



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Buster Brown
Sale 341-13-25

District: Astoria

Date: August 13, 2012

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,539,357.79	\$63,680.82	\$1,603,038.61
Project Work:			\$(221,851.00)
Advertised Value:			\$1,381,187.61



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timber description

Location: Portions of Sections 19, 21, 22, and 27, T5N, R6W, W.M., Clatsop County, Oregon.

Stand Stocking: 80%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	20	0	97
Western Hemlock / Fir	18	0	97
Sitka Spruce	18	0	97
Alder (Red)	19	0	95

Volume by Grade	2S	3S	4S	Camprun	Total
Douglas - Fir	3,459	1,043	147	0	4,649
Western Hemlock / Fir	18	59	17	0	94
Sitka Spruce	0	2	0	0	2
Alder (Red)	0	0	0	219	219
Total	3,477	1,104	164	219	4,964



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comments: Pond Values Used: 2nd Quarter Calendar Year 2012 + Local Pond Values.

Expected Log Markets: Mist, OR; Clatskanie, OR; Tillamook, OR; Forest Grove, OR.

Western redcedar and Other Cedars Stumpage Price = Pond Value
minus Logging Cost
 $\$755.54/\text{MBF} = \$950/\text{MBF} - \$194.46/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$4.00/Gallon

HAULING COST ALLOWANCE

Hauling costs equivalent to \$780 daily truck cost.

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

100% Branding and Painting: $\$1/\text{MBF} \times 4,964 \text{ MBF} = \$4,964$

Log Loader Slash & Landing Piling (includes Move-In and Pile Materials): = \$8,385 (see attached appraisal)

Machine Washing for Noxious Weed Compliance = \$2,000

TOTAL Other Costs (with Profit & Risk to be added) = \$15,349

Other Costs (No Profit & Risk added):

Snag Creation: $74 \text{ snags} \times \$45.00/\text{snag} = \$3,330$

TOTAL Other Costs (No Profit & Risk added) = \$3,330



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logging conditions

combination#: 1

Douglas - Fir	41.00%
Western Hemlock / Fir	41.00%
Sitka Spruce	41.00%
Alder (Red)	41.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Track Skidder **Process:** Manual Falling/Delimbing
tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
loads / day: 6.0 **bd. ft / load:** 3,700
cost / mbf: \$154.97

machines: Log Loader (B)
Track Skidder

combination#: 2

Douglas - Fir	23.00%
Western Hemlock / Fir	23.00%
Sitka Spruce	23.00%
Alder (Red)	23.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Shovel **Process:** Manual Falling/Delimbing
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 12.0 **bd. ft / load:** 4,500
cost / mbf: \$46.38

machines: Shovel Logger

combination#: 3

Douglas - Fir	34.00%
Western Hemlock / Fir	34.00%
Sitka Spruce	34.00%
Alder (Red)	34.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Cable: Medium Tower >40 - <70 **Process:** Manual Falling/Delimbing
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 9.0 **bd. ft / load:** 4,500
cost / mbf: \$85.43

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

combination#: 4

Douglas - Fir	2.00%
Western Hemlock / Fir	2.00%
Sitka Spruce	2.00%
Alder (Red)	2.00%



"STEWARDSHIP IN FORESTRY"

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District: Astoria

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yarding distance:	Short (400 ft)	downhill yarding:	No
logging system:	Shovel	Process:	Manual Falling/Delimbing
tree size:	Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF		
loads / day:	13.0	bd. ft / load:	4,500
cost / mbf:	\$42.81		
machines:	Shovel Logger		



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Buster Brown Sale 341-13-25

District: Astoria

Date: August 13, 2012

logging costs

Operating Seasons:	2.00	Profit Risk:	14.00%
Project Costs:	\$221,851.00	Other Costs (P/R):	\$15,349.00
Slash Disposal:	\$0.00	Other Costs:	\$3,330.00

Miles of Road

Road Maintenance: \$4.37

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
Sitka Spruce	\$0.00	2.0	4.5
Alder (Red)	\$0.00	2.0	3.3

Local Pond Values

Date	Specie	Grade	Value
8/13/12	Douglas - Fir	2S	\$530.00
8/13/12	Douglas - Fir	3S	\$500.00
8/13/12	Douglas - Fir	4S	\$490.00
8/13/12	Western Hemlock / Fir	2S	\$430.00
8/13/12	Western Hemlock / Fir	3S	\$410.00
8/13/12	Western Hemlock / Fir	4S	\$400.00
8/13/12	Sitka Spruce	3S	\$400.85
8/13/12	Alder (Red)	Camprun	\$550.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Buster Brown
Sale 341-13-25

District: Astoria

Date: August 13, 2012

logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$104.11	\$4.50	\$1.77	\$52.20	\$3.09	\$23.19	\$0.00	\$5.00	\$0.67	\$194.53
Western Hemlock / Fir									
\$104.11	\$4.50	\$1.77	\$88.10	\$3.09	\$28.22	\$0.00	\$5.00	\$0.67	\$235.46
Sitka Spruce									
\$104.11	\$4.50	\$1.77	\$78.30	\$3.09	\$26.85	\$0.00	\$5.00	\$0.67	\$224.29
Alder (Red)									
\$104.11	\$4.59	\$1.77	\$108.85	\$3.09	\$31.14	\$0.00	\$5.00	\$0.67	\$259.22

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$522.00	\$327.47	\$0.00
Western Hemlock / Fir	\$0.00	\$412.02	\$176.56	\$0.00
Sitka Spruce	\$0.00	\$400.85	\$176.56	\$0.00
Alder (Red)	\$0.00	\$550.00	\$290.78	\$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
Sitka Spruce	0	\$0.00	\$0.00
Alder (Red)	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	4,649	\$327.47	\$1,522,408.03
Western Hemlock / Fir	94	\$176.56	\$16,596.64
Sitka Spruce	2	\$176.56	\$353.12
Alder (Red)	219	\$290.78	\$63,680.82

Gross Timber Sale Value

Recovery: \$1,603,038.61

Prepared by: Ty Williams

Phone: 503-325-5451

Site Prep Appraisal

Sale Number: 341-13-25
Sale Name: Buster Brown
Date: 06/11/2012

Vegetation Type/Zone	Vegetation Type/Zone Code	Production Rate (hr/ac)	Estimated Piles/Acre
Doug-fir	A	1.0	3.0
Hemlock/Fir	B	1.5	4.0
Hemlock/Spruce	C	2.0	6.0
Hemlock	D	2.0	6.0
Conifer/Hardwood	E	1.5	3.0

Sale Area	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area
3	MC	A	49	49	\$110.00	\$5,390.00

Sub Total = \$5,390.00

Sale Area	Number of Landings to be Piled	Cost/Landing Pile*	Total Cost/Area	Number of In-Unit Piles	Material Cost/Pile	Total Cost/Area
3	5	\$263.00	\$1,315.00	147	\$5.00	\$735.00

*Cost includes separating firewood

Sub Total = \$2,050.00

Move-In Allowance	Number of Move-In's	Total Move-In Allowance
\$945.00	1	\$945.00

Sub Total = \$945.00

Grand Total = \$8,385.00

Road Maintenance Cost Summary

Sale: Buster Brown
 Date: 14-Jun-12
 By: Ty Williams

MBF: 4,964
 \$/MBF: \$4.37

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost	Production Rates			
Progressive Operations 1st Entry	Grader 14G Dump Truck 10CY x 2 FE Loader C966	\$675 \$282 \$675	1 2 1	20 8 8	\$90 \$73 \$74	\$2,475 \$1,450 \$1,267	Production Rates	Miles/day	Distance(miles)	Days
							Grader	2.5	5.5	2.2
Final Road Maintenance	Grader 14G Dump Truck 10CY x 3 FE Loader C966 Vibratory Roller Water Truck 2,500 gallon Labor	\$675 \$423 \$675 \$675 \$165 \$0	1 3 1 1 1 1	50 8 8 50 40 8	\$90 \$73 \$74 \$72 \$78 \$38	\$5,175 \$2,175 \$1,267 \$4,275 \$3,285 \$304	Production Rates	Miles/day	Distance(miles)	Days
							Grader	1.5	8.1	5.4
							Vibratory Roller*	1.5	8.1	5.4
Total						\$21,673				

*Final Road Maintenance Only

SUMMARY OF ALL PROJECT COSTS

SALE NAME: Buster Brown

ROAD CONSTRUCTION:

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
Project No. 1	3A-3B, 3C-3D, 3E-3F	9.00	\$6,961
	TOTALS	9.00	\$6,961

ROAD IMPROVEMENT:

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
Project No. 2	I1-I2, I3-I4, I5-I6, I7-I8	263.7	\$114,934
	TOTALS		\$114,934

SPECIAL PROJECTS:

	<u>Description</u>	<u>Cost</u>
Project No. 3	Open Box Culvert	\$71,986
Project No. 4	Stream Enhancement	\$7,901
	Project Road Maintenance	\$13,019
	TOTAL	\$92,906

MOVE IN:

<u>Equipment</u>	<u>Cost</u>
Excavator (C330)	\$1,220.00
Excavator (C315)	\$699.00
Dozer (D8)	\$1,220.00
Rubber Tired Skidder	\$622.00
Vibratory Roller	\$675.00
Front End Loader (C966)	\$675.00
10-12 yd dump truck (X 6 @ \$141 each)	\$564.00
Large Grader (14G)	\$675.00
Water Truck (2,500 gal)	\$165.00
Dozer (D8)	\$203.71
20 yd dump truck (X 2 @ \$166 each)	\$332.00
TOTAL	\$7,051

GRAND TOTAL **\$221,851**

Compiled By: Kraig Kirkpatrick Date: 06/14/2012

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Buster Brown
 ROAD: I1-I2, I3-I4, I5-I6, I7-I8
 POINTS:

NEW CONSTRUCTION: _____ STATIONS _____ MILES
 IMPROVEMENT: 263.70 STATIONS _____ 4.99 MILES

CLEARING & GRUBBING

Method	Acres/amount	x	Rate	=	Cost
		x		=	
		x		=	
		x		=	
		x		=	

SUB TOTAL FOR CLEARING & GRUBBING

EXCAVATION

	Material	Cy/amount	x	Rate	=	Cost
I1-I2	Scatter ditch waste material \$/sta	10.00	x	\$10.78	=	\$107.80
			x		=	
			x		=	
			x		=	
I3-I4	Fill Construction		x		=	
	C330-Excavate/load waste material & dissipator placement\$/hr	16.00	x	\$144.00	=	\$2,304.00
	10-12 cy truck- haul excavation to waste area \$/hr	16.00	x	\$73.00	=	\$1,168.00
	Improve turnouts and turnarounds w/315 \$/hr	4.00	x	\$94.00	=	\$376.00
	Scatter ditch waste material \$/sta	23.90	x	\$10.78	=	\$257.64
	Scatter ditch waste material \$/sta	20.00	x	\$10.78	=	\$215.60
			x		=	
			x		=	

SUB TOTAL FOR EXCAVATION

\$4,429

CULVERT MATERIALS AND INSTALLATION

Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
I1-I2					I7-I8				
19+00	18" CPP	40	\$17.64	\$705.60	64+00	18" CPP	40	\$17.64	\$705.60
44+55	18" CPP	45	\$17.64	\$793.80	65+00	See Project No. 3			
57+20	18" CPP	40	\$17.64	\$705.60	66+00	18" CPP	40	\$17.64	\$705.60
102+70	18" CPP	45	\$17.64	\$793.80					
I3-I4			\$17.64						
6+30	18" CPP	35	\$17.64	\$617.40					
7+30	24" CPP	60	\$24.64	\$1,478.40					
9+30	18" CPP	30	\$17.64	\$529.20					
10+70	18" CPP	30	\$17.64	\$529.20					
15+75	18" CPP	30	\$17.64	\$529.20					
24+25	18" CPP	35	\$17.64	\$617.40					
26+90	24" CPP	60	\$24.64	\$1,478.40					
28+60	24" CPP	44	\$24.64	\$1,084.16					
35+05	24" CPP	52	\$24.64	\$1,281.28					
36+65	18" CPP	35	\$17.64	\$617.40					
45+25	18" CPP	30	\$17.64	\$529.20					

Other/miscellaneous:

Description

Quantity

Rate

Cost

Culvert stakes & markers:

6' fiberglass markers

17

\$18.00

\$306.00

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION

\$14,007

Subtotal of Clearing, Exc., Culv.

\$18,436

SURFACING						Stations/ amount		Rate/ sta/amt	Cost
Subgrade prep:		Description					x		
		Grade, Shape and Ditch 16'				263.70	x	\$21.55	\$5,682.74
		Windrow existing rock surface (I1-I2)				103.10		\$21.55	\$2,221.81
		Subgrade Compaction				263.70	x	\$17.52	\$4,620.02

ROAD SEGMENT I1 to I2										
Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT I1 to I2		Sta. to Sta. 0+00 - 103+10		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
				Volume (CY) per		Number of				
Base Rock	4"-0" crushed		6	station	38	stations	103.10	3,918	\$5.55	\$21,744
Curve Widening	4"-0" crushed		6	curve	n/a	curves	n/a	198	\$5.55	\$1,099
Turnouts	4"-0" crushed		6	turnout	17	turnouts	10	170	\$5.55	\$944
New Turnouts	4"-0" crushed	5+60	2	turnout	6	turnouts	1	6	\$5.55	\$33
Surface Rock	11/2"-0" crushed		3	station	19	stations	103.10	1,959	\$6.14	\$12,028
Junctions	11/2"-0" crushed		3	junction	n/a	junctions	6	176	\$6.14	\$1,081
Turnouts	11/2"-0" crushed		3	turnout	8	turnouts	10	80	\$6.14	\$491
Bedding / Backfill	11/2"-0" crushed		n/a	culvert	33	culverts	4	132	\$6.14	\$810
Curve Widening	11/2"-0" crushed		3	curve	n/a	curves	n/a	99	\$6.14	\$608
Turnarounds	11/2"-0" crushed		3	turnaround	5	turnarounds	1	5	\$6.14	\$31
Total Rock for Road Segment:				I1 to I2				6,743		

\$38,868

ROAD SEGMENT I3 to I4										
Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT I3 to I4		Sta. to Sta. 0+00 to 47+80		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
				Volume (CY) per		Number of				
Base Rock	4"-0" crushed		6	station	38	stations	47.80	1,816	\$5.55	\$10,081
Additional base (Culverts)	4"-0" crushed	26+90,28+60,35+05	8	culvert	22	culverts	3	66	\$5.55	\$366
Curve Widening	4"-0" crushed		6	curve	n/a	curves	n/a	88	\$5.55	\$488
Turnouts	4"-0" crushed		6	turnout	17	turnouts	8	136	\$5.55	\$755
New Turnouts	4"-0" crushed		2	turnout	6	turnouts	5	30	\$5.55	\$167
Turnarounds	4"-0" crushed		8	turnaround	22	turnarounds	1	22	\$5.55	\$122
Traction Rock	11/2"-0" crushed		2	station	13	stations	12.45	162	\$6.14	\$994
Turnout Traction Rock	11/2"-0" crushed	11+60,20+40,38+0	2	turnout	6	turnouts	3	18	\$6.14	\$111
Junctions	11/2"-0" crushed		3	junction	22	junctions	1	22	\$6.14	\$135
Bedding / Backfill	11/2"-0" crushed		n/a	culvert	n/a	culverts	11	374	\$6.14	\$2,296
Dissipators	24"-6" riprap	26+90, 35+05	n/a	culvert	55	culverts	2	110	\$9.45	\$1,040
Total Rock for Road Segment:				I3 to I4				2,844		

\$16,554

ROAD SEGMENT I5 to I6										
Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT I5 to I6		Sta. to Sta. 0+00 to 20+00		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
				Volume (CY) per		Number of				
Leveling Rock	4"-0" crushed		n/a	load	10	loads	20	200	\$5.55	\$1,110
Subgrade re-enforcement	4"-0" crushed	18+00	n/a	n/a	n/a	n/a	n/a	55	\$5.55	\$305
Junctions	11/2"-0" crushed	0+00, 6+80	4	junction	n/a	junctions	2	55	\$6.14	\$338
Landings	6"-0" pit-run	11+50, 20+00	n/a	landing	60	landings	2	120	\$6.61	\$793
Total Rock for Road Segment:				I5 to I6				430		

\$2,546

ROAD SEGMENT I7 to I8										
Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT I7 to I8		Sta. to Sta. 0+00 to 92+80		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
				Volume (CY) per		Number of				
Re-enforcement	4"-0" crushed		n/a	load	10	loads	50	500	\$5.55	\$2,775
Base Rock	4"-0" crushed	64+00-66+00		station	50	stations	1	50	\$5.55	\$278
Streambed	4"-0" crushed	65+00						11	\$5.55	\$61
Surface Rock	11/2"-0" crushed	64+00-66+00	4	station	25	stations	1	25	\$6.14	\$154
Footing Base	11/2"-0" crushed	65+00						16	\$6.14	\$98
Wingwall Base	11/2"-0" crushed	65+00						18	\$6.14	\$111
Bedding / Backfill	11/2"-0" crushed	64+00, 66+00	n/a	culvert	33	culverts	2	66	\$6.14	\$405
Dissipators	24"-6" riprap	64+00, 66+00	n/a	culvert	11	culverts	2	22	\$9.45	\$208
Wingwall Backfill	11/2"-0" crushed	65+00						88	\$6.14	\$540
Fill Armor	24"-6" riprap	65+00						99	\$9.45	\$936
Streambank Armor	24"-6" riprap	65+00						99	\$9.45	\$936
Footing Re-enforcement	24"-6" riprap	65+00						55	\$9.45	\$520
Wingwall Re-enforcement	24"-6" riprap	65+00						55	\$9.45	\$520
Streambed retention	36"-12" riprap	65+00						22	\$9.45	\$208
								0		
Total Rock for Road Segment:				I7 to I8				1,126		

\$7,748

Total Rock for Road Segment:		I1-I2	Water, Process & Compact Windrow rock:	103.10	\$49.02	\$5,054				
			Water, Process & Compact:	263.70	\$49.02	\$12,927				
						\$0				
				36"-12"	24"-6"rr	6"-0"pr	4"-0"	1 1/2"-0"	Total	
SUB TOTAL FOR SURFACING				22	440	120	7,244	3,295	11,121	10,017

\$96,221

SPECIAL PROJECTS			Description	Cost
			Pit run development \$2.30/CY x 120CY=	276
SUB TOTAL FOR SPECIAL PROJECTS				\$276
			Subtotal of Surfacing & Spec. Proj.	\$96,497
			Subtotal of Clearing, Exc.,Culv.	\$18,436
GRAND TOTAL				\$114,934

Compiled By: Kirkpatrick and Mellison

Date: 06/14/2012

SALE NAME:	Buster Brown	NEW CONSTRUCTION:	9.00	STATIONS	0.17	MILES
ROAD:	3A-3B, 3C-3D, 3E-3F	IMPROVEMENT:		STATIONS		MILES
POINTS:	3A-3B (3+00), 3C-3D (3+00), 3E-3F (3+00)					

EXCAVATION						
Material	Cy/amount	x	Rate	=	Cost	
Field Design	9.00	x	\$106	=	\$954.00	
				=		
				=		
		x		=		
		x		=		
		x		=		
		x		=		
		x		=		
SUB TOTAL FOR EXCAVATION						
					\$954	

<i>Subtotal of Clearing</i>	\$2,115
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SURFACING						Stations/ amount	x	Rate/ sta/amt	Cost
Subgrade prep: Description									
Grade, Shape and Ditch 16'						9.00	x	\$21.55	\$193.95
Subgrade Compaction						9.00	x	\$17.52	\$157.68
							x		\$0.00

ROAD SEGMENT 3A to 3B				POINT TO POINT	Sta. to Sta.	TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	3A to 3B Volume (CY) per	0+00 - 3+00 Number of			
Base Rock	4"-0" crushed		8	station 50	stations 3.00	150	\$5.55	\$833
Junction	4"-0" crushed	3A	8	Junctions 22	Junctions 1.00	22	\$5.55	\$122
Landings	6"-0" pit-run	3+00	8	landing 60	landings 1	60	\$6.61	\$397
Total Rock for Road Segment: 3A to 3B						232		\$1,351

ROAD SEGMENT 3C to 3D				POINT TO POINT	Sta. to Sta.	TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	3C to 3D Volume (CY) per	0+00 - 3+00 Number of			
Base Rock	4"-0" crushed		8	station 50	stations 3.00	150	\$5.55	\$833
Junction	4"-0" crushed	3C	8	Junctions 22	Junctions 1.00	22	\$5.55	\$122
Landings	6"-0" pit-run	3+00	8	landing 60	landings 1	60	\$6.61	\$397
Total Rock for Road Segment: 3C to 3D						232		\$1,351

ROAD SEGMENT 3E to 3F				POINT TO POINT	Sta. to Sta.	TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	3E to 3F Volume (CY) per	0+00 - 3+00 Number of			
Base Rock	4"-0" crushed		8	station 50	stations 3.00	150	\$5.55	\$833
Junction	4"-0" crushed	3E	8	Junctions 22	Junctions 1.00	22	\$5.55	\$122
Landings	6"-0" pit-run	3+00	8	landing 60	landings 1	60	\$6.61	\$397
Total Rock for Road Segment: 3E to 3F						232		\$1,351

Processing:		Description	Gradation	#lifts	No.sta	Rate/sta	Cost
		Water, Process & Compact:	4"-0"	1	9.00	\$49.02	\$441
							\$0
							\$0

SUB TOTAL FOR SURFACING					
	6"-0"pr	4"-0"	1 1/2"-0"	3/4"-0"	Total
	180	516			696

\$4,846

SPECIAL PROJECTS				
Description	Rate	Hours		Cost

SUB TOTAL FOR SPECIAL PROJECTS \$0

Subtotal of Surfacing & Spec. Proj.		\$4,846
Subtotal of Clearing, Exc.,Culv.		\$2,115
GRAND TOTAL		\$6,961

Compiled By: Ty Williams

Date: 06/11/12

MATERIAL: 1 1/2"-0" Crushed

DATE: 06/14/2012
BY: Kraig Kirkpatrick

ROCK HAUL:

Production: cy/day = 1,106

CRUSHED ROCK HAUL COSTS 3,295 cy @ \$6.14 /cy

PIT RUN ROCK COST

SALE NAME:	Buster Brown
PROJECT:	No. 1, 2 and 3
QUARRY:	Nettle Ridge Stockpile

MATERIAL: Pit Run

DATE: 06/14/2012
BY: Kraig Kikrpatrick

[illegible]

ROCK HAUL:

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

Ave haul:	\$4.92	/cy
Load:	\$0.60	/cy
Spread:	\$1.08	/cy

Truck type:	<u>D12</u>	No. trucks:	<u>6</u>
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>

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

Production: cy/day = 770

PIT RUN ROCK HAUL COSTS

300 cy @ \$6.61 /cy

RIP RAP ROCK COST

SALE NAME:	Buster Brown
PROJECT:	No. 1, 2 and 3
QUARRY:	Nettle Ridge Stockpile

MATERIAL: 24"-6" Rip Rap

DATE: 06/14/2012
BY: Kraig Kikrpatrick

[illegible]

ROCK HAUL:

Truck type:	D12	No. trucks:	6
Delay min.:	6	Efficiency:	85%
Truck type:	D10	No. trucks:	
Delay min.:	5	Efficiency:	85%

Ave haul:	\$4.96	/cy
Load:	\$0.78	/cy
Develop:	<u>\$3.70</u>	/cy

Production: cy/day = 763

RIP RAP ROCK HAUL COSTS 462 cy @ \$9.45 /cy

CRUSHED ROCK COST

SALE NAME:	Buster Brown
PROJECT:	No 1, 2, and 3
QUARRY:	Green Mt. Stockpile

MATERIAL: 4"-0" Crushed

DATE: 06/14/2012
BY: Kraig Kirkpatrick

[illegible]

ROCK HAUL:

Truck type:	<u>D20</u>	No. trucks:	<u>2</u>
Delay min.:	<u>8</u>	Efficiency:	<u>85%</u>

Ave haul:	\$4.28	/cy
Load:	\$0.48	/cy
Spread:	\$0.78	/cy

Truck type:	<u>D12</u>	No. trucks:	<u>6</u>
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>

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

Production: cy/day = 1,258

CRUSHED ROCK HAUL COSTS 7,782 cy @ \$5.55 /cy

PIT RUN ROCK COST

SALE NAME:	Buster Brown
PROJECT:	No. 3
QUARRY:	Nettle Ridge Quarry

MATERIAL: Borrow

DATE: 06/14/2012
BY: Kraig Kirkpatrick

[illegible]

ROCK HAUL:

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

Ave haul:	\$5.16	/cy
Load:	\$0.54	/cy
Spread:		/cy

Truck type:	<u>D12</u>	No. trucks:	<u>7</u>
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>

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

Production: cy/day = 858

PIT RUN ROCK HAUL COSTS

869 cy @ \$5.70 /cy

Sale Name: **Buster Brown**
Project: No. 3 (I7 to I8)
Project Type: F Stream Crossing

Tributary Buster Creek BOX CULVERT

Prepared by: **Kraig Kirkpatrick**

Date: 6/13/12

Phase I: Dewatering System

Qty.	Equipment/Activity	Qty	(\$/Qty)	Hours	Cost (\$)
135	Sandbags		\$0.60		\$81.00
	Sand purchased and loaded	10	\$12.50		\$125.00
	Dump truck to pickup/deliver sand for sandbags		\$73.00	4	\$292.00
2	Fill sandbags (labor)		\$38.00	3	\$228.00
	Visqueen	2	\$50.00		\$100.00
2	Place sandbags & visqueen (labor)		\$38.00	3	\$228.00
	Place sandbags (C330 Excavator)		\$144.00	1.5	\$216.00
	Volume Pump		\$9.00	27	\$243.00
	Service pump/set up night system		\$38.00	6	\$228.00
	Remove dewatering system (C330)		\$144.00	1	\$144.00
	Remove dewatering system (Labor)		\$38.00	3	\$114.00
					\$1,999.00

Phase II: Development of Footing/wing wall bed

Qty.	Equipment/Activity	Qty (Cy)	(\$/Cy)	Hours	(\$/Hr)	Cost (\$)
						\$0.00
						\$0.00
						\$0.00
						\$0.00
						\$0.00
	Excavate for footings/wings (C330)	1250		20	\$144.00	\$2,880.00
	(D10)	1250	\$ 3.30			\$4,125.00
	Load, haul, dump footing/wing mat. (1½"-0")	34	Costs in (I7-I8) summary			
	Load,haul,dump footing/wing mat. (24'-6") Riprap	55	Costs in (I7-I8) summary			
	Spread footing/wing material (both gradations) (C330)			3	\$144.00	\$432.00
2	Laborer (spreading footing material) (Compacting)			3	\$38.00	\$228.00
	Footing geotextile	56	\$1.50			\$84.00
	Labor wrapping 1½"-0" crushed with geotextile			3	\$38.00	\$114.00
	Hand Held Tamper			2	\$9.00	\$18.00
						\$7,881.00

Phase III: Install box segments and Wing walls

Qty.	Equipment/Activity	Qty	(\$/Qty)	Hours	(\$/Hr)	Cost (\$)
	Unload/Set Footings (C330)			2	\$144.00	\$288.00
	(Labor)			2	\$38.00	\$76.00
1	Concrete Open Bottom Slab Culvert (HS-25 loading),25' x 12'	25				\$38,000.00
2	Unload and set box components (Crane)			5	\$250.00	\$2,500.00
	(Labor)			5	\$38.00	\$190.00
	Purchasing ecology blocks (6 footers)	35	\$50.00			\$1,750.00
	(4 footers)	12	\$35.00			\$420.00
	Transporting ecology blocks (Dump Truck/tilt trailer)			12	\$92.00	\$1,104.00
	Unloading ecology blocks (C330)			2.5	\$144.00	\$360.00
	(D10/Trailer)			2.5	\$92.00	\$230.00
2	(Labor)			2.5	\$38.00	\$190.00
	Placing Ecology Blocks (C330)			4	\$144.00	\$576.00
2	(Labor)			4	\$38.00	\$304.00
	Load/haul Select Backfill behind ecology blocks (1½"-0")	80	Costs in (I7-I8) summary			
	Place select backfill (C330)	80		6	\$144.00	\$864.00
	Hand held tamper			6	\$9.00	\$54.00
	(Labor)			6	\$38.00	\$228.00
	Geogrid	147	\$2.10			\$308.70
	(Labor)			8	\$38.00	\$304.00
	Grout mixing/pouring labor			3	\$38.00	\$114.00
	Joint Grouting (sacks)	26	\$22.14			\$575.64
2	Joint grouting labor			3.5	\$38.00	\$266.00
						\$48,702.34

Phase IV: Approach Backfills and Riprap placement

Qty.	Equipment/Activity	Qty	(\$/Qty)	Hours	(\$/Hr)	Cost (\$)
	Backfill with Select Borrow Material	869	\$5.70			\$4,953.30
	Hand Held Tamper	200		4	\$9.00	\$36.00
	Machine Compaction of structure embankment	669	\$0.60			\$401.40
	Labor	200		2	\$38.00	\$76.00
	Haul/Dump wing wall armor (24"-6")	55	Costs in (I7-I8) summary			
	Haul/Dump streambank riprap material (36"-12")	55	Costs in (I7-I8) summary			
	Haul/Dump channel armor (24"-6")	44	Costs in (I7-I8) summary			
	Haul and dump Fill Armor (24"-6")	77	Costs in (I3-I4) summary			
	Haul and dump streambed material (4"-0")	11	Costs in (I3-I4) summary			
	Machine place hauled/wing wall armor. (C330)	55		3	\$144.00	\$432.00
	Machine place streambank riprap material (C330)	55		4	\$144.00	\$576.00
	Machine place channel armor (C330)	44		4	\$144.00	\$576.00
	Machine place Fill Armor (C330)	99		5	\$144.00	\$720.00
	Spread 4"-0" and develop streambed (C330)	11		2	\$144.00	\$288.00
						\$8,058.70

Phase V: Grade, Shape, Process and Mulching

Qty.	Equipment	Qty (Cy)	(\$/Cy)	Unit	(\$/Unit)	Cost (\$)
	Grade & Shape Approaches	1			\$21.55	\$21.55
	Process Crushed Rock	3			\$49.02	\$147.06
	Straw Mulch w/Seed Application)(Site and waste area)			0.15	\$1,173	\$175.95
						\$344.56

Phase VI: Crushed Rock and Riprap

ROAD SEGMENT I3 to I4				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I3 to I4 Volume (CY) per		0+00 - 1+00 Number of				
Surface Rock	11/2"-0" crushed		4	station	25	stations	1	25		\$0
Footing base	11/2"-0" crushed		12"	footing	5.5	footings	2	16		\$0
Wingwall base	11/2"-0" crushed		24"	wing wall	n/a	wing walls	4	18		\$0
Ecology block backfill	11/2"-0" crushed		n/a	wing wall	n/a	wing walls	4	88		\$0
Select Backfill	Borrow		n/a	abutment	n/a	abutments	2	869		\$0
Streambed material	4"-0" crushed		n/a	n/a	n/a	n/a	n/a	11		\$0
Base Rock	4"-0" crushed		8	station	50	stations	1	50		\$0
Footing/wing wall subbase	24"-6" riprap		24	n/a	n/a	n/a	n/a	55		\$0
Wing Wall armor	24"-6" riprap		24	n/a	n/a	n/a	n/a	55		\$0
Streambank Armor	24"-6" riprap		n/a	n/a	n/a	n/a	n/a	99		\$0
Fill Armor	24"-6" riprap		n/a	n/a	n/a	n/a	n/a	77		\$0
Streambed retention mat.	36"-12" riprap		n/a	n/a	n/a	n/a	n/a	22		\$0
Total Rock for Road Segment:				I3 to I4				1,385		\$0

Miscellaneous Costs

Qty.	Equipment	Qty.	\$	Hours	(\$/Hr.)	Cost (\$)
	Engineering Fees	1				\$5,000.00
						\$5,000.00

Total Project Cost = \$71,985.60

**Buster Brown
Stream Enhancement**

Location	Site	No. Tops	Number of Logs	\$/Tree*	Number of Straw Bales	\$/Bale	Cost per Site
SE1-SE2	1	5	5	\$250.00	2	\$10.00	\$1,270.00
SE1-SE2	2	5	5	\$250.00	2	\$10.00	\$1,270.00
SE1-SE2	3	5	5	\$250.00	2	\$10.00	\$1,270.00
SE1-SE2	4	5	5	\$250.00	2	\$10.00	\$1,270.00
SE1-SE2	5	5	5	\$250.00	2	\$10.00	\$1,270.00

Grass Seed 25lbs. @\$1.40 lb=\$35.00

8 hrs. @\$37.00 hrs.=296.00

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

Subtotal	\$6,350
Seed	\$35
Labor	\$296
Equipment Move-In	\$1,220
Project Total	\$7,901

Projects Road Maintenance Cost Summary

Sale: Buster Brown
Date: 14-Jun-12
By: Kraig Kirkpatrick FL

Type	Equipment/Rationale	Hours	Rate	Cost
Final Haul Road Maintenance Haul Route	Grader 14G	48	\$93	\$4,464
	Dump Truck 12CY	10	\$73	\$730
	FE Loader C966	5	\$77	\$385
	Vibratory Roller	48	\$72	\$3,456
	Water Truck 2,500 gallon	48	\$83	\$3,984
Total				\$13,019

Production Rates		
Grader	Miles/day	Distance(miles)
	1.5	9.0
Vibratory Roller	Miles/day	Distance(miles)
	1.5	9.0
Buster Creek Mainline, Nettle Creek Road, Stanley Creek Road		

Buster Brown
TIMBER CRUISE REPORT
FY 2012

1. Sale Area Location: Areas 1, 2, 3, and 4 are located in portions of Sections 19, 21, 22, and 27, T5N, R6W, W.M., Clatsop County, Oregon.

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

3. Sale Acreage by Area:

Area	Treatment	Gross Acres	Existing R/W	Non-Thinnable	Stream Buffer	Net Acres	Survey Method
1	Partial Cut	18	1	0	4	13	GIS
2	Partial Cut	63	2	8	13	40	GIS
3	Modified Clearcut	85	2	0	9	74	GIS
4	Right-of-Way	1	0	0	0	1	L x W
TOTALS		167	5	8	26	128	

4. Cruisers and Cruise Dates: The sale areas were cruised by Jasen McCoy, Bryce Rodgers, Jay Morey, Ed Holloran, Jon Long, Derek Bangs, John Tillotson, and Ty Williams, in June of 2012.

5. Cruise Method and Computation:

Areas 1 and 2 are "auto-mark" thinning units (SDI 31), and were variable plot cruised using a 33.6 BAF. These plots are located on a 3 chain by 4 chain grid, with every third plot measured and graded. A total of 45 plots were sampled, with 23 measured and graded plots and 22 count plots. Cedar is a reserve species, and was recorded as a "leave" tree. The "biggest and best" trees were recorded as "leave" trees to meet a target residual basal area of 135 ft²/acre.

Area 3 is a modified clearcut unit and was variable plot cruised using a 40 BAF. These plots are located on a 3 chain by 5 chain grid, with every third plot measured and graded. A total of 41 plots were sampled, with 21 measured and graded plots and 20 count plots. Cedar is a reserve species.

Area 4 (Right-of-Way) is one acre of in-sale right-of-way within Area 3. The timber type is similar to the Area 3, therefore the total cruise volume from this area was applied to this acre.

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 and 2	T5NR6W SEC 22	1&2	PCTK	53
3	T5NR6W SEC 21	3	TAKE	74

6. Timber Description:

Areas 1 and 2 are "auto-mark" thinning units, approximately 36 years old, consisting of Douglas-fir stands mixed with hemlock and true fir. This stand will be thinned to a SDI of 35 (135 Sq.Ft.BA), removing approximately 74 trees per acre and 9.2 MBF/acre. The average Douglas-fir tree size to be harvested is 15.3 inches DBH, with an average height of 56 feet to a merchantable top (6 inch d.i.b., or 40% of the diameter at 16 ft.). The average hemlock tree size to be harvested is 15.3 inches DBH and 57 feet to a merchantable top. The average Sitka spruce size is 20.0 inches DBH and 21 feet to a merchantable top. The average red alder tree size is 14.0 inches DBH and 40 feet to a merchantable top.

Area 3 is a modified clearcut unit, approximately 75 years-old, containing a mix of Douglas-fir and red alder with scattered western hemlock. The average Douglas-fir tree size is 21.9 inches DBH and 92 feet to a merchantable top. (inch d.i.b., or 40% of the diameter at 16 ft.). The average red alder tree size to be harvested is 15.0 inches DBH, with an average height of 43 feet to a merchantable top. The average hemlock tree size to be harvested is 14.3 inches DBH, with an average height of 46 feet to a merchantable top. The average volume per acre to be harvested (net) is 59.6 MBF.

Area 4 is a one acre of right-of-way timber located within Area 3. It is comprised of similar timber as Area 3 with an average volume per acre to be harvested (net) is 64.1 MBF

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 (PC)	35%	7%	34.9%	5.2%
3 (MC)	50%	10%	35.3%	5.5%

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	20"	4,649	3,459	1,043	147	0	2.0%	94%
Hemlock/true fir	18"	94	18	59	17	0	1.4%	2%
Spruce	18"	2	0	2	0	0	<1%	<1%
Alder	19"	219	0	0	0	219	2.5%	4%
TOTALS		4,964	3,477	1,104	164	219		

9. Approvals:

Prepared by: Ty Williams

Date: June 11, 2012

Unit Forester Approval: 

Date: 6/11/12

10. Attachments:

Cruise Designs and Maps - 7 pages
Volume Reports - 4 pages
Statistics Reports - 8 pages
Log Stock Tables - 2 pages
Stand Table Summary - 3 pages

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Buster Brown **Area(s)** 1 & 2

Harvest Type: (PC)

Approx. Cruise Acres: 53 **Estimated CV%** 35 Net BF/Acre **SE% Objective** 7 Net BF

Planned Sale Volume: 424 MBF **Estimated Sale Area Value/Acre:** \$2,400/Ac
(Areas 1 & 2) (8 MBF/Ac.)

A. Cruise Goals: (a) Grade minimum 50 conifer:
(b) Sample 45 cruise plots (16 grade/ 29 count); (c) Other goals X 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 33.6 (Full point; Half point) (circle one)
Cruise Line Direction(s) Area 1: 270/90 (East:West)
Area 2: 0/360° (North:South)
Cruise Line Spacing 4 (chains)
Cruise Plot Spacing 3 (chains)
Count/Grade Ratio 2:1

The BA target is 135 sq. ft. Cruiser will select 4 leave trees per plot. Mark Leave trees with an "L" using yellow paint on graded plots only. Cruise all take and leave trees. Take plots as shown on map. All cedar are leave trees and count towards the leave tree basal area. Alder is also a reserve species, but will not count towards the leave tree BA. Grade alder as Camp Run (30 net BF minimum). Record all snags as SN and estimate diameter and total height.

C. Tree Measurements:

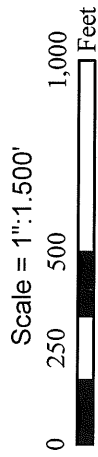
- 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 10" for hardwoods.
Record dbh to nearest $\frac{1}{2}$ " for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.
- 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: [Signature]
Date: 5/31/12

Cruise Map

OF TIMBER SALE CONTRACT NO. 341-13-25
BUSTER BROWN
PORTIONS OF SECTIONS 19, 21, 22, 27, AND 28
T5N,R6W, W.M., CLATSOP COUNTY, OREGON



Legend

Paved

Surfaced

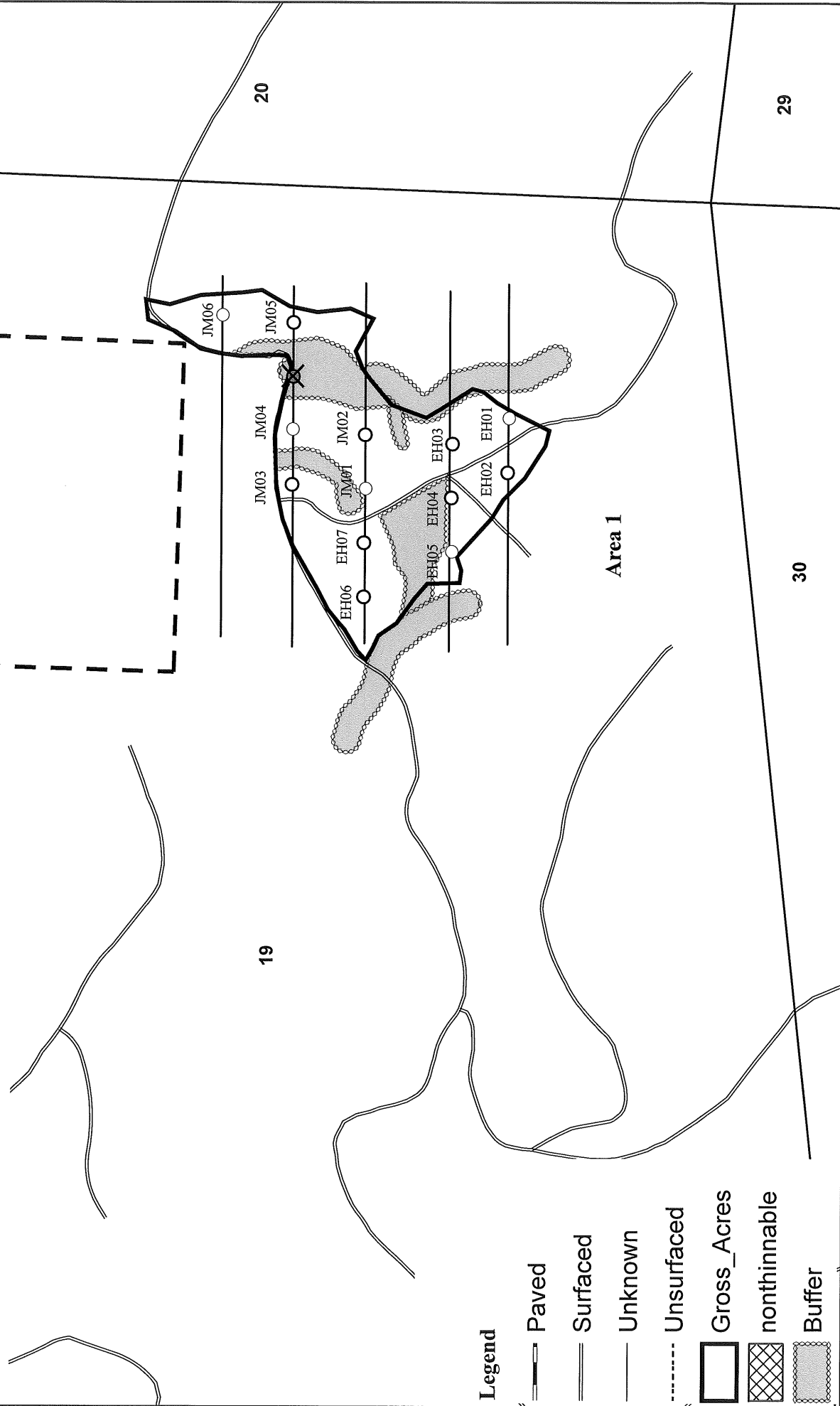
Unknown

Unsurfaced

Gross_Acres

nonhinnable

Buffer



Cruise Map

OF TIMBER SALE CONTRACT NO. 341-13-25
BUSTER BROWN
PORTIONS OF SECTIONS 19, 21, 22, 27, AND 28
T5N,R6W, W.M., CLATSOP COUNTY, OREGON

Scale = 1"=1,500'



Legend

— Paved

— Surfaced

— Unknown

- - - - - Unsurfaced

□ Gross_Acres 28

▨ nonthinnable

▤ Buffer

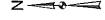
Area 2

21

22

Area 2

27



JT01

JT02

JT03

JT04

JT05

JT06

JT07

JT08

JT09

JT10

JT11

JT12

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**CRUISE DESIGN
ASTORIA DISTRICT**

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

Harvest Type: (MC)

Approx. Cruise Acres: 73 **Estimated CV%** 50 Net BF/Acre **SE% Objective** 10 Net BF

Planned Sale Volume: 2,847 MBF **Estimated Sale Area Value/Acre:** \$2,400/Ac
(Area 3) (39 MBF/Ac.)

A. Cruise Goals: (a) Grade minimum 70 Trees:
(b) Sample 43 cruise plots (15 grade/ 28 count); (c) Other goals X 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) 0/360° (North:South)
Cruise Line Spacing 5 (chains)
Cruise Plot Spacing 3 (chains)
Count/Grade Ratio 2:1

Cedar and marked wildlife trees are leave trees and are recorded as such. Record snags (SN) as cull and estimate heights and diameters. Grade ALL alder as camprun-sawlogs (30 net BF minimum). Do not take plots in a buffer.

C. Tree Measurements:

- 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 10" for hardwoods.
Record dbh to nearest ½" 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: [Signature]
Date: 5/31/12

Cruise Map

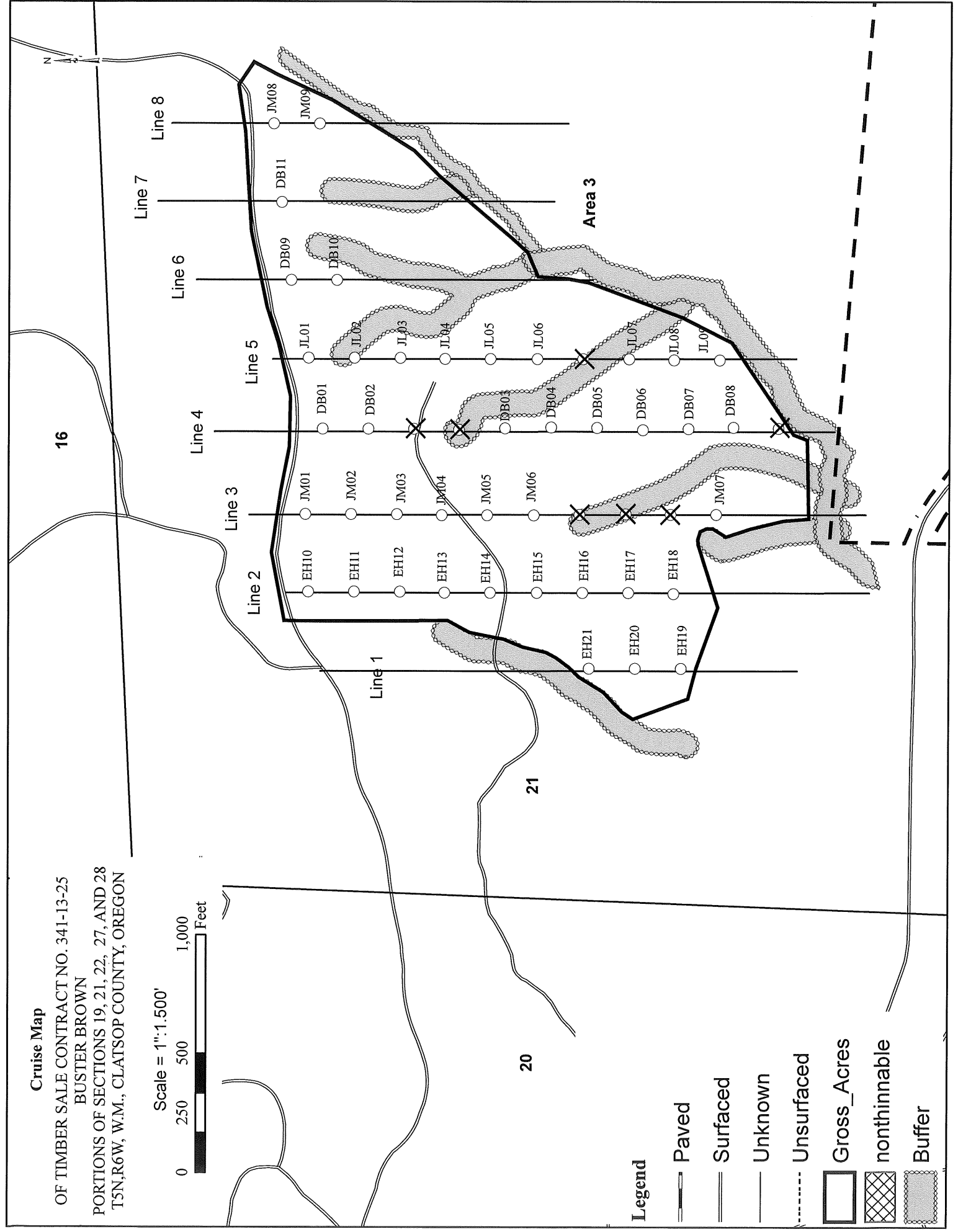
OF TIMBER SALE CONTRACT NO. 341-13-25
 BUSTER BROWN
 PORTIONS OF SECTIONS 19, 21, 22, 27, AND 28
 T5N,R6W, W.M., CLATSOP COUNTY, OREGON

Scale = 1"=1,500'



Legend

- Paved
- Surfaced
- Unknown
- Unsurfaced
- Gross_Acres
- nonthinnable
- Buffer



TC PSCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																
T05N R06W S21 TyR/W1.00 T05N R06W S21 TyTAKE74.00 T05N R06W S22 TyPCTK53.00						Project: DEMO Acres128.00						Page 1 Date 6/11/2012 Time 10:33:08AM						
Spp	S 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		
D	DOCU														8		0.00	19.8
D	DO2S	74	2.0	27,568	27,025	3,459		1	48	51	2	3	12	83	37	366	2.15	73.9
D	DO3S	22	2.1	8,320	8,147	1,043	0	93	7	0	1	7	27	64	35	96	0.80	85.0
D	DO4S	4	.7	1,154	1,146	147	3	97	0		47	45	8		21	28	0.45	41.1
D Totals		94	2.0	37,041	36,317	4,649	0	25	37	38	3	5	15	76	31	165	1.28	219.9
A	DOCU														19		0.00	1.9
A	DOCR	100	2.4	1,750	1,707	219		77	23		5	16	22	57	31	90	0.90	19.0
A Totals		4	2.4	1,750	1,707	219		77	23		5	16	22	57	30	82	0.85	20.9
H	DO2S	19		140	140	18			100					100	40	290	1.77	.5
H	DO3S	63		462	462	59		82	18				45	55	35	107	0.87	4.3
H	DO4S	18	7.0	140	130	17	7	93			12	50		38	27	29	0.48	4.5
H Totals		2	1.3	742	732	94	1	68	31		2	9	29	60	32	78	0.77	9.4
S	DOCU																0.00	.1
S	DO3S	100		16	16	2		100			100				16	110	1.81	.1
S Totals		0		16	16	2		100			100				8	55	1.81	.3
Totals			2.0	39,548	38,772	4,963	0	28	36	36	4	6	16	75	31	155	1.23	250.4

T		Species, Sort Grade - Board Foot Volumes (Type)										Page		1					
		Project: DEMO										Date		6/11/2012					
												Time		10:13:08AM					
T05N R06W S21 TTAKE										T05N R06W S21 TTAKE									
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt										
05N	06W	21	3	TAKE	74.00			1	W										
S So Gr Spp T rt ad			% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre
								Log Scale Dia.				Log Length				Ln	Bd	CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	Ft		
D	DO	CU														8		0.00	18.9
D	DO	2S	79	2.0	45,884	44,964	3,327		1	47	52	2	3	11	84	37	375	2.17	120.0
D	DO	3S	19	1.4	10,473	10,330	764	0	92	8		1	8	22	69	35	97	0.80	106.0
D	DO	4S	2		1,125	1,125	83		100			45	55			21	30	0.47	37.8
D Totals			95	1.8	57,481	56,418	4,175	0	20	39	42	3	5	13	80	32	200	1.43	282.7
A	DO	CU														19		0.00	3.3
A	DO	CR	100	2.4	2,986	2,914	216		77	23		5	16	22	57	31	90	0.90	32.4
A Totals			5	2.4	2,986	2,914	216		77	23		5	16	22	57	30	82	0.85	35.7
H	DO	3S	93		241	241	18		100					22	78	36	115	0.86	2.1
H	DO	4S	7		16	16	1	100					100			28	10	0.43	1.6
H Totals			0		257	257	19	6	94				6	20	73	33	70	0.70	3.7
Type Totals				1.9	60,725	59,589	4,410	0	23	38	40	3	5	13	79	32	185	1.36	322.1

T		Species, Sort Grade - Board Foot Volumes (Type)												Page		1			
TSPCSTGR		Project: DEMO												Date		6/11/2012			
														Time		10:13:08AM			
T05N R06W S22 TPCTK												T05N R06W S22 TPCTK							
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt										
05N	06W	22	1&2	PCTK	53.00			1	W										
S So Gr Spp T 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			
D	DO	CU												7		0.00	21.0		
D	DO	2S	20	.6	1,577	1,568	83		10	90		16	10	40	34	30	179	1.53	8.8
D	DO	3S	64	4.1	5,258	5,043	267		97	3		3	4	43	50	36	91	0.78	55.4
D	DO	4S	16	1.6	1,195	1,176	62	7	93			49	32	19		21	26	0.43	45.9
D Totals			84	3.0	8,030	7,787	413	1	79	20		12	10	39	39	26	59	0.70	131.0
H	DO	2S	24		338	338	18		100						100	40	290	1.77	1.2
H	DO	3S	55		775	775	41		73	27				56	44	35	103	0.88	7.5
H	DO	4S	21	7.6	315	291	15	100				13	47		41	27	33	0.49	8.7
H Totals			15	1.7	1,427	1,404	74	61	39			3	10	31	57	31	81	0.79	17.4
S	DO	CU																0.00	.3
S	DO	3S	100		38	38	2		100			100				16	110	1.81	.3
S Totals			0		38	38	2		100			100				8	55	1.81	.7
Type Totals				2.8	9,495	9,228	489	1	76	23		11	10	37	42	26	62	0.72	149.1

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)												Page 1						
Project: DEMO														Date	6/11/2012					
														Time	10:32:24AM					
T05N R06W S21 TR/W										T05N R06W S21 TR/W										
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt											
05N	06W	21	3	R/W	1.00			1	W											
S So Gr T rt ad Spp			% 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				
D	DO	CU												8		0.00	18.5			
D	DO	2S	79	1.8	49,675	48,761	49		1	42	58		2	3	12	83	37	410	2.31	119.0
D	DO	3S	19	1.3	11,235	11,085	11	0	82	8	10		1	7	23	69	35	108	0.86	102.3
D	DO	4S	2		1,116	1,116	1		96	4			47	53			21	31	0.48	36.3
D Totals			95	1.7	62,026	60,962	61	0	17	35	48		2	5	14	79	32	221	1.54	276.1
A	DO	CU															19		0.00	3.3
A	DO	CR	100	2.4	2,986	2,914	3		77	23			5	16	22	57	31	90	0.90	32.4
A Totals			5	2.4	2,986	2,914	3		77	23			5	16	22	57	30	82	0.85	35.7
H	DO	3S	93		241	241	0		100						22	78	36	115	0.86	2.1
H	DO	4S	7		16	16	0	100						100			28	10	0.43	1.6
H Totals			0		257	257	0	6	94					6	20	73	33	70	0.70	3.7
Type Totals				1.7	65,269	64,132	64	0	20	34	46		3	6	14	78	32	203	1.45	315.5

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	DEMO					DATE	6/11/2012
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
05N	06W	22	1&2	00PC	53.00	45	311	1	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
					TREES	TREES					
PLOTS		TREES									
TOTAL		45		311		6.9					
CRUISE		23		130		5.7		7,909		1.6	
DBH COUNT											
REFOREST											
COUNT		22		152		6.9					
BLANKS											
100 %											
STAND SUMMARY											
SAMPLE		TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
TREES		/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
DOUGLEAV		54	53.3	18.6	70	100.1	12,648	12,562	3,545	3,545	
DOUG FIR		44	62.8	15.3	56	79.9	8,136	7,890	2,380	2,380	
HEMLEAV		10	7.9	23.8	68	24.6	3,442	3,372	935	935	
WHEMLOCK		5	9.9	15.3	57	12.7	1,427	1,404	429	429	
SNAG		7	5.6	15.6	52	7.5					
ALDRLEAV		6	8.2	10.0	22	4.5	250	250	70	70	
CEDLEAV		2	.5	24.0	68	1.5	128	128	50	50	
R ALDER		1	.7	14.0	40	.7					
S SPRUCE		1	.3	20.0	21	.7	38	38	10	10	
TOTAL		130	149.2	16.9	59	232.3	26,070	25,644	7,419	7,419	
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		72.5	9.9	245	272	299					
DOUG FIR		43.8	6.6	137	146	156					
HEMLEAV		60.0	20.0	426	532	638					
WHEMLOCK		66.3	33.0	115	172	229					
SNAG											
ALDRLEAV		112.0	49.9	21	42	62					
CEDLEAV											
R ALDER											
S SPRUCE											
TOTAL		90.8	8.0	203	220	238	329	82	37		
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV		55.1	7.5	70	76	81					
DOUG FIR		42.6	6.4	41	44	47					
HEMLEAV		48.4	16.1	121	144	167					
WHEMLOCK		57.2	28.4	37	52	66					
SNAG											
ALDRLEAV		107.3	47.8	6	12	17					
CEDLEAV											
R ALDER											
S SPRUCE											
TOTAL		76.3	6.7	58	63	67	232	58	26		
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV		49.7	7.4	49	53	57					
DOUG FIR		90.2	13.4	54	63	71					
HEMLEAV		175.0	26.1	6	8	10					
WHEMLOCK		227.6	33.9	7	10	13					
SNAG		262.3	39.1	3	6	8					

TC TSTATS				STATISTICS				PAGE	2
				PROJECT	DEMO				
								DATE	6/11/2012
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	06W	22	1&2	00PC	53.00	45	311	1	W
CL: 68.1 %				COEFF			TREES/ACRE		# OF PLOTS REQ.
SD: 1.0				VAR.			S.E.%		INF. POP.
				LOW	AVG	HIGH	5	10	15
ALDRLEAV				358.4	53.4	4	8	13	
CEDLEAV				670.8	99.9	0	0	1	
R ALDER				670.8	99.9	0	1	1	
S SPRUCE				670.8	99.9	0	0	1	
TOTAL				40.1	6.0	140	149	158	64 16 7
CL: 68.1 %				COEFF			BASAL AREA/ACRE		# OF PLOTS REQ.
SD: 1.0				VAR.%			S.E.%		INF. POP.
				LOW	AVG	HIGH	5	10	15
DOUGLEAV				48.3	7.2	93	100	107	
DOUG FIR				80.8	12.0	70	80	90	
HEMLEAV				173.0	25.8	18	25	31	
WHEMLOCK				227.8	33.9	8	13	17	
SNAG				251.8	37.5	5	7	10	
ALDRLEAV				342.9	51.1	2	4	7	
CEDLEAV				670.8	99.9	0	1	3	
R ALDER				670.8	99.9	0	1	1	
S SPRUCE				670.8	99.9	0	1	1	
TOTAL				27.7	4.1	223	232	242	31 8 3
CL: 68.1 %				COEFF			NET BF/ACRE		# OF PLOTS REQ.
SD: 1.0				VAR.%			S.E.%		INF. POP.
				LOW	AVG	HIGH	5	10	15
DOUGLEAV				48.0	7.2	11,663	12,562	13,461	
DOUG FIR				83.2	12.4	6,913	7,890	8,867	
HEMLEAV				176.9	26.4	2,483	3,372	4,260	
WHEMLOCK				229.5	34.2	924	1,404	1,884	
SNAG									
ALDRLEAV				459.2	68.4	79	250	421	
CEDLEAV				670.8	99.9	0	128	257	
R ALDER									
S SPRUCE				670.8	99.9	0	38	75	
TOTAL				34.9	5.2	24,310	25,644	26,978	49 12 5
CL: 68.1 %				COEFF			NET CUFT FT/ACRE		# OF PLOTS REQ.
SD: 1.0				VAR.%			S.E.%		INF. POP.
				LOW	AVG	HIGH	5	10	15
DOUGLEAV				48.4	7.2	3,289	3,545	3,800	
DOUG FIR				83.0	12.4	2,086	2,380	2,675	
HEMLEAV				175.1	26.1	691	935	1,178	
WHEMLOCK				227.8	33.9	284	429	575	
SNAG									
ALDRLEAV				449.8	67.0	23	70	117	
CEDLEAV				670.8	99.9	0	50	100	
R ALDER									
S SPRUCE				670.8	99.9	0	10	20	
TOTAL				35.3	5.3	7,029	7,419	7,809	50 12 6

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT		DEMO		DATE 6/11/2012		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	21	3	00MC	74.00	41	335	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
PLOTS		TREES								
TOTAL		41		335		8.2				
CRUISE		21		122		5.8		10,062		
DBH COUNT								1.2		
REFOREST										
COUNT		20		161		8.1				
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		92	100.6	22.1	92	268.3	58,777	57,715	13,232	13,232
R ALDER		14	27.0	15.0	43	33.2	2,986	2,914	920	920
SNAG		9	5.2	23.5	72	15.6				
DOUGLEAV		5	.6	47.4	134	6.8	2,447	2,430	413	413
WHEMLOCK		2	2.6	14.3	46	2.9	257	257	84	84
TOTAL		122	136.0	21.0	81	326.8	64,467	63,315	14,648	14,648
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		105.9	11.0	766	861	955				
R ALDER		59.2	16.4	113	135	157				
SNAG										
DOUGLEAV		18.0	8.9	3,939	4,326	4,713				
WHEMLOCK		129.6	121.4		120	266				
TOTAL		133.4	12.1	742	844	945	711	178	79	
CL: 68.1 %		COEFF		SAMPLE TREES - CF			# OF TREES REQ.		INF. POP.	
SD: 1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		81.8	8.5	169	185	201				
R ALDER		53.2	14.7	36	42	48				
SNAG										
DOUGLEAV		16.0	7.9	677	735	793				
WHEMLOCK		95.6	89.5	4	37	70				
TOTAL		107.5	9.7	158	175	192	462	115	51	
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		52.7	8.2	92	101	109				
R ALDER		228.4	35.6	17	27	37				
SNAG		182.4	28.5	4	5	7				
DOUGLEAV		402.3	62.8	0	1	1				
WHEMLOCK		365.7	57.1	1	3	4				
TOTAL		33.0	5.1	129	136	143	43	11	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		46.2	7.2	249	268	288				
R ALDER		208.7	32.6	22	33	44				
SNAG		150.3	23.4	12	16	19				
DOUGLEAV		390.8	61.0	3	7	11				
WHEMLOCK		360.3	56.2	1	3	5				
TOTAL		24.0	3.7	315	327	339	23	6	3	
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	DEMO				
								DATE	6/11/2012
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	06W	21	3	00MC	74.00	41	335	1	W
CL: 68.1 %				COEFF			NET BF/ACRE		# OF PLOTS REQ.
SD: 1.0				VAR.			S.E.%		INF. POP.
				LOW	AVG	HIGH			
DOUG FIR				53,727	57,715	61,704			
R ALDER				1,989	2,914	3,838			
SNAG									
DOUGLEAV				836	2,430	4,023			
WHEMLOCK				77	257	437			
TOTAL				59,823	63,315	66,808	50	12	6
CL: 68.1 %				COEFF			NET CUFT FT/ACRE		# OF PLOTS REQ.
SD: 1.0				VAR.%			S.E.%		INF. POP.
				LOW	AVG	HIGH			
DOUG FIR				12,297	13,232	14,166			
R ALDER				630	920	1,210			
SNAG									
DOUGLEAV				143	413	682			
WHEMLOCK				32	84	136			
TOTAL				13,902	14,648	15,394	43	11	5

TC TSTATS				STATISTICS				PAGE 1				
				PROJECT		DEMO		DATE 6/11/2012				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt			
05N	06W	22	1&2	PCTK	53.00	45	127	1	W			
				TREES	ESTIMATED	PERCENT						
				PER PLOT	TOTAL	SAMPLE						
					TREES	TREES						
PLOTS				TREES								
TOTAL				45	127	2.8						
CRUISE				17	52	3.1						
DBH COUNT						3,939						
REFOREST						1.3						
COUNT				23	72	3.1						
BLANKS				5								
100 %												
STAND SUMMARY												
SAMPLE				TREES	AVG	BOLE	REL	BASAL	GROSS	NET		
TREES				/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	GROSS	NET
									CF/AC	CF/AC		
DOUG FIR				45	63.4	15.3	56	80.7	8,030	7,787	2,349	2,349
WHEMLOCK				5	9.9	15.3	57	12.7	1,427	1,404	429	429
S SPRUCE				1	.3	20.0	21	.7	38	38	10	10
R ALDER				1	.7	14.0	40	.7				
TOTAL				52	74.3	15.3	56	94.9	9,495	9,228	2,788	2,788
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		46.8	7.0	133	143	153						
WHEMLOCK		66.3	33.0	115	172	229						
S SPRUCE												
R ALDER												
TOTAL		51.6	7.1	132	143	153	106	27	12			
CL:	68.1 %	COEFF		SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15			
DOUG FIR		45.7	6.8	40	43	46						
WHEMLOCK		57.2	28.4	37	52	66						
S SPRUCE												
R ALDER												
TOTAL		49.6	6.9	40	43	46	98	25	11			
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		88.5	13.2	55	63	72						
WHEMLOCK		227.6	33.9	7	10	13						
S SPRUCE		670.8	99.9	0	0	1						
R ALDER		670.8	99.9	0	1	1						
TOTAL		86.3	12.9	65	74	84	298	74	33			
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		79.2	11.8	71	81	90						
WHEMLOCK		227.8	33.9	8	13	17						
S SPRUCE		670.8	99.9	0	1	1						
R ALDER		670.8	99.9	0	1	1						
TOTAL		76.8	11.4	84	95	106	235	59	26			
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		83.4	12.4	6,819	7,787	8,754						
WHEMLOCK		229.5	34.2	924	1,404	1,884						
S SPRUCE		670.8	99.9	0	38	75						
R ALDER												
TOTAL		83.2	12.4	8,085	9,228	10,371	276	69	31			
CL:	68.1 %	COEFF		NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15			

TC TSTATS				STATISTICS				PAGE	2
				PROJECT	DEMO			DATE	6/11/2012
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	06W	22	1&2	PCTK	53.00	45	127	1	W
CL: 68.1 %		COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR		83.2	12.4	2,058	2,349	2,641			
WHEMLOCK		227.8	33.9	284	429	575			
S SPRUCE		670.8	99.9	0	10	20			
R ALDER									
TOTAL		82.6	12.3	2,445	2,788	3,131	272	68	30

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT DEMO		DATE 6/11/2012				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
05N	06W	21	3	TAKE	74.00	41	310	1	W	
				TREES	ESTIMATED TOTAL	PERCENT SAMPLE				
PLOTS		TREES		PER PLOT	TREES	TREES				
TOTAL		41		7.6						
CRUISE		16		6.6		9,721		1.1		
DBH COUNT										
REFOREST										
COUNT		25		7.9						
BLANKS										
100 %										
STAND SUMMARY										
SAMPLE TREES		TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR		90	101.7	21.9	92	266.3	57,481	56,418	13,066	13,066
R ALDER		14	27.0	15.0	43	33.2	2,986	2,914	920	920
WHEMLOCK		2	2.6	14.3	46	2.9	257	257	84	84
TOTAL		106	131.4	20.5	81	302.4	60,725	59,589	14,070	14,070
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		57.9	6.1	696	742	787				
R ALDER		59.2	16.4	113	135	157				
WHEMLOCK		129.6	121.4		120	266				
TOTAL		69.8	6.8	606	650	694	194	49	22	
CL: 68.1 %	COEFF	SAMPLE TREES - CF					# OF TREES REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
DOUG FIR		48.5	5.1	157	166	174				
R ALDER		53.2	14.7	36	42	48				
WHEMLOCK		95.6	89.5	4	37	70				
TOTAL		59.2	5.7	139	147	156	140	35	16	
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		52.7	8.2	93	102	110				
R ALDER		228.4	35.6	17	27	37				
WHEMLOCK		365.7	57.1	1	3	4				
TOTAL		34.0	5.3	124	131	138	46	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		47.1	7.3	247	266	286				
R ALDER		208.7	32.6	22	33	44				
WHEMLOCK		360.3	56.2	1	3	5				
TOTAL		26.8	4.2	290	302	315	29	7	3	
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		45.8	7.1	52,389	56,418	60,447				
R ALDER		203.3	31.7	1,989	2,914	3,838				
WHEMLOCK		449.0	70.1	77	257	437				
TOTAL		35.9	5.6	56,252	59,589	62,925	51	13	6	
CL: 68.1 %	COEFF	NET CUFT FT/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
DOUG FIR		46.4	7.2	12,120	13,066	14,012				
R ALDER		202.1	31.5	630	920	1,210				
WHEMLOCK		397.2	62.0	32	84	136				

TC TSTATS				STATISTICS				PAGE	2
				PROJECT	DEMO				
								DATE	6/11/2012
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	06W	21	3	TAKE	74.00	41	310	1	W
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.	INF. POP.	
SD:	1.0	VAR.	S.E. %	LOW	AVG	HIGH	5	10	15
TOTAL		33.2	5.2	13,340	14,070	14,800	44	11	5

Log Stock Table - MBF

T05N R06W S21 TyTAKE 74.00
T05N R06W S22 TyPCTK 53.00

Project: DEMO
Acres 127.00

Page 2
Date 6/11/2012
Time 10:13:10AM

S T Spp	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+
D	DO	4S	19	2		2	.1			2									
D	DO	4S	20	12		12	.3			12									
D	DO	4S	21	5		5	.1			5									
D	DO	4S	22	3		3	.1			3									
D	DO	4S	23	8		8	.2			8									
D	DO	4S	24	18		18	.4			18									
D	DO	4S	26	15		15	.3			15									
D	DO	4S	28	5		5	.1			5									
D	DO	4S	29	12		12	.3			12									
D	DO	4S	31	6		6	.1			6									
D	DO	4S	32	6	6.2	6	.1		4	2									
D	Totals			4,679	2.0	4,588	93.7	1	4	312	383	447	609	661	1307	738	125		
A	DO	CR	16	3		3	1.2			3									
A	DO	CR	20	7		7	3.4			3	4								
A	DO	CR	21	3		3	1.5			3									
A	DO	CR	24	15		15	6.8			15									
A	DO	CR	30	17		17	7.8						17						
A	DO	CR	32	49	4.0	47	22.0					33	15						
A	DO	CR	38	25		25	11.5			25									
A	DO	CR	40	102	3.3	99	45.7				29	52	18						
A	Totals			221	2.4	216	4.4			49	33	85	33	17					
H	DO	2S	40	18		18	19.2							18					
H	DO	3S	32	27		27	28.7			4	12		11						
H	DO	3S	40	32		32	34.4			4		28							
H	DO	4S	16	2		2	2.1			2									
H	DO	4S	22	2		2	2.2			2									
H	DO	4S	26	5		5	5.5			5									
H	DO	4S	28	1		1	1.3	1											
H	DO	4S	39	8	16.7	6	6.7			6									
H	Totals			95	1.3	93	1.9	1		23	12	28	11	18					
S	DO	3S	16	2		2	100.0							2					
S	Totals			2		2	.0							2					
Total	All Species			4,997	2.0	4,899	100.0	2	4	383	427	560	653	698	1307	738	125		

TC PSTNDSUM		Stand Table Summary										Page Date:	1 6/11/2012
T05N R06W S21 TyTAKE 74.00 T05N R06W S22 TyPCTK 53.00		Project DEMO Acres 127.00										Time:	10:13:11AM
												Grown Year:	
S Spec T	Sample DBH	Trees	FF 16'	Tot Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Cu.Ft.	Net Bd.Ft.	Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	T o t a l s Tons Cunits MBF
D	11	4	87	48	6.013	3.97	6.01	11.3	33.2		68	200	86 25
D	12	3	87	64	4.296	3.22	5.25	14.6	43.6		77	229	98 29
D	13	5	87	78	5.270	4.72	8.52	16.2	53.3		138	454	176 58
D	14	5	84	77	4.412	4.72	7.42	18.2	56.2		135	417	172 53
D	15	12	86	94	8.949	10.93	16.68	21.3	75.6		354	1,261	450 160
D	16	2	85	92	1.072	1.50	2.14	26.2	92.5		56	198	71 25
D	17	9	85	92	6.129	9.66	13.35	25.4	87.8		339	1,173	431 149
D	18	8	85	106	5.645	9.89	14.22	27.1	94.0		385	1,337	489 170
D	19	4	86	116	2.532	4.94	6.82	32.9	116.3		224	793	285 101
D	20	5	84	90	2.162	4.72	5.11	28.1	103.2		144	528	183 67
D	21	10	87	118	6.373	15.29	16.33	42.0	163.2		686	2,666	871 339
D	22	13	86	127	8.135	21.44	23.46	41.7	173.8		978	4,077	1,242 518
D	23	8	87	137	4.781	13.79	14.94	45.7	190.4		683	2,845	868 361
D	24	9	86	136	4.940	15.52	14.27	52.5	216.2		750	3,085	952 392
D	25	4	88	140	1.737	5.92	4.99	62.8	271.0		313	1,353	398 172
D	26	8	88	147	3.741	13.79	11.22	66.7	301.2		749	3,381	951 429
D	27	4	88	152	1.735	6.90	5.64	70.5	343.8		398	1,939	505 246
D	28	6	87	151	2.420	10.35	7.66	75.5	347.4		579	2,661	735 338
D	29	2	92	146	.752	3.45	2.26	87.7	443.3		198	1,000	251 127
D	30	8	88	149	2.810	13.79	8.43	91.0	426.7		768	3,597	975 457
D	31	1	92	150	.329	1.72	.99	101.3	516.7		100	510	127 65
D	32	3	88	153	.926	5.17	2.78	97.8	498.9		272	1,386	345 176
D	33	2	90	159	.581	3.45	2.03	99.0	508.6		201	1,034	256 131
D	Totals	135	86	108	85.739	188.85	200.52	42.9	180.1		8,594	36,123	10,914 4,588
A	12	3	87	37	5.430	4.14	3.52	16.5	45.0		58	158	74 20
A	13	1	87	52	1.498	1.38	1.50	23.0	60.0		34	90	44 11
A	14	2	87	71	1.583	1.69	2.58	19.0	70.0		49	181	62 23
A	15	2	86	64	2.250	2.76	2.25	35.5	100.0		80	225	101 29
A	17	1	86	80	.876	1.38	1.75	29.5	105.0		52	184	66 23
A	18	3	86	72	2.344	4.14	3.91	34.2	108.0		134	422	170 54
A	19	2	87	70	1.402	2.76	2.10	40.3	130.0		85	273	108 35
A	20	1	86	71	.633	1.38	1.27	35.0	130.0		44	165	56 21
A	Totals	15	87	57	16.015	19.64	18.87	28.4	90.0		536	1,698	680 216
H	12	1	86	97	1.349	1.06	2.70	15.0	50.0		40	135	51 17
H	13	1	83	31	.925	.85	.93	12.0	10.0		11	9	14 1
H	14	1	88	52	.991	1.06	.99	24.0	50.0		24	50	30 6
H	16	2	89	84	1.370	1.91	2.74	26.6	98.4		73	269	92 34
H	19	1	86	68	.538	1.06	1.08	30.0	95.0		32	102	41 13
H	20	1	88	99	.486	1.06	.97	49.0	175.0		48	170	60 22
H	Totals	7	87	73	5.659	7.00	9.40	24.3	78.2		228	736	290 93
S	20	1	75	29	.143	.31	.14	29.0	110.0		4	16	5 2
S	Totals	1	75	29	.143	.31	.14	29.0	110.0		4	16	5 2
Totals		158	86	98	107.557	215.81	228.94	40.9	168.5		9,362	38,572	11,890 4,899

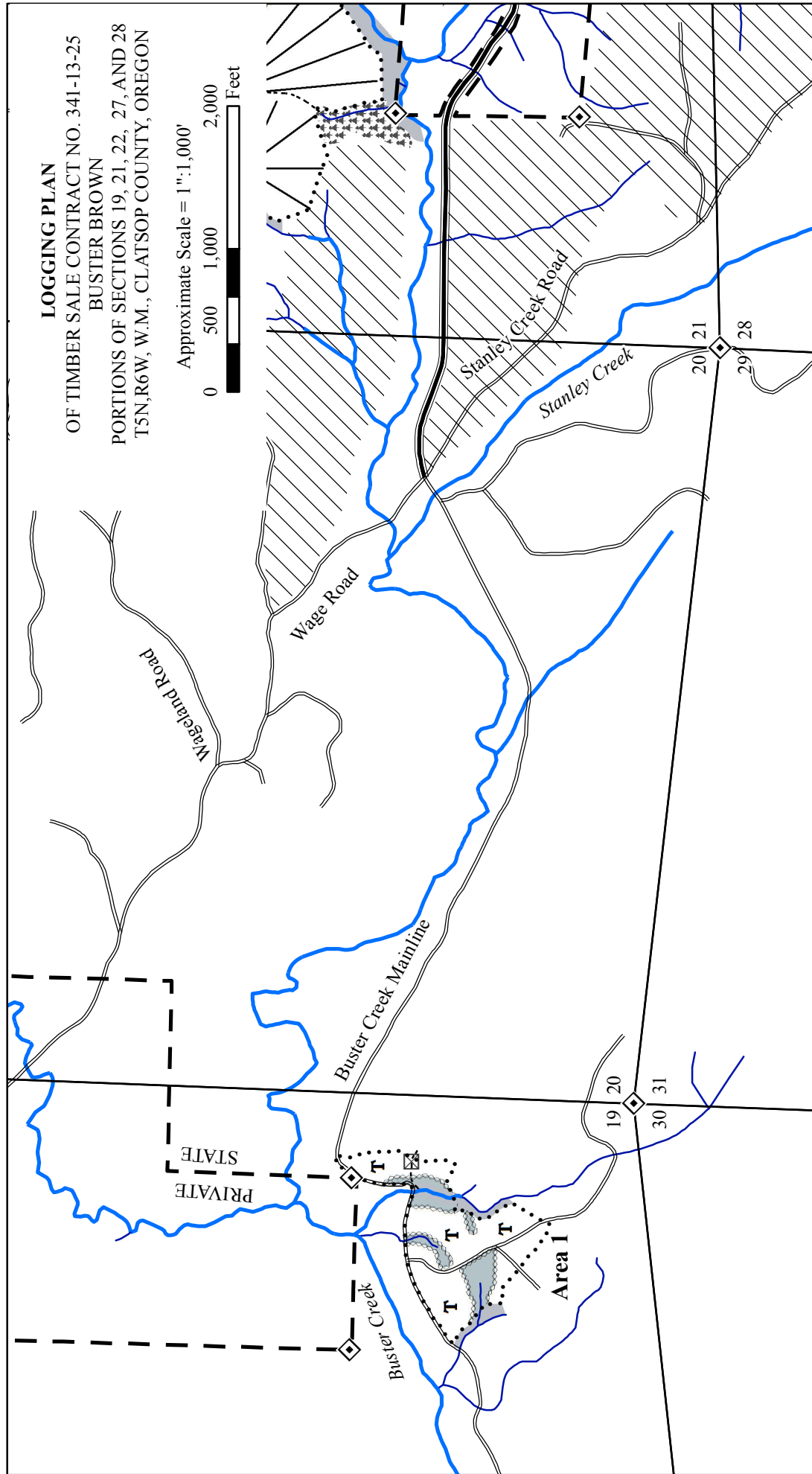
TC TSTNDSUM				Stand Table Summary											
				Project		DEMO									
T05N R06W S21 TTAKE				T05N R06W S21 TTAK											
Twp	Rge	Sec	Tract	Type			Acres		Plots	Sample Trees			Page:	1	
05N	06W	21	3	TAKE			74.00						Date:	06/11/20	
														Time:	10:13:10AM
S Spc	T	Sample		Av	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net	Net	T o t a l s		
		DBH	Trees	FF 16'				Ht Tot	Net Cu.Ft.		Net Bd.Ft.	Cu.Ft. Acre			Bd.Ft. Acre
D		11	1	89	27	4.484	2.96	4.48	9.0	20.0		40	90	30	7
D		12	1	89	44	4.103	2.96	4.10	13.0	40.0		53	164	39	12
D		13	1	88	59	3.473	2.96	3.47	19.0	60.0		66	208	49	15
D		14	1	85	82	2.768	2.96	5.54	17.0	60.0		94	332	70	25
D		15	2	86	106	4.823	5.92	9.65	23.7	90.0		229	868	170	64
D		17	3	85	103	5.632	8.88	13.14	26.0	94.3		342	1,239	253	92
D		18	4	85	120	6.699	11.84	18.42	28.5	98.2		524	1,809	388	134
D		19	2	86	127	3.006	5.92	9.02	32.7	118.3		295	1,067	218	79
D		20	1	85	119	1.356	2.96	4.07	32.0	120.0		130	488	96	36
D		21	8	87	123	9.843	23.67	25.84	42.6	166.7		1,100	4,306	814	319
D		22	12	86	128	13.453	35.51	39.24	41.6	174.6		1,632	6,850	1,208	507
D		23	8	87	137	8.205	23.67	25.64	45.7	190.4		1,172	4,882	868	361
D		24	9	86	136	8.478	26.63	24.49	52.5	216.2		1,287	5,294	952	392
D		25	3	89	150	2.604	8.88	7.81	64.1	282.2		501	2,205	371	163
D		26	8	88	147	6.421	23.67	19.26	66.7	301.2		1,285	5,803	951	429
D		27	4	88	152	2.977	11.84	9.68	70.5	343.8		683	3,327	505	246
D		28	6	87	151	4.152	17.76	13.15	75.5	347.4		993	4,568	735	338
D		29	2	92	146	1.290	5.92	3.87	87.7	443.3		339	1,716	251	127
D		30	8	88	149	4.823	23.67	14.47	91.0	426.7		1,317	6,173	975	457
D		31	1	92	150	.565	2.96	1.69	101.3	516.7		172	875	127	65
D		32	3	88	153	1.590	8.88	4.77	97.8	498.9		466	2,379	345	176
D		33	2	90	159	.996	5.92	3.49	99.0	508.6		345	1,774	256	131
D		Totals	90	87	120	101.742	266.34	265.29	49.3	212.7		13,066	56,418	9,669	4,175
A		12	3	87	37	9.318	7.11	6.03	16.5	45.0		100	272	74	20
A		13	1	87	52	2.570	2.37	2.57	23.0	60.0		59	154	44	11
A		14	1	87	74	2.216	2.37	4.43	19.0	70.0		84	310	62	23
A		15	2	86	64	3.861	4.74	3.86	35.5	100.0		137	386	101	29
A		17	1	86	80	1.503	2.37	3.01	29.5	105.0		89	316	66	23
A		18	3	86	72	4.022	7.11	6.70	34.2	108.0		229	724	170	54
A		19	2	87	70	2.407	4.74	3.61	40.3	130.0		146	469	108	35
A		20	1	86	71	1.086	2.37	2.17	35.0	130.0		76	282	56	21
A		Totals	14	87	57	26.985	33.17	32.39	28.4	90.0		920	2,914	680	216
H		13	1	83	31	1.588	1.46	1.59	12.0	10.0		19	16	14	1
H		16	1	86	98	1.048	1.46	2.10	31.0	115.0		65	241	48	18
H		Totals	2	84	58	2.636	2.93	3.68	22.8	69.7		84	257	62	19
Totals		106	87	106		131.363	302.44	301.37	46.7	197.7		14070	59,589	10,412	4,410

TC TSTNDSUM				Stand Table Summary											
				Project		DEMO									
T05N R06W S22 TPCTK								T05N R06W S22 TPCT							
Twp	Rge	Sec	Tract	Type			Acres	Plots	Sample Trees			Page:	1		
05N	06W	22	1&2	PCTK			53.00					Date:	06/11/20		
											Time:	10:13:10AM			
S Spc	T	Sample		FF	Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net	Net	T o t a l s	
		DBH	Trees	16'	Tot				Net Cu.Ft.	Net Bd.Ft.		Cu.Ft. Acre	Bd.Ft. Acre		
D		11	3	86	64	8.148	5.38	8.15	13.0	43.3		106	353	56	19
D		12	2	84	90	4.565	3.59	6.85	16.0	46.7		110	320	58	17
D		13	4	86	90	7.779	7.17	15.56	15.4	51.3		239	797	127	42
D		14	4	83	75	6.707	7.17	10.06	19.2	53.3		193	537	102	28
D		15	10	86	88	14.709	17.93	26.50	20.0	68.3		529	1,809	281	96
D		16	2	85	92	2.568	3.59	5.14	26.2	92.5		135	475	71	25
D		17	6	84	79	6.823	10.76	13.65	24.6	79.2		335	1,080	178	57
D		18	4	86	76	4.175	7.17	8.35	22.9	81.2		191	678	101	36
D		19	2	87	91	1.871	3.59	3.74	33.6	109.6		126	410	67	22
D		20	4	83	74	3.287	7.17	6.57	24.8	88.7		163	583	86	31
D		21	2	87	80	1.527	3.59	3.05	35.1	122.8		107	375	57	20
D		22	1	85	87	.711	1.79	1.42	45.0	145.0		64	206	34	11
D		25	1	83	70	.526	1.79	1.05	49.0	155.0		52	163	27	9
D		Totals	45	85	81	63.396	80.66	110.09	21.3	70.7		2,349	7,787	1,245	413
H		12	1	86	97	3.233	2.54	6.47	15.0	50.0		97	323	51	17
H		14	1	88	52	2.375	2.54	2.38	24.0	50.0		57	119	30	6
H		16	1	92	73	1.819	2.54	3.64	23.0	85.0		84	309	44	16
H		19	1	86	68	1.290	2.54	2.58	30.0	95.0		77	245	41	13
H		20	1	88	99	1.164	2.54	2.33	49.0	175.0		114	407	60	22
H		Totals	5	88	78	9.881	12.70	17.39	24.7	80.7		429	1,404	227	74
S		20	1	75	29	.342	.75	.34	29.0	110.0		10	38	5	2
S		Totals	1	75	29	.342	.75	.34	29.0	110.0		10	38	5	2
A		14	1	87	58	.699	.75								
A		Totals	1	87	58	.699	.75								
Totals			52	85	80	74.318	94.85	127.82	21.8	72.2		2788	9,228	1,478	489

LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-13-25
BUSTER BROWN
PORTIONS OF SECTIONS 19, 21, 22, 27, AND 28
T5N,R6W, W.M., CLATSOP COUNTY, OREGON

Approximate Scale = 1"=1,000'



Legend

- Known Land Survey Corner
- Ownership Boundary
- Timber Sale Boundary
- New Construction Landing
- Existing Surfaced Road
- Seasonal Restricted Road
- New Road Construction
- Non-thinnable Area
- Temporary Stream Crossing
- Type N Stream
- Type F Stream
- Seasonal Stream
- Reforestation Area
- Green Tree Retention Area
- Yarding Area - Tractor
- Yarding Area - Cable
- Buffer Zone
- Posted Buffer

Approximate Net Acreage:

	PC Acres	MC Acres
Area 1 (PC) -	13	0
Area 2 (PC) -	40	0
Area 3 (MC) -	0	74
Area 4 (R/W) -	0	1
Total by prescription	53	75
Total Sale Acreage	128	

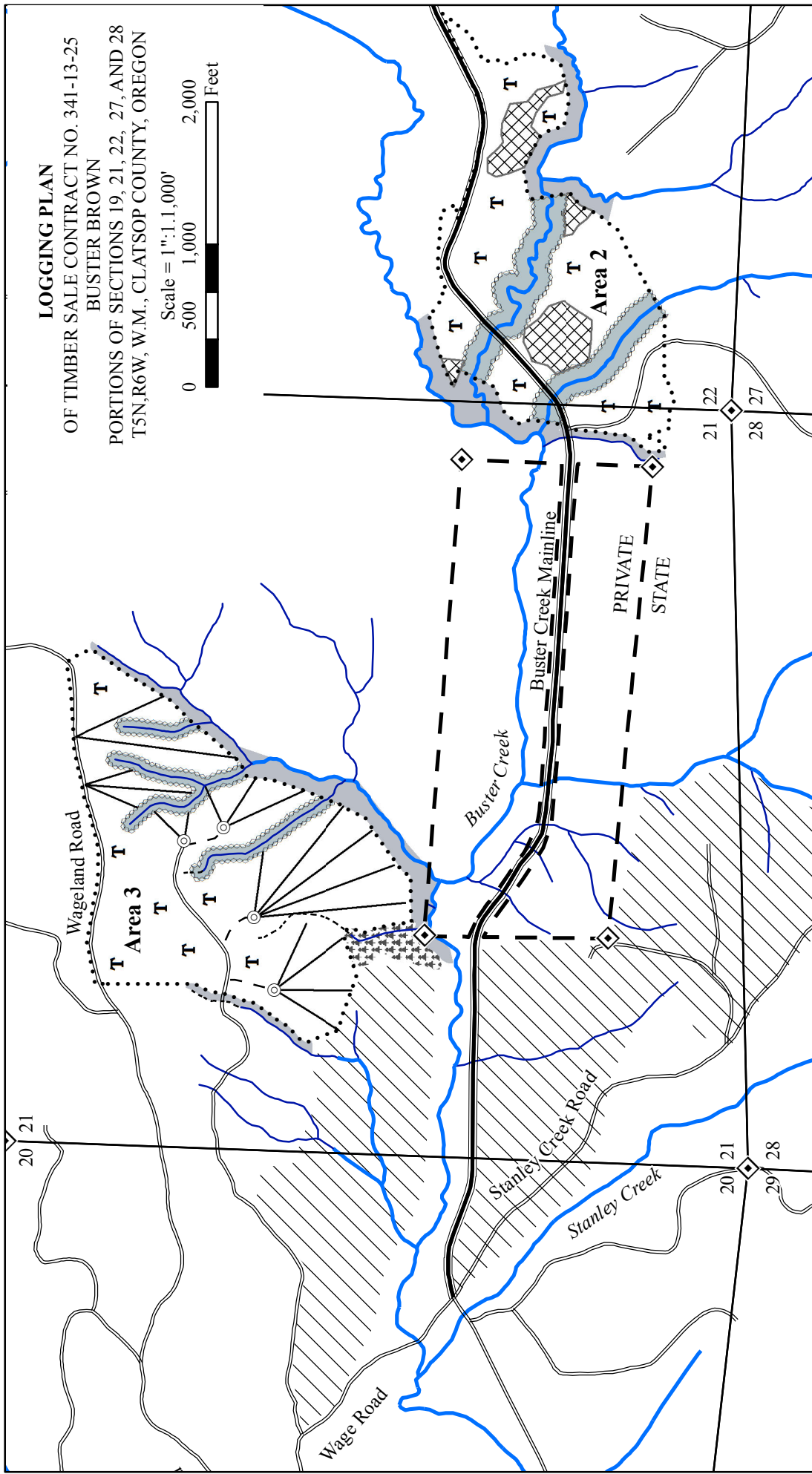


Logging Breakdown	
Area	Tractor
1	0%
2	0%
3	59%
Total	34%

LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-13-25
BUSTER BROWN
PORTIONS OF SECTIONS 19, 21, 22, 27, AND 28
T5N, R6W, W.M., CLATSOP COUNTY, OREGON

Scale = 1"=1.1,000'



Legend

- Known Land Survey Corner
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- Timber Sale Boundary
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- Temporary Stream Crossing
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- Yarding Area - Tractor
- Yarding Area - Cable
- Buffer Zone
- Posted Buffer



Approximate Net Acreage:

	PC Acres	MC Acres
Area 1 (PC) -	13	0
Area 2 (PC) -	40	0
Area 3 (MC) -	0	74
Area 4 (R/W) -	0	1
Total by prescription	53	75
Total Sale Acreage	128	

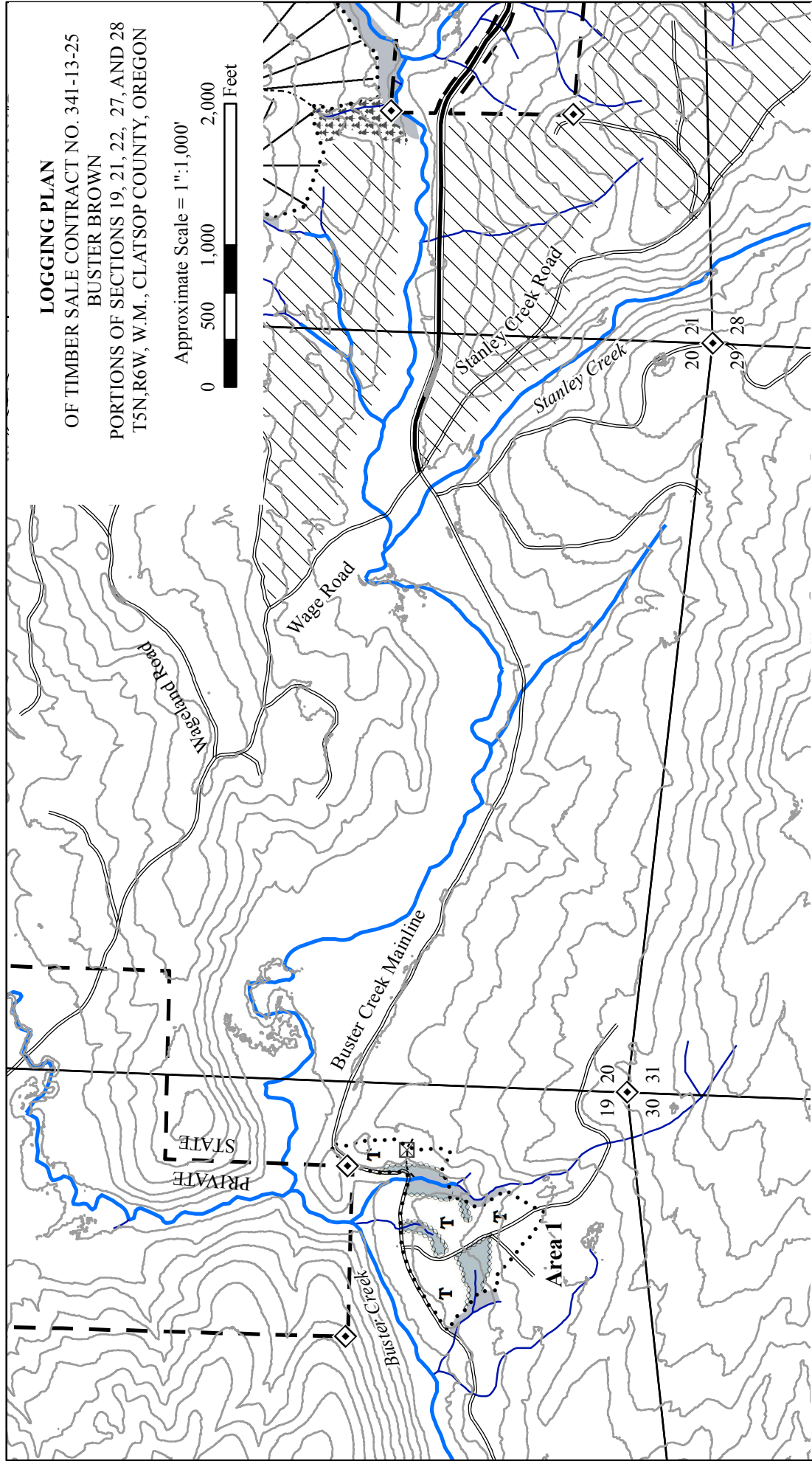
Logging Breakdown

Area	Cable	Tractor
1	0%	100%
2	0%	100%
3	59%	41%
Total	34%	66%

LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-13-25
BUSTER BROWN
PORTIONS OF SECTIONS 19, 21, 22, 27, AND 28
T5N,R6W, W.M., CLATSOP COUNTY, OREGON

Approximate Scale = 1"=1,000'



Legend

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- Type F Stream
- Seasonal_Stream
- Reforestation Area
- Green Tree Retention Area
- Yarding Area - Tractor
- Yarding Area - Cable
- Buffer Zone
- Posted Buffer

Approximate Net Acreage:

	PC Acres	MC Acres
Area 1 (PC) -	13	0
Area 2 (PC) -	40	0
Area 3 (MC) -	0	74
Area 4 (R/W) -	0	1
Total by prescription	53	75
Total Sale Acreage	128	

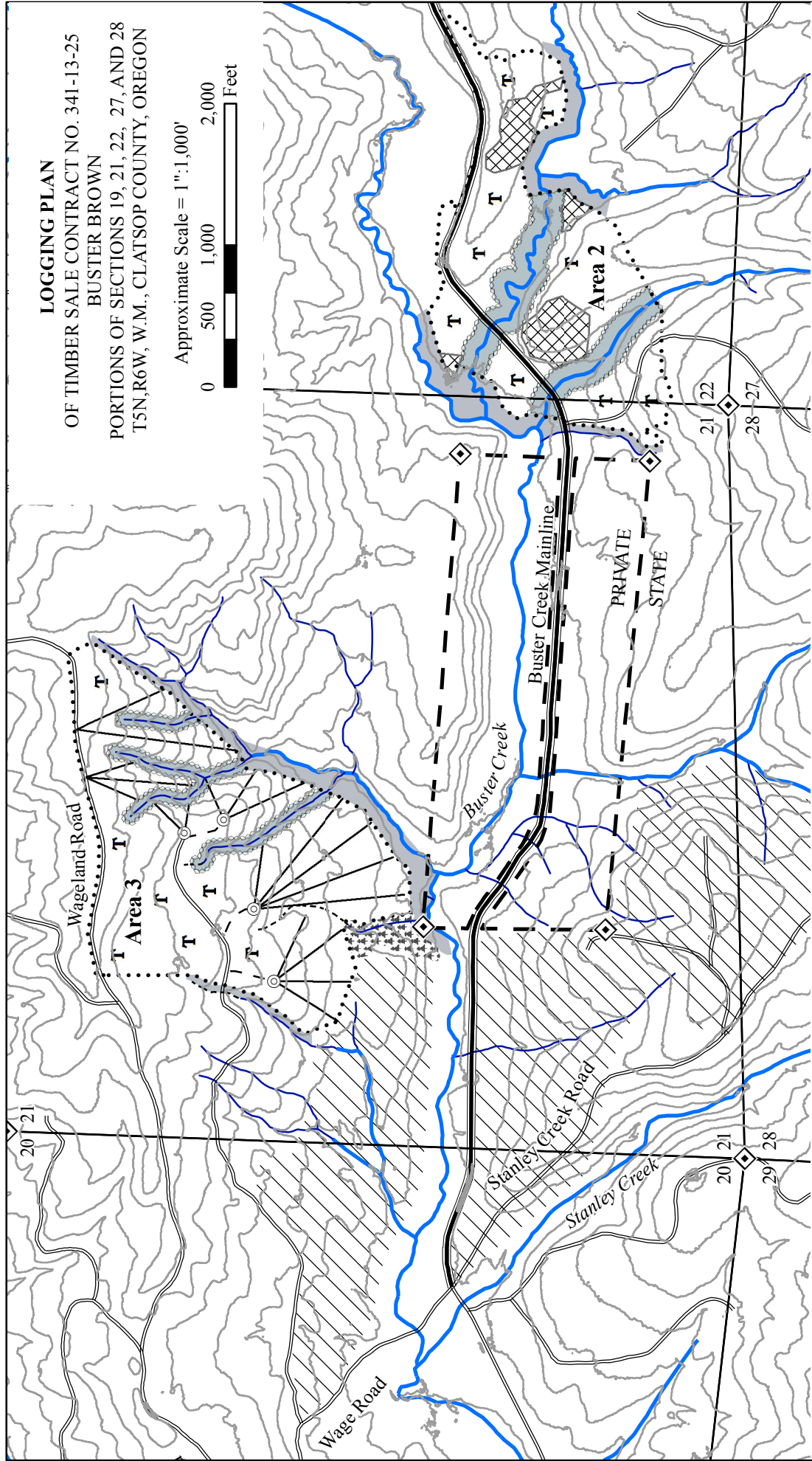


Logging Breakdown	
Area	Tractor
1	0%
2	0%
3	59%
Total	34%

LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-13-25
BUSTER BROWN
PORTIONS OF SECTIONS 19, 21, 22, 27, AND 28
T5N,R6W, W.M., CLATSOP COUNTY, OREGON

Approximate Scale = 1"=1,000'



Legend

- Known Land Survey Corner
- Ownership Boundary
- Timber Sale Boundary
- New Construction Landing
- Existing Surfaced Road
- Seasonal Restricted Road
- New Road Construction
- Non-thinnable Area
- Temporary Stream Crossing
- Type N Stream
- Type F Stream
- Seasonal_Stream
- Reforestation Area
- Green Tree Retention Area
- Yarding Area - Tractor
- Yarding Area - Cable
- Buffer Zone
- Posted Buffer

Approximate Net Acreage:

	PC Acres	MC Acres
Area 1 (PC) -	13	0
Area 2 (PC) -	40	0
Area 3 (MC) -	0	74
Area 4 (R/W) -	0	1
Total by prescription	53	75
Total Sale Acreage	128	



Logging Breakdown	
Area	Cable Tractor
1	0% 100%
2	0% 100%
3	59% 41%
Total	34% 66%