborer	8	\$25.00	\$400.00
				\$2,497.22

Phase III: Pipe Installation and Fill Reconstruction

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
1	Excavator w/ 1-1/2 cy bucket	16	\$115.00	\$1,840.00
2	12-yard Dump Truck	16	\$57.00	\$1,824.00
1	Vibratory Roller	8	\$75.00	\$600.00
1	Loader (w/o operator)	16	\$45.00	\$720.00
1	Tamper	16	\$6.00	\$96.00
1	Laborer	16	\$25.00	\$400.00
60*	1 1/2"-0" Crushed Backfill Rock (\$/cy)			
100*	24"-6" Armor Rock (\$/cy)			
70	60", 12ga., Alum. Steel w/bevel (\$/ft)		\$75.57	\$5,289.90
				\$10,769.90

Phase IV: Surfacing and Mulching

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
63**	4"-0" Rock			
0.2	Straw Mulch w/Seed Application EC mix (\$/ac.)		\$1,195.00	\$239.00
				\$239.00

* Rock haul is included with the Summary of Construction for the road segment I1 to I2.

** Surfacing is included with the Summary of Construction for the road segment I1 to I2.

Total Project Cost = \$15,338.12

Sale Name: Bigfoot Combination
 Project: Point I1 to Point I2, Sta. 249+10
 Project Type: Culvert Replacement/Fill Reconstruction

Prepared by: F. Lertora

Date: 12/1/04

Phase I: Fill and Culvert Removal

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
1	Excavator w/ 1-1/2 cy bucket	4	\$115.00	\$460.00
2	12-yard Dump Truck	4	\$57.00	\$456.00
				\$916.00

Phase II: Development of Culvert Bed & De-watering

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
1	Excavator w/ 1-1/2 cy bucket	2	\$115.00	\$230.00
2	12-yard Dump Truck	2	\$57.00	\$228.00
30*	1 1/2"-0" Crushed Bedding Rock (\$/cy)			
20*	24"-6" Embedded Energy Dissipator			
1	Sand Bags (40 bags, \$25; sand 10cy \$110)		\$135.00	\$135.00
1	Hand Held Tamper	2	\$6.00	\$12.00
1	6 mil. Plastic (10' x 50' roll) (\$/roll)		\$13.50	\$13.50
4	Bands for De-Watering Culvert, 24"x100' Poly (\$/band)		\$17.18	\$68.72
2	Laborer	2	\$25.00	\$100.00
				\$787.22

Phase III: Pipe Installation and Fill Reconstruction

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
1	Excavator w/ 1-1/2 cy bucket	5	\$115.00	\$575.00
2	12-yard Dump Truck	5	\$57.00	\$570.00
1	Vibratory Roller	8	\$75.00	\$600.00
1	Loader (w/o operator)	5	\$45.00	\$225.00
1	Tamper	5	\$6.00	\$30.00
1	Laborer	5	\$25.00	\$125.00
40*	1 1/2"-0" Crushed Backfill Rock (\$/cy)			
50*	24"-6" Armor Rock (\$/cy)			
48	48", 12ga., Alum. Steel w/bevel (\$/ft)		\$57.29	\$2,749.92
				\$4,874.92

Phase IV: Surfacing and Mulching

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
63**	4"-0" Rock			
0.2	Straw Mulch w/Seed Application EC mix (\$/ac.)		\$1,195.00	\$239.00
				\$239.00

* Rock haul is included with the Summary of Construction for the road segment I1 to I2.

** Surfacing is included with the Summary of Construction for the road segment I1 to I2.

Total Project Cost = \$6,817.14

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Bigfoot Combination NEW CONSTRUCTION: STATIONS 140.35 STATIONS 2.66 MILES
 ROAD: Bigfoot (EB60) IMPROVEMENT: 140.35 STATIONS 2.66 MILES
 POINTS: I3 to I4

Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
0+45	18"/CPP	30	\$11.00	\$330.00	98+51	18"/CPP	30	\$11.00	\$330.00
25+11	18"/CPP	30	\$11.00	\$330.00	103+70	24"/CPP	50	*	\$4,639.72
59+10	103x71/12ga AC	57	*	\$19,763.36	124+75	24"/CPP	30	\$16.30	\$489.00
65+76	24"/CPP	40	\$16.30	\$652.00	127+40	24"/CPP	30	\$16.30	\$489.00
90+15	48"/12ga AC	50	*	\$6,931.72	138+50	18"/CPP	30	\$11.00	\$330.00

* See Fill Reconstruction Sheet

CULVERT MATERIALS AND INSTALLATION \$34,384

Subgrade prep: Description amount x sta/amt Rate/ Cost

Grade, Shape and Ditch 16'		130.75	x	\$15.20	\$1,987.40
Subgrade Compaction		130.75	x	\$12.50	\$1,634.38

ROAD SEGMENT	I3 to I4	POINT TO POINT		TOTAL VOLUME (CY)	Rate/ Sta./ amt	Cost
		I3 to I4 Volume (CY)	Sta. to Sta. Number of			
Application	Rock Size and Type	Location	Depth of Rock (inches)			
Base Rock (Fills)	4"-0" Crushed	59+10, 90+15, 103+70	10	fill	63	fills
Surface Rock	1 1/2"-0" Crushed	0+00 - 130+75	3	station	19	stations
Turnouts	4"-0" Crushed	39+30	8	turnout	22	turnouts
Turnouts	1 1/2"-0" Crushed	0+00 - 130+75	3	turnout	8	turnouts
Junction	1 1/2"-0" Crushed		3	junction	19	junctions
Leveling Rock	1 1/2"-0" Crushed	0+00 - 130+75				
Energy Dissipator	24"-6" Riprap	25+11		dissipator	10	dissipators
Embedded Dissip	24"-6" Riprap	59+10, 90+15, 103+70			60	
Streambed Rock	24"-6" Riprap	59+10			40	
Fill Armor	24"-6" Riprap	59+10, 90+15, 103+70			200	
Bedding/Backfill	1 1/2"-0" Crushed				410	
Total Rock for Road Segment:			I3 to I4		3,893	

Processing: Description No. sta Rate/sta Cost

Water, Process & Compact Crushed Rock: (8" roads in 1 lift)		147.85	\$37.00	\$5,470
SUB TOTAL FOR SURFACING		3,893		\$21,029

GRAND TOTAL \$55,412
 Compiled By: F. Letora Date: 11/29/2004

Sale Name: Bigfoot Combination
 Project: Point I3 to Point I4, Sta. 59+10
 Project Type: Type F Culvert Replacement

Prepared by: F. Lertora

Date: 12/1/04

Phase I: Fill and Culvert Removal

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
1	Excavator w/ 1-1/2 cy bucket	8	\$115.00	\$920.00
2	12-yard Dump Truck	8	\$57.00	\$912.00
				\$1,832.00

Phase II: Development of Culvert Bed & De-watering

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
1	Excavator w/ 1-1/2 cy bucket	8	\$115.00	\$920.00
2	12-yard Dump Truck	8	\$57.00	\$912.00
40*	1 1/2"-0" Crushed Bedding Rock (\$/cy)			
30*	24"-6" Embedded Energy Dissipator			
1	Hydraulic Rock Hammer	12	\$85.00	\$1,020.00
1	Sand Bags (40 bags, \$25; sand 10cy \$110)		\$135.00	\$135.00
1	Hand Held Tamper	8	\$6.00	\$48.00
1	6 mil. Plastic (10' x 50' roll) (\$/roll)		\$13.50	\$13.50
4	Bands for De-Watering Culvert, 24"x100' Poly (\$/band)		\$17.18	\$68.72
2	Laborer	8	\$25.00	\$400.00
				\$3,517.22

Phase III: Pipe Installation and Fill Reconstruction

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
1	Excavator w/ 1-1/2 cy bucket	16	\$115.00	\$1,840.00
2	12-yard Dump Truck	16	\$57.00	\$1,824.00
1	Vibratory Roller	8	\$75.00	\$600.00
1	Loader (w/o operator)	16	\$45.00	\$720.00
1	Tamper	16	\$6.00	\$96.00
1	Laborer	16	\$25.00	\$400.00
40*	24"-6" Rock to create streambed in culvert	24	\$25.00	\$600.00
	cost is 3 laborers for placing rock in the culvert			
60*	1 1/2"-0" Crushed Backfill Rock (\$/cy)			
100*	24"-6" Armor Rock (\$/cy)			
57	Pipe Arch, 103"x71", 12ga., Alum. Steel w/bevel (\$/ft)		\$142.02	\$8,095.14
				\$14,175.14

Phase IV: Surfacing and Mulching

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
63**	4"-0" Rock			
0.2	Straw Mulch w/Seed Application EC mix (\$/ac.)		\$1,195.00	\$239.00
				\$239.00

* Rock haul is included with the Summary of Construction for the road segment I3 to I4.

** Surfacing is included with the Summary of Construction for the road segment I3 to I4.

Total Project Cost = \$19,763.36

Sale Name: Bigfoot Combination
 Project: Point I3 to Point I4, Sta. 90+15
 Project Type: Culvert Replacement/Fill Reconstruction

Prepared by: F. Lertora

Date: 12/1/04

Phase I: Fill and Culvert Removal

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
1	Excavator w/ 1-1/2 cy bucket	4	\$115.00	\$460.00
2	12-yard Dump Truck	4	\$57.00	\$456.00
				\$916.00

Phase II: Development of Culvert Bed & De-watering

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
1	Excavator w/ 1-1/2 cy bucket	2	\$115.00	\$230.00
2	12-yard Dump Truck	2	\$57.00	\$228.00
30*	1 1/2"-0" Crushed Bedding Rock (\$/cy)			
20*	24"-6" Embedded Energy Dissipator			
1	Sand Bags (40 bags, \$25; sand 10cy \$110)		\$135.00	\$135.00
1	Hand Held Tamper	2	\$6.00	\$12.00
1	6 mil. Plastic (10' x 50' roll) (\$/roll)		\$13.50	\$13.50
4	Bands for De-Watering Culvert, 24"x100' Poly (\$/band)		\$17.18	\$68.72
2	Laborer	2	\$25.00	\$100.00
				\$787.22

Phase III: Pipe Installation and Fill Reconstruction

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
1	Excavator w/ 1-1/2 cy bucket	5	\$115.00	\$575.00
2	12-yard Dump Truck	5	\$57.00	\$570.00
1	Vibratory Roller	8	\$75.00	\$600.00
1	Loader (w/o operator)	5	\$45.00	\$225.00
1	Tamper	5	\$6.00	\$30.00
1	Laborer	5	\$25.00	\$125.00
40*	1 1/2"-0" Crushed Backfill Rock (\$/cy)			
50*	24"-6" Armor Rock (\$/cy)			
50	48", 12ga., Alum. Steel w/bevel (\$/ft)		\$57.29	\$2,864.50
				\$4,989.50

Phase IV: Surfacing and Mulching

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
63**	4"-0" Rock			
0.2	Straw Mulch w/Seed Application EC mix (\$/ac.)		\$1,195.00	\$239.00
				\$239.00

* Rock haul is included with the Summary of Construction for the road segment I3 to I4.

** Surfacing is included with the Summary of Construction for the road segment I3 to I4.

Total Project Cost = \$6,931.72

Sale Name: Bigfoot Combination
 Project: Point I3 to Point I4, Sta. 103+70
 Project Type: Culvert Replacement/Fill Reconstruction

Prepared by: F. Lertora

Date: 12/1/04

Phase I: Fill and Culvert Removal

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
1	Excavator w/ 1-1/2 cy bucket	4	\$115.00	\$460.00
2	12-yard Dump Truck	4	\$57.00	\$456.00
				\$916.00

Phase II: Development of Culvert Bed & De-watering

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
1	Excavator w/ 1-1/2 cy bucket	2	\$115.00	\$230.00
2	12-yard Dump Truck	2	\$57.00	\$228.00
30*	1 1/2"-0" Crushed Bedding Rock (\$/cy)			
10*	24"-6" Embedded Energy Dissipator			
1	Sand Bags (40 bags, \$25; sand 10cy \$110)		\$135.00	\$135.00
1	Hand Held Tamper	2	\$6.00	\$12.00
1	6 mil. Plastic (10' x 50' roll) (\$/roll)		\$13.50	\$13.50
4	Bands for De-Watering Culvert, 24"x100' Poly (\$/band)		\$17.18	\$68.72
2	Laborer	2	\$25.00	\$100.00
				\$787.22

Phase III: Pipe Installation and Fill Reconstruction

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
1	Excavator w/ 1-1/2 cy bucket	5	\$115.00	\$575.00
2	12-yard Dump Truck	5	\$57.00	\$570.00
1	Vibratory Roller	8	\$75.00	\$600.00
1	Loader (w/o operator)	5	\$45.00	\$225.00
1	Tamper	5	\$6.00	\$30.00
1	Laborer	5	\$25.00	\$125.00
40*	1 1/2"-0" Crushed Backfill Rock (\$/cy)			
50*	24"-6" Armor Rock (\$/cy)			
50	Poly Culvert 24"		\$11.45	\$572.50
				\$2,697.50

Phase IV: Surfacing and Mulching

Qty.	Equipment	Time (hr)	Rate (\$/hr)	Cost (\$)
63**	4"-0" Rock			
0.2	Straw Mulch w/Seed Application EC mix (\$/ac.)		\$1,195.00	\$239.00
				\$239.00

* Rock haul is included with the Summary of Construction for the road segment I3 to I4.

** Surfacing is included with the Summary of Construction for the road segment I3 to I4.

Total Project Cost = \$4,639.72

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Bigfoot Combination
 ROAD: Bigfoot Ridge (EB90)
 POINTS: I5 to I6

NEW CONSTRUCTION: _____ STATIONS _____ MILES
 IMPROVEMENT: 64.20 STATIONS 1.22 MILES

CULVERT MATERIALS AND INSTALLATION											
Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost		
26+70	18"/CPP	40	\$11.00	\$440.00	34+90	24"/CPP	40	\$16.30	\$652.00		
31+60	18"/CPP	35	\$11.00	\$385.00	45+50	18"/CPP	30	\$11.00	\$330.00		
33+50	24"/CPP	40	\$16.30	\$652.00							
					Description						
					Quantity	Rate	Cost				
					Culvert stakes & markers: 6' x 2-1/2" white fibreglass (Carsonite)	5	\$14.10	\$70.50			
					I beam posts						
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION									\$2,530		

SURFACING				
Subgrade prep:	Description	amount	x	Rate/ Cost
	Grade, Shape and Ditch 16'	64.20	x	\$15.20 \$975.84
	Subgrade Compaction	64.20	x	\$12.50 \$802.50

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 64+20 Number of			
Surface Rock	1 1/2"-0" Crushed	0+00 - 64+20	3	station 19	stations 64.20	1,220	\$2.96	\$3,611
Turnouts	1 1/2"-0" Crushed	0+00 - 64+20	3	turnout 8	turnouts 12	96	\$2.96	\$284
Junction	1 1/2"-0" Crushed		3	junction 19	junctions 2	38	\$2.96	\$112
Leveling Rock	1 1/2"-0" Crushed	0+00 - 64+20				150	\$2.96	\$444
Bedding/Backfill	1 1/2"-0" Crushed					155	\$2.96	\$459
Energy Dissipator	24"-6" Riprap	31+60		dissipator 10	dissipators 1	10	\$4.29	\$43
Fill Armor	24"-6" Riprap	33+50				30	\$4.29	\$129
Total Rock for Road Segment:		I5 to I6				1,699		\$5,082

Processing:		Description	No. sta	Rate/sta	Cost		
		Water, Process & Compact Crushed Rock:	64.20	\$37.00	\$2,375		
SUB TOTAL FOR SURFACING							
	24"-6"rr	6"-0"pr	4"-0"	1 1/2"-0"	3/4"-0"	Total	
	40			1,659		1,699	\$9,235

GRAND TOTAL **\$11,765**

Compiled By: F. Lertora Date: 12/17/2004

SUMMARY OF ROCK DEVELOPMENT AND CRUSHING COSTS

PROJECT NO. 3

Timber Sale Name: **Bigfoot Combination**

Quarry: Big Noise
 Location: Sec. 36, T8N, R7W, WM
 County: Clatsop
 By: Lertora
 Date: 12/1/2004

Swell: _____
 Shrink: 16%

ROCK SIZE	REJECT	GRADATION	STOCKPILE CU. YDS.	TRUCK MEAS CU. YDS.	TOTAL CU. YDS.
3/4"-0"	5%	CR	2,000	413	2,733
1-1/2"-0"	5%	CR	2,000	12,381	14,701
4"-0"		CR	2,000	7,981	10,301
6"-0"		PR		620	620
24"-6"		RR		730	730
36"		RR			
TOTAL CUBIC YARDS OF ROCK:			6,000	22,125	29,085

1) MOBILIZATION & SET UP:

EQUIPMENT MOBILIZATION	DISTANCE IN MILES	DIST. FACTOR	BASE RATE	COST
3 Stage Crusher	75	1.40	\$2,220	\$3,108
Screening Plants (2)	75	1.40	\$900	\$1,260
D8 Cat & D6 Cat	75	1.40	\$1,540	\$2,156
Loader	75	1.40	\$560	\$784
Drill & Compressor	75	1.40	\$1,080	\$1,512
Powder	75	1.40	\$270	\$378
4 Dump Trucks	75	1.40	\$536	\$750
Excavator	75	1.40	\$500	\$700
SUB TOTAL FOR MOBILIZATION				\$10,648

EQUIPMENT SET UP	TIMES	RATE	COST
3 Stage Crusher	1	\$2,530	\$2,530
Screening Plants (2)	1	\$425	\$425
Change Gradation	2	\$400	\$800
SUB TOTAL FOR SET UP COSTS			\$3,755

TOTAL MOBILIZATION & SET UP COSTS **\$14,403**

2) DEVELOP ROCK

ROCK SUMMARY			METHOD	%	QUANTITY	RATE	COST	
Type	Cu. yd.	Vol.	Weight	Ripping	10%	2,909	\$1.85	\$5,381
crushed	27,735		95%	Drill & shoot	90%	26,961	\$1.90	\$51,226
pit run	620		2%	Oversize red	5%	1,418	\$5.04	\$7,145
rip rap	730		3%	Other				
Total	29,085							
reject	872		3.0%					

TOTAL ROCK DEVELOPMENT COSTS **\$63,752**

3) CALIBRATION & TESTING

DESCRIPTION	NO.	\$/TEST	COST
Calibrate	3	\$400	\$1,200
Calibrate			
Test	14	\$50	\$700

TOTAL CALIBRATION & TESTING COSTS **\$1,900**

4) FEEDING & LOADING

DESCRIPTION	CU. YD. QUANTITY	COST CU. YD.	TOTAL COST
Dig & Feed Rock	28,607	\$0.65	\$18,594
Reduction, Feeding of Existing Oversize Material	300	\$5.34	\$1,602

TOTAL FEEDING & LOADING COSTS \$20,196

5) ROCK CRUSHING

ROCK SIZE	ROCK TYPE	CU. YD. QUANTITY	CRUSHER TYPE	HOURLY PRODUCTIO	RATE CU. YD.	TOTAL COST
3/4"-0"	crushed	2,733	3 stage w/s	110	\$2.95	\$8,075
1-1/2"-0"	crushed	14,701	3 stage w/s	120	\$2.71	\$39,815
4"-0"	crushed	10,301	2 stage	140	\$1.71	\$17,659

TOTAL ROCK CRUSHING COSTS \$65,549

6) STOCKPILING

STOCKPILE PREPARATION OR CONST	COST
Prepare \ Construct Stockpile Site (See Footnote)	\$480
SUB TOTAL	\$480

HAUL & STOCKPILE STOCKPILE LOCATION	SIZE	# of TRUCKS	CU. YDS.	RATE	COST
1. Bigfoot 3/4"	3/4"-0"	4	2,320	\$3.18	\$7,371
2. Bigfoot 1 1/2"	1-1/2"-0"	4	2,320	\$3.18	\$7,371
3. Big Noise 4"	4"-0"	4	2,320	\$1.69	\$3,927
SUB TOTAL					\$18,670

TOTAL STOCKPILING COSTS \$19,150

7) MISCELLANEOUS COSTS

DESCRIPTION	COST
Load, Haul, and Spread the reject material at the waste area. \$2.50/CY 872 CY	\$2,179
Final Quarry Dev., Access Road Const., Waterbarring, Drainage, Block Quarry Access	\$2,240

TOTAL MISCELLANEOUS COSTS \$4,419

10) GRAND TOTAL:

\$189,370

\$/Cubic Yard \$6.83

Footnotes:

Construct/Reconstruct Stockpile Floor

Equipment	Hours	Rate	Total
Dozer	4	\$120.00	\$480.00
Compactor		\$75.00	
Grader		\$80.00	
Excavator		\$130.00	
			\$480.00

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

SUMMARY OF BRUSHING COSTS

PROJECT NO. 4: ROADSIDE BRUSHING

SALE NAME: Bigfoot Combination

Road Segment	Length		Brushing Rate	Cost per Mile	Segment Cost	Comments
	Stations	Miles				
1	101.88	1.93	M	\$1,100.00	\$2,122.50	Lower East Big Noise Road
2	180.12	3.41	L	\$980.00	\$3,343.14	Upper East Big Noise Road
3	61.46	1.16	L	\$980.00	\$1,140.73	
4	31.90	0.60	M	\$1,100.00	\$664.58	
5	30.00	0.57	M	\$1,100.00	\$625.00	
6	140.35	2.66	L	\$980.00	\$2,604.98	Bigfoot Road
7	10.44	0.20	M	\$1,100.00	\$217.50	
8	64.20	1.22	L	\$980.00	\$1,191.59	Bigfoot Ridge Road
9	3.00	0.06	M	\$1,100.00	\$62.50	
10	5.00	0.09	M	\$1,100.00	\$104.17	
11	10.20	0.19	M	\$1,100.00	\$212.50	
12	1.70	0.03	L	\$980.00	\$31.55	
13	10.00	0.19	L	\$980.00	\$185.61	
14	12.62	0.24	L	\$980.00	\$234.23	
15	5.70	0.11	L	\$980.00	\$105.80	
16	11.30	0.21	L	\$980.00	\$209.73	
	679.87	12.88				
Total Brushing Cost					\$13,056.12	

Compiled By: F. Lertora

Date: 12/1/2004

Bigfoot Combination Project No. 5 Road Vacating

V1 and V2

Location/Description	C130 #1 Excavator	C130 #2 Excavator	D-8 CAT Dozer	Truck	Labor	Pump	Straw Mulch	Total
V1 Fill Removal and Pull old culverts	8 hr	hr	8 hr	hr	2 hr	hr	20 bales	
V2 Fill Removal and Pull old culverts	2 hr	hr	hr	hr	2 hr	hr	10 bales	
Haul away culverts to anapproved refuse site off State land.	hr	hr	hr	4 hr	4 hr	hr		
Walk excavator between sites.	2 hr	hr	hr	hr	hr	hr		
Total	12 hr	0 hr	8 hr	4 hr	8 hr	0 hr	30 Bales	
Rate	\$130 /hr	\$130 /hr	\$120 /hr	\$57 /hr	\$25 /hr	\$6 /hr	\$4.50 /Bale	
Cost	\$1,560	\$0	\$960	\$228	\$200	\$0	\$135.00	\$3,083

Prepared by: Kraig Kirkpatric Date: 12/1/2004

x:\Document\2005 FY Sales\Bigfoot Combination\Sale Prep\Projects\Vacating\Vacating Costs -Bigfoot Combination.xls

Project Work Road Maintenance Cost Summary

Sale: Bigfoot Combination
Date: September 15, 2004
By: Kraig Kirkpatrick

Type	Equipment/Rationale	Hours	Rate	Cost
Progressive Operations Entries (1)	Grader 14G	15	\$80	\$1,200
	Dump Truck 12CY (2 trucks)	5	\$57	\$285
	FE Loader C966	5	\$60	\$300
	Vibratory Roller	15	\$75	\$1,125
	Water Truck 2500 gallon	10	\$67	\$670
Post-Projects Road	Grader 14G	25	\$80	\$2,000
	Dump Truck 12CY (2 trucks)	10	\$57	\$570
	FE Loader C966	5	\$60	\$300
	Vibratory Roller	25	\$75	\$1,875
	Water Truck 2500 gallon	10	\$67	\$670
Total				\$8,995

Interim Maintenance

Production Rates

Grader

Vibratory Roller

Miles/day	Distance(miles)	Days	Hours
1.5	2.0	1.5	15.00
1.5	2.0	1.5	15.00

Final Road Maintenance

Production Rates

Grader

Vibratory Roller

Miles/day	Distance(miles)	Days	Hours
1.5	4.0	2.5	25.00
1.5	4.0	2.5	25.00

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

Interim Road Maintenance: Quarry Road to Bigfoot Stockpile.

Final Road Maintenance: Quarry to Area 5.

Total Miles: 6.5 miles.

PIT RUN ROCK COST

SALE NAME: Bigfoot Combination
 PROJECT: No. 1
 QUARRY: Big Noise

ROCK TYPE: Pit-Run

DATE: 1/3/2004
 BY: K. Kirkpatrick

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES						Total Haul		
			50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH		5 MPH	
2A to 2B	6.85	60					0.60				0.60
6A to 6B	7.30	60					0.90	0.15			1.05
6C to 6D	16.20	60					0.90	0.18			1.08
7D to 7E	25.50	80					0.60	1.10			1.70
7F to 7G	2.20	80					0.60	1.20			1.80
7H to 7I	3.80	80					0.60	1.60			2.20
9A to 9B	13.00	80					0.70				0.70
10A to 10B	29.80	60					1.00	0.15			1.15
10C to 10D	19.50	60					1.00	0.40			1.40
TOTAL	124.15	620									
	STA./NO.	CU. YD.									
CUBIC YARD WEIGHTED HAUL								0.75	0.59		AVE HAUL
Average Round Trip Distance (miles)											2.67
1.34											

ROCK HAUL:

Truck type: <u>D20</u>	No. trucks: _____	
Delay min.: <u>8</u>	Efficiency: <u>85%</u>	Ave haul: \$1.69 /cy
Truck type: <u>D12</u>	No. trucks: <u>2</u>	Load: \$0.65 /cy
Delay min.: <u>6</u>	Efficiency: <u>85%</u>	Spread: _____ /cy
Truck type: <u>D10</u>	No. trucks: _____	Production: cy/day = 539
Delay min.: <u>5</u>	Efficiency: <u>85%</u>	

CRUSHED ROCK HAUL COSTS 620 cy @ \$2.34 /cy
 \$1.75 /cy/haul mile

RIP RAP ROCK COST

SALE NAME: Bigfoot Combination
 PROJECT: No. 2
 QUARRY: Big Noise

ROCK TYPE: RipRap

DATE: 1/3/2004
 BY: K. Kirkpatrick

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES							Total Haul
			50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH	
11 to 12	282.00	380					2.96		0.09	3.05
13 to 14	140.35	310					2.22	1.00	0.33	3.55
15 to 16	64.20	40					0.74	0.50	0.11	1.35
TOTAL	486.55	730					2.52	0.45	0.19	AVE HAUL 3.17
	STA./NO.	CU. YD.								
CUBIC YARD WEIGHTED HAUL							2.52	0.45	0.19	
							Average Round Trip Distance (miles)		6.34	

ROCK HAUL:

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

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

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

Production: cy/day = 415

Ave haul: \$3.29 /cy
 Load: \$1.00 /cy
 Develop: * /cy

CRUSHED ROCK HAUL COSTS 730 cy @ \$4.29 /cy
 \$1.35 /cy/haul mile

*Will be developed with the quarry development.

**BIGFOOT COMBINATION
FY 2005
TIMBER CRUISE REPORT**

1. **Sale Area Location:** Area 1 is located in portions of Section 25 and 26, T8N, R7W; Areas 2, 3, 4, and 6 are located in portions of Section 36, T8N, R7W; Areas 5 and 8 are located in portions of Section 1, T7N, R7W; Area 7 is located in the NW ¼ and the NW ¼ of the NE ¼, of Section 1, T7N, R7W, and SW ¼, SW ¼, of Section 36, T8N, R7W; Area 9 is located in the SE ¼ of the NW ¼, the NW ¼ of the SE ¼, and the S ½ of the NE ¼ of Section 1, T7N, R7W; Area 10 is located in the N ½ of the SE ¼ and SE ¼ of the NE ¼ of Section 1, T7N, R7W, and W ½ of the SW ¼ and the SW ¼ of the NW ¼ of Section 6, T7N, R6W, Clatsop County, Oregon. Sale Area 11 R/W is located within Areas 1, 2, 6, 7, 9, and 10.

All timber sale areas are posted with ODF "Timber Sale Boundary" signs, pink ribbon, (and blue paint along property lines and Type F stream buffers). Area 11 R/W is posted with ODF "Right-of-Way Boundary" signs.

2. **Fund Distribution:**
- | | |
|------------------|------------|
| Fund: | BOF (100%) |
| Tax Code: | 1-02 (57%) |
| | 1-03 (43%) |

3. **Sale Acreage by Area:**

Area	Harvest Type	Gross Acreage	New R/W Acreage	Existing R/W Acreage	Stream Buffer Acreage	Net Acreage
1	MC	59.0		-1.0	-2.0	56.0
2	PC	59.0	-1.0	-1.0	-2.0	55.0
3	PC	39.0		-1.0	-2.0	36.0
4	MC	27.0		-0.0	-1.0	26.0
5	MC	13.0		-0.0	-0.0	13.0
6	CT	47.0	-2.0	-1.0	-2.0	42.0
7	MC	89.0		-2.0	-2.0	85.0
8	PC	22.0		-0.0	-0.0	22.0
9	MC	56.0		-2.0	-2.0	52.0
10	PC	133.0	-5.0	-1.0	-4.0	123.0
11 R/W	R/W		8.0			8.0
TOTALS		544.0		-9	-17.0	518.0

4. **Cruisers and Cruise Dates:** Area 1 was cruised by Kevin Berry in April, 2004. Areas 2 and 4 were cruised by John Tillotson in April, 2004. Area 3 was cruised by Kraig Kirkpatrick in April, 2004. Areas 4, 5, 7, and 9 were cruised by Kraig Kirkpatrick, Eric Perkins, Tom Scoggins, and John Tillotson in April, 2004. Areas 6 and 10 were cruised by Kraig Kirkpatrick, Eric Perkins, and Tom Scoggins in April, 2004. Cruise for Area 11 R/W was calculated using total cruise per acre volumes for partial harvest Areas 2, 6 and 10, and applying road R/W acreage. Acreage for R/W in modified-clearcut Areas 1, 4, 5, 7, and 9 were included in the total net acreage for those sale areas.
5. **Cruise Method and Computation:** All cruises used Corvallis MicroTechnology (CMT) data collectors, and were downloaded to the Atterbury Super A.C.E. program in District for computing. See the attached Cruise Design for more details on the cruise method. The cruise calculations were processed in the Astoria district office.

Area 1 (Modified Clearcut), was variable plot cruised with a 40.0 BAF. 20 plots were sampled along cruise lines 7 chains apart, with a count/cruise plot ratio of 2:1.

Area 2 (Partial Cut), was variable plot cruised with a 40.0 BAF. Twenty plots were sampled along cruise lines 7 chains apart, with a count/cruise plot ratio of 2:1. All "take" and "leave" trees were measured and graded.

Area 3 (Partial Cut), was variable plot cruised with a 40.0 BAF. Seventeen plots were sampled along cruise lines 4 chains apart, with a count/cruise plot ratio of 2:1. All "take" and "leave" trees were measured and graded.

Areas 4, 5, 7, & 9 (Modified Clearcut), were variable plot cruised with a 40.0 BAF. Thirty-eight plots were sampled along cruise lines 8 chains apart, with a count/cruise plot ratio of 2:1.

Area 8 (Marked Partial Cut), was variable plot cruised with a 27.8 BAF. Nineteen plots were sampled along cruise lines 4 chains apart, with a count/cruise plot ratio of 2:1. All "take" and "leave" trees were measured and graded.

Areas 6 & 10, were variable plot cruised with a 33.61 BAF. Thirty-six plots were sampled along cruise lines 8.5 chains apart. All "take" and "leave" trees were measured and graded.

<u>AREAS</u>	<u>PROJECT</u>	<u>CRUISE TYPE</u>
1	BIGFOOT	AREAS 1 CC TAKE
2	BIGFOOT	AREAS 2 TAKE
3	BIGFOOT	AREA 3 TAKE
4, 5, 7, & 9	BIGFOOT	AREA 4-5-7-9 CC TAKE
6 & 10	BIGFOOT	AREA 6 & 10 TAKE
8	BIGFOOT	AREA 8 TAKE
11 RW	BIGFOOT	ROAD

6. Timber Description:

Area 1 (Modified Clearcut) – This stand ranges from 65 to 70 years old, consisting of mixed hemlock and Douglas-fir stands with a small component of spruce. This stand averages 25 inches in DBH, with an average merchantable height of 101 feet to a merchantable top. The average volume (net) is 52 MBF/acre.

Area 2 (Partial Cut) – This stand is a "auto-mark" thinning unit, about 70 to 80 years old, consisting of hemlock dominated stands with a significant amount of Douglas-fir and small isolated clumps of hardwoods. This stand will be harvested to a RD of 28, with a target basal area of 150 ft², while removing approximately 50 trees per acre and 19.4 MBF/acre. The average "take" tree size is 19" DBH and 79 feet to a merchantable top (6" d.i.b.).

Area 3 (Partial Cut) – This stand is a "auto-mark" thinning unit, about 50 to 70 years old, consisting of a mixed hemlock and Douglas-fir stands with a small component of spruce and isolated clumps of hardwoods. This stand will be harvested to an RD of 29, with a target basal area of 150 ft², while removing approximately 75 trees per acre and 16.9 MBF/acre. The average "take" tree size is 18" DBH and 62 feet to a merchantable top (6" d.i.b.).

Areas 4, 5, 7, and 9 (Modified Clearcut) – These stands range from 35 to 70 years old, consisting of mixed hemlock and Douglas-fir stands with a small component of spruce and alder. These stands average 16 inches in DBH, with an average merchantable height of 63 feet to a merchantable top. The average volume (net) is 36 MBF/acre.

Area 8 (Marked Partial Cut) – This stand is a "marked" thinning unit, about 40 to 60 years old, consisting of a hemlock dominated stand with a mix of Douglas-fir, spruce, and alder. This stand will be harvested to a RD of 28, removing approximately 75 trees per acre and 15 MBF/acre. The average "take" tree size is 17" DBH and 63 feet to a merchantable top (6" d.i.b.).

Areas 6 and 10 (Partial Cut) – These stands range from 55 to 70 years old, consisting of a hemlock dominated stand with a mix of Douglas-fir and alder. These stands will be harvested to a RD of 34, with a target basal area of 160 ft², while removing approximately 131 trees per acre and 18 MBF/acre. The average "take" tree size is 13.5" DBH and 58 feet to a merchantable top (6" d.i.b.).

Area 11 R/W is comprised of stand types within Areas 2, 6 and 10.

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

Area	Target CV	Target SE%	Actual CV	Actual SE%
1 Modified Clearcut	45	14	40.3	9.0
2 Partial Cut	45	14	33.2	7.4
3 Partial Cut	50	11	32.8	8.0
4, 5, 7, & 9 Modified Clearcut	55	12	54.8	8.9
6 & 10 Partial Cut	40	12	35.6	5.9
8 Partial Cut	60	20	59.5	13.6

The statistics for Areas 2, 3, 6, 8, and 10 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	SM	D & B	% Sale
Douglas-fir	18.9	4,513	3,182	1,096	200	35	1.4%	31
Hemlock/True fir	15.75	9,308	5,065	3,663	580		1.1%	58
Cedar	30.2	4	0	2	2		0%	<1
Spruce	20.5	172	71	89	12		2.5%	1
Alder	14.3	753	65	430	258		1.6%	5
TOTAL	16.1	14,750					1.2%	100

9. Approvals: *Dave Goody*
Unit Forester

Date: 11/15/04

Prepared by: Kraig Kirkpatrick

Date: August 17, 2004

- 10. Attachments:**
- Species, Sort, Grade Reports (8 pages)
 - Statistics Stand Summary Reports (18 pages)
 - Log Stock Table Reports (5 pages)
 - Leave Tree Stand Table Reports (5 pages)
 - Cruise Plans & Maps (9 pages)



LOGGING BREAKDOWN

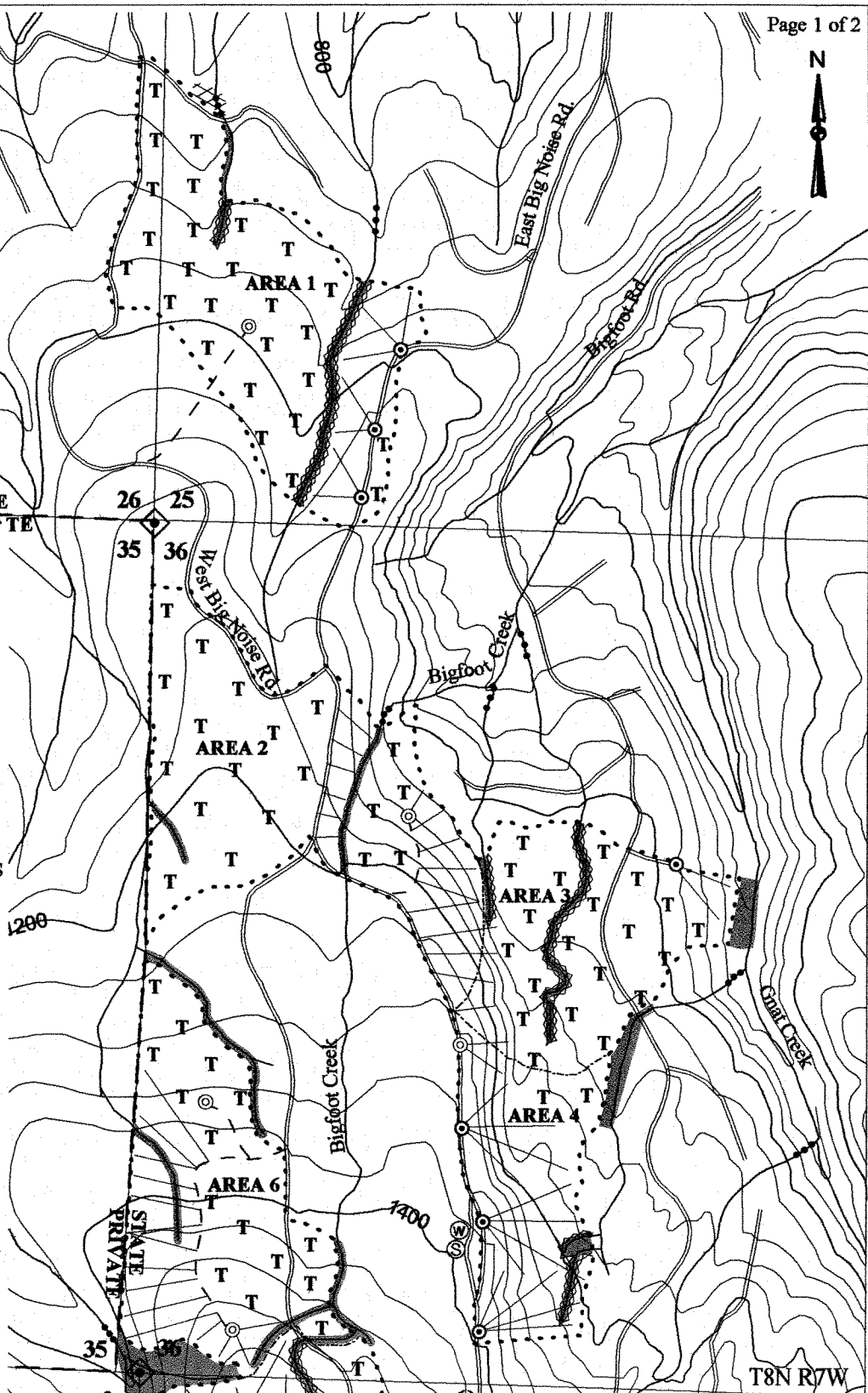
AREA	TRACTOR	CABLE
1	82%	18%
2	80%	20%
3	90%	10%
4	19%	81%
5	100%	0%
6	65%	35%
7	58%	42%
8	100%	0%
9	77%	23%
10	40%	60%
TOTAL:	64%	36%

APPROXIMATE NET ACREAGE

AREA	MC ACRES	PC ACRES
AREA 1	56	
AREA 2		55
AREA 3		36
AREA 4	26	
AREA 5	13	
AREA 6		42
AREA 7	85	
AREA 8		22
AREA 9	52	
AREA 10		123
AREA 11 (RW)	8	
TOTAL	240	278
TOTAL ALL AREAS = 518 ACRES		

LEGEND

- Ownership Boundary
- TIMBER SALE BOUNDARY
- Right of Way Boundary
- Area Boundary
- Stream Buffer
- Type F Stream
- Type N Stream
- Posted Buffer
- Known Land Survey Corner
- Surfaced Roads
- New Road Construction
- Landings to Construct
- Loggers Choice Landing
- Loggers Choice Road
- Cable Yarding
- Tractor Yarding
- Stockpile Site
- Waste Area



LOGGING PLAN MAP

OF TIMBER SALE CONTRACT NO. 341-05-64
 BIGFOOT COMBINATION
 PORTIONS OF SECTION 25, 26 & 36, T8N, R7W,
 SECTION 1, T7N, R7W, AND SECTION 6, T7N,
 R6W, W.M., CLATSOP COUNTY, OREGON.

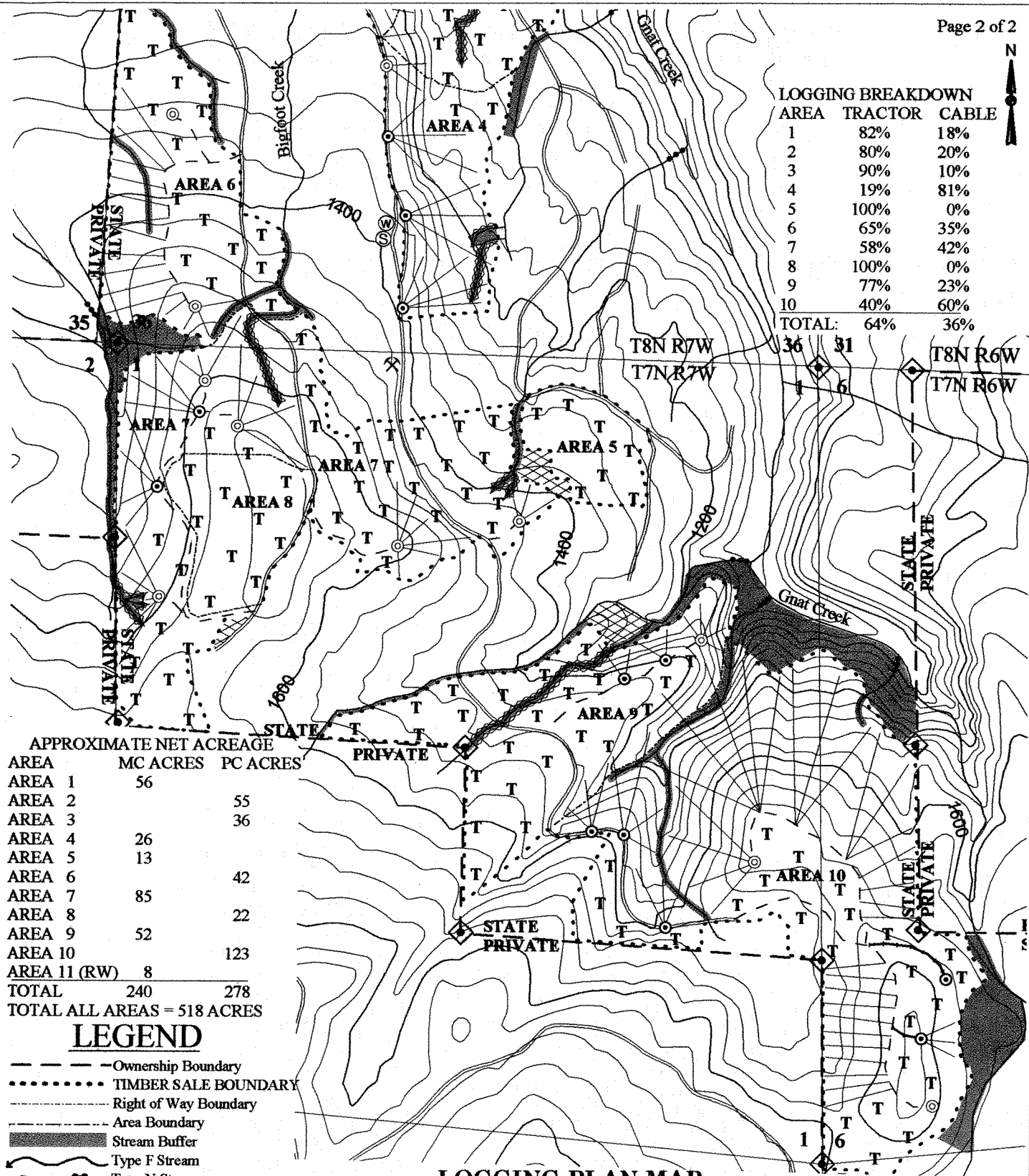
APPROXIMATE SCALE 1" = 1000'

1000 0 1000 Feet





AREA	TRACTOR	CABLE
1	82%	18%
2	80%	20%
3	90%	10%
4	19%	81%
5	100%	0%
6	65%	35%
7	58%	42%
8	100%	0%
9	77%	23%
10	40%	60%
TOTAL:	64%	36%



APPROXIMATE NET ACREAGE

AREA	MC ACRES	PC ACRES
AREA 1	56	
AREA 2		55
AREA 3		36
AREA 4	26	
AREA 5	13	
AREA 6		42
AREA 7	85	
AREA 8		22
AREA 9	52	
AREA 10		123
AREA 11 (RW)	8	
TOTAL	240	278

TOTAL ALL AREAS = 518 ACRES

LEGEND

- Ownership Boundary
- TIMBER SALE BOUNDARY
- Right of Way Boundary
- Area Boundary
- ▨ Stream Buffer
- ~ Type F Stream
- ~ Type N Stream
- ~ Posted Buffer
- ◊ Known Land Survey Corner
- Surfaced Roads
- - - New Road Construction
- ⊙ Landings to Construct
- ⊙ Loggers Choice Landing
- ⊙ Loggers Choice Road
- ⊙ Cable Yarding
- ⊙ Tractor Yarding
- ⊙ Stockpile Site
- ⊙ Waste Area

LOGGING PLAN MAP
 OF TIMBER SALE CONTRACT NO. 341-05-64
 BIGFOOT COMBINATION
 PORTIONS OF SECTION 25, 26 & 36, T8N, R7W,
 SECTION 1, T7N, R7W, AND SECTION 6, T7N,
 R6W, W.M., CLATSOP COUNTY, OREGON.
 APPROXIMATE SCALE 1" = 1000'



Species, Sort Grade - Board Foot Volumes (Project)

T008 R007 S25 TyTAKE
THRU
T08N R07W S36 TyTAKE

Project: BIGFOOT
Acres 518.00

Page 1
Date 9/1/2004
Time 10:51:43AM

S Spp	So Gr	T 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							
H	?	?																			
H	?	2S	34	1.0	9,828	9,726	5,038		2	67	31		2	6	25	66	4		0.00	16.3	
H	?	3S	25	.9	7,124	7,057	3,656						1	4	29	67	35	275	1.76	35.3	
H	?	4S	4	3.1	1,156	1,120	580	4	96				47	42	5	5	36	88	0.67	80.0	
H Totals			63	1.1	18,108	17,904	9,274	0	44	39	17		5	8	25	63	29	102	0.88	175.0	
D	?	?																			
D	?	2S	22	1.4	6,230	6,144	3,182		2	51	47		3	2	16	79	6		0.00	6.2	
D	?	3S	7	1.5	2,146	2,115	1,095						0	4	45	51	37	316	2.00	19.5	
D	?	4S	1	.6	389	386	200	1	99				59	41	0		35	82	0.70	25.8	
D		DOSM	0		67	67	35				100						20	26	0.41	14.8	
D Totals			31	1.4	8,832	8,712	4,513	0	30	36	34		5	4	22	69	40	1370	5.65	.0	
S	?	?																			
S	?	2S	0	2.4	141	137	71				92	8			39	61	15		0.00	1.0	
S	?	3S	1	2.3	176	172	89		58	18	24		16	6	47	31	36	273	2.20	.5	
S	?	4S	0	3.8	23	22	12		100				36	64			32	138	1.43	1.2	
S Totals			1	2.5	340	331	172		37	48	16		11	8	41	41	21	33	0.74	.7	
A	?	?																			
A	?	2S	0	2.0	129	126	65				100						16		0.00	11.6	
A	?	3S	3	2.5	851	830	430		58	42			17	32	4	47	17	104	1.34	1.2	
A	?	4S	2		498	498	258		100				3	27	21	50	28	107	1.05	7.7	
A Totals			5	1.6	1,479	1,455	753		68	32			19	28	9	44	30	58	0.62	8.6	
SF	?	?																			
SF	?	2S	0		52	52	27				81	19		1	78	21	8		0.00	.0	
SF	?	3S	0		13	13	7		100						100		32	192	1.31	.3	
SF	?	4S	0		0	0	0		100				100				32	50	0.53	.3	
SF Totals			0		65	65	34		20	65	16		0	1	82	17	12	20	0.58	.0	
C	?	?																			
C	?	3S	0		4	4	2		26	74				26	22	53	5		0.00	.0	
C	?	4S	0		4	4	2		100				22	78			33	121	1.18	.0	
C Totals			0		8	8	4		61	39			10	50	11	28	21	28	0.43	.1	
Totals				1.2	28,831	28,474	14,750		0	41	38	21		5	8	24	63	29	104	0.92	274.6

Species, Sort Grade - Board Foot Volumes (Type)

Project: **BIGFOOT**

T008 R007 S25 TTAKE

T008 R007 S25 TTAKE

Twp	Rge	Sec	Tract	Type	Acre	Plots	Sample Trees	CuFt	BdFt												
008	007	25	AREA 1	TAKE	56.00	20	65	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						
H	?	?																			
H	?	2S	83	.1	23,529	23,516	1,317			35	65	5	5	24	65	35	376	2.24		62.5	
H	?	3S	16	.3	4,625	4,612	258	81	19			7	12	37	45	32	96	0.86		47.8	
H	?	4S	1		296	296	17	100				25	47	28		25	34	0.51		8.6	
H	Totals		55	.1	28,450	28,424	1,592	14	32	54		6	7	26	61	30	214	1.58		132.8	
D	?	?																			
D	?	2S	91	.5	20,024	19,932	1,116	0	28	72		1	4	9	86	38	480	2.53		41.6	
D	?	3S	6		1,425	1,425	80	75	25			5	23	24	48	32	94	0.88		15.2	
D	?	4S	0		38	38	2	100					100			24	40	0.67		.9	
D	DO	SM	3		620	620	35			100				100		40	1370	5.65		.5	
D	Totals		43	.4	22,107	22,015	1,233	5	27	68		1	6	10	84	35	358	2.13		61.5	
S	DO	CU																			
S	DO	2S	72	3.7	859	827	46		100					57	43	34	256	2.13		3.2	
S	DO	3S	24		278	278	16	49	51			51		22	27	28	86	1.08		3.2	
S	DO	4S	4		51	51	3	100					100			22	40	0.59		1.3	
S	Totals		2	2.7	1,188	1,156	65	16	84			12	4	46	37	27	92	1.02		12.6	
Type Totals				.3	51,745	51,595	2,889	10	31	59		4	6	19	70	31	249	1.73		206.9	

Species, Sort Grade - Board Foot Volumes (Type)

Project: **BIGFOOT**

Date **8/20/2004**

Time **11:02:01AM**

T08N R07W S36 TTAKE

T08N R07W S36 TTAKE

Twp	Rge	Sec	Tract	Type	Acre	Plots	Sample Trees	CuFt	BdFt											
08N	07W	36	AREA2	TAKE	55.00	20	31	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		
H	DO	CU																		
H	DO	2S	78	1.0	9,865	9,763	537		4	75	21	4	4	21	71	35	291	1.76		33.6
H	DO	3S	19	.5	2,332	2,320	128		66	34		3	24	14	59	35	106	0.88		22.0
H	DO	4S	3		385	385	21		100			40	44	17		21	27	0.50		14.2
H	Totals		64	.9	12,581	12,467	686		18	65	16	5	9	20	67	30	167	1.29		74.5
D	DO	2S	81	.9	5,058	5,011	276		5	57	37	2	9	11	77	35	273	1.71		18.4
D	DO	3S	16		997	997	55		100				12	51	37	32	82	0.71		12.1
D	DO	4S	3		217	217	12		100			60	40			18	25	0.47		8.6
D	Totals		32	.8	6,272	6,224	342		24	46	30	4	10	17	68	31	159	1.22		39.1
A	DO	CU														10		0.00		1.3
A	DO	2S	20		152	152	8			100		100				20	120	1.35		1.3
A	DO	3S	27		204	204	11		100					100		36	100	0.92		2.0
A	DO	4S	52		389	389	21		100				16	84		34	58	0.64		6.7
A	Totals		4		745	745	41		80	20		20	9	71		30	66	0.73		11.3
Type Totals				.8	19,598	19,436	1,069		22	57	20	5	9	18	67	30	156	1.22		124.9

Species, Sort Grade - Board Foot Volumes (Type)

Project: **BIGFOOT**

T08N R07W S36 TTAKE

T08N R07W S36 TTAKE

Twp Rge Sec Tract Type Acre Plots Sample Trees CuFt
08N 07W 36 AREA 3 TAKE 36.00 17 35 1

BdFt 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				
D	DO	2S		41	2,671	2,671	96		30	57	13		12	88		39	202	1.61	13.2
D	DO	3S		44	2,859	2,859	103		100				3	62	36	35	95	0.81	30.0
D	DO	4S		14	912	912	33	4	96			52	48			22	28	0.45	32.5
D	Totals			38	6,442	6,442	232	1	70	24	5	7	8	33	52	30	85	0.88	75.8
H	DO	CU														6		0.00	.9
H	DO	2S		81	6,987	6,987	252			71	29			13	87	38	321	2.10	21.8
H	DO	3S		17	1,511	1,511	54	100				1	39	24	36	31	67	0.69	22.6
H	DO	4S		2	158	158	6	100				75	25			18	23	0.52	7.0
H	Totals			51	8,656	8,656	312	19	57	24	2	7	15	77	32	166	1.38	52.2	
S	DO	2S		20	284	284	10		100					100		40	290	2.22	1.0
S	DO	3S		71	3.5	1,029	993	36	61	22	18	18	5	64	13	31	160	1.68	6.2
S	DO	4S		8	113	113	4	100				66	34			20	30	0.61	3.8
S	Totals			8	2.5	1,426	1,390	50	51	36	13	18	6	46	30	28	127	1.48	11.0
A	DO	3S		91	442	442	16	100						100		32	77	0.62	5.8
A	DO	4S		9	44	44	2	100				100				20	20	0.45	2.2
A	Totals			3	486	486	18	100	9	91	9	9	91	29	61	0.58	8.0		
Type Totals				.2	17,011	16,975	611	0	44	41	15	5	7	26	61	30	116	1.09	147.0

Species, Sort Grade - Board Foot Volumes (Type)

Project: BIGFOOT

T08N R07W S36 TTAKE AREAS 4,5,7, and 9
 Twp Rge Sec Tract Type Acre Plots Sample Trees CuFt BdFt
 08N 07W 36 AREAS 4-9 TAKE 176.00 38 118 1 W

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
H		DO	CU													2		0.00	21.6	
H		DO	2S	53	1.7	10,484	10,304	1,814		78	22		2	9	22	67	35	245	1.64	42.1
H		DO	3S	42	1.3	8,246	8,140	1,433		96	4			2	21	77	38	90	0.66	90.7
H		DO	4S	6	6.4	1,243	1,164	205	11	89			67	33		18	21	0.41	54.4	
H	Totals			54	1.8	19,973	19,609	3,451	1	45	43	12	5	8	20	67	28	94	0.85	208.8
D		DO	CU													6		0.00	16.6	
D		DO	2S	69	2.1	9,072	8,880	1,563		1	67	32	4		22	74	36	266	1.84	33.3
D		DO	3S	27	1.6	3,483	3,426	603		100				2	46	52	36	76	0.67	44.9
D		DO	4S	5	1.0	604	598	105		100			72	28		19	24	0.40	24.6	
D	Totals			36	1.9	13,159	12,904	2,271		32	46	22	6	2	27	65	28	108	1.03	119.4
A		DO	CU													16		0.00	31.4	
A		DO	2S	2		84	84	15			100		100			20	120	1.40	.7	
A		DO	3S	64	2.8	2,259	2,196	386		54	46		19	36	46	27	111	1.11	19.8	
A		DO	4S	33		1,128	1,128	198		100			3	18	24	55	30	61	0.61	18.4
A	Totals			9	1.8	3,470	3,407	600		68	32		15	29	8	48	23	48	0.59	70.3
S		DO	CU													2		0.00	1.1	
S		DO	2S	20		51	51	9			100				100	40	240	2.12	.2	
S		DO	3S	75		189	189	33		54	46			46	54	38	179	1.45	1.1	
S		DO	4S	5		12	12	2		100			35	65		20	30	0.89	.4	
S	Totals			1		253	253	45		46	20	34	2	3	34	61	21	92	1.43	2.8
SF		DO	2S	76		121	121	21			100			100		32	160	1.13	.8	
SF		DO	3S	24		38	38	7		100				100		32	50	0.53	.8	
SF	Totals			0		158	158	28		24	76			100		32	105	0.83	1.5	
Type Totals					1.8	37,014	36,331	6,394	0	43	43	14	6	8	22	64	27	90	0.87	402.7

T07N R07W S1 TTAKE		T07N R07W S1 TTAKE
Twp Rge Sec Tract Type Acre Plots Sample Trees CuFt		BdFt
07N 07W 1 AREAS 6 & 10 TAKE 165.00 36 64 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						
H	DO	CU																			
H	DO	2S	30	1.2	4,968	4,906	809		9	87	4		4	37	59	36	226	1.46			21.7
H	DO	3S	58	.8	9,473	9,397	1,550		97	3			1	35	63	36	85	0.65			110.3
H	DO	4S	11	1.3	1,857	1,833	302		100				35	49	7	23	30	0.42			62.1
H	Totals		88	1.0	16,298	16,136	2,662		71	28	1		4	7	33	56	30	76	0.69		212.2
D	DO	3S	85	2.4	1,471	1,435	237		100					40	60	36	90	0.71			15.9
D	DO	4S	15		258	258	42		100				37	63		22	29	0.35			8.8
D	Totals		9	2.1	1,728	1,693	279		100				6	10	34	51	31	69	0.61		24.7
A	DO	CU														13		0.00			2.2
A	DO	2S	47	3.1	248	240	40			100		100				16	96	1.32			2.5
A	DO	3S	13		68	68	11		100						100	40	70	0.80			1.0
A	DO	4S	40		203	203	33		100					83	17	28	47	0.65			4.3
A	Totals		3	1.5	519	512	84		53	47		47	33	7	13	23	51	0.71			10.0
Type Totals				1.1	18,546	18,340	3,026		73	26	1		5	8	32	54	30	74	0.68		246.9

Species, Sort Grade - Board Foot Volumes (Type)

Project: BIGFOOT

Date 8/19/2004

Time 12:44:10PM

T07N R07W S01 TTAKE

T07N R07W S01 TTAKE

Twp 07N	Rge 07W	Sec 01	Tract AREA 8	Type TAKE	Acre 22.00	Plots 19	Sample Trees 49	CuFt 1	BdFt W
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Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre		
				Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf			
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
H		DO	CU												5		0.00	21.1			
H		DO	2S	48	1.9	6,226	6,107	134			86	14			11	41	47	34	239	1.67	25.5
H		DO	3S	47	.8	6,128	6,077	134	100					2	3	23	72	36	90	0.70	67.2
H		DO	4S	5	4.7	657	626	14	100					66	20	14		18	25	0.45	25.0
H	Totals			85	1.5	13,011	12,810	282		52	41	7		4	8	31	57	28	92	0.86	138.8
D		DO	CU															15		0.00	4.1
D		DO	2S	85	6.6	1,807	1,687	37			56	44		17		22	62	34	256	2.32	6.6
D		DO	3S	8		163	163	4	100							100		33	58	0.82	2.8
D		DO	4S	7	8.1	144	132	3	100					65	35			20	35	0.75	3.7
D	Totals			13	6.2	2,115	1,983	44		15	48	38		18	2	27	52	26	115	1.43	17.3
S		DO	CU															20		0.00	1.9
S		DO	3S	64	20.0	186	148	3	100							100		27	80	1.33	1.9
S		DO	4S	36	20.0	105	84	2	100							100		25	40	1.12	2.1
S	Totals			2	20.0	290	232	5	100							100		24	40	0.90	5.8
A		DO	3S	100		93	93	2		100				100				20	100	1.25	.9
A	Totals			1		93	93	2		100				100				20	100	1.25	.9
Type Totals					2.5	15,508	15,118	333		48	42	11		6	9	30	55	28	93	0.92	162.8

Species, Sort Grade - Board Foot Volumes (Type)

Project: BIGFOOT

T07N R07W S1 T11

T07N R07W S1 T11

Twp Rge Sec Tract Type Acre Plots Sample Trees CuFt BdFt
07N 07W 1 AREA 11 RW 11 8.00 56 211 1 W

S Spp	So T	Gr rt 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	61	1.1	22,165	21,916	175		3	65	32		3	3	27	67	35	286	1.77				76.6
H	?	3S	34	.6	12,400	12,328	99		94	4	2		2	4	32	62	36	90	0.71				137.7
H	?	4S	5	1.0	1,986	1,966	16		100				44	44	6	7	22	28	0.44				70.0
H	Totals		68	.9	36,551	36,209	290		39	41	20		5	6	28	62	30	119	0.97				303.2
D	?	?															7		0.00				1.4
D	?	2S	85	.5	11,871	11,815	95		2	40	58		1	4	7	89	37	369	2.20				32.1
D	?	3S	13	2.0	1,845	1,809	14		96	4			6	12	43	39	32	79	0.73				22.9
D	?	4S	2		326	326	3		100				46	46	7		20	28	0.46				11.6
D	Totals		26	.7	14,042	13,949	112		16	34	49		2	6	11	80	32	205	1.50				68.0
A		DO CU															16		0.00				7.5
A		DO 2S	29	2.4	328	320	3			100			100				17	101	1.32				3.2
A		DO 3S	34		384	384	3		100						23	77	37	104	0.97				3.7
A		? 4S	37		411	411	3		100				3	49	9	39	30	49	0.64				8.4
A	Totals		2	.7	1,123	1,115	9		71	29			30	18	11	41	25	49	0.65				22.7
C		DO CU															5		0.00				.5
C		DO 3S	53		270	270	2		26	74				26	22	53	33	121	1.18				2.2
C		? 4S	47		239	239	2		100				22	78			21	28	0.43				8.7
C	Totals		1		510	510	4		61	39			10	50	11	28	23	45	0.64				11.4
S		DO 2S	77		678	678	5			100					28	72	36	865	4.40				.8
S		? 3S	14		123	123	1		65	35				35	65		36	71	1.20				1.7
S		DO 4S	10		85	85	1		100				100				18	30	0.67				2.8
S	Totals		2		886	886	7		19	5	77		10	5	21	64	26	166	1.65				5.3
SF		? ?															8		0.00				.3
SF		? 2S	99		742	742	6			11	89			4	96		37	691	3.83				1.1
SF		? 4S	1		6	6	0		100				100				12	20	0.58				.3
SF	Totals		1		748	748	6		1	11	88		1	4	96		28	456	3.40				1.6
Type Totals				.8	53,861	53,418	427		33	38	29		5	7	23	66	30	130	1.06				412.2

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT BIGFOOT				DATE 8/20/2004		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
008	007	25	AREA 1	TAKE	56.00	20	110	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	20	110	5.5							
CRUISE	11	64	5.8	3,742		1.7				
DBH COUNT										
REFOREST										
COUNT	9	45	5.0							
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
WHEMLOCK	34	42.9	23.2	98		126.0	28,450	28,424	6,373	6,373
DOUG FIR	25	17.6	28.9	125		80.0	22,107	22,015	4,542	4,542
S SPRUCE	5	6.3	20.2	57		14.0	1,188	1,156	351	351
TOTAL	64	66.8	24.6	101		220.0	51,745	51,595	11,266	11,266
	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	71.7	16.0	36	43	50					
DOUG FIR	137.3	30.7	12	18	23					
S SPRUCE	324.8	72.6	2	6	11					
TOTAL	40.4	9.0	61	67	73	65	16	7		
	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	58.5	13.1	110	126	142					
DOUG FIR	120.3	26.9	58	80	102					
S SPRUCE	324.8	72.6	4	14	24					
TOTAL	32.0	7.2	204	220	236	41	10	5		
	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	57.6	12.9	24,762	28,424	32,087					
DOUG FIR	129.8	29.0	15,623	22,015	28,406					
S SPRUCE	324.8	72.6	317	1,156	1,996					
TOTAL	40.3	9.0	46,949	51,595	56,242	65	16	7		

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT BIGFOOT				DATE 8/20/2004		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
08N	07W	36	AREA2	TAKE	55.00	20	53	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	20	53	2.7							
CRUISE	9	31	3.4		2,757		1.1			
DBH COUNT										
REFOREST										
COUNT	9	22	2.4							
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	16	27.4	20.4	85		62.0	12,581	12,467	2,896	2,896
DOUG FIR	11	14.0	20.5	89		32.0	6,272	6,224	1,470	1,470
R ALDER	4	8.7	14.5	44		10.0	745	745	248	248
TOTAL	31	50.1	19.5	79		104.0	19,598	19,436	4,614	4,614
	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	114.0	25.5	20	27	34					
DOUG FIR	172.6	38.6	9	14	19					
R ALDER	364.2	81.4	2	9	16					
TOTAL	91.5	20.5	40	50	60	335	84	37		
	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	111.7	25.0	47	62	77					
DOUG FIR	179.5	40.1	19	32	45					
R ALDER	364.2	81.4	2	10	18					
TOTAL	76.3	17.1	86	104	122	233	58	26		
	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	112.8	25.2	9,322	12,467	15,612					
DOUG FIR	194.0	43.4	3,525	6,224	8,924					
R ALDER	364.2	81.4	138	745	1,352					
TOTAL	76.5	17.1	16,112	19,436	22,760	234	58	26		

TC TSTATS			STATISTICS					PAGE 1		
			PROJECT BIGFOOT					DATE 8/20/2004		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
08N	07W	36	AREA2	LEAV	55.00	20	75	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	20	75	3.8							
CRUISE	13	41	3.2		2,842		1.4			
DBH COUNT										
REFOREST										
COUNT	7	28	4.0							
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
HEMLEAV	20	21.4	25.2	90		74.0	17,019	16,817	3,637	3,637
DOUGLEAV	12	10.3	29.3	102		48.0	11,683	11,683	2,408	2,408
CEDLEAV	4	13.0	13.0	27		12.0	696	696	242	242
SNAG	3	6.3	17.1	37		10.0				
SFIRLEAV	1	.4	44.0	105		4.0	1,000	1,000	197	197
SPRUCELV	1	.3	35.0	97		2.0	551	551	105	105
TOTAL	41	51.7	23.1	70		150.0	30,948	30,747	6,589	6,589
	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH		5	10		15
HEMLEAV	75.1	16.8	18	21	25					
DOUGLEAV	111.2	24.9	8	10	13					
CEDLEAV	236.5	52.9	6	13	20					
SNAG	188.8	42.2	4	6	9					
SFIRLEAV	307.8	68.8	0	0	1					
SPRUCELV	447.2	100.0	0	0	1					
TOTAL	66.4	14.9	44	52	59		177	44		20
	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH		5	10		15
HEMLEAV	70.8	15.8	62	74	86					
DOUGLEAV	103.3	23.1	37	48	59					
CEDLEAV	244.2	54.6	5	12	19					
SNAG	177.7	39.7	6	10	14					
SFIRLEAV	307.8	68.8	1	4	7					
SPRUCELV	447.2	100.0		2	4					
TOTAL	14.7	3.3	145	150	155		9	2		1
	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.%	S.E.%	LOW	AVG	HIGH		5	10		15
HEMLEAV	71.8	16.1	14,116	16,817	19,518					
DOUGLEAV	104.5	23.4	8,953	11,683	14,413					
CEDLEAV	262.7	58.7	287	696	1,105					
SNAG										
SFIRLEAV	307.8	68.8	312	1,000	1,688					
SPRUCELV	447.2	100.0	0	551	1,102					
TOTAL	18.9	4.2	29,446	30,747	32,047		14	4		2

0
20 = 29
50 = 25%

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT BIGFOOT				DATE	8/20/2004	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
08N	07W	36	AREA2	0002	55.00	20	128	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	20	128	6.4							
CRUISE	13	72	5.5	5,599	1.3					
DBH COUNT										
REFOREST										
COUNT	7	46	6.6							
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
HEMLEAV	20	21.4	25.2	90		74.0	17,019	16,817	3,637	3,637
WHEMLOCK	16	27.4	20.4	85		62.0	12,581	12,467	2,896	2,896
DOUGLEAV	12	10.3	29.3	102		48.0	11,683	11,683	2,408	2,408
DOUG FIR	11	14.0	20.5	89		32.0	6,272	6,224	1,470	1,470
CEDLEAV	4	13.0	13.0	27		12.0	696	696	242	242
R ALDER	4	8.7	14.5	44		10.0	765	765	256	256
SNAG	3	6.3	17.1	37		10.0				
SFIRLEAV	1	.4	44.0	105	0	4.0	1,000	1,000	197	197
SPRUCELV	1	.3	35.0	97		2.0	551	551	105	105
TOTAL	72	101.8	21.4	74		254.0	50,567	50,203	11,211	11,211
TREES/ACRE										
SD:	1	COEFF	TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
		VAR.	LOW	AVG	HIGH	5	10	15		
HEMLEAV		75.1	18	21	25					
WHEMLOCK		114.0	20	27	34					
DOUGLEAV		111.2	8	10	13					
DOUG FIR		172.6	9	14	19					
CEDLEAV		236.5	6	13	20					
R ALDER		364.2	2	9	16					
SNAG		188.8	4	6	9					
SFIRLEAV		307.8	0	0	1					
SPRUCELV		447.2	0	0	1					
TOTAL		48.8	91	102	113	95	24	11		
BASAL AREA/ACRE										
SD:	1	COEFF	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
		VAR.	LOW	AVG	HIGH	5	10	15		
HEMLEAV		70.8	62	74	86					
WHEMLOCK		111.7	47	62	77					
DOUGLEAV		103.3	37	48	59					
DOUG FIR		179.5	19	32	45					
CEDLEAV		244.2	5	12	19					
R ALDER		364.2	2	10	18					
SNAG		177.7	6	10	14					
SFIRLEAV		307.8	1	4	7					
SPRUCELV		447.2		2	4					
TOTAL		27.2	239	254	269	30	7	3		
NET BF/ACRE										
SD:	1	COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
		VAR.	LOW	AVG	HIGH	5	10	15		
HEMLEAV		71.8	14,116	16,817	19,518					
WHEMLOCK		112.8	9,322	12,467	15,612					
DOUGLEAV		104.5	8,953	11,683	14,413					
DOUG FIR		194.0	3,525	6,224	8,924					
CEDLEAV		262.7	287	696	1,105					
R ALDER		364.2	142	765	1,389					

TC TSTATS		STATISTICS					PAGE 2		
		PROJECT BIGFOOT					DATE 8/20/2004		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
08N	07W	36	AREA2	0002	55.00	20	128	1	W
SD: 1		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
SFIRLEAV		307.8	68.8	312	1,000	1,688			
SPRUCELV		447.2	100.0	0	551	1,102			
TOTAL		33.2	7.4	46,471	50,203	53,935	44	11	5

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT BIGFOOT				DATE 9/1/2004		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
08N	07W	36	AREA 3	TAKE	36.00	17	55	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	17	55	3.2							
CRUISE	9	35	3.9	2,693		1.3				
DBH COUNT										
REFOREST										
COUNT	7	20	2.9							
BLANKS	1									
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	14	38.8	16.3	60		56.5	6,442	6,442	1,981	1,981
WHEMLOCK	14	24.8	20.0	69		54.1	8,656	8,656	2,300	2,300
S SPRUCE	5	5.5	21.7	59		14.1	1,426	1,390	460	460
R ALDER	2	5.8	12.2	41		4.7	486	486	134	134
TOTAL	35	74.8	17.8	62		129.4	17,011	16,975	4,874	4,874
	COEFF		TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH		5	10	15	
DOUG FIR	146.5	35.5	25	39	53					
WHEMLOCK	123.8	30.0	17	25	32					
S SPRUCE	256.8	62.3	2	5	9					
R ALDER	412.3	100.0	0	6	12					
TOTAL	68.7	16.7	62	75	87		189	47	21	
	COEFF		BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH		5	10	15	
DOUG FIR	130.3	31.6	39	56	74					
WHEMLOCK	116.7	28.3	39	54	69					
S SPRUCE	222.7	54.0	6	14	22					
R ALDER	412.3	100.0		5	9					
TOTAL	58.4	14.2	111	129	148		136	34	15	
	COEFF		NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH		5	10	15	
DOUG FIR	131.3	31.8	4,391	6,442	8,493					
WHEMLOCK	119.0	28.9	6,159	8,656	11,154					
S SPRUCE	222.6	54.0	640	1,390	2,141					
R ALDER	412.3	100.0	0	486	973					
TOTAL	63.3	15.4	14,369	16,975	19,581		160	40	18	

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT BIGFOOT				DATE 9/1/2004		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
08N	07W	36	AREA 3	LEAV	36.00	17	67	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES				
TOTAL	17	67	3.9							
CRUISE	10	37	3.7		1,770		2.1			
DBH COUNT										
REFOREST										
COUNT	7	29	4.1							
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	19	32.6	22.4	78		89.4	14,828	14,741	3,802	3,802
HEMLEAV	8	9.6	27.6	95		40.0	8,706	8,603	1,987	1,987
CEDLEAV	6	2.9	32.0	61		16.5	1,233	1,218	479	479
SNAG	1	1.2	27.0	60		4.7				
ALDRLEAV	2	2.6	18.3	66		4.7	660	660	176	176
SPRUCELV	1	.2	50.0	75	RD=31	2.4	273	273	74	74
TOTAL	37	49.2	24.2	79	SE=28	157.6	25,699	25,494	6,518	6,518
	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	82.7	20.1	26	33	39					
HEMLEAV	127.3	30.9	7	10	13					
CEDLEAV	230.3	55.9	1	3	5					
SNAG	282.3	68.5	0	1	2					
ALDRLEAV	412.3	100.0		3	5					
SPRUCELV	412.3	100.0		0	0					
TOTAL	35.6	8.6	45	49	53	51	13	6		
	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	56.0	13.6	77	89	102					
HEMLEAV	122.5	29.7	28	40	52					
CEDLEAV	243.7	59.1	7	16	26					
SNAG	282.3	68.5	1	5	8					
ALDRLEAV	412.3	100.0		5	9					
SPRUCELV	412.3	100.0		2	5					
TOTAL	14.1	3.4	152	158	163	8	2	1		
	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	57.5	13.9	12,686	14,741	16,796					
HEMLEAV	125.9	30.5	5,976	8,603	11,230					
CEDLEAV	243.2	59.0	499	1,218	1,936					
SNAG										
ALDRLEAV	412.3	100.0	0	660	1,320					
SPRUCELV	412.3	100.0	0	273	545					
TOTAL	26.6	6.4	23,852	25,494	27,136	28	7	3		

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT BIGFOOT				DATE 9/1/2004		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
08N	07W	36	AREA 3	0003	36.00	17	122	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES				
TOTAL	17	122	7.2							
CRUISE	10	72	7.2	4,463	1.6					
DBH COUNT										
REFOREST										
COUNT	7	49	7.0							
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	19	32.6	22.4	78		89.4	14,828	14,741	3,802	3,802
DOUG FIR	14	38.8	16.3	60		56.5	6,442	6,442	1,981	1,981
WHEMLOCK	14	24.8	20.0	69		54.1	8,656	8,656	2,300	2,300
HEMLEAV	8	9.6	27.6	95		40.0	8,706	8,603	1,987	1,987
CEDLEAV	6	2.9	32.0	61		16.5	1,233	1,218	479	479
S SPRUCE	5	5.5	21.7	59		14.1	1,426	1,390	460	460
SNAG	1	1.2	27.0	60		4.7				
ALDRLEAV	2	2.6	18.3	66		4.7	660	660	176	176
R ALDER	2	5.8	12.2	41		4.7	486	486	134	134
SPRUCELV	1	.2	50.0	75		2.4	273	273	74	74
TOTAL	72	124.0	20.6	69		287.1	42,710	42,469	11,392	11,392
	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUGLEAV	82.7	20.1		26	33	39				
DOUG FIR	146.5	35.5		25	39	53				
WHEMLOCK	123.8	30.0		17	25	32				
HEMLEAV	127.3	30.9		7	10	13				
CEDLEAV	230.3	55.9		1	3	5				
S SPRUCE	256.8	62.3		2	5	9				
SNAG	282.3	68.5		0	1	2				
ALDRLEAV	412.3	100.0			3	5				
R ALDER	412.3	100.0		0	6	12				
SPRUCELV	412.3	100.0			0	0				
TOTAL	48.0	11.6		110	124	138	92	23	10	
	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUGLEAV	56.0	13.6		77	89	102				
DOUG FIR	130.3	31.6		39	56	74				
WHEMLOCK	116.7	28.3		39	54	69				
HEMLEAV	122.5	29.7		28	40	52				
CEDLEAV	243.7	59.1		7	16	26				
S SPRUCE	222.7	54.0		6	14	22				
SNAG	282.3	68.5		1	5	8				
ALDRLEAV	412.3	100.0			5	9				
R ALDER	412.3	100.0			5	9				
SPRUCELV	412.3	100.0			2	5				
TOTAL	29.2	7.1		267	287	307	34	9	4	
	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUGLEAV	57.5	13.9		12,686	14,741	16,796				
DOUG FIR	131.3	31.8		4,391	6,442	8,493				
WHEMLOCK	119.0	28.9		6,159	8,656	11,154				
HEMLEAV	125.9	30.5		5,976	8,603	11,230				

TC TSTATS				STATISTICS			PAGE 2		
				PROJECT BIGFOOT			DATE 9/1/2004		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
08N	07W	36	AREA 3	0003	36.00	17	122	1	W
SD: 1		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
		243.2	59.0	499	1,218	1,936			
		222.6	54.0	640	1,390	2,141			
		412.3	100.0	0	660	1,320			
		412.3	100.0	0	486	973			
		412.3	100.0	0	273	545			
		32.8	8.0	39,087	42,469	45,850	43	11	5

TC TSTATS				STATISTICS				PAGE 1		
PROJECT BIGFOOT				DATE 8/19/2004						
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
08N	07W	36	AREAS 4-9	TAKE	176.00	38	243	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	38	243	6.4							
CRUISE	19	118	6.2		31,942		.4			
DBH COUNT										
REFOREST										
COUNT	19	125	6.6							
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
WHEMLOCK	45	96.6	15.4	64		124.2	19,973	19,609	5,062	5,062
DOUG FIR	49	49.0	18.4	71		90.5	13,159	12,904	3,469	3,469
R ALDER	20	33.9	14.1	50		36.8	3,470	3,407	946	946
S SPRUCE	3	1.3	21.3	49		3.2	253	253	85	85
PS FIR	1	.8	16.0	66	0	1.1	158	158	40	40
TOTAL	118	181.5	16.1	63		255.8	37,014	36,331	9,602	9,602
	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	118.6	19.2	78	97	115					
DOUG FIR	102.9	16.7	41	49	57					
R ALDER	187.6	30.4	24	34	44					
S SPRUCE	456.6	74.1	0	1	2					
PS FIR	616.4	100.0		1	2					
TOTAL	55.5	9.0	165	181	198	123	31	14		
	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	102.9	16.7	103	124	145					
DOUG FIR	104.1	16.9	75	91	106					
R ALDER	168.2	27.3	27	37	47					
S SPRUCE	454.5	73.7	1	3	5					
PS FIR	616.4	100.0		1	2					
TOTAL	39.1	6.3	240	256	272	61	15	7		
	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	118.9	19.3	15,826	19,609	23,391					
DOUG FIR	117.2	19.0	10,451	12,904	15,357					
R ALDER	175.2	28.4	2,439	3,407	4,375					
S SPRUCE	437.8	71.0	73	253	433					
PS FIR	616.4	100.0	0	158	317					
TOTAL	54.8	8.9	33,103	36,331	39,559	120	30	13		

TC TSTATS		STATISTICS						PAGE 1		
		PROJECT BIGFOOT						DATE 8/19/2004		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	07W	01	AREA 8	TAKE	22.00	19	83	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		19	83	4.4						
CRUISE		10	49	4.9	1,648	3.0				
DBH COUNT										
REFOREST										
COUNT		9	34	3.8						
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	40	61.3	16.1	66		86.3	13,011	12,810	3,357	3,357
DOUG FIR	6	8.7	24.2	54		27.8	2,115	1,983	652	652
S SPRUCE	2	3.9	16.5	37		5.8	290	232	125	125
R ALDER	1	.9	17.0	35		1.5	93	93	23	23
TOTAL	49	74.9	17.2	63		121.4	15,508	15,118	4,158	4,158
	COEFF VAR.	S.E.%	TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	AVG	HIGH	5	10	15		
WHEMLOCK	121.8	27.9	44	61	78					
DOUG FIR	142.0	32.6	6	9	12					
S SPRUCE	199.2	45.7	2	4	6					
R ALDER	435.9	100.0		1	2					
TOTAL	90.3	20.7	59	75	90	326	82	36		
	COEFF VAR.	S.E.%	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	AVG	HIGH	5	10	15		
WHEMLOCK	106.2	24.4	65	86	107					
DOUG FIR	141.4	32.4	19	28	37					
S SPRUCE	199.0	45.6	3	6	9					
R ALDER	435.9	100.0		1	3					
TOTAL	65.7	15.1	103	121	140	173	43	19		
	COEFF VAR.	S.E.%	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	AVG	HIGH	5	10	15		
WHEMLOCK	119.9	27.5	9,287	12,810	16,334					
DOUG FIR	147.3	33.8	1,313	1,983	2,653					
S SPRUCE	203.8	46.8	124	232	341					
R ALDER	435.9	100.0	0	93	186					
TOTAL	94.3	21.6	11,847	15,118	18,389	356	89	40		

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT BIGFOOT		DATE 8/19/2004				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	07W	01	AREA 8	LEAV	22.00	19	94	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	19	94	4.9							
CRUISE	10	46	4.6		1,485		3.1			
DBH COUNT										
REFOREST										
COUNT	9	48	5.3							
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
HEMLEAV	28	36.3	19.8	77		77.5	12,850	12,763	3,267	3,267
DOUGLEAV	14	23.0	20.5	63		52.6	6,360	6,162	1,828	1,828
SNAG	4	8.2	12.8	39	RD = 29	7.3				
TOTAL	46	67.5	19.3	68	SP = 200	137.4	19,210	18,925	5,095	5,095
	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH		5	10	15	
HEMLEAV	75.8	17.4	30	36	43					
DOUGLEAV	83.7	19.2	19	23	27					
SNAG	205.7	47.2	4	8	12					
TOTAL	33.6	7.7	62	68	73		45	11	5	
	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH		5	10	15	
HEMLEAV	73.3	16.8	64	77	91					
DOUGLEAV	76.5	17.5	43	53	62					
SNAG	213.5	49.0	4	7	11					
TOTAL	29.0	6.6	128	137	147		34	8	4	
	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH		5	10	15	
HEMLEAV	87.9	20.2	10,189	12,763	15,337					
DOUGLEAV	76.4	17.5	5,082	6,162	7,243					
SNAG										
TOTAL	49.7	11.4	16,766	18,925	21,085		99	25	11	

TC TSTATS		STATISTICS				PAGE 1				
		PROJECT BIGFOOT				DATE 8/20/2004				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	07W	1	AREAS 6 & 10	TAKE	165.00	36	145	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		36	145	4.0						
CRUISE DBH COUNT REFOREST COUNT		18	64	3.6	21,601	3				
BLANKS 100 %		17	81	4.8						
		1								
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	111.5	13.3	58		108.3	16,298	16,136	4,330	4,330
DOUG FIR	3	12.4	13.9	64		13.1	1,728	1,693	470	470
R ALDER	7	7.0	14.8	39		8.4	519	512	165	165
TOTAL	64	130.9	13.5	58		129.8	18,546	18,340	4,966	4,966
SD:	1	COEFF VAR. %	S.E. %	TREES/ACRE			# OF PLOTS REQ.		INF. POP.	
				LOW	AVG	HIGH	5	10	15	
WHEMLOCK		86.4	14.4	95	112	128				
DOUG FIR		195.9	32.6	8	12	16				
R ALDER		273.8	45.6	4	7	10				
TOTAL		66.6	11.1	116	131	145	177	44	20	
SD:	1	COEFF VAR. %	S.E. %	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.	
				LOW	AVG	HIGH	5	10	15	
WHEMLOCK		83.0	13.8	93	108	123				
DOUG FIR		197.1	32.8	9	13	17				
R ALDER		259.7	43.3	5	8	12				
TOTAL		59.4	9.9	117	130	143	141	35	16	
SD:	1	COEFF VAR. %	S.E. %	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
				LOW	AVG	HIGH	5	10	15	
WHEMLOCK		85.0	14.2	13,850	16,136	18,422				
DOUG FIR		198.9	33.1	1,132	1,693	2,254				
R ALDER		273.8	45.6	278	512	745				
TOTAL		67.1	11.2	16,290	18,340	20,391	180	45	20	

TC TSTATS		STATISTICS				PAGE 1				
		PROJECT BIGFOOT				DATE 8/20/2004				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	07W	1	AREAS 6 & 10	LEAV	165.00	36	175	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL	36	175	4.9							
CRUISE	19	88	4.6		14,905		6			
DBH COUNT										
REFOREST										
COUNT	17	82	4.8							
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	52	52.7	17.9	79		92.4	17,247	17,113	4,238	4,238
DOUGLEAV	18	12.4	24.6	99		41.1	7,653	7,575	1,896	1,896
SNAG	10	8.4	14.2	42		9.3				
ALDRLEAV	2	5.8	16.3	44		8.4	784	784	250	250
CEDLEAV	2	7.6	11.6	26		5.6	350	350	98	98
SPRUCELV	2	2.2	15.2	26		2.8	88	88	51	51
SFIRLEAV	1	.4	34.0	103		2.8	395	395	88	88
MAPLE LV	1	.7	16.0	54		.9	94	94	24	24
TOTAL	88	90.3	18.2	70		163.4	26,611	26,400	6,645	6,645
	COEFF VAR.	S.E.%	TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	AVG	HIGH	5	10	15		
HEMLEAV	66.8	11.1	47	53	59					
DOUGLEAV	104.2	17.4	10	12	15					
SNAG	238.6	39.8	5	8	12					
ALDRLEAV	349.7	58.3	2	6	9					
CEDLEAV	296.3	49.4	4	8	11					
SPRUCELV	352.1	58.7	1	2	4					
SFIRLEAV	442.1	73.7	0	0	1					
MAPLE LV	600.0	100.0		1	1					
TOTAL	36.2	6.0	85	90	96	52	13	6		
	COEFF VAR.	S.E.%	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	AVG	HIGH	5	10	15		
HEMLEAV	57.2	9.5	84	92	101					
DOUGLEAV	103.7	17.3	34	41	48					
SNAG	203.8	34.0	6	9	13					
ALDRLEAV	349.7	58.3	4	8	13					
CEDLEAV	268.3	44.7	3	6	8					
SPRUCELV	336.4	56.1	1	3	4					
SFIRLEAV	442.1	73.7	1	3	5					
MAPLE LV	600.0	100.0	0	1	2					
TOTAL	12.2	2.0	160	163	167	6	1	1		
	COEFF VAR.	S.E.%	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	AVG	HIGH	5	10	15		
HEMLEAV	63.8	10.6	15,294	17,113	18,932					
DOUGLEAV	108.3	18.1	6,208	7,575	8,943					
SNAG										
ALDRLEAV	349.7	58.3	327	784	1,240					
CEDLEAV	270.2	45.0	192	350	508					
SPRUCELV	336.5	56.1	39	88	138					
SFIRLEAV	442.1	73.7	104	395	687					
MAPLE LV	600.0	100.0	0	94	187					
TOTAL	33.2	5.5	24,939	26,400	27,861	44	11	5		

RD = 0 3/4
SD = 30

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT BIGFOOT				DATE 8/20/2004		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	07W	1	AREAS 6 & 10	0006	165.00	36	321	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
		PLOTS	TREES		TREES	TREES				
TOTAL	36	321	8.9							
CRUISE	19	153	8.1	36,756		.4				
DBH COUNT										
REFOREST										
COUNT	17	157	9.2							
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
WHEMLOCK	54	111.5	13.3	58		108.3	16,298	16,136	4,330	4,330
HEMLEAV	52	52.7	17.9	79		92.4	17,247	17,113	4,238	4,238
DOUGLEAV	18	12.4	24.6	99		41.1	7,653	7,575	1,896	1,896
DOUG FIR	3	12.4	13.9	64		13.1	1,728	1,693	470	470
R ALDER	8	8.5	14.2	36		9.3	614	607	200	200
SNAG	10	8.4	14.2	42		9.3				
ALDRLEAV	2	5.8	16.3	44		8.4	784	784	250	250
CEDLEAV	2	7.6	11.6	26		5.6	350	350	98	98
SPRUCELV	2	2.2	15.2	26		2.8	88	88	51	51
SFIRLEAV	1	.4	34.0	103	0	2.8	395	395	88	88
MAPLE LV	1	.7	16.0	54		.9	94	94	24	24
TOTAL	153	222.8	15.6	63		294.1	45,251	44,835	11,646	11,646
	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	86.4	14.4	95	112	128					
HEMLEAV	66.8	11.1	47	53	59					
DOUGLEAV	104.2	17.4	10	12	15					
DOUG FIR	195.9	32.6	8	12	16					
R ALDER	289.9	48.3	4	9	13					
SNAG	238.6	39.8	5	8	12					
ALDRLEAV	349.7	58.3	2	6	9					
CEDLEAV	296.3	49.4	4	8	11					
SPRUCELV	352.1	58.7	1	2	4					
SFIRLEAV	442.1	73.7	0	0	1					
MAPLE LV	600.0	100.0		1	1					
TOTAL	37.9	6.3	209	223	237	58	14	6		
	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
WHEMLOCK	83.0	13.8	93	108	123					
HEMLEAV	57.2	9.5	84	92	101					
DOUGLEAV	103.7	17.3	34	41	48					
DOUG FIR	197.1	32.8	9	13	17					
R ALDER	266.8	44.5	5	9	13					
SNAG	203.8	34.0	6	9	13					
ALDRLEAV	349.7	58.3	4	8	13					
CEDLEAV	268.3	44.7	3	6	8					
SPRUCELV	336.4	56.1	1	3	4					
SFIRLEAV	442.1	73.7	1	3	5					
MAPLE LV	600.0	100.0	0	1	2					
TOTAL	18.8	3.1	285	294	303	14	4	2		
	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
07N	07W	1	AREAS 6 & 10	0006	165.00	36	321	1	W
		COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
HEMLEAV		63.8	10.6	15,294	17,113	18,932			
DOUGLEAV		108.3	18.1	6,208	7,575	8,943			
DOUG FIR		198.9	33.1	1,132	1,693	2,254			
R ALDER		282.9	47.2	321	607	893			
SNAG									
ALDRLEAV		349.7	58.3	327	784	1,240			
CEDLEAV		270.2	45.0	192	350	508			
SPRUCELV		336.5	56.1	39	88	138			
SFIRLEAV		442.1	73.7	104	395	687			
MAPLE LV		600.0	100.0	0	94	187			
TOTAL		35.6	5.9	42,172	44,835	47,499	51	13	6

TC TSTATS		STATISTICS					PAGE 1			
		PROJECT BIGFOOT					DATE 8/20/2004			
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
07N	07W	1	AREA 11RW	11	8.00	56	433	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		56	433	7.7						
CRUISE		29	211	7.3	1,557	13.6				
DBH COUNT										
REFOREST										
COUNT		27	217	8.0						
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	142	139.7	16.3	68		202.1	36,551	36,209	8,931	8,931
DOUG FIR	44	24.9	22.7	90		70.0	14,042	13,949	3,255	3,255
R ALDER	14	14.9	14.5	39		17.1	1,123	1,115	363	363
WR CEDAR	6	10.1	12.5	27		8.6	510	510	166	166
S SPRUCE	3	4.6	17.8	32		7.9	886	886	232	232
PS FIR	2	.5	38.0	104	0	3.6	748	748	155	155
TOTAL	211	194.6	17.1	66		309.3	53,861	53,418	13,102	13,102
SD:	1	COEFF VAR.	S.E.%	TREES/ACRE			# OF PLOTS REQ.		INF. POP.	
				LOW	AVG	HIGH	5	10	15	
WHEMLOCK		79.1	10.6	125	140	154				
DOUG FIR		119.1	15.9	21	25	29				
R ALDER		284.2	38.0	9	15	21				
WR CEDAR		267.8	35.8	6	10	14				
S SPRUCE		258.3	34.5	3	5	6				
PS FIR		390.3	52.2	0	0	1				
TOTAL		54.4	7.3	180	195	209	119	30	13	
SD:	1	COEFF VAR.	S.E.%	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.	
				LOW	AVG	HIGH	5	10	15	
WHEMLOCK		65.6	8.8	184	202	220				
DOUG FIR		111.3	14.9	60	70	80				
R ALDER		277.4	37.1	11	17	23				
WR CEDAR		262.7	35.1	6	9	12				
S SPRUCE		246.0	32.9	5	8	10				
PS FIR		386.6	51.7	2	4	5				
TOTAL		35.6	4.8	295	309	324	51	13	6	
SD:	1	COEFF VAR.	S.E.%	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
				LOW	AVG	HIGH	5	10	15	
WHEMLOCK		68.5	9.2	32,896	36,209	39,523				
DOUG FIR		119.0	15.9	11,731	13,949	16,167				
R ALDER		287.1	38.4	687	1,115	1,543				
WR CEDAR		272.6	36.4	324	510	696				
S SPRUCE		274.2	36.6	562	886	1,211				
PS FIR		390.5	52.2	358	748	1,138				
TOTAL		42.6	5.7	50,380	53,418	56,456	72	18	8	

Log Stock Table - MBF

T008 R007 S25 TyTAKE
THRU
T08N R07W S36 TyTAKE

Project: **BIGFOOT**
Acres **518.00**

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Date **8/20/2004**
Time **2:20:51PM**

S Spp	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+
H		?	3S	38	63		62	.7			44	11	7							
H		?	3S	39	55	13.4	48	.5			41	6								
H		?	3S	40	2,187		2,170	23.3			498	896	680	73	21		2			
H		?	4S	12	3		3	.0			3		0							
H		?	4S	13	8		8	.1			8									
H		?	4S	14	39		39	.4			36	3								
H		?	4S	15	12		12	.1			12									
H		?	4S	16	59		59	.6		22	37	0								
H		?	4S	17	34		34	.4			32	2								
H		?	4S	18	34		33	.4			33	1								
H		?	4S	19	25		25	.3			24	1								
H		?	4S	20	61		60	.7			60	1								
H		?	4S	21	24	32.5	16	.2			16									
H		?	4S	22	43	15.1	37	.4			35	1								
H		?	4S	23	31		31	.3			31									
H		?	4S	24	14		14	.2			7	7								
H		?	4S	25	19		19	.2			19									
H		?	4S	26	1		1	.0			1									
H		?	4S	27	24		24	.3			24									
H		?	4S	29	9	25.0	7	.1			7									
H		?	4S	30	94		94	1.0			94									
H		?	4S	31	31	6.2	29	.3			29									
H		?	4S	32	2		2	.0			2									
H		?	4S	40	31		31	.3			31									
H			Totals		9,404	1.1	9,299	62.7		22	1660	1340	1110	1929	1191	1541	387	117		
D		?	2S	15	0		0	.0					0							
D		?	2S	18	32	2.4	31	.7							31					
D		?	2S	20	61		61	1.4					27		24		11			
D		?	2S	24	34		34	.8				0		1		13	19			
D		?	2S	26	7		7	.2					7							
D		DO	2S	27	3		3	.1					3							
D		?	2S	28	7		7	.2					7							
D		?	2S	29	0		0	.0					0							
D		?	2S	30	26		26	.6					16	10						
D		?	2S	32	547	3.7	527	11.6					10	346	9	61	26	75		
D		?	2S	36	4		4	.1					1				1			2
D		?	2S	38	17	5.0	16	.4					1		16					

Log Stock Table - MBF

T008 R007 S25 TyTAKE
THRU
T08N R07W S36 TyTAKE

Project: **BIGFOOT**
Acres **518.00**

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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
D		?	4S	24	15	7.0	14	.3			12	2							
D		?	4S	25	1	20.0	1	.0				1							
D		?	4S	26	6		6	.1			6								
D		?	4S	28	9		9	.2			9								
D		?	4S	30	38		38	.8			38								
D		?	4S	31	0		0	.0			0								
D		DO	SM	40	35		35	.8								35			
D		Totals			4,592	1.4	4,529	30.6		1	474	571	301	922	538	968	524	226	4
S		?	2S	32	30	6.0	28	16.2					11	15	2				
S		?	2S	40	43		43	25.2					9	10	20		4		
S		DO	3S	16	8		8	4.6						8					
S		?	3S	20	8	16.7	6	3.7							6				
S		?	3S	22	0		0	.2					0						
S		?	3S	27	4	20.0	3	1.9				3							
S		?	3S	30	2		2	1.0			2								
S		?	3S	32	38		38	22.3				15		8	15				
S		DO	3S	33	3		3	2.0											
S		DO	3S	39	4		4	2.4			4								
S		?	3S	40	23		23	13.6			1	18	5						
S		?	4S	14	1		1	.4			1								
S		?	4S	18	3		3	2.0			3								
S		DO	4S	22	3		3	1.7			3								
S		?	4S	25	2	20.0	2	1.1				2							
S		?	4S	26	1		1	.8			1								
S		?	4S	30	1		1	.8			1								
S		Totals			176	2.5	172	1.2			16	23	23	21	41	43		4	
A		?	2S	10	12		12	1.5						12					
A		?	2S	18	15		15	2.0					15						
A		?	2S	20	40	3.3	38	4.9					38						
A		?	2S	28	9		9	1.2							9				
A		?	3S	10	29		29	3.8				14	15						
A		?	3S	16	21		21	2.7					21						
A		?	3S	20	28	18.6	23	3.0					23						
A		?	3S	24	87		87	11.2					28	59					
A		?	3S	30	53		53	6.8			1		51						

Log Stock Table - MBF

T008 R007 S25 TyTAKE
THRU
T08N R07W S36 TyTAKE

Project: **BIGFOOT**
Acres **518.00**

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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+
A	?	3S	32		17		17	2.1			6	1	10							
A	?	3S	36		45		45	5.7				12	33							
A	?	3S	40		172	3.4	166	21.4			12	57	65	33						
A	?	4S	10		6		6	.8			6									
A	?	4S	18		0		0	.0			0									
A	?	4S	20		2		2	.2			2									
A	?	4S	22		2		2	.2			2									
A	?	4S	24		23		23	3.0					23							
A	?	4S	26		4		4	.5					4							
A	?	4S	28		13		13	1.7					13							
A	?	4S	30		29		29	3.7			11		18							
A	?	4S	32		54		54	6.9					54							
A	?	4S	36		19		19	2.5			19									
A	?	4S	40		109		109	14.1			77	32								
A		Totals			787	1.6	775	5.2			136	195	190	174	71	9				
SF	?	2S	22		0		0	.6						0						
SF	?	2S	32		21		21	62.7					21							
SF	?	2S	40		6		6	16.9					0			3			2	
SF	?	3S	32		7		7	19.6			7									
SF	?	4S	12		0		0	.1			0									
SF		Totals			34		34	.2			7		22	0		3			2	
C	?	2S	24		10		10	60.4						4		6				
C	?	3S	24		0		0	2.7							0					
C	?	3S	28		0		0	.6				0								
C	?	3S	32		2		2	13.1			0		2							
C	?	3S	40		1		1	6.7						1						
C	?	4S	12		1		1	3.9			0	0								
C	?	4S	23		1		1	5.1			1									
C	?	4S	27		0		0	2.6			0									
C	?	4S	28		1		1	3.7			1									
C	?	4S	30		0		0	1.1			0									
C		Totals			17		17	.1			3	1	2	1	4	0	6			
Total		All Species			15,010	1.2	14,825	100.0			23	2297	2130	1626	3068	1846	2561	920	347	7

Stand Table Summary

Project BIGFOOT

T08N R07W S36 TLEAV

T08N R07W S36 TLEAV

Twp Rge Sec Tract
08N 07W 36 AREA2

Type
LEAV

Acres
 55.00

Plots
 20

Sample Trees
 41

Page: 1
Date: 8/20/200
Time: 2:53:41PM

Spc	S	Sample			Av Ht	Trees/ BA/		Logs Acres	Average Log		Net Tons/	Net Cu.Ft.	Net Bd.Ft.	Totals		
		DBH	Trees	16'		Tot	Acres		Acres	Cu.Ft.				Bd.Ft.	Acres	Acres
HL		18	1	92	99	2.094	3.70	4.19	39.5	150.0		165	628		91	35
HL		20	1	92	107	1.696	3.70	5.09	35.7	163.3		181	831		100	46
HL		22	2	91	103	2.803	7.40	7.01	48.8	206.0		342	1,444		188	79
HL		23	1	94	113	1.282	3.70	3.85	50.0	233.3		192	898		106	49
HL		24	1	91	108	1.178	3.70	3.53	52.3	230.0		185	813		102	45
HL		25	2	92	116	2.171	7.40	6.51	58.5	271.7		381	1,769		210	97
HL		26	4	91	109	4.014	14.80	12.04	60.0	277.5		723	3,342		397	184
HL		27	1	91	121	.931	3.70	2.79	69.3	336.7		194	940		106	52
HL		28	1	92	106	.865	3.70	2.60	69.3	343.3		180	891		99	49
HL		29	2	92	121	1.613	7.40	4.84	82.2	403.3		398	1,932		219	107
HL		30	2	91	110	1.508	7.40	4.52	82.7	411.7		374	1,862		206	102
HL		32	1	88	78	.662	3.70	1.32	99.0	425.0		131	563		72	31
HL		33	1	85	124	.623	3.70	1.87	102.0	473.3		191	885		105	49
HL		Totals	20	91	109	21.440	74.00	60.16	60.4	279.5		3,637	16,817		2,000	925
DL		24	2	92	132	2.546	8.00	7.64	54.2	248.3		414	1,897		228	104
DL		26	1	89	123	1.085	4.00	3.25	58.3	256.7		190	835		104	46
DL		27	2	90	135	2.012	8.00	6.04	70.0	331.7		423	2,002		232	110
DL		29	3	90	125	2.616	12.00	7.85	74.8	352.2		587	2,764		323	152
DL		33	1	93	136	.673	4.00	2.02	109.3	593.3		221	1,199		121	66
DL		37	1	89	113	.536	4.00	1.61	114.0	583.3		183	937		101	52
DL		41	1	89	142	.436	4.00	1.31	167.7	886.7		219	1,161		121	64
DL		46	1	88	111	.347	4.00	1.04	165.0	853.3		172	887		94	49
DL		Totals	12	90	129	10.252	48.00	30.75	78.3	379.9		2,408	11,683		1,325	643
SFL		44	1	86	129	.379	4.00	1.14	173.0	880.0		197	1,000		108	55
SFL		Totals	1	86	129	.379	4.00	1.14	173.0	880.0		197	1,000		108	55
CL		10	1	85	17	5.500	3.00	5.50	6.0	20.0		33	110		18	6
CL		12	1	85	44	3.820	3.00	3.82	13.0	30.0		50	115		27	6
CL		15	1	85	44	2.445	3.00	2.44	22.0	50.0		54	122		30	7
CL		21	1	88	94	1.247	3.00	2.49	42.5	140.0		106	349		58	19
CL		Totals	4	85	37	13.012	12.00	14.26	17.0	48.8		242	696		133	38
SL		35	1	88	118	.299	2.00	.90	116.7	613.3		105	551		58	30
SL		Totals	1	88	118	.299	2.00	.90	116.7	613.3		105	551		58	30
SN		14	1	89	60	3.118	3.33									
SN		17	1	89	82	2.115	3.33									
SN		24	1	92	78	1.061	3.33									
SN		Totals	3	90	70	6.294	10.00									
Totals			41	89	90	51.676	150.00	107.21	61.5	286.8		6589	30,747		3,624	1,691

TC TSTNDSUM		Stand Table Summary															
Project										BIGFOOT							
T08N R07W S36 TLEAV										T08N R07W S36 TLEAV							
Twp	Rge	Sec	Tract	Type			Acres	Plots	Sample Trees		Page:						
08N	07W	36	AREA 3	LEAV			36.00	17	34		1						
											Date:	8/20/200					
											Time:	2:55:28PM					
S Spc	T	Sample		Av	Trees/ BA/			Average Log		Net		Totals					
		DBH	Trees	Ht	Acres	Acres	Acres	Net	Net	Tons/	Net	Tons	Cunits	MBF			
				16'				Cu.Ft.	Bd.Ft.	Acres	Cu.Ft.	Bd.Ft.					
DL		11	2	85	48	13.905	9.18	13.90	13.0	30.0	181	417	65	15			
DL		13	1	81	64	4.978	4.59	4.98	24.0	60.0	119	299	43	11			
DL		18	1	83	134	2.596	4.59	7.79	29.0	103.3	226	805	81	29			
DL		19	1	81	108	2.330	4.59	4.66	41.0	130.0	191	606	69	22			
DL		20	1	83	91	2.103	4.59	4.21	40.0	120.0	168	505	61	18			
DL		22	1	81	107	1.738	4.59	3.48	47.5	160.0	165	556	59	20			
DL		23	1	86	94	1.590	4.59	3.18	51.5	175.0	164	557	59	20			
DL		24	1	89	133	1.460	4.59	4.38	54.3	233.3	238	1,022	86	37			
DL		25	1	78	87	1.346	4.59	2.69	39.0	125.0	105	336	38	12			
DL		26	1	81	133	1.244	4.59	3.73	60.7	233.3	226	871	82	31			
DL		28	3	80	128	3.219	13.76	9.66	66.2	250.0	640	2,414	230	87			
DL		32	1	80	133	.822	4.59	2.46	89.3	366.7	220	904	79	33			
DL		33	1	89	129	.772	4.59	2.32	99.0	463.3	229	1,074	83	39			
DL		34	1	88	132	.728	4.59	2.18	108.0	506.7	236	1,106	85	40			
DL		35	1	78	140	.687	4.59	2.06	66.0	280.0	136	577	49	21			
DL		36	1	77	141	.649	4.59	1.95	114.7	450.0	223	876	80	32			
DL		41	1	81	154	.500	4.59	1.50	160.7	773.3	241	1,161	87	42			
DL	Totals	20	83	88		40.669	91.76	75.13	49.4	187.5	3,709	14,086	1,335	507			
HL		11	1	83	55	7.576	5.00	7.58	16.0	50.0	121	379	44	14			
HL		22	1	89	96	1.894	5.00	3.79	56.5	210.0	214	796	77	29			
HL		23	1	82	98	1.733	5.00	5.20	42.0	156.7	218	814	79	29			
HL		27	1	80	129	1.258	5.00	3.77	67.3	256.7	254	968	91	35			
HL		30	1	86	129	1.019	5.00	3.06	85.3	400.0	261	1,222	94	44			
HL		33	1	80	129	.842	5.00	2.53	101.7	440.0	257	1,111	92	40			
HL		35	1	81	135	.748	5.00	2.99	86.8	412.5	260	1,235	93	44			
HL		38	1	80	129	.635	5.00	1.90	135.0	630.0	257	1,200	93	43			
HL	Totals	8	83	86		15.704	40.00	30.82	59.8	250.7	1,842	7,725	663	278			
CL		25	1	68	52	.863	2.94	1.73	37.5	80.0	65	138	23	5			
CL		37	2	68	101	.788	5.88	1.97	108.0	274.0	213	540	77	19			
CL		41	1	68	67	.321	2.94	.64	122.0	275.0	78	176	28	6			
CL	Totals	4	68	74		1.971	11.76	4.34	82.0	197.0	356	854	128	31			
SL		50	1	68	81	.173	2.35	.52	142.0	526.7	74	273	26	10			
SL	Totals	1	68	81		.173	2.35	.52	142.0	526.7	74	273	26	10			
SN		27	1	88	81	1.184	4.71										
SN	Totals	1	88	81		1.184	4.71										
Totals		34	83	87		59.701	150.59	110.80	54.0	207.0	5980	22,938	2,153	826			

TC TSTNDSUM		Stand Table Summary											
Project											BIGFOOT		
T07N R07W S1 TLEAV											T07N R07W S1 TLEAV		
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page:	2				
07N	07W	1	AREAS 6 & 10	LEAV	165.00	36	88	Date:	8/20/200				
								Time:	2:52:32PM				
S Spc T	Sample		Av	Trees/ BA/		Average Log		Net		Totals			
	DBH	FF	Ht	Acres	Acres	Logs	Net	Net	Tons/	Net	Tons	Cunits	MBF
	Trees	16'	Tot	Acres	Acres	Acres	Cu.Ft.	Bd.Ft.	Acres	Acres	Acres		
SN	15	1	84	26	.761	.93							
SN	16	1	88	56	.669	.93							
SN	18	2	85	90	1.057	1.87							
SN	20	1	81	40	.428	.93							
SN	28	1	74	96	.218	.93							
SN	29	1	68	71	.204	.93							
SN	Totals	10	84	55	8.441	9.34							
Totals		88	86	92	90.333	163.38	176.52	37.6	149.6	6645	26,400	10,965	4,356

TC TSTNDSUM		Stand Table Summary												
Project										BIGFOOT				
T07N R07W S01 TLEAV										T07N R07W S01 TLEAV				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page:	1					
07N	07W	01	AREA 8	LEAV	22.00	19	46	Date:	8/20/200					
								Time:	2:51:54PM					
Spc	T	Sample			Trees/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
HL	14	3	88	81	7.767	8.30	12.94	21.8	78.0	282	1,010	62	22	
HL	16	2	89	114	3.964	5.54	11.89	23.0	85.0	274	1,011	60	22	
HL	17	2	91	116	3.512	5.54	8.78	31.6	124.0	277	1,089	61	24	
HL	18	1	88	125	1.566	2.77	4.70	31.0	126.7	146	595	32	13	
HL	19	2	92	103	2.811	5.54	5.62	41.5	175.0	233	984	51	22	
HL	20	4	89	96	5.074	11.07	12.69	38.1	151.0	483	1,916	106	42	
HL	22	3	88	100	3.145	8.30	7.34	49.7	195.7	365	1,436	80	32	
HL	23	2	83	79	1.918	5.54	3.84	50.5	162.5	194	623	43	14	
HL	24	1	92	104	.881	2.77	1.76	74.0	325.0	130	573	29	13	
HL	25	1	88	84	.812	2.77	1.62	64.0	225.0	104	365	23	8	
HL	26	4	85	96	3.002	11.07	6.76	68.2	272.2	461	1,839	101	40	
HL	27	2	81	83	1.392	5.54	3.48	59.2	240.0	206	835	45	18	
HL	34	1	80	99	.439	2.77	1.32	84.7	370.0	111	487	25	11	
HL	Totals	28	88	97	36.284	77.49	82.74	39.5	154.3	3,267	12,763	719	281	
DL	12	1	81	94	4.787	3.76	9.57	12.0	40.0	115	383	25	8	
DL	15	1	81	80	3.064	3.76	6.13	19.0	50.0	116	306	26	7	
DL	17	1	85	67	2.385	3.76	4.77	21.0	65.0	100	310	22	7	
DL	18	1	87	78	2.128	3.76	4.26	28.5	95.0	121	404	27	9	
DL	20	1	86	64	1.723	3.76	3.45	29.5	90.0	102	310	22	7	
DL	23	2	85	93	2.606	7.52	5.21	52.5	177.5	274	925	60	20	
DL	24	1	81	95	1.197	3.76	2.39	57.0	165.0	136	395	30	9	
DL	25	1	87	93	1.103	3.76	2.21	64.0	235.0	141	518	31	11	
DL	26	1	78	105	1.020	3.76	2.04	71.0	225.0	145	459	32	10	
DL	27	1	80	100	.946	3.76	1.89	73.5	230.0	139	435	31	10	
DL	28	1	83	107	.879	3.76	1.76	87.0	320.0	153	563	34	12	
DL	32	1	82	79	.673	3.76	1.35	89.5	280.0	120	377	27	8	
DL	36	1	83	120	.532	3.76	1.60	103.3	486.7	165	777	36	17	
DL	Totals	14	83	87	23.042	52.64	46.62	39.2	132.2	1,828	6,162	402	136	
SN	10	1	83	63	3.351	1.83								
SN	11	1	86	92	2.769	1.83								
SN	13	1	79	17	1.983	1.83								
SN	60	1	85	42	.093	1.83								
SN	Totals	4	83	61	8.196	7.31								
Totals		46	86	89	67.522	137.44	129.35	39.4	146.3	5095	18,925	1,121	416	

BIGFOOT
08N07W25 0001
AREA 1

Revised August, 2002

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Bigfoot Combo. Area(s) 1

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

Approx. Cruise Acres: 56 Estimated CV% 45 Net BF or BA/Acre SE% Objective 14 Net BF or BA/Acre

Planned Sale Volume: 14.6 MMBF Estimated Sale Area Value/Acre: \$5,670

- A. **Cruise Goals:** (a) Grade minimum 50 conifer and 20 hardwood trees:
(b) Sample 19 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;

B. Cruise Design:

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

Fixed Plot Size _____ Plot Radius _____ feet

Cruise Line Direction(s) 278°±2

Cruise Line Spacing 7 chains (feet)

Cruise Plot Spacing 4 chains (feet)

Grade/Count Ratio 1:2

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

C. Tree Measurements:

- Diameter:** Minimum DBH to cruise is 9" for conifers and 9" for hardwoods. Record dbh to nearest 1/2" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.
- Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.
- Top Cruise Diameter (TCD):** Minimum top outside bark 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.
- 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: Bryce Rodgers
Approved by: T. Scoggins
Date: 4/19/04

BIGFOOT
08N07W360002
AREA 2

Revised August, 2002

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Bigfoot Comb. Area(s) 2

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

Approx. Cruise Acres: 55 Estimated CV% 45 ^{(Net BF or} _{BA/Acre} SE% Objective 14% ^{(Net BF or} _{BA/Acre}

Planned Sale Volume: 14.6 MMBF Estimated Sale Area Value/Acre: \$5,670

A. **Cruise Goals:** (a) Grade minimum 70 conifer and _____ hardwood trees:
(b) Sample 20 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;
Target BA is 150 (3 to 4 Leave trees per Plot) Leave biggest & best trees
regardless of species

B. Cruise Design:

1. Plot Cruises: BAF 40 (Full point) Half point) (circle one)
Fixed Plot Size _____ Plot Radius _____ feet
Cruise Line Direction(s) 278°AZ
Cruise Line Spacing 7 (chains) (feet)
Cruise Plot Spacing 4 (chains) (feet)
Grade/Count Ratio 1:2

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

C. Tree Measurements:

- Diameter:** Minimum DBH to cruise is 9" for conifers and 9" for hardwoods. Record dbh to nearest 1/2" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.
- Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.
- Top Cruise Diameter (TCD):** Minimum top outside bark 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.
- 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

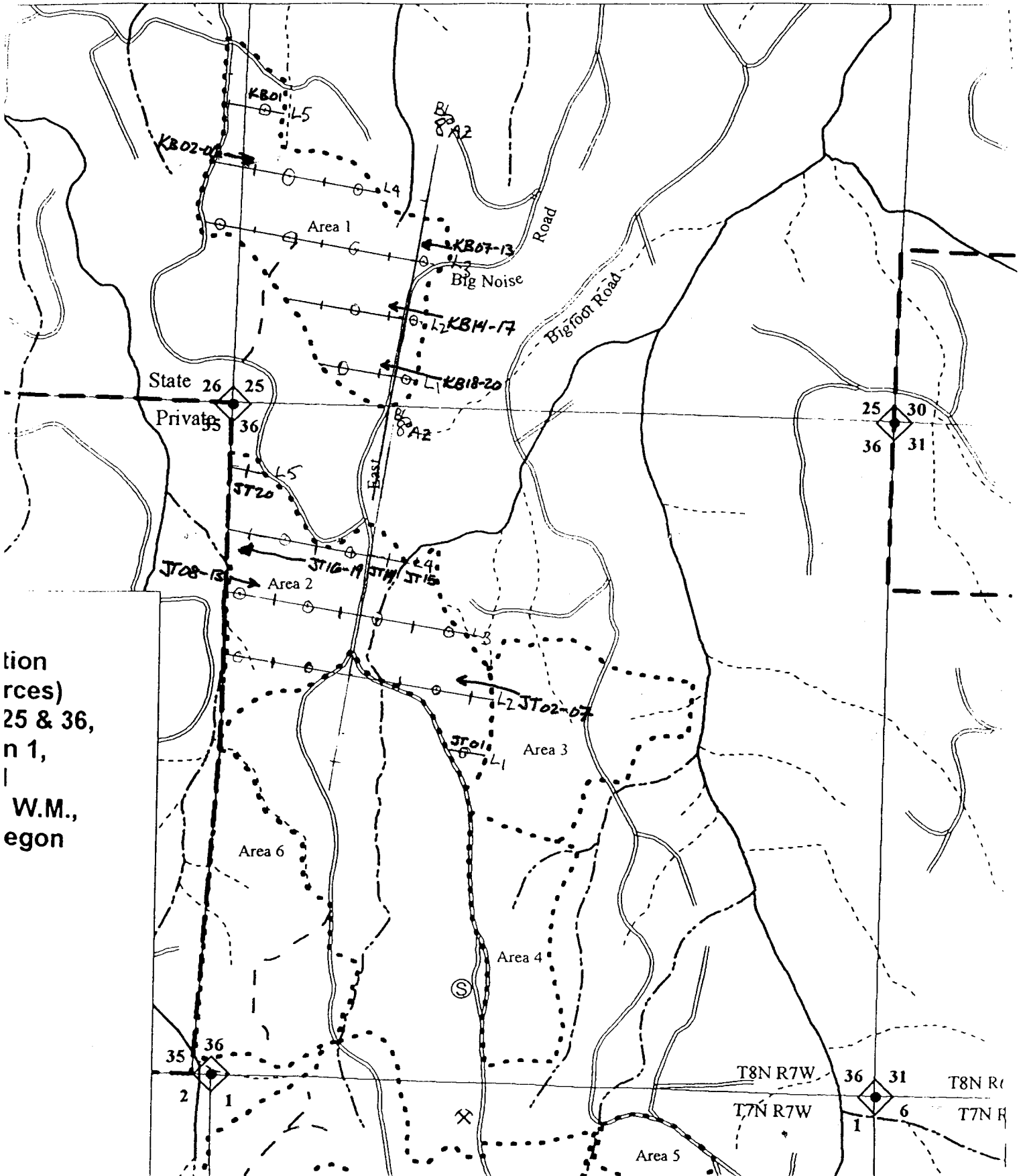
C. Other

Cruise Design by: Bryce Rodgers
Approved by: T. Scoogins
Date: 4/19/04

Bigfoot Combination

Area 1-56 Acres (RH)
 8N, 7W Sections 25&26
 Area 2-55Acres (PC)
 8N, 7W Section 36

- Use BAF 40 (12 bars) full point
- Lines are 7 chains apart running 278az
- Plots are 4 chains apart on lines
- Cruise lines are marked with Blue and Yellow flagging on roadway



tion
 rces)
 25 & 36,
 n 1,
 W.M.,
 egon

T8N R7W 36 31 T8N R6
 T7N R7W 1 6 T7N R6

BIGFOOT
08N07W 3600
Area 3

Revised August, 2002

CRUISE DESIGN
ASTORIA DISTRICT

Sale Name: Bigfoot Combination Area(s) 3

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

Approx. Cruise Acres: 34 Estimated CV% 50 BA/Acre SE% Objective 11 BA/Acre

Planned Sale ^{Volume} Value: \$ 14.6 MMB Estimated Sale Area Value/Acre: \$ 5,670

- A. **Cruise Goals:** (a) Grade minimum 40 conifer and 20 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;

Target BA is 140-160 (3.54 leave trees/plot), biggest and best

B. **Cruise Design:**

1. Plot Cruises: BAF 40 (Full point) Half point) (circle one)
Fixed Plot Size Plot Radius feet
Cruise Line Direction(s) Shown on map (E-W)
Cruise Line Spacing 4 (chains) (feet)
Cruise Plot Spacing 5 (chains) (feet)
Grade/Count Ratio 1:2
2. ITS (Sample Tree) Cruises: Measure-grade ratios: D-fir Hemlock
Spruce True Fir Cedar Hardwood

C. **Tree Measurements:**

1. **Diameter:** Minimum DBH to cruise is 9" for conifers and 9" 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.
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

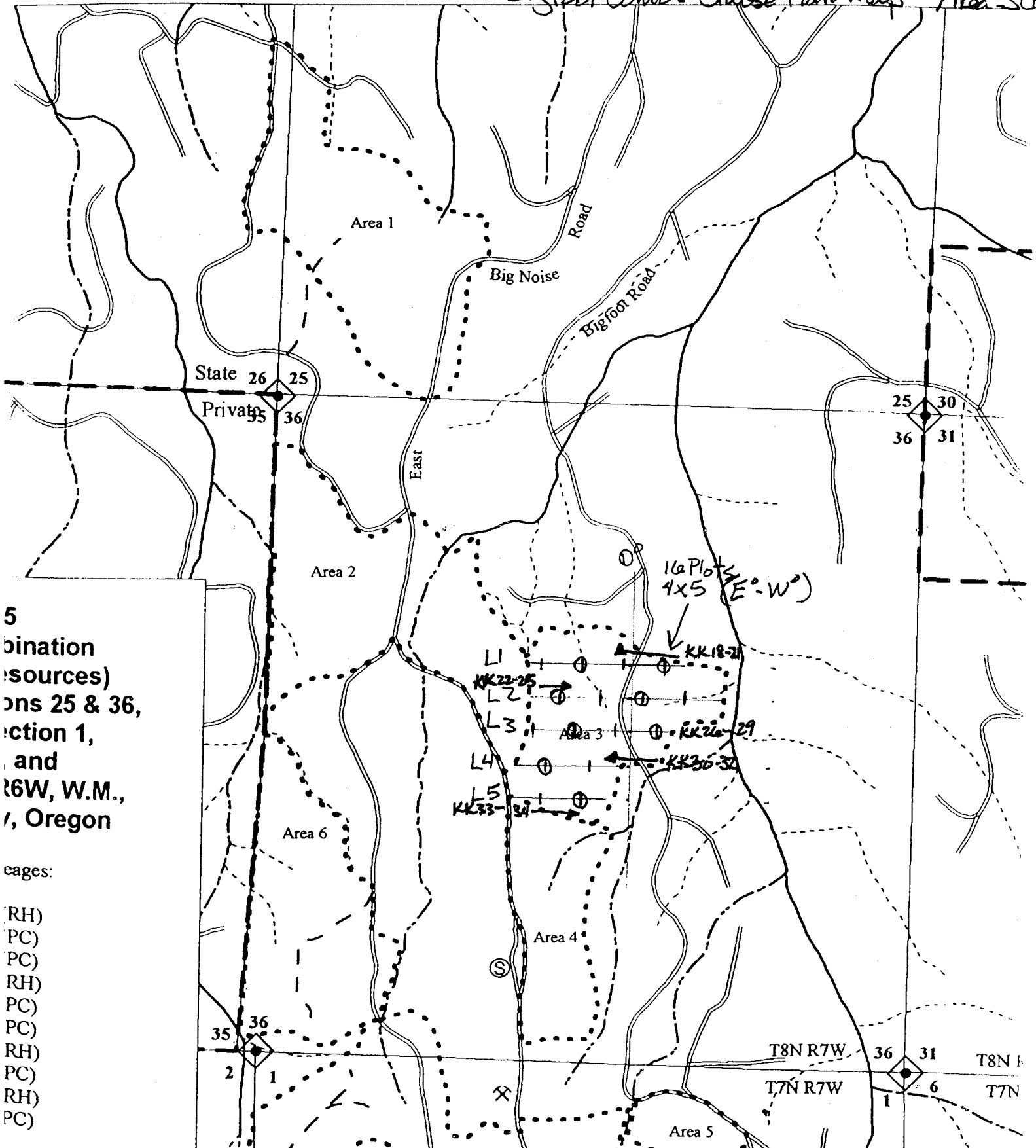
10. **Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.)

B. Data Recorder Instructions

C. Other

Cruise Design by: Kraig Kirkpatrick
Approved by: _____
Date: _____

Bigfoot Comb-Cruise Plan Map - Area 36



5
 combination
 (sources)
 sections 25 & 36,
 section 1,
 and
 T6W, W.M.,
 Oregon

pages:

- (RH)
- (PC)
- (PC)
- (RH)
- (PC)
- (PC)
- (RH)
- (PC)
- (RH)
- (PC)

T8N R7W 36 31 T8N R7W
 T7N R7W 1 6 T7N R7W

Revised August, 2002

CRUISE DESIGN
ASTORIA DISTRICT

Sale Name: Bigfoot combination Area(s) 4, 5, 7, + 9

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

Approx. Cruise Acres: 175 Estimated CV% 55 ^{Net BF of} BA/Acre SE% Objective 12% ^{Net BF of} BA/Acre

Planned Sale Volume: 14.6 MMBF Estimated Sale Area Value/Acre: \$ 5,670

- A. **Cruise Goals:** (a) Grade minimum 100 conifer and 20 hardwood trees:
(b) Sample 40 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 Cedar < 20" > 30" are "CL")

B. **Cruise Design:**

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

Fixed Plot Size ___ Plot Radius ___ feet

Cruise Line Direction(s) Shown on Map

Cruise Line Spacing 8.0 (chains) (feet)

Cruise Plot Spacing 6.0 (chains) (feet)

Grade/Count Ratio 1:2

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

C. **Tree Measurements:**

1. **Diameter:** Minimum DBH to cruise is 9" for conifers and 9" 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.

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: _____

Approved by: _____

Date: _____

BIG FOOT
07N07W1 0008
AREA 8

Revised August, 2002

CRUISE DESIGN
ASTORIA DISTRICT

Sale Name: Bigfoot combination Area(s) 8

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

Approx. Cruise Acres: 25 Estimated CV% 60 ^{Net BF 0} BAAcre SE% Objective 20% ^{Net BF 0} BAAcre

Planned Sale Volume: 14.6 MMBF Estimated Sale Area Value/Acre: \$5,670

- A. **Cruise Goals:** (a) Grade minimum 70 conifer and 5 hardwood trees:
(b) Sample 20 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;
Marked trees (red paint) are "Take" trees.)

B. **Cruise Design:**

1. Plot Cruises: BAF 27.8 (Full point) Half point) (circle one)

Fixed Plot Size ___ Plot Radius ___ feet

Cruise Line Direction(s) 120°/300°

Cruise Line Spacing 4.0 (chains) (feet)

Cruise Plot Spacing 3.0 (chains) (feet)

Grade/Count Ratio 1:2

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

C. **Tree Measurements:**

1. **Diameter:** Minimum DBH to cruise is 9" for conifers and 9" 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.

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: Tom Scoggins
 Approved by: _____
 Date: _____

BIG FOOT
07N07W 1 0006
AREAS 6 & 10

Revised August, 2002

CRUISE DESIGN
ASTORIA DISTRICT

Sale Name: Bigfoot combination Area(s) 6 and 10

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

Approx. Cruise Acres: 180 Estimated CV% 40 ^{(Net BF or} BA/Acre ^{Net BF or} SE% Objective/27 BA/Acre

Planned Sale Volume: 14.6 MMBF Estimated Sale Area Value/Acre: \$5,670

- A. **Cruise Goals:** (a) Grade minimum 140 conifer and 5 hardwood trees:
(b) Sample 36 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;
Leave tree Objective BA: Area 6 = 160 ft²; Area 10 = 150 ft²

B. **Cruise Design:**

1. **Plot Cruises:** BAF 33.61 (Full point) Half point) (circle one)
Fixed Plot Size _____ Plot Radius _____ feet
Cruise Line Direction(s) Shown on map.
Cruise Line Spacing 8.5 (chains) (feet)
Cruise Plot Spacing 6.0 (chains) (feet)
Grade/Count Ratio 1:2
2. **ITS (Sample Tree) Cruises:** Measure-grade ratios: D-fir _____ Hemlock _____
Spruce _____ True Fir _____ Cedar _____ Hardwood _____

C. **Tree Measurements:**

1. **Diameter:** Minimum DBH to cruise is 9" for conifers and 9" 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.
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.
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 B. Data Recorder Instructions
 C. Other

Cruise Design by: Tom Scoggins
 Approved by: _____
 Date: _____

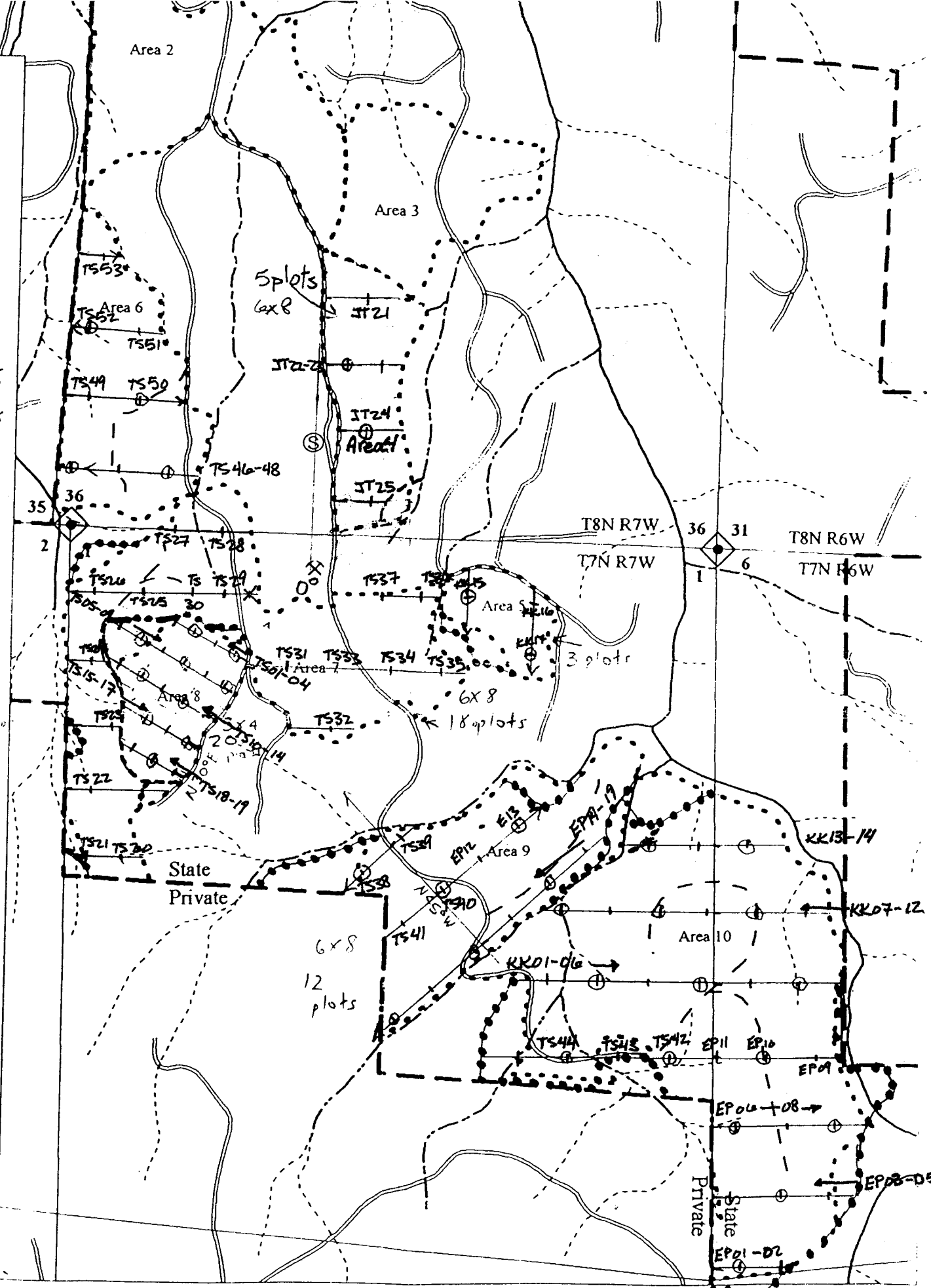
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8 plots

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BIGFOOT COMB,
CRUISE PLAN MAP - Areas 4 - 10

6x8.5 29 plots