



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Cost Summary Thick and Thin Sale 341-03-03

District: Astoria

Date: 10/31/02

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$643,375.36	\$2,790.37	\$646,165.73
		Project Work	\$0.00
		Advertised Value	\$646,165.73



Timber Sale Appraisal Timber Description Thick and Thin Sale 341-03-03

"STEWARDSHIP IN FORESTRY"

District: Astoria

Location: Portions of Sections 22, 23, 26, and 27, T6N, R6W, W.M.

Date: 10/31/02

Stand Stocking: 80%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	16	0	97
Western Hemlock / Fir	12	0	97
Red Cedar	16	0	95
Alder (Red)	14	0	95

Volume by Grade	Douglas - Fir	Western Hemlock / Fir	Red Cedar	Alder (Red)	Total
2S	962	0	0	0	962
3S	769	0	1	0	770
4S	123	2	0	0	125
Camprun	0	0	0	11	11
Total	1,854	2	1	11	1,868

Comments: Pond Values Used: 3rd Quarter 2002

Additional costs with P & R:

\$1/MBF x 1868 MBF for branding and painting one end of each log.

\$10/MBF x 317 MBF = \$3170 for skid trail layout and extra constructon costs.
This applies to Areas 2 and 3 which have a high density of streams with buffers
and a need for some designated stream crossings.

\$1000 for extra directional-felling costs, such as jacking, in Controlled Felling
Areas of Timber Sale Areas 1 and 4.



Timber Sale Appraisal

Logging Conditions

Thick and Thin

Sale 341-03-03

"STEWARDSHIP IN FORESTRY"

Combination#: 1	Douglas - Fir	83.00%	
	Western Hemlock / Fir	83.00%	
	Red Cedar	83.00%	
	Alder (Red)	83.00%	
Yarding Distance:	Short (400 ft)		Downhill Yarding: Yes
Logging System:	Track Skidder		Process: Manual Falling/Delimiting
Tree Size:	Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF		
Loads/Day:	7		Bd. Ft./Load: 4,800
Cost/MBF:	\$97.19		
Machines:			
	Log Loader (B)		
	Track Skidder		
Combination#: 2	Douglas - Fir	17.00%	
	Western Hemlock / Fir	17.00%	
	Red Cedar	17.00%	
	Alder (Red)	17.00%	
Yarding Distance:	Short (400 ft)		Downhill Yarding: Yes
Logging System:	Track Skidder		Process: Manual Falling/Delimiting
Tree Size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF		
Loads/Day:	4		Bd. Ft./Load: 3,500
Cost/MBF:	\$233.25		
Machines:			
	Log Loader (B)		
	Track Skidder		



Timber Sale Appraisal Logging Costs Thick and Thin Sale 341-03-03

"STEWARDSHIP IN FORESTRY"

Date: 10/31/02

Operating Seasons: 2.0

Profit & Risk: 16%

Project Costs: \$0

Other Costs (P/R): \$6,038

Slash Disposal: \$0

Other Costs: \$0

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

Road Maintenance: \$3.17

Hauling Costs

Species	\$/MBF	Trips/Day	MBF/Load
Douglas - Fir	\$0.00	4.0	5.0
Western Hemlock / Fir	\$0.00	4.0	3.0
Red Cedar	\$0.00	5.0	4.0
Alder (Red)	\$0.00	2.0	3.0



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Logging Costs Breakdown Thick and Thin Sale 341-03-03

Costs	Douglas - Fir	Western Hemlock / Fir	Red Cedar	Alder (Red)
Logging	120.32	120.32	120.32	120.32
Road Maintenance	3.27	3.27	3.34	3.34
Fire Protection	2.90	2.90	2.90	2.90
Hauling	23.71	39.54	24.21	80.84
Other (P/R appl.)	3.23	3.23	3.23	3.23
Profit & Risk	24.55	27.08	24.64	33.70
Slash Disposal	0.00	0.00	0.00	0.00
Scaling	2.00	2.00	2.00	2.00
Other	0.00	0.00	0.00	0.00
Total	179.98	198.34	180.64	246.33

Amortization	0.00	0.00	0.00	0.00
Pond Value	526.40	295.00	1,100.00	500.00
Stumpage	346.42	96.66	919.36	253.67
Amortized	0.00	0.00	0.00	0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Summary Thick and Thin Sale 341-03-03

Amortized

	Douglas - Fir	Westem Hemlock / Fir	Red Cedar	Alder (Red)
MBF	0.00	0.00	0.00	0.00
Value	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00

Unamortized

	Douglas - Fir	Westem Hemlock / Fir	Red Cedar	Alder (Red)
MBF	1,854.00	2.00	1.00	11.00
Value	346.42	96.66	919.36	253.67
Total	642,262.68	193.32	919.36	2,790.37

Gross Timber Sale Value

Recovery \$646,165.73

Prepared by: Alan Kelso

Date: 10/31/02

District: Astoria

Phone: (503) 325-5451

TIMBER CRUISE REPORT

Thick and Thin, FY 2003

1. Sale Area Location: Areas 1, 2, 3 and 4 are located in the SE ¼ of the SW ¼ of Section 22, the S ½ of the SW ¼ of Section 23, the W 1/2 of Section 26, and the N ½ of the N 1/2 of Section 27, T6N, R6W; Willamette Meridian, Clatsop County, Oregon.

2. Fund Distribution:

Fund: BOF – 100% **Tax Code:** Tax Code 8-01: 63.33%; Tax Code 8-03: 36.67%

3. Sale Acreage by Area:

Area	Treatment	Gross Acres	Stream Buffer	Existing R/W	Net Acres	Survey Method	Closure
1	RD 25 thinning	24	0	1	23	GIS	N/A
2	RD 35 thinning	24	1	1	22	GIS	N/A
3	RD 35 thinning	30	1	1	28	GIS	N/A
4	RD 25 thinning	21	1	1	19	GIS	N/A
Total		99	3	4	92		

4. Cruisers and Cruise Dates: Areas 1-4 were cruised by Alan Kelso, Ty Williams, Jennifer Laughman, and Diana Ison in March, 2002.

5. Cruise Method and Computation: Areas 1-4 were cruised using a 1/25 acre plot (23.6 foot radius), a 5 by 5 chain grid. Thirty-six (36) plots were taken. All trees on all plots were measured and graded. The biggest and best trees were selected for “leave” trees. Hardwoods and western redcedar were removed for calculation purposes but will be cut only where located in landings or skid trails. Target residual basal area is 130 square feet per acre for Areas 1 and 4 and 150 square feet per acre for Areas 2 and 3. All cruisers used Corvallis MicroTechnology (CMT) data collectors, which were downloaded to the Atterbury Super A.C.E. program in the Astoria District office for computing. See the attached Cruise Design for more details on the cruise method.

The cruise calculations were processed in the Astoria District office as follows:

AREA	CRUISE	CRUISE TYPE
1, 4	RD 25 Auto-mark thinning	6N 6W 22, 23, 27—Type: TAKE, LEAV, SI
2, 3	RD 35 Auto-mark thinning	6N 6W 26, 27—Type: TAKE, LEAV, SI

6. Timber Description: Areas 1 and 4 are stand improvement partial cuts. Area 1 is approximately 64 years old. Area 4 is approximately 73 years old. Both areas are comprised of even-aged, Douglas-fir-dominated stands, with a small component of western hemlock, western redcedar, noble fir, red alder and bigleaf maple. The harvest will remove approximately 139 trees/acre, 200 square feet of basal area/acre, and 37 MBF per acre. The average “take” tree size is 16.5” DBH with 70 feet to a merchantable top of 6” diameter inside bark (d.i.b.) Areas 1 and 4 will be thinned to 130 square feet of basal area per acre, a Relative Density (RD) of 25.

Areas 2 and 3 are commercial thinnings. Area 2 is 39 years old. Area 3 is 33 years old. Both are Douglas-fir-dominated stands, with a small component of western hemlock, western redcedar, noble fir, red alder and bigleaf maple. The harvest will remove approximately 61 trees/acre, 59 square feet of basal area/acre, and 6 MBF/acre. The average “take” tree size is 13.3” DBH, with 50 feet to a merchantable top (6” d.i.b.) Areas 2 and 3 will be thinned to 150 square feet of basal area per acre (RD35).

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

Area	Est. CV%	Target SE%	Actual CV%	Actual SE%
Areas 1 and 4	35	12	52.6	12.4
Areas 2 and 3	35	12	42.1	9.9

Note: Statistical values based on "total type", including both "take" and "leave" types.

8. Volumes by Species and Log Grades for Sale Areas 2 and 3 by MBF. (See "Species, Sort, Grade, Length % Type Reports" attached.) Volumes do not include ingrowth or volume gained from clearing skid trails or landings. The majority of defect and breakage was culled out during the cruise.

Species	Net MBF	2 SAW MBF	3SAW MBF	4 Saw MBF	D&B MBF	Species %
Douglas-fir	1,854	962	769	123	11	>99
Hardwoods	11			11		<1
W.hemlock	2			2		<1
W. redcedar	1		1			<1
Totals	1,868	962	770	136	11	100

9. Approvals:

Prepared by: Alan Kelso

Date: 6-11-02

Approved by: *Ron Zilli*
Jewell Unit Forester

Date: 7-5-02

- Attachments: Cruise design and maps
 Volume & Grade Reports
 Statistics Report
 Stand Table Report
 Log Stock Table

CRUISE DESIGN

Sale Name Thick & Thin Area(s) 1-4

1. **Cruise Method:**

- A. Variable Plot: BAF Full or Half Point
Sighting point (BH or 16") _____
- B. Fixed Radius Plot: Plot Size (Acres) 1/25 Plot Radius 23.6 feet
- C. Strip Cruise: Strip Width _____ feet Strip Spacing _____ feet
Strip factor _____ Strip (plot) length _____ feet
- D. ITS Cruise: Measure/grade to Count ratio by Species:
D-fir _____; Hemlock _____; Spruce _____; Cedar _____; Hdwd _____; Other _____
- E. 100% Cruise: Grade all trees _____; Grade 1 in _____ trees by Species:
D-fir _____; Hemlock _____; Spruce _____; Cedar _____; Hdwd _____; Other _____

F. Partial cut Use species to determine Take & Leave, not sort. Show leave as DL, HL, etc

2. **Plot Spacing:** Lines are 5 feet, chains apart (circle correct one) Leave all cedar
Plots are 5 feet, chains apart 7.1 ch on diagonal
Cruise line direction is Variable

3. **Detailed Cruising Directions:** (Include cruise objectives, such as estimated stand CV, target SE% for board foot volume, target number of conifer grade trees, estimated volume per acre, expected defect and breakage factors, grade/measure/count ratios, etc.)

Est. CV = 35%, target SE = 10% Measure
and grade every plot as shown on cruise map. Target KD
A-1 25; A-2 35; A-3 35; A-4 25. Cruise all snags. Measure
decay class 1-2 logs within 1/25 acre plot. (23.6' radius) in A1 & 4 on
SI in CMT = A1 & 4 CT = A-2 & 3

4. **Form Factors (FF):** Measure or estimate a 16' form factor for every conifer tree graded. For "old growth" D-fir (>48" dbh), ~~measure form factors at 32'~~ - mark as WL
under 18" DBH

5. **Top Cruise Diameter (D):** Minimum top outside bark is 7" , and/or 40% of d.o.b. at 16'. (Generally, for large timber, use 6" and 0.4 (40%); for thinning size timber, use 4 or 5" TCD. For "old growth", use 0.5 (50%) of d.o.b. at 16'.)

6. **Diameter Recording:** Minimum dbh to cruise is 8" for conifers and 10" for hardwoods. Record dbh (measured) to nearest 0.5" for trees <12" dbh, to nearest 1" for trees 12 to 20" dbh, and to nearest 2" for trees >20" dbh. If tree diameters are estimated, then record to closest estimate.

7. **Bole Length (Merch. tree height):** Record bole length to TCD to nearest ^{1/2 log} foot. Do not record total tree height, except in certain special cases (such as inventory plots).

Sale Name

THICK & THIN

ATTACHMENT A Page 2

Area(s)

8. Tree Segments: Record log segments to maximize grade within scaling standards and within practicality. Minimum segment length is 12 feet (except cull segments). Maximum segment length is 40 feet. One foot of trim is assumed for each merch. segment. Do not use the "double dash" (--) feature on the data recorder except for the top segment of the tree. For example, a 12" dbh tree with a 41 foot bole length to 6" TCD can be recorded as "13--" (all #3 Sawmill); however, a 12" dbh tree with a 50 foot bole length should be recorded as "1336" and "14--" (maximum amount of #3 sawmill and 12' minimum length as #4 Sawmill). A 12" dbh tree with a 60 foot bole length should be recorded as "1326" and "13--" (maximizes the amount of #3 Sawmill grade in the tree, while leaving the minimum 50 bd. ft in the top log). If the last example had been recorded as "13--", then the computer would have segmented it as two 29' segments, and the 2nd one could not have made #3 Sawmill, since it only contains 40 board feet.

9. Species, Sort, and Grade Codes:

- A. Species: D-fir = D; Hemlock = H; Sitka Spruce = S; Red Cedar = C; Silver fir = SF; Grand fir = GF; Noble fir = NF; Red Alder = A; Bifleaf Maple = M.
B. Sorts: Domestic = 1; ~~Leave tree = L; Take tree = T.~~
C. Grades: #1 Peeler = A; #2 Peeler = B; #3 Peeler = C; Special Mill = D; #2 Sawmill = 2; #3 Sawmill = 3; #4 Sawmill = 4; Pulp = P; Camp Run = R; Cull = 0

10. Standard Field Procedures: Cruise line ends are to be marked with blue and yellow ribbon, with cruise line number, cruising direction, cruiser's initials, and cruise date. At plot, sink a sturdy stake into the ground, marked with a yellow ribbon, labeled with cruise plot number. Hang another labeled yellow ribbon above eye height near the plot center. Between plots, hang blue ribbons at visible intervals along the cruise line. Mark the first tree on each plot with yellow paint. A tree number or tree dbh may be used as a marking. The first tree should be the first "in" tree to the right (clockwise) of the cruise line direction. ~~If half-plots are used, mark "wing points" carefully about 20 feet either side of the plot center, using yellow ribbon. (These procedures apply to "plot" type cruises.) On "strip" cruises, the strip center should be plainly marked with yellow ribbon, and line ends should be marked with blue and yellow ribbon.~~

11. Cruising Equipment: Relaskop, rangefinder, diameter tape or rewind tape, biltmore stick, compass, tatum and cruise cards or CMT data recorder, yellow and blue ribbon, permanent marker, Scaling and Grading Rules book, and Cruise Design and Map.

12. Attachments:

A. Cruise Map showing unit boundaries, major roads and streams, north arrow, legal description, approximate acreage, numbered cruise lines and approximate number of plots on each line, plot spacing, cruise line directions, measure/grade/count ratio, if applicable.

B. Miscellaneous Tatum Aids

Relative Density Table

RELATIVE DENSITY TATUM AID

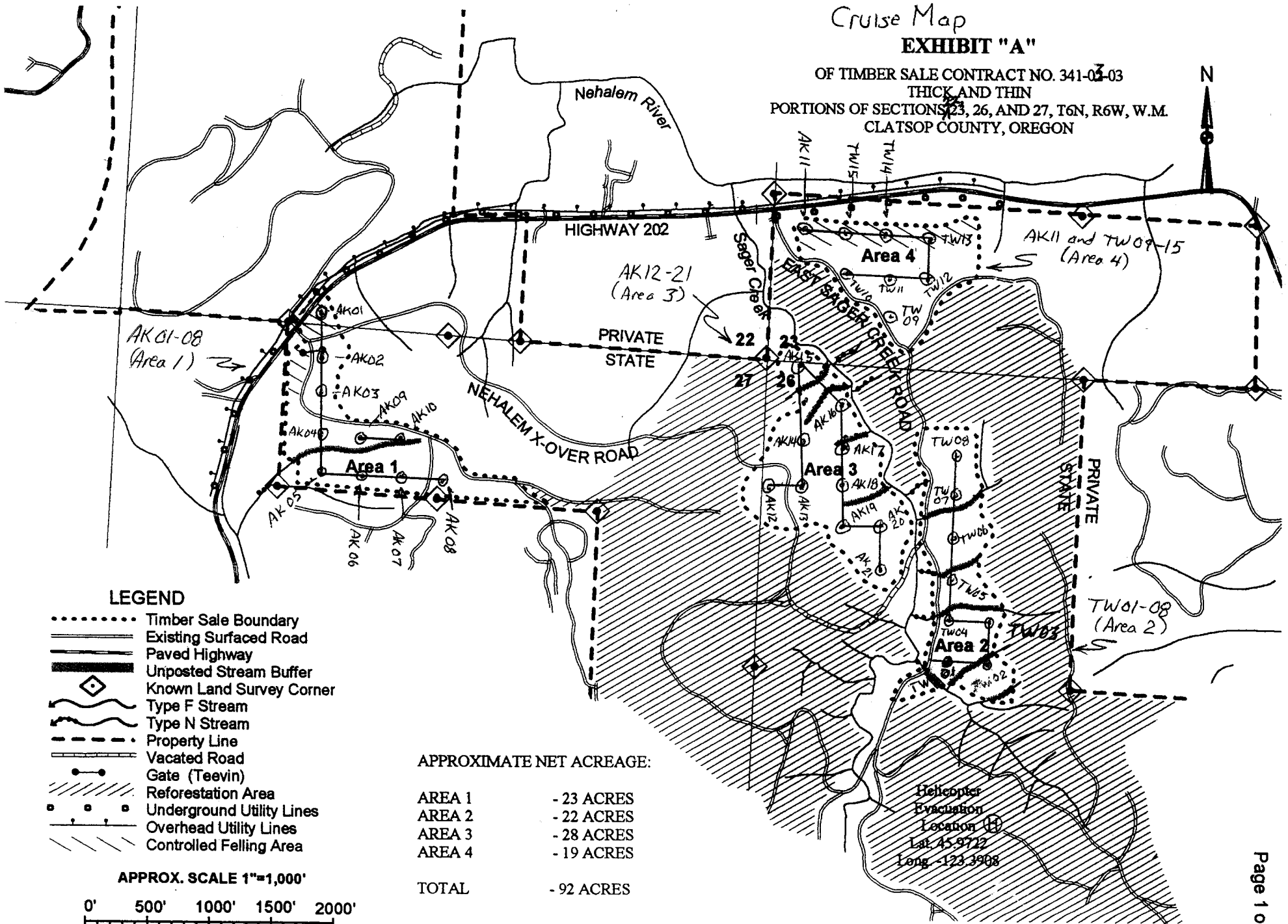
	RD20	RD25	RD30	RD35	RD40
Avg. DBH/ Plot	trees/ plot	trees/ plot	trees/ plot	trees/ plot	trees/ plot
8	6.5	8.1	9.7	11.4	13.0
9	5.4	6.8	8.2	9.5	10.9
10	4.6	5.8	7.0	8.1	9.3
11	4.0	5.0	6.0	7.0	8.0
12	3.5	4.4	5.3	6.2	7.0
13	3.1	3.9	4.7	5.5	6.2
14	2.8	3.5	4.2	4.9	5.6
15	2.5	3.1	3.8	4.4	5.0
16	2.3	2.9	3.4	4.0	4.6
17	2.1	2.6	3.1	3.7	4.2
18	1.9	2.4	2.9	3.4	3.8
19	1.8	2.2	2.6	3.1	3.6
20	1.6	2.0	2.4	2.9	3.3

NOTE: Average DBH determined by "leave" trees, on 1/25th acre fixed plots.

c:\document\rdtatum.wpd

Cruise Map EXHIBIT "A"

OF TIMBER SALE CONTRACT NO. 341-03-03
THICK AND THIN
PORTIONS OF SECTIONS 23, 26, AND 27, T6N, R6W, W.M.
CLATSOP COUNTY, OREGON



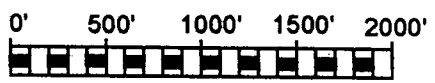
LEGEND

- Timber Sale Boundary
- Existing Surfaced Road
- Paved Highway
- Unposted Stream Buffer
- ◊ Known Land Survey Corner
- ~ Type F Stream
- ~ Type N Stream
- - - Property Line
- Vacated Road
- Gate (Teevin)
- /// Reforestation Area
- Underground Utility Lines
- Overhead Utility Lines
- /// Controlled Felling Area

APPROXIMATE NET ACREAGE:

AREA 1	- 23 ACRES
AREA 2	- 22 ACRES
AREA 3	- 28 ACRES
AREA 4	- 19 ACRES
TOTAL	- 92 ACRES

APPROX. SCALE 1"=1,000'



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

T6N R6W S23 TyTAKE 42.00 T6N R6W S26 TyTAKE 50.00	Project: THICK Acres 92.00	Page 1 Date 6/11/2002 Time 2:21:04PM
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Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log			Logs Per /Acre
									Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf	
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99				
D	?	?			00.0	121											4		0.00	5.8
D	?	2S		52		10,453	10,453	962			77	23	3	8	78	11	31	234	1.61	44.7
D	?	3S		41		8,360	8,360	769		99	1		1	1	96	2	32	79	0.67	105.6
D	?	4S		7		1,335	1,335	123	3	97			84	6	10		17	23	0.38	57.1
D	Totals			99	.6	20,269	20,147	1,854	0	48	40	12	8	5	81	6	27	94	0.84	213.3
A	?	4S		0		89	89	8		100			14		86		24	70	0.81	1.3
A	Totals			0		89	89	8		100			14		86		24	70	0.81	1.3
M	?	4S		0		32	32	3	40	60				100			24	25	0.40	1.3
M	Totals			0		32	32	3	40	60				100			24	25	0.40	1.3
H	?	4S		0		23	23	2		100				100			24	30	0.54	.8
H	Totals			0		23	23	2		100				100			24	30	0.54	.8
Totals					0.6	20,412	20,290	1,867	0	48	40	12	8	5	81	6	27	94	0.84	216.6

T6N R6W S23 TTAKE		T6N R6W S23 TTAKE
Twp Rge Sec Tract Typ Acres Plots Sample Trees		
6N 6W 23 AREASIAND4 TAKE 42.00 18 100		

Spp	So	Gr	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre
								Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99				
D	?	?		00.0	167											13		0.00	2.8
D	?	2S	61	22,500	22,500	945		77	23	2	8	79	11			31	242	1.62	93.1
D	?	3S	34	12,542	12,542	527		99	1	2	2	96	1			31	80	0.67	156.9
D	?	4S	5	1,667	1,667	70		00		89	11					17	23	0.40	72.2
D	Totals		99	.5	36,875	36,708	1,542	38	47	14	6	6	81	7		28	113	0.94	325.0
M	?	4S	00	69	69	3	40	60			100					24	25	0.40	2.8
M	Totals		0	69	69	3	40	60			100					24	25	0.40	2.8
A	?	4S	00	194	194	8	00			14		86				24	70	0.81	2.8
A	Totals		1	194	194	8	00			14		86				24	70	0.81	2.8
Type Totals				.4	37,139	36,972	1,553	0	39	47	14	6	6	81	7	28	112	0.93	330.6

T6N R6W S26 TTAKE								T6N R6W S26 TTAKE			
Twp	Rge	Sec	Tract	Typ	Acres	Plots	Sample Trees				
6N	6W	26	AREAS2AND3	TAKE	50.00	18	44				

S Spp	So T	Gr rt ad Grade	%	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre				
								Net BdFt	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	?	?		00.0	83											2		0.00	8.3				
D	?	2S	5		333	333	17			100			100			15	80	1.15	4.2				
D	?	3S	78		4,847	4,847	242			00				96	4	32	78	0.67	62.5				
D	?	4S	17		1,056	1,056	53	7	93				76	24		18	24	0.36	44.4				
D	Totals		99	1.3	6,319	6,236	312	1	94	5			18	79	3	24	52	0.59	119.4				
H	?	4S	00		42	42	2			00				100		24	30	0.54	1.4				
H	Totals		1		42	42	2			00				100		24	30	0.54	1.4				
Type	Totals			1.3	6,361	6,278	314	1	94	5			18	1	78	3	24	52	0.59	120.8			

TC TSTATS		STATISTICS					PAGE 1			
		PROJECT THICK			DATE 6/11/2002					
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES			
6N	6W	23	AREAS1AND4	TAKE	42.00	18	100			
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		18	100	5.6						
CRUISE		17	100	5.9	5,833	1.7				
REFOREST COUNT										
BLANKS		1								
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	97	134.7	16.5	70		200.0	36,875	36,708	8,589	8,546
BL MAPLE	2	2.8	10.8	25		1.8	69	69	26	26
R ALDER	1	1.4	15.0	50		1.7	194	194	54	54
TOTAL	100	138.9	16.4	69		203.5	37,139	36,972	8,669	8,626
	COEFF VAR.%	S.E.%	TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	AVG	HIGH	5	10	15		
DOUG FIR	60.4	14.2	116	135	154					
BL MAPLE	291.0	68.6	1	3	5					
R ALDER	424.3	100.0		1	3					
TOTAL	58.3	13.7	120	139	158	136	34	15		
	COEFF VAR.%	S.E.%	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	AVG	HIGH	5	10	15		
DOUG FIR	46.1	10.9	178	200	222					
BL MAPLE	299.5	70.6	1	2	3					
R ALDER	424.3	100.0	0	2	3					
TOTAL	45.7	10.8	182	203	225	84	21	9		
	COEFF VAR.%	S.E.%	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	AVG	HIGH	5	10	15		
DOUG FIR	51.2	12.1	32,278	36,708	41,138					
BL MAPLE	297.5	70.1	21	69	118					
R ALDER	424.3	100.0	0	194	389					
TOTAL	51.3	12.1	32,498	36,972	41,447	105	26	12		

TC TSTATS		STATISTICS						PAGE	1	
		PROJECT THICK				DATE		6/11/2002		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES			
6N	6W	23	AREAS1AND4	LEAV	42.00	18	33			
		<i>PLOTS</i>	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		18	33	1.8						
CRUISE		18	33	1.8	1,925	1.7				
REFOREST COUNT BLANKS 100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUGLEAV	24	33.3	27.0	105		132.8	40,736	40,569	7,503	7,475
CEDLEAV	7	9.7	15.8	43		13.3	931	931	322	322
ALDRLEAV	2	2.8	13.9	42		2.9	347	319	82	75
TOTAL	33	45.8	24.4	88		149.0	42,014	41,819	7,907	7,872
	COEFF VAR. %	S.E. %	TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	AVG	HIGH	5	10	15		
DOUGLEAV	51.4	12.1	29	33	37					
CEDLEAV	218.5	51.5	5	10	15					
ALDRLEAV	424.3	100.0		3	6					
TOTAL	33.7	7.9	42	46	49	46	11	5		
	COEFF VAR. %	S.E. %	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	AVG	HIGH	5	10	15		
DOUGLEAV	72.7	17.1	110	133	156					
CEDLEAV	196.2	46.3	7	13	19					
ALDRLEAV	424.3	100.0	0	3	6					
TOTAL	57.3	13.5	129	149	169	131	33	15		
	COEFF VAR. %	S.E. %	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	AVG	HIGH	5	10	15		
DOUGLEAV	107.2	25.3	30,314	40,569	50,824					
CEDLEAV	213.5	50.3	462	931	1,399					
ALDRLEAV	424.3	100.0		319	639					
TOTAL	102.0	24.0	31,766	41,819	51,872	416	104	46		

TC TSTATS		STATISTICS					PAGE	1		
		PROJECT THICK					DATE	6/11/2002		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES			
6N	6W	23	AREAS1AND4	SI	42.00	18	140			
		<i>PLOTS</i>	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		18	143	7.9						
CRUISE		18	140	7.8	8,342	1.7				
REFOREST COUNT BLANKS 100%										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	97	134.7	16.5	70		200.0	36,875	36,708	8,589	8,546
DOUGLEAV	24	33.3	27.0	105		132.8	40,736	40,569	7,503	7,475
CEDLEAV	7	9.7	15.8	43		13.3	931	931	322	322
SN	7	13.9	9.1	20		6.2	278		93	
ALDRLEAV	2	2.8	13.9	42		2.9	347	319	82	75
BL MAPLE	2	2.8	10.8	25		1.8	69	69	26	26
R ALDER	1	1.4	15.0	50		1.7	194	194	54	54
TOTAL	140	198.6	18.2	70		358.7	79,431	78,792	16,669	16,499
	COEFF VAR.%	S.E.%	TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	AVG	HIGH	5	10	15		
DOUG FIR	60.4	14.2	116	135	154					
DOUGLEAV	51.4	12.1	29	33	37					
CEDLEAV	218.5	51.5	5	10	15					
SN	141.1	33.3	9	14	19					
ALDRLEAV	424.3	100.0		3	6					
BL MAPLE	291.0	68.6	1	3	5					
R ALDER	424.3	100.0		1	3					
TOTAL	43.3	10.2	178	199	219	75	19	8		
	COEFF VAR.%	S.E.%	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	AVG	HIGH	5	10	15		
DOUG FIR	46.1	10.9	178	200	222					
DOUGLEAV	72.7	17.1	110	133	156					
CEDLEAV	196.2	46.3	7	13	19					
SN	137.7	32.5	4	6	7					
ALDRLEAV	424.3	100.0	0	3	6					
BL MAPLE	299.5	70.6	1	2	3					
R ALDER	424.3	100.0	0	2	3					
TOTAL	24.6	5.8	337	358	379	24	6	3		
	COEFF VAR.%	S.E.%	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	AVG	HIGH	5	10	15		
DOUG FIR	51.2	12.1	32,278	36,708	41,138					
DOUGLEAV	107.2	25.3	30,314	40,569	50,824					
CEDLEAV	213.5	50.3	462	931	1,399					
SN										
ALDRLEAV	424.3	100.0		319	639					
BL MAPLE	297.5	70.1	21	69	118					
R ALDER	424.3	100.0	0	194	389					
TOTAL	52.6	12.4	69,022	78,792	88,561	111	28	12		

TC TSTATS		STATISTICS					PAGE	1		
		PROJECT		THICK		DATE 6/11/2002				
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES			
6N	6W	26	AREAS2AND3	TAKE	50.00	18	44			
		<i>PLOTS</i>	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		18	44	2.4						
CRUISE		15	44	2.9	3,056	1.4				
REFOREST COUNT BLANKS		3								
100 %										
STAND SUMMARY										
SAMPLE TREES		TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	<i>BASAL</i> AREA	<i>GROSS</i> BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR		43	59.7	13.3	51	57.5	6,319	6,236	1,725	1,706
WHEMLOCK		1	1.4	12.0	25	1.1	42	42	18	18
TOTAL		44	61.1	13.3	50	58.6	6,361	6,278	1,743	1,724
SD: 1		COEFF <i>VAR.%</i>	S.E.%	TREES/ACRE LOW <i>AVG</i> HIGH			# OF PLOTS REQ.		INF. POP.	
							5 10		15	
DOUG FIR		82.7	19.5	48 60 71						
WHEMLOCK		424.3	100.0	1 3						
TOTAL		79.7	18.8	50 61 73			254 63		28	
SD: 1		COEFF <i>VAR.%</i>	S.E.%	BASAL AREA/ACRE LOW <i>AVG</i> HIGH			# OF PLOTS REQ.		INF. POP.	
							5 10		15	
DOUG FIR		86.5	20.4	46 58 69						
WHEMLOCK		424.3	100.0	1 2						
TOTAL		83.9	19.8	47 59 70			282 70		31	
SD: 1		COEFF <i>VAR.%</i>	S.E.%	NET BF/ACRE LOW <i>AVG</i> HIGH			# OF PLOTS REQ.		INF. POP.	
							5 10		15	
DOUG FIR		95.3	22.5	4,835 6,236 7,637						
WHEMLOCK		424.3	100.0	42 83						
TOTAL		94.3	22.2	4,882 6,278 7,674			356 89		40	

TC TSTATS		STATISTICS						PAGE	1	
		PROJECT THICK						DATE	6/11/2002	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES			
6N	6W	26	AREAS2AND3	LEAV	50.00	18	72			
		<i>PLOTS</i>	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		18	72	4.0						
CRUISE		18	72	4.0	5,000	1.4				
REFOREST COUNT BLANKS 100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	<i>BASAL</i> AREA	<i>GROSS</i> BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUGLEAV	66	91.7	16.8	70		140.9	20,125	20,000	5,260	5,222
HEMLEAV	5	6.9	20.3	66		15.6	2,222	2,194	574	568
ALDRLEAV	1	1.4	11.0	33		.9	69	69	19	19
TOTAL	72	100.0	17.0	69		157.5	22,417	22,264	5,853	5,810
	COEFF <i>VAR.</i> %	S.E.%	TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	<i>AVG</i>	HIGH	5	10	15		
DOUGLEAV	29.6	7.0	85	92	98					
HEMLEAV	270.7	63.8	3	7	11					
ALDRLEAV	424.3	100.0		1	3					
TOTAL	17.1	4.0	96	100	104	12	3	1		
	COEFF <i>VAR.</i> %	S.E.%	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	<i>AVG</i>	HIGH	5	10	15		
DOUGLEAV	37.3	8.8	129	141	153					
HEMLEAV	278.4	65.6	5	16	26					
ALDRLEAV	424.3	100.0		1	2					
TOTAL	24.9	5.9	148	157	167	25	6	3		
	COEFF <i>VAR.</i> %	S.E.%	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	<i>AVG</i>	HIGH	5	10	15		
DOUGLEAV	48.1	11.3	17,733	20,000	22,267					
HEMLEAV	291.1	68.6	689	2,194	3,700					
ALDRLEAV	424.3	100.0		69	139					
TOTAL	38.4	9.0	20,250	22,264	24,277	59	15	7		

TC TSTATS		STATISTICS					PAGE 1			
		PROJECT THICK					DATE 6/11/2002			
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES			
6N	6W	26	AREAS2AND3	CT	50.00	18	119			
		<i>PLOTS</i>	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		18	119	6.6						
CRUISE		18	119	6.6	8,264	1.4				
REFOREST COUNT BLANKS 100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUGLEAV	66	91.7	16.8	70		140.9	20,125	20,000	5,260	5,222
DOUG FIR	43	59.7	13.3	51		57.5	6,319	6,236	1,725	1,706
SN	2	2.8	34.7	23		18.2	1,181	69	204	19
HEMLEAV	5	6.9	20.3	66		15.6	2,222	2,194	574	568
WHEMLOCK	1	1.4	12.0	25		1.1	42	42	18	18
ALDRLEAV	1	1.4	11.0	33		.9	69	69	19	19
BL MAPLE	1	1.4	11.0	17		.9	42	42	11	11
TOTAL	<i>119</i>	<i>165.3</i>	<i>16.2</i>	<i>61</i>		<i>235.2</i>	<i>30,000</i>	<i>28,653</i>	<i>7,811</i>	<i>7,564</i>
	COEFF VAR. %	S.E. %	TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	AVG	HIGH	5	10	15		
DOUGLEAV	29.6	7.0	85	92	98					
DOUG FIR	82.7	19.5	48	60	71					
SN	291.0	68.6	1	3	5					
HEMLEAV	270.7	63.8	3	7	11					
WHEMLOCK	424.3	100.0		1	3					
ALDRLEAV	424.3	100.0		1	3					
BL MAPLE	424.3	100.0		1	3					
TOTAL	<i>34.5</i>	<i>8.1</i>	<i>152</i>	<i>165</i>	<i>179</i>	<i>48</i>	<i>12</i>	<i>5</i>		
	COEFF VAR. %	S.E. %	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	AVG	HIGH	5	10	15		
DOUGLEAV	37.3	8.8	129	141	153					
DOUG FIR	86.5	20.4	46	58	69					
SN	406.0	95.7	1	18	36					
HEMLEAV	278.4	65.6	5	16	26					
WHEMLOCK	424.3	100.0		1	2					
ALDRLEAV	424.3	100.0		1	2					
BL MAPLE	424.3	100.0		1	2					
TOTAL	<i>31.8</i>	<i>7.5</i>	<i>218</i>	<i>235</i>	<i>253</i>	<i>40</i>	<i>10</i>	<i>4</i>		
	COEFF VAR. %	S.E. %	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD: 1			LOW	AVG	HIGH	5	10	15		
DOUGLEAV	48.1	11.3	17,733	20,000	22,267					
DOUG FIR	95.3	22.5	4,835	6,236	7,637					
SN	424.3	100.0		69	139					
HEMLEAV	291.1	68.6	689	2,194	3,700					
WHEMLOCK	424.3	100.0		42	83					
ALDRLEAV	424.3	100.0		69	139					
BL MAPLE	424.3	100.0		42	83					
TOTAL	<i>42.1</i>	<i>9.9</i>	<i>25,808</i>	<i>28,653</i>	<i>31,498</i>	<i>71</i>	<i>18</i>	<i>8</i>		

TC TSTNDSUM

Stand Table Summary

Project THICK

T6N R6W S23 TLEAV

T6N R6W S23 TLEAV

Twp Rge Sec Tract Type Acres Plots Sample Trees
6N 6W 23 AREAS1AND4 LEAV 42.00 18 33

Page: 1
Date: 6/11/02
Time: 2:22:15PM

S Spc	T	DBH	Sample Trees	FF 16	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
									Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
DL		17	3	91	93	4.167	6.57	9.72	24.4	95.7		238	931		100	39
DL		19	1	93	81	1.389	2.73	2.78	34.5	140.0		96	389		40	16
DL		21	3	87	114	4.167	10.02	12.50	35.1	151.1		439	1,889		184	79
DL		23	3	90	140	4.167	12.02	15.28	41.3	193.6		631	2,958		265	124
DL		24	3	91	124	4.167	13.09	15.28	42.8	208.2		654	3,181		275	134
DL		25	2	92	147	2.778	9.47	9.72	55.7	277.1		542	2,694		228	113
DL		27	4	88	153	5.556	22.09	20.83	59.5	302.7		1,239	6,306		520	265
DL		28	1	97	146	1.389	5.94	5.56	65.0	370.0		361	2,056		152	86
DL		29	2	88	151	2.778	12.74	11.11	64.9	333.7		721	3,708		303	156
DL		46	1	97	169	1.389	16.03	5.56	193.5	1250.0		1,075	6,944		452	292
DL		54	1	93	169	1.389	22.09	5.56	266.5	1712.5		1,481	9,514		622	400
DL		Totals	24	90	133	33.333	132.79	113.89	65.6	356.2		7,475	40,569		3,140	1,704
CL		11	1	86	66	1.389	.84	1.39	14.0	50.0		19	69		8	3
CL		13	2	81	73	2.778	2.56	4.17	15.7	46.7		65	194		27	8
CL		14	1	86	48	1.389	1.48	1.39	19.0	50.0		26	69		11	3
CL		15	1	88	74	1.389	1.70	2.78	18.0	70.0		50	194		21	8
CL		20	1	83	90	1.389	3.03	2.78	36.5	120.0		101	333		43	14
CL		22	1	83	40	1.389	3.67	1.39	43.0	50.0		60	69		25	3
CL		Totals	7	84	66	9.722	13.28	13.89	23.2	67.0		322	931		135	39
AL		10	1	93	53	1.389	.76	1.39	8.0	30.0		11	42		5	2
AL		17	1	88	61	1.389	2.19	4.17	15.3	66.7		64	278		27	12
AL		Totals	2	91	57	2.778	2.95	5.56	13.5	57.5		75	319		32	13
Totals			33	89	114	45.833	149.02	133.33	59.0	313.6		7872	41,819		3,306	1,756

Stand Table Summary

Project **THICK**

T6N R6W S26 TLEAV

T6N R6W S26 TLEAV

Twp Rge Sec Tract Type Acres Plots Sample Trees
6N 6W 26 AREAS2AND3 LEAV 50.00 18 72

Page: 1
Date: 6/11/02
Time: 2:22:15PM

S Spc	T	DBH	Sample Trees	FF 16	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
									Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
DL		10	1	83	66	1.389	.68	1.39	12.0	50.0		17	69	8	3	
DL		12	1	83	122	1.389	1.09	2.78	16.0	60.0		44	167	22	8	
DL		13	4	85	89	5.556	4.93	9.72	14.9	52.9		144	514	72	26	
DL		14	6	88	85	8.333	8.91	18.06	15.9	57.7		288	1,042	144	52	
DL		15	8	87	94	11.111	13.52	25.00	19.2	76.7		481	1,917	240	96	
DL		16	12	88	90	16.667	23.15	37.50	21.9	83.0		819	3,111	410	156	
DL		17	15	87	94	20.833	32.71	50.00	23.4	88.9		1,171	4,444	585	222	
DL		18	8	87	105	11.111	19.63	29.17	27.7	105.7		807	3,083	403	154	
DL		19	3	87	106	4.167	8.20	11.11	30.4	117.5		338	1,306	169	65	
DL		20	1	86	127	1.389	2.88	4.17	33.7	140.0		140	583	70	29	
DL		21	4	86	103	5.556	13.36	16.67	31.0	123.3		517	2,056	258	103	
DL		22	1	86	101	1.389	3.67	4.17	34.0	140.0		142	583	71	29	
DL		23	1	77	82	1.389	4.01	2.78	46.5	140.0		129	389	65	19	
DL		24	1	83	121	1.389	4.18	4.17	44.7	176.7		186	736	93	37	
DL	Totals		66	87	95	91.667	140.94	216.67	24.1	92.3		5,222	20,000	2,611	1,000	
HL		12	1	77	53	1.389	1.09	1.39	17.0	50.0		24	69	12	3	
HL		19	2	84	104	2.778	5.33	8.33	26.8	100.0		224	833	112	42	
HL		22	1	88	77	1.389	3.67	2.78	44.5	180.0		124	500	62	25	
HL		27	1	86	79	1.389	5.52	2.78	71.0	285.0		197	792	99	40	
HL	Totals		5	84	83	6.944	15.61	15.28	37.2	143.6		568	2,194	284	110	
AL		11	1	86	51	1.389	.92	1.39	14.0	50.0		19	69	10	3	
AL	Totals		1	86	51	1.389	.92	1.39	14.0	50.0		19	69	10	3	
Totals			72	87	94	100.000	157.46	233.33	24.9	95.4		5810	22,264	2,905	1,113	

Log Stock Table - MBF
Project: THICK

T6N R6W S23 TTAK

T6N R6W S23 TTAK

Twp 6N Rge 6W Sec 23 Tract AREAS1AND4 Typ TAKE Acres 42.00 Plots 18 Sample Trees 100 Page 1 Date 6/11/2002 Time 2:23:29PM

SPP	S	So	Gr	Lo	Gross MBF	% Def	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches										
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39
D	?	?		1															
D	?	?		24	7														
D	?	2S		12	11		11	.7					11						
D	?	2S		16	6		6	.4					6						
D	DO	2S		26	30		30	2.0					15		15				
D	?	2S		28	8		8	.5					8						
D	?	2S		30	35		35	2.3					18		18				
D	?	2S		32	750		750	48.6					225		192		333		
D	?	2S		40	105		105	6.8					35		70				
D	?	3S		16	5		5	.3					5						
D	?	3S		17	4		4	.3			2	2							
D	?	3S		22	3		3	.2				3							
D	?	3S		28	7		7	.5			3	4							
D	?	3S		32	491		491	31.9			116	151	224						
D	?	3S		33	11		11	.7			11								
D	?	3S		34	3		3	.2			3								
D	?	3S		36	4		4	.2			4								
D	?	4S		12	1		1	.0			1								
D	?	4S		14	1		1	.1			1								
D	?	4S		16	44		44	2.9			43	2							
D	?	4S		17	12		12	.8			9	4							
D	DO	4S		18	2		2	.1				2							
D	?	4S		19	2		2	.2			2								
D	?	4S		22	4		4	.3			4								
D	?	4S		23	2		2	.1			2								
D	?	4S		24	2		2	.1			2								
D	Totals				1,549		1,542	99.3			201	167	224	306	209	435			
M	?	4S		24	3		3	00.0			1	2							
M	Totals				3		3	.2			1	2							
A	?	4S		16	1		1	14.3			1								
A	?	4S		32	7		7	85.7				7							
A	Totals				8		8	.5			1	7							
Total All Species					1,560		1,553	00.0			1	204	167	231	306	209	435		

Log Stock Table - MBF
Project: THICK

T6N R6W S26 TTAKE

T6N R6W S26 TTAKE

Twp Rge Sec Tract Typ Acres Plots Sample Trees Page
 6N 6W 26 AREAS2AND3 TAKE 50.00 18 44 Date 6/11/2002
 Time 2:23:29PM

SPP	S	So	Gr	Lo	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
D	?	?															
D	?	?		2	1												
D	?	?		3	1												
D	?	?		5	1												
D	?	2S		12	5		5	1.6				5					
D	?	2S		16	6		6	1.8				6					
D	?	2S		18	6		6	2.0				6					
D	?	3S		32	233		233	74.6		48	133	51					
D	?	3S		40	10		10	3.1		10							
D	?	4S		14	1		1	.4		1							
D	?	4S		16	39		39	12.5		1	37						
D	?	4S		32	13		13	4.0		2	10						
D				Totals	316	1.3	312	99.3		3	107	133	51	17			
H	?	4S		24	2		2	00.0		2							
H				Totals	2		2	.7		2							
Total All Species					318	1.3	314	00.0		3	109	133	51	17			

FOREST PRACTICES ACT "Written Plan"
For Harvest of Thick and Thin Timber Sale
Portions of Sections 22, 23, 26, & 27 T6N, R6W, W.M.
Clatsop County, Oregon

Landowner: Oregon Department of Forestry
92219 Hwy 202
Astoria, OR 97103
(503) 325-5451

Protected Resources:

Sager Creek, which is designated as a medium Type F stream, is located adjacent to the west boundary of Area 2 and the east boundary of Area 3. This stream is located in Sections 22, 23, and 26, T6N, R6W, W.M., Clatsop County, Oregon. Length of Sager Creek requiring protection is approximately 3500 feet.

Specific Site Characteristics:

Sager Creek: The streambed is approximately 12 feet wide, with moderate stream-bank slopes. Streamside vegetation is dominated by mature red alder and bigleaf maple. There is a significant component of conifer trees located above the flood plain.

Tree and Vegetation Retention:

All sale areas are prescribed for thinning. For Sager Creek, the FPA defines the RMA width of a medium Type F stream as 70 feet. The timber sale boundary for Area 2 is posted a minimum 70 feet from the stream.

The timber sale boundary for Area 3 is posted closer than 70 feet in some places. However, no trees are designated to be cut closer than the 25 feet required by the *Northwest Oregon State Forests Management Plan*. Posting down to the 25-foot mark will allow for conifer thinning and eventual development of "mature forest condition" as defined in the Management Standards for Type F Streams in the *Plan*. The post-harvest conifer stocking of an average of 150 square feet of basal area will meet or exceed the thirty 8-inch+ live conifer trees per 1000 linear feet, each side, of Sager Creek per OAR 629-640-0100 (5). It will meet or exceed the "standard-target" of 160 square feet of basal area per 1000 feet of stream length from Table 3 in OAR 629-640-0100 (6) (a).

Practices:

Directional felling will be required to prevent trees from entering the aquatic area. No ground-based logging equipment will be permitted within 35 feet of the Type F stream, per OAR 629-630-0800(8).


I, the undersigned, submit this written plan in compliance with the requirements in the Forest Practices Act. I agree to the protection measures listed on this plan:

Submitted: _____
Purchaser/Operator Contract Representative

Date: _____

Approved: _____
State Lands Forester

Date: _____

Approved:  _____
Forest Practices Forester

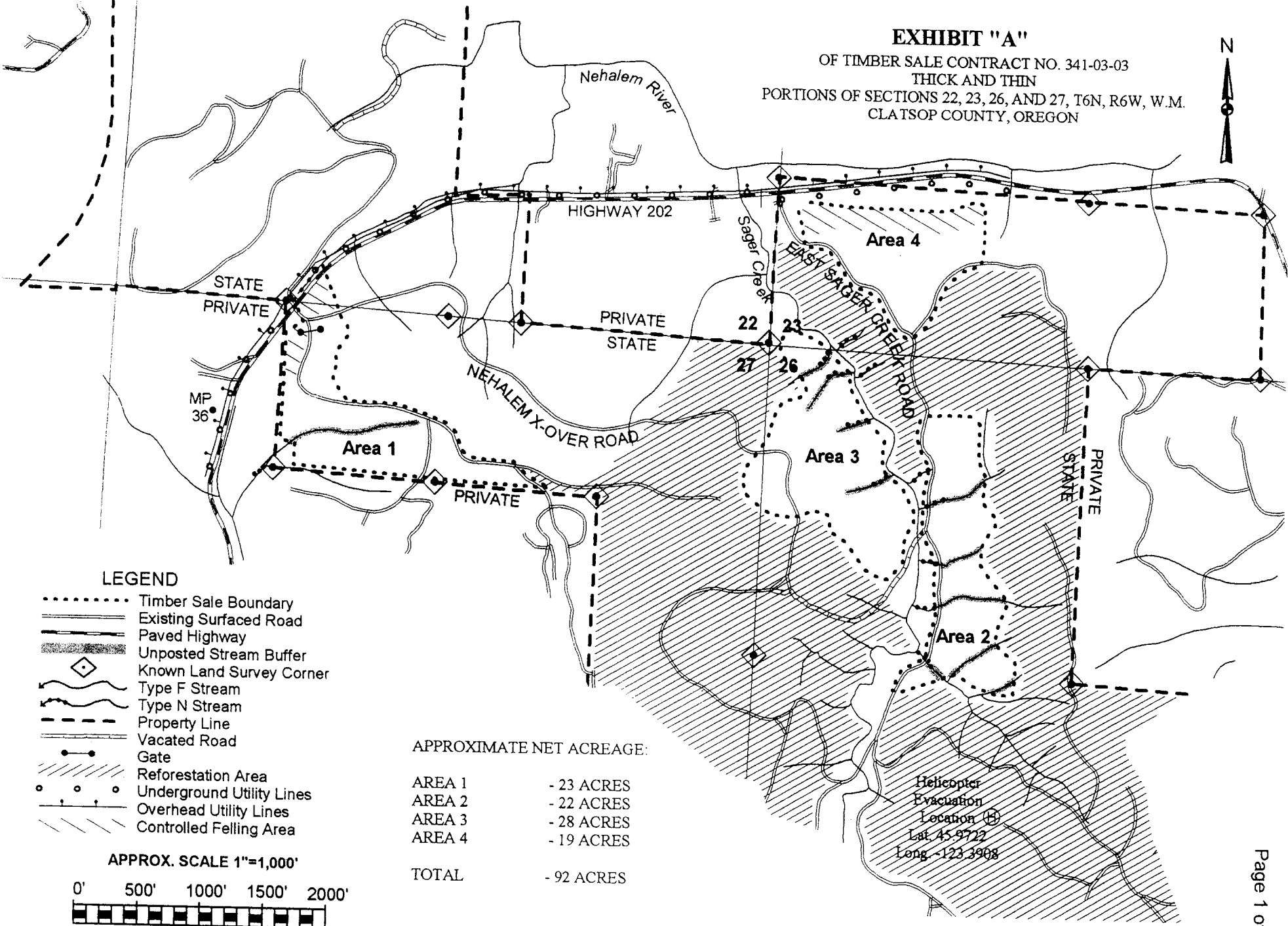
Date: _____

Attachment: Exhibit "A"

CC: Salem, Astoria District File, Jewell Unit, Operator, Purchaser

X:\Timber Mgt\Jewell\Timber Sales\2003\Thick and Thin\Sale Reports\Sager Creek Written Plan.doc

EXHIBIT "A"
 OF TIMBER SALE CONTRACT NO. 341-03-03
 THICK AND THIN
 PORTIONS OF SECTIONS 22, 23, 26, AND 27, T6N, R6W, W.M.
 CLATSOP COUNTY, OREGON



LEGEND

- Timber Sale Boundary
- ==== Existing Surfaced Road
- ==== Paved Highway
- ==== Unposted Stream Buffer
- ◊ Known Land Survey Corner
- ~ Type F Stream
- ~ Type N Stream
- - - Property Line
- ==== Vacated Road
- Gate
- /// Reforestation Area
- Underground Utility Lines
- Overhead Utility Lines
- /// Controlled Felling Area

APPROXIMATE NET ACREAGE:

AREA 1	- 23 ACRES
AREA 2	- 22 ACRES
AREA 3	- 28 ACRES
AREA 4	- 19 ACRES
TOTAL	- 92 ACRES

Helicopter
 Evacuation
 Location (H)
 Lat. 45.9722
 Long. -123.3908

APPROX. SCALE 1"=1,000'

