



"STEWARDSHIP IN FORESTRY"

District: Astoria

Timber Sale Appraisal
Buster Camp
Sale 341-08-27

Date: February 15, 2008

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,789,602.76	\$184,057.66	\$1,973,660.42
		Project Work:	\$(360,590.00)
		Advertised Value:	\$1,613,070.42



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timber description

Location: Portions of Sections 14, 15, 22, 23, 26, and 27, T5N, R6W, W.M., Clatsop County, Oregon.

Stand Stocking: 40%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	21	0	97
Western Hemlock / Fir	16	0	96
Red Cedar	19	0	95
Alder (Red)	17	0	95
Maple	14	0	95

Volume by Grade	2S	3S	4S	Camprur	Total
Douglas - Fir	4,975	1,098	217	0	6,290
Western Hemlock / Fir	213	249	95	0	557
Red Cedar	3	2	1	0	6
Alder (Red)	0	0	0	455	455
Maple	0	0	0	1	1
Total	5,191	1,349	313	456	7,309



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comments: Pond Values Used: 4th Quarter Calendar Year 2007.

Log Markets: Mist, Claskanie, Tillamook, Forest Grove.

HAULING

Hauling costs equivalent to \$700 daily truck cost.

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

100% Branding and Painting: $\$1/\text{MBF} \times 7,309/\text{MBF} = \$7,309$

TOTAL Other Costs (Profit and Risk to be added) = \$7,309

OTHER COSTS (No Profit and Risk added):

Excavator Slash Piling: $42\text{hrs} \times \$120/\text{hr} = \$5,040$

Excavator Move-In: $1 \text{ move-in} \times \$945/\text{move-in} = \$945$

Snag Creation: $86 \text{ snags} \times \$45/\text{snag} = \$3,870$

Vacate and crunch dirt road segments (Stations 0+00 to 10+20 on 3A to 3B) after harvest: $\$50/\text{station} \times 10.2 \text{ stations} = \510

TOTAL Other Costs (No Profit and Risk added) = \$10,365



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logging conditions

combination#: 1

Douglas - Fir	9.66%
Western Hemlock / Fir	9.87%
Alder (Red)	2.98%

yarding distance: Short (400 ft) **downhill yarding:** No
logging system: Cable: Small Tower <=40 **Process:** Manual Delimiting
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 5.0 **bd. ft / load:** 4,800
cost / mbf: \$112.54

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

combination#: 2

Douglas - Fir	70.86%
Western Hemlock / Fir	72.36%
Alder (Red)	21.85%

yarding distance: Short (400 ft) **downhill yarding:** No
logging system: Track Skidder **Process:** Manual Falling/Delimiting
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 7.0 **bd. ft / load:** 4,800
cost / mbf: \$102.39

machines: Log Loader (B)
 Track Skidder

combination#: 3

Douglas - Fir	19.48%
Western Hemlock / Fir	17.77%
Red Cedar	100.00%
Alder (Red)	75.16%
Maple	100.00%

yarding distance: Short (400 ft) **downhill yarding:** No
logging system: Shovel **Process:** Manual Delimiting
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 8.0 **bd. ft / load:** 4,800
cost / mbf: \$65.22

machines: Shovel Logger



"STEWARDSHIP IN FORESTRY"

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logging costs

Operating Seasons:	3.00	Profit Risk:	14.00%
Project Costs:	\$360,590.00	Other Costs (P/R):	\$7,309.00
Slash Disposal:	\$0.00	Other Costs:	\$10,365.00

Miles of Road

Road Maintenance: \$5.53

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	4.5
Western Hemlock / Fir	\$0.00	2.0	4.0
Red Cedar	\$0.00	2.0	4.0
Alder (Red)	\$0.00	2.0	3.0
Maple	\$0.00	2.0	3.0



"STEWARDSHIP IN FORESTRY"

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logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$96.13	\$5.70	\$1.80	\$46.84	\$1.00	\$21.21	\$0.00	\$2.00	\$1.42	\$176.10
Western Hemlock / Fir									
\$96.78	\$5.75	\$1.80	\$79.83	\$1.00	\$25.92	\$0.00	\$2.00	\$1.42	\$214.50
Red Cedar									
\$65.22	\$5.81	\$1.80	\$80.60	\$1.00	\$21.62	\$0.00	\$2.00	\$1.42	\$179.47
Alder (Red)									
\$74.75	\$5.81	\$1.80	\$107.46	\$1.00	\$26.71	\$0.00	\$2.00	\$1.42	\$220.95
Maple									
\$65.22	\$5.81	\$1.80	\$107.46	\$1.00	\$25.38	\$0.00	\$2.00	\$1.42	\$210.09

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$450.85	\$274.75	\$0.00
Western Hemlock / Fir	\$0.00	\$315.94	\$101.44	\$0.00
Red Cedar	\$0.00	\$1,000.00	\$820.53	\$0.00
Alder (Red)	\$0.00	\$625.00	\$404.05	\$0.00
Maple	\$0.00	\$425.00	\$214.91	\$0.00



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summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	6,290	\$274.75	\$1,728,177.50
Western Hemlock / Fir	557	\$101.44	\$56,502.08
Red Cedar	6	\$820.53	\$4,923.18
Alder (Red)	455	\$404.05	\$183,842.75
Maple	1	\$214.91	\$214.91

Gross Timber Sale Value

Recovery: \$1,973,660.42

Prepared by: Lanny Freeman

Phone: 503-325-5451

Road Maintenance Cost Summary

Sale: Buster Camp
 Date: 18-Dec-07
 By: L. Freeman

MBF: 7,309
 \$\$/MBF: \$5.53

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost	Production Rates			
							Miles/day	Distance(miles)	Days	
Progressive Operations 1st Entry	Grader 14G	\$570	1	36	\$90	\$3,240	Production Rates	Miles/day	Distance(miles)	Days
	Dump Truck 12CY x 2	\$357	2	16	\$73	\$2,336	Grader	2.5	9.0	3.6
	FE Loader C966	\$570	1	8	\$74	\$592				
Progressive Operations 2nd Entry	Grader 14G	\$570	1	36	\$90	\$3,240	Production Rates	Miles/day	Distance(miles)	Days
	Dump Truck 12CY x 2	\$357	2	16	\$73	\$2,336	Grader	2.5	9.0	3.6
	FE Loader C966	\$570	1	8	\$74	\$592				
Final Road Maintenance	Grader 14G	\$570	1	90	\$90	\$8,100	Production Rates	Miles/day	Distance(miles)	Days
	Dump Truck 12CY x 3	\$357	3	30	\$73	\$6,570	Grader	1.5	13.5	9.0
	FE Loader C966	\$570	1	20	\$74	\$1,480	Vibratory Roller*	1.5	13.5	9.0
	Vibratory Roller Water Truck 2,500 gallon Labor	\$570 \$139	1 1	90 60 20	\$72 \$78 \$37	\$6,480 \$4,680 \$740				
Total										\$40,386

*Final Road Maintenance Only

x:\Jewell_Unit\Timber Sales\2008\Buster Camp\Road Maint.Harvest

X:\Jewell_Unit\Timber Sales\2008\Buster Camp\Road Maint.- Harvest

SUMMARY OF ALL PROJECT COSTSSALE NAME: Buster Camp**NEW CONSTRUCTION:**

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
Project No. 1 (rocked)	<u>1G-1H, 2A-2B, 2C-2D,</u>	<u>105.00</u>	<u>\$52,522</u>
	<u>2E-2F, 4A-4B, 4C-4D</u>		
Fill Replacement (rock)			<u>\$4,937</u>
Project No. 1 (dirt)	<u>1A-1B, 1C-1D, 1E-1E,</u>	<u>46.8</u>	<u>13,476</u>
	<u>3A-3B</u>		
	TOTALS		\$70,935

ROAD IMPROVEMENT:

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
Project No. 1	<u>I1-I2, I3-I4, I5-I6,</u>	<u>242.80</u>	<u>\$59,069</u>
	<u>& I7-I8</u>		
	TOTALS		\$59,069

SPECIAL PROJECTS:

	<u>Description</u>	<u>Cost</u>
Project No. 2 & 3	<u>Green Mountain Quarry Development & Rock Crushing</u>	<u>\$198,955</u>
Project No. 4	<u>Stream Enhancement</u>	<u>\$21,350</u>
	<u>Project Work Road Maintenance</u>	<u>\$4,376</u>
	TOTALS	\$224,681

MOVE IN:

	<u>Equipment</u>	<u>Cost</u>
	<u>Dozer (D8)</u>	<u>\$1,180</u>
	<u>Dump Trucks (12 cy x 4)</u>	<u>\$548</u>
	<u>Dump Trucks (20 cy x 2)</u>	<u>\$322</u>
	<u>F E Loader (C966)</u>	<u>\$653</u>
	<u>Grader (14G)</u>	<u>\$653</u>
	<u>Rubber Tire Skidder (C518)</u>	<u>\$653</u>
	<u>Vibratory Roller</u>	<u>\$653</u>
	<u>Water Truck (2,500 gallon)</u>	<u>\$160</u>
	<u>Excavator (C325)</u>	<u>\$1,083</u>
	TOTAL	\$5,905

GRAND TOTAL \$360,590Compiled By: L. Freeman flDate: 01/21/2008

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Buster Camp (Field Design) MILES 1.12
 ROAD: 1G-1H (6.0), 2A-2B (1.5), 2C-2D (24.6), 2E-2F (17.4), STATIONS 59.20
 4A-4B (1.9), 4C-4D (7.8) STATIONS 0.00
MILES 0.00

Method	Acres/amount	X	Rate	=	Cost
Scatter Outside of R/W	5.1	X	\$1,123.00	=	\$5,727.30
CLEARING & GRUBBING					
SUB TOTAL FOR CLEARING & GRUBBING					\$5,727

Material	Sta/amount	X	Rate	=	Cost
Common (Drift Earth up to 200') \$\$/sta.	9.00	X	\$160.00	=	\$1,440.00
Balanced construction \$\$/sta.	50.00	X	\$102.00	=	\$5,100.00
Landing Construction \$\$/landing	6	X	\$327.00	=	\$1,962.00
1H, 2B, 2D, 2F, 4B, 4D					
Develop Waste Area 2C to 2D sta. 11+85	1	X	\$327.00	=	\$327.00
EXCAVATION					
SUB TOTAL FOR EXCAVATION					\$8,829

Location	Dia/type	Lineal ft.	Rate	Cost	No. bands	Rate	Cost
1G-1H	0+00	18"/CPP	40	\$17.64			
2C-2D	0+00	18"/CPP	40	\$17.64			
	6+10	18"/CPP	30	\$17.64			
	11+50	24"/CPP	40	\$24.64			
	15+85	18"/CPP	30	\$17.64			
	19+50	18"/CPP	30	\$17.64			
	23+00	18"/CPP	40	\$17.64			
2E-2F	0+40	18"/CPP	60	\$17.64			
	5+15	18"/CPP	40	\$17.64			
	12+15	18"/CPP	40	\$17.64			
Other/miscellaneous:							
					Quantity	Rate	Cost
					8	\$17.00	\$136.00
					2,030	\$1.10	\$2,233.00
					50	\$1.40	\$70.00
					20	\$10.00	\$200.00
					10	\$37.00	\$370.00
					37	\$29.00	\$1,073.00
SUB TOTAL FOR EXCAVATION							\$6,917

Location	Dia/type	Lineal ft.	Rate	Cost	No. bands	Rate	Cost
CULVERT MATERIALS AND INSTALLATION							
					Quantity	Rate	Cost
					8	\$17.00	\$136.00
					2,030	\$1.10	\$2,233.00
					50	\$1.40	\$70.00
					20	\$10.00	\$200.00
					10	\$37.00	\$370.00
					37	\$29.00	\$1,073.00
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION							\$4,082
Subtotal							\$25,556

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Buster Camp Field Designed (Dirt Roads) NEW CONSTRUCTION: 46.80 STATIONS 0.89 MILES
 ROADS: New Construction 1A-1B (24+50), 1C-1D (6+30), 1E-1F (5+80), 3A-3B (10+20) IMPROVEMENT: STATIONS 0.00 MILES

CLEARING & GRUBBING	Method	Acres/amount	Rate	=	Cost
Scatter Outside of R/W		4.3	\$1,123.00	x	\$4,828.90
SUB TOTAL FOR CLEARING & GRUBBING					\$4,829

EXCAVATION	Material	sta/amount	Rate	=	Cost
	Common (drift earth up to 200') \$\$/sta.	15	\$160.00	x	\$2,400.00
	Balanced Construction \$\$/sta.	32	\$102.00	x	\$3,264.00
	Landing Construction \$\$/landing	5	\$327.00	x	\$1,635.00
	1B, 1A-1B Sta.(14+50), 1D, 1F, 3B			=	
SUB TOTAL FOR EXCAVATION					\$7,299

Subgrade prep:	Description	Stations/amount	x	Rate/ sta/amt	Cost
	Grade, 14' Outslope	46.80	x	\$15.41	\$721.19
	Waterbar	46.80	x	\$13.40	\$627.12
Subtotal					\$1,348
					\$13,476

Project No. 1 New Road Construction

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Buster Camp NEW CONSTRUCTION: 59.20 STATIONS 1.12 MILES
 ROAD: 16' Subgrade 1G-1H (6.0), 2A-2B (1.5), 2C-2D (24.6), IMPROVEMENT: 0.00 STATIONS 0.00 MILES
 2E-2F (17.4), 4A-4B (1.9), 4C-4D (7.8)

ROAD SEGMENT	1G to 1H		Depth of Rock (inches)	Location	POINT TO POINT Volume (CY)	Sta. to Sta. 0+00 to 6+00 Number of	TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
	Rock Size and Type	1G to 1H							
Base Rock	4"-0" Crushed	1G-1H	9	station	49	stations	294	\$4.56	\$1,341
Junctions	4"-0" Crushed	Pt. 1G	9	junction	24	junctions	24	\$4.56	\$109
Junctions	1 1/2"-0" Crushed	Pt. 1G	4	junction	10	junctions	10	\$4.56	\$46
Culv. Bedding/Backfill	1 1/2"-0" Crushed	Pt. 1G	N/A	culvert	20	culverts	20	\$4.56	\$91
Dissipator Rock	24"-6" Riprap	Pt. 1G	N/A	dissipator	10	dissipators	10	\$7.34	\$73
Landing Rock	6"-0" Pitrun	1H	N/A	landing	50	landings	50	\$6.16	\$308
Total Rock for Road Segment: 1G to 1H 408									
ROAD SEGMENT 2A to 2B									
Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT Volume (CY)	Sta. to Sta. 0+00 to 1+50 Number of	TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
									2A to 2B
Base Rock	4"-0" Crushed	2A-2B	9	station	49	stations	74	\$4.56	\$335
Junctions	4"-0" Crushed	2A	9	junction	24	junctions	24	\$4.56	\$109
Junctions	1 1/2"-0" Crushed	2A	4	junction	10	junctions	10	\$4.56	\$46
Landing Rock	6"-0" Pitrun	2B	N/A	landing	50	landings	50	\$6.16	\$308
Total Rock for Road Segment: 2A to 2B 158									
ROAD SEGMENT 2C to 2D									
Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT Volume (CY)	Sta. to Sta. 0+00 to 24+60 Number of	TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
									2C to 2D
Base Rock	4"-0" Crushed	2C-2D	9	station	24.60	stations	1,205	\$4.56	\$5,497
Junctions	4"-0" Crushed	Pt. 2C	9	junction	24	junctions	24	\$4.56	\$109
Junctions	1 1/2"-0" Crushed	Pt. 2C	4	junction	10	junctions	10	\$4.56	\$46
Curve Widening	4"-0" Crushed	N/A	9	N/A	50	N/A	50	\$4.56	\$228
Turnouts	4"-0" Crushed	N/A	9	turnout	22	turnouts	88	\$4.56	\$401
Turnaround	4"-0"	Sta. 22+70	9	turnaround	24	turnarounds	24	\$4.56	\$109
Culv. Bedding/Backfill	1 1/2"-0" Crushed	Pt. 2C	N/A	culvert	30	culverts	30	\$4.56	\$137
Culv. Bedding/Backfill	1 1/2"-0" Crushed	Sta. 6+10	N/A	culvert	10	culverts	10	\$4.56	\$46
Culv. Bedding/Backfill	1 1/2"-0" Crushed	Sta. 11+50	N/A	culvert	30	culverts	30	\$4.56	\$137
Culv. Bedding/Backfill	1 1/2"-0" Crushed	Sta. 15+85	N/A	culvert	10	culverts	10	\$4.56	\$46
Culv. Bedding/Backfill	1 1/2"-0" Crushed	Sta. 19+50	N/A	culvert	10	culverts	10	\$4.56	\$46
Culv. Bedding/Backfill	1 1/2"-0" Crushed	Sta. 23+00	N/A	culvert	10	culverts	10	\$4.56	\$46
Dissipator Rock	24"-6" Riprap	0+00 & 11+50	N/A	dissipator	10	dissipators	20	\$7.24	\$145
Fill Rock	6"-0" Pitrun	Sta. 11+50	N/A	fill	50	fills	50	\$6.16	\$308
Landing Rock	6"-0" Pitrun	2D	N/A	landing	80	landings	80	\$6.16	\$493
Total Rock for Road Segment: 2C to 2D 1,651									

Subgrade prep: Grade, 16' Subgrade \$20.85 \$1,234.32
 Subgrade Compaction \$16.95 \$1,003.44
 2,237.76

Total Rock for Road Segment: \$1,968

Total Rock for Road Segment: \$798

Total Rock for Road Segment: \$7,792

Compiled By: L. Freeman

Date: 07/17/2008

Project No. 1 New Road Construction

SUMMARY OF CONSTRUCTION COSTS

ROAD SEGMENT	2E to 2F		Depth of Rock (inches)	POINT TO POINT		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
	Application	Rock Size and Type		Location	2E to 2F				
					Volume (CY)				Sta. to Sta. 0+00 to 17+40 Number of
Base Rock	4"-0" Crushed	2E-2F	9	station	49	17.40	\$4.56	\$3,888	
Junctions	4"-0" Crushed	Pt. 2E	9	junction	24	1.00	\$4.56	\$109	
Junctions	1 1/2"-0" Crushed	Pt. 2E	4	junction	10	1.00	\$4.56	\$46	
Curve Widening	4"-0" Crushed	N/A	9	N/A	50	1.00	\$4.56	\$228	
Turnouts	4"-0" Crushed	N/A	9	turnout	22	4.00	\$4.56	\$401	
Turnaround	4"-0" Crushed	Sta. 22+70	9	turnaround	24	1.00	\$4.56	\$109	
Culv. Bedding/Backfill	1 1/2"-0" Crushed	Sta. 0+40	N/A	culvert	30	1.00	\$4.56	\$137	
Culv. Bedding/Backfill	1 1/2"-0" Crushed	Sta. 5+15	N/A	culvert	30	1.00	\$4.56	\$137	
Culv. Bedding/Backfill	1 1/2"-0" Crushed	Sta. 12+15	N/A	culvert	10	1.00	\$4.56	\$46	
Culvert Fill Rock	6"-0" Pitrun	Sta. 5+15	N/A	fill	50	1.00	\$6.16	\$308	
Dissipator Rock	24"-6" Riprap	Sta. 0+40&5+15	N/A	dissipator	20	1.00	\$7.24	\$145	
Landing Rock	6"-0" Pitrun	2F	N/A	landing	50	1	\$6.16	\$308	
Total Rock for Road Segment:						1,239		\$5,862	

ROAD SEGMENT	4A to 4B		Depth of Rock (inches)	POINT TO POINT		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
	Application	Rock Size and Type		Location	4A to 4B				
					Volume (CY)				Sta. to Sta. 0+00 to 17+40 Number of
Base Rock	4"-0" Crushed	4A-4B	9	station	49	1.90	\$4.56	\$425	
Junctions	4"-0" Crushed	Pt. 2E	9	junction	24	1.00	\$4.56	\$109	
Turnouts	4"-0" Crushed	N/A	9	turnout	22	1.00	\$4.56	\$100	
Curve Widening	4"-0" Crushed	N/A	9	N/A	20	1.00	\$4.56	\$91	
Landing Rock	6"-0" Pitrun	2F	N/A	landing	50	1	\$6.16	\$308	
Total Rock for Road Segment:						209		\$1,033	

ROAD SEGMENT	4C to 4D		Depth of Rock (inches)	POINT TO POINT		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
	Application	Rock Size and Type		Location	4C to 4D				
					Volume (CY)				Sta. to Sta. 0+00 to 7+80 Number of
Base Rock	4"-0" Crushed	4C-4D	9	station	49	7.80	\$4.56	\$1,743	
Junctions	4"-0" Crushed	Pt. 4C	9	junction	24	1.00	\$4.56	\$109	
Turnouts	4"-0" Crushed	3+70 & 5+25	9	turnout	22	2.00	\$4.56	\$201	
Turnaround	4"-0" Crushed	Sta. 5+25	9	turnaround	24	1.00	\$4.56	\$109	
Curve Widening	4"-0" Crushed	Curve Widening	9	N/A	20	1.00	\$4.56	\$91	
Landing Rock	6"-0" Pitrun	2F	N/A	landing	50	1	\$6.16	\$308	
Total Rock for Road Segment:						544		\$2,562	

Processing:	No. Sta	Rate/ Sta	Cost
Water, Process & Compact Crushed Rock:	59.2	\$47.42	\$2,807
Develop Pitrun Rock: 600 cy X \$2.20 cy.	430	\$2.20	\$946
Develop Riprap Rock: 50 cy. X \$3.60 cy.	50	\$3.60	\$180
Construct Dissipators W/Excavator @ \$130/hr. X 2hrs. X 3 dissipators= 6hrs	6	\$130.00	\$780
Grand Total			\$65,998

Compiled By: L. Freeman Date: 01/17/2008

Buster Camp

Project No. 1 Fill Replacement

Fill Replacement Costs

Points/ Station	Description	C325 # 1	D8 Dozer	Rubber Tire Skidder	Truck	Mechanical Tamper with operator	
2C to 2D 11+50	Culvert installation/ fill reconstruction 6' fill ht.	8 hr	3 hr	2 hr	10 hr	4 hr	
2E to 2F 12+15	Culvert replacement/ fill reconstruction 6' fill ht.	8 hr	1 hr	2 hr	10 hr	3 hr	
2E to 2F	Crush and load old and haul old culvert away to approved refuse site.	1 hr			3 hr		
Total		17 hr	4 hr	4 hr	23 hr	7 hr	
Rate		\$130	\$132 /hr	\$71 /hr	\$72 /hr	\$37 /hr	
Cost		\$2,210	\$528	\$284	\$1,656	\$259	\$4,937

CRUSHED ROCK COST

SALE NAME: Buster Camp
 PROJECT: No. 1
 QUARRY: Green Mountain #1 11/2"-0"
Green Mountain #2 4"-0"

ROCK TYPE: Crushed
11/2"-0" & 4"-0"

DATE: 01/17/2008
 BY: L. Freeman

Segment	Stations	Cubic Yards								Total
		Base	Running	Turnout	Turnaround	Junction	Culv. Bed	Misc		
1G-1H	6.00	294				34	20		348	
2A-2B	1.50	74				34			108	
2C-2D	24.60	1,205		88	24	34	100	50	1,501	
2E-2F	17.40	853		88	24	34	70	50	1,119	
4A-4B	1.90	93		22		24		20	159	
4C-4D	7.80	382		44	24	24		20	494	
I1-I2	2.00		44						44	
I3-I4	185.50		4,081	319		165		660	5,225	
I5-I6	42.30	1,396		48		46		423	1,913	
I7-I8	13.00	429		36		24		80	569	
Grand Total	302.00	4,726	4,125	645	72	419	190	1,303	11,480	

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		
1G-1H	6.00	348		1	1	2.00	1.20	0.50	0.10	5.80	
2A-2B	1.50	108		1	1	0.90	1.00	0.50	0.10	3.90	
2C-2D	24.60	1,501		1	1	1.00	1.00	0.50	0.10	4.00	
2E-2F	17.40	1,119		1	1	1.00	0.90	0.50	0.10	3.50	
4A-4B	1.90	159		1	1	1.00	1.10	0.50	0.10	3.70	
4C-4D	7.80	494		1	1	1.00	1.40	0.50	0.10	4.00	
I1-I2	2.00	44		1	1	1.00	1.00	0.30	0.10	4.40	
I3-I4	185.50	5,225		1	1	1.00	0.90	0.30	0.10	3.30	
I5-I6	42.30	1,913		1	1	1.00	1.10	0.30	0.10	3.50	
I7-I8	13.00	569		1	1	1.00	1.30	0.30	0.10	3.70	
TOTAL	302.00	11,480									
	STA./NO.	CU. YD.								AVERAGE HAUL	
				0.55	0.55	1.03	1.00	0.36	0.10	3.59	
Average Round Trip Distance (miles)										7.17	

ROCK HAUL:

Truck type: D20 No. trucks: 2
 Delay min.: 8 Efficiency: 85%

Ave haul: \$3.38 /cy
 Load: \$0.45 /cy
 Spread: \$0.73 /cy

Truck type: D12 No. trucks: 4
 Delay min.: 6 Efficiency: 85%

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

Production: cy/day = 1,135

CRUSHED ROCK HAUL COSTS 11,480 cy @ \$4.56 /cy

PIT RUN ROCK COST

SALE NAME: Buster Camp
 PROJECT: No. 1
 QUARRY: Green Mountain #2

ROCK TYPE: Pit Run

DATE: 01/17/2008
 BY: L. Freeman

Segment	Stations	Cubic Yards							Total
		Landing	Landing	Turnout	Turnaround	Junction	Fill	Misc	
1G-1H	Pt. 1H	50							50
2A-2B	Pt. 2B	50							50
2C-2D	Pt. 2D	80							80
2C-2D	Sta. 11+50						50		50
2E-2F	Pt. 2F	50							50
2E-2F	Sta. 5+15						50		50
4A-4B	Pt. 4B	50							50
4C-4D	Pt. 4D	50							50
I5-I6	Pt. I6	50							50
Grand Total		380					100		480

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	
1G-1H	Pt. 1H	50		1	2	2.00	0.75	0.40	0.15	5.80
2A-2B	Pt. 2B	50		1	1	1.00	0.50	0.30	0.10	3.90
2C-2D	Pt. 2D	80		1	1	1.00	0.50	0.40	0.10	4.00
2C-2D	Sta. 11+50	50		1	1	1.00	0.50	0.40	0.10	3.50
2E-2F	Pt. 2F	50		1	1	1.00	0.60	0.50	0.10	3.70
2E-2F	Sta. 5+15	50		1	1	1.00	0.90	0.50	0.10	4.00
4A-4B	Pt. 4B	50		1	1	1.00	0.90	0.15	0.10	4.15
4C-4D	Pt. 4D	50		1	1	1.00	1.00	0.20	0.15	4.35
I5-I6	Pt. I6	50		1	1	1.00	1.00	0.23	0.15	4.38
TOTAL		480								
	STA./NO.	CU. YD.								AVERAGE HAUL
CUBIC YARD WEIGHTED HAUL			0.84	1.05	1.10	0.72	0.35	0.12		4.19
Average Round Trip Distance (miles) 8.37										

ROCK HAUL:

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

Truck type: D12 No. trucks: 4
 Delay min.: 6 Efficiency: 85%

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

Ave haul: \$3.92 /cy
 Load: \$0.78 /cy
 Spread: \$1.46 /cy

Production: cy/day = 595

PIT RUN ROCK HAUL COSTS 480 cy @ \$6.16 /cy

RIP RAP ROCK COST

SALE NAME: Buster Camp
 PROJECT: No. 1
 QUARRY: Green Mountain #1

ROCK TYPE: Rip Rap

DATE: 01/17/2008
 BY: L. Freeman

Segment	Stations	Cubic Yards					Misc	Total
		Dissapator	Armor					
1G-1H	Pt. 1H						10	10
2C-2D	Sta. 0+00						10	10
2C-2D	Sta. 11+50						10	10
2E-2F	Sta. 0+40						10	10
2E-2F	Sta. 5+15						10	10
Grand Total							50	50

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	
1G-1H	Pt. 1H	10		1	2	1.50	1.25	0.40	0.10	5.75
2C-2D	Sta. 0+00	10		1	1	0.70	1.00	0.40	0.10	3.50
2C-2D	Sta. 11+50	10		1	1	1.00	0.90	0.40	0.10	3.70
2E-2F	Sta. 0+40	10		1	1	1.00	0.90	0.40	0.10	3.70
2E-2F	Sta. 5+15	10		1	1	1.00	0.90	0.50	0.10	4.00
TOTAL		50								
CUBIC YARD WEIGHTED HAUL		STA./NO. CU. YD.		0.60	0.98	1.04	0.99	0.42	0.10	AVERAGE HAUL 4.13
Average Round Trip Distance (miles) 8.26										

ROCK HAUL:

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

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

Ave haul: \$4.72 /cy
 Load: \$2.52 /cy
 Develop: _____ /cy

Production: cy/day = 247

RIP RAP ROCK HAUL COSTS

50 cy @ \$7.24 /cy

**Buster Camp
Project No. 4 Stream Enhancement**

Location	Site	No. Tops	Number of Logs	\$/Tree*	Number of Straw Bales	\$/Bale	Location Cost
SE1	1	4	8	\$225.00	6	\$10.00	\$2,760.00
SE2	2	6	9	\$225.00	6	\$10.00	\$3,435.00
SE3	3	6	8	\$225.00	7	\$10.00	\$3,220.00
SE4	4	5	9	\$225.00	8	\$10.00	\$3,230.00
SE5	5	4	7	\$225.00	6	\$10.00	\$2,535.00
SE6	6	6	13	\$225.00	8	\$10.00	\$4,355.00

Subtotal	\$19,535
Seed	\$140
Labor	\$592
Excavator Move-In	\$1,083
Project Total	\$21,350

Grass Seed 100lbs. @\$1.40 lb=\$140.00

Labor 16 hrs. @\$37.00 hrs.=592.00

*\$/Tree includes transportation cost of tree up to 1 mile.

SUMMARY OF ROCK DEVELOPMENT AND CRUSHING COSTS

PROJECT NO. 3

Timber Sale Name: **Buster Camp**

Quarry: Green Mountain No. 1

Swell: _____

Location: NW1/4, NE1/4, Sec 34, T5N, R6W

Shrink: 16%

County: Clatsop

By: d.mellison

Date: 01/17/08

ROCK SIZE	REJECT	GRADATION	STOCKPILE CU. YDS.	TRUCK MEAS CU. YDS.	TOTAL CU. YDS.
3/4"-0"		CR			
1-1/2"-0"	5%	CR	7,000	6,183	14,303
4"-0"		CR			
6"-0"		PR			
24"-6"		RR		50	50
36"		RR			
TOTAL CUBIC YARDS OF ROCK:			7,000	6,233	14,353

1) MOBILIZATION & SET UP:

EQUIPMENT MOBILIZATION	DISTANCE IN MILES	DIST. FACTOR	BASE RATE	COST
3 Stage Crusher	75	1.40	\$2,694	\$3,772
Screening Plants (2)	75	1.40	\$1,031	\$1,443
D8 Cat	75	1.40	\$1,180	\$1,652
Loader	75	1.40	\$676	\$946
Loader (Second Loader)	75	1.40	\$676	\$946
D6 cat	75	1.40	\$653	\$914
3 Dump Trucks	75	1.40	\$411	\$575
	75	1.40		
SUB TOTAL FOR MOBILIZATION				\$10,249

EQUIPMENT SET UP	TIMES	RATE	COST
3 Stage Crusher	1	\$3,205	\$3,205
Screening Plants (2)	1	\$539	\$539
SUB TOTAL FOR SET UP COSTS			\$3,744

TOTAL MOBILIZATION & SET UP COSTS **\$13,993**

2) CLEARING & GRUBBING

DESCRIPTION	QUANTITY	UNIT	RATE	COST
Scattering	0.7	acres	\$1,123	\$764
		hr		
		ea		

TOTAL CLEARING & GRUBBING COSTS **\$764**

3) EXCAVATION

MATERIAL DESCRIPTION	QUANTITY	UNIT	RATE	COST
Overburden removal (\$2.15/cy + \$1.28/cy = \$3.43/cy)	6,000	bcy	\$3.43	\$20,580

TOTAL EXCAVATION COSTS

\$20,580

4) DEVELOP ROCK

ROCK SUMMARY			METHOD	%	QUANTITY	RATE	COST
Type	Cu. yd. Vol.	Weight	Ripping	100%	14,353	\$2.20	\$31,577
crushed	14,303	100%	Drill & shoot			\$2.30	
pit run	0	0	Oversize red	2%	286	\$5.80	\$1,659
rip rap	50	0%	Other				
Total	14,353						
reject	715	5.0%					

TOTAL ROCK DEVELOPMENT COSTS

\$33,236

5) CALIBRATION & TESTING

DESCRIPTION	NO.	\$/TEST	COST
Calibrate	1	\$458.00	\$458
Calibrate			
Test	7	\$57.30	\$401
Test			

TOTAL CALIBRATION & TESTING COSTS

\$859

6) FEEDING & LOADING

DESCRIPTION	CU. YD. QUANTITY	COST CU. YD.	TOTAL COST
Dig & Feed Rock	15,018	\$0.73	\$10,975

TOTAL FEEDING & LOADING COSTS

\$10,975

7) ROCK CRUSHING

ROCK SIZE	ROCK TYPE	CU. YD. QUANTITY	CRUSHER TYPE	HOURLY PRODUCTIO	RATE CU. YD.	TOTAL COST
3/4"-0"	crushed	14,303	3 stage w/s		\$2.99	\$42,799
1-1/2"-0"	crushed		3 stage w/s	130		
4"-0"	crushed		2 stage			

TOTAL ROCK CRUSHING COSTS

\$42,799

8) STOCKPILING

STOCKPILE PREPARATION OR CONST	COST
Construct Stockpile Site	\$300
(See Footnote)	

SUB TOTAL \$300

HAUL & STOCKPILE STOCKPILE LOCATION	SIZE	# of TRUCKS	CU. YDS.	RATE	COST
1. _____					
2. _____	1-1/2"-0"	3	8,120	\$2.82	\$22,877
3. _____					
4. _____					
5. _____					
6. _____					

SUB TOTAL \$22,877

TOTAL STOCKPILING COSTS **\$23,177**

9) MISCELLANEOUS COSTS

DESCRIPTION	COST
Load, Haul, and Spread the reject material at the waste area.	\$1,538
\$2.15 /cy 715 cy	
Final Quarry Dev., Access Road Const., Waterbarring, Drainage, Block Quarry Access: (D8 @ \$132/hr * 4 hrs. =	\$528

TOTAL MISCELLANEOUS COSTS **\$2,066**

10) GRAND TOTAL: **\$148,448**

\$/Cubic Yard \$10.38

Footnotes:

Construct/Reconstruct Stockpile Floor

Equipment	Hours	Rate	Total
Dozer	1	\$120.00	\$120.00
Compactor		\$72.00	
Grader	2	\$90.00	\$180.00
Excavator		\$138.00	
			\$300.00

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

Total Construct Stockpile Floor \$300.00

CRUSHED ROCK COST

SALE NAME: Buster Camp
 PROJECT: Crushing
 QUARRY: Green Mountain #1

ROCK TYPE: Reject

DATE: 10/30/07
 BY: d.mellison

Segment	Stations	Cubic Yards							Total
		Base	Running	Turnout	Turnaround	Junction	Reject	Misc	
							637		637
Grand Total							637		637

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	
		637						0.05	0.05	0.10
TOTAL		637						0.05	0.05	AVERAGE HAUL 0.10
	STA./NO.	CU. YD.								
	CUBIC YARD WEIGHTED HAUL							0.05	0.05	0.10
								Average Round Trip Distance (miles)		0.20

ROCK HAUL:

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

Truck type: D12 No. trucks: 1
 Delay min.: 6 Efficiency: 85%

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

Ave haul: \$0.67 /cy
 Load: \$0.53 /cy
 Spread: \$0.95 /cy

Production: cy/day = 709

CRUSHED ROCK HAUL COSTS 637 cy @ \$2.15 /cy

SUMMARY OF ROCK DEVELOPMENT AND CRUSHING COSTS

PROJECT NO. 3

Timber Sale Name: **Buster Camp**

Quarry: Green Mountain No. 2

Swell: _____

Location: NE1/4, NE1/4, Sec 34, T5N, R6W

Shrink: 16%

County: Clatsop

By: d.mellison

Date: 01/17/08

ROCK SIZE	REJECT	GRADATION	STOCKPILE CU. YDS.	TRUCK MEAS CU. YDS.	TOTAL CU. YDS.
3/4"-0"		CR	_____	_____	_____
1-1/2"-0"		CR	_____	_____	_____
4"-0"	5%	CR	_____	5,808	5,808
6"-0"		PR	_____	600	600
24"-6"		RR	_____	_____	_____
36"		RR	_____	_____	_____
TOTAL CUBIC YARDS OF ROCK:				6,408	6,408

1) MOBILIZATION & SET UP:

EQUIPMENT MOBILIZATION	DISTANCE IN MILES	DIST. FACTOR	BASE RATE	COST
3 Stage Crusher	75	1.40	\$2,694	\$3,772
Screening Plants (2)	75	1.40	\$1,031	\$1,443
D8 Cat	75	1.40	\$1,180	\$1,652
Loader	75	1.40	\$676	\$946
Loader (Second Loader)	75	1.40	\$676	\$946
1 Dump Trucks	75	1.40	\$137	\$192
Excavator	75	1.40	\$1,180	\$1,652
SUB TOTAL FOR MOBILIZATION				\$10,603

EQUIPMENT SET UP	TIMES	RATE	COST
3 Stage Crusher	1	\$3,205	\$3,205
Screening Plants (2)	1	\$539	\$539
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
SUB TOTAL FOR SET UP COSTS			\$3,744

TOTAL MOBILIZATION & SET UP COSTS

\$14,347

2) CLEARING & GRUBBING

DESCRIPTION	QUANTITY	UNIT	RATE	COST
Pile and Burn	0.1	acres	\$2,268	\$227
Misc Excavator time	3.0	hours	\$138	\$414
Move in Fire Truck	1.0	each	\$137	\$137
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

TOTAL CLEARING & GRUBBING COSTS

\$778

3) EXCAVATION

MATERIAL DESCRIPTION	QUANTITY	UNIT	RATE	COST
Overburden and poor rock removal (excavate, haul, spread)	1,500	bcy	\$2.15	\$3,225

TOTAL EXCAVATION COSTS \$3,225

4) DEVELOP ROCK

ROCK SUMMARY			METHOD	%	QUANTITY	RATE	COST	
Type	Cu. yd.	Vol.	Weight	Ripping	100%	6,408	\$2.20	\$14,098
crushed	5,808	91%	Drill & shoot			\$2.30		
pit run	600	9%	Oversize red			\$5.80		
rip rap	0	0	Other					
Total	6,408							
reject	290	4.5%						

TOTAL ROCK DEVELOPMENT COSTS \$14,098

5) CALIBRATION & TESTING

DESCRIPTION	NO.	\$/TEST	COST
Calibrate	1	\$458.00	\$458
Calibrate			
Test	3	\$57.30	\$172
Test			

TOTAL CALIBRATION & TESTING COSTS \$630

6) FEEDING & LOADING

DESCRIPTION	CU. YD. QUANTITY	COST CU. YD.	TOTAL COST
Dig & Feed Rock	6,098	\$0.68	\$4,138

TOTAL FEEDING & LOADING COSTS \$4,138

7) ROCK CRUSHING

ROCK SIZE	ROCK TYPE	CU. YD. QUANTITY	CRUSHER TYPE	HOURLY PRODUCTIO	RATE CU. YD.	TOTAL COST
3/4"-0"	crushed	5,808	3 stage w/s	126	\$2.05	\$11,906
1-1/2"-0"	crushed		3 stage w/s	138		
4"-0"	crushed		2 stage	140		

TOTAL ROCK CRUSHING COSTS \$11,906

8) STOCKPILING

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

SUB TOTAL

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

SUB TOTAL

TOTAL STOCKPILING COSTS

9) MISCELLANEOUS COSTS

DESCRIPTION	COST
Load, Haul, and Spread the reject material at the waste area.	\$857
\$2.15/CY 290 CY	
Final Quarry Dev., Access Road Const., Waterbarring, Drainage, Block Quarry Access (D8 @ \$132/hr * 4 hrs. = \$528	\$528

TOTAL MISCELLANEOUS COSTS

\$1,385

10) GRAND TOTAL:

\$50,507

\$/Cubic Yard

\$8.70

Footnotes:

Construct/Reconstruct Stockpile Floor

Equipment	Hours	Rate	Total
Dozer		\$120.00	
Compactor		\$72.00	
Grader		\$90.00	
Excavator		\$138.00	

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

Total Construct Stockpile Floor

CRUSHED ROCK COST

SALE NAME: Buster Camp
 PROJECT: Overburden/poor rock haul
 QUARRY: Green Mountain #2

ROCK TYPE: Waste

DATE: 10/31/07
 BY: d.mellison

Segment	Stations	Cubic Yards							Total
		Base	Running	Turnout	Turnaround	Junction	Waste	Misc	
							1,000		1,000
Grand Total							1,000		1,000

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		
		1,000							0.05	0.05	0.10
TOTAL		1,000									
	STA./NO.	CU. YD.							0.05	0.05	AVERAGE HAUL
CUBIC YARD WEIGHTED HAUL											0.10
									Average Round Trip Distance (miles)		0.20

ROCK HAUL:

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

Truck type: D12 No. trucks: 1
 Delay min.: 6 Efficiency: 85%

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

Ave haul: \$0.67 /cy
 Load: \$0.53 /cy
 Spread: \$0.95 /cy

Production: cy/day = 709

CRUSHED ROCK HAUL COSTS 1,000 cy @ \$2.15 /cy

Road Maintenance after completion of Projects

Sale: Buster Camp
Date: 26-Nov-07
By: L. Freeman

Type	Equipment/Rationale	Hours	Rate	Cost
Final Haul Road Maintenance Haul Route	Grader 14G Dump Truck 12CY x 2 FE Loader C966 Vibratory Roller Water Truck 2,500 gallon	15 10 8 15 8	\$90 \$73 \$74 \$72 \$78	\$1,350 \$730 \$592 \$1,080 \$624
Total				\$4,376

Miles/day	Distance(miles)	Days
1.5	2.2	1.5
1.5	2.2	1.5

Production Rates
 Grader
 Vibratory Roller

Road Maintenance Cost Summary

Sale: Buster Camp
 Date: 18-Dec-07
 By: L. Freeman

MBF: 7,309
 \$\$/MBF: \$5.53

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost	Production Rates			
							Miles/day	Distance(miles)	Days	
Progressive Operations 1st Entry	Grader 14G	\$570	1	36	\$90	\$3,240	Production Rates	Miles/day	Distance(miles)	Days
	Dump Truck 12CY x 2	\$357	2	16	\$73	\$2,336	Grader	2.5	9.0	3.6
	FE Loader C966	\$570	1	8	\$74	\$592				
Progressive Operations 2nd Entry	Grader 14G	\$570	1	36	\$90	\$3,240	Production Rates	Miles/day	Distance(miles)	Days
	Dump Truck 12CY x 2	\$357	2	16	\$73	\$2,336	Grader	2.5	9.0	3.6
	FE Loader C966	\$570	1	8	\$74	\$592				
Final Road Maintenance	Grader 14G	\$570	1	90	\$90	\$8,100	Production Rates	Miles/day	Distance(miles)	Days
	Dump Truck 12CY x 3	\$357	3	30	\$73	\$6,570	Grader	1.5	13.5	9.0
	FE Loader C966	\$570	1	20	\$74	\$1,480	Vibratory Roller*	1.5	13.5	9.0
	Vibratory Roller	\$570	1	90	\$72	\$6,480				
	Water Truck 2,500 gallon Labor	\$139	1	60	\$78	\$4,680				
				20	\$37	\$740				
Total										
										\$40,386

*Final Road Maintenance Only

x:\Jewell_Unit\Timber Sales\2008\Buster Camp\Road Maint.Harvest

**Buster Camp
TIMBER CRUISE REPORT
FY 2008**

1. **Sale Area Location:** Areas 1, 2, 3, 4, and 5 are located in Portions of Sections 14, 15, 22, 23, 26, and 27, T5N, R6W, W.M., Clatsop County, Oregon.
2. **Fund Distribution:** BOF 100%
Tax Code 8-01 (100%)

3. **Sale Acreage by Area:**

Area	Treatment	Gross Acres	Existing R/W	New R/W	GTRA	Non-Thinnable	Stream Buffer	Net Acres	Survey Method
1	Partial Cut	121	6	7	0	0	7	101	GIS
2	Partial Cut	108	8	0	0	0	5	95	GIS
3	Modified Clearcut	39	2	1	1	0	1	34	GIS
4	Partial Cut	48	1	2	0	0	4	41	GIS
5 R/W	Right-of-way	n/a	0	0	0	0	0	10	GIS
TOTALS		316	17	10	1	0	17	281	

4. **Cruisers and Cruise Dates:** Areas 1, 2, 3, 4, and 5 were cruised by Derek Bangs, Jon Long, Peter Stone, Jasen McCoy, Lanny Freeman and Jenny Laughman, in September, 2007.

5. **Cruise Method and Computation:**

AREAS 1, 2, and 4 are "auto-mark" thinning units and were variable plot cruised using a 40 BAF. These plots are located on a 4 chain by 9 chain grid, with every third plot measured and graded. A total of 77 plots were sampled, with 28 measured and graded plots, and 49 count plots. Cedar is a reserve species, and were recorded as "leave" trees. The "biggest and best" trees were recorded as "leave" trees to meet a target residual basal area of 140 ft²/acre. Hardwoods counted towards the residual basal area where there was insufficient conifer basal area to meet 140 square feet.

AREA 3 is a modified clearcut unit and was variable plot cruised using a 40 BAF. These plots are located on a 2 chain by 4 chain grid, with every third plot measured and graded. A total of 40 plots were sampled, with 13 measured and graded plots, and 27 count plots. Cedar is a reserve species.

AREA 5 R/W The right-of-way volume was calculated by multiplying the R/W acreage and the average volume per acre from the plots in Areas 1, 2, and 4. In-sale right-of-way totals 10 acres.

All cruisers used Corvallis MicroTechnology (CMT) and/or Allegro data collectors, and were downloaded to the Atterbury Super A.C.E. program in District for computing. See the attached Cruise Design for more details on the cruise method. The cruise calculations were processed in the Astoria district office.

AREA	CRUISE	TRACT	TYPE	ACRES
1, 2, and 4	05N06W SEC 23	124 BA140	TAKE	237
3	05N06W SEC 22	TAKE	00CC	34
5 R/W	05N06W SEC 23	Right of way	R/W	10

6. **Timber Description** Areas 1, 2, and 4 are "auto-mark" thinning units, approximately 65 years old, consisting of Douglas-fir stands with the occasional western hemlock, red alder, and cedar. Some small, non-thinnable pockets are scattered throughout the unit. This stand will be thinned to a SDI of 30 (140 Sq.Ft.BA), removing approximately 64 trees per acre and 24 MBF/acre. The average conifer "take" tree size is 20 inches DBH and 76 feet to a merchantable top (6 inch d.i.b.).

Area 3 is a modified clearcut unit, approximately 60 years old, consisting of a Douglas-fir, red alder, cedar, and an occasional western hemlock. The average Douglas-fir tree size to be harvested in Area 3 is 25 inches DBH, with an average height of 81 feet to a merchantable top (6 inch d.i.b.). The average alder tree size is 16 inches DBH and 54 feet to a merchantable top (6 inch d.i.b.). The average hemlock tree size is 12 inches DBH and 31 feet to a merchantable top (6 inch d.i.b.). The average volume per acre to be harvested (net) is 33 MBF.

Area 5 R/W is similar to the timber description mentioned above for Areas 1, 2, and 4. The average volume (net) is approximately 56 MBF/acre.

7. Statistical Analysis and Stand Summary: (See "Statistics" - Type Reports, attached)

Statistics for Stand B.F. volumes

Area	Estimated CV	Target SE%	Actual CV	Actual SE%
1, 2, 4 (PC)	50%	7%	58.1%	6.7%
3 (MC)	50%	10%	68.0%	10.7%

* Statistics for the thinning units (Areas 1, 2 and 4) is for the take stand 140 BA.

8. Volumes by Species and Log Grade: (See "Species, Sort, Grade - Type and Project Reports, attached, of individual sale areas and combined areas and two cruise types).

Volumes by Species and Grade for All Sale Areas: (MBF) Volumes do not include "in-growth."

Species	DBH	Net Vol.	2 Saw	3Saw	4 Saw	CampRun	% D & B	% Sale
Douglas-fir	21"	6,290	4,975	1,098	217	0	2%	86%
Alder	17"	455	0	0	0	455	1%	6%
Hemlock	16"	557	213	249	95	0	2%	7%
Cedar	19"	6	3	2	1	0	<1%	<1%
Big Leaf Maple	14"	1	0	0	0	1	<1%	<1%
TOTALS		7,309	5,191	1,349	313	456		

9. Approvals:

Prepared by: Lanny Freeman Date: December 18, 2007

Unit Forester Approval:  Date: 1/14/08

10. Attachments:

- Cruise Designs (2)
- Cruise Maps (1)
- Volume Reports - 4 pages
- Statistics Report - 9 pages
- Stand Tables - 1 page
- Log Stock Tables - 3 pages

X:\Jewell_Unit\Timber Sales\2008\Buster Camp\Pre-sale\CruiseReport.doc

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Buster Camp **Area(s)** 3

Harvest Type: (MC) "Modified Clearcut"

Approx. Cruise Acres: 34 **Estimated CV%** 50 Net BF **SE% Objective** 10 Net BF

Planned Sale Volume : 1,360 MBF **Estimated Sale Area Value/Acre:** \$16,000/Ac
(Area 3) (40 MBF/Ac.)

A. Cruise Goals: (a) Grade minimum 50 conifer:
(b) Sample 41 cruise plots (14 grade/27 count); (c) Other goals (Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes.

B. Cruise Design:

- 1. Plot Cruises:** BAF 40 (Full point; Half point) (circle one)
Cruise Line Direction(s) AZ= 90° (East/West)
Cruise Line Spacing 4 (chains)
Cruise Plot Spacing 2 (chains)
Grade/Count Ratio 1/2

Cruise all take and leave trees. If a cruise line ends up paralleling in a buffer offset by 1 or 2 chains and continue. All cedar and marked wildlife trees are leave trees and are recorded as leave trees.

C. Tree Measurements:

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

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

6. **Species, Sort, and Grade Codes:**

- A. **Species:** Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple). For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DL, HL, CL, etc.)
- B. **Sort:** Use code "1" (Domestic).
- C. **Grade:** A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; 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 inter-visible 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.

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

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

Cruise Design by: Derek Bangs
Approved by: *Jon Long*
Date: 9/18/07

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Buster Camp **Area(s)** 1, 2, & 4

Harvest Type: (PC) "Automark Thinning"

Approx. Cruise Acres: 234 **Estimated CV%** 50 Net BF **SE% Objective** 7 Net BF

Planned Sale Volume : 3,744 MBF **Estimated Sale Area Value/Acre:** \$6,400/Ac
(Areas 1, 2, & 4) (16 MBF/Ac.)

A. Cruise Goals: (a) Grade minimum 100 conifer:
(b) Sample 76 cruise plots (27 grade/49 count); (c) Other goals (Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes.

B. Cruise Design:

1. Plot Cruises: BAF 40 (Full point; Half point) (circle one)
Cruise Line Direction(s) AZ= 90° (East/West) AZ = 360° Lines 6-10
Cruise Line Spacing 4 (chains)
Cruise Plot Spacing 9 (chains)
Grade/Count Ratio 1/2

Basal Area leave target 120 sq. ft. Cruiser needs to select 3 leave trees per plot. Cruise all take and leave trees. If a cruise line ends up paralleling in a buffer offset by 1 or 2 chains and continue. Alder will be thinned and will count towards basal area. All cedar are leave trees and count towards the leave tree basal area.

C. Tree Measurements:

- 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 10" for hardwoods. Record dbh to nearest $\frac{1}{2}$ " 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" for conifers and 7" for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for trees > 18" dbh.
- 4. Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.

5. **Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch. segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.
6. **Species, Sort, and Grade Codes:**
- A. **Species:** Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple). For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DL, HL, CL, etc.)
- B. **Sort:** Use code "1" (Domestic).
- C. **Grade:** A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; 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 inter-visible 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.
9. **Cruising Equipment:** Relaskop, Rangefinder, Logger's Tape (with dbh on back) Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.
10. **Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: Derek Bangs
 Approved by: *Jon Long*
 Date: 9/18/07

Buster Camp Timber Cruise

Spacing
 Thinning - 4 x 9 chain
 Clearcut - 2 x 4 chain

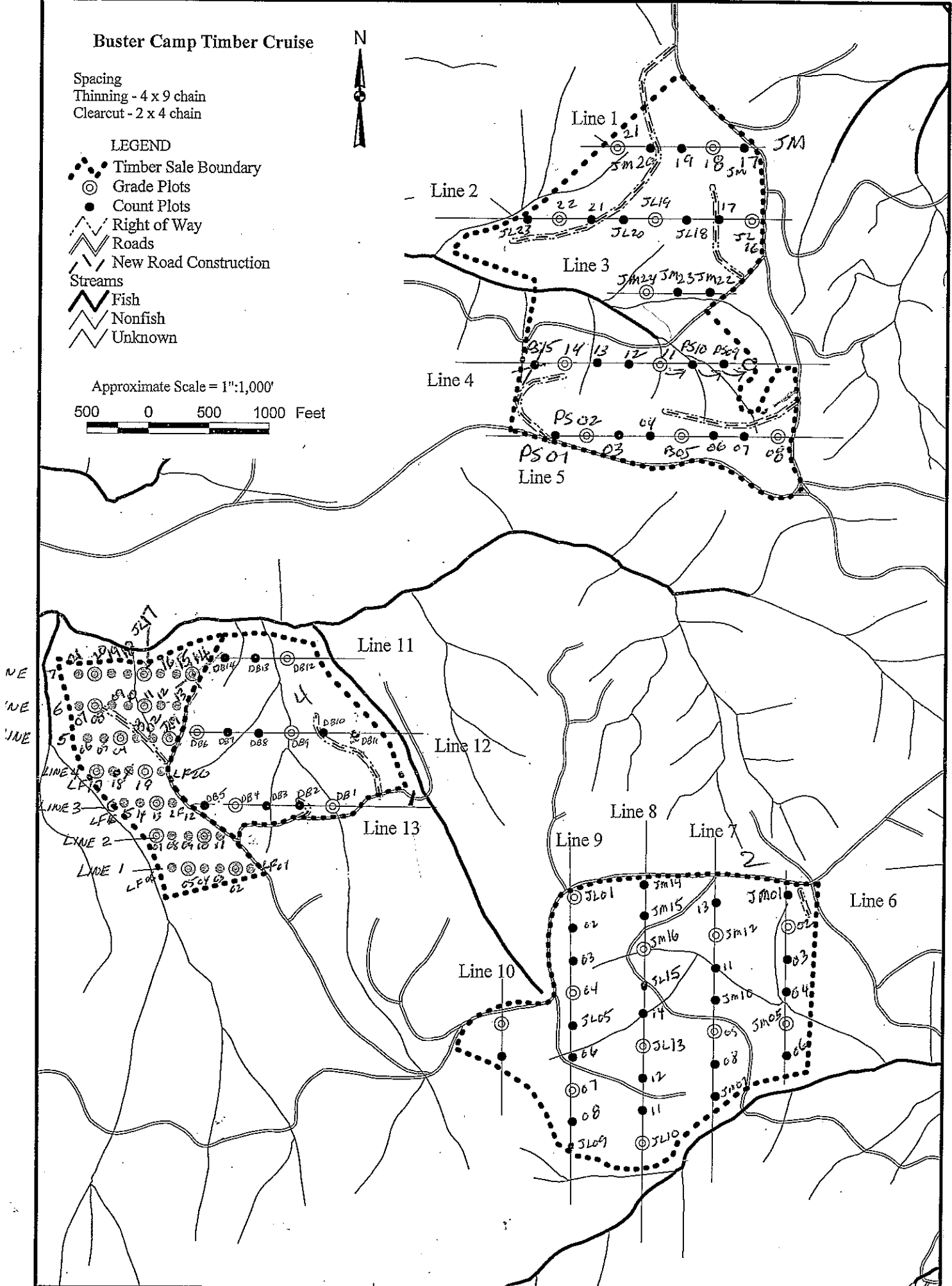


LEGEND

- Timber Sale Boundary
- Grade Plots
- Count Plots
- Right of Way
- Roads
- New Road Construction
- Streams
- Fish
- Nonfish
- Unknown

Approximate Scale = 1"=1,000'

500 0 500 1000 Feet



Species, Sort Grade - Board Foot Volumes (Project)

T05N R06W S22 Ty00CC	34.00	Project: CAMP Acres 281.00	Page 1 Date 12/27/2007 Time 9:05:31AM
T05N R06W S23 TyTAKE	237.00		
T05N R06W S23 TyR/W	10.00		

S Spp	So Gr T rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of 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						
A	DOCU																			
A	DOCR	100	.7	1,630	1,618	455		56	44		3	33	31	33	7	94	0.00			.4
A Totals		6	.7	1,630	1,618	455		56	44		3	33	31	33	30	91	0.93			17.7
D	DOCU														14		0.00			6.6
D	DO2S	79	1.2	17,923	17,705	4,975		2	46	52	1	2	40	57	35	347	2.10			51.0
D	DO3S	17	1.2	3,958	3,910	1,099		97	2	0	1	7	56	36	33	92	0.82			42.4
D	DO4S	4	.7	778	772	217		100			34	41	25	1	23	33	0.50			23.4
D Totals		86	1.2	22,659	22,388	6,291		22	37	41	2	4	42	51	31	181	1.36			123.4
H	DOCU														10		0.00			.0
H	DO2S	38	1.4	770	759	213		1	91	8			54	46	35	275	1.80			2.8
H	DO3S	45	.0	886	886	249		87	13		0	0	17	83	39	135	0.99			6.6
H	DO4S	17	2.7	346	337	95		12	88		34	55	11		24	30	0.53			11.1
H Totals		8	1.0	2,002	1,982	557		2	54	40	3	6	9	30	30	97	0.92			20.4
C	DO2S	51	1.9	12	11	3			63	37			25	75	37	331	3.06			.0
C	DO3S	37		8	8	2		100				6	39	55	36	83	1.09			.1
C	DO4S	12		3	3	1		100			32	68			21	26	0.53			.1
C Totals		0	1.0	23	22	6		49	32	19	4	10	27	59	30	95	1.28			.2
M	DOCR	100	15.4	2	2	1		100			18	82			25	55	0.72			.0
M Totals		0	15.4	2	2	1		100			18	82			25	55	0.72			.0
Totals			1.2	26,316	26,012	7,309		0	26	38	36	3	6	41	50	31	161	1.26		161.8

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)								Page 1										
		Project: CAMP								Date 12/27/2007										
										Time 9:01:38AM										
T05N R06W S22 T00CC										T05N R06W S22 T00CC										
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt											
05N	06W	22	TAKE	00CC	34.00	40	79	1	W											
Spp	So	Gr	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre	
				Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/Lf		
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
D	DO	2S	87	1.2	18,841	18,612	633			30	70			40	60	36	455	2.65	40.9	
D	DO	3S	11	1.4	2,484	2,450	83		86	14		9	12	38	41	30	84	0.98	29.0	
D	DO	4S	2		248	248	8		100			32	68			24	34	0.57	7.3	
D	Totals		65	1.2	21,573	21,310	725		11	28	61	1	2	39	57	33	276	1.93	77.2	
A	DO	CU														25		0.00	.1	
A	DO	CR	100	.9	9,965	9,872	336		66	34		4	41	23	32	30	91	0.88	108.8	
A	Totals		30	.9	9,965	9,872	336		66	34		4	41	23	32	30	91	0.88	108.9	
H	DO	2S	43	.7	724	719	24			74	26			30	70	39	253	1.48	2.8	
H	DO	3S	21		350	350	12		94	6			3	94	2	32	118	1.07	3.0	
H	DO	4S	36		592	592	20		100			51	49			21	27	0.45	22.0	
H	Totals		5	.3	1,666	1,661	56		55	33	11	18	18	33	31	24	60	0.70	27.9	
Type Totals					1.1	33,204	32,843	1,117		30	30	40	3	15	34	48	30	153	1.27	214.0

T05N R06W S23 TTAKE									T05N R06W S23 TTAKE			
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt			
05N	06W	23	124_BA140	TAKE	237.00	77	85	1	W			

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre	
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf		
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
D		DO	CU														14		0.00	7.5	
D		DO	2S	77	1.2	16,709	16,501	3,911		2	50	48		1	2	42	55	35	328	2.00	50.3
D		DO	3S	19	1.2	4,089	4,040	957		99	1			0	7	58	35	33	93	0.81	43.5
D		DO	4S	4	.7	836	830	197		100				34	40	26		23	33	0.50	25.2
D	Totals			90	1.2	21,634	21,370	5,065		24	39	37		2	5	44	49	31	169	1.28	126.6
H		DO	2S	35	1.5	693	683	162				100				59	41	34	272	1.82	2.5
H		DO	3S	49		951	951	225			87	13				13	87	39	136	0.99	7.0
H		DO	4S	16	3.4	309	299	71	16	84				29	57	14		24	31	0.55	9.5
H	Totals			8	1.1	1,954	1,933	458	2	56	42			4	9	29	57	31	102	0.94	19.0
A		DO	CU															6		0.00	.5
A		DO	CR	100		475	475	113		27	73			1	9	53	37	30	104	1.11	4.6
A	Totals			2		475	475	113		27	73			1	9	53	37	27	94	1.09	5.1
Type Totals					1.2	24,063	23,778	5,635	0	27	40	33		2	5	43	49	31	158	1.23	150.6

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)							Page 1												
		Project: CAMP							Date 12/27/2007												
									Time 9:02:39AM												
T05N R06W S23 TR/W								T05N R06W S23 TR/W													
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt												
05N	06W	23	RIGHT_OF_WAY	R/W	10.00	77	183	1	W												
Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre	
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf		
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
D		DO	CU														13		0.00	8.3	
D		DO	2S	86	.9	43,563	43,163	432		1	32	67		0	2	26	72	37	430	2.40	100.4
D		DO	3S	11	1.2	5,874	5,801	58		93	3	4		2	14	48	36	33	96	0.88	60.7
D		DO	4S	3	.5	1,208	1,202	12		100				37	35	17	11	23	35	0.52	34.8
D	Totals			90	.9	50,645	50,166	502		14	28	58		2	4	28	66	32	246	1.68	204.2
H		DO	CU														10		0.00	.5	
H		DO	2S	63	1.6	2,739	2,696	27		4	53	43				44	56	35	324	2.08	8.3
H		DO	3S	28	.5	1,174	1,168	12		89	11			2		18	80	38	122	0.98	9.6
H		DO	4S	9	2.9	380	368	4	14	86				32	56	12		24	31	0.55	11.8
H	Totals			8	1.4	4,292	4,232	42	1	35	37	27		3	5	34	58	31	140	1.19	30.2
C		DO	2S	51	1.9	329	322	3			63	37				25	75	37	331	3.06	1.0
C		DO	3S	37		233	233	2		100					6	39	55	36	83	1.09	2.8
C		DO	4S	12		75	75	1		100				32	68			21	26	0.53	2.9
C	Totals			1	1.0	637	630	6		49	32	19		4	10	27	59	30	95	1.28	6.7
A		DO	CU														6		0.00	.5	
A		DO	CR	100	1.3	655	647	6		41	59			1	12	58	30	29	95	1.03	6.8
A	Totals			1	1.3	655	647	6		41	59			1	12	58	30	27	89	1.02	7.3
M		DO	CR	100	15.4	63	53	1		100				18	82			25	55	0.72	1.0
M	Totals			0	15.4	63	53	1		100				18	82			25	55	0.72	1.0
Type Totals					1.0	56,293	55,729	557	0	16	29	55		2	4	29	65	32	223	1.59	249.4

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	CAMP			DATE	12/27/2007	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	23	124 BA140	TAKE	237.00	77	260	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		77	260	3.4						
CRUISE		24	84	3.5	15,074		.6			
DBH COUNT										
REFOREST										
COUNT		48	175	3.6						
BLANKS		5								
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	70	49.3	20.6	82		113.8	21,634	21,370	5,020	5,020
WHEMLOCK	9	11.7	16.1	53		16.6	1,954	1,933	555	555
R ALDER	5	2.6	18.1	55		4.7	475	475	150	150
TOTAL	84	63.6	19.7	76		135.1	24,063	23,778	5,725	5,725
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	71.8	8.6	551	603	655					
WHEMLOCK	82.7	29.2	151	213	276					
R ALDER	23.6	11.7	164	186	208					
TOTAL	79.4	8.7	490	537	583	252	63	28		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	67.9	7.7	45	49	53					
WHEMLOCK	224.1	25.5	9	12	15					
R ALDER	388.3	44.2	1	3	4					
TOTAL	60.7	6.9	59	64	68	147	37	16		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	65.8	7.5	105	114	122					
WHEMLOCK	222.0	25.3	12	17	21					
R ALDER	391.9	44.6	3	5	7					
TOTAL	56.0	6.4	126	135	144	125	31	14		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	67.5	7.7	19,728	21,370	23,012					
WHEMLOCK	228.4	26.0	1,430	1,933	2,435					
R ALDER	392.1	44.6	263	475	688					
TOTAL	59.5	6.8	22,167	23,778	25,389	141	35	16		

TC TSTATS		STATISTICS				PAGE 1				
		PROJECT		CAMP		DATE 12/27/2007				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	23	LEAVE BA140	00PC	237.00	77	271	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		77	271	3.5						
CRUISE		28	97	3.5	9,053	1.1				
DBH COUNT										
REFOREST										
COUNT		49	174	3.6						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUGLEAV	82	27.2	28.0	101		115.8	28,635	28,414	5,919	5,919
HEMLEAV	6	4.3	23.9	84		13.5	2,514	2,471	600	600
CEDLEAV	7	4.9	18.6	43		9.4	637	630	253	253
ALDRLEAV	1	1.3	15.0	56		1.6	190	178	53	53
MAPLELV	1	.5	14.0	50		.5	63	53	17	17
TOTAL	97	38.2	26.0	90		140.8	32,039	31,747	6,843	6,843
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	43.9	4.8	1,167	1,226	1,285					
HEMLEAV	49.3	21.9	493	632	770					
CEDLEAV	102.8	41.8	133	229	324					
ALDRLEAV										
MAPLELV										
TOTAL	54.4	5.5	1,034	1,094	1,155	118	30	13		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	39.8	4.5	26	27	28					
HEMLEAV	213.0	24.3	3	4	5					
CEDLEAV	278.2	31.7	3	5	7					
ALDRLEAV	650.6	74.1	0	1	2					
MAPLELV	877.5	99.9	0	0	1					
TOTAL	40.0	4.6	36	38	40	64	16	7		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	35.2	4.0	111	116	120					
HEMLEAV	212.7	24.2	10	14	17					
CEDLEAV	258.7	29.5	7	9	12					
ALDRLEAV	650.6	74.1	0	2	3					
MAPLELV	877.5	99.9	0	1	1					
TOTAL	18.2	2.1	138	141	144	13	3	1		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	36.3	4.1	27,239	28,414	29,589					
HEMLEAV	217.0	24.7	1,860	2,471	3,081					
CEDLEAV	255.9	29.1	447	630	814					
ALDRLEAV	650.6	74.1	46	178	309					
MAPLELV	877.5	99.9	0	53	107					
TOTAL	23.5	2.7	30,898	31,747	32,595	22	6	2		

TC TSTATS		STATISTICS							PAGE 1	
		PROJECT		CAMP			DATE 1/11/2008			
TWP	RGE	SECT	TRACT	PC Total	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	06W	23	124	BA140	00PC	237.00	77	542	1	W
		PLOTS		TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES			
TOTAL		77	542	7.0						
CRUISE		28	185	6.6	25,164	.7				
DBH COUNT REFOREST COUNT		49	356	7.3						
BLANKS		100 %								
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUGLEAV	82	27.2	28.0	101		115.8	28,635	28,414	5,919	5,919
DOUG FIR	71	51.3	20.2	80		114.3	21,573	21,312	5,011	5,011
WHEMLOCK	9	11.7	16.1	53		16.6	1,954	1,933	555	555
HEMLEAV	6	4.2	23.9	84		13.0	2,417	2,376	577	577
CEDLEAV	7	4.9	18.6	43		9.4	637	630	253	253
SNAG	3	2.6	20.2	32		5.7				
R ALDER	5	2.6	18.1	55		4.7	475	475	150	150
ALDRLEAV	1	1.3	15.0	56		1.6	190	178	53	53
MAPLELV	1	.5	14.0	50		.5	63	53	17	17
TOTAL	185	106.2	22.1	79		281.6	55,944	55,371	12,535	12,535
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	43.9	4.8	1,167	1,226	1,285					
DOUG FIR	73.0	8.7	544	595	647					
WHEMLOCK	82.7	29.2	151	213	276					
HEMLEAV	49.3	21.9	493	632	770					
CEDLEAV	102.8	41.8	133	229	324					
SNAG										
R ALDER	23.6	11.7	164	186	208					
ALDRLEAV										
MAPLELV										
TOTAL	73.1	5.4	774	818	862	213	53	24		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	39.8	4.5	26	27	28					
DOUG FIR	66.0	7.5	47	51	55					
WHEMLOCK	224.1	25.5	9	12	15					
HEMLEAV	202.9	23.1	3	4	5					
CEDLEAV	278.2	31.7	3	5	7					
SNAG	307.1	35.0	2	3	3					
R ALDER	388.3	44.2	1	3	4					
ALDRLEAV	650.6	74.1	0	1	2					
MAPLELV	877.5	99.9	0	0	1					
TOTAL	40.1	4.6	101	106	111	64	16	7		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV	35.2	4.0	111	116	120					
DOUG FIR	64.9	7.4	106	114	123					
WHEMLOCK	222.0	25.3	12	17	21					
HEMLEAV	202.6	23.1	10	13	16					
CEDLEAV	258.7	29.5	7	9	12					

STATISTICS
PROJECT CAMP

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	06W	23	124 BA140	00PC	237.00	77	542	1	W
CL: 68.1%		COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
SNAG		294.2	33.5	4	6	8			
R ALDER		391.9	44.6	3	5	7			
ALDRLEAV		650.6	74.1	0	2	3			
MAPLELV		877.5	99.9	0	1	1			
TOTAL		29.7	3.4	272	282	291	35	9	4
CL: 68.1%		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUGLEAV		36.3	4.1	27,239	28,414	29,589			
DOUG FIR		67.0	7.6	19,685	21,312	22,938			
WHEMLOCK		228.4	26.0	1,430	1,933	2,435			
HEMLEAV		207.4	23.6	1,815	2,376	2,937			
CEDLEAV		255.9	29.1	447	630	814			
SNAG									
R ALDER		392.1	44.6	263	475	688			
ALDRLEAV		650.6	74.1	46	178	309			
MAPLELV		877.5	99.9	0	53	107			
TOTAL		30.5	3.5	53,449	55,371	57,293	37	9	4

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	CAMP			DATE	12/27/2007	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	22	TAKE	00CC	34.00	40	269	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		40	269	6.7						
CRUISE		13	79	6.1	4,032		2.0			
DBH COUNT										
REFOREST										
COUNT		27	190	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
DOUG FIR	35	32.6	25.1	81		111.8	21,573	21,310	4,868	4,868
R ALDER	35	63.6	16.0	54		88.3	9,965	9,872	2,923	2,923
WHEMLOCK	9	22.3	12.6	31		19.4	1,666	1,661	474	474
TOTAL	79	118.6	18.4	57		219.5	33,204	32,843	8,265	8,265
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	55.3	9.3	760	839	917					
R ALDER	52.3	8.8	158	174	189					
WHEMLOCK	120.7	42.6	256	446	635					
TOTAL	95.4	10.7	446	499	553	363	91	40		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	102.2	16.2	27	33	38					
R ALDER	117.7	18.6	52	64	75					
WHEMLOCK	158.4	25.0	17	22	28					
TOTAL	76.0	12.0	104	119	133	231	58	26		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	95.1	15.0	95	112	129					
R ALDER	115.1	18.2	72	88	104					
WHEMLOCK	154.0	24.3	15	19	24					
TOTAL	67.2	10.6	196	220	243	180	45	20		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	92.9	14.7	18,184	21,310	24,436					
R ALDER	119.9	18.9	8,002	9,872	11,742					
WHEMLOCK	158.9	25.1	1,244	1,661	2,078					
TOTAL	68.0	10.7	29,317	32,843	36,369	184	46	20		

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT	CAMP	DATE 12/27/2007				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	23	RIGHT OF WAY	R/W	10.00	77	531	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		77	531	6.9						
CRUISE		28	182	6.5	1,023		17.8			
DBH COUNT										
REFOREST										
COUNT		49	348	7.1						
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
DOUG FIR	153	76.8	23.4	88		230.1	50,645	50,166	10,984	10,984
WHEMLOCK	15	16.3	18.3	60		29.6	4,292	4,232	1,119	1,119
WR CEDAR	7	4.9	18.6	43		9.4	637	630	253	253
R ALDER	6	3.8	17.4	55		6.2	655	647	202	202
BL MAPLE	1	.5	14.0	50		.5	63	53	17	17
TOTAL	182	102.3	22.2	80		275.8	56,293	55,729	12,576	12,576
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		62.5	5.1	886	933	980				
WHEMLOCK		82.0	21.9	297	381	464				
WR CEDAR		102.8	41.8	133	229	324				
R ALDER		24.4	10.9	159	178	198				
BL MAPLE										
TOTAL		71.4	5.3	787	831	875	203	51	23	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		44.9	5.1	73	77	81				
WHEMLOCK		167.8	19.1	13	16	19				
WR CEDAR		278.2	31.7	3	5	7				
R ALDER		392.4	44.7	2	4	5				
BL MAPLE		877.5	99.9	0	0	1				
TOTAL		34.3	3.9	98	102	106	47	12	5	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		40.0	4.6	220	230	241				
WHEMLOCK		166.0	18.9	24	30	35				
WR CEDAR		258.7	29.5	7	9	12				
R ALDER		390.4	44.4	3	6	9				
BL MAPLE		877.5	99.9	0	1	1				
TOTAL		29.4	3.4	267	276	285	35	9	4	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		40.2	4.6	47,871	50,166	52,462				
WHEMLOCK		170.6	19.4	3,410	4,232	5,054				
WR CEDAR		255.9	29.1	447	630	814				
R ALDER		390.4	44.5	359	647	934				
BL MAPLE		877.5	99.9	0	53	107				
TOTAL		32.5	3.7	53,669	55,729	57,790	42	11	5	

TC TSTATS		STATISTICS						PAGE 1		
		PROJECT	CAMP					DATE 1/11/2008		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	22	A3 (MC) - Leave	LEAV	34.00	40	27	1	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		40	27	.7						
CRUISE		5	11	2.2	407	2.7				
DBH COUNT										
REFOREST										
COUNT		11	16	1.5						
BLANKS		24								
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
CEDLEAV	6	11.5	12.0	24		9.1	360	360	155	155
DOUGLEAV	1	.2	33.0	105		1.3	313	313	65	65
SNAG	3	.2	18.1	27		.3				
HEMLEAV	1	.0	22.0	87		.1	21	21	5	5
TOTAL	11	12.0	12.9	25		10.8	694	694	225	225
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
CEDLEAV	139.6	62.2	55	145	235					
DOUGLEAV										
SNAG										
HEMLEAV										
TOTAL	169.7	53.6	121	260	399	1,264	316	140		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
CEDLEAV	232.7	36.8	7	12	16					
DOUGLEAV	489.7	77.4	0	0	0					
SNAG	632.5	99.9	0	0	0					
HEMLEAV	632.5	99.9	0	0	0					
TOTAL	223.7	35.3	8	12	16	1,999	500	222		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
CEDLEAV	224.1	35.4	6	9	12					
DOUGLEAV	489.7	77.4	0	1	2					
SNAG	632.5	99.9	0	0	1					
HEMLEAV	632.5	99.9	0	0	0					
TOTAL	192.9	30.5	8	11	14	1,487	372	165		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
CEDLEAV	213.9	33.8	238	360	482					
DOUGLEAV	489.7	77.4	71	313	555					
SNAG										
HEMLEAV	632.5	99.9	0	21	42					
TOTAL	237.7	37.5	434	694	955	2,255	564	251		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	CAMP		DATE	1/14/2008		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	22	3 <i>Total</i>	00CC	34.00	40	296	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		40	296	7.4						
CRUISE		13	90	6.9	4,439		2.0			
DBH COUNT										
REFOREST										
COUNT		27	206	7.6						
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
DOUG FIR	35	32.6	25.1	77		111.8	20,186	19,965	4,666	4,666
R ALDER	35	63.6	16.0	54		88.3	10,157	10,064	2,922	2,922
WHEMLOCK	9	22.3	12.6	31		19.4	1,666	1,661	474	474
CEDLEAV	6	11.5	12.0	24		9.1	360	360	155	155
DOUGLEAV	1	.2	33.0	105		1.3	313	313	65	65
SNAG	3	.2	18.1	27		.3				
HEMLEAV	1	.0	22.0	87		.1	21	21	5	5
TOTAL	90	130.5	18.0	53		230.3	32,704	32,385	8,286	8,286
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	54.8	9.3	715	788	861					
R ALDER	49.7	8.4	162	177	192					
WHEMLOCK	120.7	42.6	256	446	635					
CEDLEAV	139.6	62.2	55	145	235					
DOUGLEAV										
SNAG										
HEMLEAV										
TOTAL	99.2	10.5	404	451	499	393	98	44		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	102.2	16.2	27	33	38					
R ALDER	117.7	18.6	52	64	75					
WHEMLOCK	158.4	25.0	17	22	28					
CEDLEAV	232.7	36.8	7	12	16					
DOUGLEAV	489.7	77.4	0	0	0					
SNAG	632.5	99.9	0	0	0					
HEMLEAV	632.5	99.9	0	0	0					
TOTAL	71.5	11.3	116	131	145	204	51	23		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	95.1	15.0	95	112	129					
R ALDER	115.1	18.2	72	88	104					
WHEMLOCK	154.0	24.3	15	19	24					
CEDLEAV	224.1	35.4	6	9	12					
DOUGLEAV	489.7	77.4	0	1	2					
SNAG	632.5	99.9	0	0	1					
HEMLEAV	632.5	99.9	0	0	0					
TOTAL	63.7	10.1	207	230	253	162	41	18		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		

TC TSTATS				STATISTICS			PAGE 2		
				PROJECT	CAMP	DATE 1/14/2008			
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	06W	22	3	00CC	34.00	40	296	1	W
CL: 68.1%		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	92.5	14.6	17,047	19,965	22,884				
R ALDER	119.5	18.9	8,163	10,064	11,964				
WHEMLOCK	158.9	25.1	1,244	1,661	2,078				
CEDLEAV	213.9	33.8	238	360	482				
DOUGLEAV	489.7	77.4	71	313	555				
SNAG									
HEMLEAV	632.5	99.9	0	21	42				
TOTAL	65.6	10.4	29,029	32,385	35,740	172	43	19	

Stand Table Summary															
TC TSTNDSUM															
Project CAMP															
T05N R06W S23 T00PC										T05N R06W S23 T00PC					
Page: 1															
Date: 12/27/201															
Time: 9:10:34AM															
Twp Rge Sec Tract Type Acres Plots Sample Trees															
05N 06W 23 LEAVE_BA140 00PC 237.00 77 97															
S Spc	T	Sample DBH	FF Trees	Av Ht 16'	Trees/ Acres	BA/ Acres	Logs Acres	Average Log		Net Tons/ Acres	Net Cu.Ft. Acres	Net Bd.Ft. Acres	Totals		
								Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
DL		16	1	85	69	1.012	1.41	2.02	20.0	60.0	40	121		96	29
DL		17	1	86	63	.896	1.41	.90	37.0	90.0	33	81		79	19
DL		18	1	88	117	.799	1.41	2.40	27.0	103.3	65	248		153	59
DL		22	2	90	128	1.070	2.83	3.21	44.8	191.7	144	615		341	146
DL		23	3	89	127	1.469	4.24	3.92	53.6	227.5	210	891		498	211
DL		24	2	89	124	.899	2.83	2.70	51.0	218.3	138	589		326	140
DL		25	5	89	132	2.072	7.06	6.22	58.3	252.7	363	1,571		859	372
DL		26	12	88	127	4.598	16.95	13.79	60.0	264.4	828	3,648		1,962	865
DL		27	1	91	153	.355	1.41	1.07	78.3	390.0	83	416		198	99
DL		28	8	90	136	2.643	11.30	7.93	75.1	368.3	595	2,921		1,411	692
DL		29	4	92	136	1.232	5.65	3.70	81.9	416.7	303	1,540		718	365
DL		30	9	90	133	2.590	12.71	7.77	84.0	411.1	653	3,195		1,548	757
DL		31	4	89	141	1.078	5.65	3.50	87.3	417.7	306	1,464		725	347
DL		32	7	88	132	1.771	9.89	5.31	93.5	469.0	497	2,492		1,177	590
DL		33	6	91	135	1.427	8.48	4.28	103.7	526.1	444	2,252		1,052	534
DL		34	5	88	137	1.120	7.06	3.14	112.5	549.3	353	1,723		836	408
DL		35	3	92	153	.634	4.24	1.90	131.3	715.6	250	1,362		592	323
DL		36	3	91	141	.600	4.24	1.80	127.2	687.8	229	1,237		542	293
DL		37	3	90	136	.568	4.24	1.70	131.2	690.0	223	1,175		530	278
DL		38	1	88	146	.179	1.41	.54	142.7	733.3	77	395		182	94
DL		39	1	93	157	.170	1.41	.51	167.0	940.0	85	480		202	114
DL		Totals	82	89	128	27.184	115.84	78.30	75.6	362.9	5,919	28,414		14,028	6,734
HL		21	2	88	88	1.872	4.50	4.68	38.6	144.0	181	674		428	160
HL		24	1	89	122	.717	2.25	2.15	53.3	223.3	115	480		272	114
HL		25	1	91	98	.660	2.25	1.32	75.0	310.0	99	409		235	97
HL		26	1	87	104	.611	2.25	1.22	74.0	300.0	90	366		214	87
HL		30	1	86	124	.459	2.25	1.38	84.0	393.3	116	541		274	128
HL		Totals	6	88	101	4.318	13.51	10.75	55.9	229.9	600	2,471		1,423	586
CL		12	1	80	41	1.701	1.34	1.70	13.0	30.0	22	51		52	12
CL		16	1	84	67	.957	1.34	.96	35.0	70.0	33	67		79	16
CL		18	1	78	72	.756	1.34	1.51	25.0	70.0	38	106		90	25
CL		21	1	81	53	.555	1.34	.56	52.0	70.0	29	39		68	9
CL		24	1	79	64	.425	1.34	.85	41.5	105.0	35	89		84	21
CL		27	1	82	88	.336	1.34	.67	67.5	200.0	45	134		107	32
CL		34	1	73	106	.212	1.34	.42	118.5	340.0	50	144		119	34
CL		Totals	7	80	60	4.942	9.35	6.67	37.9	94.5	253	630		600	149
AL		15	1	86	74	1.270	1.56	2.54	21.0	70.0	53	178		126	42
AL		Totals	1	86	74	1.270	1.56	2.54	21.0	70.0	53	178		126	42
ML		14	1	87	68	.486	.52	.97	18.0	55.0	17	53		41	13
ML		Totals	1	87	68	.486	.52	.97	18.0	55.0	17	53		41	13
Totals			97	88	114	38.200	140.78	99.23	69.0	319.9	6843	31,747		16,218	7,524

Log Stock Table - MBF

T05N R06W S22 Ty00CC 34.00
 T05N R06W S23 TyTAKE 237.00
 T05N R06W S23 TyR/W 10.00

Project: **CAMP**
 Acres **281.00**

Page **1**
 Date **1/11/2008**
 Time **10:12:41AM**

Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
A		DO CR	10	1		1	.3			1									
A		DO CR	17	3		3	.7			3									
A		DO CR	18	7		7	1.5			1	6								
A		DO CR	20	3		3	.7			3									
A		DO CR	21	6		6	1.3			2		3							
A		DO CR	22	7		7	1.5			7									
A		DO CR	24	1		1	.3			1									
A		DO CR	25	3		3	.6			3									
A		DO CR	26	12	4.3	11	2.4			9	2								
A		DO CR	28	9		9	1.9			9									
A		DO CR	29	4	25.0	3	.6			3									
A		DO CR	30	109		109	23.9			0	7	50	17	34					
A		DO CR	31	6		6	1.3					6							
A		DO CR	32	129		129	28.3			9	5	12	82	21					
A		DO CR	33	3		3	.6			3									
A		DO CR	34	5		5	1.0			5									
A		DO CR	37	0		0	.0			0									
A		DO CR	40	152	1.1	150	33.0			29	43	33	46						
A		Totals		458		455	6.2			89	63	104	145	55					
D		DO 2S	20	53	2.9	52	.8					17		35					
D		DO 2S	24	44		44	.7							41	2	2			
D		DO 2S	28	1		1	.0					1							
D		DO 2S	29	0		0	.0					0							
D		DO 2S	30	51	3.2	50	.8									50			
D		DO 2S	32	1,947	1.4	1,921	30.5					61	347	476	708	288	40		
D		DO 2S	34	77		77	1.2					23	2		52				
D		DO 2S	35	1		1	.0						1						
D		DO 2S	39	0		0	.0						0						
D		DO 2S	40	2,862	1.1	2,830	45.0						402	572	1040	521	292	3	
D		DO 3S	11	1		1	.0				1								
D		DO 3S	13	4		4	.1			3		1							
D		DO 3S	15	1		1	.0					1							
D		DO 3S	16	2		2	.0					2							
D		DO 3S	17	0		0	.0					0							
D		DO 3S	19	2	14.3	2	.0					2							
D		DO 3S	20	2		2	.0				0	2							
D		DO 3S	21	5		5	.1					5							

Log Stock Table - MBF

T05N R06W S22 Ty00CC 34.00
 T05N R06W S23 TyTAKE 237.00
 T05N R06W S23 TyR/W 10.00

Project: **CAMP**
 Acres **281.00**

Page **3**
 Date **1/11/2008**
 Time **10:12:41AM**

S Spp	Gr rt	Log de 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+
D	Totals		6,367	1.2	6,291	86.1			376	299	696	795	1049	1878	861	334	3	
H	DO	2S 32	118	2.5	115	20.6					1	47	56	9	1	2		
H	DO	2S 40	99		98	17.7						17	1	77	3			
H	DO	3S 18	0		0	.0					0							
H	DO	3S 25	0		0	.0				0								
H	DO	3S 28	0		0	.0					0							
H	DO	3S 32	42		42	7.6					0	10	31					
H	DO	3S 34	0		0	.1					0							
H	DO	3S 40	206		206	37.0				23	16	167						
H	DO	4S 16	2		2	.4				2								
H	DO	4S 19	8		8	1.5				8								
H	DO	4S 20	21		21	3.9		12	10									
H	DO	4S 21	0		0	.0				0								
H	DO	4S 22	0		0	.0				0								
H	DO	4S 24	18		18	3.2				18								
H	DO	4S 26	12		12	2.1				12								
H	DO	4S 27	10		10	1.8				10								
H	DO	4S 29	13		13	2.3				13								
H	DO	4S 32	13	20.0	10	1.9				10								
H	Totals		563	1.0	557	7.6		12	106	17	179	95	57	85	4	2		
C	DO	2S 32	1		1	12.8					1							
C	DO	2S 40	2	2.6	2	38.3							1	1				
C	DO	3S 30	0		0	2.1			0									
C	DO	3S 32	1		1	14.4					1							
C	DO	3S 37	0		0	3.7				0								
C	DO	3S 40	1		1	16.8			1									
C	DO	4S 16	0		0	2.4			0									
C	DO	4S 17	0		0	1.3			0									
C	DO	4S 24	1		1	8.1			1									
C	Totals		6		6	.1			2	0	1	1	1	1				
M	DO	CR 20	0		0	18.2			0									
M	DO	CR 30	1	18.2	0	81.8					0							
M	Totals		1	15.4	1	.0			0		0							
Total	All Species		7,395	1.2	7,309	100.0		12	572	379	980	1036	1162	1965	865	336	3	

LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-08-27
 BUSTER CAMP
 PORTIONS OF SECTIONS 14, 15, 22, 23,
 26, & 27 OF T5N, R6W, W.M.,
 CLATSOP COUNTY, OREGON

Approximate Net Acreage

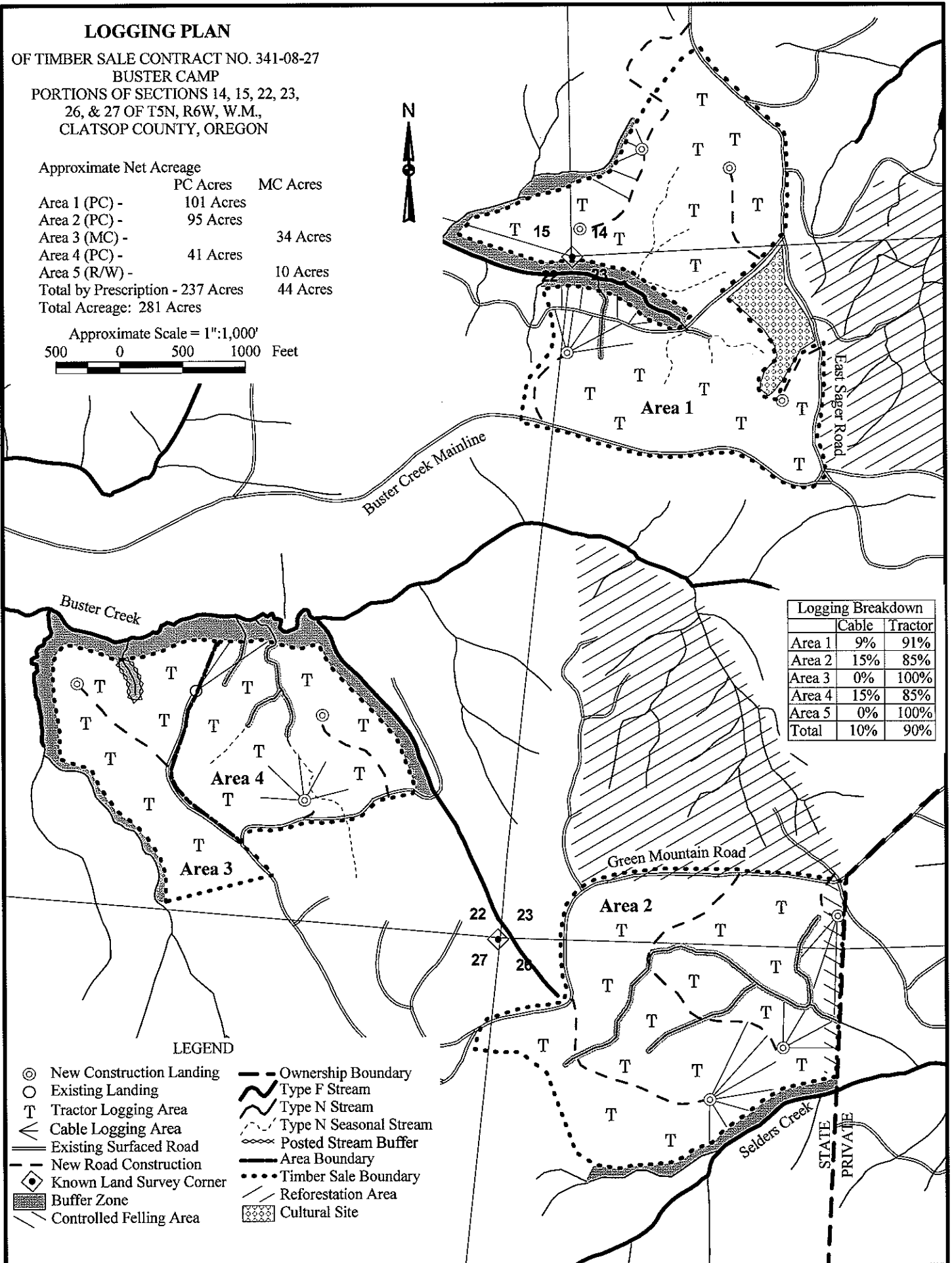
	PC Acres	MC Acres
Area 1 (PC) -	101 Acres	
Area 2 (PC) -	95 Acres	
Area 3 (MC) -		34 Acres
Area 4 (PC) -	41 Acres	
Area 5 (R/W) -		10 Acres
Total by Prescription -	237 Acres	44 Acres
Total Acreage:	281 Acres	

Approximate Scale = 1"=1,000'

500 0 500 1000 Feet



N



	Cable	Tractor
Area 1	9%	91%
Area 2	15%	85%
Area 3	0%	100%
Area 4	15%	85%
Area 5	0%	100%
Total	10%	90%

LEGEND

- ⊙ New Construction Landing
- Existing Landing
- T Tractor Logging Area
- ▤ Cable Logging Area
- Existing Surfaced Road
- - - New Road Construction
- ◆ Known Land Survey Corner
- ▨ Buffer Zone
- ▧ Controlled Felling Area
- - - Ownership Boundary
- ~ Type F Stream
- ~ Type N Stream
- ~ Type N Seasonal Stream
- ▨ Posted Stream Buffer
- ▨ Area Boundary
- ⋯ Timber Sale Boundary
- ▨ Reforestation Area
- ▨ Cultural Site