



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Ridge 77
Sale 341-10-25

District: Astoria

Date: June 04, 2009

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$385,058.16	\$17,124.27	\$402,182.43
Project Work:			\$(34,214.00)
Advertised Value:			\$367,968.43



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timber description

Location: Portions of Sections 14, 15, 22, & 23, T6N, R6W, W.M., Clatsop County, Oregon.

Stand Stocking: 60%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	24	0	97
Alder (Red)	14	0	95
Maple	15	0	93

Volume by Grade	2S	3S	4S	Camprun	Total
Douglas - Fir	2,360	344	67	0	2,771
Alder (Red)	0	0	0	89	89
Maple	0	0	0	18	18
Total	2,360	344	67	107	2,878



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comments: Pond Values Used: 1st Quarter Calendar Year 2009.

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

Western Red Cedar Stumpage Price = Pond Value minus Logging Cost
\$545.56/MBF = \$720/MBF - \$174.44/MBF

Western Hemlock/True fir Stumpage Price = Pond Value minus Logging Cost
\$85.56/MBF = \$260/MBF - \$174.44/MBF

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$3.00/Gallon

HAULING COST ALLOWANCE

Hauling costs equivalent to \$700 daily truck cost.

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

100% Brand and Paint: \$1/MBF x 2,878 MBF = \$ 2,878

Additional log loader piling: 3hr. x \$65/hr x 2 landings = \$390

Additional cutting costs for marked trees and flush cutting stumps adjacent to Old 77 Vesper Ln:

1 Cutter - 3 days x \$500/day = \$1,500

2 Flaggers (\$160/flagger/day) - 3 days x \$320/day = \$960

1 Log Loader - 3 days x \$800/day = \$2,400

TOTAL Other Costs (with Profit and Risk to be added) = \$8,128

Other Costs (No Profit & Risk to be added):

Excavator Slash Piling: 20 hours x \$120/hr. = \$2,400

Excavator move-in: \$1,119

TOTAL Other Costs (No Profit & Risk added) = \$3,519



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logging conditions

combination#: 1 Douglas - Fir 55.00%
 Alder (Red) 55.00%
 Maple 55.00%

yarding distance: Long (1,500 ft) **downhill yarding:** No
logging system: Cable: Medium Tower >40 - <70 **Process:** Manual Falling/Delimbing
tree size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 6.0 **bd. ft / load:** 4,500
cost / mbf: \$128.15

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

combination#: 2 Douglas - Fir 45.00%
 Alder (Red) 45.00%
 Maple 45.00%

yarding distance: Long (1,500 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: 10.0 **bd. ft / load:** 4,500
cost / mbf: \$76.89

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



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District: Astoria

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logging costs

Operating Seasons:	2.00	Profit Risk:	12.00%
Project Costs:	\$34,214.00	Other Costs (P/R):	\$8,128.00
Slash Disposal:	\$0.00	Other Costs:	\$3,519.00

Miles of Road

Road Maintenance: \$3.39

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	4.0	4.5
Alder (Red)	\$0.00	2.0	3.5
Maple	\$0.00	2.0	3.5

Local Pond Values

Date	Specie	Grade	Value
6/4/09	Maple	Camprun	\$325.00



"STEWARDSHIP IN FORESTRY"

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District: Astoria

Date: June 04, 2009

logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$105.08	\$3.49	\$3.05	\$35.76	\$2.82	\$18.02	\$0.00	\$5.00	\$1.22	\$174.44
Alder (Red)									
\$105.08	\$3.56	\$3.05	\$93.75	\$2.82	\$24.99	\$0.00	\$5.00	\$1.22	\$239.47
Maple									
\$105.08	\$3.63	\$3.05	\$95.54	\$2.82	\$25.21	\$0.00	\$5.00	\$1.22	\$241.55

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$313.40	\$138.96	\$0.00
Alder (Red)	\$0.00	\$415.00	\$175.53	\$0.00
Maple	\$0.00	\$325.00	\$83.45	\$0.00



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summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	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	2,771	\$138.96	\$385,058.16
Alder (Red)	89	\$175.53	\$15,622.17
Maple	18	\$83.45	\$1,502.10

Gross Timber Sale Value

Recovery: \$402,182.43

Prepared by: Ty Williams

Phone: 503-325-5451

SUMMARY OF ALL PROJECT COSTS

SALE NAME: Ridge 77

NEW CONSTRUCTION:

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
Project No. 1	Landing construction		
	1A, 1B, & 2A		\$2,748
	TOTALS		\$2,748

ROAD IMPROVEMENT:

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
Project No. 1	I1-I2	52.80	\$13,527
	TOTALS	52.80 1 mi.	\$13,527

SPECIAL PROJECTS:

Project No. 2	Rock Quarry Test Drilling	\$12,000
	Project Work Road Maintenance	\$744
		\$12,744

MOVE IN:

	<u>Equipment</u>	<u>Cost</u>
	Dozer (D8)	\$1,220
	Dump Trucks (12 cy x 4)	\$564
	F E Loader (C966)	\$675
	Grader (14G)	\$675
	Vibratory Roller	\$675
	Water Truck (2,500 gallon)	\$165
	Excavator (C330)	\$1,220
	TOTAL	\$5,194

GRAND TOTAL **\$34,214**

Compiled By: J. Long *FL*

Date: 03/11/2009

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Ridge 77 NEW CONSTRUCTION: 0.00 STATIONS 0.00 MILES
 ROAD: Landing Construction at Pts. 1A, 1B, and 2A IMPROVEMENT: STATIONS 0.00 MILES

CLEARING & GRUBBING				
Method	Acres/amount	x	Rate	= Cost
Scatter Outside of RW	0.5	x	\$1,123.00	\$561.50
SUB TOTAL FOR CLEARING & GRUBBING				\$562

EXCAVATION				
Material	Sta/amount	x	Rate	= Cost
Landing Construction \$\$/landing		x		
1A, 1B, & 2A	3	x	\$327.00	\$981.00
Haul excess excavation to waste area \$/cy	300.00	x	\$3.50	\$1,050.00
SUB TOTAL FOR EXCAVATION				\$2,031

CULVERT MATERIALS AND INSTALLATION							
Location	Dialtype	Lineal ft.	Rate	Cost	No. bands	Rate	Cost
Other/miscellaneous:			Description		Quantity	Rate	Cost
			Grass seed and mulch waste area.		0.1	\$1,558.00	\$155.80
			(pasture mix - 100# seed, 200# fertilizer/ac.)				
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION							\$156
Subtotal							\$2,748

Project No. 1 Road Improvement

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Ridge 77
ROAD: 11-12 (52.8)

NEW CONSTRUCTION: 0.00 STATIONS
IMPROVEMENT: 52.80 STATIONS

0.00 MILES
1.00 MILES

SURFACING											
Subgrade prep:		Description									
		Grade, Shape and Ditch									
		Scatter ditch waste materials									
		Surfacing Rock Processing and Compaction (Subgrade Leveling)									
		Stations/ amount	x	Rate/ sta/amt		Cost					
		52.80	x	\$21.55		\$1,137.84					
		52.80	x	\$10.78		\$569.18					
		52.80	x	\$20.39		\$1,076.59					
ROAD SEGMENT											
Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT		Sta. to Sta. 0+00 to 67+10 Number of	TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost		
				11 to 12	Volume (CY) per						
Subgrade Leveling	4"-0" Crushed	11 to 12	N/A				100	\$5.35	\$535		
Base Rock	1 1/2"-0" Crushed	11 to 12	3	station	19	stations	52.80	\$5.35	\$5,357		
Turnouts	1 1/2"-0" Crushed	11 to 12	3	turnout	10	turnouts	9	\$5.35	\$482		
Turn-Around	4"-0" Crushed	11 to 12	N/A	TA	20	TA	2	\$5.35	\$214		
Junction	1 1/2"-0" Crushed	11	3	Junction	10	junctions	5	\$5.35	\$268		
Landings	6"-0" Pit run	1A, 1B, & 2A	N/A	Landing	50	Landings	3	\$6.19	\$929		
Total Rock for Road Segment:							1,433		\$7,794		
Processing:											
Description											
Water, Process & Compact Crushed Rock:											
SUB TOTAL FOR SURFACING											
CULVERT MATERIALS AND INSTALLATION											
	Location	Dial/type	Lineal ft.	Rate	Cost	No. bands	Rate	Cost			
					\$0.00						
					\$0.00						
SPECIAL PROJECTS											
Description								Cost			
Installing Culvert Markers @\$17/marker x 1 marker								\$17			
Develop Pit Run Rock 150cy x \$2.30/cy								\$345			
SUB TOTAL FOR SPECIAL PROJECTS											
\$362											
GRAND TOTAL											
\$13,527											

CRUSHED ROCK COST

SALE NAME:	Ridge 77
PROJECT:	No. 1
QUARRY:	Northrup

ROCK TYPE: 1 1/2"-0"Crushed
and 4"-0"

DATE: 03/09/2009
BY: J. Long

[illegible]

ROCK HAUL:

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

Ave haul:	\$3.50	/cy
Load:	\$0.67	/cy
Spread:	\$1.18	/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 = 666

CRUSHED ROCK HAUL COSTS 1,283 cy @ **\$5.35 /cy**

State Timber Sale Contract
No. 341-0913
Ridge 77

TEST DRILLING

TEST DRILL SITE	Activity	# of Holes	Footage	Drill Hours	Rate	Feet of Trail	Equip Hours	Rate	Dollars
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Northrup Quarry

C315 Excavator	Build trail					300	2.5	\$94	\$235.00
Hydraulic Drill	Drilling	19	890	8	\$267				\$2,136.00
C315 Excavator	Water barring						1.5	\$94	\$141.00
Mobilization									
Excavator									\$699.00
Hydraulic Drill									\$1,220.00
Excavator									\$699.00
Sub-Total									\$5,130.00

Knob Point Quarry

C315 Excavator	Build trail					500	3	\$94	\$282.00
Hydraulic Drill	Drilling	15	900	10	\$267				\$2,670.00
C315 Excavator	Water barring						2	\$94	\$188.00
Mobilization									
Excavator									\$699.00
Hydraulic Drill									\$1,220.00
Excavator									\$699.00
Sub-Total									\$5,758.00

Total Drilling Cost (Contingency) \$1,112.00
\$12,000.00

By: d.mellison Date: 03/11/09

Road Maintenance after completion of Projects

Sale: Ridge 77
Date: 09-Mar-09
By: J. Long

Type	Equipment/Rationale			Hours	Rate	Cost
Light Grading Rock Haul Route	Grader 14G			8	\$93	\$744
Total						\$744

Production Rates
Grader

Miles/day	Distance(miles)	Days
2.5	3.7	1.5

Ridge 77
TIMBER CRUISE REPORT
FY 2009

1. **Sale Area Location:** Areas 1 and 2 are located in Portions of Sections 14, 15, 22, and 23, T6N, 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	Stream Buffer	Net Acres	Survey Method
1	Partial Cut	55	0	0	5	50	GIS
2	Modified Clearcut	41	0	0	0	41	GIS
TOTALS		96	0	0	5	91	

4. **Cruisers and Cruise Dates:** Areas 1 and 2 were cruised by Derek Bangs, Jasen McCoy, Dave Horning, Bryce Rodgers, and Kraig Kirkpatrick, in February, 2009.

5. Cruise Method and Computation:

AREA 1 is an "auto-mark" thinning unit and was variable plot cruised using a 40 BAF. These plots are located on a 3 chain by 4 chain grid, with every other plot measured and graded. A total of 36 plots were sampled, with 19 measured and graded plots, and 17 count plots. Bigleaf Maple and Cedar are 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 120 ft²/acre. Hardwoods do not count towards the residual basal area.

AREA 2 is a modified clearcut unit and was variable plot cruised using a 40 BAF. These plots are located on a 4 chain by 4 chain grid, with every other plot measured and graded. A total of 24 plots were sampled, with 13 measured and graded plots, and 11 count plots. Cedar is a reserve species.

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	06N06W SEC 22	AREA1	PCTK	50
2	06N06W SEC 23	AREA2	CCTK	41

6. Timber Description:

Area 1 is an "auto-mark" thinning unit, approximately 70 years old, consisting of Douglas-fir, red alder, bigleaf maple, and an occasional cedar. Non-thinnable pockets are scattered throughout the unit. This stand will be thinned to a SDI of 25 (120 Sq.Ft.BA), removing approximately 36 Douglas-fir and 9 red alder trees per acre and 18 MBF/acre. The average conifer "take" tree size is 22 inches DBH and 89 feet to a merchantable top (6 inch d.i.b.).

Area 2 is a modified clearcut unit, approximately 70 years old, consisting of Douglas-fir stands with red alder, bigleaf maple, and a few cedar. The average Douglas-fir tree size to be harvested is 25 inches DBH, with an average height of 83 feet to a merchantable top (6 inch d.i.b.). The average alder tree size is 14 inches DBH and 42 feet to a merchantable top (6 inch d.i.b.). The average volume per acre to be harvested (net) is 47 MBF.

7. Statistical Analysis and Stand Summary: (See "Statistics" – CCTK and 02PCType Reports, attached)

Statistics for Stand B.F. volumes

Area	Estimated CV	Target SE%	Actual CV	Actual SE%
1 (PC)	45%	11%	56%	9.3%
2 (MC)	55%	11%	51%	10.7%

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	24"	2,771	2,360	344	67	0	2%	97%
Alder	14"	89	0	0	0	89	<1%	2%
Big Leaf Maple	15"	18	0	0	0	18	<1%	1%
TOTALS		2,878	2,360	344	67	107		

9. Approvals:

Prepared by: Jasen McCoy

Date: April 30, 2009

Unit Forester Approval: 

Date: 6/1/09

10. Attachments:

Cruise Designs – (2)
Cruise Maps – (2)
Volume Reports - 3 pages
Statistics Report - 6 pages
Stand Tables - 1 page
Log Stock Tables - 2 pages

X:\Jewell_Unit\Timber Sales\2009\Ridge 77\Pre-sale\Ridge_77CruiseReport.doc

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Ridge 77 **Area(s)** 1

Harvest Type: (PC) "Automark Thinning"

Approx. Cruise Acres: 61 **Estimated CV%** 55 BA/Acre **SE% Objective** 11 BA/Acre

Planned Sale Volume : 915 MBF **Estimated Sale Area Value/Acre:** \$3,000/Ac
(Area 2) (15 MBF/Ac.)

A. Cruise Goals: (a) Grade minimum 75 conifer and 25 hardwood trees
(b) Sample 36 cruise plots (1 grade/ 1 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= 180° (North and South)
Cruise Line Spacing 4 (chains)
Cruise Plot Spacing 4 (chains)
Grade/Count Ratio 1/1

Basal Area leave target is 120 sq. ft. Cruiser needs to select 3 leave trees per plot.
Cruise all take and leave trees. All merchantable Alder will be harvested. All cedar
greater than 10" are leave trees and count towards the leave tree basal area. Record all
snags as SNL.

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; R = Camp Run; 0 = Cull
Hardwoods: R = CampRun
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: Lanny Freeman
Approved by: *Jon Long*
Date: 2/3/2009

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Ridge 77 **Area(s)** 2

Harvest Type: CC

Approx. Cruise Acres: 41 **Estimated CV%** 45 BA/Acre **SE% Objective** 11% BA/Acre

Planned Sale Volume: 2,050 MBF **Estimated Sale Area Value/Acre:** \$ 10,000/Ac
(Area 1) (50 MBF/Ac)

A. Cruise Goals: (a) Grade minimum 75 conifer;
(b) Sample 24 cruise plots (1 grade/ 1 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= North and South
Cruise Line Spacing 4
Cruise Plot Spacing 3 (chains) (feet)
Grade/Count Ratio 1:1

All cedar and marked wildlife trees are leave trees and are recorded as leave trees.
Record all snags as SNL.

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:

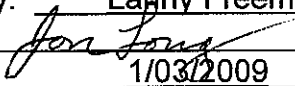
- A. Species: Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple). For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DL, HL, CL, etc.)
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Hardwoods: R = CampRun

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: Lanny Freeman
Approved by: 
Date: 1/03/2009

Species, Sort Grade - Board Foot Volumes (Project)

TT6N RR6W S22 TyPCTK 50.00
TT6N RR6W S23 TyCCT 41.00

Project: RIDGE77

Acres 91.00

Page 1

Date 4/30/2009

Time 9:05:49AM

S Spp	So Gr T rt ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log			Logs Per /Acre		
							Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf			
							4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
A A	DOCU DOCR	100		980	980	89		94	6		13	14	26	46	12 29		0.00 0.72	.4 14.8		
A Totals		3		980	980	89		94	6		13	14	26	46	28	64	0.71	15.2		
D D D D	DOCU DO2S DO3S DO4S	85 12 3		1.5 .5	26,337 3,797	25,930 3,779	2,360 344 67		2 92 100	30 8	68		1 4	2 19	14 21	84 56	6 38 33 20	0.00 2.53 0.94 0.52	1.8 57.1 36.2 22.3	
D Totals		96		1.4	30,870	30,445	2,770		16	27	58		2	5	14	79	33	259	1.78	117.5
M	DOCR	100			198	198	18		100				50	50			21	48	0.79	4.1
M Totals		1			198	198	18		100				50	50			21	48	0.79	4.1
Totals				1.3	32,049	31,623	2,878		18	26	56		3	5	15	77	32	231	1.66	136.8

T		TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)												Page 1				
				Project: RIDGE77												Date 4/30/2009				
																Time 9:06:33AM				
TT6N RR6W S22 TPCTK														TT6N RR6W S22 TPCTK						
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		CuFt		BdFt		
T6N		R6W		22		AREA1		PCTK		50.00		36		33		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 Ft	Bd Ft	CF/ Lf	
D DO CU				81	.2	14,871	14,845	742	1	41	58	3	15	82	6	0.00	2.2			
D DO 2S				16	1.0	2,855	2,826	141	100			1	4	20	75	38	390	2.15	38.0	
D DO 3S				3		498	498	25	100			14	39	47	36	102	0.87	27.8		
D DO 4S															25	39	0.52	12.7		
D Totals				97	.3	18,225	18,170	909	19	33	47	1	4	15	80	34	225	1.49	80.7	
A DO CR				100		576	576	29	100			10	23	34	34	27	58	0.70	9.9	
A Totals				3		576	576	29	100			10	23	34	34	27	58	0.70	9.9	
Type Totals					.3	18,801	18,746	937	22	32	46	1	4	16	79	34	207	1.43	90.6	

T		TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)										Page		1																						
				Project: RIDGE77										Date		4/30/2009																						
														Time		9:07:14AM																						
TT6N RR6W S23 TCCTK										TT6N RR6W S23 TCCTK																												
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		CuFt		BdFt																				
T6N		R6W		23		AREA2		CCTK		41.00		24		72		1		W																				
S So Gr T rt ad Spp			% 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		Lf								
D			DO		CU														7				0.00				1.4											
D			DO		2S		86		2.2		40,319		39,447		1,617		2		25		72		1		2		13		84		38		491		2.75		80.4	
D			DO		3S		11		.1		4,945		4,940		203		87		13				6		30		22		42		32		106		0.99		46.5	
D			DO		4S		3				1,027		1,027		42		100						79		21				18		30		0.52		34.1			
D			Totals				96		1.9		46,292		45,414		1,862		14		23		63		3		5		14		78		32		280		1.97		162.3	
A			DO		CU																								12				0.00		.9			
A			DO		CR		100				1,473		1,473		60		91		9				15		9		23		53		30		71		0.73		20.8	
A			Totals				3				1,473		1,473		60		91		9				15		9		23		53		29		68		0.72		21.7	
M			DO		CR		100				440		440		18		100						50		50				21		48		0.79		9.2			
M			Totals				1				440		440		18		100						50		50				21		48		0.79		9.2			
Type Totals									1.8		48,205		47,327		1,940		17		23		60		4		6		14		76		31		245		1.80		193.2	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	RIDGE77			DATE	4/30/2009	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
T6N	R6W	22	AREA1	02PC	50.00	36	208	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		36	208	5.8						
CRUISE		19	92	4.8	4,510		2.0			
DBH COUNT										
REFOREST										
COUNT		17	108	6.4						
BLANKS										
100 %										
STAND SUMMARY										
SAMPLE		TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
TREES		/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUGLEAV		41	26.0	26.7	86	101.1	24,201	24,112	5,026	5,026
DOUG FIR		26	36.0	21.8	89	93.3	18,225	18,170	4,187	4,162
MAPLELV		17	18.6	15.5	30	24.4	1,074	1,069	397	378
R ALDER		7	8.9	13.6	32	8.9	576	576	186	186
SNAG		1	.8	27.0	99	3.3				
TOTAL		92	90.2	21.7	70	231.1	44,075	43,927	9,796	9,752
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		47.0	7.3	1,236	1,334	1,432				
DOUG FIR		56.5	11.3	587	662	737				
MAPLELV		103.2	25.8	49	66	83				
R ALDER		75.7	30.8	51	74	97				
SNAG										
TOTAL		87.9	9.2	726	799	873	309	77	34	
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUGLEAV		58.3	9.7	23	26	29				
DOUG FIR		111.0	18.5	29	36	43				
MAPLELV		189.6	31.6	13	19	24				
R ALDER		407.0	67.8	3	9	15				
SNAG		442.1	73.6	0	1	1				
TOTAL		58.2	9.7	81	90	99	135	34	15	
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		33.4	5.6	95	101	107				
DOUG FIR		108.4	18.1	76	93	110				
MAPLELV		176.1	29.3	17	24	32				
R ALDER		389.5	64.9	3	9	15				
SNAG		442.1	73.6	1	3	6				
TOTAL		46.8	7.8	213	231	249	88	22	10	
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		39.5	6.6	22,527	24,112	25,697				
DOUG FIR		109.0	18.1	14,872	18,170	21,468				
MAPLELV		193.4	32.2	724	1,069	1,413				
R ALDER		425.9	70.9	167	576	984				
SNAG										
TOTAL		55.8	9.3	39,846	43,927	48,007	124	31	14	

TC TSTATS				STATISTICS				PAGE 1			
				PROJECT	RIDGE77	DATE 4/30/2009					
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
T6N	R6W	22	AREA1	PCTK	50.00	36	92	1	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
					TREES	TREES					
TOTAL		36	92	2.6							
CRUISE		12	33	2.8	2,240		1.5				
DBH COUNT											
REFOREST											
COUNT		15	59	3.9							
BLANKS		9									
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		26	36.0	21.8	89		93.3	18,225	18,170	4,187	4,162
R ALDER		7	8.9	13.6	32		8.9	576	576	186	186
TOTAL		33	44.8	20.5	77		102.2	18,801	18,746	4,372	4,348
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		56.5	11.3	587	662	737					
R ALDER		75.7	30.8	51	74	97					
TOTAL		76.6	13.3	466	537	609	234	59	26		
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		111.0	18.5	29	36	43					
R ALDER		407.0	67.8	3	9	15					
TOTAL		106.4	17.7	37	45	53	452	113	50		
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		108.4	18.1	76	93	110					
R ALDER		389.5	64.9	3	9	15					
TOTAL		97.0	16.1	86	102	119	375	94	42		
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		109.0	18.1	14,872	18,170	21,468					
R ALDER		425.9	70.9	167	576	984					
TOTAL		103.7	17.3	15,509	18,746	21,983	429	107	48		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	RIDGE77		DATE 4/30/2009			
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
T6N	R6W	22	AREA1	PCLV	50.00	36	116	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		36	116	3.2						
CRUISE		19	59	3.1	2,270	2.6				
DBH COUNT										
REFOREST										
COUNT		17	54	3.2						
BLANKS										
100 %										
STAND SUMMARY										
SAMPLE		TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
TREES		/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUGLEAV		41	26.0	26.7	86	101.1	24,201	24,112	5,026	5,026
MAPLELV		17	18.6	15.5	30	24.4	1,074	1,069	397	378
SNAG		1	.8	27.0	99	3.3				
TOTAL		59	45.4	22.8	63	128.9	25,275	25,181	5,424	5,404
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	47.0	7.3	1,236	1,334	1,432					
MAPLELV	103.2	25.8	49	66	83					
SNAG										
TOTAL	83.3	10.8	844	946	1,049	277	69	31		
CL: 68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
DOUGLEAV	58.3	9.7	23	26	29					
MAPLELV	189.6	31.6	13	19	24					
SNAG	442.1	73.6	0	1	1					
TOTAL	71.0	11.8	40	45	51	201	50	22		
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	33.4	5.6	95	101	107					
MAPLELV	176.1	29.3	17	24	32					
SNAG	442.1	73.6	1	3	6					
TOTAL	27.9	4.6	123	129	135	31	8	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		
DOUGLEAV	39.5	6.6	22,527	24,112	25,697					
MAPLELV	193.4	32.2	724	1,069	1,413					
SNAG										
TOTAL	33.4	5.6	23,781	25,181	26,580	44	11	5		

TC TSTATS				STATISTICS				PAGE 1		
				PROJECT		RIDGE77		DATE 4/30/2009		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
T6N	R6W	23	AREA2	02CC	41.00	24	161	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		24	161	6.7						
CRUISE		13	78	6.0	3,880	2.0				
DBH COUNT										
REFOREST										
COUNT		11	82	7.5						
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		61	64.8	24.8	83	216.7	46,292	45,414	10,174	10,174
R ALDER		9	15.7	14.0	42	16.7	1,473	1,473	448	448
DOUGLEAV		2	2.3	34.8	105	15.0	3,478	3,478	743	743
BL MAPLE		2	9.2	15.3	22	11.7	440	440	150	150
SNAG		2	1.5	24.5	37	5.0				
CEDLEAV		2	1.2	22.9	45	3.3	165	165	87	87
TOTAL		78	94.6	22.8	70	268.3	51,848	50,971	11,602	11,602
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %		COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD: 1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		61.3	7.8	1,006	1,092	1,178				
R ALDER		56.3	19.9	93	116	139				
DOUGLEAV		59.3	55.5	797	1,790	2,783				
BL MAPLE		28.3	26.5	37	50	63				
SNAG										
CEDLEAV		101.0	94.6	11	210	409				
TOTAL		79.8	9.0	837	920	1,003	254	64	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		77.1	16.1	54	65	75				
R ALDER		216.5	45.1	9	16	23				
DOUGLEAV		155.9	32.5	2	2	3				
BL MAPLE		237.5	49.5	5	9	14				
SNAG		270.4	56.3	1	2	2				
CEDLEAV		489.9	102.1		1	2				
TOTAL		59.5	12.4	83	95	106	148	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		55.8	11.6	191	217	242				
R ALDER		211.3	44.0	9	17	24				
DOUGLEAV		153.5	32.0	10	15	20				
BL MAPLE		236.7	49.3	6	12	17				
SNAG		270.3	56.3	2	5	8				
CEDLEAV		489.9	102.1		3	7				
TOTAL		48.0	10.0	241	268	295	96	24	11	
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		55.4	11.5	40,173	45,414	50,655				
R ALDER		210.1	43.8	828	1,473	2,118				
DOUGLEAV		153.7	32.0	2,364	3,478	4,592				
BL MAPLE		236.7	49.3	223	440	657				

TC TSTATS				STATISTICS				PAGE 2	
				PROJECT		RIDGE77		DATE 4/30/2009	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
T6N	R6W	23	AREA2	02CC	41.00	24	161	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
SNAG									
CEDLEAV		489.9	102.1		165	334			
TOTAL		53.2	11.1	45,325	50,971	56,616	118	29	13

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	RIDGE77			DATE	4/30/2009	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
T6N	R6W	23	AREA2	CCTK	41.00	24	147	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL	24	147	6.1							
CRUISE	13	72	5.5	3,676	2.0					
DBH COUNT										
REFOREST										
COUNT	11	75	6.8							
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	61	64.8	24.8	83		216.7	46,292	45,414	10,174	10,174
R ALDER	9	15.7	14.0	42		16.7	1,473	1,473	448	448
BL MAPLE	2	9.2	15.3	22		11.7	440	440	150	150
TOTAL	72	89.7	22.4	70		245.0	48,205	47,327	10,773	10,773
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	61.3	7.8	1,006	1,092	1,178					
R ALDER	56.3	19.9	93	116	139					
BL MAPLE	28.3	26.5	37	50	63					
TOTAL	75.7	8.9	857	941	1,025	229	57	25		
CL: 68.1 %	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	77.1	16.1	54	65	75					
R ALDER	216.5	45.1	9	16	23					
BL MAPLE	237.5	49.5	5	9	14					
TOTAL	60.3	12.6	78	90	101	152	38	17		
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	55.8	11.6	191	217	242					
R ALDER	211.3	44.0	9	17	24					
BL MAPLE	236.7	49.3	6	12	17					
TOTAL	48.0	10.0	221	245	269	96	24	11		
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	55.4	11.5	40,173	45,414	50,655					
R ALDER	210.1	43.8	828	1,473	2,118					
BL MAPLE	236.7	49.3	223	440	657					
TOTAL	51.4	10.7	42,256	47,327	52,398	110	28	12		

TC TSTNDSUM				Stand Table Summary										
Project RIDGE77														
TT6N RR6W S22 TPCLV										TT6N RR6W S22 TPCL				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page: 1						
T6N	R6W	22	AREA1	PCLV	50.00	36	59	Date: 04/30/2011						
								Time: 9:10:53AM						
S Spc	T	Sample		Av	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net	Net	Totals	
		DBH	Trees	FF Ht 16' Tot				Net Cu.Ft.	Net Bd.Ft.		Cu.Ft.	Bd.Ft.		
DL		12	1	88 37	3.140	2.47	3.14	13.0	30.0		41	94	20	5
DL		13	1	89 40	2.675	2.47	2.68	17.0	50.0		45	134	23	7
DL		15	1	91 71	2.010	2.47	4.02	20.0	70.0		80	281	40	14
DL		21	1	86 103	1.025	2.47	2.05	45.5	150.0		93	308	47	15
DL		23	1	91 121	.855	2.47	2.56	46.3	200.0		119	513	59	26
DL		25	1	90 137	.723	2.47	2.17	60.7	270.0		132	586	66	29
DL		27	2	89 134	1.240	4.93	3.72	70.0	326.7		261	1,216	130	61
DL		28	1	91 118	.577	2.47	1.15	95.0	450.0		110	519	55	26
DL		29	6	85 141	3.226	14.80	8.60	84.8	389.4		729	3,349	365	167
DL		30	2	88 154	1.005	4.93	3.01	93.8	451.7		283	1,361	141	68
DL		31	5	88 141	2.353	12.33	7.06	93.3	452.7		659	3,195	329	160
DL		32	3	87 146	1.325	7.40	3.97	101.0	490.0		401	1,947	201	97
DL		33	4	89 140	1.661	9.86	4.57	113.4	568.2		518	2,595	259	130
DL		34	4	86 147	1.565	9.86	4.69	114.0	556.7		535	2,613	268	131
DL		35	2	91 140	.738	4.93	2.21	120.5	643.3		267	1,425	133	71
DL		36	2	90 127	.698	4.93	1.74	132.0	706.0		230	1,232	115	62
DL		38	2	84 140	.626	4.93	1.88	125.8	621.7		236	1,168	118	58
DL		40	1	91 151	.283	2.47	.85	169.3	933.3		144	791	72	40
DL		41	1	92 150	.269	2.47	.81	178.3	973.3		144	785	72	39
DL		Totals	41	88 110	25.993	101.11	60.90	82.5	396.0		5,026	24,112	2,513	1,206
ML		12	3	87 31	5.492	4.31	5.49	9.7	30.0		53	165	27	8
ML		14	1	87 29	1.345	1.44	1.35	16.0	40.0		22	54	11	3
ML		15	3	87 42	3.515	4.31	3.52	24.3	56.7		86	199	43	10
ML		16	3	87 32	3.089	4.31	2.06	17.0	40.0		35	82	18	4
ML		17	2	86 48	1.824	2.88	2.74	22.3	73.3		61	201	31	10
ML		18	2	86 24	1.627	2.88	1.63	23.0	65.0		37	106	19	5
ML		19	1	87 101	.730	1.44	1.46	38.5	150.0		56	219	28	11
ML		22	1	86 36	.545	1.44	.54	32.0	50.0		17	27	9	1
ML		26	1	86 47	.390	1.44	.39	26.0	40.0		10	16	5	1
ML		Totals	17	87 38	18.559	24.44	19.17	19.7	55.7		378	1,069	189	53
SN		27	1	91 125	.838	3.33								
SN		Totals	1	91 125	.838	3.33								
Totals		59		88 81	45.390	128.89	80.07	67.5	314.5		5404	25,181	2,702	1,259

Log Stock Table - MBF

Project: RIDGE77

TT6N RR6W S22 TPCT

TT6N RR6W S22 TPCT

Twp Rge Sec Tract
T6N R6W 22 AREA1Type Acres Plots Sample Trees
PCTK 50.00 36 33Page 1
Date 4/30/2009
Time 9:11:39AM

S Spp	So T	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	DO	CU	6																
D	DO	2S	22	20		20	2.2									20			
D	DO	2S	32	112		112	12.3							45	67				
D	DO	2S	40	612	.2	610	67.2					8	32	227	260	84			
D	DO	3S	14	1		1	.1				1								
D	DO	3S	26	2		2	.3				2								
D	DO	3S	30	3		3	.3				3								
D	DO	3S	32	25		25	2.7			5	20								
D	DO	3S	34	5	30.0	3	.4				3								
D	DO	3S	36	4		4	.5					4							
D	DO	3S	40	102		102	11.3			15	26	61							
D	DO	4S	14	1		1	.1				1								
D	DO	4S	16	2		2	.3			2									
D	DO	4S	22	5		5	.6			5									
D	DO	4S	24	2		2	.2				2								
D	DO	4S	26	3		3	.3			3									
D	DO	4S	36	12		12	1.3			12									
D	Totals			911		909	96.9			42	59	73	32	272	326	84	20		
A	DO	CR	20	3		3	10.0			3									
A	DO	CR	21	2		2	5.4			2									
A	DO	CR	22	3		3	11.2			3									
A	DO	CR	26	2		2	6.2			2									
A	DO	CR	32	10		10	33.5			3		6							
A	DO	CR	36	10		10	33.7			2		7							
A	Totals			29		29	3.1			15		13							
Total All Species				940		937	100.0			57	59	86	32	272	326	84	20		

Log Stock Table - MBF
Project: RIDGE77

TT6N RR6W S23 TCCT

TT6N RR6W S23 TCCT

Twp Rge Sec Tract Type Acres Plots Sample Trees
T6N R6W 23 AREA2 CCTK 41.00 24 72
Page 1
Date 4/30/2009
Time 9:12:04AM

S Spp	So T	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		DO	CU	6																
D		DO	CU	8																
D		DO	2S	20	14	9.5	13	.7									13			
D		DO	2S	22	14	8.7	12	.7									12			
D		DO	2S	24	17	9.8	15	.8										15		
D		DO	2S	28	3		3	.2						3						
D		DO	2S	32	211		211	11.4						15	32	82	42	40		
D		DO	2S	36	46	6.4	43	2.3						7		9	27			
D		DO	2S	40	1,348	2.1	1,319	70.8					38	58	185	447	267	304	21	
D		DO	3S	14	1		1	.1						1						
D		DO	3S	18	3		3	.2						2	2					
D		DO	3S	20	8		8	.4				3	2		2					
D		DO	3S	22	8		8	.4			2	2	2	2						
D		DO	3S	24	11		11	.6				4	3	5						
D		DO	3S	26	10		10	.5				2	5	2						
D		DO	3S	28	10		10	.5			2	2	3	3						
D		DO	3S	30	22	1.0	21	1.2					21							
D		DO	3S	32	36		36	1.9					33	3						
D		DO	3S	34	9		9	.5				3	7							
D		DO	3S	36	3		3	.2				3								
D		DO	3S	38	4		4	.2						4						
D		DO	3S	40	78		78	4.2			10	33	35							
D		DO	4S	14	3		3	.1			1	2								
D		DO	4S	16	21		21	1.1			19	2								
D		DO	4S	18	5		5	.3			5									
D		DO	4S	20	4		4	.2			3	2								
D		DO	4S	22	1		1	.1				1								
D		DO	4S	24	2		2	.1			2									
D		DO	4S	26	2		2	.1			2									
D		DO	4S	30	3		3	.2			3									
D		Totals			1,898	1.9	1,862	96.0			49	60	148	105	221	538	361	360	21	
A		DO	CU	12																
A		DO	CR	15	1		1	1.8			1									
A		DO	CR	16	8		8	13.3			3				5					
A		DO	CR	24	3		3	5.7			3									
A		DO	CR	30	2		2	3.6			2									
A		DO	CR	32	14		14	23.1			6		8							
A		DO	CR	36	5		5	8.2			5									
A		DO	CR	40	27		27	44.3			4	7	15							
A		Totals			60		60	3.1			25	7	23		5					
M		DO	CR	16	9		9	50.4					9							
M		DO	CR	24	9		9	49.6			9									
M		Totals			18		18	.9			9		9							
Total All Species					1,976	1.8	1,940	100.0			83	67	179	105	226	538	361	360	21	

Exhibit "A"

Cruise Map

Ridge 77
Portions of Section 14, 15, 22 and 23,
T6N, R6W, W.M., Clatsop County, OR

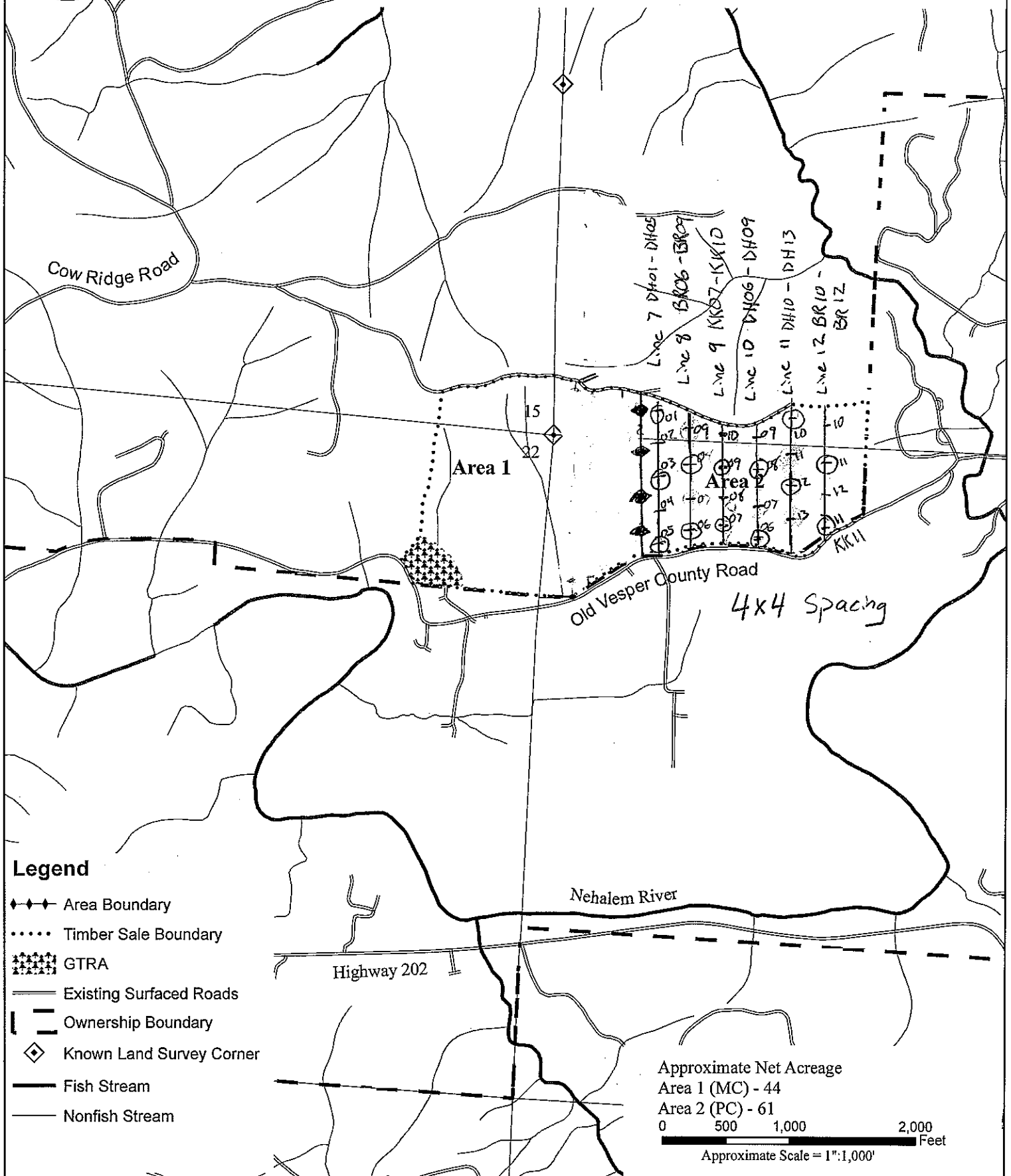
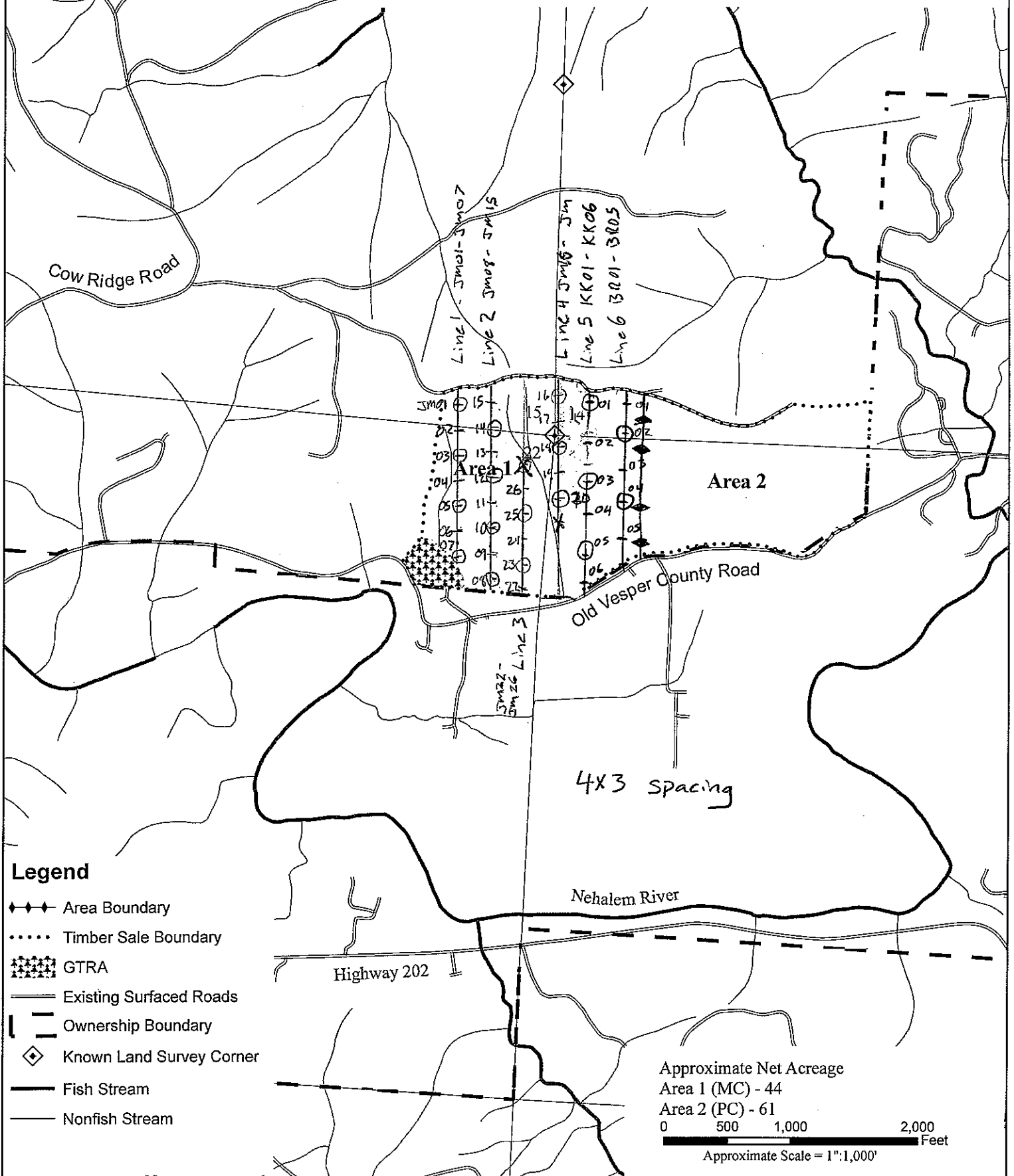


Exhibit "A"

Cruise Map

Ridge 77
Portions of Section 14, 15, 22 and 23,
T6N, R6W, W.M., Clatsop County, OR



Legend

- ◆◆◆ Area Boundary
- Timber Sale Boundary
- ▨ GTRA
- Existing Surfaced Roads
- Ownership Boundary
- ◆ Known Land Survey Corner
- Fish Stream
- Nonfish Stream

Approximate Net Acreage

Area 1 (MC) - 44

Area 2 (PC) - 61

0 500 1,000 2,000
Feet

Approximate Scale = 1":1,000'

Legend

- (Existing Landing
- R New Construction Landing
- *** Area Boundary
- Cable Logging Area
- ***** Timber Sale Boundary
- Controlled Felling
- Reforestation Area
- Existing Paved Road
- Existing Surfaced Road
- Ownership Boundary
- Known Land Survey Corner
- Type F Stream
- Type N Stream
- Seasonal Type N Stream
- Posted Stream Buffer
- Unposted Stream Buffer

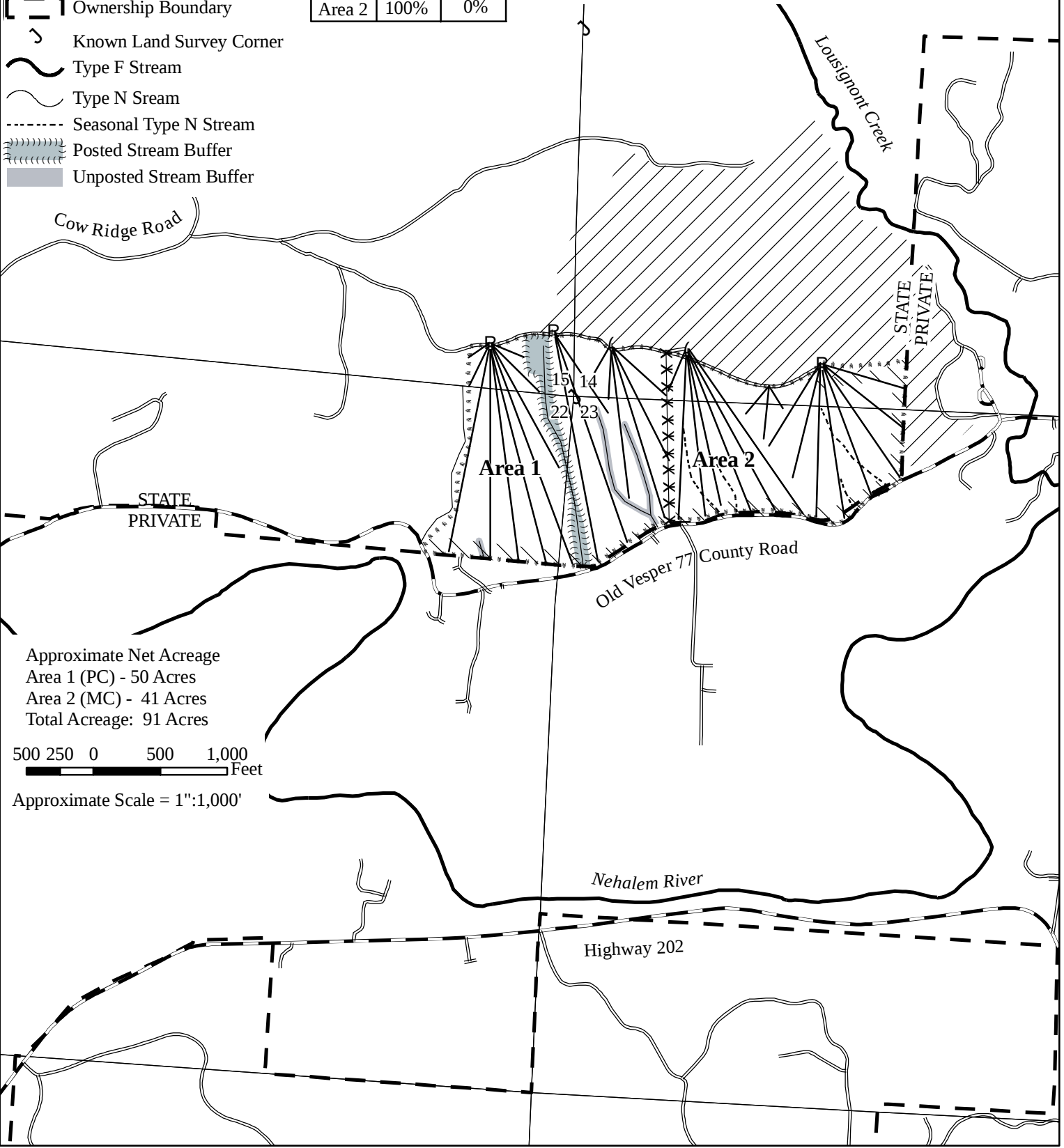
LOGGING PLAN

3

OF TIMBER SALE CONTRACT NO. 341-10-25
RIDGE 77
PORTIONS OF SECTIONS 14, 15, 22 AND 23,
T6N, R6W, W.M., CLATSOP COUNTY, OR

Loggin Breakdown

	Cable	Tractor
Area 1	100%	0%
Area 2	100%	0%



Approximate Net Acreage
Area 1 (PC) - 50 Acres
Area 2 (MC) - 41 Acres
Total Acreage: 91 Acres



Approximate Scale = 1":1,000'

Legend

- (Existing Landing
- R New Construction Landing
- *** Area Boundary
- Cable Logging Area
- ***** Timber Sale Boundary
- Controlled Felling
- Reforestation Area
- Existing Paved Road
- Existing Surfaced Road
- Ownership Boundary
- Known Land Survey Corner
- Type F Stream
- Type N Stream
- Seasonal Type N Stream
- Posted Stream Buffer
- Unposted Stream Buffer

LOGGING PLAN

3

OF TIMBER SALE CONTRACT NO. 341-10-25
RIDGE 77
PORTIONS OF SECTIONS 14, 15, 22 AND 23,
T6N, R6W, W.M., CLATSOP COUNTY, OR

Loggin Breakdown

	Cable	Tractor
Area 1	100%	0%
Area 2	100%	0%

